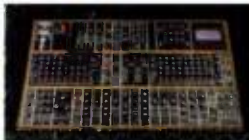

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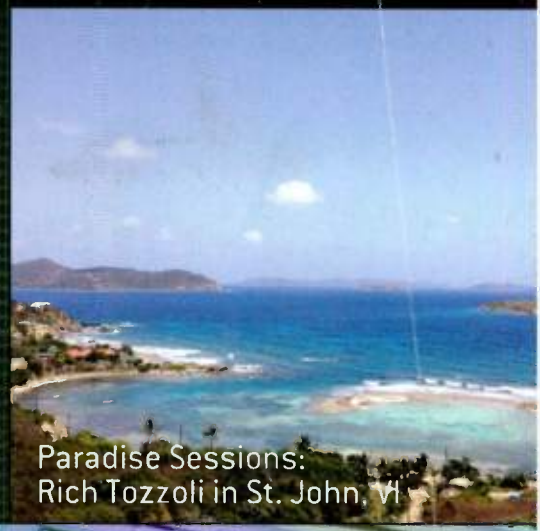

Paradise Sessions: Rich Tozzoli in St. John, VI

TSPs

Re-imagining Our Tools

Pictured: Slate Pro Audio Raven and WaveMachine Labs Auria

reviews:

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Softube Console 1

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EDITORIAL
Frank Wells, **Editorial Director**
212-378-0400 x535, fwells@nbmedia.com

Strother Bullins, **Editor**
336-703-9932, sbullins@nbmedia.com

Clive Young, **Managing Editor**
212-378-0424, cyoung@nbmedia.com

Kelleigh Welch, **Assistant Editor**
212-378-0423, kwelch@nbmedia.com

Lynn Fuston, **Technical Editor**

Rich Tozzoli, **Software Editor**

Russ Long, **Senior Contributor**

Steve Harvey, Will James, Alex Oana, Randy Poole, Alan Silverman, Christopher Sullivan, Rob Tavaglione, Tony Ware, Ben Williams, Sterling Winfield, Dan Wothke, **Contributors**

ADVERTISING
Charlie Weiss, **Group Publisher**
212-378-0484, cweiss@nbmedia.com
Tara Preston, **Associate Publisher**
917-331-8904, tpreston@nbmedia.com
Janis Crowley, **Sales Director, West Coast Office**
415-505-1985, jcrowley@nbmedia.com
Doug Ausejo, **Specialty Sales Associate**
650-238-0298, dausejo@nbmedia.com

ART & PRODUCTION
Nicole Cobban, **Senior Art Director**
Walter Makarucha, Jr., **Associate Art Director**
Fred Vega, **Production Manager**
212-378-0445, fvega@nbmedia.com

CIRCULATION
Meg Estevez, **Group Director, Audience Development**
Michele Fonville, **Associate Circulation Manager**
Subscriptions: Pro Audio Review, www.MyPARmag.com
P.O. Box 234, Lowell, Ma 01853
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E-Mail: Newbay@Computerfulfillment.com

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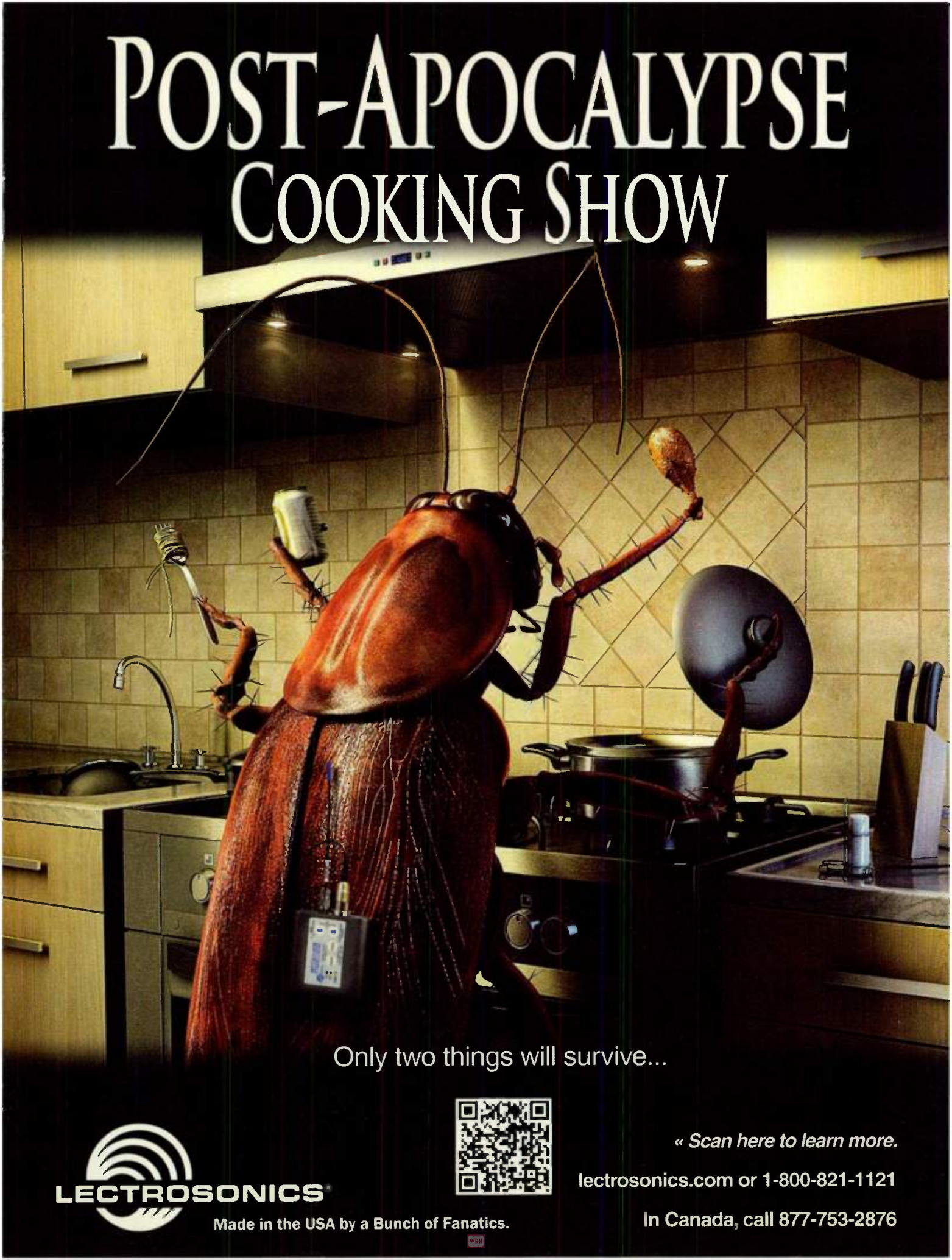
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technically speaking

Digital Give And Take

by Frank Wells

Lynn Fuston's feature article in this issue on audio control applications for touch screen technology, coupled with a recent online discussion on digital console operating paradigms, led me to ponder again the concept of signal flow and non-linear control topologies. With analog consoles, the signal flow somewhat followed the control layout of a console, though with dual in-line faders, output matrix switching above input controls and so on, that only went so far. Still, once signal flow had been mastered on a given analog console, the concepts were fairly transferable to other desks within the general class.

Audio schools still typically teach signal flow beginning with analog console models then apply those concepts to digital consoles. That is a reasonable starting point, but with modern digital desks, there are often significant operational differences between brands. Then when you add in control surface layering, shared controls and control features that are not practical in analog (if even possible), the learning curve can be steep when moving to a new digital console. Non-standardization of labeling and nomenclature can further complicate the process (even with analog).

Digital Audio Workstation signal flow and operation can also vary wildly between brands, even as there are some commonalities in the displays of most DAWs. The signal flow has a studio-encompassing analog equivalent, but the feature sets of DAWs include additional, now mandatory, capabilities that have no traditional counterparts. Becoming a true master of a given DAW is even more intimidating than the task of learning a new console, as the functions are even less standardized, including where the various controls and buttons reside within the GUI and how much is buried inside a menu tree.

True to pattern, new technologies both give and take. Mostly what's taken is time. But that initial learning curve is typically mitigated in the long term by greater efficiency, assuming one doesn't overindulge the temptation to fix things with technology when the project would have been better served by the engineer taking more care when recording, also assuming competent musicians. The capabilities we have today offer an amazingly satisfactory cost/performance ratio. Never have so many been able to do so much for so little, and there's very little to keep anyone from playing. That's the give.

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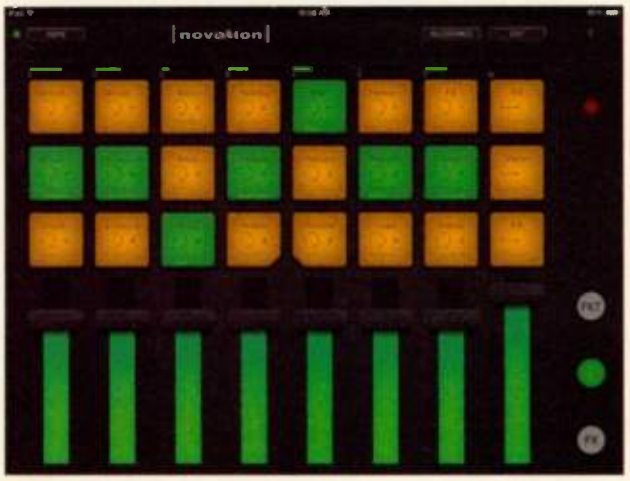

Novation Launchpad GUI

WaveMachineLabs Auria Output Matrix GUI

for TSPs to succeed in music production.

TSPs won't work like a mouse and keyboard. Honestly there are tasks that are simply easier with a mouse/keyboard than on a touch screen. I get that. The macros on the Raven are amazing, but things like keyboard shortcuts are just as easy on a QWERTY keyboard without reaching for a screen.

Low latency is absolutely crucial. This is the number one hurdle I see. The touch screen must offer immediate reaction like a knob or fader or they're doomed. In a world where engineers routinely make adjustments in sub-millisecond or multi-sample parameters, having a slow or delayed control interface is simply unacceptable. I've worked with Air Display (iPad) and its WiFi remote video and control is simply too slow to be useable for studio work.

Interfaces need to be redesigned, even re-imagined, to take advantage of this new technology. This new work surface needs to offer new possibilities instead of just glass-faced versions of the same thing. Look at Novation's Launchkey for iPad or Traktor DJ, which offers finger-drag variables in the X and Y axes for delay, flanging and gating.

TSPs have to fit into the workflow that we know now, not force us to change everything in order to use them. Interfaces need to be designed to make the transition period faster and simpler, not harder. I'm reminded of the RADAR interface which looked like a 2-inch remote. Instant connection.

The old adage of "bigger is better" probably won't work with TSPs. Having a touch screen that can access 24 to 48 modules simultaneously is not really desirable. Being able to move quickly from one set of controls to another on a virtual worksurface makes far more sense. I like being able to bring the console section to me instead of having to stand up to go adjust an EQ that is eight feet away.

Although there are those who object to big reflectors in the control room, we've had those for years with console surfaces or even the glass monitor window in the SSL center section. There are ways to deal with that. Having the glass surface angled appropriately, so there are no first order reflections to the ear, is critical and doable.

Accuracy of controls is critical: being able to precisely control parameters with no random inaccuracy. I want to know that when I touch a part of the screen that it will do exactly what I expect it to do. In the studio, I won't abide a tool that is unpredictable.

