



JUNE 2007 Vol. 5 No. 9

Palms Pearl Shines in Desert



We first visited The Pearl at the Palms Hotel-Casino in Las Vegas back when you still needed hard hats to enter the job site and had to dodge cranes and arc welders on the floor. Even then, with all the dust and chaos, it was clear the room was going to be something special. Consider this — from the lip of the stage to the last row of the balcony is only 120 feet, and it can seat as many as 2500 people. We've had restraining orders with more distance than that. The room is full of small touches that mean a lot to a band — and it's also got one heck of a secret weapon, too. To find out why Sam Berkow, a principal consultant at SIA Acoustics, who designed the acoustics for The Pearl, calls it "the room I've always wanted to build," turn to page 28.

Jamestown Celebrates Its 400th Anniversary in Sound Style

JAMESTOWN, VA — Clearwing Productions recently provided audio and backline services for the celebration commemorating the 400th anniversary of the arrival of colonists at Jamestown, Va. The three-day event included a 100-piece symphony and various other acts on Friday, May 11; musical acts, such as Bruce Hornsby and Chaka Kahn, on Saturday, May 12; and President George W. Bush, a 400-piece symphony and a 1607-member choir — the symphony and choir playing together — on Sunday, May 13.

Jamieson Filip served as production manager for Clearwing, and other crew included Scott Briesse at FOH, Gary Brunclik at monitors, Jeff Schauer and Chad Sykkink on the deck, with James Book traveling to Jamestown from Phoenix, Ariz., to handle RF duty. On

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Clair Opens Chicago Office

It May Look Like db but...

By Bill Evans

We held our story about the impending changes in the Windy City for a couple of weeks, as we put together the facts and tried to get the involved parties to speak on the record, and here's the deal.

You may remember that way back in the Oct. 2004 issue of *FOH*, we reported on the "merger" of Southern California's Sound Image and Chicago's db Sound. It turns out that, though "merger" was the term being used widely at the time, it was a bit more complicated. To avoid going into business matters that are really of no concern except as gossip to anyone but the parties involved, we'll just say that for a period of two and a half years, Sound Image and db were closely connected, and earlier this year, for a variety of reasons that, again, are of concern only to those directly involved, that relationship ended.

Several months later — in April of this year — the company db Sound executed an asset sale. At least three offers were made to acquire the assets (in other words, buy the gear) of db Sound, and the principals of db

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New Array Tapped for Ozzfest Stage

MERIDIAN, MS — Jägermeister has chosen a Peavey Versarray line array sound system and 207,000 watts of Crest Audio power for its mobile stage at Ozzfest 2007. Housed in a 44-foot trailer that opens into a fully self-contained stage measuring 34 feet wide, 16 feet deep and 20 feet high, the Jägermeister Mobile Stage is led by 24 flown Versarray 112 enclosures and 12 Versarray 218 subwoofers. It will be the official second stage at Ozzfest 2007 and will feature The Showdown, Ankla and Daath.

"We haven't even begun the tour and already the sound engineers on Ozzfest are bragging about how good it sounds," said Rick Zeiler, director of marketing and brand development at Jägermeister.

Versarray 112 line array enclosures are designed to achieve high performance levels by using dual ribbon drivers and the patent-pending Ram Air Cooling design, a dissipation process that focuses the airflow through the voice coil, resulting in minimal heat buildup and power compression. Ram Air Cooling works in conjunction with a neodymium-loaded, 12-inch NEO Black Widow loudspeaker with dual

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Why Go Home?



What do Bob Seger and Thomas Dolby have in common? Both rock legends — for completely different reasons, and in vastly different styles — just hit the road for the first time in years and gave their fans a taste of their distinct sound. *FOH* caught up with their crews and talked about what it's like to mix for two guys who have no reason to hit the road other than the sheer drive to share music. Check out the interview with Seger's crew on page 18 and Dolby's on page 20.

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FEEDBACK

A Call to Manufacturers

Ours is an exciting time in the world of sound reinforcement, as the true integration of digital equipment is finally becoming a reality. Thanks in large part to the install market, established protocols are becoming the norm and standards are opening. The studio DAW users are already enjoying the benefits of ReWire, ASIO and Core Audio with almost complete interoperability (with one glaring manufacturer holdout) between all their software and hardware. But there is one key product segment that seems obsessed with keeping its secrets under lock and key. I'm talking about digital consoles, a mish-mash of competing proprietary standards and hardware-based solutions. Only DiGiCo so far has seen fit to embrace a somewhat open platform, with Yamaha and Sony offering add-ons to support the same MADI protocol. Gamble have their DCX series, but it's all still a far cry from real interoperability. It all reminds me of the early days of sampling with New England Digital and Fairlight duking it out over high-cost hardware (and we know what happened to them).

Why has this situation come about, particularly as so many other sectors of our industry work to further their compatibility? The first reason generally trotted out is reliability, the need to keep the console up and running under mission critical conditions. This is a highly laudable goal, and one which I think most house engineers would agree with — however, how valid is that argument today? We are surrounded by mission critical applications that influence every part of our lives, yet increasingly those applications are running on open protocols and generic, disparate hardware. Recently, I watched an automated airport train reboot itself and saw Linux flash across the screens. Moving people around a large airport (40 feet off the ground) would seem to require a robust package, too.

The subject of latency in sound reinforcement is often raised and it, too, is a very valid point. However, shouldn't it be up to us, the engineers, to assess the needs of each event and make our own decisions? An open market would encourage manufacturers to address latency issues, as better performance leads to more sales.

The real reason, I believe, for this situation is that sound reinforcement manufacturers are obsessed with selling dedicated hardware. They still see their future as a world

of large control surfaces and rack-mounted equipment with the associated high development, production and distribution costs being passed onto us, the users. Yet the studio (and to a certain extent DJ) manufacturers are headed in completely the opposite direction. Solid State Logic, Waves, TC Electronic and Focusrite have all launched stand-alone, Firewire or PCI based, processing boxes. A simple card, rack or tabletop processor (basically a small PC in a box) interfaces with your host computer to offer a huge variety of plug-ins all available to your third-party applications. You bring your audio in and out with one manufacturer's interface, mix in another's DAW, process with a third's plug-ins and mix your masterpiece on a fourth's control surface. This interoperability is becoming almost seamless. Even venerable Allen & Heath have high-end DJ products that double as both live audio mixers and DAW controllers, all in the digital domain.

OK, you say, Digidesign allows plug-ins on their VENUE series.

However, I believe that offering a few proprietary compliant processors is vastly different from the scenarios outlined above.

In conclusion, here's what I'm looking for: computer-based live sound-mixing software that will accept any compliant

interface, third-party plug-ins and external control. With this I can then configure a console (maybe even in a Pelican case) that addresses my absolute needs without being locked into a hardware solution. As new products become available, I can integrate them into my system at my will and my risk. Heck, I can even lay the band's sequencing and sampling tracks or the playback cues directly into my mixer. This is not brain surgery; the standards are already well known, established, working and out there (MIDI was ratified in 1983).

We used to have interoperability — it was called the XLR connector, and apart from a little transatlantic miscommunication, it worked pretty well. Now it's time to put the decisions and control back into the live mixer's hands and make the technology work for us.

Philip Barrett

Philip Barrett has been mixing audio professionally for corporate theater, live television broadcast, studio and post-production for nearly 30 years. He also consults with various audio manufacturers on the design and implementation of new products. He can be reached at pbarrett@fohonline.com.



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YET ANOTHER SERIES OF RANDOM THOUGHTS

Here we go again, he can't come up with something coherent to write about so he is going to throw together a bunch of random crap. Geez, why can't this guy be all intellectual and organized like that guy who runs the magazine for the squints?

Because I can't, that's f#&%ing why so just shut up and deal with it.

OK, now where was I? Oh yeah random stuff...

People Rule

EN

Have I mentioned lately how much I like the people in this industry, most of them anyway? A couple of weeks ago, some of us

blast all of our Nevada subscribers.

The last time this happened, the stolen truck was recovered with all of the stuff (in this case a bunch of lighting gear) still in it. We have not been as lucky this time, which may be due to the fact that the gear in question — backline stuff including a drum kit, bass and guitar rigs and keys — is a lot easier to move as stolen goods than high-end pro sound and lighting gear.

But the important thing here is that people — a lot of people — took time out of very packed schedules to get the word out and try to get these guys their stuff back.

by a soundco or manufacturer to cover a specific event and they are picking up the travel tab.

I had been thinking about this when, just this morning, I saw a news blurb about an online "news" service in my ex-hometown. Before getting back to trade publishing — first on the MI side via *Gig Magazine* and for the past almost five years on the pro side with *FOH* — I was the editor of a local newspaper based in Pasadena, Calif. This news blurb said that the online service in question had outsourced its coverage of the local city council to a couple of journalists in — wait for it — India.

The publisher called it "efficient" — which translates as "I can get 15 stories a week out of these guys for \$10K a year." You know, when I was on that same beat, we did some good work. Won a bunch of awards and everything. But we did not get them by watching the council meetings on a webcast. We got them because a hugely talented and energetic young reporter by the name of Chris Bray used to go dumpster diving at City Hall and came up with records of stuff the powers-that-be would have preferred we did not know about. You can't do that from another continent via e-mail.

Side note: Chris left that paper when he decided he wanted to write about foreign and military affairs and would have more cred if he had served. At age 25, he enlisted and then spent two years sweeping the motor pool in Ft. Benning, Ga., because the Army has no clue what to do with a 25-year-old, very smart grunt. But it worked, and Chris was getting published with the big boys in places like the *New York Times*. Until he got called back to serve in the Middle East, five years after he got out. I hear he's back now (after another two years). I should really try to get a hold of him.

Anyway, the reason for this little rant is to let the regional companies know that we at *FOH* know there is a big difference between being "on the ground" and writing from a post-event press release. When I recently went to Memphis, I also got video that should be online by the time you read this. What I am trying to let you know is that, if you have an event you really want covered, give me a call. Maybe we can put our heads together and figure out a way to make it work and get the travel covered. I would love to come out and see what you are working on. ●

People, people who love people are the bevans@fohonline.com

There is a big difference between being "on the ground" and writing from a post-event press release.

here in Vegas got e-mail from a prominent local band about the theft of a trailer full of gear. I was très impressed by how quickly the production community hopped into action. An e-mail from Mark Dennis at MGM/KA got the ball rolling, and within hours, pretty much everyone in the local production community knew and was on the lookout. Our contribution was to e-mail

Speaking of People

EN

Over the past year, *FOH* staffers have been on the ground, covering some big tours and some smaller shows run by regional companies. This is always a tough thing for us because, to be brutally honest, the travel budget just is not there to fly writers around the country on a regular basis, so we generally do this when we have been asked

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Granada Theater Vibrates with New Install



Chief Engineer/FOH Kevin Fisk (left) and theatre owner Mike Schroder with their WorxAudio speakers

DALLAS, TX — The Granada Theater recently installed a substantial sound reinforcement system that features the WorxAudio TrueLine Series line array. The two suspended line arrays, each consisting of eight TrueLine V8 two-way, compact line array elements, flank each side of the venue's performance stage and are accompanied by a subwoofer system consisting of 14 enclosures formed by a combination of TrueLine TL215SS and WaveSeries 218S sub bass loudspeaker systems. Vertically aligned with the flown line arrays, each side of the stage has four 218S subs, with three TL215SS enclosures on top.

