

AUGUST 2009 | VOLUME 13 | ISSUE #

# ProAudio Review

The Review Resource for Sound

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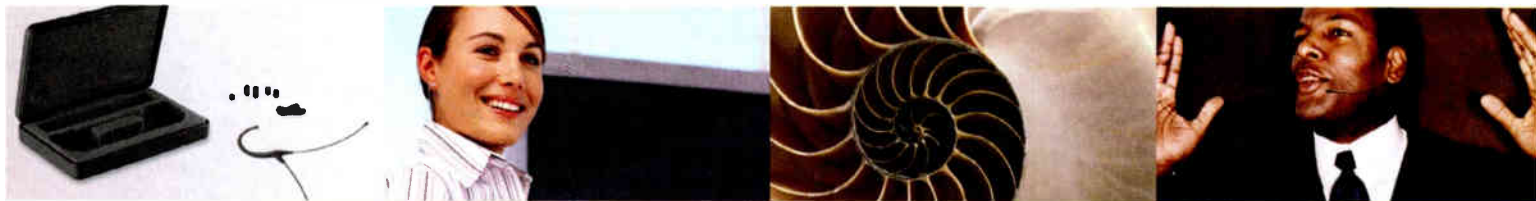
Zoom H4n Handy Recorder • Superlux S125  
Blue Bottle Rocket Stage One and Stage Two

World Radio History

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|---|--|



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## THE CHEESE STANDS ALONE.

The Big Cheese. The Head Honcho. Call it what you will, but there's no denying that Yamaha's LS9 digital mixing console stands in a league of its own. With specialized features including an integrated MP3 recorder/player, the LS9 leaves no room for competition. Offered in 16 or 32 channel models, there's plenty of opportunity for growth with the use of Yamaha's SB168-ES stagebox. Available at an attractive price and backed by exceptional reliability and support, it's clear to see why no one even comes close.



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## Audio Aficionados, New York Is Beckoning



Part of the evolution of audio production methods has found audio pros working increasingly in isolation, without the intellectual give and take that naturally accompanied the heyday of production centered on brick and mortar commercial facilities. We use social networking and other online interaction as a partial substitute, something acknowledged in the redesign of the Audio Engineering Society's website, which includes social and professional networking tools alongside new informational and educational elements. But, when possible, "face time" with our peers is still superior for the exchange of ideas. Audio professionals involved in their local AES sections will know instantly what I mean—regular gatherings centered on what is effectively continuing education provide a platform for dialog well beyond the focused topic of a given meeting. Even events that are designed to be more social than informational inevitably give way to beneficial technical and business discussions.

The AES's 127th Convention is slated for New York City, October 9-12. The fall U.S. AES conventions are the closest thing our industry has to an annual reunion. This is "face time" on a grand scale, offering audio professionals the best yearly opportunity to interface with their peers, their heroes and industry luminaries. There is also ample opportunity to learn: widely varied presentations, workshops and seminars offer something for audio pros of every skill level and in every subcategory of the audio arts. The convention's technical program content, created by professionals for professionals, ranges from historical and artistic perspectives, to practical application and technique, to explanations of the highly technical inner-workings of audio tools. The tutorial program covers audio basics, and students can further benefit from job fair and mentoring sessions.

Then there is the exhibit hall at the convention, packed with the latest audio hardware and software, presented by the product's manufacturers. Your queries on feature sets, capabilities, operational issues and design considerations will often be answered directly by a product's designer. Many of those same designers participate in the convention's paper sessions, where cutting edge technology and theory is exposed to the light of day, often providing a crystal ball image of tomorrow's audio tools.

PAR will, of course, bring you the gear and software highlights of the convention, hand chosen by our editors in the form of the PAR Excellence Awards. But try as we may, there's no way to give you the full convention experience in our coverage. The pilgrimage always proves worth the investment, and one upside to the current economy is that travel and lodging in New York are at the most affordable levels in recent memory.

Check out the convention details and program at [www.aes.org](http://www.aes.org), and I'm sure you'll find much to whet your appetite. Like the "comfort food" spread at a family reunion, the AES convention can sate and refuel you physically and spiritually. Here's hoping you can take advantage of the opportunity and that we see you in New York in October.

### EDITORIAL

Frank Wells, **Editorial Director**  
615-848-1769, [fwells@nbmedia.com](mailto:fwells@nbmedia.com)

Strother Bullins, **Reviews And Features Editor**  
336-703-9932, [strotherPAR@earthlink.net](mailto:strotherPAR@earthlink.net)

Fred Goodman, **Managing Editor**  
212-378-0423, [fgoodman@nbmedia.com](mailto:fgoodman@nbmedia.com)

Lynn Fuston, **Technical Editor**

Rich Tozzoli, **Software Editor**

Bruce Bartlett, Dr. Frederick Bashour, Ty Ford, Carlos Garza, Will James, Tom Jung, Bascom H. King, Russ Long, Steve Murphy, Alex Dana, Randy Poole, David Rittenhouse, Richard Alan Salz, Alan Silverman, Rob Tavaglione, Christopher Walsh, Dan Wothke, Tom Young **Contributors**

Paul Haggard, **Photographer**

### ADVERTISING

Tara Preston, **Associate Publisher**  
917-331-8904, [tpreston@nbmedia.com](mailto:tpreston@nbmedia.com)  
Karen Godgart, **Sales Director, West Coast Office**  
323-868-5416, [kgodgart@nbmedia.com](mailto:kgodgart@nbmedia.com)  
Allison Smith, **Specialty Sales Associate, North**  
650-238-0296, [asmith@nbmedia.com](mailto:asmith@nbmedia.com)  
Will Sheng, **Specialty Sales Associate, South**  
650-238-0325, [wsheng@nbmedia.com](mailto:wsheng@nbmedia.com)

### ART & PRODUCTION

Nicole Cobban, **Senior Art Director**  
Annmarie LaScala, **Art Director**  
Fred Vega, **Production Manager**  
212-378-0445, [fvega@nbmedia.com](mailto:fvega@nbmedia.com)

### CIRCULATION

Anne Orobish, **Associate Circulation Director, Audience Development**  
Michele Fonville, **Circulation Coordinator**  
Subscriptions: Pro Audio Review, [www.MyPARmag.com](http://www.MyPARmag.com)  
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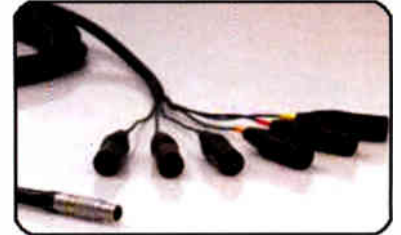
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TEL: (212) 378-0400  
FAX: (212) 378-0435  
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# new studio products



## Zoom R16 Portable 16-Track Recorder

Zoom's R16 Portable 16-Track recorder is a multi-track recording package offering 16-track playback and 8-track simultaneous recording utilizing Secure Digital [SD] memory. The R16 is comprised of three production tools in one device: a multi-track recorder, an audio interface, and a control surface [with Mackie control emulation].

For additional portability, the R16 runs on six AA batteries. Cubase LE is included for DAW-based production via USB [the control surface and audio interface can be powered via USB]. Sixteen- or 24-bit recording at 44.1 kHz sampling is supported, up to 24-bit, 96 kHz via software, and a 1 GB SD card is included. Hardware I/O includes eight combo XLR-1/4-inch inputs, a direct input for guitar or bass and two outputs. Two inputs support phantom power.

Supporting up to 32 GBs on SD memory, the R16 allows for up to 100 track hours recording on all 16 tracks.

**Price:** \$699 list

**Contact:** Samson Technologies | [www.samsontech.com](http://www.samsontech.com)



## Marantz Compact Digital Recorder

Marantz Professional has premiered its PMD580 solid state recorder the latest addition to the company's family of rackmount digital recorders. The PMD580 uses Compact Flash [CF] as its recording medium, so there are no moving parts.

The unit brings many of the same features found in the other PMD Series recorders, but adds a new dimension: network connectivity. Via its Ethernet port, the PMD580 reportedly can be positioned as a network device, allowing users to set menu parameters, schedule recording events, and transfer and archive audio files, all by using a web-based GUI interface from any PC in the network. Network accessibility allows users of solid-state digital recording devices, such as universities and government agencies, the ability to archive audio files even at designated times, and helps to manage multiple units.

**Price:** \$1,499 list

**Contact:** Marantz | [www.dm-holdings.com](http://www.dm-holdings.com)



## Royer Labs SF-24V Stereo Mic

The SF-24V vacuum tube stereo ribbon microphone, the "pinnacle of our SF-series stereo microphones," offers Royer, provides "lush, smooth, and natural" sound pickup, with "outstanding stereo imaging and superb transient response." The SF-24V's independent tube circuits provide an output level of -38 dB and self-noise of lower than 18 dB.

Other notable features include twin head amps of triode-connected, military-grade 5840 vacuum tubes, Jensen output transformers, and 1.8-micron Royer ribbons.

Stay tuned to *PAR* for our upcoming review of the SF-24V.

