ProAudio Review

The Review Resource for Sound Professionals

INSIDE:

- **IN USE:** Aviom Pro64 Digital Audio Network
- **SINGLE SLICE:** Taylor Swift's "Love Story"

API 1608 RECORDING CONSOLE
With Engineer Jeff Balding
Our Inaugural "Geared Up" Q & A

NPR WEST
RADIO FOR THE 21ST CENTURY
Major Install Features Klotz VADIS

ProAudio Review PAR session trial

Eight-Channel MIC PREAMPS

with ATI, Focusrite, Grace, Millennia, and True

reviews | Empirical Labs EL-9 LilFrEQ • Focal CMS65 • Line 6 POD Farm
Studio Technologies StudioComm 76DB/72B

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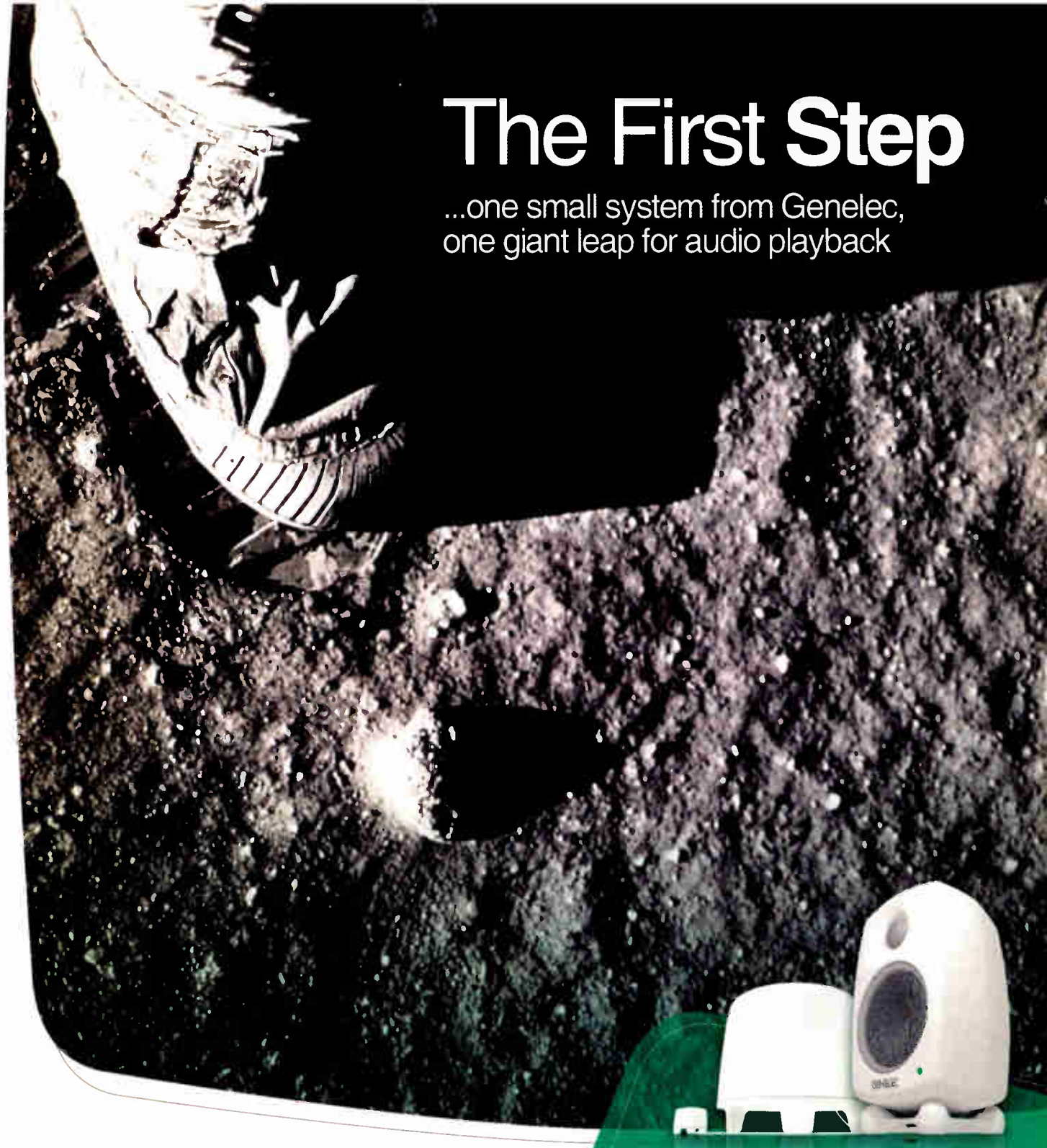

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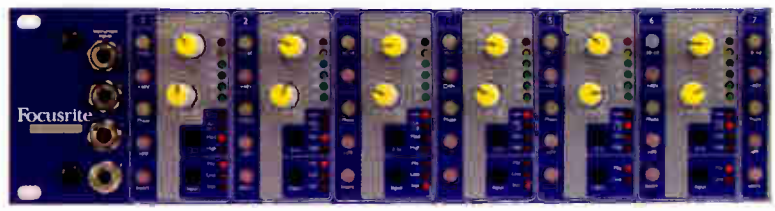

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World Radio History

Quality Is A Moving Target

On the eve of this month's NAB Convention, I find myself reminiscing that as recent as the mid 1980s, "broadcast quality" was a common qualifying phrase associated with the highest caliber audio production equipment. This was in the days of vinyl, cassette tapes and radio as the primary music media for consumers. The 50 Hz - 15 kHz frequency response of FM radio, with the (rarely realized) potential for some 70 dB of dynamic range, was not a compromise to the general public, and equipment capable of meeting those standards were acceptable to professionals.

The compact disc brought a major change in perception. Frequency response was extended to the commonly held limits of human hearing. Dynamic range had a potential of 96 dB. There was some initial resistance to the digital transition, caused in part by the lack of proper implementation of dither, by ignorance of the importance of precision clocking and jitter avoidance and by the often poor implementation of analog anti-aliasing filters. Despite the obstacles, consumers embraced the CD for its potential for clarity, the consistency of performance, improved resistance to wear, and the smaller form factor. "Broadcast quality" was supplanted by "CD quality," as the new buzz phrase used to loosely quantify top-flight performance.

Perception of broadcast quality has enjoyed resurgence of late, again born on a digital revolution, this time in television. Dynamic range, frequency response, and non-matrixed multichannel sound are all improved and are obvious to the average consumer, even if the source is lossy compressed.

The phrase "broadcast quality," though, isn't likely to enjoy rebirth as the pinnacle of technical excellence, even if television production is employing technology that performs at a very high level. And, aside from improvements in the capabilities of radio broadcast gear in general, benefiting from the same gains in technology as the rest of audio production, little has actually been done to improve the overall quality of radio broadcasts. The limitations are defined by the medium and by a marketplace embracing hyper-compression. Digital radio may yet become the standard, but in the current "HD" implementations simultaneously broadcast with, and band-limited by, analog signals, its potential can never be realized. Lossy compression is used to a degree that would be rejected by most iPod users.

"CD quality" is also no longer a definitive statement of quality, the phrase having been misused and abused, and the standards supplanted by new professional standards. There's not a single commonly accepted professional standard, though a consensus could probably be established for minimum criteria both analog and digital. While the language has changed, even minimal "professional" performance is commonly giant steps ahead of that of a few decades ago, while cost of production has come down. That's progress, by any nomenclature.

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The Review Resource for Sound Professionals

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new studio products

Benchmark DAC1 PRE Stereo Playback Preamplifier

The latest from Benchmark Media Systems is the DAC1 PRE stereo playback preamplifier. Designed to act as the central hub in a high-performance stereo playback system, the DAC1 PRE interfaces directly with a wide range of digital media devices such as CD and DVD players, music servers, satellite radio, digital cable boxes, and televisions. In addition, it can interface with traditional analog sources such as phono preamps, analog tuners, and so on.

Features of the DAC1 PRE include four digital inputs, a USB computer input, a stereo analog input, two stereo analog outputs, two headphone outputs, and a true analog master volume control. Proprietary Benchmark features include the jitter-immune UltraLock clock system, HPA2 0-ohm headphone amplifier, Advanced USBTM 24-bit native USB computer audio interface, and the DAC1 conversion system. The analog circuitry is driven by LM4562 premium op-amps.

Price: $1,575

Contact: Benchmark Media Systems | www.dac1pre.com

HHB UDP-89 Pro DVD/CD Player

HHB has begun to ship its UDP-89 professional DVD/CD player. The new "clean screen" feature targets the unit's suitability for use in AV and broadcast applications.

According to HHB, the "clean screen" ensures that the video output remains free of the brand logos that render consumer DVD players unsuitable for professional use. Furthermore, menu commands and transport status appear only in the front-panel display, leaving the screen a "clean" plain grey when no content is being played.

Housed in a 1U rackmounting chassis, the UDP-89 plays CD, Video-CD, SACD, DVD-Video and DVD-Audio discs, and features a built-in preamp with volume control for direct connection to active 5.1 speaker systems, Dolby Digital and DTS decoding, MPEG audio decoding, professional cueing, A-B repeat function, and RS232 and parallel control interfaces.

Price: $1,035 list

Contact: Sennheiser (U.S. distributor) | www.sennheiserusa.com

M-Audio Studiophile DSM3 Active Studio Reference Monitor

M-Audio has introduced its Studiophile DSM3 active studio reference monitor, featuring a number of unique design elements including onboard digital signal processing (DSP), carefully matched components and a dual-woofer configuration. It includes custom 6.5-inch anodized aluminum cone woofers and a 1-inch ferrofluid-cooled Neodymium tweeter.

According to the manufacturer, the DSM3 is the result of a strategic engineering collaboration between Avid's M-Audio and Digidesign product lines, featuring "a unique hybrid midwoofer-tweeter-midwoofer (MTM) design." Its DSP engine controls a complex, fourth-order digital crossover for acoustical alignment and improved imaging. The DSP also manages a host of customizable filter settings.

Price: $899 each

Contact: M-Audio | www.m-audio.com

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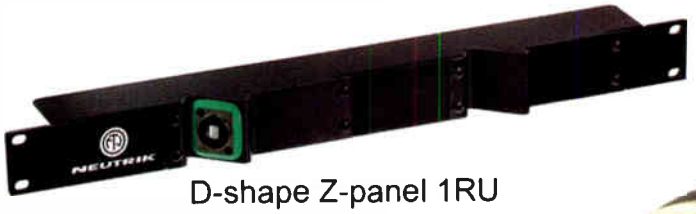
opticalCON QUAD

Neutrik introduces the new 4-channel opticalCON QUAD Fiber Optic Connection System.

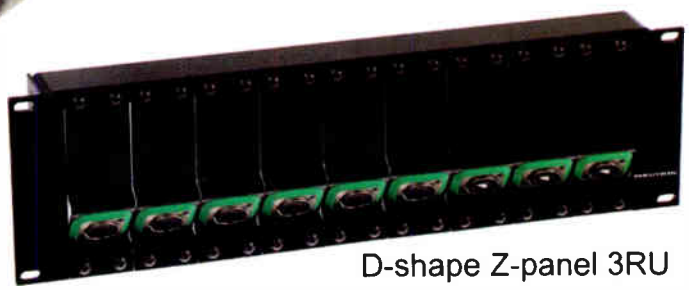


D-shape Z-panel 1RU

NO4FDW-R

NKO4M

NO4SBB1-4



D-shape Z-panel 3RU

opticalCON Accessories

NKO12S*

Also available in a 12-channel configuration with 4 channels per connector.

www.neutrik.com

NEUTRIK

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new studio products

Zaxcom TRX992 Wireless Recording System

Zaxcom's new environmentally friendly TRX992 is a professional wireless audio transceiver designed specifically for boom pole and sports applications. Within a single compact unit, the TRX992 reportedly performs the functions of an audio transmitter, monitor return receiver, backup recorder, and phantom power supply. The TRX992 is a 100 percent digital transmission system optimized for boom mic operators working on motion picture and television productions.

Price: $2,995

Contact: Zaxcom | www.zaxcom.com

Wireworks' BG Cable Assemblies

Wireworks has introduced its BG cable assemblies featuring the company's MusiLUX microphone cable or AES/EBU digital cable teamed with Neutrik's convertCON connector.