On-stage, performers find still more WorxAudio Technologies loudspeakers, including ten 2MX floor wedges from the WaveSeries line. In the rear balcony, a Midas XL200 48-channel analog live performance console, which incorporates 40 mono and 8 stereo inputs, resides at FOH. Loudspeaker management for the system includes a Klark Teknik DN9848E digital system controller, augmented by a DN370 Graphic EQ. With its mid-1940s architecture, the Granada Theater is a revamped movie house that now serves as one of the main live music venues in the greater Dallas area. According to Kevin Fisk, Chief Engi-

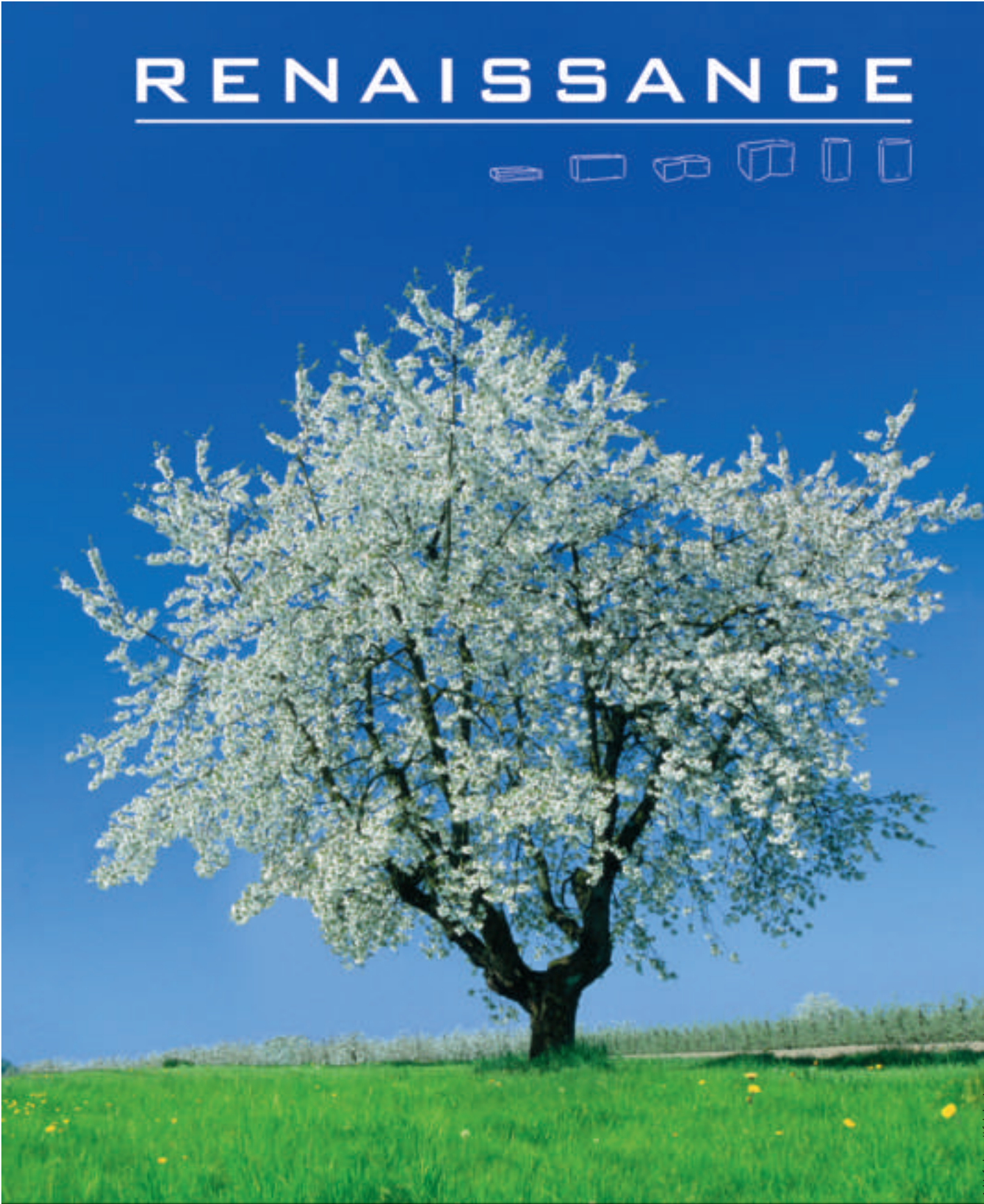
neer/FOH for the Granada Theater, "Visually, the house system makes quite a statement, but more importantly, it sounds amazing. I've been to a lot of places that have high SPL (sound pressure level) systems, and while this system is certainly capable of reaching, or even exceeding, the threshold of pain, it's never a problem to get everything you need without ever going there." The facility has been host to an eclectic lineup of artists, including folk/rock performer Lucinda Williams, English punk band the Arctic Monkeys, Country artist Guy Clark and British rock guitarist Robin Trower, among others.

St. Pete Times Forum Upgrades Sound System

ST. PETERSBURG, FL — The St. Pete Times Forum in Tampa, Fla., has upgraded its sound reinforcement system, including the installation of two wirelessly controlled Dolby Lake processors to manage the venue's new flown multi-zoned L-ACOUSTICS speaker setup. The Dolby Lake processors provide equalization, delay and other digital processing of the zoned speaker system, which is installed in six high-frequency/mid-range arrays with separate low-frequency hangs supplemented by down fill speakers suspended below the scoreboard. Tampa-based AVI provided system integration. The St. Pete Times Forum, which originally opened in 1996, hosts home games for the National Hockey League's Tampa Bay Lightning, winners of the 2004 Stanley Cup, as well as the Tampa Bay Storm, five-time winners of the American Football League's Arena Bowl. The multipurpose arena is also a regular venue for concerts by music artists and other sports and entertainment events.

SLS Delisted from Trading Body

ROCKVILLE, MD — On May 7, 2007, the Over The Counter Bulletin Board trading body, a securities trading organization like NASDAQ, removed SLS International Inc. from its listings, no longer allowing it to be traded or quoted on their exchange. A call to the company confirmed this. The OTCBB started the delisting procedure on April 4, 2007, when it delivered a Delinquency Notification from the National Association of Securities Dealers (NASD) stating that, because the SLS was delinquent with respect to the filing of its annual report on Form 10-K for the year ended December 31, 2006, the Company's common stock would be ineligible for quotation on the OTC Bulletin Board. While SLS was permitted to appeal the determination of delinquency, it did not. In a Form 12b-25 filed on April 2, 2007, SLS disclosed that it would not meet the deadline for filing its 10-K due to its inability to pay its outside auditors the required fees to complete the audit of the SLS financial statements to be included in the 10-K.



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Soundco Celebrates Earth Day with Ground-Rattling SPL

WAKEFIELD, MA — Matrix 1 recently gave their new Martin audio equipment a trial by fire at the MTV Earth Day event recently held at the Massachusetts Institute of Technology, featuring the band Angels and Airwaves. Matrix 1 had recently purchased 16 Martin Audio W8LC compact line array boxes and 12 Martin 2.8S power amplifiers.

The Earth Day concert was held in a hockey arena on campus that Matrix 1 founder and owner C.J. Danek described as "a fairly wide, short room with a concrete floor and extremely rigid seating with reverberation issues." Matrix 1 also had to work speaker placement around the 20-foot jib MTV had set up in front of the stage.

Showcasing the new Martin Audio gear, the system included eight Martin Audio W8LCs on each side with JBL subs, a Midas Verona 480 as FOH console, 12 Martin Audio 2.8 power amps and a Yamaha PM5D as the monitor desk.

The hockey rink also required that Danek and crew improvise their hanging points after starting their load-in at 9 p.m., the night before the event, with a scheduled show start of 4 p.m., the next day.

"We had sound checks at noon," C.J. explains. "And the MTV crew had issues because anytime you run a passive split between front of house and TV, there are always going to be challenges when audio is passively split three ways."

"Plus the bands had racks and racks of samplers with a five-piece in front of that sound. It

sounded pristine and it was really loud," he adds. "We were shaking insulation out of the ceiling."

At this point, Matrix 1 has been around eight years and, according to Danek, the Martin purchase underscores the fact that they are looking to "move the company into the future."

Earth Day was held as a reward for students at the university who were asked to come up with innovative ways to make their campus more environmentally friendly as part of the mtvU GE Ecomagination Challenge. The winning group, Biodiesel@MIT — which consists of more than a dozen students — won for its solar-power refueling station and processor that converts vegetable oil into biodiesel. The team was also given a \$25,000 eco-grant to help the school reduce its energy costs.



Angels and Airwaves at MTV's Earth Day celebration

NSCA Gives Awards to People at Both Ends of Careers

NILES, IL — The NSCA named Sandy Schroeder as the 2007 recipient of the National Systems Contracting Association (NSCA) Lifetime Achievement Award, which is given annually to an individual making exceptional contributions to the industry at large. Schroeder, who has spent most of his long and celebrated career holding a number of marketing and sales titles at Shure Inc., graciously accepted the award during a special presentation made at this year's President's Reception at NSCA Expo in Orlando.

"I have known Sandy for more than 20 years," NSCA Executive Director Chuck Wilson notes. "His career has been filled with service to our industry, dedication to improving our association, and strong professional ethics. I cannot think of a finer gentleman who is more deserving of NSCA's Lifetime Achievement Award."

Since the late '80s, Schroeder has served the NSCA on its Expo committee and industry advisory board, given support to its leadership conferences, and assisted in the sponsorship

of countless Expo events ranging from the Expo Jam to training sessions.

"Education, training and certification are vital to the health of this industry," Schroeder believes. "On both corporate and individual levels, our true net worth lies not in the monetary profits we are capable of earning, but rather in what we can give back to others. Furthering education ensures a better tomorrow for everyone by building a working world of qualified, intelligent professionals."

With May 31, 2007, of this year marking his last day with Shure before officially retir-



Sandy Schroeder (left), accepting the NSCA Lifetime Achievement Award from Chuck Wilson.

ing, Schroeder's NSCA Lifetime Achievement Award serves as a crowning point to the 27 years he has dedicated to the company, and his vibrant career in pro audio.