**Price:** \$5,895 list

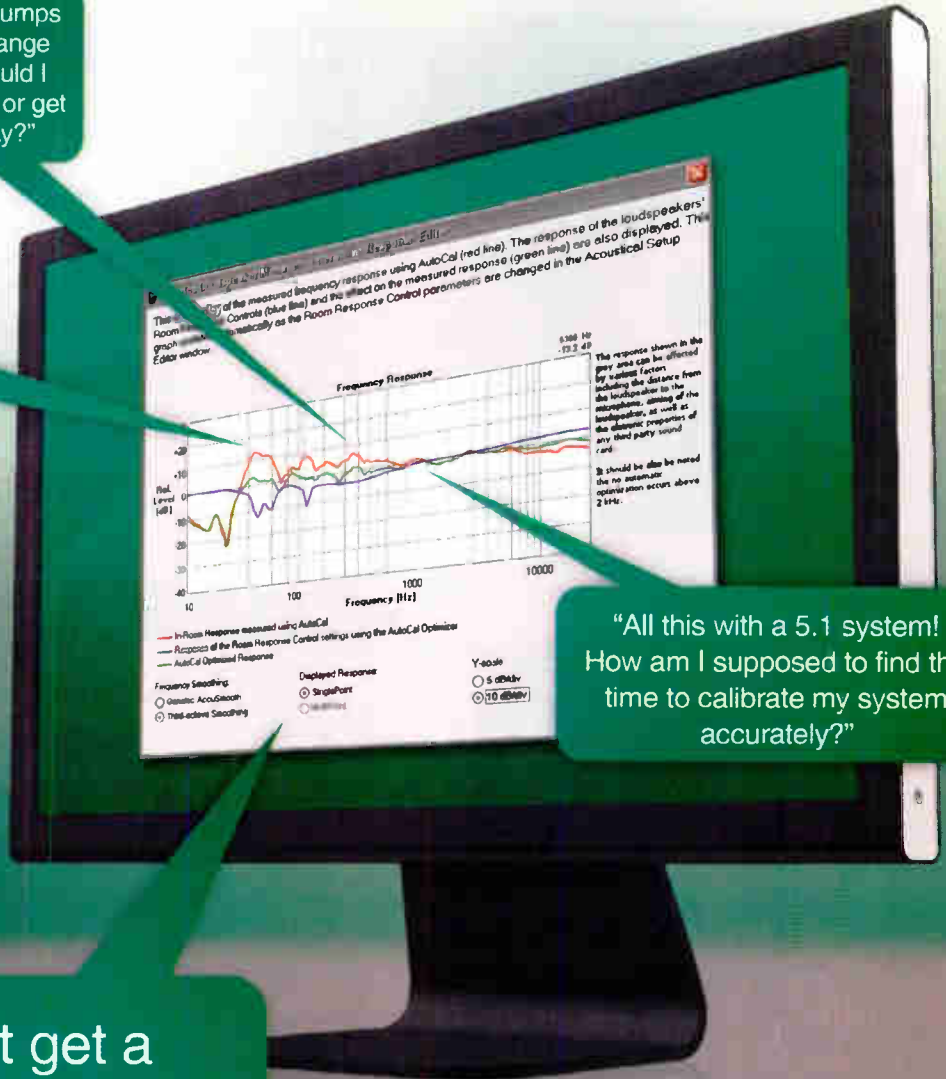
**Contact:** Royer Labs | [www.royerlabs.com](http://www.royerlabs.com)



# Some Questions are Easy to Answer

"Where do these lumps in the lower midrange come from? Should I move my furniture or get a smaller display?"

"How can I add more bass trapping in my small room to avoid this boominess?"



"All this with a 5.1 system! How am I supposed to find the time to calibrate my system accurately?"

"I should just get a Genelec DSP system!"



When you are building or fine-tuning your audio monitoring environment there are many aspects to consider: the design and geometry of the room, loudspeaker placement, acoustical treatments, the type of equipment to use and making sure everything works well together. When it comes to optimized audio reproduction and proper adjustments of your response curves, the decision is easy. Genelec DSP systems with AutoCal™ automatic calibration can attack common problems in your room response with just a few mouse clicks. Get familiar with our DSP systems at [www.genelecDSP.com](http://www.genelecDSP.com)

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AutoCal™ dsp GLM 3SE  
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# new studio products



## KRK Systems R6 Studio Monitor

KRK is now shipping the R6 passive studio monitor which incorporates design cues from the Rokit line, including radically radiused edges along the front of the cabinet. The R6 features 5-way speaker binding posts, a precision crossover, and is capable of handling 100W RMS of power. The R6 is typically selling for around \$150 street, per speaker.

According to KRK, the R6 "leverages their research and development into baffle design and fabrication." The curved front baffle was engineered to minimize diffraction of high frequencies. The baffle also houses a molded front-facing bass port that reportedly minimizes low-frequency phase distortion and unwanted frequency emphasis typical of rear-facing bass ports. The R6 voicing is designed to mimic the voicing of KRK's Rokit 6 monitor.

**Price:** \$299 list

**Contact:** KRK Systems | [www.krksys.com](http://www.krksys.com)



## CAD Equitek Supercardioid LDC

Engineered and built in the U.S., the Equitek E100S large-diaphragm, supercardioid condenser mic has the lowest noise floor in its class, offers CAD — 3.7 dBA — with a vintage tone and full-bodied low end. The E100S features a boot-strapped, full differential Quadra-FET front-end for high sensitivity and low distortion, and a nickel-plated, one-inch capsule.

Additional features include an 80 Hz hi-pass filter and a 10 dB pad. Supplied in a cherry-wood carrying case, the E100S also includes a stealth shock mount.

**Price:** \$799 list

**Contact:** CAD Professional Microphones | [www.cadmics.com](http://www.cadmics.com)



## Mackie HR824mk2: \$200 Back

Mackie is offering a rebate on a pair of HR824mk2 studio monitors. Customers can get \$200 back with a qualifying purchase from a U.S.-authorized Mackie dealer. To receive the rebate, the customer must purchase qualifying Mackie HR824mk2 studio reference monitors from an authorized U.S. Ampeg dealer between August 1, 2009 and September 15, 2009.

The rebate redemption materials must be postmarked no later than September 30, 2009 to be eligible. The high-resolution HR824mk2 studio reference monitor features the "Zero Edge Baffle," minimizing diffraction, and controls sound waves for wide, even dispersion. Other design-based features include a rear-firing, mass-loaded passive radiator, ensuring detailed bass extension down to 35 Hz, Acoustic Space, LF roll-off and HF controls, and more.

To learn more about the rebate, please visit the Mackie rebate page ([www.mackie.com/rebates](http://www.mackie.com/rebates)).

**Price:** \$849 list

**Contact:** Mackie | [www.mackie.com/products/hrmk2](http://www.mackie.com/products/hrmk2)

“For my latest project with **Ringo Starr** I have used the **Flamingo Standard** on everything from vocals to upright bass, violins to saxophones and tablas... A truly versatile and awesome microphone. Everyone who has sung on it has been blown away.”

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# PRO ON THE GO: Applications for Our iPhone World

by Russ Long

A 29- or 30-hour day might just be enough time to get everything done, but it's impossible for me to make it happen in just 24 hours. I'm constantly searching for ways to stay productive while I'm on the go, and thankfully there has been a steady flow of mobile gadgets and iPhone apps that actually allow me to get work done virtually anywhere. While most of these products aren't aimed at the high-end user, they can still serve the professional well and, more often than not, they can be purchased for a fraction of the cost of even a budget microphone.

The Apple iPhone is one of my favorite devices to come along in years. Since Apple opened the platform (which includes the iPod Touch) to third-party developers a year and a half ago, there has been a steady flow of audio applications released and I've found that there are several that I can't live without. Check before you buy, but the majority of these apps will run on both the iPhone and the iPod Touch.

## Peterson iStroboSoft

Having a tuner nearby is a necessity in the studio. There are a lot of affordable pocket and pedal tuners, but most of them provide questionable accuracy, especially for studio work. Peterson, the leader of the tuner industry, is making an iPhone version of its popular StroboSoft tuning program (which I've used and loved for years). iStroboSoft uses the classic Peterson strobe display to provide accuracy to 1/10th cent. Glowing flat and sharp indi-



cators simplify tuning when it is difficult to determine which direction the strobe is moving (and are also a help to musicians who don't like strobe tuners). The Note/Octave window displays the correct note and octave for the note being tuned. There is also a noise filter that reduces the effect of extraneous environmental noise, which is helpful when using an external mic or clip-on tuning device.

Peterson offers two great audio input options for the iPhone. The sensitivity of the small mini capsule mic is perfect for use with iStroboSoft. I've found it to work extremely well especially when tuning acoustic instruments. The mic enables the iPod Touch to be used with any application requiring a microphone, and it is a great alternative to using the built-in mic when running applications on the iPhone. Peterson's adaptor cable allows an instrument, microphone or tuning pickup to be connected directly into an iPhone through a 1/4-inch jack, providing another excellent method of utilizing iStroboSoft or any other application that requires an audio input.

