PHIL RAMONE: THE DEFINITIVE INTERVIEW

EQ

Make Better Recordings NOW!

www.eqmag.com

HANDS-ON REVIEWS:
- ABLETON LIVE 6
- SSL DUENDE
- DANGEROUS MUSIC MONITOR ST/SR
- LINE 6 GEARBOX GOLD PLUG-INS
- PRESONUS DIGIMAX FS

POWER USER TIPS:
WAVELAB, SONAR, LIVE

LIVE VIBE IN THE STUDIO!

HOW TO CUT EXCITING TRACKS

- MIXERS AS MUSICAL INSTRUMENTS
- DOUBLE-DUTY LIVE MIKING: PA + RECORDING
- DOS AND DON'TS OF VENUE RECORDING
- MAKE SOLO RECORDINGS COME ALIVE
- TAKE CONTROL: MIXING GETS PHYSICAL

+ TONS MORE!!!

APRIL 2007
U.S. $5.99 CAN. $7.99
71658 01017 8 04
A MUSIC PLAYER PUBLICATION

Fast Forward ▶▶ SONAR 6

Total Control ▶▶ Track Perfection ▶▶ Superior Sound

With SONAR 6 Producer Edition and a Windows-based PC, the future of in-the-box mixing is here today.

SONAR's exclusive end-to-end **64-bit double precision mix engine** ensures every subtlety of your performance—from the richness of a fine acoustic guitar to the reverb tail of a cathedral—will shine through in the mix. And with 31 professional audio effects including **Perfect Space™ Convolution Reverb** and **VC-64™ Vintage Channel**, your tracks will come alive.

At every step of your project—from composing with virtual instruments, to recording and mixing with superior sound quality—SONAR brings together the best music creation and production tools.

▶▶ Windows Vista Ready

Take full advantage of the new generation of x64-capable PCs with SONAR 6 and Windows Vista. You'll experience huge performance gains with multi-core and 64-bit processors. Get higher track count, more RAM, and amazing performance. Visit www.cakewalk.com/Vista to discover more.

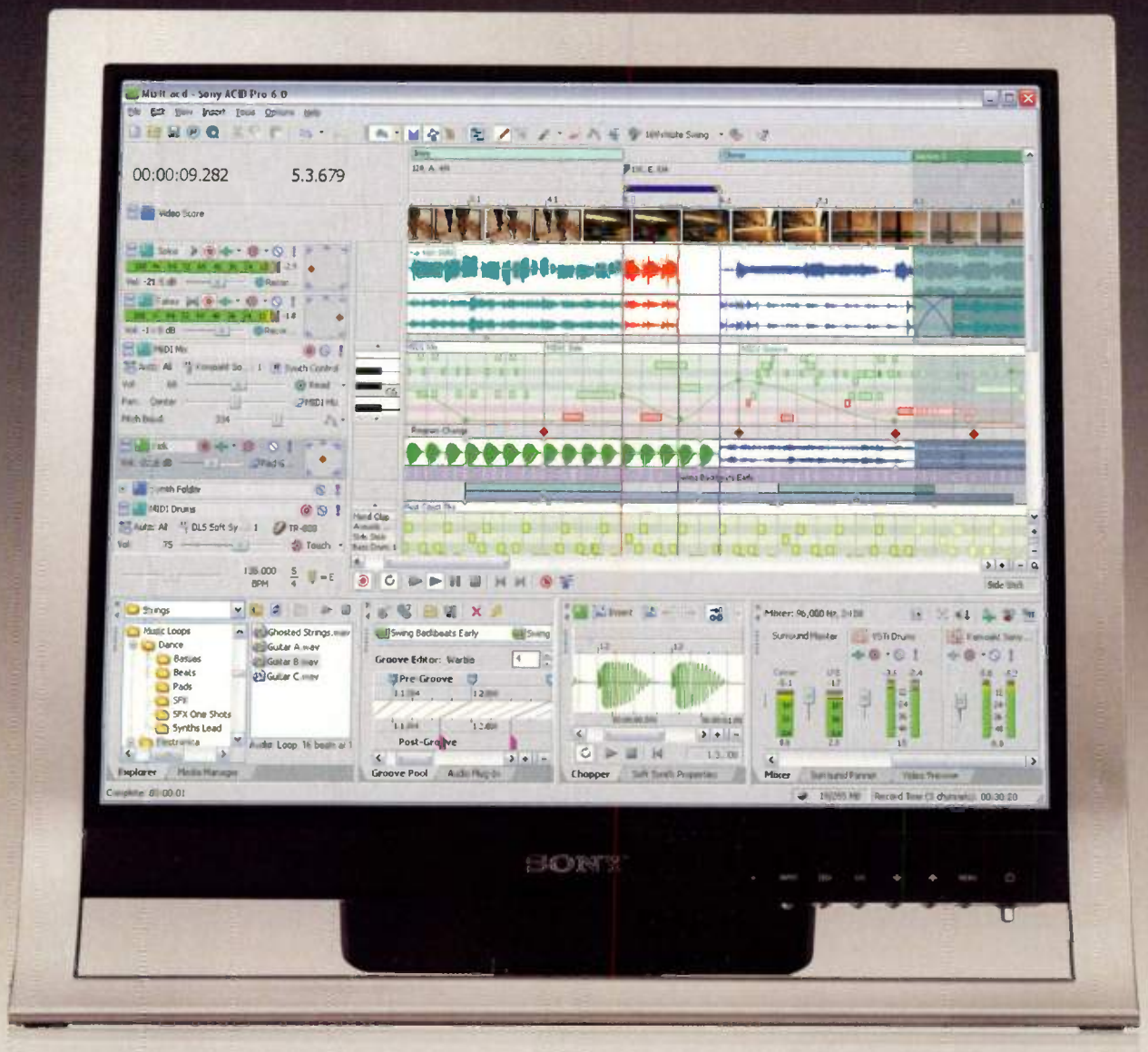
cakewalk
www.cakewalk.com

Windows Vista

like.no.other™

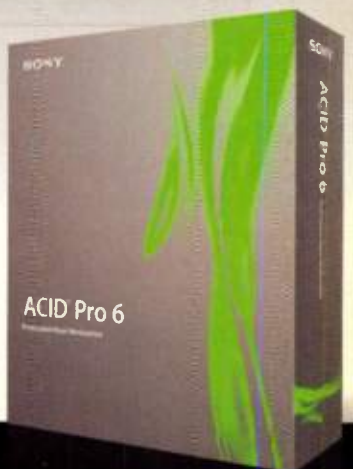
SONY

INTRODUCING ACID PRO 6



ACID® Pro 6 software is the ideal environment for composition, recording, mixing, and production. Its unique fusion of professional power and exceptional ease of use sets ACID Pro 6 software apart from all other digital audio workstations. With multitrack audio technologies, comprehensive MIDI sequencing, and legendary ACID looping functionality, ACID Pro 6 software will redefine the way you make music. **www.sony.com/acidpro6**

Multitrack recording • Real-time pitch and tempo matching • Inline MIDI editing • Unlimited media clips per track • MIDI track envelopes and keyframes • Drum grid editing • External control surface support • 24-bit, 192 kHz hard disk recording • Built-in DirectX® audio effects • VSTi parameter automation • 5.1 surround mixing • Frame-accurate video scoring • Groove quantization tools • Integrated CD burning • Over 1,000 loops



KOMPAKT

Includes Native Instruments® KOMPAKT sample playback engine and custom sound library—a $200 value

+ + = 6

04/07

FEATURES

LIVE VIBE IN THE STUDIO! HOW TO CUT EXCITING TRACKS

COLUMNS

CONTENTS

DEPARTMENTS

REVIEWS

POWER APP ALLEY

Cover: Korg's Zero-G mixer is part mixer/part MIDI controller, so you can play it like an instrument.

"Radial makes a DI box that does exactly what it is supposed to do. No compromise."

Paul Boothroyd
(Front of house engineer - Paul Simon, Paul McCartney)

"I'm really happy... I replaced my old DI's and found the J48's to have more output and less coloration. Acoustic music has never sounded so good."

Jerry Douglas
(Alison Krauss & Union Station. 12-time Grammy winner)

"I thought Radials only worked on cars, but since my sound man hooked them up to my guitar, I like them even better. Great clear and pure sound!"

Phil Keaggy
(world renowned guitarist/performer)

"It is nice to find great sounding industrial grade equipment still being made today!"

Daniel Lanois
(U2, Robbie Robertson, Bob Dylan, Peter Gabriel)

"Over the past 13 years I have used a variety of DI boxes. The Radial J48 is without a doubt the best, cleanest and most versatile DI I've ever used."

Paul Richards
(California Guitar Trio)

"With a Radial DI, the difference is surprising and dramatic. The sound is punchy, warm, solid and accurate. There's no going back!"

David Oakes
(Front of house engineer - Pat Metheny group)

"When it comes to sonic integrity, nothing touches Radial. Great gear built by great guys."

Steve Stevens
(Billy Idol, Atomic Playboys, soundtrack - 'Top Gun')

"Acoustic music has never sounded so good"

~ Jerry Douglas

Whether you play a jumbo, dreadnaught, dobro or triple-0, the tone going from your guitar to the PA system depends entirely on every component along the way. And your DI box is the most important component of all: It takes the guitar signal, converts the impedance from hi-Z to low-Z, balances the line and then drives it hundreds of feet to the mixing console.

An active direct box like the Radial J48 is in fact an instrument preamplifier. And like studio mic preamps, the quality varies. But what actually makes a great direct box? Simple: If you take the time to design the circuitry so that you get the lowest harmonic distortion, virtually zero phase-shift, reduce inter-modulation distortion, and provide sufficient headroom so that even the loudest guitar will not choke the input stage, a funny thing happens... It sounds better.

Radial...
true to the music™

The Radial J48 employs a unique digital switching power supply to maximize headroom. (Like having a turbo charged 500 horsepower engine in a luxury sedan). More headroom means more signal, less noise and less distortion. This ensures the natural tone, dynamics and feel of your guitar is delivered without artefact. To get the full story, visit our web site and check out the Radial Blue Report. It compares the Radial J48 with other popular DIs. The results are clear — the Radial DI outperforms them all.

Radial® engineering

www.radialeng.com

1638 Kebet Way, Port Coquitlam BC V3C 5W9 tel: 604-942-1001 email: info@radialeng.com

Talk Box

Vol. 18 No. 4
April 2007

www.eqmag.com

WHAT CAN WE LEARN FROM THE WII?

Just in case you haven't been following the gaming wars, all summer long the press was abuzz with the Sony Playstation 3 vs. Microsoft Xbox 360 epic battle. Microsoft got there first, releasing a game console with superb graphics and hot titles. But Sony's Playstation 3 promised to be the killer app for games: eye-popping graphics, a Blu-Ray drive for high-density storage (which also makes the Playstation 3 the least inexpensive point of entry for a Blu-Ray player), and sophisticated internet gameplay.

Oh yes, and a couple people pointed out there was a "dark horse" out there too, Nintendo's Wii, that might capture some attention. But it had a stupid name, wasn't from a high-tech giant, and was way underpowered compared to the competition.

Surprise: The multiplayer-oriented Wii (the two "i" symbols represent two people playing side-by-side) is a hit, and while in the U.S. the Xbox outsold both the Wii and PS3, the Wii came in a strong second. In Japan, it fared even better, selling 372,000 units in just two days and leaving the Xbox in the dust during the holiday season. The Wii has struck a nerve: Even Gabe Newell of Valve Software (the developer of Half-Life) has been quoted as saying he thinks that by next Christmas, the Wii will have a larger installed base than the Xbox.

Okay, but what lesson does it hold for the recording industry? Simple: You can dazzle people with all the technology in the world, but Nintendo figured out that people wanted *games* — things that were fun, easy to use, not horribly expensive, and innovative. (The Wii uses a unique motion-sensing controller where players do actual boxing and swinging of virtual tennis rackets and baseball bats, making the Wii the first video game to have a strong physical component — just like real games. Or playing a musical instrument, for that matter.) Maybe that explains why small, convenient iPods trumped SACD and 5.1 systems. And maybe that explains why online file-sharing and downloading from iTunes are popular: They're *fun*.

And maybe the recording industry can extrapolate this down one more level. It's quite possible people don't want automated mixes where every note is in place, or care about albums recorded with 192kHz sample rates. Maybe they just want to listen to a bunch of musicians getting together, having fun, and playing on something real, not virtual . . . and getting physical in the process.

Just like a Wii.

CLASS. CLARITY. CONTROL.

AUDIO KONTROL 1

INCLUDED SOFTWARE:
Cubase LE
KEYBOARD COLLECTION
Guitar Combos
TRAKTOR 3 LE

24 Bit/192 kHz Audio Interface I High-End Cirrus Logic® AD/DA Converters
3 Freely-Assignable Buttons, Controller Knob I Sophisticated Controller Assignment

"The audio quality feels like a touch of luxury compared to my regular portable system."
"The ability to map the buttons and rotary control to any application's key commands is ingenious."
Sound On Sound Magazine, March 2007

www.native-instruments.com

NATIVE INSTRUMENTS
THE FUTURE OF SOUND

Punch In

TUNE IN, TURN ON, PUNCH OUT BY
MATT HARPER AND THE *EQ* STAFF

JOHN CONGLETON RECORDING EXPLOSIONS IN THE SKY

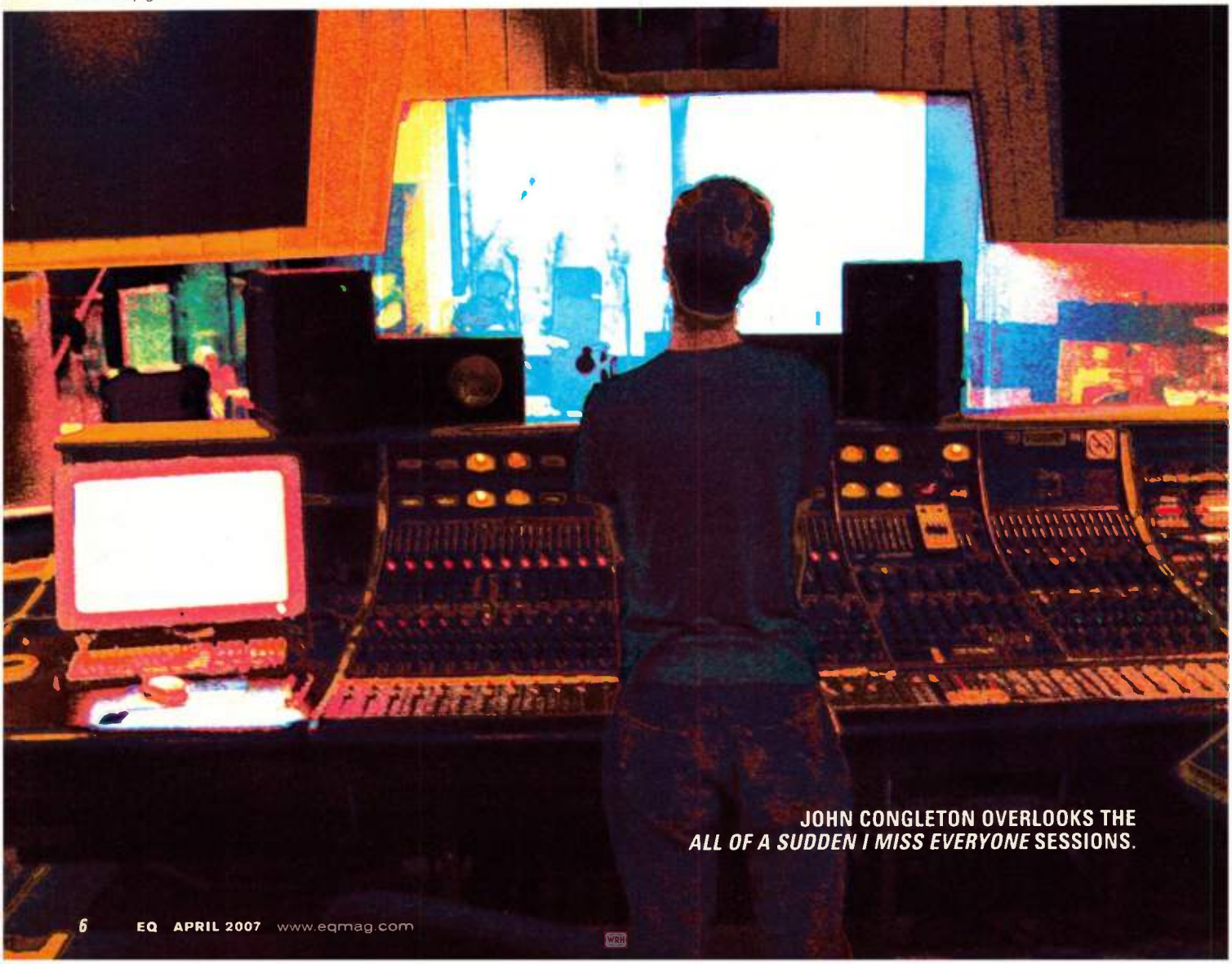
BY SHANE MEHLING

When the end of the world finally comes, don't be surprised if Explosions In The Sky provides the soundtrack. With their new record *All Of A Sudden I Miss Everyone*, EITS expand on what they've already become known for in the live realm — heartbreaking instrumental post-rock that builds slowly, and crescendos with the sonic size and severity of a small natural disaster. Once again aiding in this audile apocalypse is John Congleton — the Texas-based producer who is steadily building a résumé with bands as varied as The Roots and The Polyphonic Spree — and *EQ* had a chance to talk with Mr. Congleton about getting a huge sound by just tracking live in a truly great room.

EQ: As this is your second record with Explosions in the Sky, what major changes did you make while tracking this album as opposed to what was done on *The Return*?

John Congleton: On the last record we only had three days to do it, so we were a little rushed. But even though we had more time, we approached it pretty similarly in that the band played in the same room together all at once. There were a couple longer songs that we would break in half over two sessions, but almost everything was recorded completely live. The biggest difference I suppose is that this time we cut to tape.

EQ: You probably preferred using tape this time around, right?

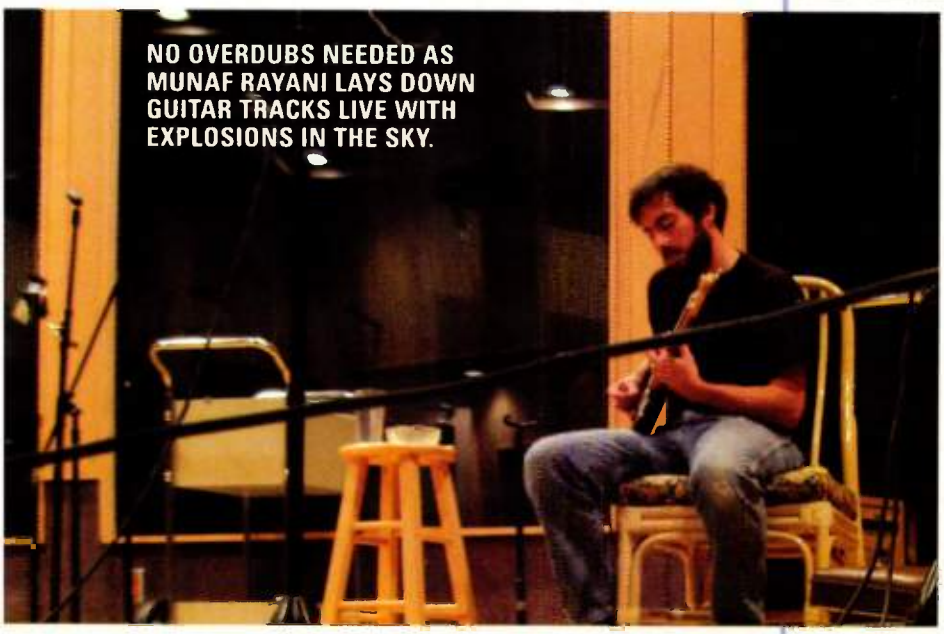


JOHN CONGLETON OVERLOOKS THE *ALL OF A SUDDEN I MISS EVERYONE* SESSIONS.

JC: I honestly don't care. I think people have their own superstitions as to which they'd rather use; digital technology has pretty much rectified all the major problems I initially had with it sonically. But tape has a charming quality that I like. I like the mindset it forces one into, where you have to pay more attention to a take. But I don't scoff at people who want to work digitally, and I have no problem with incorporating digital into anything I'm working on.

EQ: Do you track bands live often? As you said about the mindset tracking to tape puts you in, do you prefer tracking live because it gives a similar "do or die" vibe to the session?

JC: Sometimes you just can't, but I really enjoy tracking live because it really captures the chemistry of a band. Too often people



NO OVERDUBS NEEDED AS MUNAF RAYANI LAYS DOWN GUITAR TRACKS LIVE WITH EXPLOSIONS IN THE SKY.

isolate everything to make it cleaner, but rock and roll especially isn't about perfection.

EQ: The album has a roomy sound quality for the drum tracks, which really works for these huge, dramatic, soundtrack-esque sounding bands like EITS that are so popular right now. What was the mic setup like?

JC: I used two room blends for the drums that are mostly what you hear from the mix. I did a close room blend that was DPA 4006 omni, and a more vague blend with a Neumann CMV563 — the model with the lollipop capsule. I put ribbons on all the cymbals, from the hats to the ride to the overheads, Coles 4038s to be exact. There were two old Altec 175s on the top of the snare — one that sounds just a bit dark and one that sounds bright. We didn't have to EQ too much. . . .

EQ: The album definitely doesn't sound overtly compressed either.

JC: I'm not an audio purist in any sense, and I think using compression as an artistic tool is fine, but I think that records are starting to sound dated because of over-compression. I compress only to fix problems.

You're always going to get a much more clever and pure sound with proper miking and tracking in the right environment. Who cares about chicanery? I'm rarely excited about how a reverb unit sounds, because I've heard it all before. Some of them are so identifiable it's just boring. But if you truly get a good room sound, you're recording something that may be impossible to replicate.

EQ: So I take it you love the room at Pachyderm, and that's why you chose to record this there?

JC: I think that a good acoustical environment is the most important aspect of a record, because every single other thing can be overcome. I've done several records at Pachyderm, and the room is smaller than you would think, but it really sounds great. You know, if you have a bad room to record in, the house of cards falls immediately — you're going to be EQing and compressing everything. I'd rather just get all the faders up and go for it.

RANT:

MAKING LIFE CHOICES IN THE MUSIC BUSINESS

by Moses Avalon

Okay, show of hands: Who in the past year or so has had a friend or relative come to them with an article claiming the death of the music business? It's usually followed by comments like, "I think you should really reconsider this music thing. Take that job with my uncle doing carpet installations. People always need carpet."

Does this sound familiar? Hands high. I'm counting. Yes. I see there are many of you.

And I'm sure you've also felt somewhat handicapped for a snappy response. In your heart you love what you do and you know that you should pursue it, but where are the words and facts you need to tell them to "step off!"?

I have grown ill listening to pessimists blabber on about the "dying industry." What sales reports are they reading? The business has earned more new revenue between 2004–2006 than ever before. The RIAA has called the file sharing of music "a public raping." They claim that piracy has cut sales by almost 30% over the last few years, and yes, any fool can see that file sharing has affected the business. But has it been in a negative way? Has it really cost the labels "big money" and is the business really suffering because of it?

No. Quite the opposite. I'll tell you a secret: Revenue is not really down at all.

In 2005, album sales were 618 million units. In 2006 they dropped to 588 million. A 5% drop. Not 30%. Not even 10%. Extremely negligible, and better than other industries (like computer and automobiles) that have experienced bigger reductions in gross revenue. Okay. I hear you out there reading this. You're saying, "But Moses, 5% a year adds up. Doesn't that mean they've lost money and isn't that a bad thing?" No, because that 5% is more than made up for. The Warner Music Group said in their annual report that recorded music sales for the fiscal year 2006 rose almost 3%, to $3 billion, and that digital revenue had more than offset the drop from CDs.

continued on next page

Debate: NAMM . . . and the Future of the Recording Industry

by John Payne

Covering the Winter '07 NAMM show (and being asked to draw conclusions about the future of our industry due to what new products and trends reared their heads at the show) was bound to be a daunting prospect, obviously, for the music technology world has of course become a gargantuan thing whose tentacles wrap the earth in so many bewilderingly new and numerous ways that no one human could possibly wrangle it down long enough to give it an accurately appraising poke.

Say you were a hobbyist, though, or a professional producer or engineer, and you'd found yourself inside the Anaheim Convention Center's mammoth halls, and after about 15 minutes found yourself shaking a bit, wandering glassy-eyed from booth to booth to endless both, unable to remember your own name. Suddenly there's a flash of light, and. . . .

Assuming you have an interest in what, overall, this amazing event really portends for the future of music, what most likely will come to pass is that you'll feel as if you've been plunked down in the middle of a very intense and haphazard storm, blowing you every which way but loose. It'll feel like a storm of creativity, sure, but interestingly, more than a little like showers intermittently peppered with snake oil. For at every turn in the NAMM halls there'll be a sparklingly new and alluring and seemingly legitimate *alternative* way of recording music through some avant-garde technological means that will demonstrate beyond a shadow of a doubt that the clear path toward the *real* future of music production is right this way. "Step right up, ladies and gents!"

That's not to sound cynical about the biz, because there's an equally powerful corollary to the experience that speaks to the very essence of what it means to be alive and creative and musical in a world that, outside these doors anyway, can seem utterly determined to stomp that out as if utterly beside the point. And if you're a lover of sound, that's not too melodramatic a way of grasping the scenario, is it?

The many and varied (and so often seemingly opposed) new ways of recording music, or listening to it, speaks to a fundamental need in human beings, and that's beside the need to put a new label on a bottle of ketchup to boost sales. The musical experience, for those on the inside and the outside, is rich in metaphor because (lest we forget) it's so deeply personal. Thus it's not so much that there has to be or can possibly be one correct path toward the ideal sound, because subjectivity or a kind of relativism will always rule the day when it comes to what sounds "good."

The subjective experiences of listening to or recording music are the name of the game, in essence. Still, wandering through the NAMM maze, one couldn't help but wonder how it could possibly be that there were so *many* perfect alternatives for making the best music? Where the hell are we going? And what will we find when we get there? The frighteningly diverse tactics drawn by manufacturers of music production hardware and software, for example, seem generally to take their cues from a number of wildly opposed beliefs in what the proper direction for mankind, no less, ought to be taking at this point in time, proffered in the musical analog of the vigorous back and forth about primitive vs. futuristic, *i.e.*, analog vs. digital.

The seemingly endless debate about the relative virtues of analog and digital gear, in fact, can — for lack of a better way of getting a handle on the ectoplasmic state of musical aesthetics — be isolated as somewhat symbolic of the general state of the art and business, and whether or not we can see some kind of massive general movement in one direction or another. The sometimes ferociously put-forth arguments for adherence to

continued on next page

Let me tell you a few secrets about what the RIAA doesn't include in "lost sales."

- They don't include CD sales of independent artists, only a decline in sales of titles on major labels. Indie sales make up about as much market share as all of Warner Music Group, which is about 20%. So they are not including album sales equivalent to all of WMG in their calculations of "lost sales."
- They don't include the approximately two *billion* legally paid for downloads from iTunes, Yahoo e-Music, and many others. These are not CDs, technically, so they don't count them in "reduced album sales" even though record companies are getting tens of millions in new revenue from these sales. Also worth noting is that there has been a 71% increase for these types of sales. (2005: 353 million units; 2006: 582 million units.)
- They don't include the fact that the licensing fees for getting a hit song in a soundtrack has increased 1,000% since 1995 (climbing from about $80,000 to about $1,000,000) with no additional hard costs to the label.
- They ignore the tens of millions of ringtones that have generated about $90,000,000 in new revenue for labels in the past three years (and due to a new ruling in the copyright office, rates will increase in the coming years).
- They are omitting the fact that downloaded music doesn't require manufacturing costs, nor is there any returned or damaged merchandise (with rare exceptions). The bottom line is that record companies make substantially higher profit margins on newer sales.

So, when record executives give interviews that bemoan the pending death of the music business, to me they just sound like old school types, trying to crawl back into some decomposing chrysalis.

Look carefully at their credentials: Most of them were recently fired from their cushy, six-figure label jobs. Labels are not into wholesale nepotism anymore; they are hiring from without, not within. They are streamlining their staff because you no longer need a team of A&R executives making an average salary of $175,000 a year, with expense accounts for travel to hear a new act. Why bother, when you can have three 20 year-olds for $30,000 a piece doing the same job by searching MySpace?

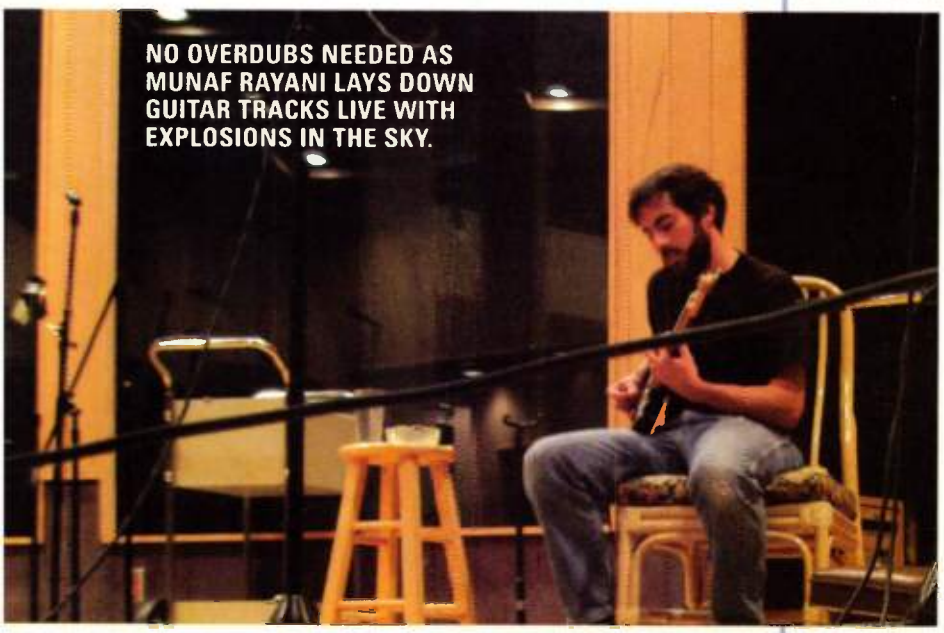
Mass firings do not equal a dying business, they equal a *changing* business. We don't have cobblers anymore either, but we still have a shoe industry.