In a further commitment to education, the NSCA Education Foundation is

awarding five \$1,000 education scholarships to students entering the commercial electronic systems industry. This scholarship program seeks to raise awareness of the profession and promote interest among today's youth.

"The future of the commercial electronic systems industry relies upon the next

generation of individuals entering the marketplace," said Melissa Henderson, NSCA Education Foundation managing director. "As part of NSCA's outreach program, the Foundation and its supporters plan to educate students about our market and provide them with the resources and training necessary to begin their careers."

In addition to the scholarship program, the Foundation will also provide 200 students with free NSCA memberships. Student membership benefits include: access to an online job board and resume database, free entrance to NSCA Expo, member pricing on NSCA University classes and updates on legislation facing the industry.

The scholarship application deadline is June 15, 2007. Award criteria and the application can be found on the NSCA Education Foundation Web site at <http://student.nscfoundation.org>. Winners will be chosen by a selection committee and notified by both mail and phone.

Smaller Package for Christian Rocker



Mark V. Thomas at the helm.

DALY CITY, CA — For Chris Tomlin's 2007 tour, his FOH engineer Mark V. Thomas has opted to use a VENUE D-Show Profile. Tomlin's monitor engineer, Kyle McMahon, adopted the larger D-Show for his mixes. For FOH, Thomas employs D-Show Profile with an FOH Rack equipped with the IOx option, which provides an additional eight TRS inputs and outputs and eight channels of AES/EBU I/O. The system is set up with 64 channels, eight stereo groups, eight auxiliaries, and 16 effects returns.

McMahon uses a D-Show console with a D-Show Sidecar, utilizing 48 physical inputs and cloning an additional four channels for extra input control for different mixes. He also provides seven stereo mixes for PMs and one auxiliary send for a drum thumper. Using D-Show's 24-bus variable group mode, McMahon is able to route eight mono sends to effects processors for a total count of 68 channels, including effects returns.

American Idol Finalist Rocks Hometown Parade

BOTHWELL, WA — Local hero and *American Idol* finalist Blake Lewis performed for his hometown suburb of Bothell, Wash., on May 11, using a variety of Dynacord, Electro-Voice, Midas and Klark Teknik gear.

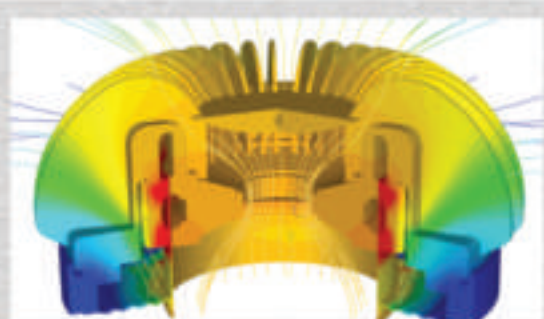
The *American Idol* crew was on hand to film Lewis and his four-piece band perform in a local park — after a parade in his honor — using a Dynacord Cobra-2 ground-stacked line array system, along with an array of Electro-Voice microphones and monitors, Klark Teknik Square One processing and a Midas Verona 320 for FOH and monitors double-duty. The P.A. was supplied by Mills Music of Seattle, whose Ric Webb manned the mix on the Midas console.

"It sounded fantastic," says Webb. "The Cobra combines plenty of power and superb sound quality

while keeping sightlines open, both for the live audience and the additional 30 million viewers watching the show on TV. Even though we were down in a concrete bowl, the Cobra threw deep into the audience areas with plenty of SPL, all with no delays necessary. It's an incredibly capable system for its size; the city anticipated an audience of 2000, but 8000 turned out to see Blake Lewis, and everyone heard the show loud and clear — even above the screaming girls."

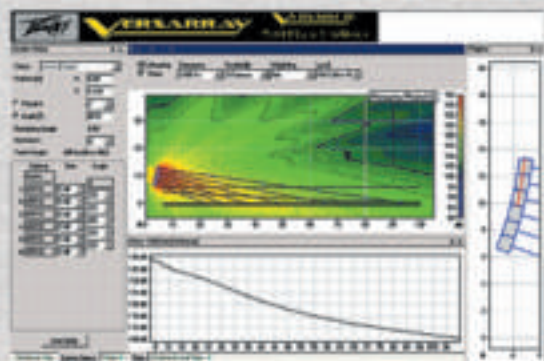
Ric Webb mans the Verona.





Forced Air Cooling

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ACM Parties Hard Behind the Scenes

By Bill Evans

LAS VEGAS — At many really big shows, there can be as much production and audio work at the various events that surround and support the main gig as at the big show itself. When a big awards show is in town, you know that the big show will go to ATK, but there is usually plenty of opportunity for local and regional soundcos at other events. And the recent Academy of Country Music awards in Las Vegas was no exception. One production company in town kept all of its crew and almost every stick of inventory busy for a week with public events and private, ACM-sponsored events.

There is some *FOH* "family" involved here (it's great to see people who we regularly work with doing so well...). And it is another great lesson in how relationships mean everything in this business. In this case, H.A.S. Productions — owned by regular *FOH* contributor Larry Hall — had done the public ACM events down on Fremont Street in 2006, and they asked for him again this year.

Meanwhile, occasional *FOH* gear reviewer Roddy Pahl had recently taken a job running the audio for the convention center at the

MGM Grand as a day gig while continuing to mix weekend evenings on Fremont Street. His first big MGM gigs were a pair of private parties for VIPs attending the ACM awards show — a charity auction featuring nine up-and-coming ACM nominees the night before the show and an all-star jam after the show. When Roddy told his bosses that his preferred audio provider in town was H.A.S., and then the production guys for the ACM called the same day and asked for "the guy who did the Fremont Street gigs," it was a done deal.

These events have been mixed for the past five years by Dave Lefko a N.J./L.A. refugee who has been mixing everything from corporates to concerts in Las Vegas since moving here in '94.

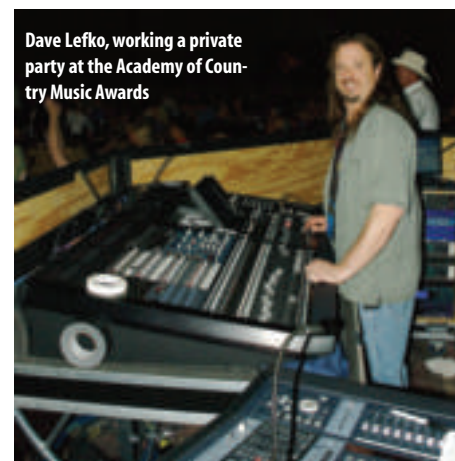
"It's a fun gig, but the up-and-comers night is actually the harder of the two," said Lefko. "On the after-show jam we get as many as 30 acts each doing a couple of songs. These can range from full bands to this what we had this year, a name like Kenny Chesney do a solo acoustic version of 'Please Come To Boston.' We provide one set of backline, and most of the artists use

our house band, who are all studio guys from Nashville who can play anything."

Both nights had crowds approaching the 10,000 mark, and coverage was provided with a system that combined D.A.S. Aero 48 line arrays, EM Acoustics Quake subs, an L-ACOUSTICS dV-DOSC center cluster and JBL VP7212s as out-fills. The dV-DOSC was powered by five Lab.gruppen 48As while the Areos and Quakes got juice from 20 Crown Itech 8000s. House and monitor consoles were both Yamaha PM5Ds with a DM2000 sidecar at FOH.

This was Lefko's first outing using the Aero system, and he plans to spec it again. "I first heard it on a Quiet Riot show and was impressed enough to ask for it on the ACM gig. Unlike a lot of line array boxes, it does not get harsh around 4K when you push it.

"Getting back to the up-and-comer night, the PM5Ds were crucial," Lefko explained. "On the jam night I mix everything, but the up-and-comers all bring their own engineer and I babysit. It means programming the board nine different ways for each engineer. This year, we found



Dave Lefko, working a private party at the Academy of Country Music Awards

out at the last second that we needed to add a separate mic for the auctioneer. In the past he has used the second M.C. mic, but this year we needed to add one just for him. That was fun — I had to try and get them to hold doors while I punched the new mic into all nine of my scenes on the 5D. We ended up patching it in for each act individually because we did not have five minutes to save scenes before doors."

Jamestown Celebrates Its 400th Anniversary In Sound Style

continued from cover

other stages, Dan Bowers, Bill Price and Chris Balke ran FOH, with Price and Balke pulling double duty on monitors, too. Andre St. Pierre served as a monitor engineer, and Bryan Baumgardner functioned as floater.

To handle the load for the finale choir and symphony concert, Clearwing brought in 12 large-diaphragm Shure KSM27 mics, with six per side to cover the choir, which was configured on two sets of bleachers on either side of the stage area. The symphony was covered by Shure KSM10s and SM81s.

For FOH duty, Scott Briese ran a Yamaha PM1D console using 160 outputs and Dolby Lake Contour processors. The FOH loudspeaker

rig included eight L-ACOUSTICS V-DOSC and eight L-ACOUSTICS SB-218 units with two delays. For monitoring on the main stage, Gary Brunclik and company ran Yamaha PM5D and PM5000 consoles, 16 L-ACOUSTICS HiQ wedges and four Meyer UPAs.

Jamestown 2007 and the state of Virginia sponsored the event. Planning began 10 weeks prior, when all was said and done.

The event did present Clearwing with some unforeseen challenges, even beyond its sheer scope. While the load-in and load-out schedules had always been "tight," according to Filip, rains in Virginia had left behind a great deal of mud, which had to be dealt with before setup could complete. This led to holdups on Tuesday, May 8.



Bruce Hornsby and Ricky Skaggs

To solidify the earth and expedite setup, gravel was laid. Work was then able to commence.

"We had to approach it a little differently," Filip said of the anniversary, but he also stated in an interview just prior to the Friday start-up that, "We're in good shape."



400 piece symphony on stage

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Distortion (throughout the Console): The DCX Consoles have No Perceptible Distortion
Signal Path (throughout the Console): Balanced Analog with NO Capacitors in the Signal Path

Digital Network: TCP/IP over a Gigabyte Network, CAT-5 Wire or Wireless, Connection
Software Control: VACS (Virtual Audio Console Software) works with any Windows OS
Hardware Control: Mixed Logic M24 Control Surface or 24 Stereo Analog Faders Option
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Clair Opens Chicago Office

continued from cover

chose the offer tendered by Clair/Showco. After buying the gear, Clair hired several key personnel from db, including Harry Witz, who will serve as general manager of the new Clair office.

Anything else you may be hearing is pure speculation at this point. *FOH* will report further when there is more to report. For now, Clair has opened a new office after acquiring gear that once belonged to db Sound and has hired several key people from that company for its Chicago office. Contrary to rumors that started as a direct result of earlier "news" reports, Clair did not buy any part of Sound Image.

In the spirit of full disclosure, it should be noted that Sound Image owner David Shadoan is a member of the advisory board for the Parnelli Awards sponsored by *FOH* and *PLSN* magazines.