## Frozen Ape Tempo

A good metronome is another studio necessity. Surprisingly, there are several metronomes sold through the App Store that have issues keeping time. I went through several of these before ace drummer Mike Johns turned me onto Frozen Ape's Tempo app. Tempo is feature-packed, and its engine was written from the ground up, so it actually keeps time. The app's comprehen-

Russ Long, a Nashville-based producer/engineer, owns The Carport recording studio. He is a regular contributor to Pro Audio Review. [www.russlong.ws](http://www.russlong.ws)

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*"I found ERGO's room-correction technology to be phenomenal. With ERGO, my room — with which I was already "truly happy" — immediately became more focused in the stereo image with deeper lows, with a clarity that just wasn't there before. For a different untreated room with obvious acoustic "issues," the results were nothing short of stunning. ERGO made an almost unusable room into a room that was quite good. With ERGO, this room's EQ response was drastically better, and the center image was much more focused. I'm not aware of anything else on the market that can touch it for the price."*

- Randy Poole, Pro Audio Review - July 2009

Get your fix and the full story today at [www.krksys.com](http://www.krksys.com)



## What can you expect with ERGO?

Once your system is set up, your room has been analyzed, and ERGO is correcting, you can expect:

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- **Better performing monitors**—the best monitors in a bad room will be challenged to provide a detailed image of your mix. Since ERGO corrects the room problems, your monitors will perform to their full potential.
- **Mixes that translate better**—great rooms are the basis for great mixes. ERGO can help transform your room into a better acoustic environment so you can mix the music instead of compensating for the room.

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- ERGO will not negatively impact the sound of your mix. KRK's first rule of room correction is "Do no harm." ERGO will fix real problems.
- Change the sound of your monitors. ERGO will correct the room and allow your monitors to project the best image of the mix. ERGO does not make things sound sweeter, just more accurate.
- Mess up the look of your studio. ERGO is compact and sleek, and is a more effective alternative to bulky and randomly placed bass traps and physical treatment.

sive, yet simple, single-screen interface makes it the perfect tool for drummers to use live. It features 17 different time signatures and is adjustable from 20 to 220 BPM. Tempo supports tap tempo allowing you to tap along with the music to capture the tempo.

### Capturing Audio

Just like a pro photographer is rarely caught without a camera, now it's possible for engineers to always have a way to capture audio with an iPhone in hand. There are dozens of apps to choose from, but the few that quickly rise above the rest are the McDSP Retro Recorder, Audiofile Engineering FiRe, BIAS iPro Recorder and Sonoma Wire Works FourTrack—the feature sets of these apps are the most appealing to the professional recordist. Although there isn't a built-in stereo mic, the Apple iPhone and iPod Touch 2G do support stereo recording with compatible dock connecting audio hardware (such as Blue's Mikey or Alesis' ProTrack). Retro Recorder and FourTrack only allow mono recording (although FourTrack allows stereo mixing), but FiRe and iPro Recorder both support stereo recording.

Since Apple has yet to open the iTunes back door to third-party app developers, recording applications are currently forced to tolerate somewhat clumsy file

UPPING THE RECORDING QUALITY ANTE

### BLUE Mikey

While I wouldn't necessarily consider it professional quality, BLUE's Mikey is high-quality, and it makes recording simple and easy. Mikey features a pair of quality stereo condenser capsules, a three-position user selectable gain, built-in speaker for playback, and a unique, user-positionable head. The Sensitivity Selector helps maximize the recording quality, making it perfect to record everything from the softest whisper to the loudest rock band. Mikey works with the iPhone and most iPod models. It's a great way to capture high-quality stereo audio on the go.

### Alesis ProTrack

The Alesis ProTrack turns an iPhone or iPod into a professional stereo recorder by providing the means to record detailed, stereo audio using the built-in, fixed, X/Y-stereo dual condenser microphones or by using the built-in combination XLR 1/4-inch inputs. The XLR inputs are equipped with switchable 48V phantom power, and the unit records 16-bit audio at either 44.1 kHz (high) or 22.05 kHz (low). The ProTrack includes customized sleds for the various iPod versions so regardless of which iPod you use, it will appear the ProTrack was made for that model.

The five-segment LED metering provides accurate (but not as detailed as I would like) visual level monitoring, and the ProTrack's headphone jack provides significantly more gain than the iPhone or iPod's built-in amplifier. The device boasts a switchable limiter, individual left- and right-channel gains and an iPod charge switch that enables the iPhone or iPod to be charged while the unit is connected to AC power.

While the mostly plastic construction makes the ProTrack feel cheaply made (especially in comparison to my Sony PCM-D50 portable stereo recorder, which is roughly the same size), the unit appears to be more sturdy than it feels; I've been using it on and off now for a couple of months and its performance has been perfect, not showing any signs of wear. The built-in mics sound great, and the high-quality mic pres make it easy to record with any mic.

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# WAITING FOR ECONOMIC RECOVERY?

Need a new console but think it's out of reach? Now through 9/30/09, Yamaha is offering two exciting options to make the purchase of a premier IM8-Series mid-size analog console much easier: **NO INTEREST FOR 12 MONTHS** financing (for qualifying customers at participating Yamaha Live Sound retailers) or a **\$300-\$400 REBATE**, depending on the model, direct from Yamaha (US customers only). IM8 is available in 32, 40, and 48 input versions, delivering performance and features far exceeding its \$3,999-\$5,399 price range.\* Visit your favorite Yamaha Live Sound dealer for all the details. Your wait could be over.



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transfer systems but, thankfully, each of these applications has at least one file transfer solution that provides reliable file transfer without any sound degradation.

## McDSP Retro Recorder

It's no surprise that Colin McDowell, the audio genius behind McDSP, has made the jump into iPhone recording. Retro Recorder is cleverly designed to look like a miniature version of a classic cassette deck. The interface makes recording simple, and the brilliant Audio Level extension (ALX) technology that is built into

the app drastically improves the recording quality making the built-in microphone a viable option for capturing quality audio. Depending on the sound-source, ALX can provide up to 30 dB additional signal level to a recording, and the ALX processing can be auditioned instantly during playback, yet the original recording is preserved.

Since the Retro Recorder only supports mono signals at sample rates up to 22.05 kHz, it's not as high-quality as some of the other recorders, but because of the improved performance provided by ALX,

it is my first choice in recording with the internal microphone.

## Audiofile Engineering FiRe

Designed to bring serious field recording to the mobile phone, Audiofile Engineering has touted FiRe as the first professional recording app for the iPhone/iPod touch. FiRe allows engineers to use their iPhone as a serious field recorder with high-end features like an accurate real-time waveform display, audio markers, and support for professional Broadcast WAVE metadata.

FiRe's user interface allows scrolling across the waveform display with the touch of a finger or via a series of configurable double-taps. I didn't like the interface at first but as I have become used to it, I like it more and more all the time. The app includes accurate VU metering (with multiple VU meter styles including K-System scales) for input and output signals, a moveable playback head, configurable time units, the ability to tag recordings with location data, and an overdub mode for layering tracks. The app includes varispeed playback, adjustable input gain, the ability to add a picture reference to the recording, and the ability to name and rename marker points.

## BIAS iPro Recorder

The BIAS iPro recorder is a professional featured recorder that features simple one-touch operation. The input metering makes it easy to see if the record level is too low or too high, and the record timer allows the user to preset an exact amount of time for recording.

The app's feature set includes varispeed playback and shuttle and scrub playback, which makes it quick and easy to locate a desired section of a recording. A volume slider with overdrive compensates for low recording levels with an adjustable

Allesis ProTrack



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"Extreme Makeover: Home Edition"

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Tomm Dauenhauer, Audio Supervisor  
"Snoop Dogg's Father Hood"  
E! Entertainment TV Productions

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## Audiofile Engineering FiRe

"volume boost" control, giving you higher playback levels than can be obtained using just the iPhone's internal master volume. Besides being able to e-mail or upload an audio file to the web, the recording can be launched directly in BIAS' Peak audio application for editing and processing (available only for Mac OS). Speaking of BIAS Peak, that's one of the things I love about this app: It feels like an extension of Peak. If you are a Peak user, you'll feel right at home with iPro recorder.

One of my favorite features of the iPro recorder is the ability to attach a picture (also available on FiRe) and a geographic tag to a recording. If I'm conducting an interview, I can store a photo of the person I'm interviewing along with the audio file, if I'm recording a band's performance, I can store a photo of the band along with the audio file or best of all, if I'm using the app to capture sound effects, I can use my iPhone/iPod Touch to photograph the sound source for easy reference.

## Sonoma Wire Works FourTrack

This app takes mobile recording one step further, allowing an

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iPhone to be used as a 4-track recorder. The app works perfectly as a songwriting and practice tool. WiFi sync allows FourTrack recordings to be downloaded to any desktop computer running RiffWorks recording software (available free on the Sonoma website) or with any browser. Tracks can then be loaded into a DAW for mixing or additional overdubbing. FourTrack records at 16-bit, 44.1 kHz with a track length limited only by the iPhone's available memory. The app features calibrated faders and meters, panning, and latency compensation. It supports bouncing and has a built-in metronome that features real drum samples.

FourTracks's Bounce feature is one of the traits that truly makes the app usable. Four tracks of a song can be mixed to tracks 1 and 2 of a new song, opening up two more tracks for recording yet preserving the originals for syncing to desktop recording software. My biggest gripe with this app is it doesn't support stereo recording.