I am very excited about the future of TSPs and the new capabilities they will allow in the studio. The advent of larger iPads (Apple is rumored to release a 12-inch iPad this year) suggests that more touch screen Macs are on the way. I can imagine a DAW running on a 21-inch iMac with a touch screen, angled at 30 degrees, resting on my desk, positioned right above my keyboard. Add a large primary screen above that for overviews with the ability to zoom or bounce certain portions (waveform editing, multi-touch plug-in editing) over to the touch screen for the functions where it excels. Give up my mouse or QWERTY keyboard? Not yet. They are too familiar, but in maybe the same way that cutting analog tape with a razor blade was familiar. I look forward to the day when I can have this new tool to add to my arsenal for making music.

Acknowledgement: Thanks to Kurt Howell of GC Pro for his help and access to the Raven.

If we consider the impact of Google Glass and Oculus Rift, the future may look altogether different than the computers and interfaces of today.

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Resident Audio T4: "World's First Bus-Powered Multichannel Thunderbolt Interface"

Progressive New York-based audio technology firm Resident Audio has introduced the T4 ($499), "the first multichannel Thunderbolt audio interface" which requires no external power. The T4 is a portable, 24-bit/96 kHz-ready four-channel I/O for Thunderbolt-equipped Mac and Windows with all required software drivers and a "Big Knob" master output control, XLR/TRS/TS inputs per channel, balanced TRS outputs per channel, main and secondary headphone outputs, universal phantom power, intuitive three-color LED-enhanced gain knobs for low-light operation, Input Mix control for blending live signal with computer playback, and "Smart Monitoring," which automatically switches between stereo and mono depending upon input configuration.

As Thunderbolt is twice as fast as USB 3.0, twenty times faster than USB 2.0 and twelve times faster than Firewire 800, the T4 provides near-zero latency.

Stay tuned for a full review of the T4 in *PAR*.

Contact: Resident Audio | residentaudio.com

Zoom H5 Four-Track Handy Recorder

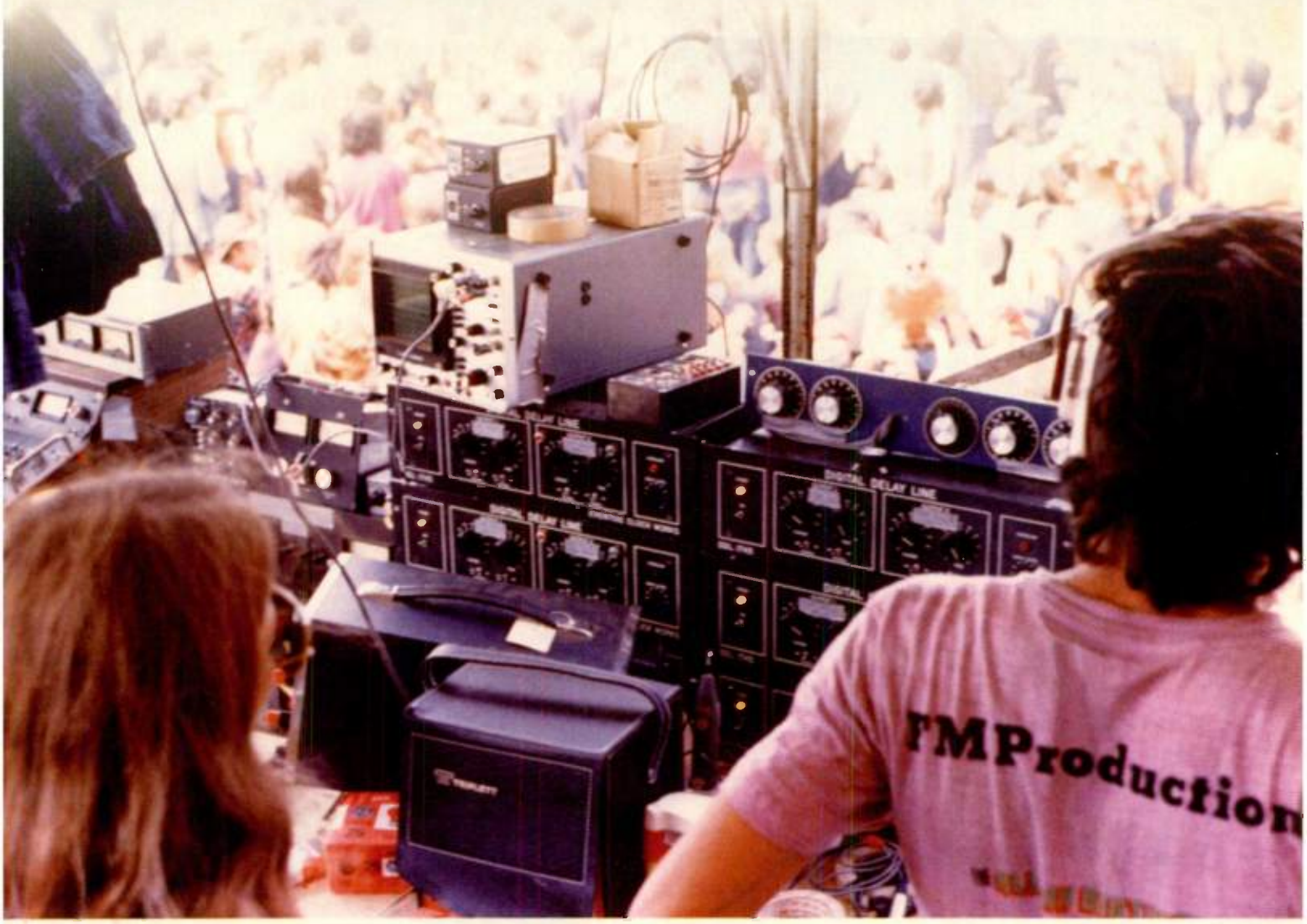
The H5 ($269 street) allows four tracks of simultaneous recording directly to SD cards (up to 32 GB) in a variety of MP3 and BWF-compliant WAV file formats (up to 24-bit/96 kHz). With the use of an optional adapter, it can be mounted directly to a DSLR or camcorder. 2 AA batteries power the unit, with alkaline battery life of more than 15 hours. Dual XLR/TRS combo jacks enable the connection of external microphones or line-level devices. Each input has its own dedicated gain control and pad, plus phantom power in three different voltages.

Additional H5 features include a stereo Line Out for connection to camcorders; a headphone jack and built-in speaker; onboard effects, metronome and chromatic tuner; adjustable playback speed and pitch correction; and pre-record, auto-record and backup-record functions. A USB port enables data transfer to and from editing software and allows the H5 to serve as a multichannel audio interface for computers and iPads.

Like Zoom's flagship H6, the H5 employs a system of interchangeable mic capsules. It also comes with a new X/Y stereo capsule featuring SPL handling up to 140 dB SPL.

Contact: Zoom | www.zoom-na.com

In 1973, at Watkins Glen, live sound went just a bit digital.



"In the beginning, audio was analog. And, almost anything was possible."

Everything but delay. And so the Digital Delay Line (DDL) was born. DDLs were simple and limited to just delay. Today, forty one years after a stack of Eventide DDLs delayed the audio feeds to the speaker towers at Watkins Glen, Eventide introduces the **DDL·500**. Designed to be 'as analog as possible', the **DDL·500** will make your 500 series lunch box "just a bit digital."

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new studio products

Moog Music Emerson Moog Modular Synthesizer

On the 50th anniversary of the introduction of the Moog Modular, the first voltage controlled synthesizer, Moog Music has unveiled its three-year effort faithfully recreating the iconic Emerson Moog Modular, iconic keyboardist Keith Emerson's "most famous synthesizer in history." Based on original documentation as well as circuit board and art files for nearly every original Moog module, the Emerson Moog Modular System is comprised of handcrafted Moog modules "built from the original circuit designs...true recreations of the originals utilizing the same hand assembly methods used in the Moog Music factory in Trumansburg, NY in 1969," only now built at Moog Music HQ in downtown Asheville, NC, hand-stuffed with hand-soldered components to circuit boards, and with traditional wiring methods and photo-etched aluminum front panels.

The announcement was part of Moogfest 2014, where Emerson played a special performance showcasing the system.

Contact: Moog Music | moogmusic.com

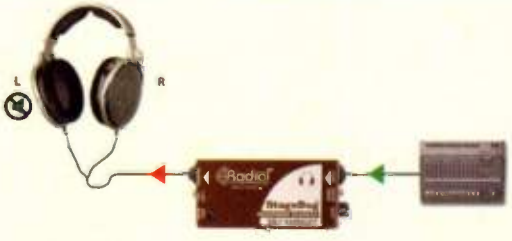
Yamaha NUAGE Advanced Production System, Version 1.5

Available this month as a free download, the latest version of Yamaha's NUAGE audio production system software will allow remote control of R Series audio interface head amplifiers from NUAGE Fader/Master control surfaces. In addition to providing a broader selection of I/O options for NUAGE systems, the software also allows Yamaha CL Series Digital Mixing Console inputs to be shared via a Dante network for significant system expansion capability.

According to Yamaha, NUAGE already allows switching between up to three different DAWs, yet with V1.5, the "NUAGE PT Bridge" driver for Avid Pro Tools control gains OSX 10.9 compatibility—Pro Tools running on Mac platforms is fully supported. Also, when adding Quick Control to the NUAGE Master unit, specified parameters can be assigned to the multi-function display so users gain more customization control. The NUAGE Master unit now has the ability to instantly access VST instruments from its display and knobs. Multi-function knobs will also provide as much as 512 times finer control than has been available in the Fine Mode.

Contact: Yamaha Commercial Audio Systems, Inc. | yamahaca.com

Radial Engineering StageBug



Radial's StageBug SB-7 is a headphone interface that allows users to mute one side of his or her headphones to eliminate bleed when recording. "When recording classical music, violinists will often remove one side of the headphones to uncover one of their ears so that they can better hear their instrument when performing. This generally improves their intonation and tone versus only hearing their performance through 'a set of cans.' This causes a bleed problem whereby the open phone is now being picked up by the ultra sensitive condenser microphone, mixing in with the instrument. The SB-7 EarMuff solves the problem by enabling the artist to turn off the unused side of the headphone," explained Radial's Production Manager, Steve Hopia.

The SB-7 is completely passive, and features a standard 1/4-inch TRS headphone input and a second TRS headphone output used to feed the headphones. This is supplemented with a mini 3.5 mm TRS jack for those who prefer to use ear buds.

Contact: Radial Engineering | radialeng.com

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by Lynn Fuston
PAR Technical Editor
lfuston@nbmedia.com

The Future of Touch Screen Technology in Audio Production

I like visionaries and innovators: those who get out front of currently accepted standards and utilize/create technology to push the boundaries. Names like Tesla, Edison, Blumlein and Marconi come to mind.

But right now it seems there's a lot more focus on recreating/modeling classics of the past (some 50 years old or more), both in hard and software than in innovation. Since the 90s, the start of the digital revolution, manufacturers have focused on higher sampling rates, better specs, lower noise and power consumption, but we've just about achieved all we can in that regard. So what are the next areas for innovation and growth? What's the next advancement in music production technology?

TSPs in Pro Audio

One of the big changes on the horizon is touch screen technology utilizing touch screen panels (TSPs). It's time to re-imagine the tools of music production. I look around and I see TSPs in use everywhere, from smartphones to cash registers, cars to airport ticket terminals. The rapid adoption and success of the iPad is a clear indicator that TSPs are here to stay. Anyone who doubts the iPad effect (it was only introduced in April 2010) just needs to look at new mixers or interfaces by Apogee, Behringer, Mackie, PreSonus and others to realize that iPad control is not going away soon. Its utilization as the control surface for some mixers means that they simply won't work without an iPad. Add in standalone apps for music making and recording like Auria, GarageBand, Novation's Launchpad and Launchkey, all manner of softsynths and it's clear where the industry is headed.

Lynn works with the Slate Digital Raven at GC Pro in Nashville.