Meat Loaf World Tour Gets Monster Power

WEST BRIDGEWATER, MA — Meat Loaf has again chosen Scorpio Sound Systems to support his 2007 world tour. This year's tour comprises two legs through North America and Europe, followed by a swing through Australia, to promote Meatloaf's upcoming *Bat Out of Hell III: The Monster is Loose* album. Scorpio Sound is taking along a collection of Lab.gruppen's FP Series amplifiers, in addition to several racks of the new and technically advanced FP+ Series for the subwoofer cabinets.

"The sound is clean, detailed and punchy," says Scorpio Sound's George Wehrlin, who is mixing front-of-house for the world tour. "Especially with the JBL VerTec arrays we are carrying with us on all of the North American and European legs."

The new FP+ 7000 Class TD amplifiers are also being used for the first time on a major tour, to power JBL VerTec Model 4880 subwoofers. "We've had such a good experience with Lab.gruppen that the FP+ was a natural choice," Wehrlin offers. "They sound wonderful, and effortlessly handle the low-end we need for Meat Loaf's high-impact show."

The touring-dedicated FP+ Series includes

two-channel models offering up to 6500W/channel and four-channel versions with up to 2500W/channel. All FP+ Series weigh 26.4 pounds/12 kg in a compact 2U package. The FP+ Series carry a six-year warranty; the FP Series, in contrast, is warranted for three years.

"We've been using Lab.gruppen amplifiers pretty much exclusively for the past four years," says Kevin Delaney, Scorpio Sound Systems' operations manager. "We prefer to deal with a single amplifier vendor," Delaney adds. "That way we avoid cross-platform compatibility problems and we can mix-and-match amplifiers between amp racks."

When the time came to purchase additional channels of amplification for the sound company's inventory, the FP+ Series was a natural choice, confirms Delaney. "It made sense for us when we had the opportunity to go for the new technology, especially for this critical Meat Loaf tour we are undertaking. In terms of packaging and power output per rack, the FP+ is a major development." Scorpio Sound maintains an inventory of 200+ Lab.gruppen amplifiers, including two- and four-channel models.

And the new FP+ 6000Q is rapidly finding additional application at Scorpio Sound for

powering stage monitors. Each channel of the FP+ 6000Q power amp is rated at 1,500 watts in two-ohm loads. A patented hybrid Class-TD output stage combines the enhanced efficiency of Class D with the proven audio purity of Class A-B designs. All channels are fully bridgeable, with automatic -6 dB summing compensation. Each four-channel amp is housed in a 2U package that weighs a trim 26.5 pounds/12 kg. All models are backed by a six-year warranty. Front-panel real-time indicators monitor load disconnect and systems overload.

"We use the FP+ 6000Q in mono mode to drive our d&b audiotechnik wedges, and in bi-amp configurations for conventional two-way floor monitors," King continues. "A rack of three amps with I/O panels and a rolling chassis weighs less than 100 pounds — light enough to be rigged by two or three of our stage crews." Lab.gruppen's Intercooler provides cooling via thousands of miniature cooper cooling fins that increase exposure of the unit's heat sink to air flow. Twin variable-speed fans respond to temperature sensors, forcing air over the Inter-

Left to right: Scorpio Sound's Mark McArthur, George Wehrlin, TC Coakley and Nate Moore, with Meat Loaf (center).

cooler fins in a front-to-rear flow.

"We like the fact that these new monitor racks do not need external fans to keep them running," says King.

Knitting Factory Celebrates, Upgrades

NEW YORK — The Knitting Factory in New York City is celebrating its 20th anniversary this year, a milestone it's marking with a complete technical overhaul to its main stage sound reinforcement, lighting and video systems. One of the first upgrades brought a 32-mono-/4-stereo-channel Soundcraft MH3 mixing console to the FOH position. Knitting Factory's head mixer Jason Tubbs chose the console for its feature set and familiar layout, and has been extremely pleased with its performance.

"The MH3 is a really great sounding console," Tubbs declares. "The definition I'm getting out of this desk is far greater than we've ever had."

The MH3 fit the bill for The Knitting Factory in more ways than one as the main stage of this multilevel Tribeca music venue hosts diverse lineups nightly and many touring FOH engineers. "I really wanted to keep it simple," says Tubbs of the console selection. "We have at least two or three outside engineers here a week, and that's a number that has actually increased. I wanted a console I knew engineers would be able to simply walk in, sit down and get to work on. I think that's extremely important at the club level. These are the trenches — you're on a tight

schedule and you're an hour late for soundcheck and need to load in, set up quick, do your soundcheck and get out of the way for the next band. Things have to happen fast."

As a dual-purpose console, the Soundcraft MH3 has been very capably providing both the FOH and monitor mixes since the desk went in. However, the club has recently carved out some new space just off the stage to accommodate a proper monitor mix position, which will allow the MH3 to serve as a dedicated FOH console. "The MH3 has 12 aux sends, and I've been using seven of them for monitors and effects, but now our monitor mixes will be handled from the stage, which is a big development for us."

Upgrades to the club also include new powered speakers, a monitor console and outboard processing, which further extend mixing capabilities. "All of these upgrades enhance the overall package we're providing here at the Knitting Factory," says Tubbs. "By improving the sound and the lighting, we're increasing the overall utility of the room. We're even adding an HD video system." Raising the club's profile further, XM Satellite Radio recently launched a *Live From The Knitting Factory* program, airing shows from both the NYC and Los Angeles Knitting Factory

locations.

"We've worked with Effanel here in New York, and that's gone really well so far," says Tubbs of the XM productions. "They simply bring in an HD rig and set it up backstage, so it goes on completely independently of FOH, but the improved room sound overall is certainly a factor."

New Array Tapped for Ozzfest Stage

Continued from cover

4-inch voice coils to allow even greater efficiency and power handling.

Peavey's patented UniVent technology aids power handling on the Versarray 218 subwoofers by literally pumping air through the enclosure to maintain cool operating temperatures, increase reliability and reduce power compression under heavy continuous-drive conditions. The 13-ply Baltic birch enclosures feature dual ultra-high power Lo Max 18-inch woofers with ratings of 9600 watts peak, 4800 watts program and 2400 watts continuous power handling.

The Jägermeister Mobile Stage is managed by eight Peavey VSX 26 loudspeaker management systems and powered by 48 Crest Audio power amplifiers — 18 CD 3000 amps to power the 12-inch speakers in the

Versarray 112 enclosures and QW Series monitors; 12 CD 2000 amps for the Versarray's dual-ribbon drivers; and 18 Pro 9200 amps for the Versarray 218 subs — with Crest Audio mixing consoles for monitors and FOH.

"Jägermeister has been kicking around this mobile-stage idea for a long time," said Zeiler, "but without Peavey we couldn't have done it. Peavey has supported the Jägermeister Music Tour since day one with amplifier backline, sound gear and sponsorships, and with this program they've turned a huge dream of mine into reality."

After the mobile stage's Ozzfest run ends August 30 in West Palm Beach, Fla., the Jägermeister Mobile Stage will continue rocking at events with the National Hot Rod Association and others.

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We Will Rock You Returns to Madrid with a J-Type

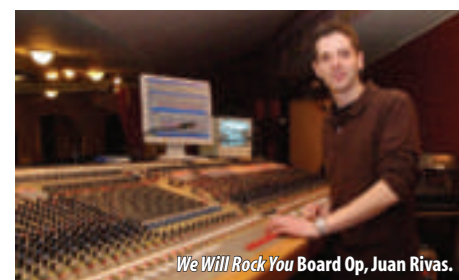
MADRID — The Spanish production of the musical *We Will Rock You* recently returned to Madrid's Calderón Theatre after a successful national tour, complete with a Cadac J-Type Live Production Console supplied by local rental company Milán Acústica. Featuring sound design by Javier G Isequilla, the show has been touring Spain for the past two years and was initially scheduled to run in Madrid for three-months. This has been extended until the end of 2007, thanks to the show's continuing popularity and excellent ticket sales, which won *We Will Rock You* the coveted "Gold Ticket Award."

Milán Acústica has been involved with the show from the outset, supplying the sound

equipment for the original Madrid production as well as the tour. Javier G Isequilla's original sound design centred around a J-Type console, which was replaced with a Yamaha PM-1D desk for the touring production. On returning to Madrid, the original specification has been reinstated, with Milán Acústica receiving direct congratulations from Brian May for the excellent sound quality. Eugenio Ortiz of Milán Acústica commented on the show's success to date:

"*We Will Rock You* continues to be a huge success here in Spain, and it has been great for us to be involved from the very beginning. Bringing the musical back to Madrid after two years on the road is like coming home — very satisfying.

The principal promoters have been very pleased with how things have gone, and we are glad to have played our part and to continue our relationship with the show. For the opening at the Calderón, we supplied a fully specified 96-input J-Type, complete with Cadac's Sound Automation Manager software to handle the complex MIDI commands and sound effects throughout the show. There is a lot of gear involved — we are using Akai Z4 samplers, Alesis HD24 multi-tracks and, for effects, TC Electronic's M2000s and M3000s, Yamaha S-Rev1s and Eventide H3000s. There are 32 radio mics in total on the show, using a combination of Sennheiser SK-50s and SK05012s with DPA capsules and head-



We Will Rock You Board Op, Juan Rivas.

sets. We also have an Aviom monitoring system, enabling the artists and musicians to control their own monitor mixes. The main P.A. system is a combination of JBL VerTec VT-4889 and 4880 boxes, with Crown amplifiers, as well as Meyer Sound's CQ-1s, CQ-2s, UPM-1Ps, UPA-2Ps for fills.

Madison Square Garden, NY

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Linkin Park Rocks with Adamson in Berlin

BERLIN — Linkin Park gave a Berlin audience a preview of their upcoming European and North American tours. For the tours, Kenneth "Pooch" Van Druten, Linkin Park's FOH engineer, is using Adamson Y-18s and T-21 Subs, with various Adamson Yaxis partners providing the required systems for the European dates. Jochen Sommer of Adamson assisted with the final system design, which featured eight Y10s and two T-21 Subs per side to cover the main floor plus a rear balcony measuring 9.85 feet in height and 6.5

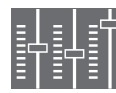


Linkin Park's rig

feet in depth. The system was ground-stacked on 2.6-foot-high stage platforms. The stage-right balcony, serving as the V.I.P. area, added 4 feet more, so two conventional 15½-foot GAE speakers were used to cover the area.

The Adamson system, provided by Concert Sound U.K., used Lab.gruppen FP 3400s and FP 6400s for power and XTA DP226s for processing. Four Adamson M15s were used for stage monitoring. The small size of the stage did not allow for additional side fills boxes, so one M15 per side was placed behind the Y10 stacks, pointing toward the stage. Monitor Engineer Kevin "Tater" McCarthy said, "It was so simple to work with the M15s on the stage because of their sheer power, sound and high gain before feedback."