The catchy (and surprisingly good-sounding) "Love Is the

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Thing" by southern California indie rockers, The 88, was recorded entirely on an iPhone using FourTrack (the Alesis ProTrack also played a part). It's worth checking out the mini-documentary on the making of the tune on the Sonoma site.

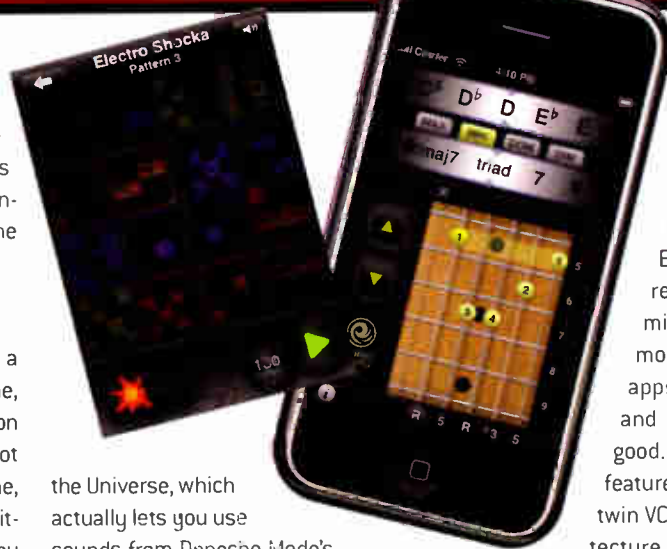
### Music Creation on the Go

While I wouldn't consider music creation a valid reason for purchasing an iPhone, there are a host of excellent music creation apps out there. These mostly provide a lot of enjoyment and a way to pass time, although they can also be valid songwriting tools, and I'm sure they'll find their way onto major albums from time to time.

### iZotope iDrum

iDrum is a fun and easy way to create drum beats. These beats can, in turn, be used as the foundation of a song or by using the free iDrum Ringtone Sync application (Mac or PC), your beats can be converted into custom iPhone ringtones. There are nine versions of the iDrum mobile app (priced at either \$4.99 or \$5.99/each).

As a Depeche Mode fan, I couldn't wait to try out iDrum: Depeche Mode Sounds of



iZotope iDrum (left) and Planet Waves Chordmaster

### Yonac miniSynth

Even with its buggy recording feature, the miniSynth is one of the most enjoyable music apps I've encountered, and it sounds amazingly good. The \$1.99 miniSynth features an easy-to-program twin VCO virtual-analog architecture, and it's the perfect tool for working out a melody,

adding that hit-making synth line to a song's bridge or just fiddling around. The app even supports Wi-Fi file transfer.

### Planet Waves Chordmaster and Scale Wizard

Planet Waves is another music software that has already established a strong presence in the iPhone App market with its Chordmaster and Scale Wizard apps. Chordmaster is the quintessential mobile guitar chord library that places over 7,800 guitar chords in the palm of your hand. The app features a unique virtual fretboard that accurately displays notes and fingerings, Chords can be viewed in multiple neck positions, and the virtual strings can be virtually strummed for an audio reference. The app even offers a "lefty" mode for left-handed guitarists.

Scale Wizard is a comprehensive guitar scale and arpeggio library. This app places a library of guitar scales, modes, and arpeggios into the palm of your hand. Scale Wizard provides over 10,000 patterns, left-handed view and alternate tunings. The app's optimized interface allows you to swipe your finger up and down the fret board and hear ascending and descending scales, or tap the screen to hear individual notes.

Whether you are new to the app store or you've been at it for a long time, hopefully this has granted you some new insight that will open the door to increased productivity and just plain, old, creative fun.

the Universe, which actually lets you use sounds from Depeche Mode's Sounds of the Universe to create music on your iPhone. The app gives you the ability to rearrange the drums, rhythms, and effects for each song on Sounds of the Universe or you can use the raw drums, instruments, and effects to make your own musical creations. The app has a simple interface that lets you build beats layer by layer by tapping the touch screen. iZotope's cleverly designed interface, which allows music to be created with simple shapes and color combinations, makes it easy to create beats even if you don't have any programming experience.

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## TELEFUNKEN Elektroakustik ELA M 260 Small-Diaphragm Tube Condenser Microphone

In their heyday, small-diaphragm Neumann, Schoeps, and AKG tube microphones were used for both classical music recordings and solo instrument miking in pop and jazz.

The original TELEFUNKEN GmbH ELA M 260 was manufactured by AKG as a variant on the company's C60, which was much smaller than the TELEFUNKEN Elektroakustik because, unlike all other small-diaphragm tube mics, its [large] output transformer and various other passive parts were located in the power-supply chassis.

### Features

The TELEFUNKEN Elektroakustik ELA M 260, \$1,495 list, uses a NOS TELEFUNKEN EF-732 miniature vacuum tube, rather than the original, and rare, TELEFUNKEN AC-7D1k. It is 5.5-inches long, slender, comes in an antique-looking, padded, wooden box with a modern power supply, 10-meter Gotham Audio cable and an effective shock mount. The mic is assembled at TELEFUNKEN Elektroakustik's plant in Connecticut, the transformer is hand-wound in the United States, and certain other parts take advantage of the efficiencies of today's "global economy."

Also included is a custom-machined thread adapter, enabling the user to connect vintage half-inch AKG C-451 capsules from the CK-series and even more vintage AKG CK26 and CK28 capsules (from the C60 and C28 tube mics) as well as 12 one-inch capsules from JZ/Violet Designs and BLUE Microphones' lollipop capsule series. The original ELA M 260 was supplied with only a CK28 capsule, while a vintage ELA M 261 had an exceedingly rare three-pattern [cardioid, figure-of-eight, omni] capsule.

### In Use

I own four vintage AKG C60s, so the first thing I did was compare the ELA M 260s with them under various studio and location recording conditions. First of all, its output level was higher than my C60s. Unfortunately, once I matched output levels, the noise level was also higher. The ELA M 260 is rated at 15 dB, a little on the high side for a modern tube microphone (such as the Mojave Audio MA-100 and the Groove Tubes GT40), as most use miniature 5840 or 6205 tubes. But if you've ever looked for a TELEFUNKEN AC-7D1k on eBay (and experienced sticker shock), you'll understand TELEFUNKEN Elektroakustik's decision to use a lesser known but characteristically similar "New/Old Stock" tube. Despite this, I found the noise level satisfactorily low for all uses except as main tube mics for classical music recording sessions, for which the [more expensive] Neumann KM 50-series, or Schoeps 221Bs/222s, would be preferable.

The supplied cardioid capsules sounded a lot better than my vintage AKG CK28 capsules; they were brighter and clearer on my Mason & Hamlin piano and Martin JC-16RGTE guitar, and actually sounded similar to my prized matched pair of AKG CK1s. TELEFUNKEN Elektroakustik supplied

three ELA M 260 systems for my tests, and I can confidently state that the capsules matched very well. On the other hand, used CK-series capsules vary widely, so TELEFUNKEN has really nailed the capsule design. The TK62 hypercardioid capsule sounded similar to the TK60 cardioid but, acting like a genuine hypercardioid, would be a better choice for stereo orchestral recording. All three capsules sounded great on drums.

The TK61 omni was really nice, with deep low-end warmth. I don't own any original AKG CK26 capsules, but the TK61 compared very favorably with my Schoeps omnis. In fact, I found the smooth, light and bright sound of all three capsules preferable to the "aggressive" sound of my Neumann small-diaphragm KM-53s/54s and the "mid-rangy" presence of the Schoeps. They even flattered woodwind instruments, often a problem for small-diaphragm cardioid mics, and the omni sounded amazing on pipe organ.

### Summary

The TELEFUNKEN Elektroakustik ELA M 260 is uniquely positioned within the small-diaphragm tube microphone world. With its three wonderful-sounding, half-inch capsules and the ability to connect various other large-diaphragm capsules, it is the most versatile microphone of its type I've ever used. But even this would be meaningless if it didn't have "the sound." Yet, it does.

TELEFUNKEN Elektroakustik |  
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Dr. Fred Bashour holds a Yale Ph.D. in Music Theory, and currently performs as a jazz pianist and church organist.

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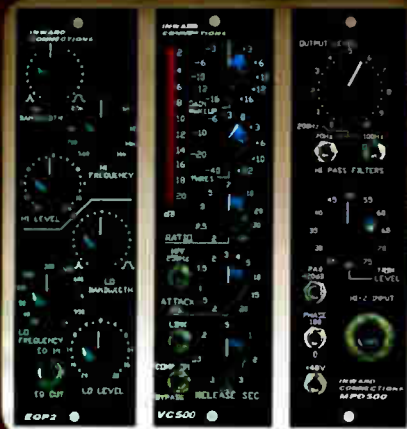
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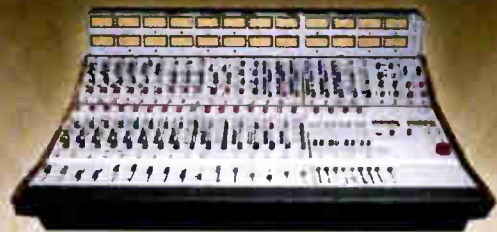
"Most simply put, the Symphony System rocks and is rock solid! I now have the sonic quality Apogee is known for mixed with seamless integration on my Mac Pro/Logic rig. Life in the studio is good!" - Vincent di Pasquale



### Retro 176 Tube Limiting Amplifier

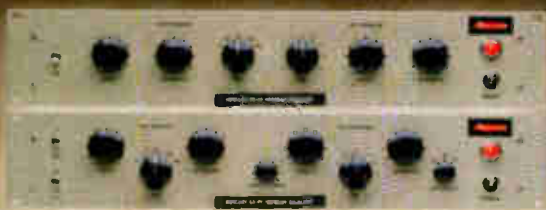
"Phil Moore did a great job! Bill Putnam would smile!! The Retro 176 has become my first choice for lead vocals. It now stands alone at the finish line."