Moses Avalon is a former record producer and recording engineer who has worked with Grammy winning artists and received RIAA platinum records. He is now one of the nation's leading music business consultants and artist's rights advocates, and author of a top-selling music business reference, Confessions of a Record Producer. *More of his writings can be read at* www.MosesAvalon.com.

JC: I honestly don't care. I think people have their own superstitions as to which they'd rather use. digital technology has pretty much rectified all the major problems I initially had with it sonically. But tape has a charming quality that I like. I like the mindset it forces one into, where you have to pay more attention to a take. But I don't scoff at people who want to work digitally, and I have no problem with incorporating digital into anything I'm working on.

EQ: Do you track bands live often? As you said about the mindset tracking to tape puts you in, do you prefer tracking live because it gives a similar "do or die" vibe to the session?

JC: Sometimes you just can't, but I really enjoy tracking live because it really captures the chemistry of a band. Too often people



NO OVERDUBS NEEDED AS MUNAF RAYANI LAYS DOWN GUITAR TRACKS LIVE WITH EXPLOSIONS IN THE SKY.

isolate everything to make it cleaner, but rock and roll especially isn't about perfection.

EQ: The album has a roomy sound quality for the drum tracks, which really works for these huge, dramatic, soundtrack-esque sounding bands like EITS that are so popular right now. What was the mic setup like?

JC: I used two room blends for the drums that are mostly what you hear from the mix. I did a close room blend that was DPA 4006 omni, and a more vague blend with a Neumann CMV563 — the model with the lollipop capsule. I put ribbons on all the cymbals, from the hats to the ride to the overheads, Coles 4038s to be exact. There were two old Altec 175s on the top of the snare — one that sounds just a bit dark and one that sounds bright. We didn't have to EQ too much. . . .

EQ: The album definitely doesn't sound overtly compressed either.

JC: I'm not an audio purist in any sense, and I think using compression as an artistic tool is fine, but I think that records are starting to sound dated because of over-compression. I compress only to fix problems.

You're always going to get a much more clever and pure sound with proper miking and tracking in the right environment. Who cares about chicanery? I'm rarely excited about how a reverb unit sounds, because I've heard it all before. Some of them are so identifiable it's just boring. But if you truly get a good room sound, you're recording something that may be impossible to replicate.

EQ: So I take it you love the room at Pachyderm, and that's why you chose to record this there?

JC: I think that a good acoustical environment is the most important aspect of a record, because every single other thing can be overcome. I've done several records at Pachyderm, and the room is smaller than you would think, but it really sounds great. You know, if you have a bad room to record in, the house of cards falls immediately — you're going to be EQing and compressing everything. I'd rather just get all the faders up and go for it.

RANT:

MAKING LIFE CHOICES IN THE MUSIC BUSINESS

by Moses Avalon

Okay, show of hands: Who in the past year or so has had a friend or relative come to them with an article claiming the death of the music business? It's usually followed by comments like, "I think you should really reconsider this music thing. Take that job with my uncle doing carpet installations. People always need carpet."

Does this sound familiar? Hands high. I'm counting. Yes. I see there are many of you.

And I'm sure you've also felt somewhat handicapped for a snappy response. In your heart you love what you do and you know that you should pursue it, but where are the words and facts you need to tell them to "step off!"?

I have grown ill listening to pessimists blabber on about the "dying industry." What sales reports are they reading? The business has earned more new revenue between 2004–2006 than ever before. The RIAA has called the file sharing of music "a public raping." They claim that piracy has cut sales by almost 30% over the last few years, and yes, any fool can see that file sharing has affected the business. But has it been in a negative way? Has it really cost the labels "big money" and is the business really suffering because of it?

No. Quite the opposite. I'll tell you a secret: Revenue is not really down at all.

In 2005, album sales were 618 million units. In 2006 they dropped to 588 million. A 5% drop. Not 30%. Not even 10%. Extremely negligible, and better than other industries (like computer and automobiles) that have experienced bigger reductions in gross revenue. Okay. I hear you out there reading this. You're saying, "But Moses, 5% a year adds up. Doesn't that mean they've lost money and isn't that a bad thing?" No, because that 5% is more than made up for. The Warner Music Group said in their annual report that recorded music sales for the fiscal year 2006 rose almost 3%, to $3 billion, and that digital revenue had more than offset the drop from CDs.

continued on next page

Punch In

Debate: NAMM . . . and the Future of the Recording Industry

by John Payne

Covering the Winter '07 NAMM show (and being asked to draw conclusions about the future of our industry due to what new products and trends reared their heads at the show) was bound to be a daunting prospect, obviously, for the music technology world has of course become a gargantuan thing whose tentacles wrap the earth in so many bewilderingly new and numerous ways that no one human could possibly wrangle it down long enough to give it an accurately appraising poke.

Say you were a hobbyist, though, or a professional producer or engineer, and you'd found yourself inside the Anaheim Convention Center's mammoth halls, and after about 15 minutes found yourself shaking a bit, wandering glassy-eyed from booth to booth to endless both, unable to remember your own name. Suddenly there's a flash of light, and. . . .

Assuming you have an interest in what, overall, this amazing event really portends for the future of music, what most likely will come to pass is that you'll feel as if you've been plunked down in the middle of a very intense and haphazard storm, blowing you every which way but loose. It'll feel like a storm of creativity, sure, but interestingly, more than a little like showers intermittently peppered with snake oil. For at every turn in the NAMM halls there'll be a sparklingly new and alluring and seemingly legitimate *alternative* way of recording music through some avant-garde technological means that will demonstrate beyond a shadow of a doubt that the clear path toward the *real* future of music production is right this way. "Step right up, ladies and gents!"

That's not to sound cynical about the biz, because there's an equally powerful corollary to the experience that speaks to the very essence of what it means to be alive and creative and musical in a world that, outside these doors anyway, can seem utterly determined to stomp that out as if utterly beside the point. And if you're a lover of sound, that's not too melodramatic a way of grasping the scenario, is it?

The many and varied (and so often seemingly opposed) new ways of recording music, or listening to it, speaks to a fundamental need in human beings, and that's beside the need to put a new label on a bottle of ketchup to boost sales. The musical experience, for those on the inside and the outside, is rich in metaphor because (lest we forget) it's so deeply personal. Thus it's not so much that there has to be or can possibly be one correct path toward the ideal sound, because subjectivity or a kind of relativism will always rule the day when it comes to what sounds "good."

The subjective experiences of listening to or recording music are the name of the game, in essence. Still, wandering through the NAMM maze, one couldn't help but wonder how it could possibly be that there were so *many* perfect alternatives for making the best music? Where the hell are we going? And what will we find when we get there? The frighteningly diverse tactics drawn by manufacturers of music production hardware and software, for example, seem generally to take their cues from a number of wildly opposed beliefs in what the proper direction for mankind, no less, ought to be taking at this point in time, proffered in the musical analog of the vigorous back and forth about primitive vs. futuristic, *i.e.*, analog vs. digital.

The seemingly endless debate about the relative virtues of analog and digital gear, in fact, can — for lack of a better way of getting a handle on the ectoplasmic state of musical aesthetics — be isolated as somewhat symbolic of the general state of the art and business, and whether or not we can see some kind of massive general movement in one direction or another. The sometimes ferociously put-forth arguments for adherence to

continued on next page

Let me tell you a few secrets about what the RIAA doesn't include in "lost sales."

- They don't include CD sales of independent artists, only a decline in sales of titles on major labels. Indie sales make up about as much market share as all of Warner Music Group, which is about 20%. So they are not including album sales equivalent to all of WMG in their calculations of "lost sales."
- They don't include the approximately two *billion* legally paid for downloads from iTunes, Yahoo e-Music, and many others. These are not CDs, technically, so they don't count them in "reduced album sales" even though record companies are getting tens of millions in new revenue from these sales. Also worth noting is that there has been a 71% increase for these types of sales. (2005: 353 million units; 2006: 582 million units.)
- They don't include the fact that the licensing fees for getting a hit song in a soundtrack has increased 1,000% since 1995 (climbing from about $80,000 to about $1,000,000) with no additional hard costs to the label.
- They ignore the tens of millions of ringtones that have generated about $90,000,000 in new revenue for labels in the past three years (and due to a new ruling in the copyright office, rates will increase in the coming years).
- They are omitting the fact that downloaded music doesn't require manufacturing costs, nor is there any returned or damaged merchandise (with rare exceptions). The bottom line is that record companies make substantially higher profit margins on newer sales.

So, when record executives give interviews that bemoan the pending death of the music business, to me they just sound like old school types, trying to crawl back into some decomposing chrysalis.

Look carefully at their credentials: Most of them were recently fired from their cushy, six-figure label jobs. Labels are not into wholesale nepotism anymore; they are hiring from without, not within. They are streamlining their staff because you no longer need a team of A&R executives making an average salary of $175,000 a year, with expense accounts for travel to hear a new act. Why bother, when you can have three 20 year-olds for $30,000 a piece doing the same job by searching MySpace?

Mass firings do not equal a dying business, they equal a *changing* business. We don't have cobblers anymore either, but we still have a shoe industry.

Moses Avalon is a former record producer and recording engineer who has worked with Grammy winning artists and received RIAA platinum records. He is now one of the nation's leading music business consultants and artist's rights advocates, and author of a top-selling music business reference, Confessions of a Record Producer. ***More of his writings can be read at*** www.MosesAvalon.com.

The new vintage.

SPUTNIK

Hand-Assembled Condenser Tube Microphone

"If someone asked me what to do with a $1000 microphone budget, I'd tell them to buy a Sputnik and a decent mic pre-amplifier... with $1500, I'd tell them to buy two Sputniks."

—audioMIDI.com

"...most of the desirable characteristics of a classic tube model, without the attendant purchase or servicing costs... a great performer and a good looker."

—Sound on Sound, *Nov. 2006*

"M-Audio put its reputation on the line by comparing the Sputnik to some of the most venerated microphones in the business... I can understand M-Audio's confidence in its product."

—Remix, *Sept. 2006*

dedicated power supply, shock mount and custom carry case included

vintage tube design
> coveted classic transparent sound

3-micron evaporated-gold Mylar diaphragm
> extremely sensitive

selectable cardioid, figure-8, and omni polar patterns
> total studio flexibility

low-current/high-voltage 6205M vacuum tube
> linear behavior with graceful overload characteristics

hand-assembled limited production run
> boutique quality

Electronic Musician 2007 EDITORS CHOICE

2007 future music ACE AWARDS

ProAudio Review 2006 REVIEWER'S PICK

GET M-POWERED

M-AUDIO

recording interfaces | USB keyboards | studio monitors | microphones | preamps | sound libraries | music software

www.m-audio.com

either analog or digital can sound highly amusing, if one considers the immutability of the subjective musical experience objectively.

Yet this debate has produced an incredibly healthy climate for music. Currently, for the first time ever, advanced recording technology is bringing certain musical — and therefore ideological and philosophical, even — issues to light. Musicians and fans alike have benefited from the plethora of conflicting ideas and beliefs advanced by both true devotees to the musical art form and the snake oil salesmen who love them. Given our newfound ability to grind a wave pattern's elements down to the size of a grain of sand, we have now a previously unknown ability to really think about what it is that we're looking for in music, and why.

The analog and digital realms (and their bastard hybrid offspring) represented at the NAMM show seemed overall presented in terms of not only ease or intuitivism of use, purest and cleanest sound reproduction, great visual appeal or just plain trendiness (the "gotta have it" thing), but as representative of human core values that are in themselves worth pursuing. The simple logic of the campaign is "You want the best sound. Our product is the best. Should you purchase our product, you'll have the best sound. And life."

The phenomenon of the enormous number of ideologically opposed production technologies seen at NAMM is fascinating not least for the apparent assumptions made by manufacturers about the musical values, and indeed life priorities, of working producers and engineers. It's obvious that exploiting the general public's (or at least audiophiles') neurosis about sound quality has been very, very good for the music technology business, and one thing that'll always be good for both art and sales is the unquestioned or superficial assumption by many that anything less than a 100% digital production must be very inferior by comparison.

But, related to that belief, two or three things at least have grown apparent: One is that, while in a strictly technical sense you might say an all-digital production is in fact a higher standard, at this point in human evolution the perceptible difference between it and a production created via high-end analog or digital-analog hybrid means is — we ought to be frank here — sometimes hard to hear.

The other and more important issue regarding the psychology of music and its marketing is how the recording and tech industry exploits unchecked biases and emotions about the quality of recorded sound. Again, this isn't inherently evil, it's just business. In fact the realization by designers and manufacturers of high-end audio equipment that audiophiles will most likely always harbor certain illusions about sound quality has been incredibly stimulating for the industry itself, considering the sheer number of new instruments, machines, and methodologies for making music that will soothe their customers' not-entirely-unjustified neurosis.

But, in the end, like a stroll around and through the miles and miles and miles of NAMM's jaw-dropping technological wonders, pretty gewgaws, and alluring promises of a more fulfilling life through better sound, isn't it possible that the proper direction of our collective musical path should be determined by the level of enlightenment gained in the pursuit itself?

Correction!

In the Feb '07 Mastering Mojo issue, mastering engineer Dave Kutch's bio improperly listed his place of business as Song Music Studios when, in fact, he works for the famed Sony Music Studios. We apologize for drinking that day. Or maybe it was the sleep deprivation. Or maybe we can just blame Christopher Sholes, the inventor of the QWERTY keyboard, who put G one key away from Y. Yeah, that's the ticket.

ELEC

QUARTERSTAFF

In the studio with Winnipeg's finest instru-metal prodigies

by Shane Mehling

TRO

There is no doubt that Electro Quarterstaff is a true metal band. But when it came time to record their debut release *Gretzky*, the band chose to ignore the general trappings of metal recording practices — instead enlisting fellow Canadian Craig Boychuk to help forge an album that champions progression over replication. After numerous tries, we were able to get Boychuk and guitarist Drew Johnston to extrapolate on the sound of metal's future, and explain how they took the first step forward . . . by leaving the bassist at home.

EQ: What was it about Craig's approach to recording that made you think he was the best choice to engineer this little experiment of yours?

Drew Johnston: A very common approach taken by many modern metal bands is to sound as clinical and antiseptic as possible on their recordings. We wanted to avoid that kind of neutered aesthetic, and we knew from working with Craig in other bands that he could extract the most rugged, organic tones from us without sacrificing clarity. It's refreshing recording with Craig; he really facilitates that kind of "live" environment and protects the natural warmth of our music.

EQ: Most metal bands, especially those that favor a speedy approach, tend to just trigger the hell out of their drums. *Gretzky* has almost a classic rock sound in respect to that instrument, which is rather anomalous in this genre.

Craig Boychuk: I tend to use the room sound a lot more in the mix, but I close mic just in case. So for this, I threw [Sennheiser] 421s on all the toms. For the snare, I used a Røde NT2 — a large diaphragm condenser without a pad — and a [Beyerdynamic] M 201, both on the top of the snare. The M 201 was nice and clean, but the NT2, of course, got ridiculously distorted on the snare, and the mix of the two preserved attack but also added a serious crunch.

For the kick, I stuffed a [Shure] SM7 and an Audio-Technica STM 25 in the shell, and I kept the sound of both of those prominent in the mix.

But, as far as room miking goes, I had a pair of Fostex M11RP cardioid printed ribbons set up about three feet from the kit, and a pair of M20RP stereo ribbons at the back of the room, and that is really where most of the sound came from.

EQ: How did you handle preserving clarity and balance in the mix with three guitar players?

CB: I double-miked all the guitars, using a [Shure] SM57 for all three, but mixing that in with either an SM7, an [AKG] D112, and the 201, respectively, on each rig. I also had a Microtech Gefell UM92 a few feet away from the amps, just in case. I had the two close-miked tracks mixed down to one, and then kept the UM92 separate as another track. Two tracks per guitar; six tracks total.

DJ: There is a fine line between getting impact and maintaining clarity, so we all decided to turn down the gain knobs on our amps to really expose the "string" sounds as opposed to opting for slosh-y, over-distorted and undefined guitar sounds. We found that, in the mix, by just putting all the guitars together we made up for any perceived "heaviness" lost individually due to the lowered gain settings.

EQ: With three lead guitars making up the bulk of the compositions, and no bassist to be found, did you do anything ridiculously guitar-minded, like approach the mix from the guitars up?

CB: I like to start with drums because, even in such a guitar-heavy band, if they sound bad so will everything else. So the most work I put into the mix was in regards to the drums. I didn't really do much to the guitars, just a small bit of EQ here and there to make things fit better, plus some upwards expansion on the high end to accentuate the articulation. The trickiest thing was getting the drums to sit in the mix while maintaining a hefty dose of the ambience from all of the guitars.

DJ: We simply panned the guitars hard left (Andrew Dickens), dead center (Josh Bedry), and hard right (myself) for continuity, and so that it sounds like we do live. However, the solos were fired right up the center. We wanted a very guitar-heavy record, but not to the point of obscuring the drums, which I think are the true propellers of this music.

EQ: It's a pretty open-sounding record, especially for a metal band.

CB: I really hate hearing obvious compression . . . but I actually like doing parallel compression where I have all the drum tracks in a subgroup. Then I'll bus them to another group and smack the crap out of that one, and then mix that it in with the dry signal. I like that because you have the uncompressed sound riding on top of the compressed one, and I think it masks what my ear doesn't like about most compressed tracks.

EQ: I've heard there were a rather large amount of obstacles working with RADAR 24, and a lot of time/budgetary constraints on this album. I think it sounds great, but are you still happy with it after having listened back to it so many times? Things sure do tend to pop up months later after you've mixed in a rush. . . .

CB: I still love RADAR 24, even if we did have a few problems with it during the album. For someone who loves tape, but has to go work in the box, I think it's the most intuitive thing out there. And I think it sounds better than Pro Tools. I think we did a good job, though sometimes it's hard to have an opinion on music you work on. It can get to the point where you don't even really know what it sounds like. That's one of the primary drawbacks to mixing in the box; it's easy to get caught up in minutiae and neglect the real task at hand. Plus, the potential for endless revision is pretty dangerous. Sometimes, it's better to just take the first take, let it be, and not mess with it.

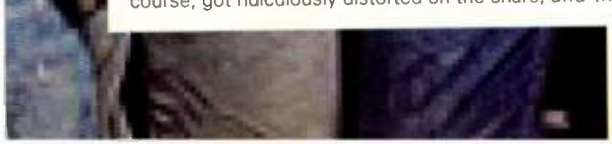


Photo by Wade Gosselin

SESSION FILE: PHISH

Taking the Hiss Out of Colorado '88

by Richard Buskin

The time: the summer of 1988. The place: the Roma Bar in Telluride, Colorado. In a few years, Phish will become the *de facto* successor to the Grateful Dead — a band more noted for its musically eclectic, super-improvisational, free form live shows than for its gold-status studio albums. Yet right now, in a small mining town venue that is figuratively a million miles from the arenas where they'll one day perform multi-night engagements, the Vermont quartet of guitarist/vocalist Trey Anastasio, drummer John Fishman, bass player Mike Gordon and keyboardist Page McConnell are showcasing their songs to a half-dozen people. Among them is one Michael Lynch.

Over the course of five nights at the Roma, as well as another at the nearby and better-attended Fly Me To The Moon Saloon, Lynch illustrates his love and appreciation for the fledgling New England band by not only taking a feed from engineer Paul Languedoc's soundboard and recording the shows on an assortment of Maxell cassettes, but also by taping over the likes of Pink Floyd's *Atom Heart Mother* and the Grateful Dead's 1978 Red Rocks Amphitheater concert. He won't regret it.

AN ARMY OF TWO

Capturing Phish in its formative stages, Lynch's recordings are entrusted to band archivist Kevin Shapiro about a decade later, by which point the musicians have evolved into a world-class outfit. And just under another decade later, following Phish's disbandment, Shapiro transfers the well-worn analog tapes — played on a TASCAM 122 Mk III cassette deck without Dolby or pitch correction — to a Mac G4 using Pro Tools LE at 48kHz. He then compiles 36 tracks into a show-like collection, and delivers 24-bit/44.1kHz files on a Glyph GT050 FireWire hard drive to Fred Kevorkian for mastering into a three-CD set.

"Kevin was present during the mastering sessions and very helpful with his incredible musical knowledge of the band," says Kevorkian, who spent nine years as a staff engineer at Sear Sound in New York after relocating there from Paris in 1989. During that time he began mastering, and this was the path he chose to go down when joining Absolute Audio in 1999. Five years later he set up on his own facility, establishing Kevorkian Mastering on the third floor of Avatar Studios. Since then, his album credits have included the White Stripes, Willie Nelson, Ryan Adams, Sonny Rollins, Iggy Pop, Cassandra Wilson, and the Dave Matthews Band.

"I master to an Audio Cube AC5," Kevorkian explains, "and when I play files my source is the Sonic Solutions HD. Things go out digitally and most of the time they are converted to analog. I use all of my analog gear to get the sound I want, while the digital stuff is more for tweaking and surgical processing."

ALL THINGS REMASTERED

First involved with Phish when producer Steve Lillywhite and mix engineer John Siket approached him to digitally sequence and edit the *Slip, Stitch & Pass* live album at Sear Sound in 1997, Kevorkian subsequently mastered a number of the band's studio, concert, and solo projects prior to his work on *Colorado '88* in September 2006.

"Getting the overall tonal balance of the program didn't involve unusual processing," he states. "Most of the major problems we ran into while mastering *Colorado '88* had to do with balance, distortion, dropouts and tape hiss.

"The files were played back in real time with a Sonic Solutions HD system. The AES output was then converted immediately to analog by a Lavry 824 D/A, feeding directly into a Chris Muth 2020 mastering console. At that stage I can insert a variety of analog processors into the signal path, but for this project a Sontec MES 432 equalizer was first in the chain, with settings that were pretty broad and mainly used to 'set the tone.' The program was then encoded as an M/S signal, and fed to a Manley Variable-Mu compressor and Maselec MEA-2 equalizer.

"Because of the M/S configuration, I was able to EQ and sometimes compress the center differently than the sides. It's a great tool, and it also allowed me to change the stereo imaging from song to song in order to create a more consistent soundstage. The signal was then converted back to regular stereo and routed to a Maselec MDS-2 de-esser that was set to control and smooth out the top end, just like the Neumann accelerator-limiter that is found on a cutting lathe."

A matched pair of Chandler LTD-2 compressors was used occasionally to bring the average level up on the most dynamic songs. The signal was then converted to 24-bit digital with a Prism AD124 and fed into a Z-Systems parametric EQ, a Weiss DS-1 de-esser, and a Waves L2 Ultramaximizer.

"The digital EQ was used to tighten the low end and to bring out some of the lost presence," Kevorkian explains. "The Weiss was mostly dedicated as a one- or two-octave band compressor, around 2 or 3kHz, taking care of the extra midrange added by the EQ, and lastly we used the L2 to reduce the overall dynamic range by a decibel or two without significant side effects. The output of the L2 was routed to the Audio Cube AC-5 workstation, capturing the mastered digital audio in real time, and typically a new file would be created in the AC-5 for every single song, as well as for specific sections."

HISS CONTROL

Compiled in chronological order from the shows recorded by Michael Lynch at the Roma Bar on July 29

and 30, 1988, the Fly Me To The Moon Saloon on August 3, and then back at the Roma on August 4 and 5, *Colorado'88* challenged Kevorkian in terms of addressing the sonic discrepancies that were evident from one mix to the next.

"With all the files in the system we were ready to sequence the album," he says, "but while this would normally be a fairly easy process, in this case it became our biggest challenge. As mentioned before, the tape hiss was a real problem — not only was it loud, but the band's wide dynamic range would expose the noise during the very soft sections of the songs. Thankfully, the AC-5 has some pretty nice restoration tools, and so its 'De-Noiser' was used to remove some of the tape hiss.

"We decided to leave the loud sections of the songs alone. There the hiss was quite acceptable, but in most cases a noise reduction of 3 to 4dB was applied to the quieter sections. A new de-hissed file would then be created, synced to the original file, and crossfaded slowly with the loud sections. This worked out really well, but unfortunately you can't just apply the same setting to all the noisy sections, so we had to analyze and process every one of the hissy parts separately. There were a lot less side effects that way."

Still, the real challenge was to transition between two songs from different shows.

"We were dealing with a lot of hiss on each side of the edit," Kevorkian says. "Each one had a different characteristic, so as soon as you'd crossfade them there would be some nice phasing. Usually you can cover some of those imperfections with crowd noise, but here I was, with an audience of only six people! What's more, they were pretty quiet. So, in order to get those transitions right, we used a little more 'De-Noiser' to match both the hiss level and some additional internal EQs. Then we had to experiment with some uneven manual crossfades to create a smoother transition — tedious but efficient."

Fred Kevorkian performs sonic surgery in his mastering lab for Phish's *Colorado '88*.

PREP SCHOOL DROPOUTS

Dropouts presented another problem, courtesy of poor tape-to-head contact during the digital transfers (and perhaps some shedded oxide) due to said tapes being old and worn after having been played numerous times.

"Some short dropouts could be minimized by a quick 'envelope ride' to compensate for the energy loss, as well as a burst of HF boost to bring back some of the top end," Kevorkian says. "Then again, there were also times when we were lucky enough to find a section that was identical to the problem area, in which case it was just a matter of copying and pasting. Otherwise, we had to leave things alone because there was no successful remedy."

FIXED ENOUGH FOR YOU

Finally, there were the balance and distortion issues, such as a John Fishman trombone solo on "I Didn't Know" that was so loud, it appeared to clip everything in the signal path.

"Distortion is very difficult to fix," asserts Kevorkian. "We were able to smooth out the distorted signal a bit by using the Audio Cube's 'De-Clicker' — that took some of the edge off. However, at that moment the trombone was about 20dB louder than Mike Gordon's bass. The balance was really out of proportion. By chance, John was mostly in the left channel and Mike in the right, and during the previous mastering pass I already had a special setting for that particular section. The L2 wasn't linked and it was set to heavily limit only the left channel, so we decided to pan the stereo signal about 3dB more on the right side to give the bass a little more weight and tuck the trombone a little more into the mix.

"That worked, but it wasn't enough. We therefore had to split the program into a pair of mono files, and while we left the right channel alone, we drew an envelope around each trombone note in order to get it more even. This was the most extreme balance problem we had to deal with, although we did use a similar technique to pull back Page's piano solo on 'Flat Fee' when it was sticking out a little too much.

"In the end, we felt we had accomplished something really unique. *Colorado '88* was one of the most involved and complicated mastering projects I've ever worked on. But it was also challenging and interesting, and I'm just glad that we were able to preserve, restore, and document the early days of a really fantastic band." EQ

SUCCESS STORY: DAVID CASTELL

Behind the board with Blue October

by Jeff Touzeau

Currently, Blue October's *Foiled* is making a big splash on a national level, becoming a certified gold record in recent months and affording the band extensive touring opportunities with the likes of the Rolling Stones — successes that landed producer and longtime collaborator David Castell, who produced most of the album's tracks including such hits as "Into the Ocean" and "Hate Me," into a great deal with Worlds End and worldwide recognition for his production prowess.

THINKING INSIDE THE BOX

An interesting production from top to bottom, *Foiled* is full of unexpected sonic textures, brilliantly layered vocals, and rock solid drums 'n' bass. On listening to the diverse palette of sounds and effect treatments throughout the record, it's no surprise that Castell cites Brian Eno as a primary influence.

But perhaps what's most interesting, given the lush quality of many of Castell's tracks with Blue October is the ubiquitous embracing, from performer to producer, of modern technology. In fact, word on the street is that Castell handled tracking, mixing and mastering 100% "in the box" . . . an urban legend he's not quick to dispel: "I was an early adopter, one of those guys who paid $10,000 for two 650MB SCSI drives when they first came out," he says. "I've been "in the box" now for about four years, working mostly in Nuendo for this album."

Castell, a huge plug-in advocate, points towards the Universal Audio plugs — namely UAD's LA2A compressor, the 1176 limiter and the Fairchild — as his treatments of choice all the way through the mastering process. But it's his shameless guitar modeling proclivities that are probably the most surprising, in terms of applications: About 90% of *Foiled* didn't even utilize physical guitar amps — a stunning achievement when you listen closely to tasty tracks like "You Make Me Smile" and "Drilled a Wire through My Cheek." Castell notes, "C.B. [Hudson] and Justin [Furstenfeld] simply brought in their axes and a tuner for each session."

GOING FOR THE THROAT

Furstenfeld, who is also lead singer and chief songwriter in addition to his duties as a guitarist, is one of those vocalists who is always "on;" he makes the tracking of multiple vocal melodies and harmonies seem almost effortless. "Justin is one of the best vocalists I've ever worked with," Castell exclaims. "He's just a machine and can get into character in about five seconds, delivering every time. I'm basically just there to document him and bring out 'less of this guy' or 'more of that guy.' All I have to do is say one word, and he'll give me an entirely new character and an entirely new take."