The assemblies can be used in both microphone and line-level applications and are targeted for sound engineers, system designers and on-the-go sound techs that require the ability to connect a variety of gear without worrying about XLR connector gender issues. Neutrik's convertCON is a 3-pin male and female cable connector in a single housing. The BG assemblies are available in four configurations.

Price: POA

Contact: Wireworks | www.wireworks.com

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PRE420

4 Channel Mic-Pre/Mixer

ADC1 USB

2-Channel 24-bit 192kHz A/D Converter

DAC1 PRE

Stereo Pre-Amplifier / DAC / Headphone Amp

When your clients expect professional results, your studio cannot have a weak link. The essential elements of your signal chain must perform with consistent integrity. It is important to use audio tools that deliver superior performance, unvarying dependability, and uncompromised quality.

Benchmark has developed a family of audio tools that never compromise: the **PRE420** microphone preamplifier; the **ADC1 USB** A-to-D converter; and the **DAC1 PRE** monitor system pre-amplifier / D-to-A converter.

Benchmark products set the standard for performance and reliability. Engineers have praised our mic-preamps for their breath-taking realism, true-to-life detail, and consistent performance - even in harsh RF environments. Our digital converter technology has become the benchmark of absolute accuracy due to the jitter-immune UltraLock™ clocking system, intelligent circuit layout, and pristine analog sections. All **Benchmark** products are designed, assembled, and tested in Syracuse, New York, USA, by a team that is committed to quality craftsmanship and tireless customer support.

The **PRE420** is a 4-channel mic-preamp with a plethora of features, including built-in, independent stereo mix and solo busses. The sonic performance of the **PRE420** has been described as making the instrument "sound like it's being played right in front of me!" It delivers the audio with such clarity that no textures are lost or obscured by distortion or noise. The remarkably low noise floor spans a wide range of gain setting, making the **PRE420** the perfect pre-amp for ribbon microphones. For room and ambient recordings, the ultra-low distortion performance puts the listener in the live-room. Also, the **PRE420** circumvents "Murphy's Law" with its bullet-proof "phantom-hot-plug" protection circuitry and incredible RF immunity.

The **ADC1 USB** is a reference-quality, 2-channel, 24-bit, 192-kHz A-to-D converter. The UltraLock™ clocking system delivers unvarying mastering-quality performance - regardless of clock source. The **ADC1 USB** offers variable input gain from -6 to +39 dB to interface directly with a wide range of devices. Precise levels are easily achieved with the 9-segment, dual-range LED meter.

The **DAC1 PRE** is a reference-quality, stereo monitor system controller with the DAC1's award-winning, 24-bit, 192-kHz D-to-A conversion system. The **DAC1 PRE** continues the legacy of the **DAC1**, which has become a staple of control rooms around the world. The analog inputs provide a simple and direct path to the monitors for mixing consoles, iPods, etc. The AdvancedUSB™ input supports native 96 kHz, 24-bit operation without cumbersome or invasive driver software. The built-in, 0-ohm HPA2™ headphone amplifier provides ultra-low distortion headphone monitoring.

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new studio products

FMR Audio PBC-6A Mono Compressor

The latest from FMR Audio is the PBC 6A, an affordable yet high-quality compression amplifier featuring balanced I/O and unique sonic capabilities. Features include mono input and output via XLR, sidechain and link I/O via 1/4-inch jacks, "Silk" and "Thick" release modes, detector high-pass filter, feedback drive, and variable knee.

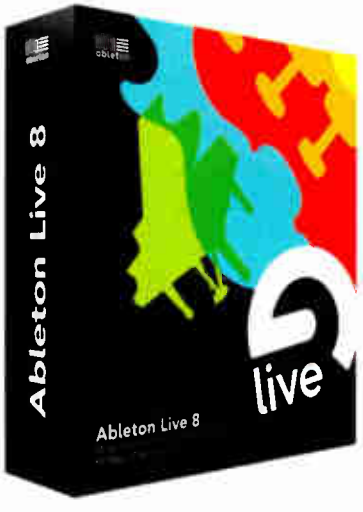
Like all current FMR Audio products, the PBC-6A is housed in a small 1/3-rack space box. Sold by Mercenary Audio (www.mercenary.com), the company offers MP3, 16-bit/44.1 kHz WAV, and 24-bit/96 kHz WAV audio samples of the PBC-6A in action.

Stay tuned for *PAR*'s upcoming review of the PBC-6A.

Price: $495 list

Contact: FMR Audio | www.fmraudio.com

Ableton Live 8, Suite 8



The latest from Ableton, Live 8 and Suite 8, are now available for purchase via boxed and downloaded versions. Two new instruments, Collision and Latin Percussion, are also available from Ableton and included in Suite 8. Improvements made to the Ableton DAW platform include a new groove engine, revamped warping techniques, live looping, five new effects (including the Ableton Vocoder), crossfades in the Arrangement View, group tracks, and a reworked MIDI editor.

Ableton Suite 8 includes all that listed above plus a large sound library and instrument suite. Workflow enhancements in 8 include real-time crossfades in the Arrangement View, enhanced MIDI editing, group tracks, multiple track selection, a screen magnifier, and more.

Prices: $849 and $549 (Ableton Suite 8 and Ableton Live 8, boxed version, respectively)

Contact: Ableton | www.ableton.com

AKG Acoustics Perception 820 Tube Microphone

AKG has announced the most recent addition to its Perception Series, the flagship Perception 820 Tube. Each 820 microphone features a 20 dB attenuation pad and a low-cut filter for an extensive range of microphone capabilities, including vocals, brass instruments, electric guitar amps, and overhead miking. According to AKG, the dual, 1-inch, true-condenser, large-diaphragm capsule is geared toward use on lead vocals, brass instruments, overhead miking, and many other applications.

The Perception 820 Tube comes complete with a metal carrying case, a spider-type shock mount, a microphone cable, and a remote-control unit. Its ECC 83 dual-triode tube circuitry and the output transformer emphasize even-order harmonics, while the remote control allows selection of nine different pickup patterns from omni-directional to cardioid to figure eight.

Price: TBA

Contact: AKG Acoustics | www.akg.com

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new studio products

Linear Acoustic's AERO.air Transmission Loudness Manager

Engineered on the foundation of the company's first and second generation digital television audio processors, the third-generation AERO.air reportedly enables broadcasters to deliver 5.1-channel surround sound while saving time, money and space. According to the company, the AERO.air represents the first TV audio processor to feature built-in Dolby Digital (AC-3) encoding.

The AERO.air is equipped with multiple loudness controllers, dual upmixers, metadata management, as well as full-time 2-channel downmixing to support legacy stereo or analog paths. Built-in AutoMAX-II processing detects incoming audio and automatically upmixes only when necessary, producing a full-time 5.1 channel output. The processor accepts 5.1-channel network audio, 2-channel local audio, SAP/DVS, and digital or analog auxiliary/EAS audio for processing.

Price: POA

Contact: Linear Acoustic | www.linearacoustic.com

JBL LSR2300 Series Studio Monitor System

Applying the same Linear Spatial Reference criteria used in its LSR6300 and LSR4300 lines, JBL Professional is now shipping the new LSR2300 Series Studio Monitor System. The LSR2300 Series includes the biamplified, 165-watt LSR2328P 8-inch studio monitor, the biamplified 90-watt LSR2325P 5-inch studio monitor, and the 180-watt LSR2310SP 10-inch powered subwoofer. According to JBL, "a trademark of LSR2300 design is the large waveguide and the elliptical tweeter aperture that work in conjunction with a 1-inch, silk-substrate, high-frequency transducer," which improves imaging.

Features include new long-excursion, low-frequency transducers with high-flux motors; custom tuned ports; and low frequency extension to 37 Hz, 43 Hz, and 28 Hz for the 5-, 8-, and 10-inch models, respectively.

Prices: $249 and $439 (LSR2325P and LSR2328P, respectively)

Contact: JBL Professional | www.jblpro.com

Neutrik's opticalCON Transceiver Adapter

In an effort to ease design integration and seamlessly connect its opticalCON chassis connectors with SFP (small form-factor pluggable) transceivers, Neutrik has created its opticalCON transceiver adapter.

The adapter is compatible with all LC SFP transceivers and enables the use of Neutrik's opticalCON or conventional LC connectors. It is available in several variations depending on signal mode. Each is designated a particular color-coding for easy and instant identification: multimode transceiver adapter (NA02M-SFP-LC), which features a black color coding; Singlemode transceiver adapter (NA02S-SFP-LC) with a blue color coding; and Singlemode APC transceiver adapter (NA02SA-SFP-LC) with a color coding of green (pictured).

Price: POA

Contact: Neutrik | www.neutrikusa.com

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My First Pro Microphone

Nearly 20 years later, the MZ 204 still delivers the goods.

On Friday, September 14 in 1990, I bought my first microphone, a Yamaha MZ 204 cardioid dynamic from Sound Track Music in King, North Carolina. My total was $249.99, including sales tax, and I paid with cash; it was a fortune to me, only $100 less than I paid for my first proper drum set several years prior. I remember that my high school sweetheart, with me at the time of purchase, seemed simultaneously impressed and slightly offended, as I'm sure we had just eaten at a Burger King or close equivalent.

Serious thought and consideration had led to this point in time, what I now understand was a life-changing, career-shaping purchase. I had been repeatedly told by members of my high school rock band that I needed a really good kick drum mic so we could sound better live, to plug into any PA we happened to be using (and soon our own, a 6-channel mono Sound Tech powered mixer, first with 12-inch two-way cabs, then later with two dual 15-inch two-way cabs. How we ever brought the latter to gigs in our caravan of late '70s/early '80s hatchbacks, I don't remember.)

So, at the store that evening, Phil Essick — a local audio engineer and Sound Track employee — recommended the MZ 204 as a cool, new, and really good kick drum mic. I trusted him, and I bought it. I can't say that this mic made me sound much better than any other similarly priced kick mic could have (as we generally played through some less-than-good PA systems), but I was the only drummer I knew that had his own kick drum mic, which counted for something, at least in my own mind — I was serious, man. I ended up using it everywhere, live and in the studio: anywhere the engineer in charge would let it happen (as most had, as you would assume, an AKG D 112 or Electro-Voice RE20 that they swore by). And as I remember, my MZ 204 and I impressed a few engineers over the years.

I recently rediscovered the MZ 204 when setting up a much-larger-than-normal assembly of inputs. My hands and eyes have passed over it for years, and, on this day, for whatever reason, they still did. I guess I thought my own work and abilities had surpassed its usefulness. Sad, because the Yamaha MZ 204 completely changed how I interacted with the sound of my own music. Before it, I was a drummer with no sound experience to speak of; I simply hit drumheads and cymbals in order to be heard. Then, with the purchase of my MZ 204, I suddenly owned a tool that connected my sound to something larger, allowing me to reach beyond the energy I created alone. Essentially, the MZ 204 was what plugged me into the mechanics of modern-day music production.

But does the MZ 204 actually sound as good as I remember it? On this day — when I plug it in for the first time in what feels like forever and record it, even up against my current favorite kick drum microphone — yes, it does. It's still a perfectly good kick drum microphone nearly two decades after I bought it (and I don't use "perfectly good" lightly).

My MZ 204 may not be the "best" pro audio purchase I've ever made, but I can say with conviction that it has been the most valuable. Its value — that of long-owned, still performing gear — is more than nostalgic. It's proof of the worth in product recommendations by knowledgeable and respected sources, just like those by our real-world experts in the pages of this magazine. Nearly 20 years ago, such a recommendation certainly proved to be powerful, and valuable, to an aspirational 16-year-old drummer.

So Phil, wherever you are, thanks again.

Strother Bullins is the reviews and features editor for *Pro Audio Review*.