- Chris Lord-Alge



### Rupert Neve Designs 5088

The 5088 is a discrete analogue mixer designed by the master himself. Demo consoles available in New York City and Los Angeles for personal demonstrations.



### Mercury EQ-P1 & EQ-H1 Program Equalizers

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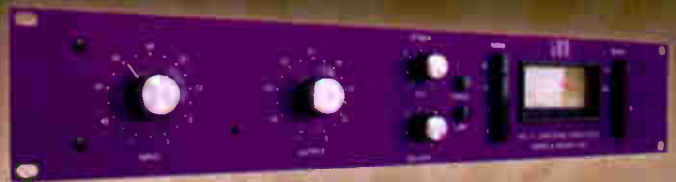
The U47 FET is legendary for obtaining larger-than-life kick and bass tracks as well as thick and full vocals. For the first time, Wunder has re-issued this classic design in a three-pattern version!

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## Zoom H4n Handy Recorder

Zoom H4n is a “Swiss army knife of its day and at a price you can’t ignore.”

Is there anything new under the sun in the world of handheld recorders? Consider this: on which hand-held recorder could you fill up the SD card because you’d forgotten you were recording at 24-bit linear, divide the resulting enormous file into chunks, delete a couple of chunks to free up some space, then convert some of the remaining files to mp3 at 48kbps, and delete the original linear file to leave you acres of recording space? Well, for one, the new Zoom H4n – a 96kHz-capable, SD/SDHC memory, linear PCM four-track digital recorder.

I’m not sure whether any of that functionality is new; Zoom has had a considerable presence in the handheld market with its H2 and H4 recorders, but although I have often seen them used as meeting recorders, I haven’t actually had a chance to play with one, until recently.

### Features

When I unwrapped the packaging, to my surprise, the H4n was bigger than I expected with a solid feel about it. This is quite a deliberate move; Zoom has “rubberized” the case of the H4n for a more robust feel and less handling noise.

It’s a bit on the beefy side, as on the bottom are two XLR sockets for external mics. This is in addition to the built in X/Y mics at the pointy end. And —

before the question can form on your lips — yes, the Zoom can record all four inputs at once. It’s a four-channel and a four-track handheld recorder. In fact, you can connect some plug-in power mics instead of the built-in pair for a total of four external mics.

One very encouraging sign is that Zoom ships the H4n with a decent windshield that mounts quite solidly to the recorder. Many of the non-Flashmic designs don’t come with a decent windshield, or offer no real way of fitting one securely — well done, Zoom.

The Zoom has three recording modes — stereo, four-channel and multi-track, or MTR. In MTR, you can route any of the four active inputs to

any of the four tracks; indeed, you can route one input to more than one track. In MTR mode, you can punch in and out in Overwrite mode. You can manually punch in or preset the in and out-points, and directly input the times into the counter for pretty accurate punching. It dawned on me while I was playing with this rather expansive fea-



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## Zoom H4n: Distant Locations, Challenging Usage

For those in the newsgathering and field-recording disciplines, hand-held recorders such as the Zoom H4n are truly indispensable. In traveling to distant locations and those that could charitably be described as “challenging,” small, lightweight and solid are essential attributes in a hand-held recorder, as are recording quality and ease of use.

On separate occasions, this recordist has traveled to India with different hand-held recorders: first, with a then-new Sony PCM-D50, and most recently with a Zoom H4n. (In fact, I took a small cassette recorder on a still-earlier trip to India. As you might imagine, audio captured with that device was useless.)

In this instance, ease of use was the most critical characteristic. With virtually no time to peruse the owner’s manual, this evaluation was going to be on the fly, and situations were sometimes sensitive. Capturing a mid-day call to prayer outside a mosque, in a region that has experienced inter-religious violence, required extreme discretion. Likewise, speed was of paramount concern when recording a low-caste family demonstrating, in their modest living room, the oboe- and tabla-like instruments they traditionally perform at weddings.

The H4n performs very well. It is certainly small and light

enough for situations such as those described above. The H4n is robust and, with minimal examination of the unit and manual, recording was both simple and quickly engaged.

I will say that 16/44.1 recordings captured with the H4n did not match the detail of those made at the same resolution with the other hand-held recorder. Also, though I didn’t pore over the manual, I will second Mr. McGhee’s “simultaneously comprehensive and slightly incomprehensible” assessment; this lost-in-translation issue is hardly unique to this product, however.

On the other hand, the other hand-held recorder is bigger, both physically and in its sticker price. Physically, it is perhaps 20 percent larger and heavier, but the real bulk is found in the price. The other unit, costing 40 percent more than the H4n, was out of my range.

The portable and field-recording space has become a crowded one as manufacturers apply their digital know-how to this miniaturized and incredibly convenient product category. Given my experiences and the many impressive features examined in Alistair McGhee’s review, the Zoom H4n’s bang-for-buck ratio is very favorable.

ture (for a hand-held recorder) that Zoom was leveraging the technology from its digital portable studio products; I suppose if you have tons of functionality knocking about, as it were, you may as well make use of it. In the digital product world, of course, that’s not necessarily even an expensive thing to do.

I must note that the manual is simultaneously comprehensive and slightly incomprehensible: “You can make different recording on multiple tracks separately in MTR mode.” And with its plethora of features, you will need the manual. [According to Samson, the company has “created a new, better translated manual that is available on our and Zoom’s website. This new manual should also be shipping with product manufactured after August 2009.” — Ed.]

And the features come thick and fast — how about karaoke mode? I passed on that even though it promised to remove the vocals from the tune to turn it into a backing track. A full set of tuners, a metronome, guitar amp modeller, wah, phaser, tremolo, ring mod, reverb, et al, are also offered, all with editable parameters and the ability to be combined in a patch. There’s a four-track onboard mixer with level and pan controls. For me, more usefully, an MS matrix and a mono combiner setting for the inputs is here. A quick scan of the Zoom website, and you can see that a

lot of its digital signal processing expertise has been crammed into this “handy recorder.”

Back in the more traditional handheld world, like many recorders, the H4n offers a pre-record buffer, but adds two very nice layers of icing: Auto Record, which drops into record if the input level exceeds a given volume, and Auto Rec Stop, which stops recording if the input level falls below the variable threshold for a given number of seconds. I used these features very successfully to make some notepad-style recordings of my local church music group. Instead of filling up the card with unwanted sermon material (sorry, Simeon!), I had a rather tidily sectioned recording already filleted.

One thing Zoom hasn’t stinted on is the H4n’s screen; it is large and bright, with meters bright enough to read and a time display you won’t squint at. Another nice feature is a built-in loudspeaker; it won’t rock your block party, but if you’ve forgotten your headphones or want to share the listening experience in a quiet-ish location, then this is another nice bonus.

The ability to plug in external mics in is, of course, one of the best features of the Zoom. You have XLR connectors and phantom power at 24v (battery saver) and 48 volts. I tried some dynamic mics to test the noise with a lot of gain

## Fast Facts

### Applications

Portable studio recording; field and journalistic recording; musician/songwriting recording

### Key Features

24-bit/96kHz top resolution and MP3 recording capabilities; simultaneous four-track recording functionality; built-in stereo condenser microphones with 90 (standard) to 120 degree (wide angle) adjustment; two combo XLR/quarter-inch (hi-Z) inputs; SD/SDHC data storage (32 GB max.); broadcast wave format (BWF) compatible time stamp and track marker; auto-record and pre-record functions; onboard tuner and metronome; comprehensive effects suite; USB 2.0 port for data transfer (with bundled Steinberg Cubase LE 4); 2 AA battery operation.

### Price

\$609 list

### Contact

Samson Technology | 631-784-2200 |  
www.samsontech.com

in circuit, and the results were pretty good. I also plugged in a Neumann KM 184 pair, and the sound was very clean and really more than I expected at the price. Giving fair play to the mic amps, I turned the gain down and bellowed into an SM58 and still managed to get a decent recording without any distortion.

### Summary

To conclude, it's good to put the H4n into perspective. It's too big to be a pocket recorder; for example, the Edirol R09, Olympus LS10 and even Zoom's own H2 lead the way in machines you can pocket without producing a Spinal Tap-esque bulge. And for a pure journalistic device, the HHB FlashMic is a better bet.

However, as an almost universal solution to portable recording, the H4n is unmatched.