Working alongside such an "overachiever" in this sense presented an interesting production challenge for Castell: "In contrast to the last album, Justin was doing a lot of layering and doubling up on his vocals, while putting other harmonies on top. He did lots of preproduction and kind of fell in love with that multi-layered sound. I found that one of my jobs as a producer was to pull this back a bit." Still, these layers leave an indelible mark on the album's sound, "Into the Ocean" being a prime example of this.

It's Furstenfeld's dynamic singing that is a signature of Blue October's dramatic live performances — any single vocal take can move from a light whisper to a raspy screech in a matter of seconds. But when trying to harness this beast in the studio, Castell says he typically captures Furstenfeld's vocals point blank through a Neumann U47, an API 512 B lunchbox, then into his Manley Vari-Mu tube compressor. He applies light compression, being careful not to have too fast of an attack or release. But it's while mixing Justin's vocals that Castell stirs up the pot a bit: "I'm a big fan of nuking the vocals on the 1176 at the mix stage, then going back and meticulously editing all the breaths. I am pushing some pretty severe compression ratios to make sure it's all right up there in your face, whether he's yelling or whispering."

"Into the Ocean" is perhaps the most powerful showcasing of Furstenfeld's vocal delivery, with a strong harmonizing track that stands with equal prominence to the lead vocal in the mix. Castell describes the challenges of panning in such a case: "In this song, it was hard to discern where the melody would sit, because the harmony is such an integral part," Castell notes. "I decided that these would be stacked up on top of one another in the center of the stereo field, because the combination of these vocals should really be perceived as one thing." General effects, Castell notes, were used rather sparingly, and limited to subtle "radioed out" delays of about 20ms, which he hard-panned left and right to sit in the far corners of the stereo image.

CUTTING DRUM LINES

One of the more captivating aspects of *Foiled* is the drums — which vary from sounding cold and quite machine-like on some tracks to bright, live, and in-your-face on others. Castell explains that the drums (plus the bass tracks and some violin parts) were the only elements tracked in a 'proper' studio: Music Lane Studios in Austin, Texas. Working alongside his 'drum team' (engineers Mark DuFour and Andy Sharp), Castell recorded sample hits of varying velocities before capturing the actual performances of drummer Jeremy Furstenfeld. Castell would then proceed to time align in Nuendo while replacing select segments with more "pristine takes" from the sampled session. "I do a lot of drum replacement with Drumagog, of which I am a big fan," Castell tells. "I do the replacements with the sampled drums from the session so I can get the isolation I'm looking for. 'Into the Ocean' is an extreme example of this, where I was trying to emulate a Linn drum machine with 'Hotel California'-type toms."

L–R: David Castell, C.B. Hudson (lead guitarist), Justin Furstenfeld (guitarist/vocalist), and Anthony Rollo (A&R Universal/Motown) hanging out at Andy Wallace's room at Soundtrack Studios NYC — and missing their plug-ins.

Before Castell goes into electronic manipulation mode, he is careful to record the exact sound he's looking for, both within the samples and the actual performance: "We wanted to get a really nasty, rattled snare on the first and third verse of ['Into the Ocean']. Mark Dufour suggested that we put a splash cymbal between the snare wires and the bottom head, so we shoved one in there. That's what makes that snare sound so distinctive."

Castell is quick to further emphasize the benefits of drum replacement following tracking. "When you're recording a rock section, for example, every time you're rolling off a tom fill, what is the next thing? A crash cymbal. Unless you make a replacement, you're never going to get the isolation and sustain off of that tom roll off without a big crash cymbal interfering. By sampling that tom either prior to or after the session, you can grab that sampled tom, stick it over itself and *voilà*! You have a pristine, sustained drum with no cymbal bleed."

Furthermore, while tracking drums, Castell tells us that a typical technique he uses to achieve his sound is to apply substantial compression to the room mics: "I know in advance if it's going to be a crunchy thing or an airy thing, and on rock stuff, I won't hesitate to put a stereo Distressor on my room mics, which I hit pretty hard."

GETTING THE EXTRA SOUNDS

Even though Castell is quite adept at handling the engineering duties when working with Blue October, he knows exactly where he is in the big picture of the production. He describes how he helped influence the mood on "Into the Ocean": "In that song, the first thing I noticed was the pentatonic scale, which used of all the black keys. It's hard to play all the black keys on the piano and not think of wind chimes, water, and Asia, so I just kind of took it all the way there and made the whole song sound very Asian." And the 'whale' bass sound that brings up mental images of a rolling sea? This was also Castell's idea, and a simple one to execute at that. Castell ran bass player Matt Noveskey plus a chain of old Boss pedals direct: a CE-1 chorus through a bit of reverb from an RV-5, then a small amount of delay in the DD-3.

While *Foiled* is mostly a rock record, there are many classical elements; for example, the track "Everlasting Friend" has contributions from violinist Ryan Delahoussaye and cellist Sarah Donaldson. As Castell says, "I did some of the violins in Austin at Music Lane Studios, but other parts I overdubbed in my living room, which doesn't have particularly high ceilings. However, as I was basically miking these extremely close, the ceiling height wasn't a problem. I was going for more of an intimate sound rather than an orchestral sound."

MIXING TO MASTER

When it came time to mix *Foiled*, Castell started by bringing up the drums and bass, then the vocals prior to bringing in any other sonic elements: "I think it's crucial to get the drum balanced with the vocals, unless it's modern rock, which is all about the guitars." While in the mix phase, he pre-mastered by applying EQ and compression on the stereo bus. "I've got quite a chain of stuff on there because I want to know how the final master is going to sound. I'm never really far from a fully mastered state of mind." EQ

TECH BENCH
Restoring Vintage Effects

by Craig Anderton

Congratulations! The good news is that thanks to the magic powers of eBay, you finally tracked down that ultra-rare, ultra-retro signal processor or stomp box you've coveted. The bad news is that it's not working quite right; sitting unused in someone's garage has taken its toll. But if you apply a few basic procedures, you can often nurse that antique back to life.

Even if you're not too much into DIY, restoring a vintage effect is not always difficult — some cleaning, tightening, and a little contact cleaner may be all you need. However, there are a few important cautions when doing any kind of repair job:

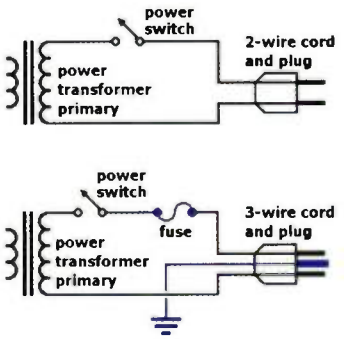


Fig. 1: How to convert a two-wire AC cord to a three-wire type. Additions are shown in blue.

- When you disassemble the unit, don't lose any mounting screws; put them in a paper cup or other container.
- If a unit seems difficult to disassemble, don't force things. Sometimes a screw will be hidden under a sticker, or will be accessible only if you remove a knob or panel. Another place to look for screws is in the battery compartment once you've removed the batteries.
- Proceed *very* cautiously when disassembling a unit, because you don't want the cure to be worse than the disease. If your screwdriver slips and you destroy some part that was discontinued in 1972, you'll be very sorry.

BLOW IT AWAY

Older effects often come with large amounts of dust. Get a can of compressed air, take the unit outside, and blow air on the effect to get rid of as much dust as possible. Although you can plug a vacuum cleaner's hose into the exhaust end, let the vacuum run for a minute or so to clear out any dust stuck in the hose, then clean out the effect, that's recommended only for devices that aren't very fragile; compressed air is a far better option.

SOME EFFECTS HAVE A SCREW LOOSE

Enough vibration can loosen screws, causing bad ground connections (vintage effects sometimes depend on mounting screws to provide an electrical path between circuit board and ground, or panel and ground).

While you still have the unit apart, try to turn each screw (except those that regulate something, such as trimpots) to see if there's any play. If so, tighten the nut and if there isn't already a lockwasher, add one underneath the nut if it won't short out anything that's not supposed to be shorted. *Be careful not to overtighten.*

Also check the condition of the line cord or AC adapter jack. Replace it if you have any doubts about its ability to carry power safely.

SPRAY YOUR WAY TO REPAIRS

One of the biggest problems is oxidation, which coats metal surfaces with an insulating film or corrosion due to stuff in the air (whether pollution in L.A. or salt spray in Maine). This can cause scratchy sounds in pots, intermittent problems with switches, and even occasional circuit malfunctions. Fortunately, contact cleaners can solve a lot of these problems. I've had good luck with DeoxIT from Caig Laboratories, but there are many other types.

Potentiometers usually employ a metal wiper that rubs across a resistive strip; if oxidation or film prevents these from making contact, the pot becomes an intermittent open circuit. To solve this, spray a small amount of contact cleaner into the pot's case. With unsealed rotary pots, there's usually an opening next to the pot's terminals. Slide pots have an obvious opening. Sealed pots are more difficult to spray; sometimes the pot can be disassembled, sprayed, and reassembled. Or, dribble contact cleaner down the side of the pot's shaft, and hope some of it makes it to the innards.

Once sprayed, you have to rotate the pot several times to "smear" the cleaner, and flush away the gunk it's dissolving. After rotating about a dozen times, spray in a *little* more contact cleaner and rotate a dozen more times.

If the problem returns later, spray and rotate again. However, remember that eventually a pot's resistive element becomes so worn that no contact cleaner can restore it. You then need to replace the pot with one of equivalent value.

Incidentally, people often forget that trimpots need cleaning too — especially as they're more exposed than regular pots. The main caution here is that the trimpot setting may be critical, so take careful note of where it was set. The best way to do this is to measure the voltage at the trimpot's wiper, and after cleaning, set the trimpot to produce the same wiper voltage. (If there's no voltage reading, measure the resistance between the wiper and another terminal, and duplicate that.)

IC sockets can also oxidize. A quick fix is to use a spring steel IC extractor (about $3) to pull up slightly on the chip (just enough to loosen it — about 1/16"). Apply a tiny bit of contact cleaner to each of the IC pins. Now push the IC back into its socket. The scraping of the chip pins against the socket in conjunction with the cleaner should clean things enough to make good electrical contact. If not, try again. *Caution!* IC pins are fragile, so don't pull the chip out too far, nor perform this procedure too often.

Unsealed rotary and pushbutton switches also respond well to contact cleaners, but toggle switches are often

Sweetwater®

Music Instruments & Pro Audio

Your first & best source of information, great prices and total support.

Sweetwater.com has been named one of the top ten music technology INFORMATION resources on the web. It contains thousands of pages of gear, reviews, buying guides, and helpful resources.

Our Sales Engineers are the most highly trained, "hands-on" music technology experts in the industry, and they're musicians and recording engineers, sharing the same passion and interests as you.

Mixers to Microphones / Preamps to Plug-ins

There's a reason musicians, engineers, and producers are making Sweetwater their trusted source for music technology: because buying gear is about more than getting a box.

Sweetwater
Music Instruments & Pro Audio

THE BEST FREE SHIPPING
NO MINIMUM PURCHASE

(800) 222-4700 | sweetwater.com

TECH BENCH: RESTORING VINTAGE EFFECTS

sealed. These are usually not worth disassembling; replacement is your best bet. And don't forget that just about any connector pins can develop oxidation, and are candidates for spraying, as are battery connectors. Spray the connector, and snap/unsnap the battery several times.

Here are two more battery tips: Check the battery connector tabs that mate with the battery's positive terminal. If they don't make good contact, push inward on the connector tabs with a pliers or screwdriver to encourage firmer contact. And if the battery has leaked on the connector, don't try to salvage it — solder in a new connector.

YOU DON'T MISS YOUR ELECTROLYTE UNTIL THE WELL RUNS DRY

Electrolytic capacitors contain a chemical that dries up over time. With very old effects, or ones that have been subject to environmental extremes, replacing old electrolytic capacitors with newer ones of the same value and voltage rating is advisable. Note that ceramic capacitors (usually disc-shaped) and tantalum caps (like electrolytics, but generally smaller for a given value and with a lower voltage rating) don't dry out.

SAFER POWER

Many older AC-powered boxes did not use fuses or three-conductor AC cords. Although you don't want to modify a vintage box too much, making a concession to safety is a different matter. The schematic in Figure 1 shows how to convert a two-wire cord to a fused, three-wire type. *Caution: This mod involves lethal AC voltages. Unless you're experienced with electronics technology and the precautions needed with lethal voltages, have a qualified technician do this mod.*

The 3-wire cord's ground should connect to the effect's main ground point (usually the chassis). The fuse can be an in-line type so that it fits in the effect case (make sure any AC wiring you add is *extremely* well-insulated from the case). Use a fuse with a current rating about 1.2 times the effect's current rating.

GOOD LUCK!

Your toughest task in restoring vintage effects will be finding obsolete parts such as old analog delay chips, custom-made opto-isolators, and dealing with effects where they sanded off the IC identification (a primitive form of copy protection). But once you restore an effect, it's a great feeling . . . and you know, sometimes they really *do* sound better. EQ

There is no undo on your mic preamp.

Input channels can magnify the signal by more than 1000:1. There's no "Undo" after this point.

Coloration or distortion become part of the signal. Lost information can never be recovered.

Data compression algorithms can't distinguish signal from noise, so preserving absolute signal integrity through the recording and production process is critical to communicating your intention and individuality.

Millennia's unique designs avoid circuit-induced artifacts, giving you total control.

Amplify the original sonic information with an absolute minimum of alteration, or apply tonal shading so natural and transluscent that it seems to become an integral element of the source itself.

Make every take count.

Millennia
Music & Media Systems

www.mil-media.com
530-647-0750

TD-1

PAR REVIEWER'S PICK 2005

Tool Box

Digidesign Reel Tape Suite

Reel Tape Suite ($495) is a set of analog tape emulation plug-ins that re-create the warmth of analog tape recordings and tape effects in digital recordings or live audio. It's AudioSuite, TDM, and RTAS compatible, and features three plug-ins: Reel Tape Saturation, Reel Tape Delay, and Reel Tape Flanger. Reel Tape Saturation is available separately for $295.
www.digidesign.com

TAPCO Link.FireWire 4x6 Audio Interface

The Link.FireWire's 4-input/6-output format provides significant connectivity, and being bus-powered and compact, you can easily take it with you. It offers low-latency 24-bit/96kHz operation, dual Mackie mic preamps, ASIO2/WDM/Core Audio compatibility, and Mackie Tracktion software.
www.tapcogear.com

Tonelux VU4 Metering Module

The Tonelux model VU4 metering module allows inserting a metering system between any signal in the Tonelux modular setup. The VU4 will not load the signal significantly, as it has an input impedance of over 100K. With the ability to accept two separate signals from two sources, the VU4 can be used as a "Source/Tape" metering system with external control over the switching of all meters.
www.tonelux.com

E-mu Emulator X2 Platinum

The Emulator X2 Platinum Streaming Sampling Synthesizer ($499.99, 64-bit upgrade to current owners $79.99) offers both 32-bit and native 64-bit applications, multiprocessor and multi-threading support, and includes over 20GB of sounds. It offers automated sampling and placement, beat/loop analysis tools, an advanced modular synthesis engine, and comprehensive sound format support.
www.emu.com

Blue Woodpecker Active Ribbon Mic

The Woodpecker active ribbon mic combines the low noise and detail of Blue's Class-A discrete handmade electronics with the sound of a handmade aluminum ribbon pressure-gradient transducer. It excels at ambient recording, or any application where some natural space in the recording is desirable. The Woodpecker package includes a custom made, solid brass shockmount and wood storage box.
www.bluemic.com

ExperimentalScene AntiAlias VST Plug-In

AntiAlias VST ($5) removes harmonics caused by aliasing by first oversampling the input, then filtering all harmonics above the original Nyquist frequency. A free demo is available.
www.experimentalscene.com

System 6000 Plug-Ins Now Intel Mac Compatible

TC Electronic's System 6000 plug-ins are now available for Pro Tools HD and Accel systems on both Intel and PowerPC-based Macs, thanks to the new Universal Binary versions. They are free for existing users and can be downloaded from the TC website.
www.tcelectronic.com

reFuse Software Lowender Plug-In for Mac OS X

The Lowender subharmonic synthesizer plug-in (AU/VST/RTAS; $39) creates new bass content from existing audio material. It offers switchable frequency ranges, and the generated subharmonics pass through a gate tailored for low frequencies, this helps clean up unwanted bass rumble. It also includes an overdrive circuit and lowpass filter.
www.refusesoftware.com

Audix DP-7 Drum Mic Pack

The DP-7 mic pack ($1,747) is designed for miking a five-piece kit in both live and studio applications. The kit's seven mics include the D6 dynamic kick drum mic, i-5 for snare, two D2 mics for rack toms, D4 for floor toms, and two ADX51 condenser mics with pad and rolloff. Four D-Vice rim mounting clips eliminate the need for mic stands for snare and toms. The miking kit comes in a convenient aluminum carrying case.
www.audixusa.com

Wave Arts Master Restoration Suite

The MR Suite ($499) for Mac OS Universal Binary (AU/RTAS/VST/MAS) and Windows (RTAS/VST/DX) consists of five plug-ins for restoring tape, vinyl, and acoustic recordings: Master Restoration, MR Hum, MR Click, MR Noise, and MR Gate. The Hum, Click, Noise, and Gate plug-ins are also available individually.
www.wavearts.com

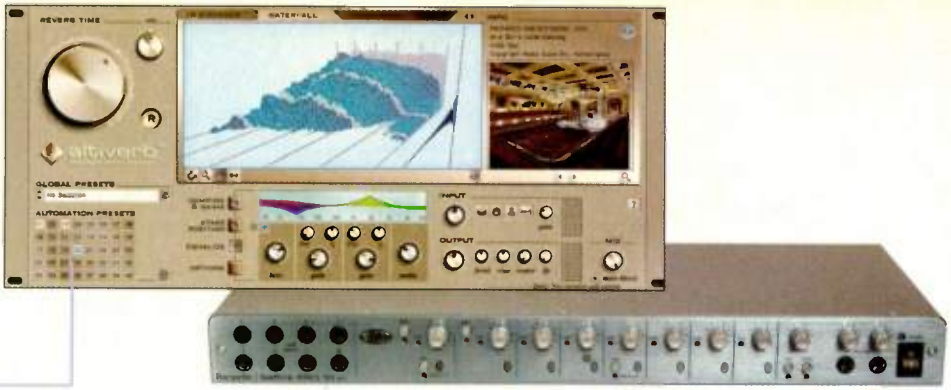


Image Line Software FL Studio 7
FL Studio is a fully featured, open-architecture music creation and production environment for PC. With the included plug-ins, sounds, and tools, the user can create complete songs, as well as backing tracks, loops, and beats. FL7 includes 13 virtual synthesizers and now includes a mastering wave editor and recorder. FL Studio is available in four different editions, ranging in price from $49 to $449.
www.image-line.com

McDSP Adds RTAS Support
McDSP has added RTAS/AudioSuite support to the XP versions of the Channel G and ML4000 plug-ins. Both HD and Native Versions of Channel G and ML4000 for XP are now available on the McDSP website; this update is free to existing ML4000 and Channel G customers, while Massive Pack 4 customers can add RTAS/AudioSuite support to Channel G (and MC2000) for a $195 upgrade fee.
www.mcdsp.com

Audio Ease Altiverb 6
Altiverb 6 for Mac OS X now runs on Intel Macs as well as RTAS/VST on Windows XP. Altiverb 6 Regular ($595) is the stereo, fully automatable VST/RTAS/MAS/AU reverb supporting up to 96kHz sample rates. Altiverb 6 XL ($995), the flagship product, adds Pro Tools TDM support, surround output up to 5.1, and sample rates up to 384kHz. The upgrade from Altiverb 5 to Altiverb 6 Regular is free, while the upgrade to XL costs $100 to $129 for existing Altiverb 5 HTDM users, depending on date of purchase.
www.audioease.com

Focusrite Saffire PRO 10 i/o
Featuring the same preamps and converters as its larger sibling, the Saffire PRO 10 i/o features the same highly integrated I/O and monitoring control software (SaffireControl PRO), and can allow for larger recording solutions via the option to aggregate multiple units, all controlled via the same control platform.
www.focusrite.com

Fishman Ellipse Aura Onboard Acoustic Guitar Preamp
Up to four Aura Images can be downloaded into the Ellipse Aura from Fishman's Image library via an onboard mini-USB port, so that players can accurately match the pickup to the instrument's natural tonal characteristics. Ellipse Aura includes a solder-free Acoustic Matrix undersaddle pickup in narrow, wide, or narrow/split formats.
www.fishman.com

MXL USB.007 USB Stereo Condenser Mic
The MXL USB.007 stereo mic ($199), for direct to computer recording on a PC or Mac, uses dual gold diaphragm capsules in a XY pattern together with low noise electronics. It ships with a carry bag, desktop mic stand, mic stand adaptor, 10-foot USB cable, and wind screen.
www.mxlmics.com

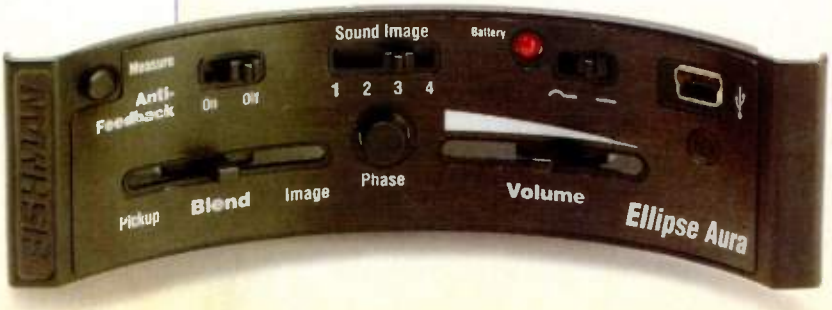
SM Pro Audio Nano Patch Passive Volume Control
The Nano Patch is a compact, desktop-sized passive volume attenuator that's designed to allow precise level adjustments to analog audio source material such as soundcards, CD players, preamps, and mixers. It features balanced combo XLR/TRS input jacks and TRS outputs, mute switch, and a rotary volume encoder.
www.smproaudio.com

Audio-Technica AT2010 Cardioid Condenser Vocal Mic
Featuring the same 16mm low-mass diaphragm found in the AT2020 side-address studio condenser, the AT2010 ($169) handheld's fixed cardioid polar pattern allows isolation of the desired sound source, thereby reducing pickup of unwanted sounds from the sides and rear in live performance.
www.audio-technica.com

Heil Sound Pink Pearl PR20 Vocal Mic
Designed for applications in live sound, commercial broadcast, and pro recording, the Pink Pearl PR 20 represents completely new dynamic mic technology that offers a wide frequency range and can withstand huge amounts of SPL. 10% of the retail sale price will be donated to The Susan G. Komen Breast Cancer Foundation.
www.heilsound.com

Edirol M-10DX Digital Mixer
More portable and affordable than its M-16DX big brother, the M-10DX 10-channel digital mixer is an all-in-one solution that offers built-in FX (including insert effects, reverb/echo and finalize effects), analog and digital I/O, and Room Acoustic Control for instant automatic room compensation.
www.rolandus.com/edirol

All prices are manufacturers' suggested retail price. Toolbox material is provided courtesy of Harmony Central, Inc., and is used with the express written permission of the publisher.



Setting out to put in perspective veteran producer-engineer Phil Ramone's achievements in the music industry is, frankly, an impossible task. There's an almost ludicrous number of technical innovations that he's brought to the industry — including his pioneering work in fostering the solid-state console renaissance, optimizing audio for the very first CD releases for CD (**Billy Joel's** *52nd Street*) . . . not to mention his advances in making recording from multiple locations via fiber optical cable, which is now a standard practice. It's just the plain truth: Without Phil Ramone we all would be a bit further back in the recording game, if not downright Paleozoic.

Starting as a violin prodigy in his native South Africa, Ramone went on to forge a five-decade career that saw him earn 13 Grammys (and an Emmy) for his work with the varied likes of **Paul McCartney**, **Tony Bennett**, **Bono**, **Ray Charles**, **Luciano Pavarotti**, **Bob Dylan**, **Aretha Franklin**, **Billy Joel**, **Elton John**, **Quincy Jones**, **Madonna**, **Paul Simon**, **Frank Sinatra**, **Sting**, and **Barbra Streisand**. With such a prolific career, it's no wonder that a staggering amount of stories, anecdotes, and rumors abound at the mere mention of his name. Did the Ramones really name themselves in honor of him? Is it true that 456 tape is his sole means of sustenance? Does he really only sleep 45 minutes a week, and does he set levels with a divining rod?

Well thankfully for you, Mr. Ramone took the time to sit down with *EQ* for a candid interview wherein he dispels the myths, explains the magic surrounding some of the greatest recordings in history, and tells how he treats the stage as the studio, and the studio as the stage. And you won't even have to take notes, as we've all written it down for you in . . .

An Evening With Phil Ramone

by John Payne

EQ: Can you remember a particular recording you heard early on that intrigued you?

Phil Ramone: Well, in the '50s there was a record by Elsa Popping and Her Pixieland Band — an obviously humorous record made in Paris using several mono tape machines. As a child I used to sit and conduct these records in my room — Michel Legrand, Billy May, Sinatra — and somebody had bought the Elsa Popping record for me. I played it for one of my kids in the car the other day, and it's beautiful, it's humorous, it's got all kinds of sounds, most of it all mono. Anyhow, once I heard that I realized that there was so much to be done [with recording].

EQ: How was A&R Recording in New York established?

PR: I was working as an assistant, learning my way at a demo studio called JAC Recording on West 58th Street — and I knew the guy who was one of the owners, and he saw me perform. I needed to make some demos — I was fascinated with playing jazz fiddle — and I said, "I don't want to play this thing without looking at a sort of an amplified approach," because the guy who really influenced me a lot at the time was Les Paul.

As I grew up, and I really get into this, I started to chase down all the things that Stéephane Grappelli, and other jazz fiddlers, had done. And I thought that if you overdubbed it . . . I started to get interested in ways in which this would work. There was a guy named Harry Lukovsky who was a fiddler in New York, a concertmaster, who also had a fascination with taking down great jazz solos, and performing them in multiple-track with violin and viola. That just took me away down the road, and I said, "*I* gotta do this."

So my deal with working for a studio was to learn engineering, learn to cut discs, learn to play and record background strings in five minutes. The average was 15 minutes; the professionals would do the multiple guitars or piano, bass, drums, *and* a vocal in that time. This showed me how fast, how good you had to play to make a record then, because people were presenting these recording opportunities to other, more famous artists. This made me impatient; in two years I said, "I have to have a bigger room." I had been invited to start to join this elite group of violinists, and that was an amazing move up for me. Though engineers that were tracking us would say, "Isn't he working in the studio, too?" And I said, "Yeah, but I'm just learning." "Well, don't steal our tricks," they would say [*laughs*].

It finally ended with me getting a room with one of the partners from JAC, and an old friend/customer of mine. Eventually, Jack Arnold, who was the A of A&R, had some real health problems so Jack's son took over and we got some loans from a small bank in Long Island. We plowed with some very fine engineers who really did it all, from soldering to miking, and who knew how to really work with fine musicians. These were Bill Schwartzs and Tom Dowds — great engineers who really serviced, really took care of the musicians they recorded.

There is a **chemistry** when **three or four players play together five days a week**, on a regular basis — and they are the ones that made **heroes out of engineers like me.**

EQ: Were there any union hassles with your being both an engineer and musician?

PR: Not really. As an engineer, I couldn't touch a dial in most of the RCAs or Columbias of the world; but in the independents there weren't really any rules. As far as being a musician, I had to be in the union, and I had to audition when I was about 10. It's not as hard to get in now, but in those days you really had to play.

EQ: Even then you were being spoken of as an innovator in recording technology. What were some of the technical limitations of the day you thought needed particular attention?

PR: I think the first was noticed in the early '60s, being asked to redesign a performance area in an armory for Jack Kennedy's inauguration. I was young and I worked in aggressive ways, which I think other people were worried about. But, spending the money carefully, we turned this place into a huge theater, having JBL, Altec, and some other companies donate the equipment so we could really work on sound rather than using this big, cavernous hole with an announcing mic that sounded like it came from a fight arena.

I based everything on the idea that people deserved to hear things in high quality. I was asked to do the Getz-Gilberto album, and I revised the recording machine at our Studio 2 so it would be quieter, by the biasing, working at much lower levels, and being careful of any peaks. I ran it at 30 ips, which was not commonplace at that time, and then mastered right from the 3-track. At first there was no mix. This was such gentle music anyway, but I was absolutely looking for a better solution to analog noise, even though the studio was fairly quiet . . . we didn't have enough money to turn the air conditioning on, anyhow [*laughs*].

EQ: Those low-key, tranquil sambas must have required you to pay even more attention to the noise levels.

PR: Most definitely. I was learning from great engineers, like Bill Putnam, about this. When I was a beginner, I was listening to what they did to the floors, what they did to the sidewalls, how they mixed. Here were some great mixes, with a much more limited amount of inputs, and I learned that it was all in how you placed the mic, and how the leakage worked for you. When you understand that in comparison to what we do today, where there's almost a mic for every string. . . .

You know, I *am* a multiple-mic guy, but I also do certain things based on what I hear in the room. If you have leakage, you gotta make that work *for* you rather than just putting up another mic.

EQ: I hear engineers talking more often these days about getting back to the old ways of recording, to achieve, for example, the particular feel you'd get when recording the bass bleeding into

the drums. That sound is hard to reproduce if you're recording everything separately.

PR: You know, obviously, music was meant to be played together, and I don't want to sound like an old ensemble guy, but there is a chemistry when three or four players play together five days a week, on a regular basis — and they are the ones that made heroes out of engineers like me at the time. Because I understood it; I believed in placing the instruments so they actually could hear each other better, because the earphones were a disaster back then.