World Radio History

StudioLive

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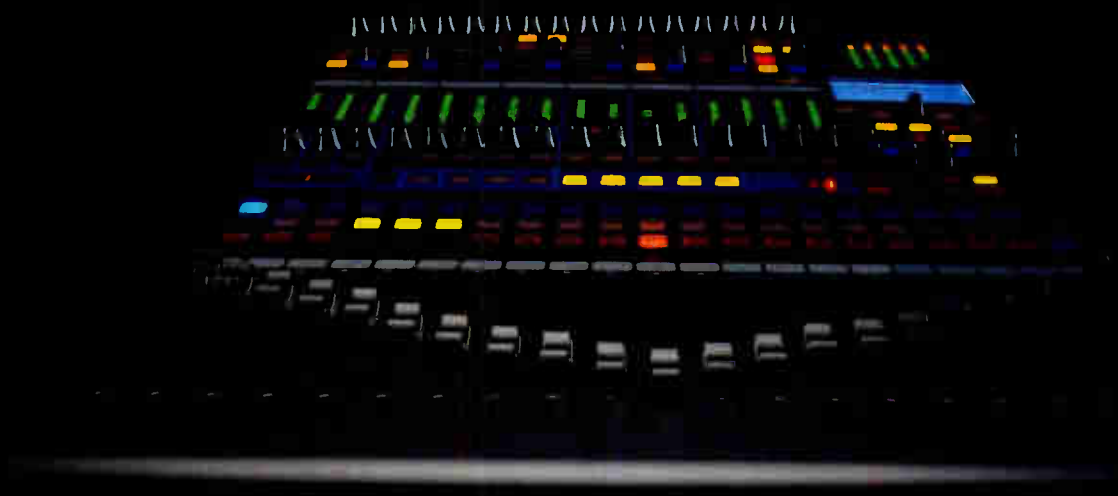

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World Radio History

Cullen West, vocalist/guitarist for Bums Lie, laying down a control room vocal overdub for the benefit of our cameras.

Session Trial: EIGHT-CHANNEL MICROPHONE PREAMPLIFIERS

Featuring ATI 8MX2, Focusrite ISA828, Grace m801, Millennia HV-3D, and True Systems Precision 8

Our second installment in a new review series features five select and pro-grade eight-channel microphone preamps: proven performers for *PAR* reviewers, discovered since the inception of the magazine.

by Rob Tavaglione

Coveted by location recordists and those with limited rack space, eight-channel microphone preamplifiers are the unsung heroes of the pro audio world. Rarely grabbing the same attention as their glamorized siblings — the channel strip or dual-channel models — eight-channel pres typically offer lower cost per channel, thus much more "amp for the buck." Here, in *Pro Audio Review*'s second installment of our new Session Trial review series, I will examine and employ five eight-channel versions of previously

Rob Tavaglione owns and operates Catalyst Recording in Charlotte, NC. He welcomes your comments, questions, and inquiries at rob@catalystrecording.com.

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series 5

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Test Equipment

Eight-Channel Microphone Preamplifiers in a *PAR* Session Trial

MICROPHONES: (on drums) Shure Beta 91 and AKG D12E kick, Shure SM57 and Sennheiser MD504 snare, Sennheiser MD421 toms, AEA R44 room ambience and AKG C422 (stereo 414) overheads; (bass guitar amp) AKG D112 mic with a Tech 21 SansAmp Bass Driver DI [For fairness in evaluation, this DI was used in conjunction with all five *PAR* Session Trial contenders. The two models featuring quarter-inch inputs for DI — Focusrite and True Systems — were additionally tested for DI sound and performance, yet those results did not factor into Tavaglione's summary rankings — Ed.]; (electric guitar amp) Shure SM57 and Audio-Technica AT4033; (vocals) Neumann U 87, Violet Amethyst Vintage, and AEA R44

BASIC RIG: Soundcraft Ghost analog mixing console with MOTU Digital Performer 5.12 DAW running on an Apple Mac Pro, clocked by Lucid GenX6-96. Monitoring via JBL LSR4328 nearfields with a LSR4312 subwoofer.

word, "vanilla," from some of us.

I have only one complaint regarding the HV-3D. It sorely misses one feature: polarity reversal. In my opinion, no polarity reversal is an unexpected sacrifice for a unit with an MSRP of $4,459.

Grace m801

Hands down the sexiest of the class, everyone commented on the looks of the m801 upon first entering my control room. I can't blame them, but they had yet to find out that it is also "straight wire" clean as well as ultra-smart; the m801 senses when you have a stereo condenser mic connected to channel one, automatically turning on 48V phantom to the second channel as you apply it to the first. List price, at $4,595, is the most expensive of the group, you do get quality features such as sealed gold relay contacts and a ribbon mic mode, not to mention a five-year warranty.

Sonically, and not surprisingly, we all found the m801 to be more crisp than thick on drums. The high end was extended and sweet, no problems there, but the bottom seemed just a little understated in comparison. Imaging was good, but not as well defined as with some others. Personally, I wouldn't hesitate to use the m801 if I needed a more aggressive drum sound.

We all gushed about the m801's response on our bass guitar DI. Our vintage '70s Gibson Ripper bass delivered its deep bottom, right down to your toes, and the 801 captured it without a hint of distortion or modification, a very natural and pleasing sound for a DI. Distorted electric guitar tones were pretty good, but our clean tone seemed unusually uneven and spiky (as we used both a Shure SM57 dynamic and an Audio-Technica AT4033 condenser).

Focusrite ISA828

Of all five stellar preamps featured here, the ISA828 was the only "fully featured" one (at least by our modern standards): with polarity reversal, an input pad, quarter-inch DI inputs, and selectable impedance. And all things considered, the ISA828 was our overall top preamp choice across the board — not because of its features, per se, but because of its appealing sound.

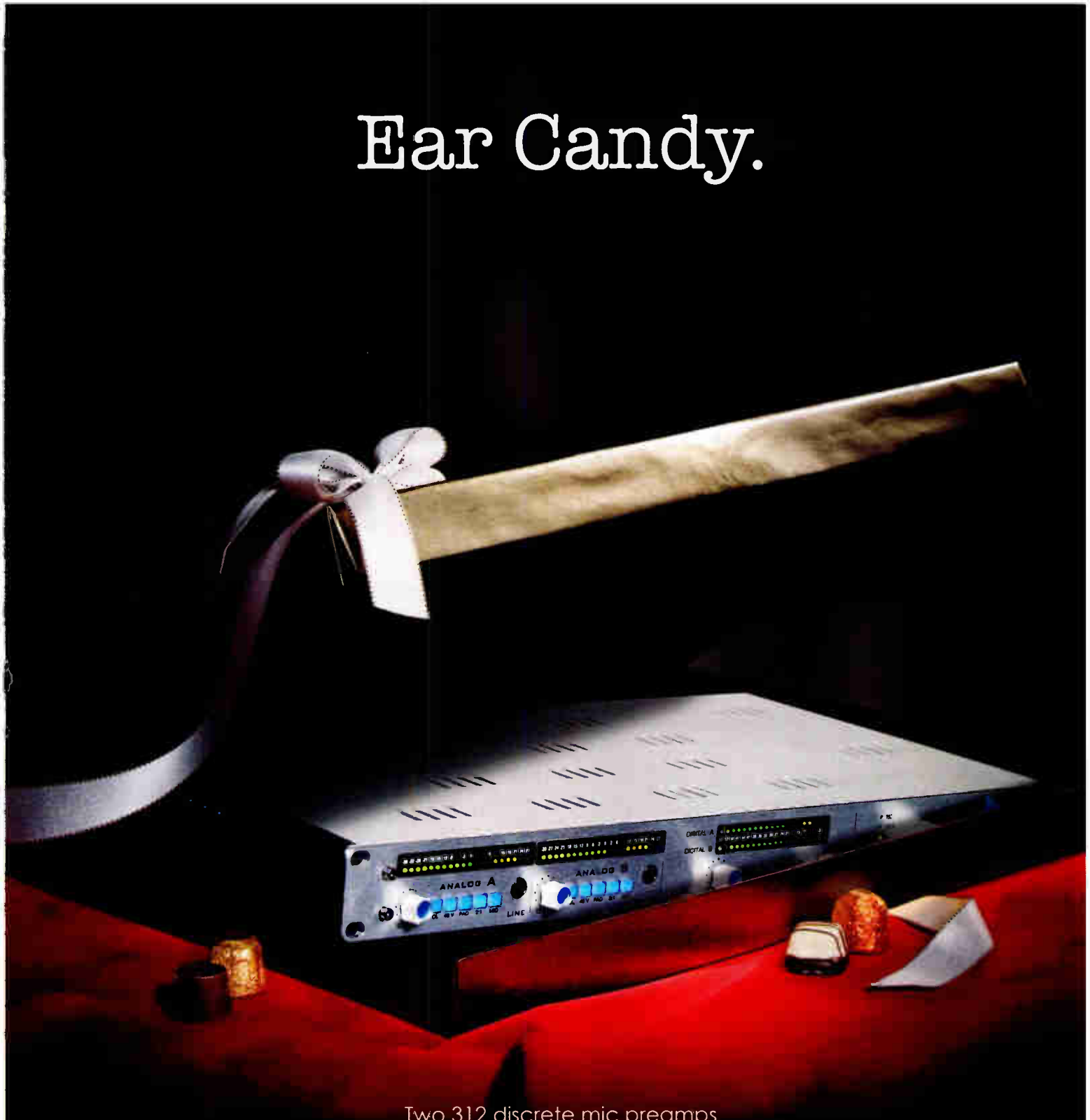
This baby offered punch and "improved accuracy" beyond each of its competitors, especially if the sound source was a bit flabby or muddy.

Grace m801

Focusrite ISA828

World Radio History

Ear Candy.



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True Systems Precision 8

ATI 8MX2

ProAudio Review PAR session trial

During our sessions, we had some kick drum problems (couldn't seem to get the right beater/head combo), and our sound lacked a certain level of definition, slap, and punch. The ISA828 got the best kick sound and was overall very drum-worthy, even if some of the other preamps sounded more interesting or had a wider soundstage.

The Focusrite was our overall favorite on bass guitar, with a super focused DI sound and the tightest response from a Sennheiser MD421 mic on a fat-sounding SWR tube bass amp. The ISA828 fared quite well on electric guitar, too, with an unrestricted clean sound and accurate distortion reproduction, if possibly "a bit cold." A list price of $3,299 and an optional digital output card make the ISA828 an excellent value not to mention a highly flexible performer.

ATI 8MX2

The number-one professional choice for sheer value has to be the 8MX2. In one rack space, you get eight preamps, eight limiters, tape send and return on DB25 connectors, a mixer that can mix your inputs or tape monitor path, a cue bus, a headphone amp, and a cooling fan. Yes, the limiters are only good for tapping, not smacking, and those with big fingers need not apply (very crowded real estate on its front panel), but the 8MX2 has become a fave of location recorders and live sound engineers because of the inherent quality of its preamps.

In *PAR*'s original 8MX2 review, contributor Tom Young praised the 8MX2 for its "natural" sound. On drums, so did we; nice and punchy and round, the 8MX2 had a very pleasant lack of hype, which was desirable on all drums except our (muddy) kick. Imaging was wide and realistic, if it lacked overall some of the high-frequency excitement of the Millennia or True preamps.

The 8MX2 tied the Focusrite as our overall best on bass guitar, with impressive punch and unaffected mids. Oddly enough, it was our top pick on electric guitar with this super lively, clean, and transient guitar sound with an animated, detailed translation of dirty sounds (for instance, we mentioned that "Prince would love it"). At $2,995 list, I'd like to buy one and experiment further with a full array of ribbons, condensers, and dynamics on electric guitar. I've personally been seeking a guitar sound like this for some time.

True Systems Precision 8

The Precision 8 has the simultaneous advantage/disadvantage of being a model I have owned for years and am quite familiar with. The most affordable price point of our class at $2,995 list (the same price as the 8MX2), the Precision 8 offers two combo inputs with instrument DIs and two channels of Mid-Side decoding.