Small enough to carry without thinking, with the quality and features to deal with a huge range of audio challenges, the Zoom H4n is a Swiss army knife of its day and at a price you can't ignore — around \$350 street. It doesn't replace a Nagra or a Sound Devices recorder (at three times the price, I must note), but it does open the door to everyone who struggles to afford such products. Simply said, the H4n is a remarkable machine. Top marks for Zoom.

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## Blue Bottle Rocket Stage One, Stage Two Microphones

The latest additions to Blue's flagship Bottle line deliver a one-two punch.



In 1995, Skipper Wise and Martins Saulespuren started Blue Microphones with what Wise has offered as Blue's original and simple philosophy: "Let's build microphones that we want to hear as musicians." Nearly 15 years later, it seems that philosophy still holds true at their Westlake Village, California-based headquarters.

But no prior information about Blue Microphones would prepare me for what was about to arrive on my doorstep: Bottle Rocket Stage One and Stage Two, the latest additions to Blue's flagship Bottle microphones series. On opening the 35 lb. ATA flight cases, getting inside, and checking out the contents, the gears in my head started to turn furiously, considering all of the things I could do with this amazingly versatile system.

### Features

The Bottle Rocket Stage One is a transformerless, Class A, discrete, solid-state microphone, requiring 48-volt phantom power. Its sibling is the Stage Two, a similarly designed tube mic with a single, hand-selected ECC88 vacuum tube. Both mics feature a bayonet-style, interchangeable capsule system, offering users the ability to hot-swap up to nine Blue capsules; in both packages, a B8 cardioid capsule is included — "the versatile capsule," as Blue documentation calls it.

Both the Stage One and Stage Two come packaged in a custom, slide-top wooden box within an ATA-style flight case. The Stage Two also includes the Powerstream power supply, Blue "high-definition" tube mic cable, and AC power cable.

For this review, I also received the Bottle Rocket Capsule Kit, which includes the other eight hot-swappable "Bottle Cap" capsules. The Capsule Kit is also packaged in an ATA-style flight case.

### In Use

With only the stock B8 Bottle Cap fitted onto either the Stage One or Stage Two, I found that you could put it on just about anything and everything in a recording studio: from vocals, acoustic guitars, strings, and high SPL instruments [within reason] like guitar/bass cabs, and drum overheads. Fresh out of the box, I tried the Stage One on an Ampeg 810 bass cabinet for a progressive

metal band that I was recording at the time. Since I didn't have the luxury of time to go through the Bottle Cap kit, I just used the included B8 "all-purpose" cardioid pattern Cap and a Great River MP-2NV preamp. After a couple of small mic-placement changes, I was pleasantly surprised at the wide, full-range sound I was getting from this mic; I was hearing the same spectrum of sound in the control room as I heard in the bass cab room. After adding in a DI signal and a little bit of phase adjustment, this session resulted in one of the better bass tones that I have recorded in recent memory.

Another impressive use of the Bottle Rockets was when I had some time on my side; I had an hour or so before the vocalist arrived, so I plugged the Stage One into a trusty Avalon 737 pre-amp, and started going through the ATA flight case of Bottle Caps. What I found was a veritable treasure chest full of different patterns, responses, and tones [visit [www.bluemic.com/bottle-caps](http://www.bluemic.com/bottle-caps) for full descriptions of what each Bottle Cap offers]. The fact that Bottle Caps are hot swappable on both Bottle Rockets is cool [just be sure to mute the input channel or disarm your recording devices before swapping, please. Your speakers and ears will appreciate it.]

After going through all of the Bottle Caps on the Stage One, I remembered that I also had the tube Stage Two with me, too. Aside from resembling an American armed forces tank, the Stage Two's Powerstream power supply is notable for having a unique soft start feature, helping maximize tube life while shortening "warm up" time. I quickly set up Stage Two, plugged it in to warm up, and, along with the Stage One, fitted it with the B8 Bottle Caps for a vocal shootout of sorts. As you would suspect, I found the Stage Two had an overall warmer, smoother sound and a comparatively fast transient response. With the vocalist, I tried a couple of different options and settled on the Stage Two with the B0 cardioid large diaphragm Bottle Cap, which seemed to fit his vocal style best [Blue's description of the B0, "the ultimate big vocal sound," performed as advertised]. What ensued was probably one of the best vocal sessions I've ever had.

I only had one minor complaint: The cage-tightening screw on

Sterling Winfield is a Texas-based producer, engineer, and mixer with gold and platinum credits for artists such as Pantera, Damageplan, and HELLYEAH.

## ►Contributor of the Month:

# Sterling Winfield

Producer/Engineer *Dallas, TX*

Sterling Winfield is a producer/engineer with nearly two decades of experience in the recording, live, and touring industries. After mixing local bands for years and later graduating from a comprehensive audio engineering course, Sterling went on to work at Dallas Sound Lab, soon becoming Staff Engineer.

In late 1993, Sterling met the modern heavy-metal icons of Pantera, working with them on their watershed release, *Far Beyond Driven*, which debuted on the *Billboard* Top 200 at #1 in March 1994. From there, Sterling went on to work for many other bands, soundtracks, and TV projects — King Diamond, Nickelback (with Kid Rock and Dimebag Darrell), Damageplan, B.B. King, as well as *The Punisher* motion picture soundtrack and theme music for the NHL's Dallas Stars and *Spongebob Square Pants*, to name a few gigs.

Today, Sterling is working on numerous projects in Texas and around the U.S., including co-producing and mixing the second HELLYEAH full-length album. He actively supports and works with many local music scenes and unsigned bands, too.

Sterling is quick to point out that, despite his "heavy" resumé, he is no one-trick producer. "Most of what I am known for is hard rock and heavy metal, but I am very open-minded and love all types of music and recording projects," he explains. "In fact, after almost 20 years of working on mainly that type of music, I still love it, but it is a very welcomed breath of fresh air when I get to work on something different."

Regardless of the gig, Sterling has one rule of thumb that keeps him grounded, he says. "If we get lost on some small thing with in a song for too long, it really helps to ask the client, and myself, 'Is this going to help the song?' If not, we move on and come back to it later, or not at all."



both microphone's shock mounts is a bit weak — it feels a bit flimsy — so just be careful with it.

### Summary

Even with only a Bottle Rocket Stage One, stock with the B8 capsule, you would have a very versatile, functional condenser microphone that will work well on just about any application. That being said, if you were to also acquire the Stage Two and a Bottle Cap capsule kit, the world could be your oyster, my friend.

Acknowledgement: Special thanks to Tim Kimsey and Josh Robinson at Skyline Studio in Dallas, TX.

## Product Points



- Versatility and flexibility of use; hot-swappable capsules
- Good build quality



- The cage-tightening screw on the shock mount is a bit weak

**Score** These mics are unique, versatile, and made to last. I would recommend them to any serious professional for his personal arsenal of recording tools.

## Fast Facts

### Applications

Studio; project studio

### Key Features

(Stage One) transformerless, Class A, discrete, solid-state microphone; (Stage Two), a similar, but with single hand-selected ECC88 vacuum tube mic plus Powerstream power supply, Blue "high-definition" tube mic cable, and AC power cable; both mic packages include bayonet-style, interchangeable B8 cardioid capsule with wooden box within an ATA-style flight case.

### Price

\$899 and \$1,999 (Stage One and Stage Two, respectively); \$595 (per Bottle Cap)

### Contact

Contact: Blue Microphones | 818-879-5200 | [www.bluemic.com](http://www.bluemic.com)

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# new live products



## 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](http://www.yamahaca.com)



## Electro-Voice Tour X Loudspeaker

Electro-Voice has debuted its Tour X loudspeaker line. The line is comprised of the TX1122 (12-inch, two-way), TX1152 (15-inch, two-way), TX1181 (18-inch sub), TX2152 (dual 15-inch, two-way), TX2181 (dual 18-inch sub), TX1122FM (12-inch dedicated monitor) and TX1152FM (15-inch dedicated monitor).

Key features of the Tour X line are the backbone grille, 500W (continuous-rated) SMX woofers and road-tested DH3 and ND2 compression drivers, dedicated vertical floor monitors with patent-pending SST (Signal Synchronized Transducers), air- and watertight ultra-sonically welded handles, passive crossover designs utilizing up to 36 dB per octave slopes, and six threaded suspension points (on top boxes) for installations.

**Price:** POA

**Contact:** Electro-Voice | [www.electrovoice.com](http://www.electrovoice.com)



## Powersoft K2 Amplifier

Powersoft Advanced Technologies has premiered its K2 amplifier, which is an extension of the company's K-Light Series, which launched last year with the K3 model.

The K2 features the same compact dimensions as the K3 (a one-rack unit case, 360mm deep with a weight of 8 Kg). It provides 1,000 W per channel with an 8-ohm speaker load, 1,950 W at 4 ohms and 2,400 W at 2 ohms in stereo configuration. Its bridge mode operation is 3,900 W at 8ohms and 4,800 W at 4 ohms. Each modular subassembly is pre-tested, and the assembled K2 receives a 48-hour burn-in before final checkout.