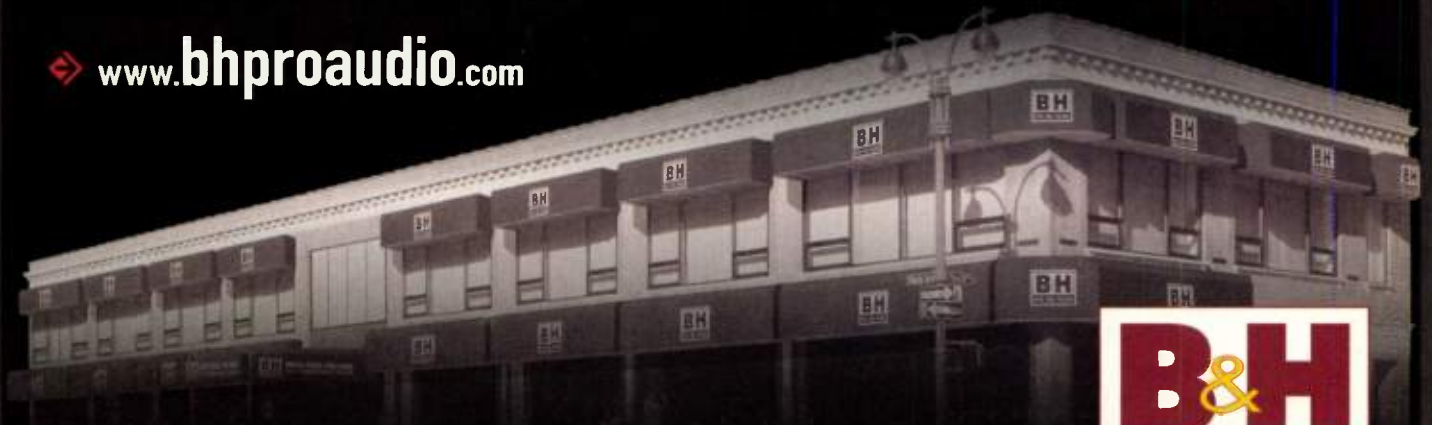
Separating to the point where one can't hear the other just fails to work, in my eyes. I once worked on a session years ago with Quincy Jones, and he had hired a new studio engineer. I watched this drummer hold his right hand so that he wouldn't play anything but the hi-hat. Then he did nothing but a tom-tom. Each tom-tom was an overdub, with, you

Separating to the point **where one can't hear** the other just **fails to work.**

PRODUCTION | **THE PROFESSIONAL'S SOURCE**

real world solutions from industry professionals!

www.bhproaudio.com



800-947-5518 | 420 Ninth Ave. New York 10001 | We Ship Worldwide

B&H PHOTO - VIDEO - PRO AUDIO

know, the overhead mics, and then *bfff-pptttt!* The poor guy . . . he looked like there were rubber straps holding down the other hand. And when he was finished, I said, "You probably just invented the sample drum."

EQ: You were the first to use a solid state console for recording and mastering. Tell us a bit about that.

PR: Years before solid state, manufacturers were making consoles that were all tube, from the preamps to the line ins. Then when Langevin and a few others started to move towards solid state technology, I was looking to see if we could do a complete solid state console, top to bottom, while including the Scully tape machine. Others were sitting with ideas, but they hadn't really finished anything, when a client came along and said, "What would make this record different?"

Now that doesn't mean, in the beginning, we jumped out in the fray, didn't use tube amplifiers; but then I had to switch to solid state, too, and it was the same discussion heard 10 years later, when cold digital supposedly became superior to analog. It's the same argument. And you'll still have the person today who says, "I like my tube guitar amps." But we were out to prove that the arrival of the technology was here, and fortunately we had a platform: Solid State Records and its founder decided to try this route, and United Artists, the distributor, believed that what we had was something different and unusual.

EQ: Right off the bat, though, was solid state far quieter?

PR: It was *reputed* to be. And there were times like when you had 20 supposedly quiet pres and amps, it was thought to be quieter. But they could hiss and do things that . . . you know, every new invention just adds another dimension to the same thing that you never wanted to have to deal with again [*laughs*].

EQ: As someone who's been on the front lines for the ushering in of so much of our modern recording technologies, and who has witnessed the return to favor of many of the older analog-based means of recording, do you have anything to say about the relative quality of analog vs. digital?

Every **new invention** just adds another dimension to the **same thing that you never wanted** to have to deal with again.

PR: In the beginning, we all were looking for a quieter, better recording, with a larger canvas to paint on. And it's not been that long that we've had digital options. How many years? Twenty-five years? It's like giving me a painting: Do you prefer to use a paintbrush or do you want to use some kind of canvas with acrylics? If you have a chance to paint in the audio world, variables that you've always wanted to use, and it sounds great, then who cares how you do it? Do it.

EQ: With the various artists you've worked with, do you have any kind of template from which you'll begin a project?

The **first choice might well be the best** when you are in danger of **missing the performance.**

PR: I start by examining how a person works, and I always assume the level of impatience is rather high. It's easy for me to put up a lot of mics, because I know all those techniques so well and I'm comfortable with it, but I trust the engineers I work with to handle all that initially. But, then again, I work on a much more immediate basis, and I'm not going to sit there and try three mics and waste an hour and a half when the first choice might well be the best when you are in danger of missing the performance.

But I'll always have something that feels like it would be a pretty good choice for a microphone — just because it's made by Neumann or Telefunken in 1950-something and it's called a U47 or U67 [*laughs*]. Grab whatever may be a favorite — put it up, and then try other things if need be. Saying that, I'll always try new techniques if what I hear is not what I hear when I'm standing right next to you.

I do sit and talk with artists for quite a while before we make a record, and that's a pretty good clue; you can suss out what doesn't work for them, that hasn't worked in other places, good and bad experiences with other people they've worked with. So when you start your first day, at least you know what doesn't work for them.

EQ: You said you have mics that are old favorites, so are you like Bruce Swedien, who travels the world with a suitcase full of trusted mics?

PR: I don't travel with them now as much as I used to. I found that the rarity nowadays is not to have good mics where you're working. But it's certainly better to have your own than to rent. Rentals can be a good thing, but they can also be a very dangerous thing. Who had it last, y'know?

EQ: So when you're talking with the artists during pre-production meetings, are you actually studying the register and grain of their voice so that you'll have a better idea as to what mic will potentially suit the artist's particular voice?

PR: Yeah, there's no reason not to.

Sometimes I'll get an artist who'll say, "No, no, I must sing into this AKG or this Neumann or I can't make the record." You know, you don't have to pamper them, you can certainly say, "Let's start from there." And when they audition a mic, you check it yourself after it's been tracked and say, "What do you think of this?" "Oh. I've never heard me like that." "Well, I just thought I'd throw it in." You know, I wear black a lot of the time, and if somebody put on a red sweater I'd go, "Nah." But if it's done right, somebody's saying, "A dash of color doesn't hurt you, it's okay," why not examine the possibilities. So maybe you do go with a colorful preamp because their voice has huge range and other kind of possible natural sources of distortion. . . .

EQ: So you wouldn't assume that a standard setup would suit Pavarotti, Sinatra, and Dylan.

PR: I wouldn't. And those are good examples — they're completely opposite singers, and how would you want to handle that? What kind of diaphragm on the mic would you think would serve them? If you've done your homework and experimented in your upbringing, you kind of get to know. But you never stop experimenting. I'm always looking for something more warm and attractive sound-wise than we've ever heard. It exists.

I'm always **looking for something** more warm and attractive sound-wise than we've ever heard. **It exists.**

EQ: What kind of mics did you use on your recent *Duets* project with Tony Bennett?

PR: In that case I used an Audio-Technica 4047 for the guests, and an Audio-Technica 5400 hand-held mic in case anybody felt more comfortable with that; and we used a customized PA system that travels with Tony's sound guy, so the environment was like a small nightclub, complete with a bit of the light rig being brought in from what they used on stage.

EQ: What was your thinking when you selected the 4047?

PR: His engineer, who happens to be his son, Dave Bennett, and I had long discussions, and said, "We can't do this twice; we're gonna have to pick." We put up the Neumann tube M-149; we tried a couple

of pairs next to each other, and when the day arose, we both agreed that these Audio-Technica 4047s had the purest depth of field, and you could move off and on them and not lose presence. There are a lot of wonderful mics, but if you don't stay within the exact parameters . . . these people are singing duets to each other, and they're both anxious to please, and Tony's not doing a large amount of takes either. He's extremely prepared.

EQ: Aren't there some major difficulties that arise when recording with hand-held mics? Handling noise and such? I heard you used them exclusively with Sinatra on his *Duets I and II*, and he sounded great. . . .

PR: Sure there are, but try to convince Sinatra after two long nights of him being uncomfortable working with a boom mounted mic. I told him we'd find something he could hold that would still sound good. His road manager is a close friend of mine, Hank Catania, and I said, "Well, why don't we duplicate what he does on the road and maybe we can get him comfortable?" He hadn't been in the studio in 10 years! And we used a wireless mic, which — most people would say that I'm out of my mind — but I wanted to get him started, get the engine going. And all of his vocals on those two albums, *Duets I and II*, were actually done with hand-held mics.

EQ: It blows my mind. When that word got out, you must have gotten your share of correspondence from people looking for advice for hand-held vocal miking?

PR: On those Sinatra sessions, I went to Ireland, and Bono was gonna sing a duet. And Bono said, "Well, tell me what Sinatra did," and I set it up, not quite the same, but we put big speakers up in front of him. He jumped around on the couch, performed, and I told him the big secret was just to keep your thumb out of the way. There are certain habits artists take from the stage into the studio because they are more familiar with the stage, with how a PA reacts. So we brought in the PA, and I had the system on for him, but it was just an enhancement of his voice, just a little something for the room, and the track was pumping!

You know, it's just the exact opposite of what you may learn in a proper recording school, but I know from all of the years spent messing around that you have to *try* things. And I've done that in a situation once with Mick Jagger and the hand-held/PA deal. The hand-held mic was what was going to work for him, we pulled in a PA, cranked the speakers up, and everybody said, "Whoa! The leakage. The leakage!" And I said, "I don't know about you, but this is what the Rolling Stones do, this is what they have learned to sound like." It's not about worrying about leakage, or how much bass is on the floor. It's about getting them in their element. EQ

One Great Thing Leads to Another...

BM 6A mkII *BM 12A*

... and Another

Dynasty expanded
The Dynaudio Acoustics BM 5A set a new benchmark for what an active nearfield studio monitor could be. The new BM 6A mk II and BM 12A take advantage of that same design philosophy while offering more power, more headroom and wider frequency response.

As one of the few manufacturers that build our own drivers, we believe in a no compromise approach to designing studio monitors, whatever the application. The new BM 6A mk II and BM 12A are no exception to that rule.

Dynaudio Acoustics - Superior tools for critical monitoring

BM 5A ***BM 6A mkII*** ***BM 12A*** ***BM 9S*** ***BM 14S***

For details contact your dealer today or visit www.dynaudioacoustics.com

dynaudio acoustics
IF IT'S THERE - YOU'LL KNOW IT

TC ELECTRONIC A/S DENMARK • ✆ + 45 8742 7000
TC ELECTRONIC INC USA • ✆ (818) 665 4900 • INFO@TCELECTRONIC.COM
WWW.DYNAUDIOACOUSTICS.COM

by Chris Mara

THE DO'S (AND DONT'S) OF VENUE RECORDING

Protect Your Neck with These Simple Steps for Live Tracking Success

As with all things related to recording, the success, or failure, of a live recording depends greatly upon proper planning. The stakes are high, and that's why there are so many clichés associated with live recording: "You only have one shot," "There's no room for error," and (my personal favorite) "There's no rewind button on a live show." Truly, if there is one "must have" for venturing out into the world of live recording it's a well-thought-out plan. So, given that, there are a few things you can do to make sure everything goes smoothly, and that your end result is satisfactory.

RIGGING FOR THE ROAD

As your rig is one of the few things you can actually control during the live recording process, make it count. Look over your current inventory carefully; organize a complete list of reliable gear you own that can work for a live recording application, then assemble a block diagram utilizing all equipment, cables, and interfaces. Though it may be a no-brainer, go with roadworthy gear — not super high-end, finicky components that are liable to require maintenance halfway throughout the set. Tons of great gear is unreliable, and if that's the case, leave those at home. That said, also be very cautious about obtaining new equipment for this specific application as that opens up doors for problems as well. You should work only with gear you know inside out. There's no room for learning curves in a live recording context.

It is paramount to have a backup recorder of some sort to act as an independent redundant system. Make sure that your backup recorder isn't tied to the outputs of any other recorder; if something should happen to the main recorder, such as a computer crash, this will kill the signal to your backup recorder, rendering it completely useless and causing you to forever regret ever messing with live recording in the first place. The ideal choice would be a track-to-track backup recorder. A Pro Tools LE rig with eight inputs capturing a blend from the front of house console and dedicated tracks for bass, vocals and guitars will do you just fine.

It's super handy to have a two-track device recording your mix during the show as well; something like an Alesis Masterlink is ideal. This will save hours upon hours after the show normally spent making roughs for the artist. Using this technology also helps in drawing up a "plan B" diagram with a scaled-down version, in case something should happen to an essential piece of gear in transit (which is bound to happen if you do live recording often).

An outlet tester is a cheap addition to your live recording rig, but can spare you tons of unnecessary pain.

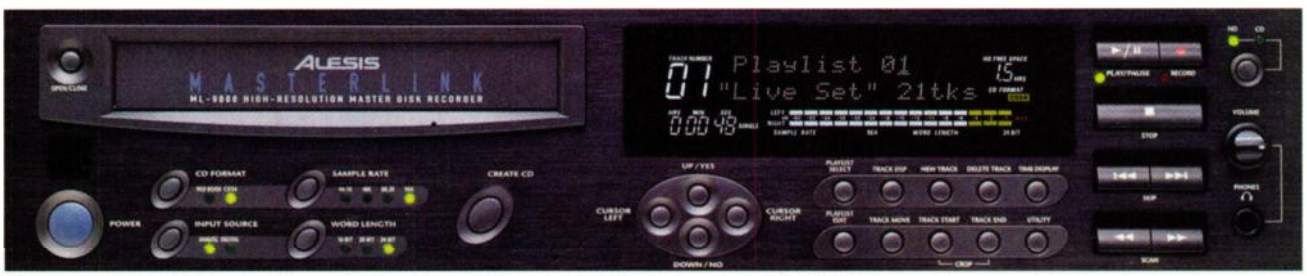
Setting up a video camera feeding to a small television that you can use to monitor onstage occurrences visually is also a good idea. You want to be able to at least be on the same page as any unwanted events that may arise, and it's hard to navigate uncharted territory by ears alone.

HOME PLANNING

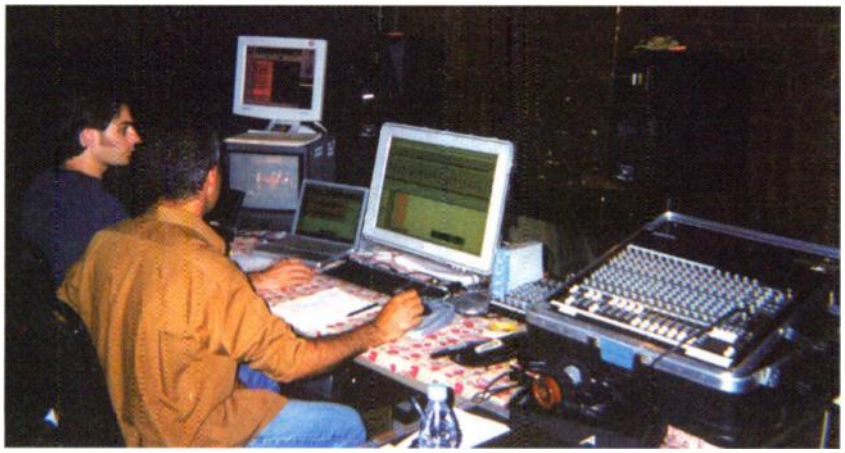
Once you have your rig theorized and put to paper, it's necessary to put it to test in a more controlled environment so that you will be that much more prepared when entering the netherworld of the live music venue. Give a test run by setting yourself up outside the studio, such as in your garage (the garage will also serve as a better example to the kind of sound you will get than your comfortable studio setting will). In doing this, ensure that you have all the necessary cabling and length (you can't count on the venue for anything), and that your rig really is portable and ergonomically feasible. Set yourself up and play the silly little game of pretend wherein you envision yourself behind the board for *Live At Leeds*.

Now would be a good time to make sure to check all mic pres (and the whole system, for that matter) for ground hums and the like. Stress test the recorders themselves; feed them some signal and record about eight hours of it to make sure you don't get any computer-related errors, and that your hard drives are big enough to handle the task.

After you've test driven your rig, tear it down, making sure to label each piece of gear with your name and contact info. For your cables, label them in terms of function (*i.e.*, left speaker input). Doing this will allow



Two-track devices, such as the Alesis Masterlink, will help you get solid roughs to reference directly after the gig.



Putting the tools to the test: Chris Mara and cohort Neil Cappellino recording on location in St. Louis, MO.

for an efficient setup as well as a friendly venue departure, as no one wants to be stuck after the gig arguing over cables.

Note: *When packing up your rig, be sure to include all necessary tools, an adapter kit, a flashlight, and extra batteries. You can never be too prepared.*

TREATING THE STAGE AS A STUDIO

First off, if your goal is to record songs for a live release, talk with the client about the possibilities of maximizing both dollar and energy by scheduling two shows back-to-back, with rehearsals each day. There are so many variables to work through so if you can, stack the deck in your favor by recording two performances in a row, utilizing the benefits of recording in the same environment with the same settings. This will give you a better chance of getting consistent sounds. Viewing the stage as a studio, this approach makes total sense so — continuing in that direction — treat the live rehearsals much like you would scratch tracks in the studio. The takes during the rehearsals may very well come in handy; you'll have four versions of each song and therefore more usable material to choose from in post-production. Also, tracking the rehearsals will give you ample time to troubleshoot any problems that may arise and will help to improve the overall communication between yourself, front-of-house, and the band.

Just as in the studio, a little vibe goes a long way when cutting an album. Mara's rig, pictured in test drive mode complete with ambience.

GOING TO THE GIG

After loading in, and being real careful not to step on any staff member's toes (they can make or break your entire experience, especially your FOH cohort), you may be tempted to start plugging things in. *Do not*, I repeat, *do not do this!* Not all venues are up to code — not by a long shot — so test each and every outlet you plan to use with an outlet tester. For a trip to Radio Shack and a whopping $10, you can save yourself thousands of dollars in repair and hours lost tracking down grounding issues. Trust me; take the extra time to do this.

Once the coast is clear, you've started plugging away, and it's time to start laying cables down, break out some sturdy, wide black gaffer's tape to secure any cables that cross doorways, or are in any danger of being tripped up. Be sure to watch your power strip placement, and make the effort to tape the plug of that down as well. An accidental unplugging will bring the entire project to a screeching halt, making even your cleverly packed backup recorder useless.

In the event that you place audience microphones around the venue to capture that particular aspect of the live performance, you'll want to rope off those areas with yellow "caution!" tape, and make sure to check right before the band hits to make sure they haven't been bumped around.

Concerning the audience: Try to get the venue's management to place signs upon entrance demanding that all cell phones be shut off, as their use will interfere with your recording. After everyone's assembled, see if you can get a moment to inform the crowd that they are participating in a live recording, and pump them up with the standard "how is everyone doing tonight in [insert town/city/principality/planet name]." Record their responses in case the awkward event arises where they "forget" to cheer after a song. This will also provide the perspective you need to set your audience mic levels, and it really goes a long way toward getting the crowd warmed up. And, as everyone knows, an enthusiastic crowd is likely to inspire a great performance and, just as in the studio, the performance is ultimately what's going to count. EQ

by John Nady

CAPTURED LIVE!

Simultaneous live sound and recording techniques

Although studio recordings are probably best as a band's basic demo, most musicians are also interested in hearing what they sound like in front of an audience — as recorded live — especially in a good-sized venue. Live recording is often the ideal way to capture a band's true excitement and energetic sound. Most musicians agree that they often play their finest in front of a receptive, responsive audience, and look to live recordings to capture their band's most magical moments.

A TYPICAL LIVE RECORDING SCENARIO

Live recording always presents challenges and requires careful planning in order to achieve satisfactory results. Of course there are numerous levels at which you can undertake such recording projects, ranging from live albums at large concert venues, to garage bands in small clubs or even rehearsal rooms. Although there are techniques common to all of these projects, there are also some critical differences and considerations depending on the circumstances. Although (due to space issues) we'll focus on just one scenario in order to discuss in detail the various techniques and criteria involved in executing a successful recording project outside the confines of the recording studio, you'll find many of the ideas presented here also apply to other sizes and types of live recording projects.

Here are the guidelines for the live recording project we'll be discussing:

- We'll assume a live, five-piece rock band with vocals, guitar, bass, electronic keys, and drums.
- To make this project as practical as possible, the recording will "piggyback" off a typical setup expected at a midsize nightclub or hall, 750–1500 capacity. Most likely this will include both an FOH main mixer and a separate house monitor mixer, each controlled by a sound technician. Each mic or DI will go through a stage input Y-split to feed both mixers simultaneously. No separate additional recording mixer is required.
- Given the venue size, the FOH main mixer will be 24–36 channels or more. The simultaneous live recording will be fed from this mixer, not the house monitor mixer. For our particular scenario, the basic rule of thumb is: The larger the mixer's channel capabilities, the more options there are for achieving optimum recording results as channels not used for the PA will be available (as described later) to augment the recorded sound.
- The mix will go straight to a stereo digital recording device (*e.g.*, a WAV/MP3 recorder or a CD recorder), and not to a multitrack. As as result, the house mixer and separate recording mix engineer will need to get the proper sound and mix "on-the-fly" while recording, using primarily the same mics and DIs set up for the live sound. Special care must be taken, as there will be no chance to "fix in the mix" later with dubs or overdubs.
- We'll assume that proper interfacing signal levels exist between the equipment used. As described below, this necessitates a proper sound check for both the live PA *and* recording mix prior to the performance. For best results, a stereo peak limiter (10:1 or 20:1) should be used on the recording mix going to the recorder.

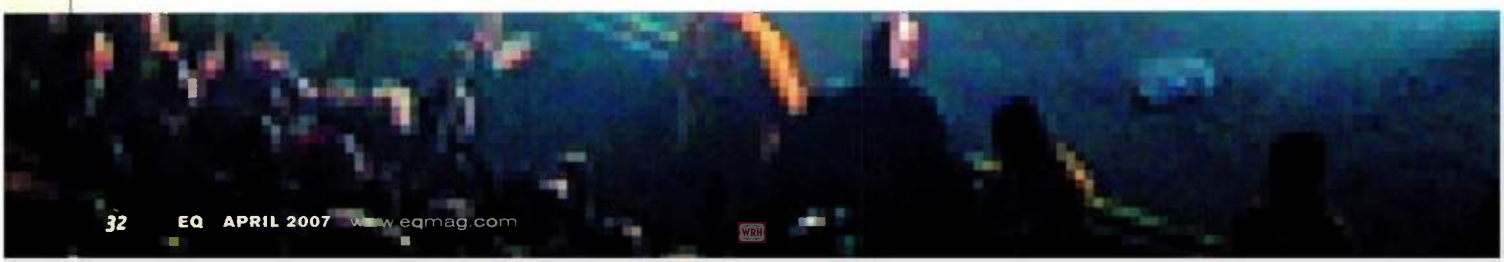
TYPICAL MIXER SETUP FOR SIMULTANEOUS PA AND LIVE RECORDING

It's important to properly segregate the recording mix as much as possible from the main house mix, as the two have different acoustic requirements dictated by room size, audio reflections, etc. The easiest way to achieve a separate recording stereo mix is by using the two pre-fader aux sends as the left and right outputs to the stereo recorder. Larger boards generally have at least two pre-fader aux sends, along with a number of post-fader sends (often as many as eight) which are typically used for augmenting selected channels with effects. For best separate control of the recording mix EQ, the pre-fader sends should also have optional pre/post EQ select buttons.

The signal from each channel to be recorded is then selected and effectively panned L/R into the stereo mix that's sent to the recorder by the aux send level controls for that channel. For better control of the wet/dry mix of channel signals augmented via the post fader aux sends, the return signal from the effect typically feeds back into unused mixer channels. Thus, these effects can also be controlled separately for the recording mix, again by the L/R pre-fader aux sends of these channels with the returned effects signals. In this way there is more complete control, separate from the FOH mix, for the stereo signal output being sent to the digital recorder.

Depending on the FOH mixer features, there may also be other ways to generate a separate feed for live recording, such as using the channel insert jacks. These are generally pre-fader, but may require special cabling and introduce other complications as they may already be used with signal processors for the live PA mix. Also, many larger mixers generally have a subgroup busing system (typically eight separate buses). If each bus has pre-fader individual controls on every channel, the buses not needed for the live mix can be used in the same way as the aux sends described above.

Whoever is engineering the recording can monitor the signal input from the mixer to the recording machine using



closed-back headphones with good sound isolation. Normally these would connect to the headphone outs provided by the recording equipment, however the engineer may need a more powerful headphone feed in order to overcome the ambient noise. A separate headphone amplifier can achieve good results, or you can simply feed back the recording device's L/R output into two unused channels of the mixer. As long as the faders for these channels are always turned off (to avoid feedback into the main house mix), the engineer can comfortably use the mixer's (generally) more powerful headphone output via the solo buttons for those channels. This will provide a good mono feed of the signals being recorded. Some higher-end mixers also have Solo-in-Place capability that allows stereo monitoring.

To get the full ambient feel of a live recording, it's generally a good practice to also use one or two room mics with unused channels on the FOH mixer. Cardioid dynamic mics, or a single end-addressed XY stereo condenser mic, pointed away from the stage toward the audience should work well. Place these mics close to the stage so that any band sound pickup doesn't have too much echo or reverberation, as would be the case if they were toward the back of the hall. This room sound can be blended into the recording mix via the (L/R) pre-fader aux sends, again taking care to shut down the associated faders so as not to interfere with the FOH mix.

The setup described here is quite basic; with some imagination (and available setup time), you can augment it further for better control of the recording mix from the separate FOH mix. For example, if there are enough available unused mixer channels, you can split those signals that require more complete separation of the recording mix from the house mix (*e.g.*, lead vocals or guitar) with a Y-splitter to separate channels on the mixing board. By using a Y-splitter, one channel of each pair of inputs can be controlled totally separately from the FOH mix for the recording mix, so added features such as channel inserts can be used separately. A good example of this would be using different compression/limiting or signal processing on a selected signal source for the FOH vs. the recording mixes.

STAGE SETUP

Eliminating spillover and ensuring separation is a challenging aspect of live recording, given the limited choices for instrument and mic placements and other stage setup constraints. Leakage is generally not a problem with mics aimed at the guitar amp or the drums, as they sit relatively close to the source where the primary signal is loudest.

Two important criteria for stage setup is that vocal mics not be aimed at backline amps, and that the singer's stage monitor be aimed at the vocal mic's polar pattern dead or null zone (*i.e.*, at the back of the cardioid mic, or approximately 180° off-axis). Using cardioid pattern mics whenever possible simplifies problems associated with mic placement. Also note that while hypercardioid and supercardioid mics are "unidirectional," they are sometimes more difficult to use in this context since their null zones are at angles to the mic direction, approximately 110° and 125° off-axis, respectively.

Another important rule in stage setup is to separate drum and backline amps as much as possible. Whenever feasible, also add acoustic insulation/absorbing material at the back of the stage to reduce reverberation.

MIC SETUP AND PLACEMENT TECHNIQUES

When recording live with the feed from the FOH mixer as described, it's usually best to start with the same unidirectional mics already being used for the PA. This will simplify matters if there's a time constraint and will help ensure optimum results for the PA mix. Without a good PA mix, chances of obtaining a good overall sound are much less likely and, of course, this also affects the ability for band members to play at their best. As described below, the use of additional secondary mics, routed only to the recording mix, will generally yield better results. Whenever possible, use such mics strategically to augment the recording sound.

If time and logistics allow, some changes can be made to the standard live PA setup to ensure the best live sound in the room and also optimize the recorded sound. For example, for drums, use a high-quality drum mic kit that includes an assortment of specialized snare, tom, and bass drum mics. Several of these kits also include small diaphragm condenser mics for drum overheads. For ease of setup and great recording drum sound, you can also use convenient clip-on condenser drum mics; for the best kick drum sound, use a large diaphragm dynamic bass drum mic.

In any live PA recording situation, the main miking problems are feedback, pickup of undesirable room acoustics and amp noises, leakage from other instruments, and improper mic placements. Following some simple rules will ensure best results. For example, when using the same mics for both the PA and the recording, the drum and backline amp mics should be placed as closely as possible to the drums and backline amp speakers, generally no more than 2" away at most from each drum, and 4" from the speakers. Also, make sure amps are grounded properly to minimize unwanted buzzing or humming noises. The following sections cover some suggested miking techniques for recording our typical band.

MIKING BACKLINE AMPS

If you're trying to create a very specific sound from your backline, especially from the guitar amp, more time may be needed to focus in on the nuances and variations that can be achieved by slight changes in mic placement with respect to the speakers being miked. The key issues are mic orientation and distance from the speaker. Close miking not only results in more bass due to the

proximity effect of unidirectional mics, but also less room sound (natural echo). Although very close placement (about 1") results in the best feedback immunity for the PA mix, it also tends to take away from the natural presence that a mic 4" or more away would more likely yield. Slightly farther placement also results in a sound with more midrange and less high frequency detail that can sometimes add too much edgy harshness, especially if there's a lot of distortion in the guitar tone. If you can EQ channels with such very close miking separately in the recording mix, you can often compensate for unwanted proximity and other effects to restore a more natural sound.