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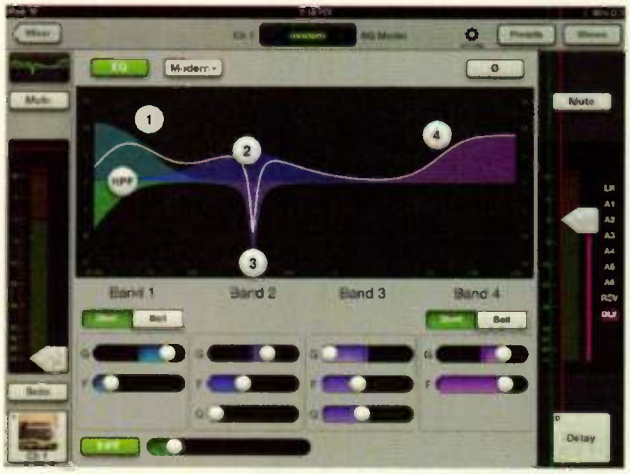
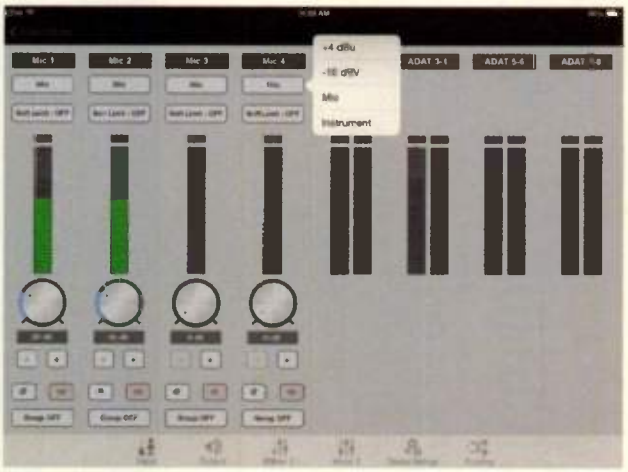
WaveMachineLabs Auria iPad-based DAW

Mackie DL1608 Compressor GUI



Mackie DL1608 EQ GUI



Mackie DL1608 Input GUI

Why? Manufacturers who are incorporating iPads realize that there's no reason to reinvent the wheel when designing new gear. Having the iPad's DSP chip and interface screen already there and just writing the software front end for it, uploading it to iTunes is simple and makes software easily upgradeable. Add in the convenience of having a portable wireless interface, that allows engineers to wander about the stage adjusting monitor mixes or in the main house doing a mix instead of being tied to a single physical location, and those are huge benefits. That seemed like a dream not too many years ago.

If TSPs are already on mixers and synths, when do we start seeing touch screens in the studio side of music production? We're already there. Auria is a touch-controlled DAW on the iPad. Steven Slate's Slate Pro Audio Raven MTX/MTI controllers are evidence of where we're headed. These are evolutionary designs, based around workflows and visual designs that are familiar to us. Even with their familiar looks, some engineers are not eager to change. I think this is less an indictment of engineers who are "stuck in their ways" and has more to do with designers not addressing the realities of TSPs. There are certain tasks at which TSPs naturally excel. Drawing waveforms or automation moves with my finger are functions that I love, but there are ways in which TSPs can be as frustrating as they are innovative.

Software like Auria emulates the look of a console and, due to the small screen size of the iPad (9.75 inches diagonal), can be frustrating when trying to push tiny buttons like the Mute and Solo buttons (an eighth-inch across, as the modules are 9/16-inch centers) which are even smaller than the keyboard on an iPhone—ever hit the wrong key on one of those? I rest my case. When the size of my fingertip obscures the control or button or menu that I'm trying to manipulate, it can lead to mistakes, which on an iPhone can be embarrassing, but in a session can be disastrous. Even on a much larger screen, like the 46-inch Raven MTX, there are times when I attempted to touch one button and touched a different adjacent one due to inaccuracy of the touch interface or parallax. Sensitivity is another issue that must be addressed. When I was working on the Raven, there were several times when buttons would be activated even as I was reaching for a different button. Buttons would light up even when my finger was more than an eighth-inch away. Imagine a Mute or Solo button turning itself on in the middle of a take as you

Mackie DL1608 Mixer GUI

Novation Launchkey GUI

reached for a different knob. Not good.

But these are issues that will be addressed as we move forward. There are a few touch interface designs that work really well, like Mackie's Master Fader, Apogee's Maestro and Behringer's X32-Mix iOS app. The common theme is not trying to put too much on the screen, keeping button sizes appropriate to fingers, our primary human "input device."

TSP Downsides

Sure there are naysayers, those who say a TSP will never replace mixers, faders, knobs and music keyboards and they may be right. They suggest that touch is fine for a phone but not in the studio. I wonder if they said the same thing twenty years ago when it was suggested we might be making records on computers instead of consoles and tape. That seemed like heresy then too. Change happens.

There are some valid objections cited, such as no tactile feedback, arm fatigue, challenging interface design, greasy screens and acoustic reflections. How will designers overcome these obstacles? By learning from the successful designs already in use. I see TSPs in use at airports and grocery stores and I don't hear people complaining about inaccuracy or greasy screens. (The Raven comes with a jar of Slate screen cleaner.) For TSPs, the input device that we always have with us must be accommodated: the human finger. Interfaces need to be designed to accommodate fingers instead of mice, in much the same way that bigger consoles with more modules required faders instead of rotary knobs. The desire for tactile feedback will never go away, as anyone who has tried mixing on glass or playing an iPad keyboard will attest. But just as we've seen plastic keyboards take over for wood and ivory, computer mice become more commonplace than Penny + Giles faders, it may just be a matter of time. Familiarity is the key. I never thought I would be able to do fader moves with a trackball but now I'm quite adept at it. (I can hear the cries of "Heresy" as I type.)

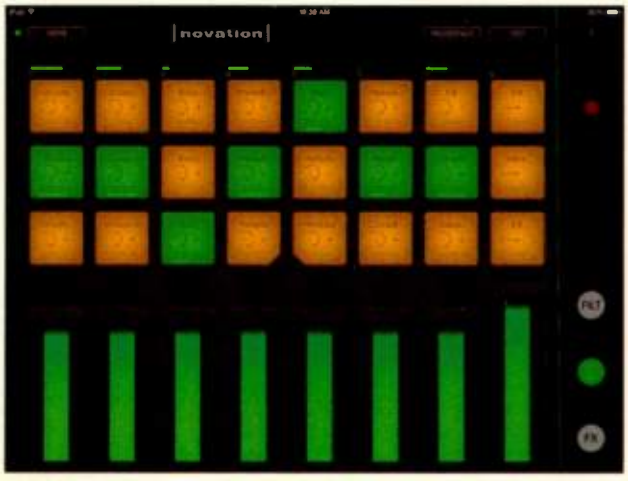
For TSPs to Succeed In Music Production

I think the key to touch screen tech becoming commonplace is for manufacturers to find ways to implement it that fit our way of working and eliminate the problems that plague many current designs, along with engineers willing to adjust to new interfaces. (Seems we are doing that all the time.) Here are the hurdles I see and proposals

What Else Is Next?

Here are some items of interest for those looking farther ahead in touch screen and music production:

+ A keyboard that will allow the user to also use it as a video monitor: tinyurl.com/cakb6rq
+ How about a multi-touch surface that might allow multiple users to mix simultaneously and interactively: tinyurl.com/k7r9xjg
+ The Reactable table synthesizer would allow visual and touch interaction with movable building blocks. This has already garnered attention from artists like Bjork (from 2008): tinyurl.com/mh47er7 tinyurl.com/kp22n4m
+ And Imogen Heap's Magical Musical Gloves do away with any hardware interface that the user must touch. Imagine waving your hands in the air for panning or reverb. tinyurl.com/mk76yjh
+ And John LaGrou (Millennia Media) imagines a world where "free air gestural control" may replace the mouse and keyboard entirely. He envisions gesturing and moving an entire virtual console out and replacing it with a different one. "Nah, don't like the Neve, let's try an API instead." tinyurl.com/oo4xv9w



Novation Launchpad GUI

WaveMachineLabs Auria Output Matrix GUI

for TSPs to succeed in music production.

TSPs won't work like a mouse and keyboard. Honestly there are tasks that are simply easier with a mouse/keyboard than on a touch screen. I get that. The macros on the Raven are amazing, but things like keyboard shortcuts are just as easy on a QWERTY keyboard without reaching for a screen.

Low latency is absolutely crucial. This is the number one hurdle I see. The touch screen must offer immediate reaction like a knob or fader or they're doomed. In a world where engineers routinely make adjustments in sub-millisecond or multi-sample parameters, having a slow or delayed control interface is simply unacceptable. I've worked with Air Display (iPad) and its WiFi remote video and control is simply too slow to be useable for studio work.

Interfaces need to be redesigned, even re-imagined, to take advantage of this new technology. This new work surface needs to offer new possibilities instead of just glass-faced versions of the same thing. Look at Novation's Launchkey for iPad or Traktor DJ, which offers finger-drag variables in the X and Y axes for delay, flanging and gating.

TSPs have to fit into the workflow that we know now, not force us to change everything in order to use them. Interfaces need to be designed to make the transition period faster and simpler, not harder. I'm reminded of the RADAR interface which looked like a 2-inch remote. Instant connection.

The old adage of "bigger is better" probably won't work with TSPs. Having a touch screen that can access 24 to 48 modules simultaneously is not really desirable. Being able to move quickly from one set of controls to another on a virtual worksurface makes far more sense. I like being able to bring the console section to me instead of having to stand up to go adjust an EQ that is eight feet away.

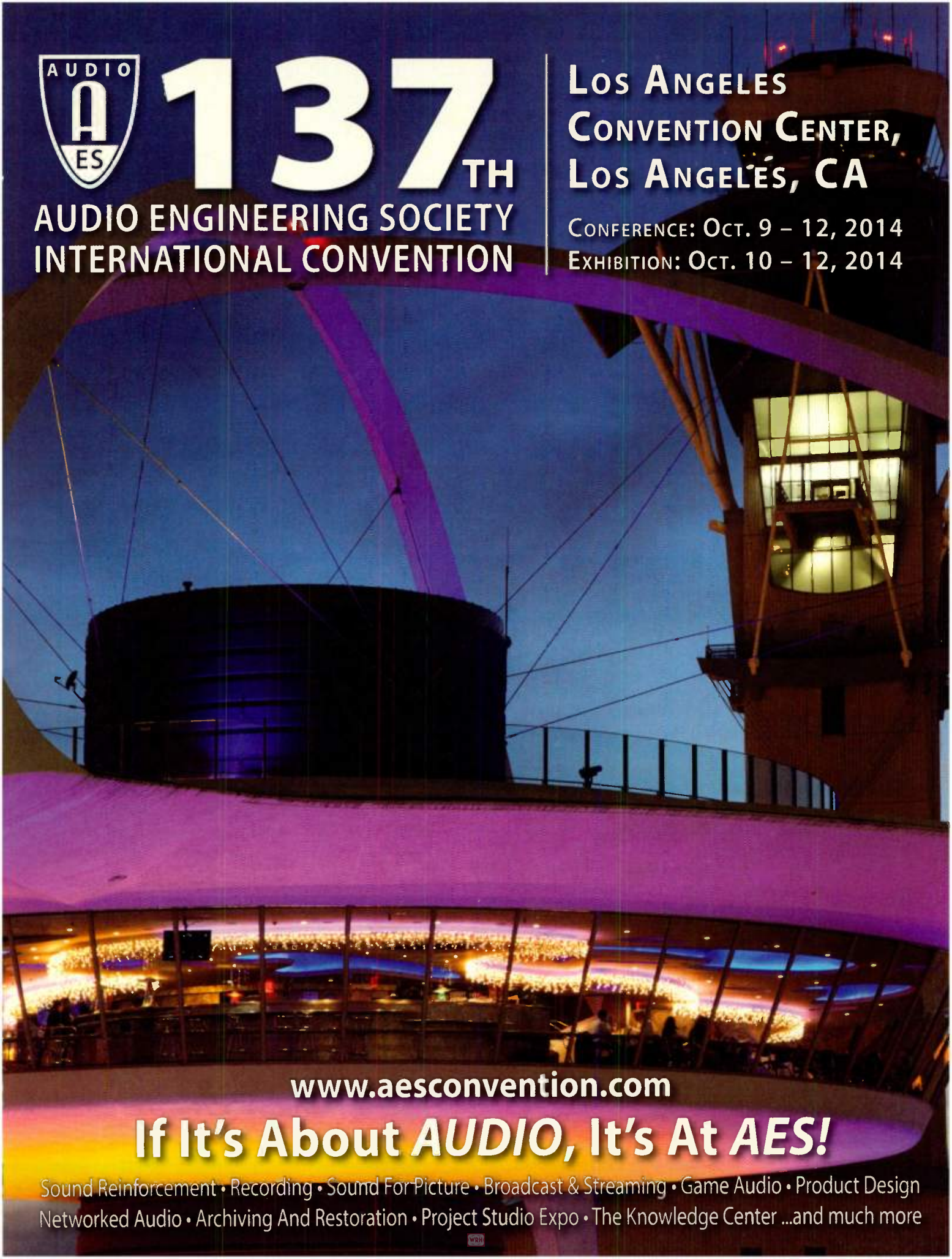
Although there are those who object to big reflectors in the control room, we've had those for years with console surfaces or even the glass monitor window in the SSL center section. There are ways to deal with that. Having the glass surface angled appropriately, so there are no first order reflections to the ear, is critical and doable.