The band and I all concurred that the Precision 8 sounded

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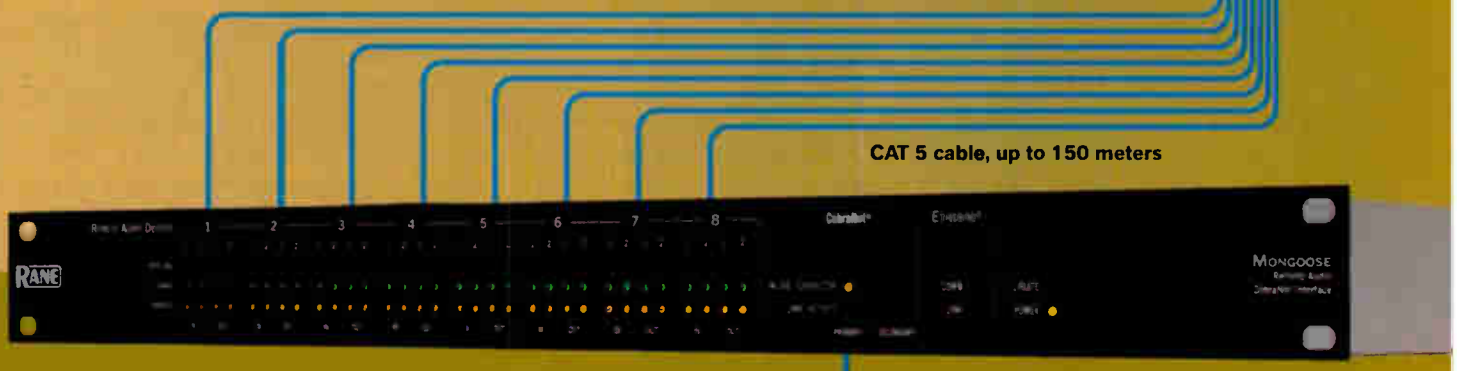

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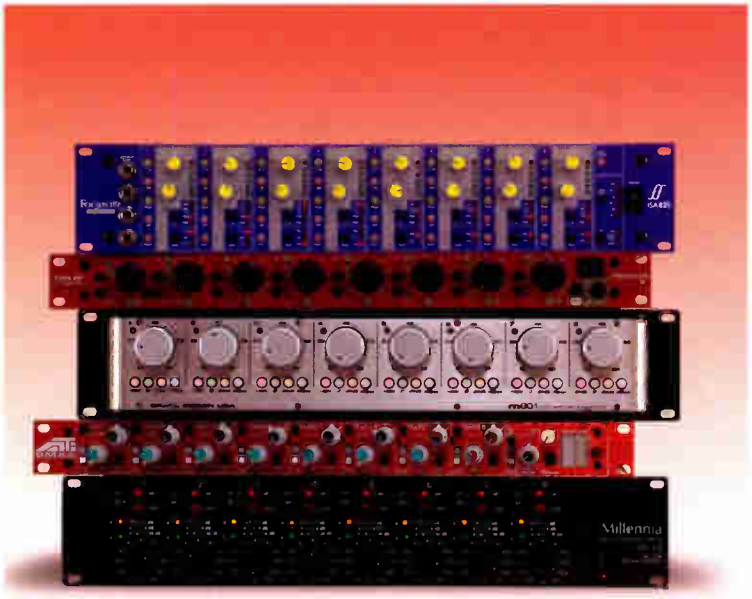
"Any concerns I had about eight-channel preamp performance were put to rest from this rigorous testing. Worries of inadequate power supplies, phantom power sag, and noisy channels in proximity to transformers were unfounded in every instance."

good overall on drums, while our muddy kick seemed to become only muddier. With it, overheads offered very nice imaging and were a bit forward by comparison to the others. On rack tom, we really loved the Precision 8 for its musical roundness and the great "shell-i-ness" it conveyed, to make up a word. Bass guitar frankly didn't sound all that realistic with the Precision 8 if the instrument was soloed. However, with our band tracks, we loved the Precision 8's mix placement and response; sometimes a little nonlinear color is more entertaining, at least according to our ears. Electric guitar from the Precision 8



was much like the bass; the clean sound was a little undefined and unrealistic, yet the distorted tones were delightfully colored, exciting and perfectly balanced.

On Acoustic Guitar

For acoustic guitar, I couldn't pick a favorite between the Millennia HV-3D and Grace m801. Both were so detailed and accurate with transients (although the m801 was a little more "forward") while the HV-3D was a little wider; both were quite deep (front to back, if you will). The lack of distortion and harshness was amazing.

Both the Focusrite ISA828 and the ATI 8MX2 were tied for smoothest of class, with a "kindler, gentler" recreation of transients and frequency response. The ISA828 struck us as extremely lifelike, if not quite exciting, and the m801 as more pleasant and full, if not at all forward; these are varying qualities one may prefer depending on the nature and application of your acoustic guitar tracks.

The Precision 8 proved to be the "rock 'n' roll" preamp for acoustic guitar. With a lean but not thin bottom and aggressive high mids, this colorful sound might help your acoustic keep up in a crowded mix or just make up for old strings.

On Vocals

I tried out the preamps with two male vocalists using a Violet Amethyst Vintage and a Neumann U 87. We found all five to be very likable, more so than on any other source we tested. After much wrangling, we chose the Grace m801 for our keeper tracks; its clear top-end definition and pleasant sibilance on a slightly hushed vocal track were most notable. On more forceful vocals, we chose either the Focusrite for its faithful linearity and truth or the Millennia for a little "hi-fi sheen" that flatters and polishes. The ATI was pleasant and nearly flat, but oddly showed a little strain on peaks. The True wasn't as detailed as the above, but did offer a slightly compressed sound that would work well for loud singers and yelling rockers.

Summary

Any concerns I had about eight-channel preamp performance were put to rest from this rigorous testing. Worries of inadequate power supplies, phantom power sag, and noisy channels in proximity to transformers were unfounded in every instance. Out of the myriad of tests conducted, only a handful of times did we hear a performance that we would deem "unusable" or "undesirable." Although we picked the Focusrite ISA828 as our overall favorite, the Grace Design m801 and Millennia HV-3D missed that honor by only the narrowest of margins, followed closely by the ATI. Finally, the True Precision 8 has its clear advantages with the best-sounding quarter-inch DI inputs, an excellent space saving layout, better metering, and being the only model with M-S decoding built-in.

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Q&A

Geared Up:
Jeff Balding's API 1608 console

In this inaugural episode of Geared Up – *PAR*'s latest feature series focusing on an engineer's latest acquisition – we discuss with Grammy Award-winning producer/engineer Jeff Balding (Faith Hill, Trace Adkins, LeAnn Rimes, Trisha Yearwood, John Mellencamp, Carrie Underwood, Megadeth, among others) his recent installation of an API 1608 analog console (with the optional 16-channel expander) as the anchor of his home mix room.

PAR: You had a lot of options when choosing a console for your mix room, including hybrid analog desks with integrated Pro Tools controllers.

JB: I looked at all of those, but the API, even though it didn't have all the fancy bells and whistles, it's just solid. It's a real console. My priority was "It's got to sound good." Plus, this console has the vintage kind of vibe that I liked.

PAR: And it's a beefy, big-iron piece of gear.

JB: Yes, that's 400 and some pounds.

PAR: It looks like you have room to expand by adding additional option modules.

JB: I thought, "I'm just going to get into this thing where I can get into it" and then, it's easy to add modules.

PAR: How long have you been using your 1608P?

JB: I ordered it November 1.

PAR: How many projects have you done on it so far?

JB: I had a full project in December, and there've been several projects where I've done two mixes for this, two mixes for that. I've been working on Brooks and Dunn's new record; I just did a couple of mixes up for them last week. I've had a Sony Latin project, a female pop artist from Spain. I mixed her record in December. That was really the first full record. I mixed one other small project at the end of November. The console went in about the middle of November.

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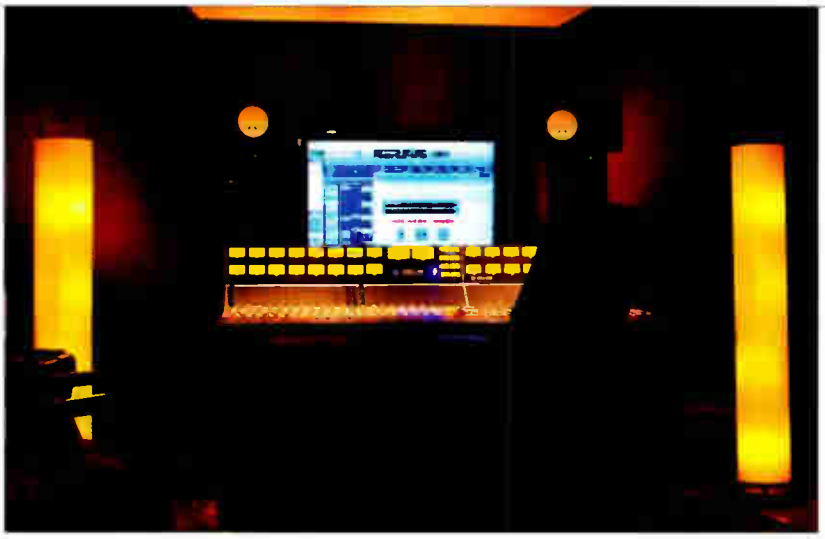

them up, and export them to a folder. I use Teaboy Audio for recall; everything is stored on a cloud. It looks like photos of the gear, but all the knobs and buttons work so you can turn them and set them. Then I just print a PDF of the recall for that song and save it on the file with the photos and the audio. I have no documentation papers to worry about. Teaboy Audio has anything and everything that you'd want to document. Between that and photos, recalls come back great. It's a good convergence.

PAR: Do you miss having fader automation?

JB: API has said they can add it when they get enough people interested. I would add automation eventually because I miss grabbing a fader.

PAR: The console has a relatively shallow work surface, even with your keyboard and mouse in front.

JB: I was so tired of standing sideways all those years (started getting a crick); you just go nuts. So I thought, "I'm going to go buy an LG screen and figure out how to sit forward." Of course, big letters don't hurt either. I took a laptop stand from Office Depot and cut it off. It's worked great.

PAR: After years of working with behemoth consoles, is the 32-fader count enough for you?

JB: Yes, I actually have 48 inputs, the center section has eight bus masters with stereo inputs. I was talking to Dan [Zimbelman of API]

> "My priority was 'It's got to sound good.'"
>
> —Jeff Balding

and was saying, "I may need to order a rack summing mixer, because I really want 48 ins because that's what I've got out." But I got to reading the manual, and I was like, "Oh, no way" — they're basically a left-right, just echo returns. So, I've had 48 inputs, and it's perfect.

PAR: Primarily you are using the console as a large summing bus and panner, in effect?

JB: In a sense, yeah. I've been tempted to use the sends on the console, but I'm trying to balance my recall time. I can recall a mix now in 10-15 minutes with output gear, console pans, and so on. I take a macro photo of each fader, label

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Empirical Labs EL-Q Lil FrEQ

Like its Empirical siblings, the Lil FrEQ is a unique and valuable audio tool of the modern production studio.

Recognized manufacturer Empirical Labs, which shipped its first product (the Distressor) in 1995, has released a relatively small amount of gear to date; however, everything it has touched has turned to sonic gold.

Between the EL-8 Distressor, EL-7 Fatso and the EL-Q Lil FrEQ, the company has influenced the sound of recorded and live music over the last decade as much as any other. While the Lil FrEQ isn't exactly a new product, it has steadily grown in popularity since it was released in 2004.

Features

At 14 lbs, the Lil FrEQ is a fully parametric four-band mono equalizer that includes low and high shelves, a high-pass filter, and a dynamic section that can act as either a de-esser or a high-frequency "knee" limiter. Input and output are provided on both XLR connectors and 1/4-inch jacks and a second male XLR connector provides a transformer output yielding a "vintage" audio quality. The front panel's instrument input provides unbalanced, high-impedance input with 10 dB of initial gain and is designed for lower-level, higher-impedance signals.

The four parametric sections are adjustable +/-14 dB and operate below .0007 percent THD, making the Lil FrEQ possibly the lowest distortion analog parametric EQ ever manufactured. Each section can be independently bypassed. The low- and high-frequency shelves have fixed corner frequencies of 120 Hz and 4 kHz respectively, and are adjustable +/-10 dB. The high-pass filter has an 18 dB per octave slope with eight frequency options between 30 and 330 Hz. Sonically it exhibits a significant amount of coloration emulating the low-frequency warmth of classic vintage equalizers. The dynamics section features a de-esser and a high-frequency "knee" limiter that can be placed pre or post EQ, allowing the user to determine if its performance is affected by the EQ. Four LEDs indicate the amount of Gain Reduction: -1.5 dB, -8 dB, -14 dB, and -24 dB.