Generally speaking, farther placement more accurately reproduces the guitar tone and is therefore often preferred in a live rock recording. But a mic that's placed too far away will become problematic in terms of PA feedback unless the stage guitar amp is very loud to begin with — but that would result in unwanted leakage into other mics. However, mixing in a second mic only for the recording, placed up to even 10 feet away (depending on the stage setup restrictions and leakage), along with the close cabinet mic can give a great composite "live" guitar tone. With the mic placed any farther away, the room-reflected sound level can approach that of the direct sound, causing the recorded sound to be too "echoey." Experiment as much as possible during sound check to identify the best mic placements.

Also consider mic orientation with respect to speaker cones, which have their own acoustic characteristics. Generally, mics aimed at the outer cone tend to have a duller sound with less high-end transient detail and crispness than mics oriented toward the center of the speaker cone, which tend to sound more natural and balanced (particularly if the mic is about 4" from the grille cloth). Mics placed close to the floor can also add more bass if needed. Placing mics at angles to the source can introduce off-axis coloration that tends to limit pickup of highs that may not be desirable, producing a more "mellow" sound.

In studio recordings, recording engineers frequently use two or more mics (often different types) at different placements and orientations to the cabinet's speakers, often in a trial-and-error process, to come up with the desired tone. For example, with open-back cabinets, mics 180° out of phase with each other can help get certain desired recording tones. As this process can be fairly time-consuming, however, it is often not practical for the type of live recordings described here.

Still, if possible, it's generally a good idea to use a second mic in this way with unused channels of the FOH mixer to have the best chance of capturing the desired sound and tone. Such second mics can be used just for the recording, thereby eliminating feedback problems. Of course, if the instrument amp being miked is a stereo chorus amp, you'll definitely need two mics — one on each speaker — to capture the full stereo effect.

MIKING DRUMS

Presenting advanced techniques for optimizing the miking of individual drums is beyond the scope of this article. As a common rule, however, note that for maximum isolation of recorded sound for different drums you should aim the null/dead zone (*i.e.*, the back of the cardioid mic) toward the drums you want to isolate from the drum being recorded.

Drum overheads placed several inches away and between the cymbals are also needed for both the PA and recording mix to capture the ambience of the drum kit and highlight the cymbal crashes. As these overheads are farther from the sound source than the other mics, they are more likely to pick up leakage from other sources, especially if the backline guitar, bass, and keyboard amps and stage monitors are pointing directly at them and cannot be moved. Experiment

EATS COMPLEX ALGORITHMS FOR BREAKFAST.

H8000FW ULTRA-HARMONIZER

TEC 2006 NOMINEE

FIREWIRE UPGRADE AVAILABLE

Eventide's signature 5.1 reverbs and effects require sheer processing power for dense reverbs and complex algorithms — the kind that can crush mortal effects processors. If you're ready to push the boundaries of creativity, meet the new super-heavyweight champion: the 8-channel, 24-bit/96kHz Eventide H8000FW Ultra-Harmonizer® effects processor.

Built on a foundation of nearly sixteen hundred preset-algorithms, it encapsulates the last 30 years of digital effects processing. And with over eighty 5.1 presets, this baby's ready to take the future head-on with headroom to spare. If, for example, a complex algorithm gets a little too big for its britches, Monolithic Tandem™ runs it on two DSP chips. With that kind of parallel processing power, your creativity is unrestrained.

Despite all that brain and brawn, the H8000FW is remarkably friendly and easy-to-use, optimized for flexibility and control. Virtual racks have been crafted which give you up to five stereo effects processors combined in one preset-algorithm. Search functionality helps you sort presets for easy retrieval.

The H8000FW combines the advantages of the H8000A with the H8000 and adds seamless FireWire connectivity with your computer.

So, crank up an Eventide H8000FW Ultra-Harmonizer and feast your ears on the most amazing effects you've never imagined.

- 8 channels of 24-bit AES/EBU, ADAT and FireWire I/O
- MIDI, BPM and Tap Tempo synchronization
- Up to 96kHz sampling frequency
- PC and OS X graphic editor/development tools included
- 4 channels of pristine analog I/O; s/n >110dB

For more information call (201) 641-1200, email audio@eventide.com or visit www.eventide.com

Eventide®

during the sound check to minimize leakage from these sources, because this can cause problems for both the PA and recording mixes.

If there are unused channels in the FOH mixer and properly-oriented backline amps and monitors, a drum overhead can be suitable for miking the entire drum kit solely for recording. For this, try a single condenser mic placed about 12" over the drummer's head and pointing down at the kit. The result should be an effective blend and better overall ambient drum mix.

MIKING VOCALS

Mic placement and overall technique are critical when trying to satisfy both PA and recording criteria. In the studio, the vocalist might be 6" or more from the mic and use a pop filter. In our live recording scenario, the quality of the vocal recording will ultimately depend largely on the singer's mic technique. Although rock vocalists commonly sing live with their lips touching the mic ball ("eating the mic") for the most immunity to feedback, this technique is not recommended for recording purposes.

Instead, use a foam windscreen placed over the mic ball. The singer's lips should barely touch the foam while singing, thus ensuring a uniform sound with no variation in the bass proximity tonality and a minimum of "pop" noises. Any additional separation may result in feedback issues, as that channel's gain for the PA mix would need to be higher to compensate for the lower level vocal signal picked up by the mic.

Condenser mics are good for recording vocals; a selectable low-cut filter (*e.g.*, 80Hz, 12dB/octave) helps to eliminate undesirable low-frequency noises and breath pops.

USING DIS

For the best clarity in recording — with full bandwidth, optimum separation, and minimum leakage or spill — both the bass and keyboards should be DI'd into the FOH mixer. The signal source for these DI boxes can be any of the following:

- Direct from the instrument, with the parallel output driving the backline amp (if the direct feed is not amplified solely in the PA)
- From the instrument amp's preamp out (if available)
- From the speaker terminals of the bass or keyboard amp speakers

It's also acceptable in many cases to close mic the bass or keyboard cabinet using the same principles as outlined above for guitar cabinet miking and use that instead, or mix it in with the DI signal. The decision as to which method to employ is a subjective one; keep in mind that for most recording techniques there are never any hard and fast rules, only suggestions. Experimentation and experience can help guide you, but ultimately you have to trust your ears and instincts to achieve the sound you seek.

OPTIMIZING STEREO

An important consideration for live recordings is how to best achieve a true stereo feel. Sometimes panned, close-miked instruments and vocals (which, after all, are mono point sources) do not quite blend together for an overall realistic stereo sound. For a less artificial sound, consider the following techniques — again, depending on the number of unused channels available in the FOH mixer for recording.

- Add second mics more distantly placed from the instrument cabinets, guitars, and keyboards and blend these with the close-miked (or DI) audio. Don't include these additional mics in the PA mix. This will add some natural room acoustics and increase the apparent recorded instrument "size." It will also help avoid "dead" sounding productions — the last thing you want in a live recording.
- Mix in one or more drum overhead mics for the entire drum set (as previously

NADY'S RECOMMENDATIONS

Of course, there are many mics, DI boxes, headphones, and the like suitable for live recording, available from a huge variety of manufacturers. As (not surprisingly!) I'm most familiar with my own product line, the following are typical products I use for the applications described in this article.

Headphones with isolation: QH-660
Headphone amplifier: HPA-4 or HA-1X4
Cardioid dynamic mics: SP-5 or SP-9
Single end-addressed XY stereo condenser mic: CM-2S
Y-splitter DI boxes: DB-1 or ADI-1, RDI-8 (8 channels)
Drum mic kit: DMK Series
Small diaphragm condenser mics for drum overheads: CM-88 or CM-90
Clip-on condenser drum mic: CM-60
Large diaphragm dynamic kick drum mic: DM-90
Vocal condenser mics: SPC Series, particularly the SPC-10

discussed) to get a feel of ambience. Just don't overdo it, as this can wash out some of the desired crispness of the recorded sound of individual drums and cymbals.

Pan each instrument and vocal for proper stereo spread during the recording. If done correctly, with these added touches, you should be able to achieve the desired results.

LOGISTICS AND GENERAL CONSIDERATIONS

Achieving the desired results from a live recording project requires that you have adequate setup time to implement many of the ideas discussed, as well as a proper sound check for both the live and recording mixes. An experienced "soundman" can optimize the live PA sound (with someone else likely handling the separate monitor board), while a recording engineer can focus on the conditions needed for the best possible recorded sound. Since both would be working with the main FOH mixer, cooperation and good communication are essential. In a pinch, one individual could handle both the FOH and recording functions, but this would probably compromise the quality of the recorded sound as the primary focus would be to oversee the house mix for the audience.

No matter how prepared you are, there are always final adjustments to sound check levels within the first few songs, just as there generally are for the PA mix. Accordingly, if possible, the first song or two that the band plays should be the least critical in terms of the actual recording. During this phase, make any needed changes as slowly as possible so they blend in naturally. If the problem levels are relatively subtle, it's probably best to make the required adjustments between songs. However, unlike studio or live multiple-channel recordings, there is little one can "fix in the mix" with this type of recording. Although a little reverberation may help if the recording sounds more "dead" than "live" due to improper ambient sound mic placements, no "sweetening" will ever make the music sound as clear or natural as getting things right during recording.

AND FINALLY . . .

There are many other effective, sophisticated recording methods and techniques not described here. For example, you could use a complete second set of mics for all instruments (separate from the PA entirely), or extensive multitrack mic splitters, feeding all the input sound sources to a separate mixer in an isolated sound truck. Or you could use appropriate multitrack recording so that all channels can be processed or even dubbed as necessary in the final mix. These techniques are common with professional touring band live CD projects, and provide the best results; but they're not really necessary for most smaller-scale live recording projects, and you can achieve acceptable — even phenomenal results — with the kind of limited scope described here. With a basic understanding of the recording process and setup, use of the proper gear, and attention to detail, you can effectively capture a band's essential sound and energy through live recording in a way that's never quite possible in the studio. EQ

MIXERS ARE MUSICAL INSTRUMENTS

by Dr. Walker

Rock the mixing board? Believe it!

Too many people look at a mixer with a "set-and-forget" mentality that treats it as a sort of glorified appliance. They move the faders slowly and carefully, and think it's cool to automate the mix so it's untouched by human hands.

No! A mixer is an instrument to be played, stroked, struck, and stretched. The person who "plays" the mixer is like an orchestra's conductor, but with more control: A conductor *suggests* changes, but a mixer can *make* those changes on the spot.

You can play the mixer live or in the studio. Better yet, you can play the mixer in the studio the way you would live, and bring those performance aspects into the control room. The live shows I perform with other musicians wouldn't be possible without a big, parametric-laden mixing board. And all of my studio productions require serious mixing board abuse to sound suitably psychedelic and unpredictable. Go ahead: Take your mixer to the next level.

ALL MIXER, ALL THE TIME

If you're going to play mixer, you need sound sources — preferably sound sources (like loops) that play all the time. Then you can use the faders, mutes, solos, and effects knowing that they will always have some effect on the sound. The mixer becomes your "arrangement" machine, and the instruments are food for the mixer.

I like to use various instruments, like Akai's MPC-3000, Jomox, and others that produce patterns, then patch individual outs to the mixer (mixed stereo outs are no fun); each output carries variations on the same basic pattern. My "rhythm section" is a couple break patterns, a couple rhythm variations, a couple bass parts, and two outs with pads or effects. Of course, if you

hit "play" and run these patterns without muting most of the mixer channels, you'll get noise. I always start a performance with all channels muted and all faders down.

The effects and pads typically get faded up slowly first. Next comes the bass to build up the intro, kick in the first few beats, and so on to "arrange" the piece on-the-fly. Mute buttons work for rough cuts, or you can slam the faders around for a smoother fade. You don't have to switch programs on your sequencer, sampler, or drum computer: They're already there, ready to use. It's up to you to fade, mute, solo, and EQ these different "musicians" to create the desired arrangement and flow. To build the song further, make entirely new grooves by moving faders, or punching mute buttons to cut in different parts from different tracks.

Also try loading some tracks that don't loop well (like vocals) into a sampler, and just hit some keys to bring them in. This mixing technique even works with rock music, when you have the parts for verse, chorus, etc. going into separate outputs: Bring in what you want, when you want it.

WARPING WITH PROCESSORS

EQ shouldn't be set-and-forget, either. Manipulating the parametric midrange EQ on the bass or pads/effects channel can modulate your sounds (like using a synth filter). EQ can also "warp" the drum channel EQ to the rhythm by emphasizing or de-emphasizing certain parts to the beat (*e.g.*, cut the bass frequencies to kill the kick, or peak the midrange to emphasize the backbeat from snare, hand claps, etc.).

Adding delays and other processors in the channel inserts and aux buses creates a whole other dimension. For example, you can add a delay to one channel, and assign that to its own fader. Or drop in signals from a shortwave radio — they'll surprise you *and* your audience!

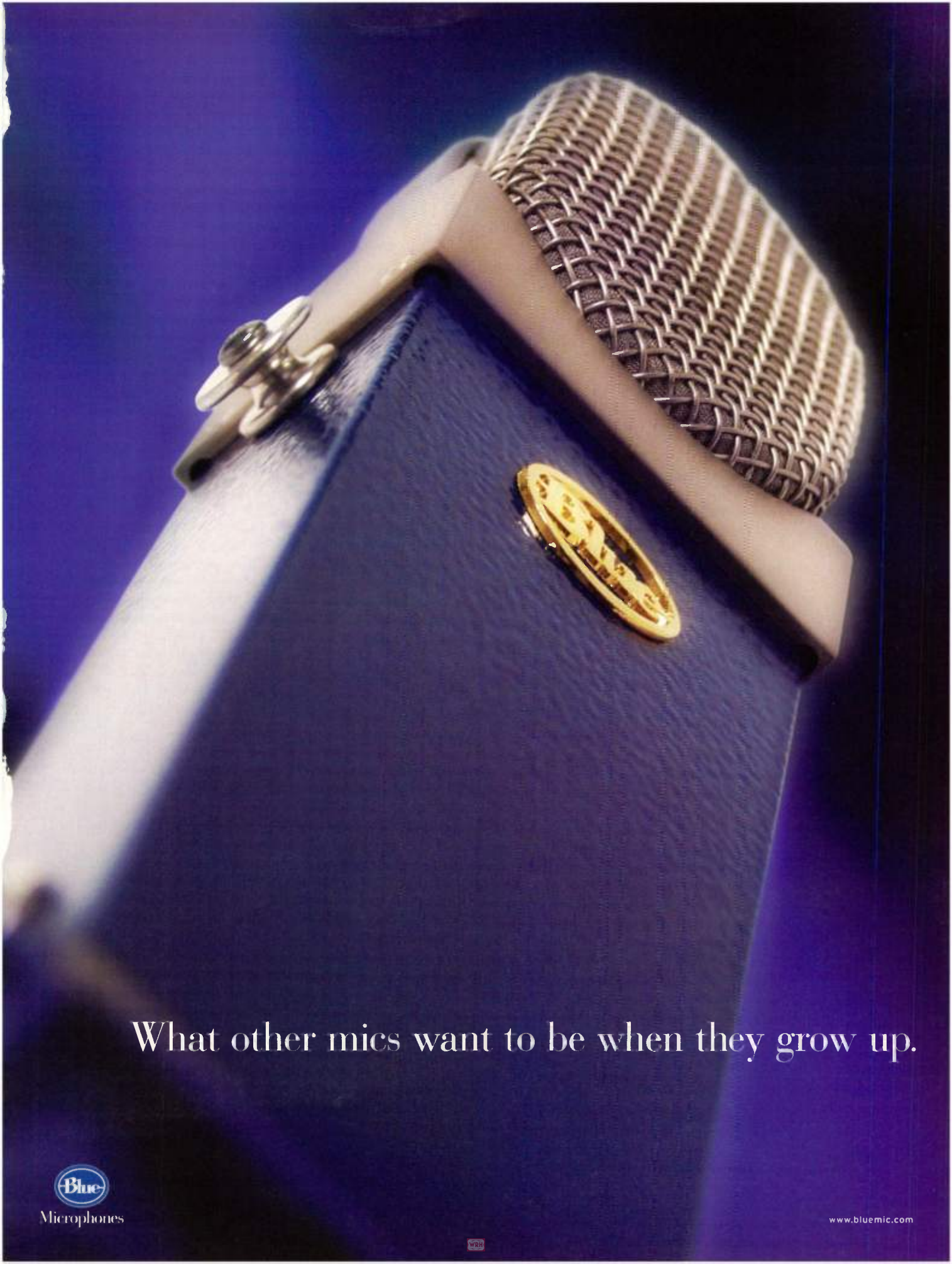
My secret weapon is a pair of DigiTech JamMans. These processors can sample in real time, then play back the sampled loop in sync with MIDI clock signals. If someone plays a really good riff or sound, you can just sample it as it happens and bring it back in later on. You can also sample the groove variations you create on the board, or even the entire mixed output for a few bars, which you can play back to cover yourself when you need to change over to different sounds, sequences, or patterns. The JamMans are always fed from aux sends, and return into normal mixer channels in order to use the EQ.

If you think you need an extra pair of hands to do all this, well, it wouldn't hurt! But you can do a lot with just being fast. The more you jam around, the more you'll start making the right moves — just like playing any instrument.

MOST IMPORTANTLY . . .

Never forget that the most important equipment while mixing is a set of ears: Listening and reacting to the moment can let you make a mix that *really* rocks. Sometimes the best thing to do is to let a really great riff go on for as long as you enjoy listening to it; and if you're a musician playing into the mixer, listen to the overall mix, not so much what you're playing. If you're listening carefully, your hands will instinctively know what to do. EQ

Dr. Walker has been involved in more than 700 record productions, movie soundtracks, and remixes, and performed in over 1,000 concerts all over the world. He's lived on the island of Crete since 2005, where he runs an artist hotel and ambient bar. More info: www.dr-walker.com *and* www.myspace.com/dr_walker.


What other mics want to be when they grow up.
Blue
Microphones
www.bluemic.com

by Craig Anderton

LIVE VIBE IN THE STUDIO FOR SOLO PERFORMERS

Your music doesn't have to sound like it was made in a lab

A lot has been written about getting a live vibe when your band is in the studio: Don't isolate so much, let a little leakage get through, and the like. But what if you're working solo in the studio, and don't have others to provide that all-important feedback and interaction?

There's no reason why solo recordings have to sound studied or overly-deliberate, as long as you get your attitude in the right place. We'll analyze what makes live performance special, then translate that into the world of solo work in the studio.

PART I: THE PHYSICAL ASPECTS

MOVEMENT AND PHYSICALITY

When you play live, you can move around, dance to the beat, and generally let the music take you where *it* wants. And let's face it — recording in a control room, especially a cramped one, works against that feeling of freedom. Solo artists often think they don't need a conventional studio space, but I disagree; something happens when you cross over that line, or go though that doorway, that separates the control room from an open studio space.

But, you say, how can I control my gear when I'm far away and there's no engineer? Simple: Use something like the Frontier Design Tranzport wireless controller (Figure 1), the M-Audio MidAir wireless MIDI keyboard, or a control surface (even just a regular MIDI keyboard; see Figure 2) with a long extension cable. In fact, a remote may even help you get into more of a performance mode, because you'll have fewer distractions.

I also recommend using a hand-held mic for anything other than narration; I've never felt comfortable singing into a mic on a stand. You can move, breathe, and give emotion to a song because your body can dictate those emotions. Sure, you may get a little extraneous noise, but hopefully it can be edited out — or better yet, just plain masked by all the other tracks in a tune.

Fig. 1: Cut the control room cord: Play in a bigger space, and control your gear with a controller like the Frontier Design Tranzport.

Physicality is also something that's very important for playing guitar. As much as I use amp simulation software, for many types of music a guitarist forms a relationship with the amp . . . not just the sound quality, but the physical relationship between the guitar and the amp, especially with respect to generating feedback and sympathetic vibrations. That ain't gonna happen in a control room, unless it's a pretty good size. Don't have room for a stack of Marshalls? Don't, uh, fret. There are plenty of small amps around, *à la* Fender Champ. Put it on a chair, crank it up, and wail.

SETTING UP FOR THE GIG

When you play live, the gear is all set up and ready to go in a pre-configured way. I really like just being able to walk onstage, plug in, and go. That's a part of the live experience, too: You're never tweaking in front of a crowd (or at least, I hope not!). You come to the gig fresh and ready to play.

So do the same thing in the studio and have a consistent setup that's ready to go. When I have a lot of recording coming up, I'll spend an evening setting everything up, then not record a note until I come back the next day. It makes a big difference when you're recording to just step in and start playing; you'll be a lot more spontaneous. (Even back in the analog tape days, I'd always align and bias the recorder not at the beginning of a session, but at the end of the previous session so it would be ready to go.)

LIGHTING

On stage, you have cool lighting: The spots, strobes, steppers, and colors draw you into that performance mind set. So why not take advantage of the same Pavlovian response when you're in the studio? Colored lights, light ropes, and even a small lighting rig can definitely help put you in that on-stage mood. Another possible advantage is that in a somewhat darker environment, your ears have priority over your eyes.

AUDIENCE FEEDBACK

That's a tough one, because you're by yourself. How can you possibly feel like there are people in the room giving you that all-important feedback? The answer is you can't, but there are some ways you might be able to come a little closer.

I have three techniques. One is that because I've played on stage so much, I can imagine that feeling very well; in a sense, it's like method acting. I know what it's like to try to project to an audience, and I've played in some venues where the lights are bright enough that I can't really see the audience with any detail . . . but I know they're there.

Another involves critiques. One of the best things about playing for an audience is you can see when something isn't working, which may inspire you to try something different to see if you can get back


1-800-VIVALDI
(848 - 2534)
The Largest Insurance Firm
Dedicated to Musicians...Period
30% Off
For EQ Subscribers
*subject to underwriting
not all will qualify
ASSOCIATES INC
CLARION
MUSICAL INSTRUMENT INSURANCE
www.clarionins.com

Fig. 2: Many programs let you control their transport buttons remotely, via MIDI. Here, Digital Performer's Transport buttons are being tied to MIDI note numbers using the Commands dialog.

on course. In all the years I've played music, two collaborators stand out as being my best "music buddies" and when I create something, I try to step back, be a little objective, and try to listen through their ears and think what they would say in response to what I'm doing.

The final trick I'll mention at the risk of public embarrassment, but what the hey, I'm among friends. One time on a series of trips where I was going to be gone from home for quite a while, my daughter (3 years old at the time) insisted I take her lucky stuffed animal so nothing bad would happen to me. (Yeah, she's really sweet!) Anyway, I put it on my hotel room nightstand, unpacked, got out my computer, opened up Live, and started practicing an arrangement. For some reason, it just wasn't flowing, but there was this stuffed tiger staring at me . . . so I started playing to the tiger. I found that having something — *anything* — that could serve as focus was actually very helpful.

Since then, I've rehearsed music and seminars to people on magazine covers, print ads, and even that ghastly picture of Conrad Hilton on the "Be My Guest" book they put in the room at Hilton Hotels. Think I'm certifiable? Just try it, and you'll see what I mean. It's not so much the physical object that matters, it's having something concrete on which you can focus your attention other than four walls and empty space. Hmmm, maybe I should get some of those cardboard party cutouts for my studio. . . .

PART II: THE MENTALITY OF LIVE PERFORMANCE

LIVE VS. STUDIO MENTALITY

The mentality of playing live is very different compared to the mentality in the studio. Live is real time; studio is overdubs and offline. Live, you're an entertainer; in the studio, you have to consider production as well. And if you make a mistake while playing live, it goes into the ether and is immediately forgotten with the next hot move you make. In the studio, any clam is there forever (well, until you edit it out, of course).

Live is risky; the studio is safe. If you want to get the live edge into your sound, you have to do everything you can to remove the safety net — because really, you can always click on "delete" anyway.

But there's one particular circumstance where the reverse can

be true, with live being safe and the studio being risky. When you play live, those tunes have been rehearsed. You pretty much know how a song is going to unfold, even if it's largely improvisational in nature. As a result, part of the magic of capturing a live sound in the studio is you can take something you've learned by heart, and stretch out knowing that you can always cut and paste your way out of any problems.

If you work songs out in the studio, though, there's a certain level of risk because the song might change over time, thus rendering your initial tracks obsolete. For that reason, I take a slightly different view of the studio: It's not just a place to record, but a place to do pre-production . . . let me explain.

Many times, I'll write in the studio and hone a song. I'll overdub lyrics, cut and paste, work out parts, and the like. Often, though, the end result is a bit of a Frankenstein of a song: The individual components seem to work okay, but put them all together, and things don't quite mesh. At that point, I consider what I've done as pre-production and re-record the song from scratch — I literally don't save even one measure from one track. In a way, this is almost like taking a song on the road and playing it for a while; when you re-cut, the song has a much more coherent "vibe" because you've learned it.

DON'T HIT THE DEFAULT BUTTON

Another aspect of the live performance mentality is spontaneity. Look at hot jazz players, or the Grateful Dead for that matter, and you'll see they're not afraid to go out on tangents. How many times have you been playing live and changed a solo around, altered a melody line, or otherwise took off in a different direction?

The studio tends to conspire against that, especially today — where everything has presets and normalized connections. One reason why records were arguably more "creative" in the '60s was because sessions often started from scratch, because there was a revolving door of acts doing blocks of time . . . you didn't want the same setup as the previous group. As a result, each session was a blank slate.

It's more important than ever to try to keep that sense of discovery and spontaneity in the studio. Do you have a favorite vocal mic and preamp combination? Try the one you use with your hi-hat instead. Are you totally enamored of a particular synth patch? Forget it exists . . . maybe even play the part on guitar instead. Sounds can lead you in different directions, just as surely as audience reactions can.

PART III: GOT LIVE, IF YOU WANT IT

If I was told I could never play live again or never play in the studio again, I'd (very reluctantly) stick with playing live. There's nothing like the feeling when you get on stage not knowing what's going to happen, then get off later having created some real musical magic. Granted, it isn't always that way; there are also the times when your string breaks, the guy who had too much ecstasy collapses in front of the stage, you're just not "on," or the power amp blows out. But that's what makes it interesting! It's fun to live on the edge because when it works, it works so well. If you play things too safe, you may never blow it completely — but you also may never hit those intensely satisfying heights.

Take that live mentality into the studio as much as you can: You won't regret it. EQ

TAKE CONTROL

by CRAIG ANDERTON

Untouched by human hands? No way!

Once upon a time, you had three choices in MIDI hardware control surfaces: The Peavey PC1600, Peavey PC1600, or the Peavey PC1600. This wonderful little box gave you 16 faders and 16 switches that you could program to send out anything, from continuously controller data to strings of sysex. It's still a great box — when you can find one, as it's no longer in production.

But the slack has been taken up by an ever-growing number of hardware options. In addition to dedicated hardware devices like those shown in the picture, keyboards like the Yamaha Motif XS are sprouting control surfaces, as are master MIDI keyboards. Digital mixers often let you create a "MIDI layer" where the faders send out MIDI data instead of control levels, panning, and the like. There are also controllers optimized for soft synths rather than mixing, like Native Instruments' Kore. So, what explains the sudden proliferation of controllers?

Controllers come in all shapes, sizes, prices, and capabilities. Clockwise from upper left: Radikal Technologies SAC-2.2, Evolution UC-33, Behringer BFC2000, Native Instruments Kore, M-Audio Trigger Finger, and PreSonus FaderPort.

YEAH, WHY THE SUDDEN INTEREST?

There are three main factors driving this phenomenon:

- The act of mixing used to be a physically satisfying experience that was just plain more fun than drawing envelopes with a mouse. While being able to fix things like envelopes with a huge degree of detail is a real plus of digital systems, people missed the all-important physical component.
- Soft synths and sequencers have made it increasingly easy to add hardware control by providing "hooks" for receiving control data. With most modern software, if there's a variable parameter, chances are you'll be able to control it via MIDI.
- Protocols have been developed to simplify control assignments. It used to be a pain to program every knob and slider to send out the right data. But thanks to MIDI learn functions, features like Sonar 6's ACT, and Reason's standardized control template, manufacturers can provide presets which you just call up — and you're ready to control.

CHOICES, CHOICES: A PRACTICAL EXAMPLE

Controllers range all the way from single-fader controllers with motorized faders (PreSonus FaderPort, Frontier Design Alphatrack) all the way up to what are basically large format mixers without audio, like Digidesign's D-Control. In between you'll find USB and FireWire control surfaces, with or without audio interfaces.

The closer you can define your needs, the easier it is to find what you want. For example, I needed to upgrade my PC1600x for my live performance act, which centers around Ableton Live. I wanted longer-throw motorized faders, additional rotary controls for doing functions like filter sweeps, pushbuttons at the top of the fader instead of the bottom, extra pushbuttons to select scenes, and compactness — I'd gotten spoiled by the PC1600's small size. Also, 16 channels were essential.