Accuracy of controls is critical: being able to precisely control parameters with no random inaccuracy. I want to know that when I touch a part of the screen that it will do exactly what I expect it to do. In the studio, I won't abide a tool that is unpredictable.

I am very excited about the future of TSPs and the new capabilities they will allow in the studio. The advent of larger iPads (Apple is rumored to release a 12-inch iPad this year) suggests that more touch screen Macs are on the way. I can imagine a DAW running on a 21-inch iMac with a touch screen, angled at 30 degrees, resting on my desk, positioned right above my keyboard. Add a large primary screen above that for overviews with the ability to zoom or bounce certain portions (waveform editing, multi-touch plug-in editing) over to the touch screen for the functions where it excels. Give up my mouse or QWERTY keyboard? Not yet. They are too familiar, but in maybe the same way that cutting analog tape with a razor blade was familiar. I look forward to the day when I can have this new tool to add to my arsenal for making music.

Acknowledgement: Thanks to Kurt Howell of GC Pro for his help and access to the Raven.

If we consider the impact of Google Glass and Oculus Rift, the future may look altogether different than the computers and interfaces of today.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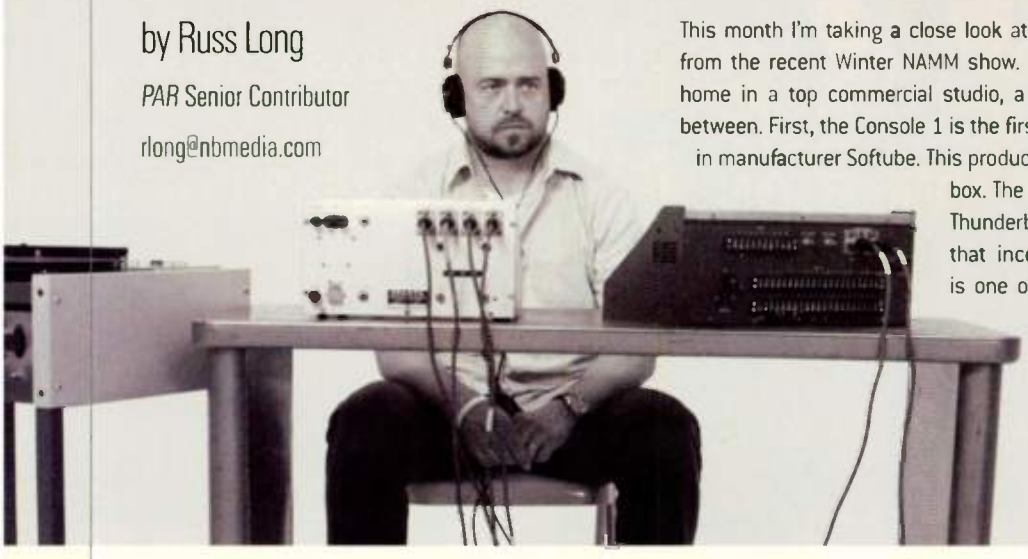
by Russ Long

PAR Senior Contributor

rlong@nbmedia.com



This month I'm taking a close look at three of my personal product highlights from the recent Winter NAMM show. All three could easily find themselves at home in a top commercial studio, a bedroom project studio or anywhere in between. First, the Console 1 is the first hardware device by the acclaimed plug-in manufacturer Softube. This product may revolutionize how people mix in the box. The G-Technology G-DOCK ev is an expandable Thunderbolt-equipped hard drive storage solution that incorporates two removable hard drives. It is one of the most studio savvy hard drive systems I've encountered. And finally, the Focal Spirit Professional headphone is the first high-end headphone by the renowned French speaker manufacturer Focal. I was anxious to see if Focal could be as strong a player in the headphone market as they are in monitors.

About Softube

Softube is primarily known for their plug-in development. My first introduction to their work was using the Abbey Road Studios Brilliance Pack plug-in after its release nearly a decade ago. The majority of the Softube plug-ins that I've worked with over the years are devoted to modeling various classic pieces of hardware and the company obviously spends a lot of care coding each plug-in as, in most instances, their sonic performance is almost indistinguishable from the hardware piece it emulates.

In addition to coding their own plugs, Softube has been involved in the development of plug-ins for other companies such as Rack Extensions for Propellerhead Reason and Amp Room for Universal Audio. At this point I own nearly all of the Softube plug-ins and they are utilized in multiple instances in every one of my mixes.

While they are primarily a software company, Softube has also been involved in third-party hardware development (Marshall's JMD series of guitar amplifiers www.marshallamps.com/products/amplifiers/jmd1-series/jmd102/ and Fender's Runaway pedal www.fender.com/en-SE/accessories/pedals/fender-runaway-pedal-120v-green/), but their Console 1 is the first hardware piece under the Softube brand.

Softube Console 1

First off, note that the Console 1 ($999 street) is not a DAW controller; its functionality will not control DAW settings. Instead, the surface is an integrated hardware/software mixer that provides control over Softube's full-featured mixer Channel Strip plug-in, which is based on the SSL SL 4000 E console; this plug-in does such a fine job emulating an actual SSL channel that it has been officially endorsed by Solid State Logic. The channel strip is included with the Console 1 and is available as a VST, VST3, AU and AAX plug-in (both 32- and 64-bit). It can be inserted on any or all of the mixer channels in a DAW and is fully controlled via the Console 1's surface, allowing an entire mix to be completed with a very intuitive workflow without using a trackball or mouse. It should be noted that Console 1 is solely a mix tool—not a recording tool, since the plug-in doesn't work in record.

The 4.3 lb. Console 1 measures 17-inches wide by 7.5-inches deep by 2-inches high and has a sleek, modern look. While the USB-powered control surface is iLok protected, it doesn't require an actual iLok; it incorporates iLok's new capability to connect the license to a computer. The Console 1 allows three authorizations, thus three different computers can simultaneously be authorized to utilize the Console 1. Authorizations can easily be moved from one computer to another using iLok License Manager. At this point, Console 1 is only available for the Mac but PC support will be added in the near future, offers the company.

Softube will be releasing more console models for purchase in the future; I love the idea of being able to mix a tune with the drums running through a virtual API, the guitars through a virtual Neve and the keyboards and vocals through a virtual SSL. I can't wait to see what console Softube will release next. Even without other strips being available, the Channel Strip can be customized to incorporate any of the other Softube equalizers, compressors and gates. I've loved utilizing the Channel Strip with the stock compressor replaced with the Tube Tech CL 1B.

Currently On My Desk

1. Alta Moda Audio AM-25 Equalizer & AM-30 Preamplifier
2. Focal Spirit Professional Headphones
3. AEA N22 Ribbon Mic
4. Softube Console 1

Your search for a new microphone ends here.

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The Softube Console 1 sits atop Russ' analog classic Amek Big console.

From left to right, the Console 1 layout consists of the Input Section which includes input gain and high pass and low pass filters; the Shape Section which consists of transient control and gating functions; the Equalizer Section which gives full control of the four bands of equalization; the Compressor Section which includes a Parallel Dry/Wet control that provides built-in parallel compression functionality; and the Output Section that includes Drive, Pan, Solo, Mute and Volume controls. Visual feedback includes LED rings to show the position of the knobs and meters displaying input and output levels and gate and compressor gain reduction.

In Use

After seeing Console 1 in action at NAMM, I couldn't wait to get my hands on one to work in my own environment. Installing the Console 1 software is a breeze and I was up and running in no time. While I spent some time using Console 1 with both Studio One 2 and Nuendo DAWs, the bulk of my time was spent utilizing the surface with Pro Tools 11, my primary mixing format. In most instances, with the exception of my effect returns, I had the best results inserting the Console 1 plug-in on all of my session channels. Both Studio One and Nuendo support the automatic transferring of track names and numbers, but this isn't true with Pro Tools; as such, session setup time for Pro Tools users will be somewhat more time consuming.

The Channel Strip plug-in includes models of every element of the renowned SSL SL 4000 E including the black knob E242 equalizer, channel compressor, gate/expander, and high/low cut filters. Softube's modeling includes the unique harmonics, distortion and non-linearities generated when the channel is overdriven and is controlled via the Drive parameters (Drive & Character) simulating the analog "glue" that is typically difficult to attain when mixing ITB.

Console 1's on-screen display can be instantly accessed by pressing the Display On button. Alternatively, there is an Auto function that automatically toggles the display on when a hardware setting is adjusted. I prefer the manual mode, but it's nice to have an auto option. The on-screen display provides a picture-perfect visual representation of how the Channel Strip is affecting the sound source. The meter bridge at the bottom of the window displays the levels of the currently selected channel bank (there are 20 channels per bank with an unlimited number of banks). After spending so many years of my life thinking in multiples of 8 (16- or 24-track analog machines, 24-, 32- or 48-track digital machines, 8-track DTRS machines, DAW interfaces with 8, 16 or 24 inputs, etc.), the 20 channels/bank threw me off at first. After several weeks use, I've became accustomed to it but I'd still prefer banks of 16 or 24 channels.

Summary

After employing the Console 1 on my last several mixes, I'm sold. The surface provides a creative, intuitive workflow that feels analog, sounds amazing and is amazingly affordable. Besides adjusting the channel strip parameters, there are shortcuts for selecting all of the tracks, creating groups, duplicating track settings and other useful functions. Presets can be stored and easily recalled. A preset can encompass the entire channel strip or

just one section of the strip (Shape, Equalizer, or Compressor). One of my favorite features is the History function (Shift-5), which allows you to go back to any point in time for a specific channel. So, I can easily return to my guitar solo or vocal settings from two hours ago without losing any other changes I've made since then. Brilliant!

Besides sounding great, the surface makes dialing in a sound blazingly fast. The Transient Shaper is a fantastic addition to the traditional SSL workflow and I've found it to work amazingly well on drums and percussion to shape the transients and affect the decay without the typical gating sound. Besides working wonders on percussive sound sources, I've actually had good results using it to add sustain to a bass guitar.