Linkin Park's Project Revolution 2007 tour will continue throughout Europe until the end of June. The North American tour begins on July 27 in California, finishing in Colorado on September 3.



Up-and-Comers Kick Off Festival Season With a Bang

REDDITCH, ENGLAND — The three days of the Give It A Name indoor shows are seen as the start of the U.K. festival season — as the best up-and-coming new alt-rock bands flip-flop through three venues in England and Scotland. This year, SSE Audio Group supplied a NEXO GEO T line array, running the newly launched NXStream management software, for the 12 acts on each stage.

Give It A Name began in 2005 and soon became established as the biggest indoor rock festival in the U.K. This year it has expanded — beginning in Germany at venues in Berlin and Cologne, followed by Paris, before heading to the British Isles, where it played in England and Scotland. A weekend crowd of more than 25,000 came to Earls Court alone for a bill dominated by pop-punk and emo bands like H.I.M from Finland, Brand New and Juliette & The Licks from the U.S.A, and Enter Shikari from the U.K.

SSE Audio Group supplied three identical systems for the weekend-long event, with crews going to Earls Court London, the NIA Birmingham and the SECC Glasgow. Each system com-

prised left/right hangs of 23 NEXO GEO T4805s, plus three GEO T2815s, with a centre cluster of 5 GEO T cabinets and 12 CD18s each side. The crews were working to 5-minute changeovers, running off a pair of Midas Heritage 3000s at FOH.

On behalf of SSE in London, seasoned engineers Alex Hall and Matthew Kettle were on hand to babysit and to mix a few bands themselves. Matt Kettle has made extensive use of NEXO's flagship tangent array system on several tours with The White Stripes, and he offered his opinion on the new GEO T system.

"With the new software, the high end of the GEO T sounds even better than it was before, you can hear lots of headroom, and I was really pleased by the way the system and the subs sat together."

For engineers who were mixing for relatively new bands, this was the first chance



The NEXO array and stage for the Give It A Name festival

they'd had to mix on a full-size festival system. Says Kettle, "We kept the system at 104 dBA (at FOH) most of the time, and the majority of engineers appeared quite comfortable mixing at that level; it's a good sign when rock engineers are happy with that. We were able to hang nice long lines of GEO T, which is when line arrays sound best; you get more coverage without having to work the cabinets too hard." All systems were powered by Camco's Vortex 6 amplifiers.



Alex Hore (left) and Matthew Kettle for SSE

Mixing front-of-house for Enter Shikari, the much-hyped band leading the British hardcore revolution, engineer Andy Russell seems to agree. "I really liked the clarity and intelligibility of the mix, and that I didn't have to hack the graphic at all. SSE had set the rigs up really well, and the systems sounded great."

Speakers Set Curling Event Straight

KITCHENER, ONTARIO — Last September, Straight Street destroyed half their subwoofers providing low end to bass-hungry DJs. After a several month search for replacements, Straight Street inaugurated their new Danley TH-115 subwoofers at the entertainment after party for the Tim Hortons Brier curling event in Hamilton, Ontario.

The long search was driven by Keith Broughton, audio consultant and mix engineer, at Straight Street. With more than 30 years of experience in the live sound industry, Broughton brought perspective to the problem. "We had to make a departure

from the standard front-loaded subwoofers that are so inefficient and yet so common in the industry. We have four racks of Crown VZ5000 amplifiers that by rights should have been more than enough to power our low end. We didn't need more amplifiers. We needed more efficient subwoofers."

But Broughton was cautious. Three years ago, Straight Street had arranged to test 12 different low frequency speakers in their shop, and Danley Sound Labs had come up several times in discussions with colleagues and on pro sound message boards. Broughton read Danley's techni-

cal white papers and gained a clear feel for the thrust behind their engineering philosophy. "I called them up and spoke at length with Mike Hedden, president of Danley Sound Labs, on multiple occasions," Broughton recalled. "It was very positive. He answered my questions completely. I never felt rushed to purchase or blown off as inconsequential." In a show of good will and confidence that impressed all at Straight Street, Hedden agreed to ship two cabinets for evaluation at no charge.

"The Danleys were the solution we had been seeking." With the understanding and endorsement of the technology and with everyone at Straight Street im-

pressed by the sound of the demo units, Straight Street owner Keith Kissner purchased 16 Danley TH-115 subwoofers. With each unit weighing in at a relatively light 150 lbs., they would be able to load them by hand onto and off their truck. When blocked together, they could produce an teeth-rattling SPL, down to 36Hz.

In a bit of poetic justice, Straight Street has also used the new Danleys for the Bacardi B Live Canadian shows, an event that involved many of the same bass-hungry DJs who taxed the old Straight Street subwoofer inventory. They sent out only eight of the Danleys and had enough bass to keep everyone more than happy.

Miss India Pageant Gets Banana-Shaped Array



MUMBAI, INDIA — Indian sound reinforcement company Sound.com recently provided a combination of VerTec products for the annual Femina Miss India pageant. The rig included VT4889 full-size line array elements, VT4887 compact line array elements and VT4880 arrayable subwoofers. Additionally, JBL VRX915M loudspeakers served as stage monitors, while JBLVRX932LA loudspeakers provided side fill coverage. The system was powered by Crown IT4000 and IT6000 amplifiers.

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A-Works Korea is a new distribution company recently set up to represent French digital console manufacturer, Innovason in South Korea. Based in Sungnam City, A-Works will also be distributing Camco amplifiers and NEXO loudspeakers. A-Works was founded by James Lee, along with former Nexcor colleague Eddie Kim.

Aviom has made several additions to its global sales team. Jonathan "JP" Parker, who has been serving as Aviom's sales director in the southeastern U.S., is now assuming the role of director of international sales, Asia Pacific. Mark Meding, who has been Aviom's sales director for the northeastern U.S. and Canada, will now assume Parker's former southeastern territory and will be in charge of sales throughout the entire East Coast of the U.S. Canada is now back in the capable hands of Aviom's longtime international sales director, Joel Brazzy, who oversees the company's sales efforts in Europe as well as Latin America.

Beyerdynamic recently appointed Paul Froula to business unit manager for the company's pro audio division. Froula previously served as the company's director of marketing. As unit manager for the Pro Audio Division, Froula will be responsible for overseeing and developing new business partnerships. In addition to his new position, Froula will

continue to develop and manage beyerdynamic's Artist/Engineer Relations division.

d&b audiotechnik US recently moved premises to Asheville, N.C. d&b audiotechnik can now be found in the USA at:

30A Rosscraggon Road
Asheville NC 28803
P: 828.681.5405
F: 828.681.5545

D.A.S. Audio has added Carolain Velez and Edward Teran to the company's U.S. headquarters. Velez is now the new administrative assistant in charge of all import and logistical operations. As the new sales associate for the Miami office, Teran will manage all commercial activity generated through the U.S. headquarters.

QSC has announced that Evan MacKenzie has been named as the company's new director of marketing communications. In his new

capacity, MacKenzie will oversee and manage all facets of QSC's marketing communications, including those developed for print and online advertising, public relations, special promotions, and trade shows and other industry events.

Sennheiser Electronic Corporation has appointed Robby Scharf to the position of western region market development manager, pro and MI products. In his new role, Scharf will function as the key liaison for contractors, consultants, sound hire companies and recording studios. Scharf's experience includes positions within Guitar Center's management division, with the most recent being pro audio district division manager/product specialist, Los Angeles.

Avinash (Avi) Vaidya has joined **Shure Incorporated** as vice president of product development and chief technology officer. Vaidya will lead Shure's product development

division and have full responsibility for all engineering and configuration management functions and new product development projects. Vaidya also will provide strategic counsel as a member of Shure's executive staff. Vaidya holds nine U.S. patents, has published numerous technical papers and has received several awards for technical excellence. Vaidya has a Master's in Engineering Electronics from the Netherlands Universities Foundation, a Master's in Computer Science, and a Ph.D. in Electrical Engineering from the University of Wisconsin-Madison.

WorxAudio Technologies is pleased to announce the appointment of Jerry Spriggs to the position of Director of Sales. A professional audio veteran of over 30 years, Spriggs has been a pro sound contractor for a decade. In his new role with WorxAudio Technologies, Spriggs will direct all sales campaigns and initiatives, as well as oversee the company's distribution network.



Evan MacKenzie



Robby Scharf



Avinash Vaidya



Jerry Spriggs

Sound Image Brings the Beach to Nashville

NASHVILLE — When you have a bunch of country clients, it makes sense to have a presence in Nashville. So it was not a huge surprise when San Diego, Calif.-based Sound Image opened a Nashville office — way back in 1991.



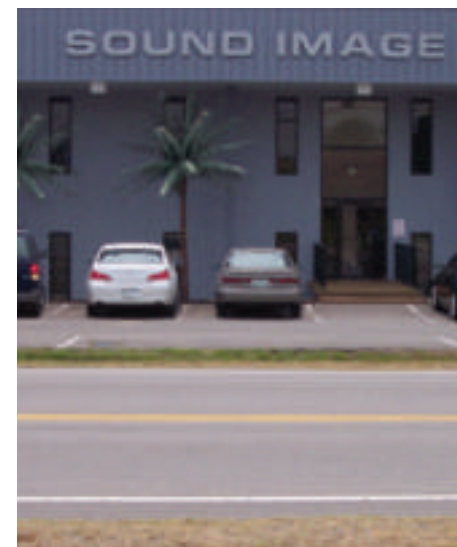
Sound Image's new Nashville building.

In 1993, when Everett Lybolt became the general manager, Sound Image moved its office to Music City's biggest rehearsal facility called Soundcheck. (Interesting sidenote: Though at this point virtually every big soundco and manufacturer has some kind of presence at Soundcheck, Sound Image was the first to open an office and install a system in that facility.)

Sound Image's country business has continued to explode. "We have enjoyed doing business with some of Nashville's highest grossing acts including Brooks and Dunn, Brad Paisley, Toby Keith and Rascal Flatts just to name a few" said Lybolt. The next logical step was to purchase their own piece of real estate in the Nashville market.

The new Nashville branch of Sound Image — 35,000+ square feet located just west of downtown — has everything you would expect and some things you might not. Sound Image owner Dave Shadoan is noted around the industry for looking like, well, like a gracefully aging surfer. (Though legend has it that he surfed only once — on a bet in 1976 — he does look the part.) His typical work uniform is shorts, a Hawaiian print shirt and flip-flops. So what does a totally SoCal dude do in Music City, USA? He brings the beach with him.

The new facility features what looks like a 100foot long beach in front of the building with a bridge crossing it. Where someone a bit more "southern" might have turned it into a moat and filled it with water and populated it with gators and cottonmouths, Shadoan and Lybolt took a different tack. White sand and large palm trees. The beach has arrived in Nashville.