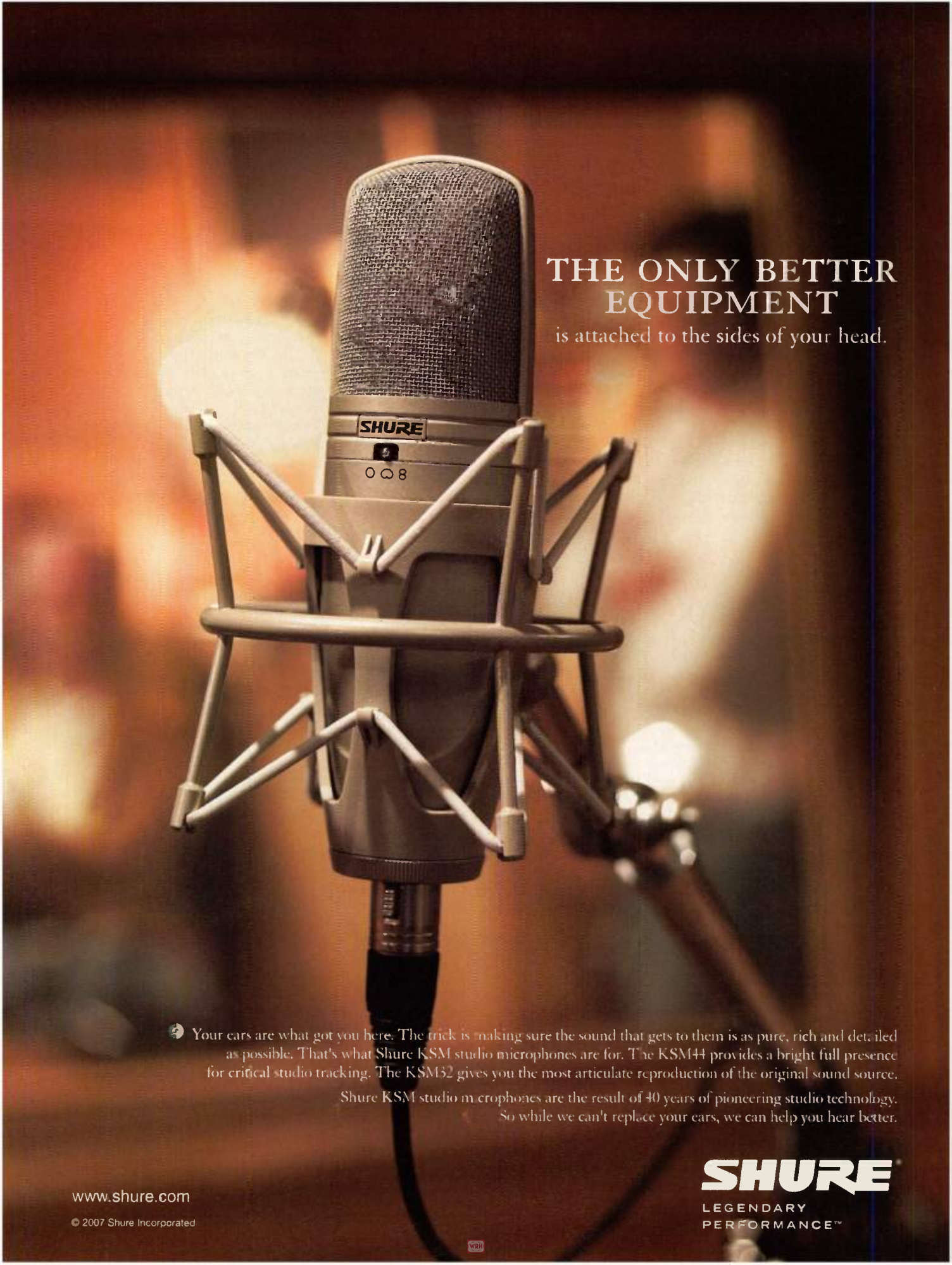
After surveying the field, the only box that fit all those requirements (except for 16 faders) was the Behringer BCF2000 B-Control, but it did have a mode that made it easy to cascade two units for 16 faders. Besides, the price was right, so I took the plunge and ordered two.

I was glad I checked the manufacturer website for updates, as there was an editor that greatly simplifies programming the various controls, along with some driver updates. There were no problems involved in installing or using the boxes (aside from having to plug the box into a different USB port to recognize the software update I'd installed), and the documentation does the job. The feel of the faders was adequate but not fabulous (expected, given the price), but having a 100mm throw was a significant improvement.

Although Live's Scenes don't store different track levels per scene, it was possible to create presets in the BCF2000 that would change track levels when I changed scenes. Of course, this is where moving faders really shine: You can just grab the fader and proceed from the preset level setting. I also tried the BCR2000 with Sonar; that worked as well, although I haven't gotten into the depths of programming it for ACT yet.

CONTROL IS GOOD!

Yup, it sure is. If you're trying to get a live vibe in the studio, and feel that mixing boards are instruments, the same can be said for control surfaces. And given the choices, there's no excuse to procrastinate any longer. EQ


THE ONLY BETTER EQUIPMENT
is attached to the sides of your head.
SHURE
Your ears are what got you here. The trick is making sure the sound that gets to them is as pure, rich and detailed as possible. That's what Shure KSM studio microphones are for. The KSM44 provides a bright full presence for critical studio tracking. The KSM32 gives you the most articulate reproduction of the original sound source.
Shure KSM studio microphones are the result of 40 years of pioneering studio technology. So while we can't replace your ears, we can help you hear better.
www.shure.com
© 2007 Shure Incorporated
SHURE
LEGENDARY PERFORMANCE™

SOLID STATE LOGIC DUENDE

Hey, who stuck an SSL in that box?

by Phil O'Keefe

It's staggering how much you can do natively with a modern computer's CPU, but even the most powerful systems have limits. For those who cry "more!," several companies make DSP add-on products (usually PCI cards or FireWire devices) that provide additional number-crunching power to a host DAW computer.

The name Solid State Logic needs no introduction for most *EQ* readers; their large frame analog and digital consoles have been "big studio" staples for years. But Duende is their first computer add-on product intended specifically for DAW users.

BASICS AND INSTALLATION

Duende, a 1U rack unit, contains four 333MHz DSP 40-bit floating point chips. Each has eight "virtual slots;" you can run one mono plug-in per slot at 44.1/48kHz, for 32 plug-ins total. Duende supports 88.2/96kHz, but this halves the plug-in count. Stereo instances use twice the DSP resources of mono instances.

Duende connects to the host via a FireWire cable (ideally, it would get its own port, if not interface), and there's a second port for daisy-chaining other devices. Duende can be bus-powered or use the included universal power adapter, which has a nifty "pop in the correct plug for your country and electrical system" design.

Software installation is easy. VST and AU support is native; if you're a Pro Tools user, you can also install a light version of FXpansion's excellent VST to RTAS adapter/wrapper. As I already had the full version of the wrapper on my computer, I was concerned about how the installer would handle that — but the SSL plug-ins just installed into my existing version. The installer even includes a built-in firmware updater for the hardware.

Like most DSP products, Duende runs only plug-ins that have been coded for it. Currently, only two come with the basic Duende package: Channel Strip and Bus Compressor. These are based on the algorithms from the high-end SSL C-200 digital console, which was itself modeled after SSL's own analog consoles like the XL9000K. While they're not identical to the C-200 algorithms (according to SSL, they're refined for Duende), with a lineage like that, Duende certainly looks promising.

APPLYING THE PLUG-INS

The SSL Channel Strip plug-in (Figure 1) replicates the controls on an SSL hardware console and offers multiple functions, including high and low pass input filters, a four-band EQ with two fully parametric midbands and sweepable high and low frequency bands (switchable to either shelving or fixed Q bell curves). The EQ can respond like the original E Series SSL EQ or the later model G Series desks. Having a choice of EQ options is a plus, as each has its own sonic character. While I couldn't do an SSL console/Duende shootout due to time constraints, both EQ options sounded wonderful to my ears, and neither EQ type requires huge amounts of boost or cut to hear changes — which I consider a hallmark of a really good software EQ. Furthermore, there's a dynamics section (compressor and gate/expander), good multi-segment LED-style metering for input/output levels, and also separate compression and expansion meters.

The compressor has variable threshold, release and ratio knobs, as well as auto or 1ms fixed attack time options. The auto attack setting lets a little bit of the initial note attack pass through relatively unaffected, which is generally how I want a

Fig. 1: The Duende channel strip plug-in.

Fig. 2: The famous SSL bus compressor, reborn as a plug-in.

compressor to function, although the fast attack option can be handy for clamping down hard on the entire signal. The compressor also offers a switch-selectable choice between the standard soft knee RMS (gentle) mode or hard knee Peak (aggressive) mode.

The Channel Strip's Gate/Expander also lacks a dedicated attack control, although you can switch between the normal attack default of 1.5ms and a fast attack setting, which hits full attenuation in 0.1ms. A range knob offers up to 40dB of attenuation; there are variable threshold, release, and hold time knobs, and an "Exp" button for selecting expansion instead of gating. The expander has a fixed ratio of 1:2, and works very well for reducing noises like amp hiss that might otherwise be audible when a guitarist pauses between notes. You can enable EQ and dynamics independently, and the dynamics section can go pre- or post-EQ. Sidechain capabilities are also available, so you can use the EQ and its independently-switchable filters for frequency-specific dynamics triggering. This powerful plug-in has become my "go to" channel strip plug-in for mixing.

Many engineers consider the SSL bus compressor ideal for "gluing" tracks together in a mix, and this plug-in can do exactly that. The interface (Figure 2) is simpler than the channel strip, with a large VU-style gain reduction meter and only two continuously variable controls: threshold and makeup gain. Like the hardware console, the knobs offer predefined values (2:1, 4:1 or 20:1 compression ratios, 0.1, 0.3, 1, 3, 10, and 30ms for attack time, and 0.1, 0.3, 0.6, 1.2 second, and "Auto" release time settings). I found this plug-in's auto release as well-behaved as the Channel Strip dynamics section's auto attack, and it generally tames the source material's dynamics in a very musical way. But again, I would have liked to have seen a 50ms release time setting for when I wanted a really fast compressor release, along with a variable attack control.

I'm sure a lot of people will just strap the Bus Compressor across their stereo mix bus, but it also works well on individual tracks, and I particularly liked it on bass and vocals. If you normally run "stems" or stereo submixes out of your DAW system into an analog or digital mixing board, try placing a Bus Compressor plug-in on each stereo output bus — with a little listening and careful adjustment it's very easy to get the tracks to gel into a cohesive mix instead of overly separated individual elements.

CONCLUSIONS

Latency is an issue with any outboard DSP solution. It takes time for your computer to route the information into the processor, perform various calculations, and spit data back out again. Thus Duende, like similar products, is intended more for mixing than tracking, as it introduces delay on any track with an SSL plug-in inserted. On my Athlon 64 4200 dual core PC, delays ranged from 448 samples with the Bus Compressor running at Pro Tools LE's 64 sample hardware buffer setting, up to 2,436 samples for a Channel Strip plug-in when using a 1,024 sample hardware buffer setting. As PTLE does not compensate for these delays, it is necessary to compensate manually by either nudging unprocessed tracks back on the timeline, or using Digi's Time Adjuster plug-in to delay any unprocessed channels. However, it's worth pointing out that Pro Tools LE is the exception when it comes to handling plug-in latency; most other host applications, including Pro Tools HD, offer full latency compensation.

Although delays occur with all external FireWire DSP products, it's odd (and with Pro Tools LE, complicates the compensation process) that the two different plug-ins showed ever so slightly different delay amounts. For example, on a 24-bit, 44.1kHz session, regardless of the Pro Tools hardware buffer setting or whether tracks were stereo or mono, the Channel Strip showed exactly 4 samples more delay than the Bus Compressor at the same hardware buffer setting. It's not a big deal in actual use, but worth noting.

I really don't have many complaints — and none when it comes to the sonics. I'd like to be able to type in control values directly; adjustments can be made only via the onscreen knobs (although you do get a "mouseover" numerical value above all of the continuously variable knobs). Since I like really fast compression release times for some tasks, I wish the Channel Strip compressor offered release time options in the sub-100ms range, and the Bus Compressor had a variable attack control and faster release options. But the range is modeled on the SSL hardware units, and stays true to them in that respect.

Latency concerns exist with any outboard DSP product, so I can't fault SSL for not defying the laws of physics. Finally, while I wish there were more plug-ins available, SSL is a console company. Duende's plug-ins replicate the functions of their mixing consoles — which is the safe play for them, because really, that's what the market wants and that's their forte. Hopefully, they'll eventually offer other plug-ins; at the Winter 2007 NAMM show, SSL announced an optional add-on plug-in called Drum Strip, so matters look encouraging in that regard.

As an enhancement tool for a native DAW, Duende's powerful DSP capabilities and sound quality give your computer a serious boost. The two plug-in types are extremely high quality, and even if you find native plug-ins that can keep up sonically, chances are they're going to be CPU hogs. By offloading those tasks to the Duende's DSP, your host is freed up to handle other CPU-intensive tasks, such as convolution reverbs.

So is it a winner? For under $1.9k, 32 channels of SSL-quality DSP-based plug-ins for your DAW is certainly a price breakthrough, and the sonic quality is as good as, if not better, than anything else I've ever heard in software. I definitely recommend checking out Duende, but you'll have to find your own — I'm purchasing the review unit. EQ

Product Type: FireWire DSP processing unit with bundled plug-ins.
Target Market: DAW users who need processing power beyond the capabilities of their native CPUs; and small to midsize studios who want the SSL "sound" for mixdowns without having to take out a second mortgage to pay for the console.
Strengths: Outstanding sonic performance. Mac/PC compatible. Real SSL processing at an all-time low price point. Little to no appreciable computer CPU "hit" when using Duende plug-ins. Can be bus or AC adapter powered, and the innovative adapter design makes using Duende in different countries literally a "snap."
Limitations: Compressor release times could offer faster settings. As expected, there's latency.
Price: $1,899.00
Contact: www.solid-state-logic.com

DANGEROUS MUSIC MONITOR ST/SR

Multi-Purpose mixing for Sammy Hagar in surround

by Bob Daspit

In October '06, I received a call from long-time client Sammy Hagar to mix a St. Louis performance of "Sammy and The Wabos" and "The Other Half" in 5.1 for an upcoming dual-pronged broadcast on HDNet and, later, a DVD release. Due to budget constraints, I decided to "gear up" and give it a shot in my humble converted-garage studio, which has a fairly small room (about 11' x 13') and is set up only for stereo mixing. Having never handled a 5.1 mix at home, I took this as a challenge that justified a test drive upgrade in the form of the Dangerous Monitor ST/SR Stereo and Surround Monitor Control System.

SETTING UP

For me, a new piece of gear can be somewhat daunting, and I tend to procrastinate about doing the setup because of this fear, or something silly like having to wire new snake connectors. But, thankfully, this all went without a hitch, largely because the unit uses DB25 connectors (a quickly growing standard) making the setup quick and painless. I ended up feeding the XLR outs directly to my six speakers from a DB25-to-XLR snake. Included were two ribbon cables and a short CAT-5 cable that connected the "ST" to the "SR." In total, it took me about 30 minutes (including installing the units in my rack and running a long CAT-5 cable to the remote control) to get the show on the road.

APPLYING THE ST/SR

First off, the Monitor ST/SR has a much larger feature set than was needed for my project. For example, one can easily integrate –10dB "semi-pro" gear with the Monitor ST/SR. Some useful applications would be to have a consumer 5.1 system on hand for A/Bing mixes and checking DVD refs or finished product. But, given my needs, the Monitor ST/SR fared incredibly well, as it was ridiculously easy to use and totally transparent from a functional and sonic standpoint. The definitive volume detents let you recall exact monitoring level positions in a hurry, and this helped keep monitoring levels under control so that you're not always "sneaking up" the volume and creating a potentially ear-fatiguing or damaging situation.

Listening to older mixes through the unit revealed previously hidden details, both good and bad, which helped me prepare a mix that ended with the video editor at HDNet calling me to say that my mix was the best one to ever come through. Slam dunk!

The Monitor ST/SR keeps the audio signal path entirely in the rack. This is convenient because it minimizes analog cable runs; but the coolest part of the design is the computer-controlled transmission line attenuator for the main level controls — they use no DCAs or VCAs for level control. So, when adjusting the desktop volume controller, you hear subtle yet satisfying "clicks" in the rack unit which, while initially startling, comforted me, as it showed me how clean the signal was. Of course this is only present if you keep it in the same room with you . . . and as the remote cable can be 100 feet or more in length, installing the rack units in a machine room is not a problem.

Having a rack-only unit as my last controller (complete with talkback switch on the rack, though with no remote), I was constantly leaning over to talk every time I wanted to say something. Not fun. But with ST/SR, you get two switchable talkback modes — momentary and latching. So you can latch the mic on, move about the control room freely, and continue your conversation with the live room via the sensitive onboard mic or with an external talkback mic of your choice. This makes the process much more comfortable.

Two features I found indispensable were the dim switch on the remote, and the PPI button (or "Producer Pacification Indicator"). The former is great for checking balances very quietly; this is a technique I recommend, because everything sounds great loud — but making a great mix at a barely listenable level is critical to the quality of your overall mix. The PPI button is likely to save your mixes as well. It doesn't do anything (except when in Setup mode,) but the next time you have a perfect mix together and a producer says, "I like it, but it just needs a little more," you're covered. When this happens, simply pop on the insanely cool blue PPI light and say "Which do you like better, this (off) or *this* (on)?" Invariably, the producer will pick the "blue light" setting and you can happily print your mix, collect your fee, and move on to your next job.

Also, the ST/SR sports a special use for input 4 that's helpful too. Generally, a CD player feeds into input 4 so an engineer may

The Dangerous Monitor ST comes with the remote for stereo monitoring and is expandable to 5.1 with the SR unit. The system handles four stereo or surround inputs and three sets of speaker outputs with separate subwoofer outputs.

5-Day Camp With 6th Day (Liverpool) Option • May 24th-29th, 2007

ROCK 'N' ROLL FANTASY CAMP™

London

Perform & Record at World Famous

Abbey Road Studios

Featuring Special Guests

JACK BRUCE
of Cream

GARY BROOKER
of Procol Harum

JON LORD
of Deep Purple

and Many More!

More Special Guests to be Announced!

6th Day Option! Perform Live at the Legendary Cavern Liverpool — The Most Famous Club in the World

Fantasy Camp Counselors include:

Paul Carrack (Squeeze, Mike & the Mechanics) • Bruce Kulick (KISS)

Simon Kirke & Mick Ralphs (Bad Company) • Spike Edney (Queen) • Jamie Moses (The Pretenders)

Spencer Davis (Spencer Davis Group) • Neil Murray (Whitesnake & Black Sabbath)

Space is Limited, Call Now!

888.762.2263 • In U.K. call 0845.094.3256

The Fantasy Returns to New York City! Aug 31 – Sept 3, 2007 (Labor Day Weekend)

FEATURING TED NUGENT, CORKY LAING & LESLIE WEST OF MOUNTAIN

AND MANY MORE TO BE ANNOUNCED!

For more information or to register online, visit our website at:

www.rockandrollfantasycamp.com

Guitar Center · Guitar Player · Modern Drummer · Classic · Gibson · Bass Player · SIRIUS

compare a mix to that of any commercial CD. As the commercial CD will be maximized and thus much louder than your mix, input 4 has been assigned a volume knob on the front of the ST rack to bring its level down to a match with your mix, which provides a more direct comparison between the two sources. I used it in a similar way, bringing my "B" rig Mbox up on input 4 for a similar purpose.

THE LFE CHANNEL RULE

One rule of thumb is that for any type of music surround mixing (save the rogue DVD-A format), nothing gets placed in the LFE channel, as the channel was designed for "subsonic effects" such as explosions in a theatrical setting. The typical 5.1 home listener will have five satellites and a subwoofer, right? Thus, the low end is "peeled off" the satellites and redirected to the subwoofer. This is called "bass management" and is done differently depending on the system. So, for music, there is already plenty of low end coming out of the subwoofer due to bass management; therefore if, say, the kick is sent to the satellites and the LFE, the LFE's low end will be added to the peeled off low end and the sub will get overloaded. Or (and this is even worse), if the LFE channel gets out of phase with the other five channels you end up with no low end. And this has happened! So, even though the LFE option is here, just say no to using it when doing 5.1 surround on an album.

CONCLUSIONS

The Dangerous Monitor ST/SR allowed me to focus on every minute musical issue that arose during the mix because it was completely transparent to the process. Though I used the ST/SR in a fairly simple form (in that I didn't need to utilize half the features), what I did use was incredibly helpful and convenient. From the quick setup to amazing sound quality I achieved at the end, the Monitor ST/SR made it a pleasure to mix Sammy's concert. Sure, the ST and the SR expander represent a big monetary commitment, but I absolutely could not have handled this gig without them. EQ

Bob Daspit has produced and engineered Sammy Hagar's last seven albums and DVDs. Bob's own band, The Goldbrickers, plays regularly on the West Coast, and he composes for video games, TV, and film in his spare time. Bob can be reached at www.myspace.com/bobdaspit.

Product type: Stereo and surround monitor controller.
Target market: Both project or professional engineers looking for a stereo and surround mixing option.
Strengths: Audiophile sound quality. Extremely easy to use. Well thought-out feature set.
Limitations: Nothing significant.
Price: Dangerous Monitor ST $2,199 (list); Dangerous Monitor SR expander $1,499 (list).
Contact: www.dangerousmusic.com

DESKTOP AUDIO

THE PROFESSIONAL'S SOURCE

real world solutions from industry professionals!

www.bhproaudio.com

800-947-5518 | 420 Ninth Ave. New York 10001 | We Ship Worldwide

B&H PHOTO - VIDEO - PRO AUDIO

PRESONUS DIGIMAX FS

Connectivity meets the art of expansion

by Tony Gross and Roy Stein

As that famous British bard once aptly noted, "you got to get in to get out." Yeah, right . . . a cool lyric for a tune, but often times a hair-pulling challenge in the DAW world. Variables like A/D/A interface choices, mic/preamp combinations, clocking, CPU power, hardware limitations, plug-ins, and the like can all conspire to lay our sessions to waste.

The multi-tasking PreSonus DigiMAX FS helps alleviate some of these issues. PreSonus calls it an eight-channel Class A mic preamplifier with 24-bit/96k ADAT I/O (and dual SMUX if you want 88.2/96kHz). They're being a bit modest. With its direct balanced outputs and insertion points on *every* channel, this single rack space device could expand your project recording capabilities in a big way. Just hook it up via optical light pipe to a wide array of digital recording systems, and you can take advantage of Class A mic pres with phantom power, 24-bit resolution, sample rates from 44.1 to 96kHz, TC Electronic's JetPLL jitter reduction technology, and word clock I/O with a 75 ohm termination switch.

SMALL BUT MIGHTY

PreSonus deserves kudos for a utilitarian design. The front panel function switches and controls are easy to grab and have a posh feel. The eight preamp controls are right biased, in two rows of four and offset, so you can grab a knob with speed and accuracy. The front panel has eight Neutrik combo connectors that serve as mic ins; channels 1 & 2 are mic/instrument, 3–8 are mic/line. Line level for the first two channels are on the back panel via return 1 & 2. Two phantom power switches handle channels 1–4 and channels 5–8; you cannot enable phantom power one input at a time.

Note that the eight mic ins have no rear panel redundancy. So, to avoid an annoying waterfall of mic input cables cascading over your other gear, you'll need to place the DigiMAX FS in your rack with an adjacent open space either above or below so you can route cables through that space and maintain feng shui in your studio. Also, while the mic pres are basic and contain no extra features such as high pass filtering or phase inversion, the inserts allow you to patch your favorite hardware (compression, EQ, effects, etc.) before the output stage of each one of the eight preamps. Sweet, and thoughtful.

SO HOW DO THE PREAMPS SOUND?

We've been touting the expansive connective capabilities, but as every preamp has its own distinct sound, how do the DigiMAX FS preamps stack up? To find out, we compared the preamps against two other pres, one costing roughly 10 times as much per pre, the other a two-channel tube pre with a slightly higher cost per channel to serve as a "tube sound" reference.

We auditioned a male vocal with both a Shure SM58 and Soundelux Elux 251, a damped vintage 20" Slingerland kick with an Audio-Technica ATM25 placed inside the shell off axis about 5" from the beater, a Bob Weir model Alvarez Yairi acoustic guitar with a single Beyer Dynamic MC-740 placed about a foot from the 12th fret, a vintage Fender P-Bass patched direct, and an Alesis QS6 keyboard, also patched direct. We listened through powered Dynaudio BM15As, recorded into Sonar 6, and all digital traffic was directed through the lightpipe I/O of a MOTU 2408mk2 to our DAW.

We found the DigiMAX FS pres perform as advertised; they're neutral, and have a lot of headroom. But they're not "designer preamps" — don't expect a PreSonus ADL600 for a fraction of the price. What more expensive pres get you is more of a "wow" factor, with what we perceived as a somewhat "smoother" sound.

CONCLUSIONS

In conjunction with light pipe audio interfaces, the user-friendly PreSonus Digimax FS offers a truly cost-effective way to rev up your ins and outs. The only real drawback is that if your primary concern is great-sounding pres and the DigiMAX FS pres don't do it for you, you'll need to open up your wallet wider. That said, the DigiMAX FS is a fine addition for project studio applications that need a quality work overflow box with solid preamps, direct outs, and serious digital connectivity. EQ

Product type: 8-channel mic pre expander with ADAT digital connectivity and FireWire interface.
Target market: You have an interface, mixer, or "ADAT-friendly" device you like, but need more inputs and want to keep within a budget.
Strengths: Excellent connectivity options. Compact. Cost-effective. Solid construction, especially given the price point. Clock uses TC's JetPLL technology.
Limitations: All mic ins on front panel only. Mic pres do the job, but aren't exceptional.
Price: $799.95
Contact: www.presonus.com

Introducing

SIM

SONY MUSIC STUDIOS INTERNET MASTERING

Your Music

Mastered by Award Winning Engineers

Returned in Two Business Days

Starting at $99 Per Song

Only Online.

www.SonyMusicSIM.com

POWERED BY

Sony Music Studios

LINE 6 GEARBOX GOLD PLUG-INS

The Line 6 sound sets up shop in your host

by Craig Anderton

Line 6 has now joined the guitar amp plug-in derby with a VST/AU/RTAS suite but being Line 6, they've done it in their own way. The package includes the TonePort DI USB hardware interface (guitar input, two analog outs, headphone out, and DI analog out). It's basically a "dongle-that-actually-does-something," but you don't *have* to use it as your interface; if it's plugged in, the plugs will load.

Installation is the usual deal with Line 6 computer-based gear: Install the companion "Monkey" software and check the Internet for updates. If your music computer doesn't speak net, you can authorize on a different computer and transfer.

Note the wide number of "stomp box" options. The upper part shows the amp and cabinet models, the middle strip the effects routing, and the lower section, the parameters for a selected effect. The strip along the bottom gives "hints" when you mouse over a control or section.

APPLYING THE PLUG-INS

The Gold version (there's also a Silver version and update options; check the Line 6 website for details) has the same sounds you'll find in products like the Vetta II amp and PODxt, as well as bass and vocal processors. Want specs? 78 guitar amps, 24 guitar cabs, 28 bass amps, 22 bass cabs, 6 mic preamps, and as they say, "80 plus" stomp box and studio effects (including some interesting synth effects). Sound is subjective, but I've always found Line 6's approach to modeling satisfying; there's a level of detail that I attribute to Line 6 having been at this for so long, and a certain "brash" sound quality that cuts well in a mix.

There are some inflexibilities, because Line 6 is locked into retaining compatibility across their product line. The order of effects is fixed, with a few exceptions; the volume pedal, reverb, modulation, and delay can go pre/post amp, but you can't change their order further. Some options, like compression before fuzz, are just not possible. And while the Gearbox controls respond to MIDI in standalone mode, when used as a VST plug-in it wouldn't respond to external MIDI controllers, controllers recorded on a track, or host tempo (although you can match the tempo manually, and choose a rhythmic sync value). However, it handily supports standard VST automation.

Preset selection is also a bit klunky — you go through a three-step "tree" to call up a preset. But then I find some cool sound, and all is forgiven.

CONCLUSIONS

I initially thought the price was steep, but do the math: Each plug-in works out to a few bucks each, and the sheer volume of useable sounds puts the bundle in a class by itself. The vocal processing in particular is a pleasant surprise.

There's a big choice in amp/effects sim software; let's make some superficial comparisons. For the experimentally-minded, Guitar Rig 2 rules with its step sequencers, crossovers, and unmatched configuration flexibility. AmpliTube 2 gives a fine set of presets out of the box and an easier way to step through presets, but if you want to get deeper, it's more difficult to tweak than Gearbox. The closest competition to Gearbox is Waves GTR 2, as it also offers a "detailed" sound quality, as well as excellent effects. The most obvious difference is that GTR has far fewer modules, but allows placing them in the signal chain more freely; GTR's sound is warmer, while Gearbox is more aggressive; I like them both, for different reasons. And like any amp sim, remember that the Gearbox presets weren't created with *your* guitar: A little tweaking can make a huge difference in the sound.

Note that while Gearbox Gold might appear guitar-centric, the effects are useable in just about any context. Overall, although I'd like better MIDI control and easier preset selection, the bottom line is that whenever I play through Gearbox, I get sounds that range from "cool" to "I gotta press the record button *now!*" I'm sure I'm not the only Line 6 fan who wished I didn't have to run a DAW signal to an aux bus, send it outside the computer, feed it to a PODxt, then bring it back into an audio interface input. And now, I don't. EQ

Product type: Plug-in suite of guitar and bass amps, cabinets, and effects, along with vocal preamps and studio-oriented effects.
Target market: Those wanting a single, comprehensive set of plug-ins — particularly users of Line 6 gear who want to "port" their programs and settings to a host environment.
Copy protection: Requires Line 6 USB device (included) to function, as well as online activation.
Strengths: The Line 6 sound. Colossal variety of plug-ins and sonic options. Patch compatibility with other Line 6 products. Obvious interface and easy to tweak. Bass and voice sounds get a big thumbs up.
Limitations: Awkward preset auditioning process. Doesn't respond to MIDI control when used with a host (but does in standalone mode). Relatively inflexible order of effects.
Price: $619.99
Contact: www.line6.com

iO|26 FireWire

Audio/MIDI FireWire Interface

ALESIS KNOWS DIGITAL RECORDING **IN AND OUT.**

The new Alesis IO|26 FireWire audio/MIDI interface has been designed from the ground up to provide the highest quality sound at the most affordable price. With support for upwards of 26 channels of audio, S/PDIF and ADAT digital inputs, and a built-in 16-channel MIDI interface, the IO|26 is the ideal interface solution for desktop recording/MIDI sequencing applications for both the home and project studios.