About G-Technology

G-Technology drives have been a mainstay in audio and video production as long as I can remember. I've owned a few and used dozens over the years and have never had a single performance issue with them. Reviewed here, the G-DOCK ev enclosure is made of sturdy aluminum with the same design sensibility as other G-Technology drives, making it right at home with the now-classic Apple G5 brushed aluminum with cooling perforations look.

G-Technology G-DOCK ev Thunderbolt RAID/2-bay USB 3.0 HD

G-Technology's G-DOCK ev ($649.95, extra drives: 1 TB, $199 and the faster Plus 1 TB, $349) is one of the most innovative hard drive configurations I've seen in a long time. The G-DOCK ev is a high-performance 2-drive Thunderbolt RAID enclosure that incorporates two 2.5-inch portable hard drives that slide into two shuttered bays. An eject button enables simple drive removal and when removed, they become high-speed bus-powered USB 3.0 drives. So you end up with the best of both worlds, Thunderbolt RAID performance in the studio and bus-powered USB 3.0 portability when you are on the go. The ev Plus drives are faster and are in a thicker enclosure but they still work in the same slot due to a unique dual-door design.

While the G-DOCK ev enclosure does have a fan, it is exceptionally quiet and never presented an

I've owned a few G-TECH drives and never had a single performance issue with them.

issue for me in the studio. The enclosure's rear panel includes a DC power connector for the external power supply, a lock slot, power switch and two Thunderbolt ports allowing additional Thunderbolt peripherals to be daisy chained to the drive.

Unlike a typical desktop RAID drive, the G-DOCK ev's drives are independently enclosed. The system can be configured for RAID 0 (striped for speed), RAID 1 (mirrored for redundancy) or JBOD (just a bunch of drives) operation. While I like the speed provided by RAID 0, the R part of the RAID (redundancy) is broken when one drive is removed and used elsewhere since only half the data is on each disk; I ultimately had the best results utilizing the drives in the JBOD configuration and syncing the data with Carbon Copy Cloner. At the end of the day, I take one of the removable drives with me with the knowledge that the data is backed up on the other removable drive that is safe in my studio. When I return to the studio, the new information that I've added to the drive is automatically synced to the other drive via Carbon Copy Cloner and the process begins again.

I have an older MacBook Pro so my transfer speeds while working on the portable drives are limited to USB 2.0 specs, but with the way Pro Tools buffers audio, this hasn't been an issue, even with high track count project.

Included with the G-DOCK ev is a small 12 VDC power adaptor, a pair of USB 3.0 cables and a short Thunderbolt cable. I wish there were carry cases included for the actual drives (or at least an option to buy one) as most people will likely use the drives on the go at least some of the time. I've been carrying them around in a padded Audio-Technica mic bag, which has worked well.

Formatted as HFS+ and configured for JBOD operation, the drives are already Mac-ready; of course they can be reformatted to work with Windows or Linux. While not included on the drives, the G-Technology Assistant software is a free download from the G-Technology website and is helpful for drive configuration as well as providing the ability to install LED drivers so drive activity can be monitored from the front panel of the G-Tech Thunderbolt chassis, notifying the user when it is safe to remove a drive or if there are any RAID array issues.

In Use

Before jumping in and using the drives on an actual session, I configured the drives to RAID 0 (the fastest configuration) and then used Blackmagicdesign's Disk Speed Test application (a free download from Apple's App Store) to test the drive's performance and was able to attain write speeds of 240 MB/s and read speeds of 254 MB/s—plenty fast for most audio applications.

I reformatted the drives for RAID 1 operation and, although the drives weren't as fast, they were still adequate for any application I have. Finally, I reformatted the drives back to JBOD configuration and began using them in my normal studio workflow. I've worked the drives to death over the past few months and they have performed flawlessly. I'm convinced that the G-DOCK ev is the perfect blend of convenience, speed, versatility and price.

Focal Spirit Professional Headphones

I'm a long-time fan of Focal and their studio monitors. I've been mixing on the Focal SM9 monitors for nearly two years and before that, I was a regular user of their Twin6 Be monitors. When I heard that Focal was going to enter the high-end headphone market I couldn't wait to hear their design.

The Focal Spirit Professional Headphone ($349 street) is a 0.6 lb., 32-Ohm closed-back model that utilizes custom 40 mm transducers featuring polyester/titanium-composite membranes and neodymium magnets. According to Focal, these transducers combine rigidity, lightness and high-damping properties to preserve the dynamics of the audio signal and to provide remarkably neutral sound without any distortion.

The Spirit has a sleek yet classic and stylish look, not particularly contemporary, making it unlikely that they'll be taking any consumer business from the Beats phenomenon even though they sound drastically better. To ensure maximum comfort and isolation, the ear cups and headband utilize memory foam and they are comfortable indeed—one of the most comfortable headphones I've worn. I also found them to do an admirable job isolating the user from external sources. The package includes a detachable coiled cable and a detachable straight cable. The straight cable includes a cable-mounted remote control and microphone, allowing the headphones to be used

in conjunction with a mobile phone. Also included is a quarter-inch adapter, allowing the headphone to be used with a full-sized headphone jack, and a drawstring carry bag.

The Spirit are extremely neutral sounding with a remarkably broad frequency response: perfect for enjoying a favorite

Russ at Work

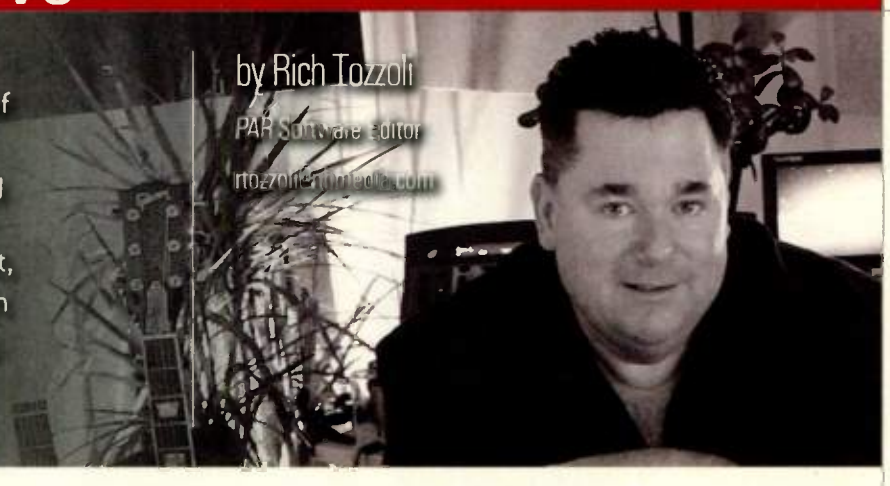
The Royer R-122V is a remarkable mic for capturing electric guitars. Check out the electric guitars on Regan Lorraine's *Wildfire* EP; they were all recorded with the R-122V. The lead vocals were recorded with an ADK Vienna II.

https://itunes.apple.com/us/album/wildfire-ep/id722396480

album or critically evaluating a mix. While I wouldn't recommend mixing solely with headphones, these are still a valuable reference tool and the Spirit perform wonderfully in this application. Additionally, anyone mixing in a workspace of limited size knows the challenge of accurately mixing low-frequency content. I've found the Spirit have exceptional low-frequency precision making them an ideal reference for anyone mixing in a limited acoustical space needing to rely on their headphones to reveal mix defects. They also make listening a pleasure. Whether it's Pink Floyd's *Dark Side of the Moon*, Steely Dan's *Aja* or Daft Punk's *Random Access Memories*, I've had hours of audio bliss escaping into the sound of the Focal Spirit Professional Headphone.

Contacts: softube.com, g-technology.com, focalprofessional.com

Recording away from the comforts of my studio is never easy, especially when it's a few thousand miles away from home on an island. However, with a lot of preparation, forethought, planning and help from Fed Ex, it can be a challenging, fun and ultimately rewarding adventure.



by Rich Tozzoli
PAR Software Editor
rtozzoli@primedia.com

St John Recording Retreat 2014

This year, a small gang of talented and crazy musicians, engineers and producers went to St John in the US Virgin Islands for two weeks of playing shows, recording, composing and of course, relaxing. This is our third year touring down there and, luckily for us, bassist Hank Skalka has a big house cut into the side of the mountains.

Mountains, you say? Yes, St John is only 19 miles in diameter, accessible only by boat, and approximately 60 percent protected via its inclusion in the Virgin Islands National Park. St John's terrain is quite rocky and hilly, with a variety of microclimates ranging from desert to lush forest, seemingly just feet from each other. Its beaches are pristine and, as I see it, it's one of the most beautiful and inspirational places to be in the world—a great place to get away and work. I just need to take everything with me, as there are no music stores nearby.

I happen to play guitar in a side project called The Deep Dig, which consists of Scott E. Moore on vocals and acoustic guitar, Ray Levier on drums and Hank on bass. We play fun, twisted versions of the American songbook of funk and soul. But these guys also work quite a bit with me on all the TV cues that I compose, so we're a multipurpose unit. Joining us were Clubhouse Studio owner/engineer Paul Antonell and assistant engineer/tech Mike Dwyer. We decided to turn the main room of the house into a rehearsal and recording spot, put one control room in Antonell's room off to the side, and I would have a separate setup in the guest cottage. Both "studios" could work together and apart as needed.

The Gear

We had a small but powerful arsenal—some of which we knew, some of which we didn't. A 16-channel snake in the live room fed a Grace m802 with the A/D card and m802RCU Remote Control Unit option ($5,225 plus $1,395 for remote). That in turn optically fed Antonell's Universal Audio Apollo Twin ($699 SOLO, $899 DUO, street) with an Apollo Satellite for extra plug-in horsepower. In addition, two channels of XLR and quarter-inch DI preamp were available on the Twin for a total of 10 input channels (recording at 24-bit/48 kHz). The TRS outputs of the Twin also fed a pair of Fender Passport Studio portable powered studio monitors featuring a Focal driver set ($599 street). We ran the headphone out of the Twin back into the snake, into the live room and into a four-channel Behringer headphone preamp. Antonell was running Pro Tools 11 from his MacBook Pro with a bevy of plug-ins.

Ray Levier already had a Yamaha Manu Katche Signature Jr. drum set and cymbals at the house, which we captured with several DPA 4099D microphones on the toms, and DPA 2011 mics on snare and overheads. We also used a 2011 at different times on either the beater side or back side of the kick. For room/outside kick, we used an AEA N22 NUVO active ribbon mic. For the bass DI, we used the Acme Audio Wolfbox [learn more at acmeaudio.net — Ed.]. On my Fender amp, I used a 4099D taped to the cabinet (fancy, huh?); Moore ran his Larivee acoustic split with a Baggs DI into the PA and also into a Fender amp, though he would overdub his parts (due to the limitation of input channels).

For rehearsals and live shows on the island, we had QSC K10 speakers and a workhorse Allen & Heath analog mixing board with built-in digital effects. Moore sang through either the Earthworks SR40V condenser ($999 street) or DPA d:facto II ($949 street), both of which sound bright and airy. The SR40V and d:facto II were great to have available because they were equally at home in the studio during the day and onstage at night. We did a direct comparison/test with those mics and a Shure Beta 58 "control" mic (which I like a lot); in comparison, the Beta 58 sounded like a

Sitting there in St John, I was reminded that composing with this view is inspirational.

Rich's view from his island villa's makeshift control room

sonic mask was hovering over the source. With both the Earthworks and DPA models, highs were crisp and the lows beefy, especially when getting right up close.