In Use

As I found to be the case when I reviewed the EL-8 Distressor (*PAR*, October 1998), the Lil FrEQ sounds amazingly good no matter what levels or settings it encounters. Setting the input knob to 7 and the output knob to 6 is balanced unity gain and a good safe setting if you don't want to screw around with

Russ Long, a Nashville-based producer/engineer, owns The Carport recording studio. He is a regular contributor to *Pro Audio Review*. www.russlong.ws

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> "The Lil FrEQ is rock-solid and built like a tank...making it as at home on the road as it is in the studio."

adjusting the input and output. However, the Lil FrEQ's performance is ideal just below clipping, so I've found it best to adjust the input level until the "BAD! Clip" LED comes on during peaks, which means that the unit is within 1 dB of hard clipping and then back it down 1.5 (not dB, but 1.5 steps on the input knob). The transformer output provides an entirely different sonic texture and is a great option. I found that I prefer its color about 75 percent of the time.

The Lil FrEQ's cluttered front panel packs a massive amount of features into a 1U device, and it can be a bit overwhelming the first time you put it to use. After already having great results using it to record kick, snare, and electric guitar on several tracking sessions, I put it to work on Tanya Tucker's vocal chain while recording the lead vocals on her latest project.

Though it wasn't necessary with Tanya's vocal, in several other instances I've utilized the de-esser and high-frequency limiter and found it to work wonderfully to calm overpowering sibilance. Unlike many other de-essers, the Lil FrEQ DS section uses a crossover method to control the high-frequency content.

The Setup

- Apple Macintosh 2 GHz Dual Processor G5 w/2 GB RAM
- Digidesign Pro Tools 8; Lynx Aurora Converters
- Lucid Gen X 96 clock
- PMC AML-1 monitors
- Focal Twin6-Be monitors

This yields a much smoother and even response than other methods. The high-frequency limiter works better if a vocal is hissy and harsh rather than sibilant. I've found it to work well as somewhat of an analog tape simulator on acoustic guitar by setting it so the HF limiter kicks in when the high frequencies build up and become brittle and edgy, assimilating and smoothing out the high end. I also had good results using the de-esser to reduce finger squeak noise on an acoustic guitar track.

Another great Lil FrEQ feature that I love is the Neve 1073 emulation mode. By setting the Q and frequency controls of each band to the Neve "N" or the donut "O" the equalizer accurately emulates the frequencies and curves of the Neve 1073. This is my default starting point for electric guitars as well as bass guitar, which I've found records amazingly well through the instrument input.

Like the other Empirical Labs gear, the Lil FrEQ is rock-solid and built like a tank. It is built into a steel cabinet with sealed components and no point-to-point wiring, making it as at home on the road as it is in the studio.

Summary

The Lil FrEQ is one of the only equalizers I've ever encountered that works equally well as a subtle frequency shaper or as an extreme sonic sculpting tool while remaining particularly musical in both instances. It is extremely quiet, and it sounds utterly fantastic.

Fast Facts

Applications
Commercial Studio; Project Studio; Broadcast; Post Production; Sound Reinforcement

Key Features
Four fully parametric bands of equalization; two shelving equalizers; 3rd order HPF with eight selectable frequencies; dynamic equalizer that can be used for de-essing or high-frequency softening; built-in instrument preamp/DI; two outputs including a Class A transformer output; clip indicator LED that independently monitors each section of the EQ; switchable 110/220-volt operation; hardwired EQ bypass switch that completely takes the EQ out of the circuit; 120 dB dynamic range

Price
$2,000

Contact
Empirical Labs, c/o Wave Distribution | 973-728-2425 | www.empiricallabs.com

Product Points

- Fantastic sound; flexible; reasonable price, dedicated bypass switch per band
- Cluttered front panel

The Score: The Empirical Labs Lil FrEQ is a bargain at any price, but at $2,000, it's a steal. I'd pay twice as much and still walk away with a smile on my face.

World Radio History

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Studio Technologies StudioComm 76DB/77B Digital Surround Monitor Loudspeaker Control System

This monitoring controller is an easily implemented, amply flexible, and transparent performer.

While a handful of speaker manufacturers have begun offering powered loudspeakers with digital inputs, a weak link in a fully digital chain has been the interface between DAW or console and the monitor system. Studio Technologies has provided the missing link with its StudioComm 76DB/77B surround monitoring system.

Avoiding unnecessary stages of D/A and A/D conversion has been a goal in digital production since the outset. With loudspeaker manufacturers now offering monitors with digital inputs and high-level, final-stage conversion, one of the last pieces of the puzzle has fallen into place. But with many DAWs and digital consoles, bridging a level controlled digital signal between the production chain and the monitors has been cumbersome, if not impossible. Studio Technologies, long a provider of outboard monitor controllers, has introduced its StudioComm 76DB/77B surround monitoring system with a fully digital production chain in mind.

Features

The 1U 76DB is the core of the system, housing the signal chain functionality of a console center section, including flexible source selection (six input choices can be configured from two 5.1 inputs and three stereo inputs), volume control (including user-specifiable reference level and dim functions and mute) and channel solo capability. Advanced capabilities included "channel pop" solo mode (where the selected channel(s) "pop" up in the mix by 6 dB while non-soloed channels are attenuated by -6 dB, and these offsets are user adjustable); downmix from 5.1 to stereo (which can also include the LFE channel, or not, your call) and stereo to mono; volume display in dB SPL (requires simple user calibration with a sound level meter); and dialnorm adjusted monitoring (where the selected output is adjusted per Dolby E Dialnorm coefficients in a "follow-me" mode — the rear RS-485 port is used to input a metadata stream).

The 76DB has no controls on the chassis; the front panel has status lights for Sync, Metadata presence and 77B control console presence. The 77B control console is connected and powered via a DB9 cable. Roughly 7 x 5.5 inches, the wedge-shaped controller is small enough to find a home on most work surfaces while having a non-crowded control surface for the 18 buttons and the rotary controller/volume knob. The buttons are clustered by function with LEDs to indicate status and a numeric display for showing volume/SPL or dialnorm (along with a few alternate displays like sample rate and setup info). Up to four 77B controllers can be connected to a single 76DB. Inputs can include two 5.1 sources and three stereo sources.

The packed 76DB rear panel is home to inputs and outputs for the unit. Input to the 76DB utilizes the AES3id specification — the unbalanced, 75-ohm BNC version of the 2-channel AES3 digital audio interface (these inputs will accept S/PDIF signals as well). Two full 5.1 sources (six channels across three connectors per input) can be accommodated, along with three stereo signals (10 BNCs are fitted, the final one for inputting word clock, AES11/DARS, AES3 or video sync (bi- or tri-level)). Samples rates of up to 192 kHz/24-bit are accommodated (one stereo input is fitted with sample rate conversion capability, to conform, say, a CD

Frank Wells, formerly a radio broadcast and recording studio technician is the editor of *Pro Sound News* and the editorial director of *Pro Audio Review*.

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player out to the system sample rate).

Eight AES3 outputs are available on a single DB25 connector, requiring a fan-out cable — DB25 to eight XLR males using the Tascam DA-88 pin-out (the outputs can also be configured for AES3id operation). Three of the AES3 sends are used for pre-fader surround outputs (configurable as either AES3 or AES3id outputs to feed outboard meters or other monitoring gear). Two of the AES3 sends are stereo signals, one a direct output of stereo input "C" with selectable sample rate conversion capability, and one a configurable stereo aux out that can be toggled on/off from the remote for cue or other functions. The remaining three AES3 sends are post-fader (post volume attenuator) to feed studio loudspeakers.

In Use

The good folks at Genelec, pioneers first in powered monitors and later in adding direct digital inputs, kindly provided a full 5.1 all-digital input monitor system for the StudioComm system evaluation: five 8130A two-way loudspeakers and its SE7261A subwoofer with integral bass management. Setup was straightforward: input signals to the AES3id BNCs and AES outputs to the SE7261A and, from there on, to the 8130As, daisy-chaining the front and rear pairs.

I hooked up the system before cracking the manual and had tunes to listen to while I perused the instructions for the finer points of operation and configuration. Operation is largely intuitive; we all know what to do with a volume knob, mute, dim, and solo functions, right? I did take a moment with the input select — four buttons for five inputs, the top button selecting between two "groups" with the surround inputs in the first group and the stereo inputs in the second. I might have preferred that the top button toggle between the two surround inputs and left the remaining three to select between the stereo inputs, but I got used to their paradigm quickly. [According to Studio Technologies, "The buttons are designed such that up to six unique input choices from the two surround (5.1) and three stereo inputs can be configured during setup to address the monitoring needs of the specific application." — Ed.]

More in-depth setup requires reference to the manual. There's a recessed config button on the rear of the 77B used to enter configuration mode (setting your reference level, adjusting the pop solo offsets, user settable input delay for audio synchronization with a video monitor, selecting either the left or right of the stereo A/B-left/right inputs to monitor a source where independent signals are being fed, as can happen in a broadcast plant and so on) and for programming the remote control's various user-settable functions. This isn't something you'll find yourself doing often once you've selected your configuration.

Having the solo functions on the remote is perhaps my favorite operation feature of the system, and I can see where a broadcast facility would love the pop feature; it allows the user to focus on a particular channel or group of channels while still monitoring the full signal. Broadcasters are going to delight in the ability to monitor with dialnorm parameters applied when listening to content where dialnorm is being adjusted (a program stream with imbedded commercials that have independent dialnorm values, for instance). The only function not included that a user might miss is internal bass management (not an issue in my use, as the Genelec system handles this function quite well). You can downmix a 5.1 signal to stereo and a stereo signal to mono (with fixed and commonly accepted mix coefficients). Though I didn't discover how to downmix the 5.1 all the way to mono in my trials, according to Studio Technologies, "When monitoring a surround source, pressing the stereo-to-mono button will enable 5.1-to-mono downmixing and simultaneously light both the 5.1-to-stereo and the stereo-to mono indicators." Recording users may find the AES3id inputs unfamiliar, but in a pinch, you can successfully unbalance an AES3-XLR signal to feed the BNCs.

Summary

As for sonics, I'm quite familiar with Genelec surround systems, and the 76DB in no way compromised the monitor system's performance. Actually, it was a delight to be able to maintain a completely digital chain. The StudioComm 76DB/77B surround monitor loudspeaker control system is easy to implement and amply flexible, transparently performing its intended function while adding enough bells and whistles to enhance the capabilities of most DAWs and digital desks.

Fast Facts

Applications
Post Production, Broadcast, Recording

Key Features
All digital, 5.1 monitor controller with source selection, solo, reference levels and downmix capabilities. Dolby E metadata can be monitored for dialnorm and the output levels.

Price
$4,900 and $3,800 (76DB and 76D/77 systems, respectively)

Contact
Studio Technologies | 847-676-9177 | www.studio-tech.com

Product Points

- Full-featured; a high degree of user configurability, digital domain.

- For some users, the use of AES3id inputs

The Score: An effective and flexible tool for linking digital monitors to a digital production chain.

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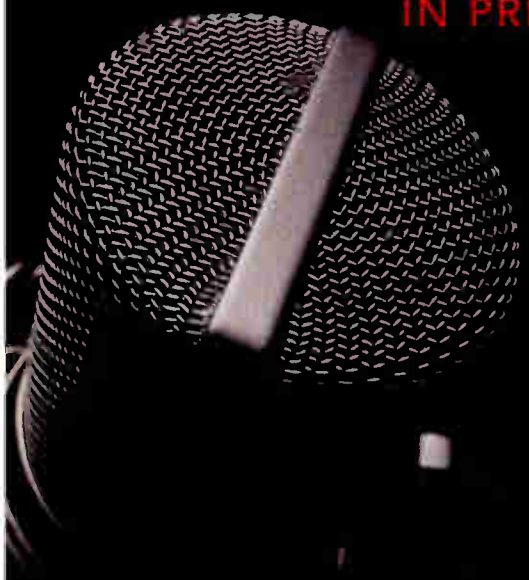

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Focal CMS65 Compact Monitor

The CMS65 can be considered either a high-class powered monitor, or in a whole new class of its own.

French monitor speaker manufacturer Focal has gained a solid reputation for producing both drivers for other manufacturers as well as its own range of professional and hi-fi speakers.