Features

- New high-definition, transformerless microphone preamps with genuine Neutrik™ connectors for extremely low noise
- 24Bit/192kHz Recording for professional quality, pristine recordings
- Superior Clock stability with DICE II JET™ Jitter Elimination Technology

- Flexible, routable Hardware Direct Monitoring. The built-in hardware digital mixer sends a customized, latency-free mix to each output pair
- Audiophile Cirrus converters provide maximum dynamic range on inputs and outputs
- 2 ADAT™ Lightpipe inputs to expand your inputs to 24 channels
- 8 analog and 18 digital inputs (16 ADAT and 2 S/PDIF)
- Works with Most DAW Software. Cubase LE included (Windows/Apple OSX) for a complete recording studio

Specifications

- 8 Mic/Line Preamplifiers with Line Inserts and Phantom Power
- 2 high impedance inputs for direct guitar/bass recording
- 16 channels of ADAT input
- S/PDIF digital input and output
- RCA turntable inputs
- 8 TRS line-level outputs
- Dual discrete headphone outputs
- 16 Channels of MIDI I/O
- Firewire Bus or adapter power

iO|14 FireWire

ALESIS

www.alesis.com/io26

ABLETON LIVE 6

Despite significant extras, the core remains intact

by Craig Anderton

I'll admit it: It's only with great trepidation that I install a new version of Live. Is it because I'm afraid the program will crash? No, Live is ultra-stable. Incompatibility issues? Not that either — Live works with pretty much any modern computer that can wake up in the morning. Fear of a learning curve? Not at all; once you've figured out the basics, Live is easy to use.

It's just that Live invented a unique paradigm and stuck to it over the years, and I'd hate to see that get lost in "feature bloat." At the Frankfurt Musik Messe a couple years ago, Gerhard Behles of Ableton mentioned that version 4 was going to include MIDI. I was highly skeptical, and didn't see how they could add MIDI without destroying the program's sleek interface. But Behles was insistent: "Don't worry, we'll add MIDI in the Ableton way." And they did, integrating it as smoothly as they had everything else up to that point.

I'll also admit it took me a while to really "get" Live. It made sense intellectually, but I didn't experience the full impact of it until I hooked up a control surface and was able to make it do my bidding in real time, improvising and composing as I went along.

So this review takes a bit of a different tack. After all, you can download a demo version of the program for yourself; and you don't need me to tell you whether you like it or not. Instead, let's look at the "big picture," and how Live fits into the world of DAWs and hosts. Really, Live 6 is like none of them . . . but in some ways, like all of them. Here's why.

THE TAO OF DUALITY: INTO THE MATRIX

Live's most important aspect is that it offers *two* different ways to interact with the program, Session view and Arrangement view. You can use one, the other, or switch between the two. Arrangement view is like working with a conventional DAW, as there are tracks for audio and MIDI, visible waveforms, envelopes, automation, etc. Session view is what sets Live apart: This is a matrix of *tracks* (arranged as columns), and *scenes*, arranged as rows. Each row/column intersection has a clip slot into which you can drag audio (usually loops, but one-shots work too) or MIDI files from a Browser pane, located toward the left of the program's window. You can also record audio or MIDI data into a slot.

Each track plays only one slot at a time, so if you want multiple clips to play simultaneously, you put them in the same row but on different tracks. Then, when you click on a row's "Launch" button to turn on the row, any audio in that row — on any track in that row — begins playback. The ability to trigger a bunch of loops instantly and simultaneously by launching a row is very powerful.

Additional details, such as timing, make this matrix concept even better. Loop playback can be quantized to any of several rhythmic values, so that, for example, if quantization is set to 1 measure, you can launch a row up to several beats before a measure starts — the loops won't trigger until the precise start of the next measure.

For figuring out arrangements, this is brilliant as you can set up individual rows to be sub-sections of the tune (intro, build section, verse, second part of verse, solo, etc.). But you're not limited to triggering wholesale groups of clips, either. In fact, you can play *any* piece of audio in *any* track at *any* time, in addition to whatever's playing in a row (within the constraint of one piece of audio per track, and with a start consistent with whatever quantization you've selected). For example, you can select a row, then add in audio from a track that doesn't have audio in the selected row. Or, build a song a loop at a time:

Fig. 1: Live's Session view. Toward the left is the browser; the main section shows part of the matrix toward the top, and the mixer below. The bottom section is a rack using Sampler, with its zone edit view peeking out just above the rack.

The John Lennon

SONGWRITING CONTEST

Categories

Rock World
Gospel/Inspirational
Hip-Hop Children's Electronic
Pop Folk Rhythm & Blues
Jazz Country Latin

Awards and Prizes

$20,000 for the Maxell Song of the Year
$60,000 in EMI Music Publishing Contracts
$120,000 in Project Studio Equipment
12,000 Custom CDs Courtesy of Disc Makers
Open to Songwriters and Bands

Enter your original songs
Download an application or
Upload your entries

jlsc.com

Sponsored by: maxell Roland DISC MAKERS

Sibelius EDIROL by Roland propellerhead audio-technica Musician's Friend sonicbids ableton

Enable a loop in track 1 to start, then another in track 3, then another in track 5, then switch to a more complex loop over in track 1 . . . then select a completely different row with a whole other collection of loops.

Want to turn off a track? Click on an empty track slot to stop a track from looping. Or, let the loop run, but mute the audio; and if you want a quick breakbeat, hit the solo button for that track.

This may sound confusing in print, but in practice, you have a very hip playing field laid out in front of you that is extremely flexible. I've done songs in Live with 30 or 40 rows, with each row representing a particular section of a song, and gone from row to row — sometimes in order, sometimes skipping around depending on how the audience reacts — but I've also done tunes with a single row containing multiple loops that I enable or disable as needed.

And that's only how *I* use the program . . . some musicians use it to build up songs, a loop at a time, then improvise on top of what they've created. I've also played with musicians who used it as a sort of "ultimate JamMan" signal processor; Live is one of the few pieces of software I've seen embraced by rockers, avant-garde types, rappers, groove-oriented musicians, and DJs alike.

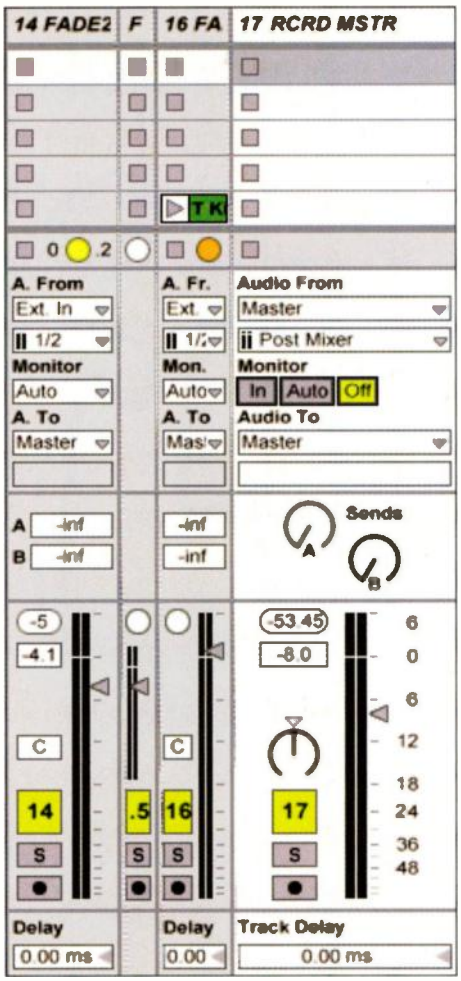


Fig. 2: Track 17 has been set up to record Live's output.

AND NOW, TWO MISCONCEPTIONS

Misconception #1: "The sound of Live's audio engine isn't as good as other programs." Well, it's 32-bit with sampling up to 192kHz, so it's on a par with most other programs. The reason for this misconception is that Live will take just about any file you can throw at it, and "warp" it to the project tempo (much like how Acid or Sonar can stretch clips automatically). This requires DSP-based time stretching, and even though Live's stretch algorithms are extremely good, they're not perfect; and as you have a choice of algorithms, there's no guarantee the default one is best. If you play back a clip without "warping" it (*i.e.*, at the tempo at which it was recorded), it sounds just fine.

Misconception #2: Live is a DAW. That's partially right, because Live *can* serve as a DAW — particularly because over the past several revs Live has beefed up its DAW-oriented features. Those who use Live primarily as an instrument/live performance program, and switched to a DAW for other projects, most likely don't feel they need to switch any more.

LIVE 6 TIP: A WORKAROUND FOR THE SOLO BUTTON FLAW

One of the main reasons I wanted Live when I first saw it was because you could hit the record button before starting a performance and it would remember all your moves — clips and scenes you triggered, effect changes, etc. All this ended up in the Arrangement view, so it was easy to edit.

***How cool!* I could capture my live performance, and if it was fine except for a mistake or two, no problem: I could edit whatever needed editing in the Arrangement view. Or so I thought. . . .**

A very important part of my act is soloing a track for a measure or so, then having everything else come crashing back in — your basic breakbeat. But Live can't record solo button presses. Ableton's reasoning is that the solo button is a studio diagnostic tool to see what's happening with a specific track, and you don't really want to record that. When I begged Ableton to implement solo button record, they said the solo button functionality is embedded so deeply in the code there's no simple fix. Given how I browbeat them about this at every trade show ("Oh no, Anderton's coming! Quick, hide!"), I think they would have fixed it if they could, just to shut me up.

As a workaround, I capture the audio at the mixer output into its own track, which keeps an accurate audio record of what's been played. After the gig, if I want to convert what I've done into a live recording, I just listen to the audio track; wherever there's a breakbeat, I cut away the tracks on the Arrangement that *aren't* supposed to be playing and move on to the next breakbeat. While time-consuming, this does work. Here's how to set up the audio track for recording your performance output (Fig. 2):

1. **Create an audio track.**
2. **In the track Input Type, choose Master.**
3. **In the Input Channel field, choose Post Mixer.**
4. **For Monitor, choose Off just to make sure there's no feedback while recording.**
5. **Adjust the Master Level so that you get a rational recording level into this track.**
6. **Start recording!**

As you play, the audio will be recorded in the track you created. If the performance is great, then you can simply use this audio. If not, use it as a guide to carve away the unwanted audio in the breakbeat sections, then proceed with any editing you want to do.

Still, there is a fundamental difference. Almost all DAWs are based on a recording paradigm, much like a virtual tape recorder. Live is based on a performance paradigm, where to me, it's more like a musical instrument disguised as music software. This is a program with which you can *create* music, not just *record* it.

VERSION 6: WHAT'S NEW

Again, you'll find out soon enough if you download the demo, but let's cover the highlights.

Video: One of the biggies is a video window, which for the first time, breaks Live's "single window" philosophy. No problem; it's resizeable and you can put it anywhere. Unfortunately, though, you can import MOV (QuickTime) format only; no AVI, WMV, etc.

Live itself is well-suited to soundtrack work, but the big bonus here is that you can make the video the "warp master," and by adding warp markers to the video, any loops you add to create a soundtrack will follow along. This greatly simplifies audio to video sync, and matching hit points. I suspect it won't be long before audio-for-video types realize just how well Live suits their needs.

Device Racks: You can combine instruments with MIDI and audio effects into a single, saveable object. This recalls the "track presets" in other hosts, but Live's take is more comprehensive: In addition to instrument racks, you can have MIDI or audio effects racks, and you can even have racks *within* racks — for example, use a rack of audio processors along with an instrument rack, as well as have a rack that consists of parallel chains of devices (yes, parallel) or even other racks. One result is convenience: If you come up with a configuration you use a lot, save and it's there whenever you want it. However, there are also eight macro controls you can assign to "strategic" controls of your choice within the rack, as well as have a control affect multiple parameters simultaneously. And of course, these can in turn be assigned to external MIDI control. You could even come up with "Kore"-like assignments so that particular macro controls trigger the same parameter in different racks (*e.g.*, Macro 1 always controls resonance, whether it's a synth filter or flanger).

Dynamic Tube Effect: If you're a guitarist, don't get your hopes up too much; it's more for adding a nasty distortion characteristic, without the niceties of a cabinet or EQ found in guitar amps. It has its uses, but it didn't make me go "wow."

Sampler: This is an optional-at-extra-cost instrument that can import Akai S1000, S3000, GigaStudio, EXS, SoundFont, and (non-encrypted) Kontakt presets. A few features that really appeal to me are easy cross-fading with multisamples, filter morphing, and the ability to stream samples from disk or stuff them into RAM. It may not be worth it if you already have a really good sampler plug-in; but if you don't, $199 is excellent value for money.

Essential Instrument Collection: These are from the Sonivox library, and come as instrument racks that load into Simpler (you don't need Sampler to use

them). However, if you want to take advantage of Sampler's features, just right-click on Simple's title bar and select Simpler > Sampler. Very smart.

The sounds are, well, "essential": piano, harpsichord, organ, electric piano, orchestral strings, orchestral bass, orchestral woodwinds, guitar, bass, harp, mallet instruments, and choirs. You can save $100 by not installing the EIC (you can always add it later for $119 if you change your mind), and if you already have a great sampler and set of samples, you probably don't need this. However, the sounds really are quite excellent, and there are "CPU-friendly" versions that can be invaluable when doing complex live laptop gigs. I can easily see those weaned on the groove aspects of Live getting into EIC and sampler as a way to branch out into new sonic areas.

There are other additions too: a more configurable Session view mixer for those who want something closer to a traditional mixing environment, native support and mappings for various hardware controllers, multiprocessor support, freeze that allows for a goodly degree of editing on frozen tracks, better browsing, improved file management, more routing options, and more.

CONCLUSION

Live 6 retains what always made it cool, but has managed to add new functions that don't get in the way of what made the program great in the first place. Whether it's an essential upgrade is hard to say, because frankly, there's not a lot wrong with Live 5 (or Live 4, for that matter). But it's hard to imagine a hardcore Live fan who wouldn't enjoy the new features, all wrapped up in that same elegant interface. Bottom line: Ableton has done it again. EQ

Product type: Software for composing, arranging, mixing, and processing live and recorded audio.
Target market: Groove-oriented musicians, those looking for an alternative to standard DAWs, audio-for-video scoring, DJs, performers, and probably some other types I haven't thought of yet.

Copy protection: Serial number and online unlocking.
Strengths: Brilliant workflow. Multiple time-stretching algorithms. Useful complement of processors and to some extent, instruments. Easy to assign to external control. Stable and reliable. Racks, and their macro controls, simplify managing complex collections of instruments and effects. Sampler, though optional, represents good value for money, as does the Essential Instrument Collection.
Limitations: Solo button presses not recorded. Imports only MOV videos. Changes to Session view mixer may still not be enough for those who want a traditional mixer environment. Library migration can be confusing for those with earlier versions installed.
Price: (Download) $499, $119 upgrade from Live 5, $179 upgrade from Live 1-4; add $100 for boxed version with Essential Instrument Collection from Sonivox.
Sampler: $199.
Contact: www.ableton.com

BUY THE SOFTWARE YOU USE

Your music feels right when there's respect for everything and everyone involved in the creative process - the musicians, the instruments and all the tools used to produce it.

Stealing performances is wrong, stealing instruments is wrong, stealing software is wrong.

Respect yourself, respect your craft and respect others - buy the software you use.

It's the right thing to do.

www.imsta.org

INTERNATIONAL MUSIC SOFTWARE TRADE ASSOCIATION
PO Box 250813
New York, NY, 10025, USA
Tel: 212-665-4792
Fax: 212-665-8707

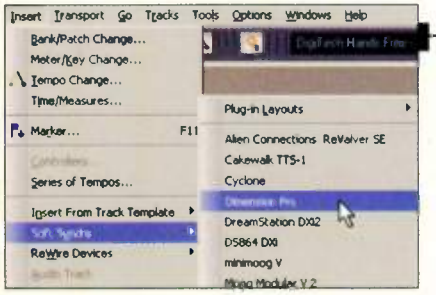
Power App Alley
by Craig Anderton

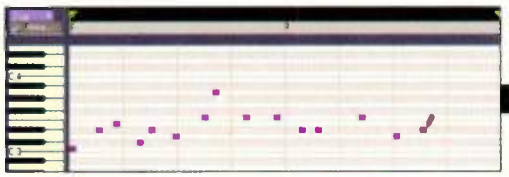
CAKEWALK SONAR

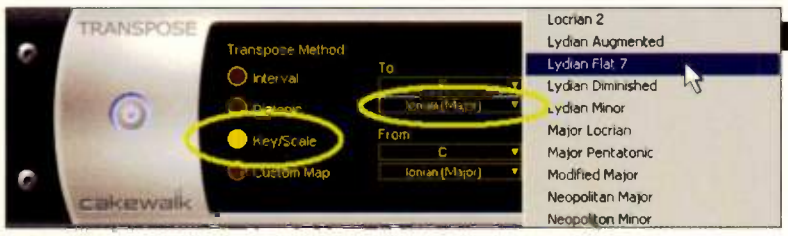
Get out of creative ruts with algorithmic MIDI techniques

OBJECTIVE: Use Sonar's MIDI processing to help you create a part.

BACKGROUND: When you get into a creative rut, sometimes it's best to just leave things to chance and see what happens. Although Sonar doesn't have algorithmic composition tools *per se*, you can fake it with MIDI processing.







steps

1. Insert a virtual instrument.
2. In the MIDI track driving the instrument, use the pencil tool and just draw in a bunch of notes as if you were a third-grader doing fingerpainting. It's probably best to loop the section you just drew (*e.g.*, a few measures)
3. Right-click in the MIDI track's FX bin, and insert the Transpose effect. Similarly, insert the Quantize effect as well.
4. Use the Quantize effect's parameters to quantize the notes you drew in so that they create a rhythm.
5. In the Transpose effect, click on Constrain to Scale.
6. Under Transpose Method, choose Key/Scale. In the To: section, choose a scale from the lower drop-down menu. The notes you drew will be constrained to this scale.
7. On the MIDI track, remove, add, and generally mess around with the notes until you hear something you like. When you do, stop playback, select the track or notes, and go Process > Apply MIDI Effects. This fixes the notes in place according to what's specified in the Quantize and Transpose effects.

tips

- In step 2, don't go too nuts with drawing notes — less is more. You can always add notes in step 7 if there aren't enough.
- In step 6, you have the option to transpose the notes to a different key using the first drop-down menu under "To."

KEYBOARD MAGAZINE
Subscribe now!
www.keyboardmag.com
Call toll free 1.800.289.9919
outside the U.S. 1.937.853.2345
www.musicplayer.com

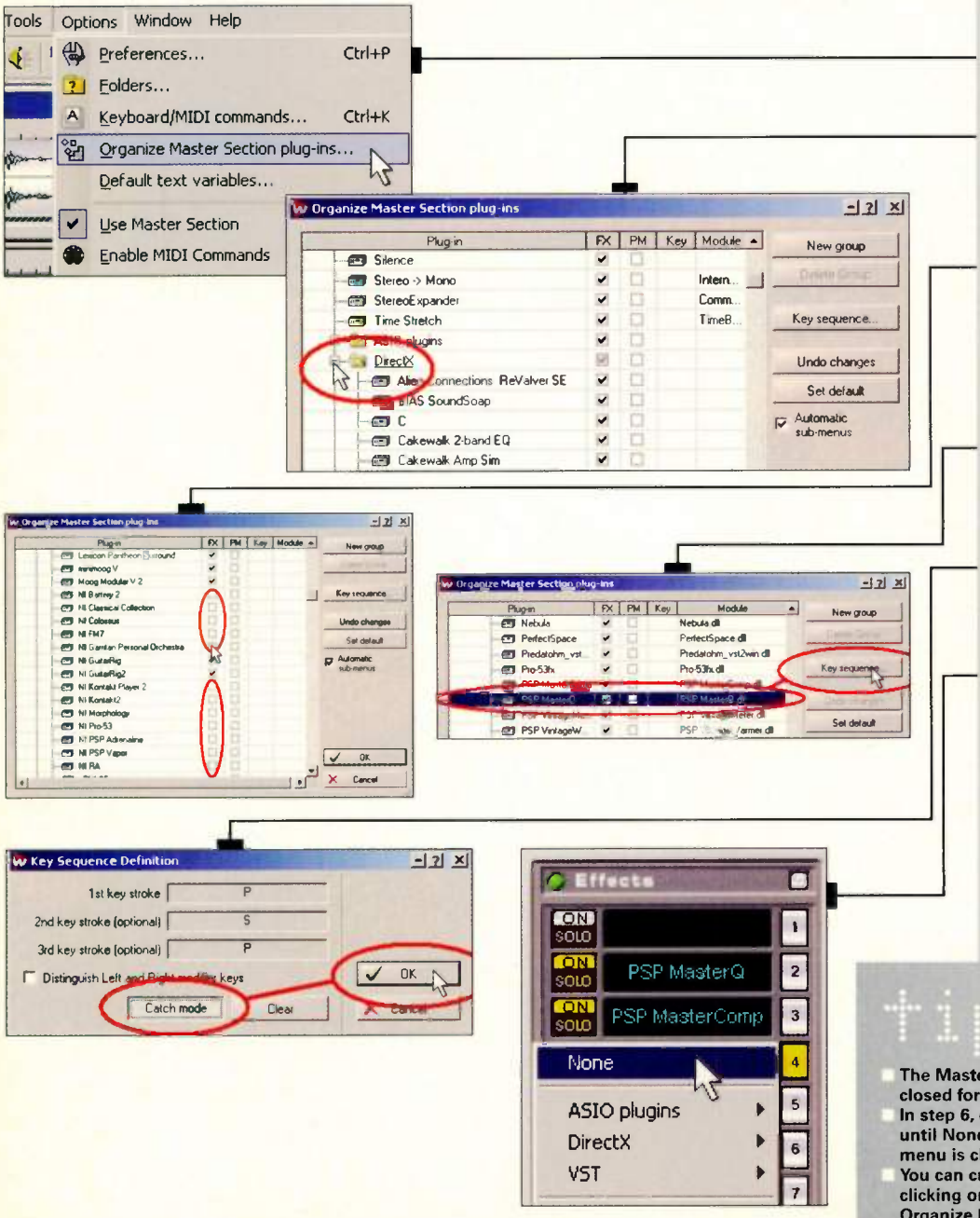
Power App Alley
by Craig Anderton

STEINBERG WAVELAB

Smooth your workflow when using plug-ins with Wavelab

OBJECTIVE: Organize Wavelab's plug-ins, and be able to call them up with a sequence of keystrokes.

BACKGROUND: When you go to insert a plug-in into Wavelab's Master Section effects slot, Wavelab defaults to showing all plug-ins — even soft synths that can't be used as effects. By organizing the plug-ins, you can see only those plug-ins that are relevant to Wavelab.



steps

1. Go Options > Organize Master Section Plug-Ins.

2. Expand the tree of the plug-in group you want to organize. In this example, the DirectX plug-ins are being shown.

3. To prevent a plug-in from showing up in the Master Section, uncheck the corresponding box. In this example, DirectX instruments that can't process a signal have been disabled.

4. To be able to call up a plug-in with a sequence of keystrokes (the plug-in inserts in the master section and its panel opens), highlight the plug-in to which you want to assign the keystrokes, then click on Key sequence.

5. Type in the key sequence (up to three keys) disable Catch mode, then click on OK.

6. To insert a plug-in in a particular master section slot, click on the slot number and select None. When you type the key sequence, the plug-in will insert into that slot.

tips

- The Master Section Presets dialog must be closed for this to work.
- In step 6, do not type the key sequence until None has been selected and the menu is closed.
- You can create new plug-in groups by clicking on the New Group button in the Organize Master Section Plug-Ins dialog box; drag plug-ins into that group (*e.g.*, you can create a separate group for dynamics-oriented plug-ins).

AdIndex

These companies would be very happy to assist you in obtaining more information about their products and services. Please contact them via phone or online. For a better response, tell them "I saw it in EQ!"

COMPANY	PHONE	WEB	PAGE #
Alesis	401-658-5760	www.alesis.com/io26	55
B&H Pro Audio	800-947-5518	www.bhproaudio.com	25, 51
Blue Microphones	818-879-5200	www.bluemic.com	39
Cakewalk	888-CAKEWALK	www.cakewalk.com/Vista	C2
Clarion Musical Instrument Insurance	800-Vivaldi	www.clarionins.com	41
Conservatory Of Recording Arts & Sciences	800-562-6383	www.audiorecordingschool.com/eq.html	27
Dynaudio Acoustics	818-665-4900	www.dynaudioacoustics.com	29
eBlitz Audio Labs / FXpansion	805-258-1465	www.eblitzaudiolabs.com / www.fxpansion.com	18
Eventide	201-641-1200	www.eventide.com	35
Focusrite	866-FOCUSRITE	www.focusrite.com	C3
Furman	877-486-4738	www.furmansound.com	28
International Music Software Trade Association	212-865-4792	www.imsta.org	61
John Lennon Songwriting Contest		www.jlsc.com	57
M-Audio	626-633-9050	www.m-audio.com	9
Mark Of The Unicorn	617-576-2760	www.motu.com	C4
Millennia Music & Media Systems	530-647-0750	www.mil-media.com	19
Musician's Friend	800-436-6981	www.musiciansfriend.com/free	71
Native Instruments		www.native-instruments.com	5
Radial Engineering	604-942-1001	www.radialeng.com	3
Rock'n Roll Fantasy Camp	888-762-2263	www.rockandrollfantasycamp.com	49
Royer Labs	818-847-0121	www.royerlabs.com	34
SAE Institute	877-27-AUDIO	www.sae.edu	67
School of Rock Magazine		www.schoolofrock.com	50
Shure	800-25-SHURE	www.shure.com	45
Sonic Circus	888-SC4-GEAR	www.soniccircus.com	42
Sony Corporation of America		www.sony.com/acidpro6	1
Sony Music Studio		www.SonyMusicSIM.com	53
Stewart Electronics / FatPro Technologies	877-454-4404	www.fatpro.com	59
Sweetwater Sound	800-222-4700	www.sweetwater.com	17

by Phil O'Keefe

LONG DISTANCE COLLABORATION

Sometimes it takes a village to raise a song

Many project and home studio folks do a lot of their work alone. While this means you don't have to persuade anyone else of the brilliance of your ideas, the downside is that it's often the collaborative interaction between musicians that results in great music. While Lennon and McCartney arguably came up with some good material in their post-Beatles solo careers, many people feel that a degree of magic was lost when they went their separate ways; once they were each free to chase after their own muses, they lost the advantages and insights the other brought to the table.

But what if you're sitting at home in a project studio that's located out in the boonies — how exactly do you collaborate with someone who is hundreds, or even thousands, of miles away? Fortunately, there are a lot of options for remote collaboration. High-speed parcel shipping services let you back up your project and ship a copy of it anywhere else in the world (if not overnight, then certainly within a day or two). For some types of projects, like sending something to another studio or engineer to mix, this is still a viable way to work. But there are also possibilities that can offer more "instant" gratification.

COLLABORATING IN THE REAL WORLD

The internet revolution and telecommunications advances have significantly reduced the cost, and increased the efficiency, of communicating with people in distant locations. This not only simplifies finding potential collaborators, but it also facilitates the collaboration process. For example, after the devastating tsunami in Asia a couple of years ago, and then the hurricane Katrina disaster, a few of my online friends and I decided to do collaborations on songs and donate the proceeds from their sale to relief efforts. The only problem was we were literally spread out all over the globe, and to make things even more difficult, we were all using different software applications for recording.

To deal with these issues, we used the internet as much as possible — not only to discuss our opinions on the song, its structure and arrangement, but also for file transfers. We started with a basic version of the song in MP3 format supplied by composer Ted Hoffman, a very talented writer/guitarist who lives in Kansas City. We started off with just acoustic guitar and vocals converted to an MP3 file; compared to WAV or AIFF files, the small size sped up transfer times.

Once we had that, we set up an FTP page on one of our servers (most personal websites come with file storage space for this purpose) where all interested parties could download the MP3 and listen to it, import it into their DAW of choice, then track their individual parts. Once these were complete, they were uploaded to the FTP site, where I was able to grab them and import them into the master session. (If you're concerned about exposing your files to the public, you can password protect your FTP page and email the login information and password to your collaborators.)

THAT SYNCING FEELING

Had we all been using the same DAW, and that DAW supported time accurate spot placement for individual clips and regions, synching would have been simple. But we weren't, so we went for the easy route and started the song off with four clicks. Not only were these useful for giving everyone a count in, but they also allowed us to align the original tracks with all the overdubs — just have your collaborators record those same clicks to the beginning of their overdubs, then zoom way in with your DAW and align the clicks for all of the tracks.

You could also opt for a hard-panned click track in the original stereo file, with the click panned hard to one side and a mono reference mix panned oppositely. Either way, the clicks make lining up the files very easy as long as all the collaborators re-record or copy and paste those first few clicks from the reference file to the beginning of any new tracks. Don't forget to "consolidate" any tracks with multiple regions into a single, continuous WAV or AIFF file; this makes it easier to import the overdubs, and simplifies the alignment process.

COMMUNICATION COUNTS

You can use emails, instant messages, online forums, and the telephone to discuss ideas and toss suggestions back and forth. While large file transfers can take a while, it's still faster than overnight shipping; if you have a fast DSL or cable connection for internet access (don't even think about dial-up), it's really not that bad. To speed up the process even further, for the initial back and forth creative process you can use MP3 files, then graduate to larger 16- or 24-bit file transfers when you reach the final stages. While you don't all have to use the same DAW, do decide on common same sample rates for your MP3s and the final tracks. For online collaboration, I feel 24-bit/44.1kHz files offer the best balance of file size and audio quality for your "keeper" tracks.