**Price:** \$5,200

**Contact:** Powersoft | [www.powersoft-audio.com](http://www.powersoft-audio.com)

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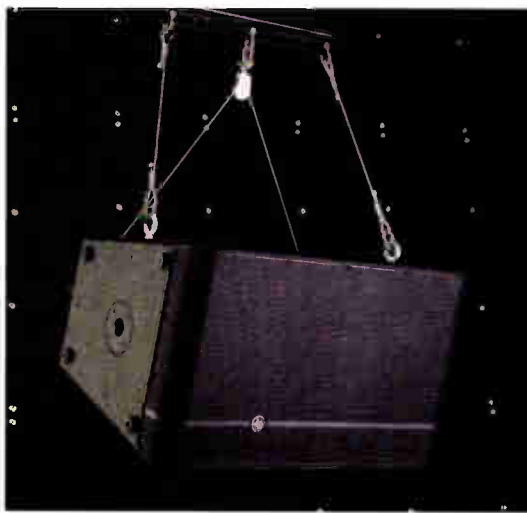


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## Mackie HD Series Powered Loudspeakers

The “HD” stands for “high-definition,” and deservedly so.

In conjunction with reviewing the Mackie Onyx 4-Bus Series analog mixer in late 2007 for *Pro Audio Review*, I had the opportunity to use the company’s impressive SA Series powered speakers, specifically a SA1232z pair, for several months. Since then, the SA Series has served as a personal benchmark of high-quality, reasonably priced, large, full-range speakers at the very top edge of what I can still consider “portable PA” applications (if a band consisting of at least two people with fairly strong arms can transport its sound reinforcement in a SUV or van alongside its instruments, I’ll justify it as “portable PA”).



In this review, Mackie’s new HD Series of powered loudspeakers reveals itself as the next logical developmental step in truly powerful portable PA and, in many ways, performs more impressively than its older (and more costly) predecessor, the SA Series.

### Features

The HD Series includes two models: the three-way HD1531 and two-way HD1521 (\$1,499 and \$1,249 list, respectively). I reviewed the HD1531, which features 1800W (peak) “of ultra-efficient Class D Fast Recovery amplification.” According to Mackie, Fast Recovery circuitry prevents the HD’s output from saturating, ensuring better sound when amps are clipped (a thoughtful design for the real world). The three-amp power breakdown — each amp coupled with EAW-designed transducers — is as follows: 700W RMS/1,400 peak for the low-frequency, 15-inch, neodymium woofer with three-inch voice coil; 100W RMS/200W

peak for the six-inch, horn-loaded, high-output midrange transducer; and 100W RMS/200 peak for the 1.75-inch compression driver with heat-treated titanium diaphragm.

Frequency response of the HD1531 is 50 Hz to 18 kHz (-3 dB). Horizontal and vertical coverage, averaged 2 kHz to 10 kHz, is 90 degrees and 40 degrees (-6 dB), respectively. Maximum peak SPL, calculated and measured, is 135 dB and 126 dB, respectively. Crossover points are 400 and 1,500 Hz.

I/O, controls, and indicators — mounted above the long, vertical heat sink on the HD1531’s rear panel — include XLR main input; XLR loop out; three-band contour, digitally controlled EQ with sweepable midrange (80 Hz, 100 Hz to 8 kHz, and 12 kHz, all +/-3 dB), on/off button and LED; a -6 dB to +6 dB master level control; a “power light on” button and LED (indicating whether the speaker’s grille-mounted blue LED is on or off); a red “Thermal” LED, lit when amplifier and heat-sink temperature exceed a safe

operating level (while the LED is red, input signal is muted); and a bi-color Sig/Limit LED (green with signal present, yellow when the HD's built-in limiter kicks in). Below the heat sink and to the right resides an On/Off switch and IEC power cord socket.

Three digital processing-related features, hence the HD Series' "high definition" moniker, are Mackie-patented acoustic correction algorithms, transducer time alignment, and a phase-coherent electronic crossover; in its signal flow, all processing takes place directly after the EQ circuit. More information on this EAW-developed technology is available on Mackie's website, at [www.mackie.com/products/hdseries](http://www.mackie.com/products/hdseries).

The HD1531's tour-grade enclosure is made of 15mm birch plywood, featuring two well-designed handles and a dozen fly points for flexible rigging options; it weighs 96 lbs. Dimensions are 35 x 19 x 18.25 inches. [According to Mackie product manager Greg Young, there are important reasons why the HD Series evolved beyond some enclosure elements of the SA Series: "We've departed from the SA design, which uses plastic end caps (top and bottom), in favor of the all-wood cab. This sets us apart not only from our legacy model, but also from other products in this price range. All wood is obviously more rugged/durable than plastic, but there is also an acoustic advantage to all wood: plastic resonates, whereas wood is (more) rigid, so you get less unwanted resonance with all-wood. Plus, (an all-wood enclosure) lets us shrink the cab and still maintain good LF extension, whereas plastics require a larger cab to get the same LF extension, or more power. Really, we did both — went with all-wood and more power. The HD1531 ends up being six to nine inches shorter than our competitors' three-way boxes, and we have much more output before LF starts to distort." — Ed.]

### In Use

For this evaluation, I used a pair of HD1531 powered loudspeakers in a variety of gigs and settings over two months, with and



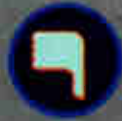
without a powered subwoofer (18-inch, 1,400W peak power), depending on the show. I found the HD1531s to be an ideal main PA for a wide range of gigs and settings: for example, from a medium-sized, multi-genre, live music venue with acts ranging from oldies R&B to piano-based pop/rock, to a hot, outdoor, summertime show with a 400-plus person audience that collectively demanded several hours of non-stop, punchy, clean, and pristine-sounding 100 dB-plus rock and roll. In each scenario, the HD1531 pair delivered the necessary goods.

Not to overdo it, but I must express how detailed and clean these HD1531s sound; their chameleon-like ability to adapt to every place I used them was always surprising and impressive to everyone in earshot, myself included. In the words of a well-seasoned guitar player on a random night, not having heard the HD1531s previously when standing out front during soundcheck, "Whoa, awesome." It sounded like a well-tweaked, pro live sound rig, except there was virtually no "tweaking" going on (other than setting gain levels per input and applying some reductive EQ per channel). Clearly, EAW and Mackie's investment in R&D on the HD's DSP features was well spent. Further, the HD's built-in EQ proved to be useful in several acoustically challenging rooms; its frequencies and range of adjustment are well chosen. All in all, "High Definition" is a deserved moniker for the HD1531.

## Product Points



- ▶ Powerful and full sound; superior adaptability
- ▶ Tour-grade construction



- ▶ Heavy for "portable PA" applications (96 lbs.)

**Score** The HD1531 will consistently get the job done with professional-sounding results. Highly recommended.

## Fast Facts

### Applications

Professional and semi-professional theater, club, and outdoor venues; house-of-worship audio; installed sound

### Key Features

Tri-amped; Class D "Fast Recovery" Mackie amplification, 1800W total power; EAW-designed "High-Definition" DSP; three-band digital EQ with sweepable midrange; all 15mm birch wood cabinetry; pole mount and 12 fly points

### Price

\$1,499 list

### Contact

Mackie | 425-487-4333 | [www.mackie.com](http://www.mackie.com)



As an HD “feature,” Mackie refers to the HD1531 as “ultra-compact and lightweight.” Not surprisingly — because huge sound in live audio rarely comes in small, lightweight boxes — these well-built HD cabinets are not something I preferred to load in/out, pole mount or fly, etc., alone. So while I don’t find them to be lightweight at nearly 100 pounds, for what they do, I guess they are. I did discover that their size, low-end extension, and high power often allowed me to leave that 150 lb. powered subwoofer at home — definitely a good thing.

yet a pair would be a real boon for those over-achieving, aspirational audio folks amongst us: The HD Series is remarkably affordable for what it provides its users. Owning a pair of HDs will likely allow users to ask for better pay; this is because they are built to deliver what modern audiences and club owners (and even discriminating professional engineers) naturally associate with a high-quality live music event. At under \$1,200 street per cab, I consider the HD1531 a worthwhile investment in a large, portable PA speaker.

## Summary

During my time with them, these new Mackie loudspeakers proved themselves deserving of a “whoa, awesome” description. The HD Series clearly benefits from a combination of newly applied, EAW-borne transducer and DSP technology with sensible design elements that have long defined Mackie live sound products.

The HD1531 is built and designed well enough to please seasoned professionals and small- to medium-sized live venues,

## mini review by Karl Bader

### Avlex Superlux S125 Handheld Microphone

The Avlex Superlux S125 (\$133 list) is a cardioid condenser vocal microphone with a shock-mounted, half-inch diaphragm capsule. The capsule is protected with three windscreens — two are wire mesh and one is nylon. On its body, two switches click on/off a 150 Hz high-pass filter and a 10 dB pad; these switches are protected by a rubber cover. The mic comes with a clip and zippered pouch.

My first impression of the S125 was quite good. Right out of the box, it felt sturdy and well made, was well balanced, not too heavy, and didn’t want to slide out of my hand. In use, its sound was smooth and vivid in the way that it cuts through the mix. Full and lively is another way to describe its sound.

I discovered that Avlex’s claim that the S125’s three windscreens prevented popping wasn’t always true; I



added on my own windscreen (one that is recommended for a Shure SM58), and that solved any problems. I tried the HPF, but still preferred the variable high pass available on the consoles I use; in a pinch — where you have no exterior high-pass option — it would be workable.