Sound Image's new Nashville building.



bartha
make it happen

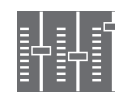
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» QSC Wideline-8 Line Array Loudspeaker

The QSC WideLine-8 system measures less than 20 inches (508 mm) wide and nine inches (229 mm) high. Each tri-amplified WideLine-8 element uses a pair of neodymium magnet, eight-inch low-frequency drivers. Both cover low frequencies while only one extends into the mid-range. High frequencies are handled by a three-inch diaphragm, neodymium compression driver mounted to QSC's multiple aperture diffraction waveguide. The waveguide exit extends nearly to the top and bottom of the enclosure. The WideLine-8 sub houses a pair of four-inch voice-coil 12-inch woofers. The 4th order bandpass design matches the width of the WideLine-8 elements, allowing it to be flown in line with or behind a WideLine-8 array. The enclosure is constructed of Baltic birch plywood and coated in a waterborne polymer finish. Suspension fittings are made of aluminum.



QSC Audio • 800.854.4079 • www.qscaudio.com

» Alcons Digital Drive Processors

The Digital Drive Processor is an exchangeable signal-processing device, designed to complement the Alcons Amplified Loudspeaker Controllers. The device offers speaker-specific processing and controlling options, enabling the ALC to drive all Alcons pro-ribbon speaker systems in any configuration for any application. The design is based on a 96 kHz sample rate Delta-Sigma conversion with 27-bit (stacked) word length and fixed-point internal processing, driven by a powerful 56 bit, 120 mips DSP engine. The System Drive section of the DDP provides system controlling and optimizing, with presets for all available Alcons systems and system configurations. DDP features Intelligent Driver Guidance (IDG) processing, with optimized power response through "True-RMS" intelligent power and (separate) excursion-limiting guidance. Its crossover filtering is done with hybrid Bessel, Butterworth or Linkwitz Riley responses, enabling optimal speaker matching. CSQ Constant & Symmetrical Q algorithm offers complete filter integrity for the on-board parametric EQ.



Alcons • + 31 0229 28 30 90 • www.alconsaudio.com

» CobraNet Interface for Soundcraft Vi Series Digital Consoles

Soundcraft has expanded the connectivity options for its Vi Series (Vi6, Vi4) of digital live sound consoles with the introduction of a CobraNet interface card. The CobraNet option card allows up to 32 channels of input or output signals (or a combination of both) to be received by or sent from the console onto a CobraNet network. By default, the card is configured for 32 outputs. This strengthens the position of a Vi Series console within a Harman HiQnet system, allowing audio and control to be integrated into the desk.



Soundcraft • 818.920.3212 • www.soundcraftdigital.com

» EV ZXA5 Powered Speaker

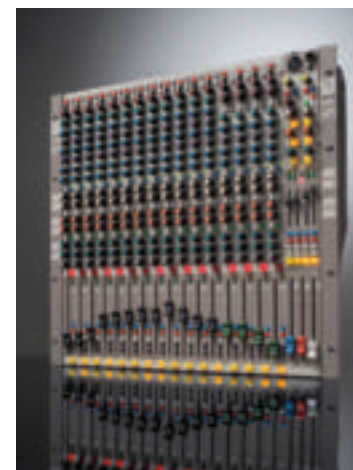
The Electro-Voice ZXA5 powered two-way loudspeaker includes a 500-watt DVX3150 15-inch transducer. Handling the HF is the ND2, a two-inch voice coil compression driver based on a neodymium motor structure. The ND2's phasing plug and titanium diaphragm are meant to provide better HF performance, while the integral heatsink provides cooling for high-power output. ZXA5 features an integrated digital amplifier that produces 1000-watt LF and 250-watt HF. The design includes a 24 dB/octave 100 Hz high-pass filter for use with a sub. ZXA5 is equipped with three anchor plates for rigging with single stud fittings, along with two more possible anchor plate attachment points on the bottom. For permanent suspension or attaching brackets, the ZXA5 also has two M8 inserts on the top and bottom, two under the handle and four on the back of the enclosure, for a total of 10. All versions are available in black or white.



Electro-Voice • 973.785.1101 • www.electrovoice.com

» APB-Dynasonics ProRack Mixers

The new ProRack House and Monitor small-format mixers from APB-DynaSonics are designed to provide the same level of performance and dynamic integrity found in the company's larger-format Spectra consoles. The ProRack House has 12 mono input channels and four dual-mono/stereo input channels (20 mic preamps in total), while the Monitor is fitted with 16 mono input channels. The mono input channels of each model share the same input and EQ circuitry and controls: 48 volt phantom power switch, Mic/Line switch, Mic Pad switch and polarity reverse switch. The ProRack Mono input channels incorporate fixed high- and low-frequency EQ bands and two mid-sweep EQ bands with one-octave bandwidth. The stereo channels of the H1020 feature fixed high- and low-frequency EQ bands and a mid-sweep EQ based on that same Spectra circuitry. Separate left and right gain controls, along with source-select switches, allow the Stereo channels to also be used as mono or dual-mono inputs.



APB-Dynasonics • 973.785.1101 • www.apb-dynasonics.com

» Martin Audio MA Series Power Amps

The three new Martin Audio MA Series models — MA18K, MA12K and MA9.6K — are designed to use Pulse Width Modulation (PWM) technology to achieve higher efficiency. Martin says these amps can deliver 95% of the input power into the speakers, with a 5% loss dissipated as heat. They are also reduced in size and weight. The amps also contain patented design features to control parameters such as distortion, frequency response, slew rate, damping factor and bandwidth. The amps use switch-mode power supplies and power factor correction that maintains a steady current draw on the mains supply. The new MA models are designed to be virtually immune to mains voltage variations and can be used directly on any worldwide mains voltage standard without adjustment. This was designed by Martin to ensure that two-ohm loads may be driven without any compromise, making a reduced amplifier count a realistic proposition for many applications. The new MA Series models also feature comprehensive DSP functionality accessed via the front panel controls and LCD display. Limiting, mains current draw, level and routing can all be controlled, and the amplifier can be remotely controlled and monitored by a PC via an RS485 interface. An optional DSP card can be fitted to give massive additional DSP functionality thanks to on-board Sharc processing. A smart card can be used to store and load parameters between amplifiers.



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Location Bella and Stagecoach Festivals 2007

ST



VENUE
Empire Polo Fields, Indio, CA

SOUNOCO
Rat Sound Systems Inc.

CREW
FOH Engineer: Greg Nelson and Greg Mahler
MON Engineer: Derek Vanord and George Squires
Systems Engineer: Lee Vaught
Production Manager: Kevan Wilkins/Ron Doroba
Sound Coordinator: Jon Monson

Stage Manager: Tim Lamb
FOH System Techs: Dustin DeLuna (crew chief), Matt Fox, Tyler Arnold, Scott Puro, Brett Vlasik

GEAR
FOH
Console: Midas Heritage 3000,
Speakers: L-ACOUSTICS V-DOSC, dV-DOSC, ARCS and HiQ's, Rat Subs
Amps: Lab.gruppen, L-ACOUSTICS LA48a, Crest Pro7001s, Crown MA2400, MA3600
Processing: XTA DP428, DP226, Midas XL88
Mics: Shure KSM32m, Audix OM7, Audio-Technica AE3000

Power Distro: Skjonberg 15-out UL Distro
Rigging: Wing Distro Mini Cam
Snake Assemblies: Rat Mass Iso Splitter, Whirlwind 2 Way Splitter

MON
Console: Yamaha PM5Ds
Speakers: LACOUSTICS ARCS and HiQ's, Rat Subs
Amps: Lab.gruppen, L-ACOUSTICS LA48a, Crest 7001, Chevin Q6s
Processing: XTA DP428, DP226
Mics: Sennheiser IEM300 G2, Professional Wireless helical antenna
Power Distro: Wing Distro mini Cam

ST

Country Music Hall of Fame Medallion Ceremony

VENUE
Ford Theatre, Nashville, TN

SOUNOCO
Brantley Sound Associates

CREW
FOH Engineer: Joe Calabrese
MON Engineer: Wade Kilgore
Systems Engineer: John Roberson

Production Manager: Brian Montgomery
System Tech: Travis Medlin

GEAR
FOH
Console: Yamaha M7CL
Speakers: Adamson SpekTrix, EAW KF300, SB1000, JF80
Amps: Lab.gruppen FP 7000

Processing: Dolby Lake, XTA
Mics: Shure, AKG, Beyer, Sennheiser, Audio-Technica, Countryman, Audix
Power Distro: BSA Custom
Snake Assemblies: Radial

MON
Console: Yamaha M7CL
Speakers: EAW SM200, SM15
Amps: Crown
Processing: BSS



Bringin' Lucky Back / University Program Board Springfest

ST



VENUE
Illinois State University Quad

SOUNOCO
Braden Auditorium Production Services

CREW
FOH Engineer: Nathan Menken
MON Engineer: Dan Yarger

Production Manager: Chuck Fudge
FOH System Techs: Thomas Rutherford, Mike Adams, Susie Speadbury, Laura Prather

GEAR
FOH
Console: Yamaha PM1800
Speakers: EAW KF550C
Amps: 4 BGW GTA, 2 BGW GTB, 2 BGW

PRO 750, 2 Crest Pro9001
Processing: Yamaha, BSS, dbx, Lexicon
Mics: Shure, Sennheiser, AKG
Snake Assemblies: Whirlwind

MON
Console: Midas Sienna 480
Speakers: McCauley
Amps: BGW GTB, BGW Pro 250
Processing: BSS, Klark Teknik



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Mauricio "Magu" Ramirez,
Senior Technical Seminar Instructor



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ST

MTV Tres Launch Tour

VENUE

Continental Hotel, Miami, FL

SOUNOCO

Abe V. Systems, Inc.

CREW

FOH Engineer: Humberto Cruz

FOH System Tech: Jean Thomas

GEAR

FOH

Console: Yamaha PM5000

Speakers: Clair i4

Amps: Clair, Crown, QSC

Processing: Lake Contour, Klark Teknik DN370, DN500, Yamaha SPX990, Lexicon PCM 90, TC Electronic M-One

MON

Speakers: Clair 12AM, Clair R4 & ML-18

Amps: Clair, Crown, QSC

Processing: Klark Teknik DN360, Shure PMs 600, 700

Coming Up to Breathe Tour —
MercyMe, Audio Adrenaline, Aaron Shust, Phil Wickam

ST

VENUE

USA Tour Arenas/Theatres

SOUNOCO

Pro Audio Group, Inc.