Its high-end studio monitors have many fans, and I count myself amongst them, so it is with some interest that I had an opportunity to audition a new monitor that fits in a range aimed at the project studio market — the CMS range. It was the Focal CMS65 ($950 each) that I got to try.

The CMS65 is to the left of its smaller sibling, the CMS50.

Features

The Focal CMS65 is an active, front-ported, two-way design in a compact reinforced and damped, black-powder-coated, die-cast aluminum enclosure, weighing a solid 23 lbs. and measuring 14.5 inches x 9.5 inches x 9 inches. Focal driver design is always an interesting subject; the tweeter is a familiar and very successful design. It is an inverted dome aluminum/magnesium tweeter mounted into an elliptical waveguide that controls the tweeter's directivity. According to Focal, aluminum/magnesium offers high levels of self-dampening that subsequently improves high-frequency replication and faster impulse response.

In the case of the Focal CMS65, the woofer is a 6.5-inch polyglass driver. This is another example of Focal's clever design; a thin paper cone coated in a thin layer of glass combines the effected self-dampening of the paper with good rigidity, thanks to the glass layer. The biamped Focal CMS65 supplies 100W to the woofer and 60W to the tweeter. This combined package delivers a frequency response (+/-3 dB) of 45 Hz through to 28 kHz, with a maximum SPL of 108 dB (at 1m). The front of the Focal CMS65 has a couple of LED indicators to show power and clipping alongside a volume control that gives up to -66 dB of attenuation.

It is the rear of the Focal CSM65 where we find an array of variable settings. Both balanced and unbalanced inputs are provided on the CMS65 via either XLR or RCA sockets. Input sensitivity can be selected using a 3-position recessed rotary selector with options for -4 dBu, 0, and +10 dBv. Also included are four recessed rotary selector switches for EQ correction in various forms.

First, a high pass filter has a 12 dB/octave slope with options to either bypass or select turnover frequencies of 45, 60, and 90 Hz. Next, a frequency-shelving option has a frequency point pre-selected at 450 Hz. You are able to then choose +2 dB, flat, -2, -4, or -6 dB levels of cut or boost as monitor position and acoustics dictate. A desktop notch filter is provided to counteract close surface reflections. A center frequency of 160 Hz with a Q factor of two can then be attenuated by -2, -4, or -6 dB as required. Finally, a high-frequency shelving EQ with frequency pre-selected at 4.5 kHz. In this case, we can apply +2, flat, -2, and -4 dB levels of cut or boost as needed.

In Use

The Focal CMS65 monitors are supplied with rubber mats to sit your speakers on

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either a desktop or meter bridge. They are pretty sturdy; I found no issue with them in any setup. The CMS65 monitors come with a perforated metal grille over the tweeters for protection, and the simple, well-written user guide recommends you remove these grilles and replace them with a phase plug (a plastic ring with central divider) for optimum use with the supplied hook tool; all is very straightforward and you do want to make sure you do this, as performance is dramatically changed, as you would expect.

The equalization options are extensive, and the effects of any changes are instantly recognized in use. I found that I was able to leave the Focal CMS65 pair in a flat neutral setting for the variety of system applications I used them with.

I had very high levels of expectation for the Focal CMS65, and I was not disappointed. Low frequencies were full and present without a hint of flabby or boomy characteristics — just nice, tight, and accurate reproduction. But it is when you hear the midrange that the Focal CMS65s really do deliver. The mids have wonderful clarity — they are crisp and well defined with great stereo imaging. The tiniest of balance and tonal changes can be easily picked out across a wide range of volume use.

Extending through the midrange into high frequencies, the Focal CMS65 continued to impress me with bright, clear highs that are free of harsh edges and excessive softening. It is a pleasing and accurate sound that I found instantly able to trust and work with for extended periods of time with ease.

Summary

The Focal CMS65 monitors are entering an overpopulated area of audio equipment and will go head to head with well-established competition. After spending time away from some of these other options and then returning to the Focal CMS65, I would personally choose the CMS65 monitor for day-to-day use without hesitation.

After all, it's all about clarity. For me, the Focal CMS65 is in a class of its own in this regard. At the very least, these should be on your short list for audition.

Contact: Focal USA | www.focalprofessional.com

Line 6 POD Farm Plug-in

If you're a fan of Line 6 POD guitar/bass sounds, you'll dig this piece of software.

POD Farm — priced at $139 and $419 for the Platinum package ($99 and $299 street) — is their latest plug-in, available in several different configurations, including a version for iLok users and another for Line 6 hardware owners. Both versions are DAW-based, but differ by the user's preferred method of copy protection. The latter version, POD Farm for POD Studio audio interfaces, also includes Tone Direct, which runs in front of the DAW for POD tone without latency. Either version runs via AU/VST/RTAS on Mac and RTAS/VST on Windows.

Aside from choosing which config you want from above, you can select two different versions. The first is POD Farm, which features 18 guitar amps, 24 cabinets, five bass amps and cabinets, 29 stomp box and studio effects and six mic preamps. The second is POD Farm Platinum, which has 78 amps, 24 cabs, 28 bass amps with 22 cabs, 97 stompbox and Studio Effects. Both also provide what Line 6 calls "Dual Tone" functionality. It's a cool feature in that it lets you split the guitar signal and play through two full setups.

The selection of amps/cabs and effects is massive — see the Line 6 website for all of them. Most notably, it includes Fender Bassman and Deluxe Reverb, Marshall Super Lead and Silver Jubilee, Supro Thunderbolt and plenty of Line 6 models. For cabs, you have 4X12 Boogie, 4X10 Bassman, 2X12 Roland JC-120, an 8X10 Ampeg SVT, and more. Pedals and effects range from the Universal Audio/Teletronix LA-2A and Ibanez Tube Screamer to Fender Deluxe Reverb Tremolo and a Maestro Boomerang Wah. Additionally, there are Neve, API, and Avalon preamp models.

For my review, I downloaded the POD Farm plug-in for iLok and ran it on my Pro Tools system. It's not TDM (bummer!), so I ran it RTAS with the H/W buffer settings as low as possible. The layout is simple with three buttons on the left: Gear, Panel, and Presets. From there, you select accordingly. as Gear brings up a fast-moving carousel from which you can drag and drop amps, distortions, delays, reverbs, etc., into Signal Flow View area.

Panel brings up a large display for tweaking amps, pedals, cabs, etc., and Presets. Up top, on the Main Control Bar, there's Input/Output metering, the Dual (for Dual Tone) selector and Preset Name/Display.

I've been using Amp Farm since it came out years ago, and this is a whole new animal. A run through the presets such as Ace Lick, Bowie Fripp, La Grange and Tape Echo will get you adjusted quickly. Line 6 did a great job with this release, and its integration with POD hardware was a wise move. POD Farm not only sounds killer, it's also fun to use, both on guitar and bass. You'll find yourself lost in a sea of creative options until the sun rises.

Contact: Line 6 | www.line6.com

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World Radio History

by Mel Lambert

NPR West

This Culver City, CA installation features networked Klotz VADIS digital mixing systems with Dalet Digital Media System record/playback workstations.

Studio B's control room, equipped with Klotz VADIS II networked audio mixing systems and Dalet server-based audio storage/playback systems

Established almost 40 years ago, National Public Radio has earned a well-deserved reputation for providing high-quality news and current information programming from its Washington, DC headquarters and regional production centers around the country.

At the turn of the millennium, the organization realized that it needed a West-Coast presence to cover the growing number of stories originating from that time zone; the events of 9/11 further accelerated the decision to decentralize NPR and place additional facilities in other cities. "September 11 made it apparent in a very urgent way," says Jay Kernis, NPR's senior VP for programming, "that we needed another facility that could keep NPR going if something devastating happened in Washington."

"NPR West is one of the most significant developments in NPR's capacity to provide programming services to stations and listeners," considers Kevin Klose, the organization's president emeritus and president of the NPR Foundation. "Years of thoughtful analysis, months of careful site selection and detailed facility planning [went] into NPR West. This meant a huge expansion in our capacity to bring timely, comprehensive news of the West to our national newsmagazines, newscasts, and cultural programming."

"Given the importance of the West Coast as a news source," offers Bud Aiello, NPR's director of engineering technology, "we

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realized that a full-service facility was required within the Los Angeles area," to provide enhanced coverage of the western United States and Pacific Rim. A suitable building was soon located in Culver City, west of Los Angeles. Opened during November 2002 — in time for coverage of the fall elections and the Democratic National Convention held in Los Angeles that year — NPR West was the organization's first large-scale production center to be established outside of Washington, DC; a smaller New York facility also is available. Reported cost for the NPR West project, including an $8 million land purchase for construction, was $13 million.

"The space was custom-built for [former occupant] Digital Planet, an Internet video production and teleconferencing firm," Aiello says, "complete with production suites, support systems, and technical build-out." An existing technical infrastructure that included a high-power UPS, large-capacity AC, generator transfer switch, a central facilities room, and space for satellite dishes helped streamline the conversion. "NPR saved a large amount of money," Aiello considers, "compared to taking an existing space and converting it to our needs."

Prior to recent layoffs, the 25,000-square-foot, two-building facility housed a staff of 90+, including NPR's Los Angeles News bureau. As National Public Radio's second-largest facility, NPR West also provides broadcast-production backup to the network, which produces, acquires, and distributes some 120 hours a week of programming to stations around the U.S. In addition to formerly hosting *The Tavis Smiley Show*, NPR West's facility produced *News & Notes*, an hour-long program with Farai Chideya that covers news from an African-American perspective, and *Day to Day*, a weekday, one-hour newsmagazine produced in collaboration with *Slate* magazine. NPR West is the home base for Renée Montagne, who co-hosts the bi-coastal *Morning Edition*, which originates from Washington with Steve Inskeep.

Production Suites, On-Air Studios, and Technical Center

Five self-contained production suites plus two on-air studios with companion control rooms link to a central Technical Center via a series of control and audio-data local-area networks; access is also provided to satellite and high-speed DS3-level data circuits to NPR's DC center and other locations. The design ensures operational and technical compatibility between Washington, DC and Los Angeles, so that production staff can move freely between these locations, and also allows remote control of critical functions. "For example, a news reporter can enter [NPR West's] Production 4 or 5 and have a technician in DC handle the interconnect from 3,000 miles way," Aiello points out. Nine 384 kbits/sec MPEG Layer-2 codecs connect the NPR West complex to the Washington, DC headquarters. Codecs 1 through 4 carry stereo outputs from the primary on-air studios and Tech Center; the remaining ports carry a variety of dedicated and assignable mono/stereo feeds. At the DC facility, feeds from NPR West's Studios and Technical Center appear as dedicated inputs on the Routing Switcher, for direct access by the facility's various production areas and satellite distribution network.

"Equipment choices mimic what we have in our Washington and New York studios," advised Shawn Fox, NPR's director of engineering services, who relocated from NPR West to DC in the winter of 2008. "From the very beginning, we decided that NPR West would be our first all-digital facility. We had experimented with the technology for our Washington headquarters, but integration had been difficult. For Culver City, we intended to take advantage of the flexibility offered by assignable digital consoles and server-based digital-audio storage. We opted for a series of networked hard-disk editors [and asset-management systems] from Dalet Digital Media Systems. A Klotz VADIS II Audio Network also was selected," with control surfaces tailored for each of the production and on-air studios.

A Neumann U87 at its NPR West location

Studio bau:ton served as architects for the conversion project, with Peter Grueneisen as lead architect/acoustical designer, and Charles Irving as project manager; Washington, DC-based TGS served as overall systems designer and integrator. NPR's architectural plan required a number of acoustical improvements, Grueneisen recalls, which necessitated "floating floors and new, heavy room shells in the two larger studios and with isolation cuts in the slab around the smaller rooms." Although the basis layout topology did not involve substantial changes, the rooms themselves essentially had to be rebuilt to improve acoustic performance. Modular broadcast booths provide

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new live products

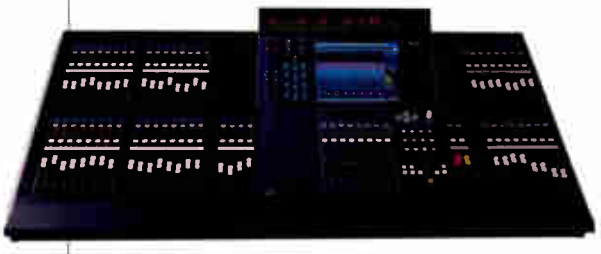
Bose L1 Compact Portable Line Array

Bose has introduced the new L1 compact portable line-array system, the most portable member of the Bose L1 product line to date, designed to fill a performance space with its one speaker, be carried in a single trip, and set up in less than one minute.