Avlex also claims that this mic offers very little handling noise. I found that to be correct. The microphone also offers a pleasing performance in regards to proximity effect, in that it exhibits very little of it.

Ideal for lead vocals (if the vocal doesn’t sound thin to begin with), this bargain-priced mic would also shine on guitar amplifiers; reeded instruments such as saxophone; and some of the higher-pitched percussion instruments, such as bongos or high toms.

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## Choosing A Vocal Mic

No matter what the musical genre is, the first step to making a concert work is a good vocal mic—or maybe not a “good” one per se, but the *right* mic. It’s all a matter of opinion—and since live sound engineers always have plenty of those, we went straight to the pros, asking FOH and monitor gurus for their views on finding the most suitable microphone to start your signal chain.

Unsurprisingly, they had a number of things they agreed on, the most prominent being that there is no silver bullet when it comes to vocal mics. There are too many factors. John Roden, the legendary late monitor engineer for Paul McCartney, AC/DC and plenty of others, once spelled it out for *PAR*'s sister publication, *Pro Sound News*, running off a list of variables: “How loud is the stage? How much input can I expect from the vocalist/s? Are he/she/they mobile or static?”

Michael Mulé, go-to monitor engineer for Nickelback, Cyndi Lauper and Dashboard Confessional, likewise offers up a list of questions, asking, “Is it a male or female artist? Do we have to use a headset mic? Is the band on personal monitors or wedges, and do we need a mic with good rejection to keep it from becoming an overhead? Another thing to consider is ‘Does the artist have good mic technique, or does he or she think they can sing with said mic hovering around their navel?’ I’ve found in the past that this is usually not the case unless you’re Pavarotti or Mariah Carey.”

Roden once noted that sometimes the quality of microphone has nothing to do with the choice: “Other factors—endorsement deals, for example—have to be taken into account. Also, I’ve had microphones rejected by artists just because they didn’t ‘look right’ or ‘feel right to hold.’”

Mulé concurred that, “sometimes you have to deal with the endorsement nonsense. Sometimes your hands are tied from



the artist wanting to use what someone else told him is good for him on a previous tour. If you have total control and actually get along with the FOH engineer, you can both come up with a mutual agreement on what to use. Of course, this only applies if the band isn’t using its studio engineer; some people still don’t get the fact that what works in a controlled environment doesn’t always translate live.”

Dave Rat, co-owner of Rat Sound and FOH engineer for the Red



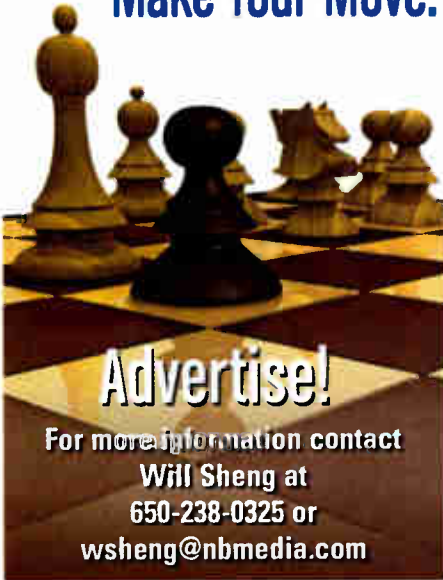
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Hot Chili Peppers, is all too aware of that dilemma. "The optimum mic really depends on the artist and the environment," he said. "In a studio or with, let's say, a strong female vocalist like Amy Irving [best known as an actress, Irving was the signing voice of jazz chanteuse "Jessica Rabbit" in the movie *Who Killed Roger Rabbit?*], I would look for something super clean, airy and open, assuming I was in an optimum acoustic environment without feedback issues present. Unfortunately, I have yet to work in any live environment even close to that. My forte is four- or five-piece, energy-driven rock bands and they typically play in big, windy fields, giant echo chambers called 'arenas' or in small clubs way too loud. So once reality has been factored in, I look for a mic that minimizes the acoustic issues that I can not escape."

Finding a microphone that makes the most of a given situation is the name of the game, particularly for monitor engineers. Paul Owen, the vice president of Thunder Audio who recently retired from his long-standing post as Metallica's monitor engineer, remarked, "It depends on what you are trying to achieve; if it's a very high-quality personal monitor mix with no conventional monitors, you can go with as high quality a condenser as possible. On many Metallica tours, I've used the Audio-Technica Artist Elite 5400 series, since there were so many vocals on stage and I had to accommodate personal monitor mixes as well as wedges and side fills. As James [Hetfield] moves, the microphone of choice needs to be as constant as possible; this helps with channel EQ and mix EQ. Of course, most monitor guys get stuck with whatever the House picks and you have to deal with it!"

For Rat, a key factor is not only what a mic provides for the singer's voice, but what it also provides for himself as an engineer: "What I want is control—control over the vocal tone, the vocal level and the intimacy or openness of the sound of the mic. Since an 'open'-sounding mic can never be made to sound 'closed,' but an intimate, 'closed'-sounding mic can easily be made to sound open with a reverb unit, I go for the latter. For the past several bands I have worked with, the Audix OM7 has been the all-around best. I have tried a few others and no mic is perfect, but generally, it's the best for what I do. Keep in mind, though, that I mix fairly loud bands with singers that keep their lips on the grille and just like everything else, it is all about finding the right tool for the job."

It's exactly that reason which caused Owen to change the mics in front of Metallica over the years. "In the earlier days when we didn't use personal monitoring, using a high condenser microphone would not of helped to get high values, due to the



increased high-end," he said. "Back then, I would go for your good old, standard Beta 58."

The familiar Shure mics certainly have their supporters. "It's hard to beat an SM58a for several reasons," said Roden. "The audio quality is high, and I am sure many PAs and wedges have been designed around the characteristics of it. It has a familiarity for both artist and engineer, as it must be one of the most recognizable microphones out there. That breeds a comfort factor, but there are also many other choices, so it can be tricky and sometimes political. I've also used Sennheiser/Neumann KMS 104 and 105 vocal mics; I have been using them recently with both David Gilmour and George Michael—two very different artists—and have been very pleased with the results."

Mulé can be counted as a fan of the 58, too. "I have been accused of being an old-school guy when it comes down to it," he said. "I remember I did a showcase with an aspiring country artist with a great set of pipes named Jessie James [now signed to Mercury Records/Island Def Jam]. The last sentence out of my mouth before rehearsal was, 'Anyone have an old, standard 58?' Sometimes there's no reason to try and improve on the obvious."

In the end, there's plenty of ways to choose a vocal mic, each as varied as the singer, venue and engineer involved in the equation. And if all those fail, well, you can go an entirely different route; when asked what he looked for when choosing a vocal mic, Dave Natale, FOH for the Rolling Stones, grinned and simply replied, "Weight."

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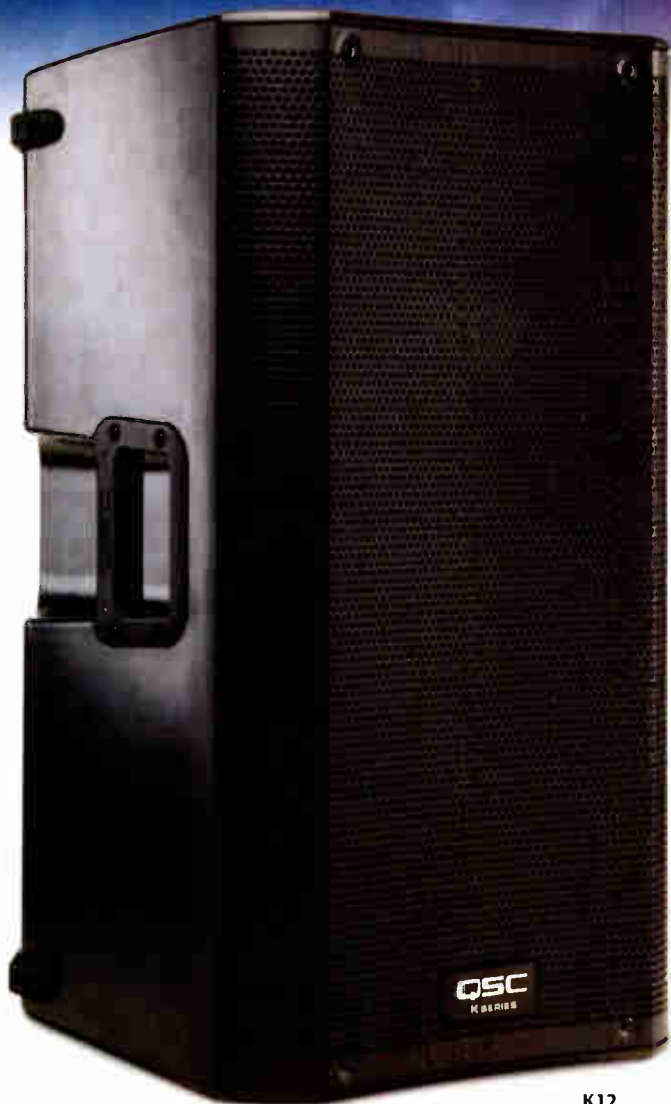


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