My room was in a separate two-story guest cottage off to the side of the main house. The setup was simple but efficient. I had my trusted NHT Pro M00 monitors and S00 subwoofer sent from home, so I already knew the sound of them. The speakers were sitting on a tabletop, but I put them on a set of IsoAcoustics ISO-L8R155 monitor stands ($99 street, per pair), which decoupled them and kept the imaging tight.

My MacBook Pro was running Pro Tools 10 and 11. A Universal Audio Apollo Twin hooked up via Thunderbolt to the laptop, and also via Thunderbolt to an external hard drive. A small M-Audio Axiom AIR Mini 32 ($99 street) handled keyboard duties as well as basic transport control, connected to the laptop via USB. For headphones, I used my Sony MDR-7520 headphones ($379 street), which I find are actually accurate enough to mix on (when not using my speakers).

Work/Play Environment

The plan of the trip was basically to do a handful of live shows (we had eight shows booked across two weeks), and some tracking in the live room of band tunes, rehearsals and additional personal projects. I was going to be working on some score-to-picture projects in my room while also composing TV cues there. While we were there, I literally got several different assignments that I was able to compose immediately—because in TV Land, one has to move fast. The main house had a satellite cable uplink, so I could transfer files via Hightail and FTP.

Since we had two rooms set up, I could bring the mix up to Studio A for any live drums, which I ended up recording on a few cuts. However, we also set up some drums, mics and percussion down in my room and recorded tracks there as well.

There are several lessons I quickly learned about recording away from home. One is that stepping out of my comfort zone causes changes, both good and bad. Sure—we were "comfortable" being in St John; I was just using different gear in a different place and things will "sound different." Yet I adjusted quickly and used that to my advantage, creating tracks with a different feel and sound to them. Plus, using different gear than I'm used to can be fun, and that's really how I learn their ins and outs, both literally and figuratively. It's also lot of fun to get a portable studio up and running; when we arrived, we set up both studios before we even unpacked. We were laughing about it later, after looking up at the view and reminding ourselves where we were!

One of the first things Antonell did was play back a bunch of music he was familiar with on those Fender/Focal monitors, both to adjust to the monitors and the room

Rich's recording rig was centered on a Mac Book Pro running PT 10 & 11 with a Grace Design m802 preamplifier front-end, UA Apollo Twin I/O, and a bevy of superb DPA microphones.

itself. I'd worked down in my room for several years prior, so I already knew its sound. Also, I was already comfortable with my NHT Pro monitors from home. The live room at the house had very high ceilings and a lot of tile, so next we scoured the house and found some lounge chair pads, which we placed behind the drums in the corner. Also, we took parts of the couches and turned them on their sides around the kit, making a small padded iso setup. It certainly didn't alleviate the ambient room, but did make for a tighter area around the kick, etc. In this scenario, you make the best with what you've got!

Sitting there in St John, I was reminded that composing with this view is inspirational. As I mentioned, the gear is different, and much more limited than if I was at home. But that meant I called up different plug-in instruments for composition. Looking out the window at the blue sea definitely makes me happy, and therefore the tracks I was composing naturally had a lighter feel to them. One of the projects I received during the week was for some "comedy" tracks for The History Channel's *Pawn Stars*, so I wrote some cool, happy tracks and had the boys come down to my cottage and play on them as well. Mike Dwyer engineered the session and did a great job—kudos to him.

Another assignment I received while I was there was for a sports show on NBC, which called for some dark, ambient moments. I composed that stuff at night since the light was different; I even took some of those tracks up to the other studio for drum overdubs in the live room. I also got one mix-to-picture video project while there, and I downloaded the files, imported the video (.mov file) and the .aaf. Everything synced up perfectly; I mixed their project and simply uploaded a finished stereo track to them via satellite cable. Easy-breezy!

More Gear Details

I've used Grace preamps and monitor controllers for years, but never used the m802 with the RCU. Once unpacked, with the remote unit set up, I had to figure out how to sync it with the UAD, since I was running it optically. After figuring that out on the remote (and more on that process in the sidebar), I had eight pristine channels of Grace Design pre-amplification with full control right next to the mix position.

As expected, the Grace preamp lived up to its reputation. The sound is clean, clear and uncolored; it worked especially well with the DPA and AEA microphones. Also, having a remote next to the mix position is a great way to work; I just had to get used to scrolling through the parameters for settings. That only took a short time, and the m802 turned out be the "gear star" of the trip.

The DPA microphones were an extension

of working from home. I already use 4099Ds on toms and 2011Cs for overheads, but now I had a 2011A pair to work with as well, and a d:facto II vocal mic. The 2011A, with its 20 Hz to 20 kHz response has a longer body (a different preamp than the 2011C) and seemingly a bit more low-end. Both the A and C models are crystal clear, with excellent rejection, which is why I use them for overheads at home. They make great mics for percussion, acoustic guitar and even vocals—although we had the excellent d:facto II vocal mic, which is like a Shure Beta 58 on steroids.

Another incredible application for the DPA 2011A is on snare/hi-hat combo, where the mic is placed about three feet above them, pointing down. It's a pure, natural and powerful sound, especially when combined with the clarity of the Grace Design preamp. Between the DPAs and the AEA N22 NUVO, the kit sounded great. We used the room's inherent ambience to our advantage, going for live and almost Zeppelin-like drums. Scott E. Moore also worked with Antonell recording some of his acoustic/vocal numbers, using the AEA for voice and a 2011C for guitar.

Having never heard the Fender Passport Studio portable studio monitors, I was not sure what was in store for us, but they were a pleasant surprise. Focal made the drivers—a five-inch poly-glass cone woofer and aluminum/magnesium inverted-dome tweeter. They are front-ported enclosures with Stereo eighth-inch aux input and Stereo eighth-inch headphone output as well as switchable bass and treble room correction controls (+, 0, -). The rear opens up for cable storage on the right speaker, and TRS L/R inputs on the left (which connects to the right via separate TRS). The cabinets actually connect to each other for transport, becoming a cool, compact, robust and portable package. Most importantly, they sound quite nice. They also turned out to be great speakers to play back music when just hanging out on the deck at night, offering a multipurpose usefulness. In fact, Antonell took them home after the trip and won't give them back.

Summary

Overall, the St John sessions were a blast. We had a handful of fun live shows and completed a bunch of tracks in our combined studios. We got to try out new gear, make new sounds and learn a thing or two. The same gang will be going again next year, and I can't wait to see what gear we'll be traveling with then.

Rich at Work

Click on the link below to view two video tours of Rich's enviable workspace and travel-friendly recorcing rig in St John, US Virgin Islands.

prosoundnetwork.com/RichTozzeliStJohn2014

studio reviews

by Rob Tavaglione

PAR Contributor

rtavaglione@nbmedia.com

Welcome back! It's been a busy spring for many of us, with numerous indications of "business is up," though I have a few gear nuggets worthy of your precious time: a mic pre/filter combo that harkens golden-era 70's audio power; and the return of coaxial nearfields, now with their inherent limitations aided by modern DSP.

The PreSonus Sceptre S8 CoActual Studio Monitor

There's just no way around it: I've never seen—or heard, actually—a monitor quite like this before. Leave it to PreSonus to find a new way to combine materials, modern design and a touch of oft-forgotten classic design into a reasonably priced and effective yet unusual nearfield monitor.

The Sceptre S8 ($750 street, each) employs an eight-inch (glass-reinforced paper) woofer and a 1.73-inch horn-loaded high-frequency transducer with their most notable design feature: a time-aligned, coaxial, concentric woofer/tweeter arrangement that is highlighted by the use of a square horn. Time-aligned coaxial drivers were largely popularized by Tannoy (I was personally weaned on the DMT12), but the S8's design will trigger fond memories from veterans of 1970's Urei 813B mains with their blue styrofoam-coated horns.

Beyond this nostalgic aspect, the S8 exhibits all modern, or post-modern, traits. They're self-powered (90 watts of Class D amplification per driver, crossed over at 2.2 kHz and 2.4 kHz for the S6 and S8, respectively) with input level trim (non-stepped), three filtering/voicing options (low-end "boundary" attenuation, tweeter level with boost or cut, and HPF at 60, 80 or 100 Hz), and front-ported with self-protection (both thermal and current-output limiting). Cabinet construction is where Presonus broke the mold with an ABS-type plastic enclosure and a similar (yet harder) faceplate/baffle, weighing in at a mere 24 lbs.

The considerable DSP required to achieve consistency and eliminate acoustic issues inherent to a coaxial speaker design—diffraction and reflection of low frequencies off the horn create distortion, frequency response and imaging issues—is courtesy of Dave Gunness at Fulcrum Acoustics, whose TQ (Temporal Equalization) is claimed by PreSonus to be the key to S8's performance.

The S8 pair up for review at Catalyst Recording.

In Use

I set up the S8 pair before a mix session and found them to have that coaxial cohesiveness, stability and depth of soundstage I recalled

from my early work in the 90s on coaxial Tannoys. The time-alignment and equilateral radiation from the horn indeed provide imaging, placement and frequency balance that remains trustworthy even as you move from side to side (or up and down) within the S8's rather large sweet-spot.

The second most notable characteristic of the S8 was its frequency response. Without my sub, I found reasonably deep bass extension, good punch despite a slight lack of note definition, and an overall bottom end that was rather smooth and absent of the peaks/valleys often found in affordable monitors. In addition, the top end was not shrill or brash, but instead subdued and "natural." However, the S8's midrange qualities did not inspire such trust; I heard numerous non-linearities and color that was not at all familiar, or comfortable, to me.

Deep in a week of serious mixes, I loaned the S8 pair to colleague Jeff Long for a second opinion. Long commented that the S8s "made everything sound nice" with excellent imaging, but the frequency response threw him for a loop, too. I agreed, but felt like I could use some additional opinions—time for a group listening session.

Having invited four engineers into my control room, I sought to most accurately calibrate the S8 pair with my sub for a demonstration. Upon feeding the S8's tone and adjusting the input trims, I realized just how troublesome these small adjustment pots are. Small, jumpy (un-stepped) and not exactly aligned to their legend, obtaining exactly equal output from both speakers was very difficult. Integration with my subwoofer, however, was smooth and musical, with the S8 pair clearly benefiting from the release of 80 Hz and below. We unanimously agreed the S8 pair benefited greatly from a sub (a rarity for me, as subs will often divide opinion, in my experience). We noticed "puffier" bass response at low levels. We all also agreed that imaging within the wide and tall sweet spot was fantastic.

Beyond that, the group seemed confused in their assessments, not unlike me. The S8 has a fairly uneven frequency response through the mids; there's a noticeable 200 Hz bump that is quite the opposite of the scoop found in many affordable monitors, and that bump is followed by a scoop and another bump. The result? It was hard for me to make midrange EQ decisions while using the S8 pair. [Presonus counters that the S8's "200 Hz information is demonstrably linear." — *Ed.*]

But get this: I mixed on the S8s for a couple of weeks and got *great* results. I experienced limited fatigue, well-informed clients sharing the large sweet spot with me, and mixes that were right on point! As unconfident as I was, and as colored as the mids are, I still received fine results: a fact worthy of consideration, if vexing.

Despite success in both tracking and mixing, I cannot confidently endorse the S8. The difficulties I experienced in calibration and the minimal voicing controls gave me reason for concern. My biggest concern is clearly the unevenness of the midrange response, though the 200 Hz abundance doesn't bother me that much (I'd rather hear mud and tame it, than go on unaware).

Despite my concerns, these S8s crank out good mixes and do a fine job of even radiation and imaging in the nearfield. At a price of $1,500 per pair, street, they are not budget priced, but are truly mid-priced monitors.