CREW

FOH Engineer: Ryan Rettler

MON Engineer: Bobby George

Systems Engineer: Kyle Shepherd

Production Manager: Wes Amick

Tour Manager: Joel Bench

FOH Systems Techs: Dustin Reynolds,
Charlie KleinSnake Assemblies: 2 Whirlwind
Splitters

GEAR

FOH

Console: Digidesign VENUE 96

Speakers: 60 d&b C, 12 d&b B2,
2 d&b Q-7

Amps: 16 d&b P-1200, 12 d&b D12

Processing: Lake Dolby, Tube Tech,
Lucid Word Clock

Power Distro: 2 PAGPDs

Rigging: 4 CM Lodestar 1-ton

MON

Console: Yamaha PM1D v2 96x32

Speakers: Westone PMs/15
Sennheiser G2 PMs, 4 EAW SM500, 6
d&b C, 3 EAW SB1000

Amps: d&b D12, Crown Macro-Tech

Processing: d&b/dbx

Mics: Shure

ST

The Impressions — IBM/Ricoh POST Event

VENUE

Adam's Mark Hotel Denver
Conference Center

SOUNOCO

q music, inc. — Longmont, CO

CREW

FOH/MON Engineer/Systems

Engineer: Joe Breher

Production Manager: Kirk Weillepp

Tour Manager: Lesley Wylie

GEAR

FOH

Console: Roland VM-7200 94-ch
system 1Speakers: 2 Mackie SR1530, 2 EAW
LA128z

Amps: 2 Integral/QSC PLX3402

Processing: Sabine Nav3600, EQ and
FX integral to VM mixerMics: Shure — SM58, SM57, SM81; AKG
C418; Audix D6; Sennheiser e609; Studio
Projects C4; Radial J48; LR Baggs Para DI;
EWI FDB-202

Breakout Assemblies: Proprietary

Snake Assemblies: 175' 94x64 Roland
VM-Link, 12x4 drum drop, 6x0 down-
stage drop

MON

Console: Roland VM-System

Speakers: 15 JBL Eon Power 15s

Amps: Integral

Processing: Integral to VM mixer

Mics: shared w/ FOH

We
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FOH wants your gig shots, horror stories and resume highlights! Go to www.fohonline.com/submissions to send us your Showtime pics, Nightmare stories and In The Trenches stats. Or e-mail jcoakley@fohonline.com for more info. We cover the industry — *and that means you!*

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Snaring the Perfect Sound

Bartha Audio/Visual Helps a skin care firm pull out all the stops for its annual celebration



The UNLV Marching Band and Drill Team joined the snare drum for the main product reveal.

By Jacob Coakley

Corporate gigs don't have the glamour of a rock show, but they also don't have the same requirements — a lot of times they have more. Corporate events aren't only about pumping lung-crushing SPLs — trying to maintain intelligibility and fidelity with a larger dynamic range than a rock show, while battling video, and lighting, is where the skill portion comes in. Bartha Audio/Visual recently used all its skills to turn the MGM Garden Arena into a convention hall for skin-care firm Arbonne's annual National Training Celebration, and then reinforced a marching band to rock out the attendees.

The Arbonne 2007 NTC ran from April 24–26 at the MGM Garden Arena at the MGM Grand in Las Vegas. Bartha Audio/Visual, based out of Columbus, Oh., was charged with bringing it to life. Chris Zervos, production manager for Bartha, started working with Arbonne in July 2006 for the 2007 event, which was to be organized around the theme "A Million Reasons Why."

"The General Session is mainly training on current products, a release for their new products and a bunch of recognition for people's achievements throughout the year," says Zervos. "And they knew they had to be in the round to get the capacity out of the venue."

They placed four video screens over the stage, and placed four Meyer arrays at the corners, with an additional two arrays at either end of the arena.

"There were six clusters flown, all of which used an array of 10 Meyer MILO boxes," says Zervos. "And then four of the six arrays had two M3D subs on top, plus four more on the ground. Seven UPAs were also used for downfill off of the scoreboard structure."

Which was fine by FOH mixer Mike Burt.

"I don't want to necessarily electronically enhance them. I want to do what our business is; I want to reinforce them." — Mike Burt

"It's always easy to make the Meyers sound good," says Burt. "We got a lot of compliments from people. I always get a number of people who come down to FOH, especially with these types of groups, and they're like, I sat way up there in section 219, and I could hear every word."

In order to get that sound, Burt uses a blend of new tools and experience. Burt will use SIM or Smaart to measure a room, and then work with his own ears to make sure the sound is true. He also works his delays a little differently when dealing with a corporate presentation.

"Most people just put the mains right up front, and everything's delayed to mains," says Burt. "I delay my mains to the kick drum or to my center focus on stage." Burt says this especially helps intelligibility when dealing with corporate speakers who are being projected onto huge video screens. When dealing with corporate events, he also finds it's helpful to meet with the speakers beforehand to get a sense of their voice so he can reinforce that, as opposed to flattening it through predetermined EQs.

"I want to hear what their voice sounds like, what the timbre of their voice sounds like, and that's what I try to mimic in the P.A.," says Burt. "I don't want to necessarily electronically enhance them. I want to do what our business is; I want to reinforce them."

Anyone who's worked a corporate gig knows there's usually one show-stopping number, and, as opposed to a rock show, it's usually at the beginning of the gig. This was no different. To publicize their new product, a line of makeup marketed to teenagers, Arbonne had the UNLV Marching Band and

Drill Team rush the arena, playing along to a modified Gwen Stefani track. To start the number, though, Bartha lowered a single snare drum player from the video structure above the stage, miked with a Countryman E6 to capture the snare. As he started playing, the rest of the band entered the arena; their live audio was supplemented with the track in the rig.

"The important thing with running a live band with recorded audio like this — especially in a space like the arena — is to communicate with the band director and have them really try and listen to it. You can get a lot of weird delay happening with the kids on that," says Burt. "I usually pump the track loud at the beginning to make sure that the players play in sync, and then I slowly try and drag the level down into the players a little bit. So I try and play off of it a little. I try and give them a hint of that lead beat and let them get on track, and when I sense them on rhythm, then I slowly try and track it back down a little bit."

And did that work?

"It really carried itself pretty well — even after you added about 17,000 screaming women."

Screaming fans? Maybe those corporate gigs aren't so different than rock shows after all. ●

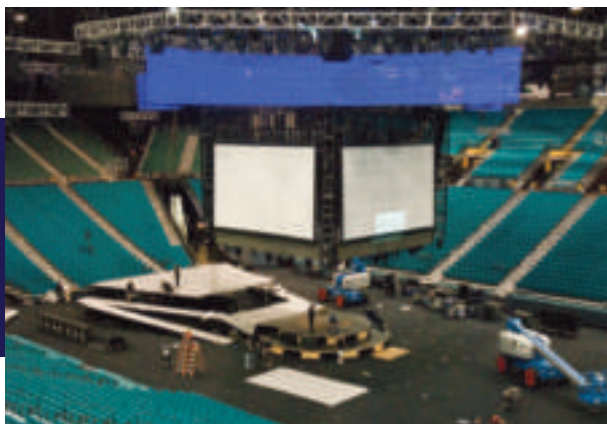
GEAR

- 50 Meyer Milos
- 12 Meyer M3D Sub
- 4 Meyer MSL-4
- 4 Meyer CQ-1
- 2 Meyer PSW-2
- 2 Meyer UPJ
- 7 Meyer UPA
- 4 Meyer UPM
- 8 Meyer UM1P
- 1 Yamaha PM5D (FOH)
- 1 Yamaha M7 (MON)

- 2 Meyer Galileo System Processors
- 2 Instant Replay
- 12 Shure Wireless
- 6 Countryman E6 headsets

CREW

FOH Engineer: Mike Burt
MON Engineer: Jeff Higgins
Wireless Tech: Jason Fritz
System Tech: Frank Snipes
System Design: Kevin Conley/ Jason Brentlinger



The Arbonne load in



The snare drum appeared from the ceiling, but had to be heard everywhere.

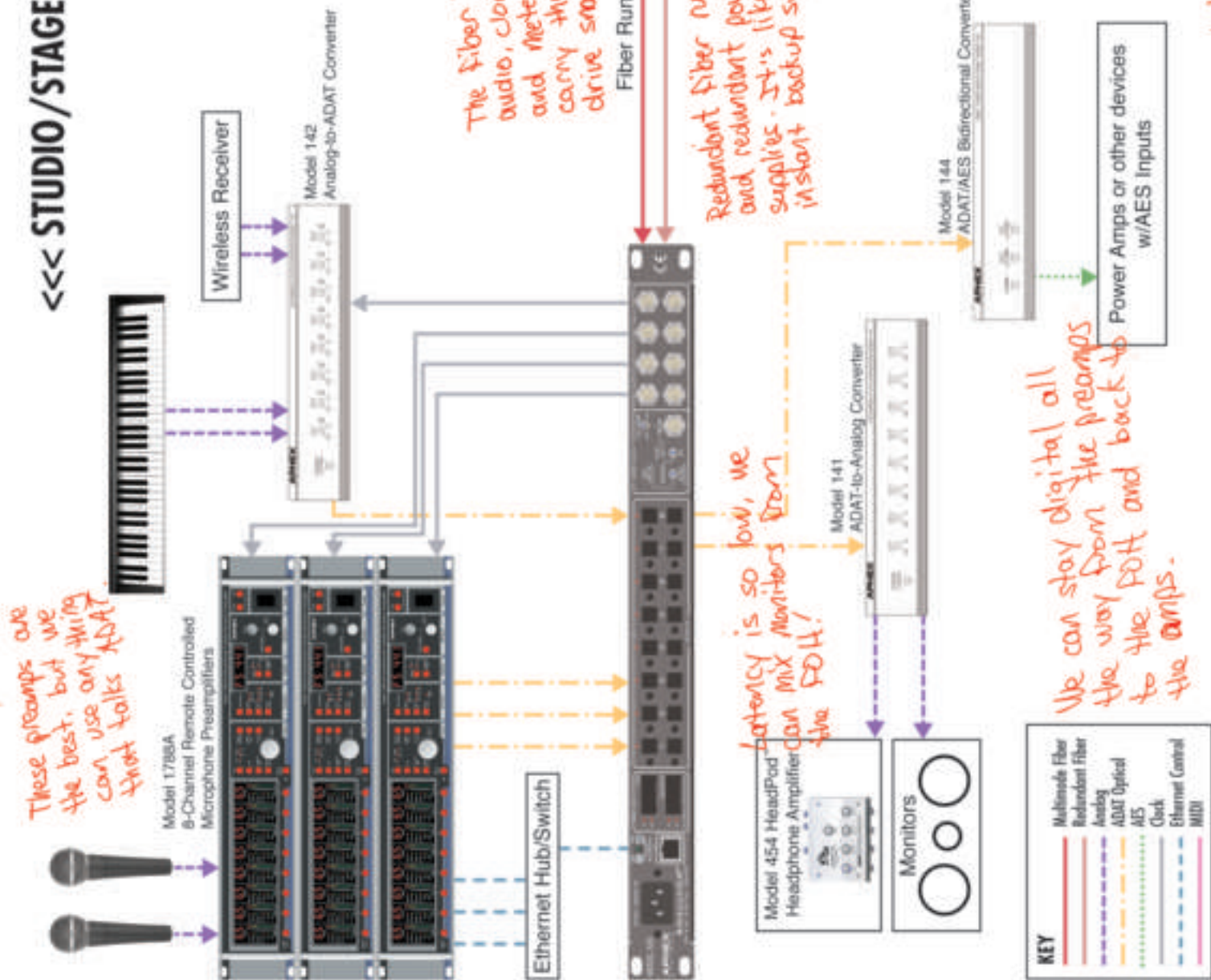
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BEST TOUR WITH A BULLET

Seger's crew details how they handle working with an old school rock 'n' roll legend



Left to Right: Michael Dunwoody (technician), Brad Divens (FOH engineer), Paul Jump (systems crew chief), Dan Sheehan (monitor technician) and Peter Thompson (monitor engineer)

Photos & Interview By Steve Jennings Text By Geri Jeter

Last November, Bob Seger and The Silver Bullet Band launched their first concert tour in 10 years at the Van Andel Arena in Grand Rapids, Mich. They kept on trucking right on through spring, when *FOH* caught up with crew members Brad Divens (FOH), Peter Thompson (monitors) and Paul Jump (systems engineer/crew chief). The three talked to us about their equipment, their experiences, and what it takes to produce a tour of this magnitude.