Features include such Bose technologies as Cylindrical Radiator loudspeaker design and ToneMatch signal processing within a 14-inch line array, available in two configurations: extended (68 inches tall) for larger venues or collapsed (17 inches tall) for smaller venues. Along with the XLR microphone and 1/4-inch instrument inputs, the L1 Compact system offers 1/8-inch and RCA stereo inputs.

Price: $999

Contact: Bose | www.bose.com/musicians



Yamaha M7CL Software Upgrade

Yamaha Commercial now offers a major software upgrade to its M7CL-32 and 48-channel digital mixing consoles. The Yamaha M7CLv2 software incorporates features requested by thousands of Yamaha console users worldwide including Global Paste, enabling simultaneous editing of multiple scenes, and Matrix Sends on Fader, providing access to 24 mix busses.

Additional enhancements provided by M7CLv2 software include Post-Fader Inserts on all inputs and outputs, Post-Fader Direct Outs, Monitor/Cue Level on stereo/mono faders, improved Recall Safe mode, and Relative Level Channel Link and User Defined Key Setup on the console's offline editing software. The M7CLv2 software update will be available by download free of charge during the summer for all existing M7CL users, and new console purchasers will receive the software pre-installed at no additional charge.

Price: Free

Contact: Yamaha Commercial Audio Systems | www.yamahaca.com

Ashly Audio NE Series Amplifiers

Ashly Audio has expanded its NE (Network Enabled) Series of Ethernet-equipped products with three new 2-channel power amplifiers, the ne800, ne1600, and ne2400 delivering 400W, 800W, and 1200W per channel at 4 ohms, respectively. Controlled via Ashly's Protea NE software, the new amps may be factory-fitted with Protea DSP, an AES/EBU digital input module and enabled for CobraNet or EtherSound network audio.

As standard, the new NE Series 2-channel amplifiers include balanced analog inputs accessed via XLR and Euroblock connectors with Speakon/Euroblock output connectors. Rear panel features include Ethernet access for Protea NE software control, DC voltage level control using an Ashly WR-1 wall-mount remote or equivalent, as well as remote power standby, plus switches for bridged mono mode, input sensitivity (26 dB, 36 dB or 1.4 V) and an 80 Hz high-pass filter. Balanced analog aux outputs on XLR and Euroblock connectors provide buffered signals matching the inputs.

Price: POA

Contact: Ashly Audio | www.ashly.com

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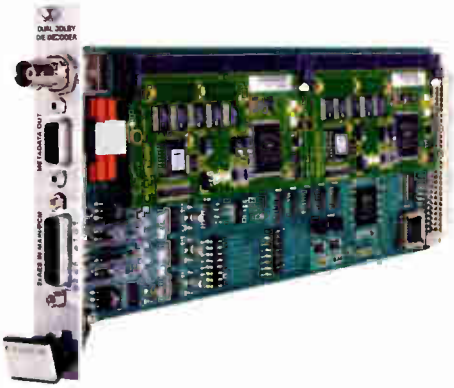
Soundcraft Vi Series Optional Interface Cards



New optional interface cards for the Soundcraft Vi Series Digital Live Sound consoles have been released, expanding the applications of this digital mixer into Broadcast and adding easy capabilities for direct recording from the desk. The ADAT card connects two ports of eight channels (inputs and outputs) to an ADAT-equipped hard-disk or software-based recorder; thus, two cards would enable 32 channels of audio to be recorded and played back almost instantaneously.

The SDI and Dolby E cards allow de-embedding of audio channels from within SDI video streams (and re-embedding for onward transmission), and the decoding of up to eight channels of audio from a Dolby Digital or Dolby E stream. All individual audio channels are then available within the Vi Series digital patchbay for mixing. The Dolby E card holds two complete decoder sections and saves both space and weight in critical applications such as OB vehicles.

Price: POA

Contact: Soundcraft | www.soundcraft.com

Harman Pro Systems Rebate Offer

Harman Professional has announced its new Systems Rebate Offer that pays rebates on purchases of products from three or more participating Harman brands. The rebate presents an opportunity to receive up to $500 cash back from the purchase of over 150 products provided by six participating brands, such as JBL's new PRX512Mi and PRX718S powered speakers (pictured).

In order to qualify for the rebate, the purchased product must be "any new, in-the-box, non-accessory item from participating Harman brands AKG, Crown, dbx, JBL, Lexicon, and Soundcraft." The receipt's transaction date also needs to be between April 1 and June 30, 2009 to be eligible for any cash back. This offer excludes accessories including, but not limited to, wind screens, microphone stands, mounting brackets, software, speaker covers, microphone covers, and rigging hardware. The offer is also only valid for end-user purchases made at authorized Harman Retail MI dealers.

The cash back submission is determined by the total price of all purchased items; three or more participating products. The calculated rebate can range between $50 and $500. For more information, visit the Harman Professional website.

Price: Up to $500 cash back on qualified Harman purchases

Contact: Harman Professional | www.harman.com

Roland/RSS RH-PM5 In-Ear Monitors

These new RH-PM5 in-ear monitors, tuned for live stage and studio monitoring, are specially designed for use with the new RSS Personal Mixing System featuring M-48 live personal mixers. According to the manufacturer, the RH-PM5 is a balanced in-ear monitor with "clear and distinctive midrange sound," enabling detailed expression in vocals and instruments.

Features include ear hook and slide tube attachment with minimal touch noise; aluminum construction; four types of ear adapters to fit a wide variety of ear canals (S/M/L/XL); and a carrying case for RH-PM5s and accessories. These accessories include a 7-foot extension cord, gold-plated stereo mini jack to stereo mini plug; stereo mini plug to 1/4-inch stereo phone adapter; cord clip; two filters; and a filter replacement tool.

Price: TBA

Contact: RSS America | www.rssamerica.com/rhpm5

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Aviom Pro64 Series Digital Audio Network

Aviom's premier line of digital networking components is an affordable and flexible choice in connectivity for our modern and multifaceted pro audio world.

The growing use of numerous audio networking and distribution solutions provides a backdrop of the future for digital audio. As we require transfer of more data at a faster rate, the audio world will continue to reap the benefits. Aviom's Pro64 Series of CAT-5 based digital audio networking systems is one of the leading products to benefit this growing segment of our industry.

Features

At the top of the Pro64 Series, Aviom has recently added the 6416m 16-channel microphone input unit, which facilitates the introduction of 16 microphones to a network. Combined with Aviom's 6416o analog output interface, the RCI Remote Control Interface, and the MCS Mic Control Surface, a 6416m-based system can be used to transmit signals from the stage to FOH and/or a monitor desk up to 400 feet away via CAT-5e cables. It can also be used for any number of varied applications that require the transfer of high-resolution, uncompressed digital audio—from FOH to monitors or distribution to as many points required, installed audio networks of all types, and so on.

The Aviom 6416m mic-input module incorporates 16 quality mic preamplifiers with the technology necessary to introduce the signals from these preamps to a Pro64 network. There are controls and indicators relating to a channel's assigned A-Net slot and digital clocking (44.1 kHz to 192 kHz).

The front panel contains mute, edit, and activation buttons for each of 16 channels, along with link buttons for each of eight pairs. Each channel also features a six-segment LED meter and indicators for polarity, HPF insertion (-3 dB @ 85 Hz and 18 dB/octave), a 24 dB pad, and +48 V phantom power. Control master and cancel/enter buttons are also featured on the front panel, as are controls and a display for the system's Virtual Data Cable (VDC) slots. VDC offers dedicated bandwidth over 14 channels for MIDI I/O, RS-232, and General Purpose I/O (GPI/O can handle both contact closure and time TTL). A knob in the lower right-hand corner of the front panel sets mic gain on any given channel in 1 dB increments.

The 6416m's rear panel contains 16 XLR mic inputs along with two female DB-25 connectors (grouped as 1-8, 9-16), which can be used as alternate inputs or as audio through ports as a passive split for monitoring or recording applications. Connection to the A-Net is facilitated by two EtherCon RJ-45 ports (A and B), and a section is dedicated to VDC I/O, including MIDI in and out, an RS-232 port, Euro-type blocks for contact or TTL, and dip switches that determine the behavior of the VDC ports. An IEC connector accepts AC power, and there is a 4-pin DC power input (24V) if you desire to separate the power supply from the unit or supply backup power.

An Aviom Pro64 network can be set up to run as a highly configurable system as all its A-Net ports are bidirectional and essentially interchangeable. It

Tom Young, longstanding mix engineer for Tony Bennett, is a regular contributor to *Pro Audio Review*.

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Contributor of the Month:

Tom Young

Live/Studio Engineer

Touring and New York City/Metro Area

With over 30 years of live sound engineering and production, Tom Young began his career in the casino theater market in Atlantic City. He has worked on system design projects worldwide and consulted on numerous sound installations, most recently the redesign of the sound system at Radio City Music Hall in New York City.

Young is currently the audio system design consultant for the St. George Theatre in Staten Island, NY and the new Frank Sinatra School of the Arts in Astoria, Queens (NY). He spent 12 years as the front-of-house engineer for Frank Sinatra, and for the past 14 years, he has had the distinction of mixing all live concerts and recording projects for Tony Bennett.

Young has published hundreds of articles in various audio trade publications and is featured in the book, *Crank It Up: Interviews with the Top Touring Sound Engineers*. In 2002, he received a Grammy Award for engineering on Tony Bennett's *Playing with My Friends*. In 2007, he was the recipient of a Parnelli Award for Front of House Mixer of the Year. A member of AES, NARAS and NSCA, Young is a managing partner of sound company, ACIR Professional in New Jersey (www.acirpro.com).

Product Points

- High-quality audio networking
- Cumbersome when setting up gains on a digital work surface when speed is required

Score This good-sounding and flexible system should be considered for pairing with low- to medium-priced consoles.

supports up to 64x64 channels or as a 64-channel network with no directional limitations on audio signal flow. The Aviom 6416o is essentially the reverse of the 6416m, with 16 channels of analog outputs associated with A-Net slots. Each channel features a three-segment LED meter, a selector button, and a slider switch that toggles between line and mic output levels. (Aviom recently introduced an updated version of the 6416o, which provides three line-level output choices (+4, +18, and +24 dBu) plus mic level output. — Ed.)

Aviom's RCI is a 1U box that provides an access point anywhere in a Pro64 system for connection of an MCS; it also acts as a standalone monitoring station. The MCS is the remote control (6-inch x 5-inch x 1.5-inch) with bicolor LEDs to indicate level for 64 channels, along with an expanded 12-segment LED level meter (0 to -48 dB) with peak hold (for clips on the unit's 64 bicolor LEDs) with the selected channel and numeric LED displays indicating slot number and mic gain in decibels. There is a numeric keypad; save, cancel, recall, and enter keys; and phase (polarity), low-cut, mute, pad, and phantom-power buttons. A single EtherCon RJ-45 port connects the unit to the RCI.

In Use

Using three 6416Y2 A-Net interface cards, I integrated the system with Yamaha digital consoles: a PM5D at 96 kHz and a M7CL at 48 kHz. Adjustments are made to set clock rate with dip

Fast Facts

Applications

Sound reinforcement; commercial, private, and project studios; houses of worship/theaters; audio for broadcast facilities; audio post-production facilities.

Key Features

(6416m) 16 mic preamplifiers; front panel controls of mute, edit, and activation buttons plus 6-segment LED and polarity indicators, HPF insertion, 24 dB pad, and phantom power per channel; link buttons for each of eight pairs; dedicated bandwidth over 14 channels for MIDI I/O, RS-232, and General Purpose I/O; 16 XLR mic inputs along with two female DB-25 connectors on rear; A-Net connectivity via two EtherCon RJ-45 ports; MIDI I/O; RS-232 port.