Harrison Lineage Preamp and 832c Filter Unit

AC/DC's *Back In Black*, Fleetwood Mac's *Rumours*, numerous Queen releases and even Michael Jackson's classic *Thriller* weren't mixed on a Neve or SSL, but on a Harrison, an upstart 1970s desk manufacturer, based in Nashville. Harrison made a name for themselves with the 3232 console (or the 32c), a desk known for very low noise, exceptional musical clarity and a punchy yet round bottom end to die for. I was fortunate enough to cut and mix on a 32C in the '90s, and let me tell you, this is an overall fine sound indeed—to my ears,

perfect for the sound of classic-era rock.

That sonorous era and others are found in the Lineage preamp ($2,995) and the 832c Filter Unit ($2,395). Each are 8-channel units, sharing a certain synergy that makes them ideal when utilized and viewed as a single front-end system.

According to Harrison details, the Lineage incorporates four decades of Harrison mic preamp designs, with two channels per decade range:

1/2: Harrison's latest Trion preamps that utilize a Lundahl transformer on the input, DI, numerous additional features and 70 dB of gain.

3/4: The 70s/80s, with the 32c's transformerless parallel discrete input stage with a static bias scheme (which sounds like transformers to me)

5/6: The 80s/90s, with the Series 10, a low-noise, single discrete input stage design

7/8: The 90s/00s, with the Series 12, a single input stage, a dual output stage and FET-compensated headroom

The 832c Filter Unit provides four important features: seven segment LED metering, continuously variable high and low-pass filters, and the Bump circuit, which provides a resonant boost slightly higher in frequency than the HPF filter point. The two units connect via a single DB25 cable and the 832C outputs audio via DB25, too.

In Use

These two units inspire confidence as their weight, construction and XLR and DB-25 I/O illustrate Harrison's professionalism. Their performance completely lived up to my expectations and, frankly, I had high expectations due to my previous experiences.

The Lineage provides classic Harrison sounds with differentiation between the mic amps that novices may barely notice, but vets will labor over as "secret weapons." I put together a band of local musicians and recording pros (including drummer Brian Burton, '70s aficionado songwriter Grey Revell and myself on bass) to lay down some old-school style tracks using all Harrison pres and filters.

The 32c preamps clearly provided the "classic rock/vintage" sound we know and love. They achieved saturation the most readily and showed a warmth, natural compression and plumpness to their voicing. The guys loved them on most everything (except drum overheads) and I liked them too, with a little more reservation (as they can get kind of dark). We used them on snare and drum room (via AEA ribbon) for our drum tracks and really admired them on kick, toms, guitar and bass.

The Series 10 pres were our least favorite, and they were never our top choice for tracks. Despite being not as linear, pristine or as colorful as the others, they remain very fine mic amps and eminently usable. We used them on kick for our drum tracks and again on lead vocals. Grey never could put a finger on it, nor could I, but they conveyed a certain detail in his voice that we liked.

The Series 12 preamps might've just been my favorites. The stereo image, soundstage, dynamics, quickness and seemingly perfectly flat response on drum overheads blew me away! I'm forced to use a cliche I try to avoid, here; they deliver "lifelike clarity." This accuracy and linearity is not bland, mind you, just true and impressive. Beyond overheads, we used these beauties on guitar, bass and backup vox with nothing but transparent and impressive audio.

The modern Trion preamps are quite cool in their own right. Sonically, they're closest to the Series 12 pres with punch, power and clarity but they pack some extra user conveniences including front panel inputs, instrument quarter-inch inputs (bypassing the transformer for an FET input stage) and "Fix" (allows the storing of exact gain settings to memory on little tweaker trims for one-button recall). These amps are hot, too—watch those levels, as they will saturate pretty nicely (there's no output level control, so a compressor in line will likely help). We loved them on toms, where a little saturated fullness is often welcome, and they did a fine job on lead guitar. Overall, the Trion preamps are the most versatile.

The 832c Filter Unit may seem like a luxury, but it's a necessity, as far as I'm concerned. First off, you'll need the metering as the Lineage only sports red peak LEDs. The LPFs I seldom use, but they get the job done. And the key of the 832c is the wonderful HPF set. Like a 3232 and its gorgeous bottom (remember *Rumours* and its sonic euphony?) these resonant filters put a little "junk in the trunk" and a little bounce in your walk when you're using "Bump" (and you will). The well-tuned HPF with Bump actually fattens while it thins—it rules!

As much as I loved the units, they aren't perfect. The switches don't feel particularly impressive and it's hard to see their position. The gain pots are better, but they're not great.

Other than that, though, these units offer sonic excellence, range and flexibility. Most importantly, they offer a musicality that is hard to match. Such hardware doesn't come cheap and there are 3232c EQ section plug-in emulations from Universal Audio that are quite good, too. Then again, this is hardware—the real deal—that is the kind of stuff that retains value and brings prestige to your operation. Plus, if you value the legendary sonics and production methodologies of the 70s, this will take you places only time machines can.

Rob at Work

We laid all the tracks for this demo using the Harrison Lineage mic pres with HPF engaged, tuned to an appropriate frequency for that input and Bump selected for that recognizable Harrison sound. Mostly typical "70's rock" mics were used when possible: Sennhesier MD 421, Shure SM57, etc., with a total of eight mics on the drum kit. We tracked with no EQ or dynamics and kept the mix painfully un-processed (minimal EQ, a little comp/limiting, zero reverb) to best illustrate the tracks, even if the ITB mix sounds quite unusual.

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New Production Tools for iOS

As a synth enthusiast and studio engineer, in the past I considered it living dangerously if I traveled without a bag dedicated just for patch cords. Now I need just one cable to power an iPad and I've got more oscillators and EQs and random modulation automation generators than I might ever need at my fingertips. Sound sculptors and audio impressionists looking to harness controlled chaos have a versatile platform with iOS, which is just hitting its stride.

by Tony Ware
PAR Contributor
tware@nbmedia.com

From Toy To Tool With Audiobus

The evolution of the iPad from audio *toy* to audio *tool* progressed at a breakneck pace throughout 2013 thanks to the December 2012 release of Audiobus. This "meta-app" for live audio routing allows hundreds of apps to interact, and the SDK has quickly saturated the developer community.

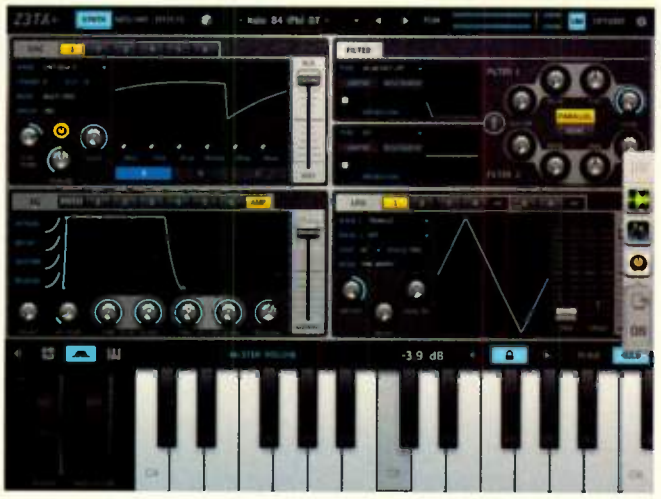
It seems far from coincidental that Apple introduced its own iOS7 Inter-App Audio API in September 2013. It is Audiobus, however, that has become the de facto standard listed as a bullet point for any new audio app going live. Offering up an INPUT/EFFECTS/OUTPUT chain, Audiobus has helped push iOS as a launch pad for ports of desktop-proven virtual instruments and freshly engineered touch interfaces alike. [For more on touchscreen technology's impending impact on pro audio devices, see this month's cover story by *PAR* Technical Editor Lynn Fuston.—*Ed.*]

In early April 2014, Audiobus 2 further opened up creative outlets, introducing a Multi-Routing feature (a $4.99 in-app purchase) allowing parallel signal paths to support infinite connections (only limited by device power). It also solved a major shortcoming of real-world patch bays by introducing Audiobus configuration preset saving and a State-Saving feature allowing compatible apps to relaunch into their previous groupings/settings together. A recallable workspace sure beats taking cellphone pictures of colorful cabling and spewing even more colorful words when trying to get a session back in sequence.

Audiobus 2 is a catalyst for channeling creative impulses, and it is being supported by an increasingly inspiring array of synths, dynamics processors and virtual studios. Here's a brief look at some of the more stimulating releases of recent months, and how they can be used together.

Cakewalk Z3TA+ Softsynth & apeSoft iVCS3 Synth

Establishing a conduit is great, but only if feeding it a hearty source. Pull up Cakewalk Z3TA+ ($19.99) and I have a six-oscillator, dual-filter monster of a softsynth conveniently packed into a wealth of pages. Sacrificing nothing from the well-known Version 2 Mac/PC VST, Z3TA+ brings its unison voice-thickened presence and reshapable waveforms. The ability to warp the oscillators (which can be synced or set to modulate in sequence) is just stage one of the fun however. Next there's a 16-slot matrix that can target any shaping controls, a presets-enriched arpeggiator, and an X/Y controller to augment the standard tone bender and modulation wheels (with adaptive capabilities so chords, even in exotic scales, follow in key). It is not a beginner's synth, and it can be a processor hog, but it may be an end-game synth for sound designers looking for an architecture ranging from smooth, warm, analog-like behavior to harmonically disruptive. In addition, an update released just as this piece went to press implements significant clock sync, MIDI input/channel selection and learn, save & load enhancements, reinforcing hardware control and app integration capabilities. Rolling custom patches can ping the processor hard, however. A caveat to anyone crafting chains and/or using anything but the newest iPad is the Audiobus latency control rate could



need to be set at 512 frames to avoid stuttering (and all non-audio apps should be killed in task manager).

It's not just desktop synths being packed into the iPad; tabletop ones are too! Vintage synth fans will love the apeSoft iVCS3 ($14.99) emulation of the semi-modular EMS VCS3 "suitcase" synthesizer. This three-oscillator prog-rock "relic" of the Who's *Who's Next* and Pink Floyd's *Dark Side of the Moon* era resonates its own mischievous character no matter how thoroughly one thinks they know how to mould tone, which is part of its charm. The iPad version dials down none of the complexity of noisy, not always melodic 1969 synthesis, while upping the input and modulation capabilities.

As on the original, virtual "pegs" are placed throughout a patchboard matrix to connect modules and a joystick controller. The virtual embellishments include an internal keyboard, a morphing feature that lets my finger slide between saved patches, a back-panel sampler, effects and more. While some synths are like surgery, generating exacting results, this one is like a science experiment where all the ingredients are potentially combustible. Come to expect abrasive vibrato, spaced-out drones, bassy throbs and mostly the unexpected, so watch the levels carefully! The iVCS3 (which does support Audiobus 2 State-Saving) will never go out of tune from heat, but its sci-fi tones will "glow" hot.

KORG Gadget & Franke Stroke Machine

Both ZETA+ and iVsCS3 are great when looking for song components, but if I'm aiming for song completion there are a couple new virtual "studios" worth noting. Both KORG Gadget ($38.99) and Franke Stroke Machine ($19.99) can generate complex, nuanced grooves. Gadget draws on a long heritage of roughly recognizable (albeit creatively renamed) gear that has defined electronic music production, while taking some liberties. The gadget set includes 15 models (for example, the "Chicago" tube bass machine makes the classic squelches familiar to any fans of acid house and the Roland TB-303), and the "workstation" can sequence up to 20 simultaneously on the newest iPad. There are various PCM sample-based drum and synthesis machines, mono- and poly analog-styled synths, as well as gadgets intended for something specific (pads, chiptunes, etc.). It feels very EDM/dubstep focused, but the sequencing is very straightforward and I can create an instrumental bed in very little time.