With today's tools, there's no reason why you have to work in isolation — even if your personal studio trench is miles away from everyone else. Looking for a good place to get started? Then check out the Collaboration Corner forum (moderated by David Holloway) at www.musicplayer.com, as well as other options like www.digitalmusician.net. EQ

Phil O'Keefe is a producer/engineer, and the owner of Sound Sanctuary Recording in Riverside, California. He can be contacted at www.philokeefe.com, or via the Studio Trenches forum at www.harmony-central.com.

For more information about jump starting your career call 1-877-27 AUDIO or go to www.sae.edu

Professional Audio Education Since 1976.
Industry Standard Equipment.
International Recognition.
Individual Studio Time.

Current U.S. Locations:

NEW YORK 212-944 9121
ATLANTA 404-526 9366
LOS ANGELES 323-466 6323
MIAMI 305-944 7494
NASHVILLE 615-244-5848

Plus a further 40 locations around the world!

SAE® INSTITUTE

Global Education Partner of Middlesex University London

by Michael Molenda

ALL TOGETHER NOW

Celebrate the messy bliss of gang clang

In the days of pre-Isolationist Music Creation, socialized musicians actually recorded tracks together in a room, assaulting each other with volume and signal bleed and hopefully unheard mistakes. Although somewhat primitive baffling was employed, pretty much every sound leaked into every mic; as a result, record production was identified by the studio space's sonic characteristics and the performance idiosyncracies of those making all the noise. Live energy and ambience are essential components of '60s-vintage Beatles, Stones, Who, and other classic tracks — as well as the major ingredients of compelling "studio sounds" from joints such as Gold Star, Motown, Stax, and Trident.

While DAWs and plug-ins can manifest a whole lot of aural color for those who record in isolation, the true, thrilling, and vibey sound of live is an impression that can only be captured old school. So, here are a few tips for getting in and out of the process with minimal hassle and maximum impact.

THE ROOM

You'll need a space where drums, bass, guitar, scratch vocals, and any other essential basic-track instruments can be set up, miked, and cranked up. It doesn't have to be Abbey Road, but it should be an area that possesses a reasonable sonic environment (no weird reflections, not too live, etc.), allows suitable sightlines between musicians, and won't cause the police to visit when the volume ramps up. I've used living rooms, basements, rehearsal spaces, churches, garages, and office cafeterias (after hours, and with permission, of course). Carpets and blankets can deaden problematic live areas, and you should also scope out a comfy place to set up your computer and recording gear.

GEAR NEEDS

Recording basic tracks live typically requires more goodies than layering tracks alone in your personal studio space. You can always record everything in a stereo pass — not a bad idea, actually — but if you want some measure of control over individual elements later on, you'll need more mics, more cables, more mic stands, and more inputs on your audio interface. For a basic session, I recommend at least eight inputs. This allows assigning kick drum, snare, stereo overheads, bass, guitar, a scratch vocal, and an additional instrument (keyboards, percussion, toms, etc.) to separate tracks. For mic options, borrow a small collection of dynamic and condenser types (make sure your interface is equipped with 48V phantom power for the condensers), and seek information on models professional engineers typically employ to mic each sound source.

INSTRUMENT SETUP

To paraphrase the *Saw* films, "There will be blood" — or, in this case, bleed. Signal bleed, that is. Don't worry about it. The filthy business of sound sources infecting each mic position with multiple signal washes *is* the sound of vintage live-in-the-studio recording. Famed producer Tony Visconti once told me that one of his favorite and most surprising guitar sounds was captured solely through a tom mic positioned on a drum kit sitting far across the room from the guitar amp. Hendrix engineer/producer Eddie Kramer often maintains that part of Jimi's studio guitar-tone mojo was the signal leakage captured by the guitarist's scratch-vocal mic.

However, optimizing signal bleed without terrorizing the other instruments often requires some juggling of amp positions and individual volume settings. For example, a selfish guitarist laying it on with 115dB of distorted roar is probably going to overwhelm the drums *and* the recording space. I typically start by placing the players in a stage configuration with the bass and guitar amps on each side of the drums, facing forward. If there's too much amp bleed, I move the amps away from the drums at a 45° angle. If the guitarist is using an open-back combo, try stuffing a bit of foam in the back and/or covering the backside with a thick blanket. To control amp levels somewhat, I encourage the bass and guitar players to use smaller amps, and turn up only as much as they need to craft their desired tones and to hear themselves above the drums. With all the distortion processors available today, you can certainly produce rockin' guitar sounds without raising amp levels to the point of window rattling.

LET IT BE

If you can ease your pristine-recording mentality a tad, capturing a vibey and joyous live-band track is almost laughably simple: All you need is a decent room, some serviceable mics, savvy mic placement, and most importantly, impassioned performances from the musicians. Done! Well, almost. When overdubbing and mixing, maintain the same fearless buckaroo mindset you employed while tracking. If you allow your isolationist Mr. Clean side to take control of the proceedings, then you'll likely mix out all the vibe you worked so hard to capture in the first place. Of course, recognizing the true majesty of a track — and resisting the temptation to destroy soul and vibe with overthinking and angst — is a subject worthy of a whole library shelf full of Guitar Trax columns. Please don't make me write them. Surrender to that ecstastic rumble in your guts, and let glory reign. EQ

Michael Molenda is a seminal San Francisco punk, multimedia artist, and producer who has recorded tracks for everyone from NASA to Paramount Pictures to various major and minor labels to hundreds of bands you've never heard. He currently co-owns Tiki Town Studios with producer Scott Mathews, and is signed to MI5 Recordings.

Look who's invited to the EQ party...

JOE BARRESI

BT

WILL I. AM

LINDA PERRY

MOBY

THIEVERY CORP.

get your invitation

@ www.eqmag.com

HOW TO EQ WITHOUT AN EQ

Don't touch that knob! Get the tone right at the source

It's staggering how many equalizers are on the market these days — both hardware and software. Some are very clinical and are best for doing surgery on badly recorded tracks. Many sound quite musical, and impart a pleasing character of their own. But it's nice to be able to use an EQ by choice rather than out of necessity, or even not have to use one at all. Too often engineers rely on EQ to shape a track's tone when there are other ways to achieve the same (or better) results, and although EQ on a few tracks can sound pleasant, when added up across a lot of tracks, a mix may start to sound unnatural and over-processed — or even harsh, depending on the quality of the EQ. Some people like that sort of thing, but if you're looking for a more live, natural, in-your-face kind of sound, it's best to nail the tone you want before you even get to the mix stage.

As you've probably guessed, the place to start is the sound of the instrument itself. If that doesn't sound the way you want it, it's going to be awfully hard to convince it to sound that way later with lots of EQ. But for the purposes of this article, we'll assume you know that, and you have your instruments dialed in the way you want them. We'll also assume that it's obvious your mic selection will influence the sound of the track, as will the use of high pass filters built into many mics themselves (technically still an equalizer). But aside from all that, here are some additional ways to shape your sound without EQ.

Use the mic's pickup pattern to your advantage. Often, placing a mic off axis to the instrument sounds better than dead on. Rather than point a mic straight at a speaker cone on a guitar amp, for example, try angling the mic a bit so it points slightly away from the speaker. You'll often find there's less mud that way, and the track sits better in a mix with bass and drums.

Make good use of bass proximity. A mic in any pickup pattern other than omnidirectional will have a bass bump as you move close to it, while the low end will start to drop off as you move it farther away from the source. Want more low end? Move the mic closer to the source. Do the reverse for less low end.

Take advantage of comb filters. Whenever you have two or more mics on one source, the signals and the reflections hitting the two mics will combine with each other and cause some frequencies to be cancelled or attenuated and others to be amplified — an effect known as a comb filter. You can't get rid of comb filtering entirely; whenever you combine an original sound source with its reflections, or two different miked signals, comb filtering is inevitable. The question is, does the effect sound good or bad? Placing the mics in the "wrong" spot relative to each other may result in a lot of cancelled fundamental frequencies, producing a thin, incoherent sound. A comb filter that amplifies the instrument's fundamentals, on the other hand, will create a more powerful and cohesive sound.

Normally you look for the "sweet spot" when using multiple mics — the spot where each mic sounds good on its own, and the combination is phase coherent and sounds solid. But sometimes, you actually *want* to create a thinner, weaker sound if the instrument is meant to be a background pad or ambient coloration. I've often used this technique to make an organ track seem to float on top of a mix, for example — organ can be overbearing at times and seem to hog the whole mix, but using two mics on it and placing them so there's a bit of phase cancellation can give it a spacious, ethereal quality that sits very nicely in the mix.

Or you may want to bring out certain overtones in the instrument by creating a comb filter that amplifies those overtones. It's not necessary to do a lot of math and figure out the exact distance the mics must be from one another to achieve this (although you could). Simply use your ears and move the mics around while listening, and note the tonal differences that happen as you move each mic around in relation to the other(s).

The "25 cent EQ" for acoustic guitar. Does your close-miked acoustic guitar sound too muddy or boomy? Have the guitarist use a thin pick when recording. It'll brighten the tone considerably.

Change the room's tonal characteristics. Hang blankets or carpeting on the walls to kill the high end in the room, or put a plywood "floor" in a carpeted room to create more early reflections, which will change the tone considerably. Use baffles to create more reflections or less, depending what you use for the surface of the baffle and how far you place it from the instruments and mics. Even varying the humidity in the room will change its sound.

It can be a very educational challenge to try to do a recording that requires no EQ at all in the mix. Even if you don't succeed entirely, you'll learn a lot about listening to the source while tracking and the different ways mic placement, room characteristics, and other factors affect the end result. And you may just stumble into some great sounds in the process! EQ

Lee Flier is a guitarist, songwriter, engineer, and producer based in Atlanta, Georgia. Her band, What The...?, is a fixture in the Atlanta area, has released two independent CDs, and of late has been performing in other states and countries. She can be contacted via the band's website at www.what-the.com, and also moderates the "Backstage With the Band" forum at www.harmony-central.com.

Everything for the Musician...

Order Today!

We're your ultimate source for music gear.
Visit **www.musiciansfriend.com/free** today and find out for yourself!

FREE Shipping!

On most orders over $99, see our website for details.

The Lowest Price Guaranteed!

We'll meet or beat any verified competitive offer for 45 days.

Total Satisfaction Guaranteed!

Take 45 days to be sure you're totally pleased or your money back.

Visit www.musiciansfriend.com/free or Call 1-800-436-6981

Source Code: EQGD

"GO" LIVE IN THE STUDIO

So Moby shows up in Chile and wants a live recording . . .

I know our readers crave real world solutions to their day-to-day work. As so much of this issue involves re-discovering how to capture live performance magic in the studio, I thought it would be interesting to have one of the best mastering engineers in Chile describe how he did exactly that when Moby was on tour.

ONCE UPON A TIME

According to Miguel Bahamonde, engineer in charge of Studio A at Estudios Master in Santiago, Chile, "I was told that Moby wanted to make a stop somewhere during his South American tour because he hoped to capture the energy of his band in a studio. The band had been playing together for a while and he was very happy with the sound, so he asked his production team to book a studio for some sessions.

"So there it was, September 2005, and Moby was coming to our facilities to record some tunes. His hall engineer, John Pennington, was not exactly sure about the purposes of the session, but the reason became pretty clear once it was done."

Fig. 1: The setup was prepared exactly like the rig for the gigs.

Fig. 2: In the control room, from left to right: John Pennington, Moby, Guillermo (recording assistant), and Miguel Bahamonde.

THE SETUP

Bahamonde elaborates, "They sent their backline the day previous to the session; we were miking the guitar amps and drum set, as well as setting up the keyboards, just like for a live gig (Figure 1). The only 'studio' gear we used involved Neve 9098 preamps for both the snare and kick drum.

"John did a final sound check at 9 A.M., prepared five separate headphone mixes, then added EQ, compression, and FX to the different channels which would be sent to a 44-input Amek Big and then to a Pro Tools HD system at 24-bit, 48kHz.

"Moby and the band got to the studio by 2 P.M. The band consisted of Moby on vocals, bass, keyboard, and guitar; Joy Malcolm on vocals; Scott Frassetto on drums; Daron Murphy on guitar and backing vocals; and Luci Butler on keyboard and backing vocals. The guitars were recorded with Shure SM58s on the Marshall and Vox amps, and there was also a direct line to the console. Moby's vocals, and all backing vocals, used Shure Beta 58s.

"Fifteen minutes later, after minimal adjustments, the band started playing. I was supporting John at the console. The experience was huge! They had been playing together for this entire tour, so the music was flowing very naturally. The band played 18 songs in a row — the only pauses were between songs, when Moby gave some indications to the band about the mood of the song. He also asked the band to play some of their original tunes at different rhythms, like "punk" or "reggae" versions and they even played some covers from Billy Idol and the Doors. The vibe was very natural, and they were playing their hearts out. Once they finished playing, Moby played and recorded bass for all the songs and added some synth pads.

"Back in the control room (Figure 2), Moby noticed some undesired bleeding of the drums into the vocal channels, so he decided to re-record the main voice in some of the songs, this time using a Neumann U89. Fifteen hours later, a rough mix was finished. As Moby himself says, 'They're interesting documents from a great day during a really nice part of the tour.'

"With no overdubs at all from the band, the final sound was very similar to what you get from a live situation, but with the control a studio can offer. This is especially meaningful when you have a well-rehearsed, level-headed band. I have recorded several of the best Chilean artists, but this time the vibe was very special: Quick setup and 'Go' . . . it was an awesome experience."

Incidentally, some of these recordings are included as a bonus with the CD *Go: The Very Best of Moby.* EQ

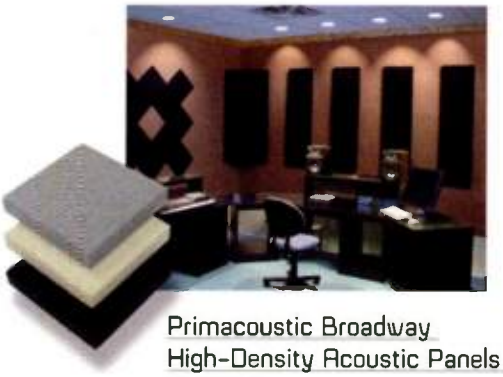
Gus Lozada hosts clinics around Latin America about music production, is a contributing editor to several printed and web media, and is currently touring as the front man of WoM (www.wom.com.mx) while moderating "Nuestro Foro," Harmony Central's Spanish-language community. Send him some love or suggestions at gus@guslozada.com.

Nashville EZX Expansion Pack for EZDrummer

Toontrack
End of April 2007
The Nashville EZX is the 4th expansion pack to be released for the groundbreaking drum sampler EZdrummer. Played by Harry Stinson and produced by Chuck Ainlay at Sound Kitchen Nashville.
SRP:119 USD
www.toontrack.com

DrumCore

Submersible Music
Now Available
Content from 12 world-class drummers (Matt Sorum, Sly Dunbar, Terry Bozzio, Lonnie Wilson and more...)! Perfect for songwriting. loops, fills and MIDI instrument with DAW integration (Pro Tools, Sonar, etc.).
SRP: $249, MAP: $199
www.drumcore.com
206-342-2331



Primacoustic Broadway High-Density Acoustic Panels

Primacoustic
Now Available
Broadway high density fiberglass panels provide the same look, feel and performance as those used in high-end professional studios. Easy to install without glue; 50% better absorption than foam.
SRP: Prices start at $12.50 USD per panel
www.primacoustic.com
604-942-1001

Audio Impressions Realtime Instruments™

Audio Impressions
Avail: First Q 2007
Audio Impressions Realtime Instruments™is the most comprehensive sampled instrument collection and performance tools ever assembled in one box. Conceived by a veteran film and TV composer it's capable of duplicating the natural expressiveness of human players.
SRP:TBA
www.audioimpressions.com
818-704-4606

Nevis 50 series

Argosy
Now Available
Custom-fit console enclosure for popular mixers—Nevis 50 series provices rock solid support while protecting your mixer, cabling, and gear. Organize and integrate your essential gear with Argosy studio furniture.
5032 for Mackie 32.8 bus (pictured)
SRP : $899.00 MAP
www.argosyconsole.com
800-315-0878

RacketBlaster™ QH-50NC (Noise Canceling Studio Stereo Headphones)

Nady Systems
Launch Date: March 2007
State-of-the-art noise canceling circuit design eliminates virtually all background ambient noise. Features large 50mm drivers for unsurpassed audio, comfortable padded leatherette ear cups. Operates on AAA battery and as standard passive headphones when noise canceling circuitry inactivated
SRP: $59.95
www.nady.com
510-652-2411

To advertise in this section of EQ contact Christine Vela at 631-274-5805 or cvela@musicplayer.com
For more information about these products, visit www.eqmag.com/productspot

Mackie Big Knob

Mackie
Now Available
With its multitude of rear-panel connections, Mackie's Big Knob lets you easily switch between studio monitors, stereo sources, and even send musicians their own custom headphone mixes, all from your desktop.
SRP: $389.99
www.mackie.com
800-898-3211

TAPCO Link FireWire

TAPCO
March 2007
The TAPCO Link.FireWire 4x6 is an ultra-portable recording solution for composers and producers. Thanks to Link's superior sound, low-latency 24-bit/96kHz operation, and Mackie Tracktion Music Production Software, you'll sound like a pro.
SRP: $249
www.tapcoworld.com
877-827-2669

Mackie HM Series

Mackie
Now Available
World-renowned Mackie technology is now available in their new HM Series Headphone Mixers. The HM-54 and HMX-56 allow musicians to personalize their headphone and monitor mixes in the studio or on-stage.
SRP: From $189.99- $309.99
www.mackie.com
800-898-3211

TAPCO Mix Series

TAPCO
Now Available
The perfect, cost-effective solution for applications ranging from home recording to live gigs and more, the TAPCO Mix.50, 60, 100 and 120 mixers offer incredible sound quality without sacrificing your desktop real estate- or wallet.
SRP: From $59.99- $119.99
www.tapcoworld.com
877-827-2669

Mackie Onyx 400F

Mackie
Now Available
The Mackie Onyx 400F Premium Studio Recording Preamp is a professional 10x10 FireWire audio interface featuring Mackie's acclaimed Onyx mic preamps, 24-bit/192kHz converters, and Tracktion Music Production Software.
SRP: $899.99
www.mackie.com
800-898-3211

Mackie Control Pro

Mackie
March 2007
The new Mackie Control Pro series controllers give you ultimate command of your mix and plug-in parameters. Make your music production software whole with complete hands-on control.
SRP: $1549
www.mackie.com
800-898-3211

VLZ3 Series

Mackie
Now Available
VLZ3 Series Compact Mixers feature Mackie's world-famous functionality, premium XDR2® mic preamps, and a completely reengineered channel EQ. The 1202-, 1402-, 1604-, and 1642-VLZ3s are the next generation of the VLZ Pro line.
From $389.99- $1099.99
www.mackie.com
800-898-3211

Mackie SRM150 Compact Active PA System

Mackie
March 2007
The Mackie SRM150 Compact Active PA System features a built-in mixer and 150-watt Class-D amplifier, making it ideal for multiple applications. No other compact PA is as loud or great sounding as the Mackie SRM150.
SRP: $389.99
www.mackie.com
800-898-3211

Mackie Onyx 1620

Mackie
Now Available
The FireWire capable Onyx 1620 Premium Analog Mixer features eight of Mackie's acclaimed Onyx mic preamps and their Perkins EQ, a new design that captures the musicality of the classic British EQ.
SRP: $999.99
www.mackie.com
800-898-3211

Tracktion 3

Mackie
March 2007
Mackie's Tracktion 3 is the fastest, most natural way to produce music on your Mac or PC. Tracktion's single-screen interface and vast array of professional plug-ins will accelerate your project from concept to finished master.
SRP: $129- $319
www.mackie.com
800-898-3211

Onyx Satellite

Mackie
Now Available
The Mackie Onyx Satellite is the world's first two-piece FireWire recording system, featuring a portable Satellite pod with Onyx preamps, and a separate Base Station...so you never have to unplug your studio again!
SRP: $519.99
www.mackie.com
800-898-3211

TAPCO S8 Active Studio Monitor

Tapco
Now Available
TAPCO S8 Active Studio Monitors deliver the big, punchy low-end needed for modern music production, thanks to dual 60-Watt amps, an 8" woofer and Active electronics designed by Mackie.
SRP: $619.99 a pair
www.tapcoworld.com
877-827-2669

CATEGORIES

MARKETPLACE

MARKETPLACE

MARKETPLACE

ACOUSTIC PRODUCTS AND SERVICES

ACCESSORIES

STUDIO FURNISHINGS

GEAR FOR SALE

DUPLICATION

DUPLICATION

SOUNDS / SEQUENCES / SOFTWARE

TALENT AND EMPLOYMENT

TALENT AND EMPLOYMENT

MIXING / MASTERING

AD ORDER FORM

An ad in EQ's Classifieds reaches more than 38,000* serious musicians for only $2.40 per word plus $7.00 for an address. Minimum charge: $25.00. Please underline words to appear in bold type and add $0.50 per every bold word. Please indicate clearly any words to appear in all caps and add $0.25 per every cap word. Each phone number, e-mail address, or website address counts as one word. Display Classifieds are $152.00 per vertical column inch. Color (Display Classifieds only): 25% extra. 3 months minimum schedule required. Deadlines are the 8th of the month, 2 months prior to cover date (for example, April 8th for the June issue, on sale in early June. All Classified ads are also posted on our Website (www.eqmag.com) at no additional charge.

Businesses must list business name in ad. All ads must be received in writing, paid in full in advance. All ads must be music-related. Retail advertisers may not list discounted prices or percentages on specific models, unless items are used or discontinued. Advertisers must provide us with complete name, street address, and phone number, whether or not included in the ad copy (you may list a PO Box address in your ad, however). Mail ads to: EQ Classifieds, Attn: Darlene Labrecque, 1111 Bayhill Dr., San Bruno, CA 94066. FAX (if paying by MasterCard, or Visa): (650) 238-0263. For more information, call Darlene Labrecque at (650) 238-0297; E-mail: dlabrecque@musicplayer.com. (*Audited circulation; does not include pass-along rate.)

Company Name _____ Contact Name _____

Address _____ City _____ State _____ Zip _____

Telephone _____ E-mail _____

Please print your ad clearly. Use a separate sheet of paper if you need more room.

_____

_____

_____

_____

(do not include address when counting words)

Category ❒ Marketplace ❒ Duplication ❒ Talent and Employment ❒ Sounds/Sequences/Software ❒ Mixing/Mastering ❒ Instruments ❒ Accessories ❒ Gear for Sale ❒ Acoustic Products & Svc's ❒ Studio Furnishings ❒ Other

TO COMPUTE COST OF AD

#_____words x $2.40 = _____
#_____bold words x $ .50 = _____
#_____ ALL CAPS wds x $ .25 = _____
Address $7.00 = _____
Total cost per issue = _____
(minimum $25.00)
x number of issues to run x _____
Total payment = _____

❒ Payment enclosed, or Charge my
❒ Visa ❒ MasterCard

Card # _____
Expiration date: _____
Signed: _____

Room with a VU

by Matt Harper

STUDIO NAME: StarCity Recording
LOCATION: Bethlehem, PA
KEY CREW: Jeff Glixman, Lily Salinas, Carl Cadden-James
CONTACT: www.starcityrecording.com
CONSOLES: Digidesign Control 24, ProControl 32 Fader with Surround Expansion Pack; SSL 9000K, Axiom MT Plus
PLATFORMS: Alesis HD24; Avid AV Option; Pro Tools HD3 (4); Sony PCM-800 (3); Studer A827 Gold 2" Analog 24-track recorder (2)
MONITORS: DynAudio BM 6, BM 15A (2); EAW Theatrical monitoring deployed as Dolby EX 6.1; Genelec 1029 (3); KEF C20 (3); Quested 4x12 in 5.1 array (3), 2108 (3), F5 (3)
MICS: AEA R84 (2); AKG C391 (2), C414 (6), C568, CK97, CK98; Audix D6 (2), SCX25A (2); Audio-Technica AT4033; Blue Bottle, Dragonfly (2), Kiwi; Coles 4038 (2); Neumann KM183 (2), KM184 (3), M149 (2), U87 (4); Royer SF24; Sennheiser MD421 (6); Shure SM57 (6); Sony C800; Telefunken 251, U47
OUTBOARD: Aardvark Aardsync II; Aphex 1100; Amek9098 EQ (4), 9098 Stereo Compressor; API 512 (2), 525, 550B (4), 560; Avalon 2022; Aviom Cue System (2); Aurora GT-2; Brainstorm SR-15 + Time Code Distripalyzer; Crane Song STC 8; dbx 160 SL, 363x; Digidesign MIDI Interface; Dolby Digital Encoder DP569, Multi Channel Audio Decoder DP564, Multi Channel Audio Tool DP570 (2); D.W. Fearn VT-2 (3), VT-4 (2); Empirical Labs Distressor (5); Equi=Tech Balanced Power (2); Eventide Eclipse; Focusrite ISA 110 (3); Lexicon 480, 960, LXP-15; Manley Massive Passive (2); Millennia HV3D, TCL-2; Neve 33609JD; Pioneer DV45A; Prism Sound Dream ADA-8; Shep SN8 (Neve 1081) Modules (10); Sony CDP-D11, CDP-D500; Symetrix 501 Peak-RMS; TASCAM CD-450, CD-A700, DA-40, DV-RA1000; TC Electronic TC 2290, TC M6000; Thermionic Culture Phoenix; True Precision 8 (2); Tube Tech EQ 1-A (4); Universal Audio 1176 (4), 2108, 2-610, LA-2A (4); Yamaha REV500
NOTES: Nestled away in the Lehigh Valley, not far from the monolithic, rusted remnants of the Bethlehem Steel empire, sits StarCity Recording Company — a world-class studio known in circles of audile connoisseurship as one of the premier recording locales of Pennsylvania, if not the East Coast as a whole. Formed less than 16 months ago by veteran industry players Jeff Glixman, Carl Cadden-James, and Lily Salinas, StarCity exists in the shell of the now defunct Angel Mountain Studios, retaining the state-of-the-art gear and immaculately designed facilities yet interjecting a less corporate, more musician-friendly general ethos for the benefit of all and sundry who decide to drag their songs across the PA countryside and through StarCity's doors.

Bringing a collective 50+ years of experience from all corners of the music business, the forged partnership stands poised to give their clientele some of the best sonic service imaginable. Having worked with artists from Black Sabbath to Bob Marley and Kansas to Ludacris, Grammy-nominated producer and engineer Glixman serves his time in StarCity as the go-to SSL jockey, while Cadden-James, a surround specialist, can oftentimes be found tucked away in the StarCity's 6.1 mix theater — each practicing their respective trades while Salinas, Director of Studio Operations, holds it all together.

The 18,000 sq. ft. facility is comprised of four rooms: Studio A, Plus, Studio C, and a Theater, all of which have been optimized to handle 5.1 surround mixes. Boasting a variety of live rooms designed specifically to run the gamut from huge spaces conducive to recording full ensembles at a time and getting enormous sounds to smaller, more intimate areas renowned for their ability to achieve tighter tracks, StarCity prides itself on being guardians of acoustic diversity, and wholly untreatable gear junkies to boot.

Though large studios are becoming more rare as time passes, all is looking good for StarCity as they continue onward in facilitating the production of great albums by offering wallet-friendly packages without skimping on the quality of their in-house engineers, or the tools employed. So swing on by if you are passing though, and tell the boys and girls of StarCity that *EQ* told you the first cut is on us. See if they'll fall for it.

HEY, *EQ* READERS. WANT US TO FEATURE YOUR STUDIO? SEND PICS AND INFO TO eq@musicplayer.com.

pre | eminence

- 8 Focusrite Mic-Pre's
- 16 Channels of ADAT In & Out
- Stereo 192kHz SPDIF
- 2 Dedicated Headphone Busses
- Software I/O Mix Control
- Link Up To 3 Units Via Firewire

Eight professional microphone pre-amplifiers form the foundation of Focusrite's new 52 channel Firewire interface.

For 20 years Focusrite has enjoyed a pre-eminent reputation for microphone pre-amplifiers. Today the focus is on Firewire interfaces for digital audio workstations. Whatever your choice of DAW software, you want the best mic-pre's for your projects to capture every subtle nuance from your music. Voices and acoustic instruments equally benefit from the excellent fidelity.

The Focusrite Saffire family of Firewire Audio Interfaces marries legendary mic-pre technology with pristine AD/DA conversion and Firewire interface engineering, optimised for the ultimate quality recording experience.

Trust Focusrite with your talent to guarantee a pre-eminent performance.

audio heritage | sonic integrity | professional solutions

Focusrite@AmericanMusicAndSound.com or 1.866.FOCUSRITE

Focusrite
www.focusrite.com

Digital Performer scores **the impossible**

"Digital Performer is a huge part of my scoring process. I do all of my writing in DP. At the Mission Impossible 3 sessions, we had a laptop running DP and a MOTU Traveler to handle prelays and record live stereo stems of Dan Wallin's mix from the main board. DP also drove video to the main monitors and synced the entire 100+ piece orchestra, so that everything was perfectly in line with my composition sequence. I count on DP every day. It performs flawlessly."

— Michael Giacchino
Composer
Original Music for M:i:3

Mission Impossible 3 "Bridge Battle" Digital Performer project courtesy of Michael Giacchino and Chad Seiter. Mission Impossible 3 image courtesy of Paramount Pictures. All rights reserved.

MOTU
motu.com