Price

$7,500 (6416m); $3,275 (6416o); $1,365 (Remote Control Interface); $885 (Mic Control Surface)

Contact

Aviom | 610-738-9005 | www.aviom.com

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switches on the 6416m and the interface cards. [According to the manufacturer, "The sample rate on the 6416m is set from the front panel with a push button. If the 6416m is used as the clock in the system, clock settings on the 6416Y cards do not need to be changed when the sample rate is changed — it happens automatically." — Ed.]

I used the Aviom clock as the master sync source. The demo system was used as a digital snake to get input signals from stage to FOH via CAT-5e cabling. The adjustments of the mic pres are handled with the included remote, and, once set, you can store the per-channel presets. This is handy when repeating similar applications yet cumbersome when you are used to setting up your show using the Yamaha console controls. [Aviom also supports mic pre remote control from the Yamaha console using the free downloadable m-control Pro64 software upgrade. — Ed.]

The sound of the Aviom mic pres is good; the Aviom improved the overall sonic quality of the Yamaha M7CL. In using them with the PM5D, they appeared brighter than the PM5D mic pres; I preferred the PM5D mic preamps. If the controls of the input gain on the Yamaha console talked to the Aviom, it would be much better. ["And with the m-control software upgrade, they do," offers Aviom. — Ed.] Audio is still very good with the Aviom, the converters sound pleasing, jitter is at a minimum, and there is very little latency.

Summary

Aviom Pro64 products should be welcomed in many applications: sound reinforcement, recording studios, houses of worship, theater, broadcasting and post-production facilities as well as many commercial installations. When considering a snake system for low- to medium-priced consoles, this system can offer simplicity in setup as well as sonic improvement.

SECOND OPINION:

AVIOM PRO 64

by Karl Bader

For this demo, I received two Aviom 6416m mic input modules, three 6416Y2 Yamaha interface modules, an RCI module, and the MCS remote. *PAR* contributor Tom Young had the system before me and was nice enough to keep everything configured, so it was pretty easy to plug and play. The signal and control lines, all via CAT-5e cables, made it really easy — out B on one unit, in A on another, and so on. For the demo, I put the cards into our Yamaha M7CL and only had to configure the inputs from the slots, then change the clocking — all very easy.

I tried using the console with the remote at the shop. Although small, the remote was very easy to get around; with it, you can access most options that are accessible on the faces of the 6416m units. The only major exception is the Link function, although this minor inconvenience did not bother me. Yet there was one issue that did really bother me. Engineers like to use their own settings off their cards/USB sticks. If this system were used in a festival or a one-stop-through tour, it would be nice to store all the various head-amp settings. However, this was not possible through the remote. [However, m-control software, as mentioned earlier in this review, allows settings to be stored in a Yamaha console. — Ed.]

At the time I received this system for review, Aviom released a firmware upgrade that I think everyone was looking for: the ability to control the preamps from a Yamaha console without needing to use the external remote. As a result, this upgrade fixed what would have been my number-one problem with the Pro64 system. The upgrade is a free download from the Aviom website. For this upgrade, you need to interface with the cards via RS-232 on a DB9 connector. Not many, if any, computers I use these days have a DB9 connector.

I had to use a USB to RS-232 adapter, and the upgrade has to be made in the environment of Windows XP, or higher. You not only have to download the firmware file, but the program to run it. As a result, I had my nose to the computer and the manual for several hours and was not able to get the two things to talk to each other. A call to Aviom suggested that it was my USB to DB-9 adapter and that I should to try using one of the USB to RS-232 adapters listed on their website. I bought and tried one of the recommended adapters with still no luck, even after another couple of calls to Aviom. However, the good news is that all of the Aviom systems now are being shipped with the firmware upgrade.

I preferred the sound of the Aviom preamps over the sound of the Yamaha M7CL's on-board amps. Personally, I think they have a much "warmer" sound in direct comparison with to the M7CL amps, and they stay a bit smoother in high-frequency ranges. Having a digital snake as part of the system was an added bonus, although it is recommended that it be limited to a length of 400 feet. ["With Aviom's MH10f, fiber can also be used between devices," offers the manufacturer. — Ed.]

The units offer significant flexibility in configuration. For example, if I had racked two units of two 16-channel mic pres, and one output module, the system could be split for small shows or combined for large shows. Combining the racks require only a single CAT-5e cable. It's worth mentioning that there is no option to run communications with this system, whether Clear-com or RTS-based; a line would have to be run separately for that purpose.

In conclusion, I believe that the Aviom Pro64 Series is an affordable option in a digital snake and networking system, and, in my use, it proved itself as a worthwhile upgrade to the Yamaha M7CL.

Karl Bader is a lead engineer for Washington DC-based Entertainment Sound Production and can be reached at KarlBader@espsound.com.

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NPR West

(continued from page 41)

enhanced sound isolation within the three edit suites and pair of production areas. "To maintain sound isolation between areas," advises Grueneisen, "self-sealing Wenger rooms were installed in each studio without fasteners, caulking or permanent attachments to a building structure."

For the larger control rooms and on-air studios, studio bau:ton raised and floated the concrete slabs. Three different products were selected for interior acoustical treatment. Walls received a combination of Bonded Acoustical Fabric Pad/BAFP, a fiberglass-free material produced from recycled cotton rag, and Porous Expanded Polypropylene Panels/PEPP; ceilings were handled with a combination of PEPP and Sonex acoustical foam.

Integrated Server-based Recording/Playback and Assignable Control Surfaces

Dalet Digital Media System workstations were specified for server-based recording, playback and asset management, with Klotz digital console surfaces for level control and routing. Dalet playback is normalled to Klotz inputs, with outputs routed to recorder inputs to the main Dalet servers. The networked Dalet servers provide a total of 50,000 hours of online CD-quality storage, plus 7,600 hours of backup capacity. "A number of system topologies let radio journalists run the five Production Suites by themselves," Fox explains, while conventional broadcast operators are used in the large-format studios. But for added flexibility, microphone and playback sources in Production Suite 4 adjoining one of the main air studios can be routed to the latter's control room's console surface; a glass window between the two rooms provides visual communication for engineering staff and producers.

A series of Klotz DCII Control Surfaces are linked via local area networks to a Variable Audio Distribution Interface System (VADIS) that comprises a number of processing cores and routers located throughout the technical areas. Each of the DCII supports up to 56 moving faders with assignable channel strips featuring a fader, pan, mute, and an optional EQ/dynamics section accessible via LCD screens. A two-layered scheme separates audio from control, while the TDM-based router handles up to 256 channels per VADIS frame and allows an unlimited number of virtual control surfaces to be accommodated.

The pair of On-Air Studios and Technical Center each features 20-fader VADIS DCII control surfaces, while the five Production Suites are provided with four-fader panels. "Any source connected to any console surface can appear on any fader," Fox offers, "while console setups can be recalled at the push of a button." Each DCII surface routes to a quartet of stereo output buses: PGM, AUD, UTL, and Mix-Minus. In theory, any console surface can control any processing element anywhere in the NPR facility or, with access to the closed West-Coast/East-Coast wide area network, anywhere with the NPR network.

"For the larger control rooms and on-air studios," offers studio bau:ton's project manager, Charles Irving, "we decided to raise and float the concrete slabs. For acoustical room treatments we used three products that were selected for their economy not only as material, but also for ease of installation. On the walls we used a combination of Bonded Acoustical Fabric Pad (BAFP), which is a fiberglass-free material produced from recycled cotton rag, and Porous Expanded Polypropylene panels (PEPP). These panels were either bonded directly to the gypsum board surfaces or, where we needed to cover acoustic wall and ceiling cavities, we employed a system of wire-mesh backing or exposed wood battens. On the ceilings we specified a combination of PEPP and Sonex, using similar attachment methods." Acoustical Surfaces supplied the BAFP and PEPP products plus Sonex, while systems integrator TGS supplied the various studio on-air desks and control-room furniture.

In addition to audio facilities, NPR West was recently equipped with a Sony AWSG500 Anycast Live Content Producer that is currently housed in a dedicated area adjacent to Studio B, which hosts Renée Montagne during *Morning Edition*, and which was also used for the daily *News & Notes* program. Supplemental lighting also has been added to Studio B for the video shoots. "We use the four-camera Anycast systems two or three times a week to shoot and prepare edited video shows for our webcasts," Fox advises. "In the future we may begin live internet streaming using this system."

"What did we learn from the NPR West project?" Aiello reflects. "Three things: One, that the job always takes longer than you think, especially if the technologies are software-based. Two, the difficulties of convincing our product suppliers that the radio industry is very different from the recording business. Three, that you can never judge a facility by its external appearance; there are always hidden traps. While the [former] Digital Planet building looked to be an easy conversion for us, it took longer than we planned, mainly because we had to remove 5.5 tons of wire that was in the way. The acoustic separation and sound isolation between studios was problematic, which is why we brought in studio bau:ton to take care of that [assignment], particularly the noisy outside street traffic."

"The new NPR West facility has worked well for us during the past six years," concludes Cinny Kennard, NPR West's MD and managing editor. "The networked production areas let us emphasize the editorial team spirit that is at the heart of NPR West, while the open-plan layout helps develop a cooperative culture and the free exchange of ideas."

UPDATE: In December 2008, National Public Radio cancelled *Day to Day* and *News and Notes*, both of which are produced at NPR West, and laid off a large number of staff at its Culver City regional production center. Both shows went off the air March 20, with some 25 journalists plus associated support and tech staff losing their jobs. Journalists for *Morning Edition*, including co-host Renee Montagne, will continue to work at NPR West. The decision follows companywide layoffs.

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"Love Story" — Taylor Swift

Nathan Chapman

Engineer's Diary:

With her second album, *Fearless*, Taylor Swift has emerged as country music's newest superstar. Singing with a maturity beyond her 18 years, Swift has also demonstrated outstanding songwriting ability, writing or co-writing every track on both albums.

"Love Story" features all that and an irresistible melody, too. With co-producer Nathan Chapman, tracking engineer Chad Carlson and mix engineer Justin Niebank, Swift created "Love Story" at Blackbird Studio in Nashville (featured in last month's cover story, "Tools of the Town: Gear Trends in Nashville"). Tracking took place in the API Legacy Plus-equipped Studio O; Niebank mixed on the Solid State Logic 9080 K Series console in Studio F. In between, overdubs took place in Studio E.

Swift sang into an Avantone CV-12 multi-pattern tube microphone from Avant Electronics. "It has a new old stock tube that the engineer Ray Kennedy put in it for me," Chapman explains. "I've tried a lot of different mics on Taylor; I had that mic on loan from Ray as a 'try this for a while' mic, and Taylor came to the house to do a radio edit on one of her songs from the first album. When she put on the headphones and said, 'Test,' completely unprompted, she said, 'This is my mic. I love this mic. I just wanna use this one from now on!' She had no idea what it was, just loved it, and I went along with something that felt right for her. We've been using it ever since, and it sounds great on her voice.

"The vocal was a tracking vocal — that's the vocal she cut live with the band," Chapman reveals. "The band was just acoustic guitar, bass and drums; everything else was overdubbed.

"I pulled Justin Niebank's stems into my laptop and used [Apple] Logic to do the pop version," Chapman continues. "I did the mix tweaks and new parts on my laptop. I muted the country instruments and added the elements that you can hear in the pop version — banjo, fiddle, electric guitar. The pop version's opening beat is a Logic loop in the Ultrabeat beat generator. All the new electric guitars were done with the Amplitube Stomp I/O. I think there are nine acoustic guitars on that track, and I stacked several background vocals — me singing, 'Ah's.'"

Song Facts

Single: "Love Story"

Album: *Fearless*

Date Recorded: March 2008

Producers: Nathan Chapman, Taylor Swift

Engineer: Chad Carlson

Mixer: Justin Niebank

Mastering Engineer: Hank Williams

Other Projects: Chapman produced and played a multitude of instruments on Swift's first, eponymous album. He has contributed guitar to recordings by Trisha Yearwood and John Oates and has a songwriting credit on Martina McBride's new *Shine*. He is presently working with Sara Evans.

Single Songwriter: Taylor Swift

Mixing Monitors: Genelec 1032A

Mixing Console: Solid State Logic 9080 K series

Tracking Signal Chain: Avantone CV-12; Neve 1073; Tube-Tech CL-1B

Recorder: Pro Tools

Christopher Walsh is the recording editor for *Pro Sound News* and the associate editor of *Pro Audio Review*.

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