In contrast, high contrast literally, Stroke Machine comes from Wolfram Franke, who has a long pedigree developing for Waldorf, but this synthesizer/sequencer doesn't follow in the immediate footsteps of a specific source. The standard skin is a glaringly neon interface that hosts a tremendous amount of control over up to 12 percussion and 12 melodic sound parts (sample-based, including kits from Oberheim, plus two-oscillator sine/triangle/pulse/saw waves as sources). Analog waveforms, sample playback, frequency and ring modulation and noise generators are filtered then summed into a transient generator, followed by more filters and drive modules, as well as bit crushers and equalizers, at which point the sum can go into four effect buses, each with over a half-dozen effects. Targeting and automation of the modulation is easily assignable, and a step sequencer for up to 128 patterns glues the crisply propelled performance together. It seems like a lot to take in, but once I got a hang of the workflow, it's a wealth of vibrant rhythmic productivity with a retro-futuristic bent.

(continued on page 42)

CADLive Microphone Series: 3 Models Shipping

Designed and built with the Equitek design philosophy in mind, CAD Audio's three new CADLive mics are expectedly rugged for live use and abuse, yet open and transparent like CAD's better-known studio microphone models. The D80 ($99 street) features a large diaphragm moving coil dynamic design with a tight super cardioid polar pattern. The D82 ($159 street) is a moving ribbon design (figure-eight pattern) featuring a notable frequency response of 30 Hz to 20 kHz and maximum SPL rating of 140 dB @ 100 Hz. The D84 ($159 street) is a large diaphragm condenser with internal shock mounting to better facilitate placement and positioning.

Stay tuned to *PAR* for a full review of the CADLive Series by Editor Strother Bullins.

Contact: CAD Audio | www.cadaudio.com

Fishman Triple Play Wireless Guitar Controller

Fishman's Triple Play ($399 street) is a unique composition, performance and recording tool. Small and intuitive, Triple Play allows note-by-note transcription capabilities, virtual instrument or hardware synthesizer control, and DAW control, too. The unit comes with a Wireless Controller, Hexaphonic Pickup, and Wireless USB Receiver. The Controller and included software works with industry standard DAWs and Virtual Instruments and installs easily on most any guitar.

Features include several "hold" functions such as sustain, looping, and arpeggiators, along with string or fret splits for multiple instruments. Also available are Menu navigation controls for the included software and a Guitar synthesizer volume control. A Guitar, Mix, Synth switch is easily accessible during performances. It operates with a rechargeable Lithium Ion battery (included).

Stay tuned to *PAR* for a full review of the Triple Play by guitar-based, prolific TV composer Rich Tozzoli, *PAR*'s Software Editor.

Contact: Fishman | fishman.com

From the editors of PRO SOUND NEWS and PRO AUDIO REVIEW

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PreSonus StudioLive 32.4.2 AI

The StudioLive 32.4.2 AI combines analog comfort and digital integration in a competitive, intuitive console.

by Liz May
PAR Contributor
lmay@nbmedia.com

The PreSonus StudioLive 32.4.2 AI live/studio mixer provides analog I/O as well as digital processing and connectivity. Equipped with 32 analog microphone and line inputs, as well as insert jacks on every dedicated channel, there are analog connections for venues and performance spaces that may be in the midst of upgrading their analog systems. Outputs on the 32.4.2 include TRS quarter-inch line outputs for four sub groups, a left and right control room output, and 10 aux outputs. There are TRS quarter-inch line outputs as well as XLR connections for the Mains, XLR Mono output, four TRS line inputs for auxes, and unbalanced RCA connections for a Tape input and output.

For this review, I temporarily installed the StudioLive 32.4.2 AI at Winston-Salem, NC's Underground Theatre that previously housed a StudioLive 16.0.2 and, before that, a Soundcraft GB8 carrying the workload. I also used this same 32.4.2 AI at nearby Foothills Brewing as part of the 2014 Triad Music Festival. The show was a Lunch Time Acoustic Sampler featuring four different acts including variations of piano, acoustic guitar, harmonica, cajon, and vocals.

Many of the recent digital consoles on the market provide only XLR inputs and outputs, limiting the integration of a digital console into an analog system. I love that this console offers a way to insert a dynamics processor per channel and not be limited to the onboard effects.

Key Features

The StudioLive AI series has many of the same features I loved on the previous StudioLive models, but has expanded to provide more options accessible at the tip of my finger, plus more integrated software. [See Liz's first StudioLive review for *PAR* here: http://www.prosoundnetwork.com/article/presonus-studiolive-1602-compact-digital-console/14481 — Ed.]

PreSonus's Fat Channel remains the heart of the console, providing detailed dynamic and equalization controls. An added feature includes the A/B option; in a live mixing situation, this can be a lifesaver if an engineer has a performer who is playing acoustic guitar for part of the set but then switches to a ukulele using the same direct line. The A/B option allows EQ and Dynamics settings for one instrument on A and another instrument on B, enabling switching between the two without needing another input channel. At the Underground Theatre, this became a key feature. Many of the events are songwriter nights where

PHOTO JIM FEDDER

Liz works the StudioLive for Soulstice 7th at the Underground Theatre at Community Arts Cafe, Winston-Salem NC.

About Liz

As the owner of SoundLizzard Productions (soundlizzard.com), Realizzation Records, and Coda Publishing, Liz May has spent the last decade of her life not only engineering, but synthesizing her many areas of expertise within the active North Carolina Triad musical community. After studying Piano and Arts Management at Salem College, Liz relocated to Nashville to intern at Word Records and attend SAE Institute. After working as an assistant engineer and publicist for Spin Red Productions, Liz returned to North Carolina in 2006 where she first began work at the Wes Lachot-designed Fidelitorium Recordings (fidelitorium.com), owned by producer/engineer/musician Mitch Easter (R.E.M., Let's Active). In 2007, she recorded, edited and mixed her first full-length feature film, *Wesley*, in surround. In addition to running a production company, record label and publishing company, Liz also directs a non-profit organization, Habitat-Nexus, which maintains a database of skilled session musicians around the Triad area.

a variety of performers would use the same input for their acoustic instruments.

I like that live mixing controls that are needed quickly during a show are all presented through faders, knobs, and select buttons rather than paging through an LCD menu screen. The menu screen is not for executing commands. It is only needed when looking through system menu items, recalling scene presets, or changing settings for effects channels.

Wireless Functionality

Setting up the StudioLive's Wi-Fi was almost *too* simple. Rather than having to hook up a wireless router and syncing the IP addresses and subnets, there is a wireless USB key that will find a wireless network: select it through the board (just like a computer connecting to a new network) and lock in a connection.

One of the most interesting and useful features I found was the permissions control for wireless devices. Users can allow several devices to connect to the StudioLive board at the same time but the board is in control of the permissions for each device. For instance, a musician on stage can be given control over their aux mix and monitors from the stage; engineers can allow them permission to change only the values of certain mixes, which does not affect front-of-house. Engineers can also restrict musician permissions to just allow control of their own volume so they don't "mess up their mix." On most other digital boards I'm familiar with, there are no permissions controls for wireless devices; once someone was logged on to the network they could access–everything on the board—faders and all. These StudioLive features help the engineer feel confident that someone is not going to try and sabotage their mix wirelessly. In a venue like the Underground Theatre, the FOH mixing area is to one side of the room, making it difficult to judge balance at times. Having wireless control to move around the room is crucial in making sure the mix is ideal for audience perspective.

The only drawback to this wireless control is the lack of motorized faders. If a user mixes from an iPad, the main input channels and fader positions change, yet it will not move the faders on the board. Because of this, it can make the level jump when you return to the board, moving the same fader, as one will override the other. When we used the console at Foothills Brewing we mixed entirely from the iPad; only the mutes were used at the board. The Remote AI app was easy and quick for accessing what was needed.

PHOTO TRIPP KAY

Singer/songwriter/producer Doug Davis performs for the "Lunch Time Acoustic Sampler" at Soundlizzard's Triad Music Festival 2014 as Liz helms the StudioLive for mixing duties.

Elsewhere, master section metering for the selected channel along with the Mains was a feature I missed on the 16.0.2, and it was nice to discover it in this AI series update.

The Digital Return buttons are a great feature for the Underground Theatre's needs. We did not have an opportunity to utilize this feature but I can definitely see it coming in handy for both playing back a track from the computer in a live situation or playing back part of the recording through the mains for a band to hear at the end of their performance.

Capture 2

Capture 2, the recording software incorporated into StudioLive, is available via simple "plug-and-play" connectivity. There are no strings attached to getting the software to pop up instantly via FireWire 800. The software now allows users to save StudioLive preset scenes along with the recording. I appreciated the ease of tracking with the 32.4.2 AI when there was little to no time to do an elaborate recording setup. Its simplicity matches that of two-track recording to USB thumb drives on other boards, but instead you get multitrack files. As an engineer who likes to record live shows on the fly, this time saver makes a world of difference to me. At the Underground Theatre, in particular, these recordings allow the venue to offer something to musicians that they can't easily or cheaply get at other performance venues.

Summary

Overall, between the quick live setup for the festival and the integration of the board in a more permanent venue, the 32.4.2 AI proved itself worthy of both applications.

As with any digital console, there is a short learning curve to finding and mapping out all the controls. With everything being just a single button away, the road map for this console is pretty simple.

A final mention about PreSonus: I found their technical support to be phenomenal. We had one minor hiccup that was corrected with a simple firmware update; tech support saw that the problem was resolved and followed up to make sure that it stayed resolved. The StudioLive software continues to increase in flexibility and capability, making the StudioLive series a great board to invest in and grow with.

Price: $3,999 street
Contact: PreSonus | presonus.com

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Positive Grid Final Touch Mastering App

So, I've captured some gritty, microtuned sound engines and atmospheric patches and I want to wrest every ounce of evolving tonality from it. Positive Grid's Final Touch ($19.99) is a mastering application I can use or abuse to process audio opened, pasted or streamed through the iPad. It's not a wave editor, so all splices and fades need to be pre-established, but it offers a way to touch up, so to speak, the subtleties. Modules for pre- and post-linear phase EQ, multiband dynamics, stereo imaging and maximizing can be easily dragged in and out of and reordered on the chain. Files can be imported from Dropbox or iTunes, inserted as clips from apps supporting AudioCopy, or live audio/prerecorded material can be tweaked through Audiobus from internal sources as well as external interfaces (mostly via the Camera Connection Kit). Did I enjoy tracking ZETA+ through the live manipulation of EQ filter points into a convenient recorder like AudioShare? Did I use judicious overcompression to pleasingly exaggerate clipped loops triggered from Kymatica's stochastic sample slice sequencer SECTOR ($7.99)? You bet I did those things and more, even if real-time FX isn't Final Touch's intended use.

The iPad's touch-based input requires apps, no matter how powerful, to ultimately be highly intuitive, which means a process like compression is totally demystified. Presented with a window of handles, I get the joy of dragging to home my exact frequency range and gate, and all that visual feedback helps dial in just the right gain reduction, attack and release, etc. With the ability to quickly solo a band, I can make sure I'm emphasizing or reining in whatever kick or snare, etc. is begging for attention.

Throw a bit of stereo imaging on, filtered at 100 Hz or so, and I've got a focused low-end impact with much more expressive higher frequencies. The maximizer eeks the competitive edge out of the remaining headroom, sets the output depth and dithering, etc., and suddenly it's not infeasible to imagine starting with a single tone and exporting a radio-ready iTunes single without ever leaving the iPad.

Teaser videos have revealed an automation system and MIDI CC external send capabilities coming to Steinberg Cubasis DAW ($49.99) by May or so, just one indication of the narrowing gap between permanent and portable set-ups. Whether standalone or studio-integrated, the iPad continues to make waves, and waveforms, for developers, musicians and engineers alike.

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