FOH: Any interesting stories about how you got into the business?

Brad: By coincidence, it was 10 years ago — in 1996 — that I first started mixing. While living in L.A., I took a gig to pay the rent as a musician trying to get my next record deal. One gig led to another, and I thought, "Maybe this is where I'm supposed to be." In addition to working with Bob Seger, I've worked with Linkin Park, HIM, Cyndi Lauper, Counting Crows and Kid Rock.

What was your pre-tour prep schedule like?

Brad: When I was brought into rehearsal, they had a Midas XL4 and some outboard gear set up. I sat there for three days

mixing on headphones and nearfields. It all came together very quickly. Punch, Bob's manager, would come by and I'd hand him the headphones. He would listen a while, hand back the headphones and smile. I knew it was going to be a lot of fun. The band rehearsed for a few more weeks, and then we went to full production rehearsals for about two weeks. We spent the first week at the Palace in Auburn Hills, Mich., and then went to Grand Rapids where the tour kicked off.

What special adjustments do you make to accommodate each particular venue?

Paul: We walk every section of the arena to make sure that the coverage was the best it could be for each venue.

Brad: Specifically, we pink noise the rig and adjust the components with the Showco Prism Drive and smooth out the peaks with the EQ. Then we each have our music that we like to hear through the rig. After that, we walk the arena. We also have the Clair I/O running on a wireless tablet that we take to different spots in the room and tweak some more. We want to make sure that every seat in the house has a great listening experience.





What equipment do you consider standard for a tour like this?

Peter: For my rack gear, the equalization is dbx DriveRack. I've got 16 channels of $\frac{1}{2}$ octave (4 by 442 units in eight rack spaces) and a 480R remote interface that fits conveniently on the matrix section of the desk. There's just a thin foam pad between the two to keep their parts from rubbing. No compression, gates or FX — old school!

I've used the DriveRack system before for other applications but never for EQ inserts. It's working well. I also like the RTA feature on the 480R. I feed the RTA from my solo/cue.

Brad: My rack gear consists of Alan Smart C2, 2 Manley ELOPs, TC 2290, TC M5000, TC M3000, Lexicon 480L, Clair I/Os, Showco Prism Drive, a CD recorder and CD player. It's pretty much the same gear that I always use. The Showconsole has comps and gates on every channel, so there is no need for the extra outboard dynamics.

Paul: We're using the Showco Prism System for tour. We're hanging 11 columns per side to cover more than 270 degrees. There are three Prism White cabinets per side that are on the top of the array for the high arenas and 16 Prism Sub cabinets and six Clair FF2 on the ground for front fill. Since we are covering

about 270 degrees, we have two Clair P2 cabinets as fills on the sides next to our wings on both sides to cover the lower seating.

How do you satisfy the audio needs, yet still manage to keep the sight lines clear?

Peter: For this show, I've got 14 wedges and two PM mixes. The wedges are Showco SRM 12x2 on Crown Macro-tech 36x12. Twenty-four wedges in all. We use Shure PSM 600 for the PMs. For the better part of the tour, we have a flown pair of Showco Prisms side fills. They obstructed too much, so we got rid of them and replaced them with a second pair of wedges down center for Bob. This cleared up the look of the lighting rig and opened up sight lines on the side of the stage — not to mention lightening up the work load for Myles Hayle, our monitor tech. Oh, and I received a big kiss from Bob's LD Chris Stuba for removing the big fuzzy boxes from the look of the show.

What were the mic needs for the tour? Did Bob have any special requirements?

Peter: For all the wireless mics, we're using Audio-Technica's AEW R5200 receivers with ATW-A64P antennas. Bob's mic is AT's AE3300, and the remaining vox are AE5400.

From rehearsals to the present, we tried a variety of mics for Bob. We started rehearsals with a wireless Shure KSM 9. When Bob arrived, he walked up to the mic stand, motioned his hand up and down behind the mic as if he was missing the XLR sticking out the back. He immediately asked, "Do you have a 58?" We were able to provide this for him. It worked fine for rehearsals, but when it came to rehearsing the show on the big stage, we switched him over to the AT system. That seemed to work better.

Any new toys?

Peter: I ordered up a Midas Heritage 3000 for the tour. This is the same desk I used for the rehearsals. It's fast, reliable — and it's purple with pretty colored knobs.

Brad: The new toy for the tour is Smaart Live running with the Clair I/O. It allows you to have both the analyzer and the EQ running on the same page of the tablet — a real nice addition.

What can you share about working with Bob Seger?

Brad: Bob is old school, and there is certainly nothing wrong with that. It was said to me that Bob didn't like the banana P.A.,

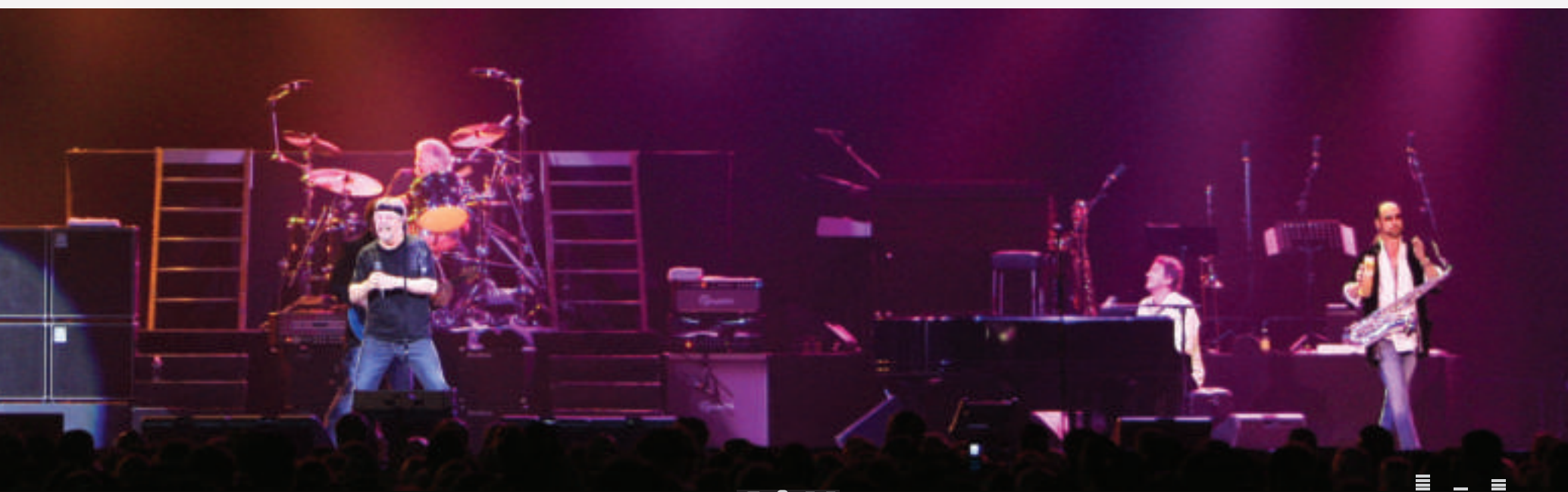
which is in reference to a line array. He used the Showco Prism on his last tour, which he liked, so that was chosen for this tour as well. We did get him to try some different vocal mics. He was very open to suggestions, the approach was kept simple.

Peter: As far as introducing Bob to something new — I asked Bob if he would like to try PMs. He responded with an emphatic, "No way!" As Brad said, he's strictly old school.

What has been your overall impression of this tour?

Brad: I feel like this tour was a very special experience for everyone involved. Bob, the band, the crew, the gear and the production staff were all great to work with, and I'm glad I had the opportunity to be a part of it. This is a show full of hits, great musicians, sold-out arenas and roaring crowds. It's rock 'n' roll at its finest. Definitely a high point of my mixing career.

Peter: I'm sorry this tour will come to an end — it's been the best tour ever! The band, production staff and technical crew have been an absolute pleasure to work with. And working with Bob, a living legend...and a fellow Ann Arborite. What a nice guy! This has been the best thing ever to come my way. 🍌



What I Did On My Summer Vacation...

How does a groundbreaking artist with more money than God spend his leisure time? How about a short run of shows in unexpected venues just for the fun of it?



Thomas Dolby in full regalia



Dolby and his band

Photos & Text by Bill Evans

Thomas Dolby

There are a few people in the production community who I like enough to take their calls no matter what else is going on. So, even though we were deep into Production Hell on an issue of *FOH* and *PLSN*, I picked up when my phone said that Dave Tennent was on the line. Dave is the TD at The Cannery in North Las Vegas, an unexpectedly cool venue given the location — An “A” level room in a “C” part of town. (We wrote up the venue in the June 2006 issue of *FOH*. You can find it online if you missed it.)

“In the studio, if I hit a mute button by mistake, it is not the end of the world. Live, well, it’s a much bigger deal.” — Clif Brigden

“You’re never gonna believe who we got,” he said when I answered the phone. “Thomas Dolby.” I was instantly interested. *Aliens Ate My Buick* is probably one of my Top 20 fave records of all time, and when I heard that Dolby was touring with a horn section, that sealed the deal. “I’ll be there,” I promised.

“We really don’t know what to expect,” said Dave. “His rider just asks for five inputs.”

On the appointed evening, when I got to the venue — late as usual — and was introduced to FOH engineer Clif Brigden, I asked about that, and he said “Well, tonight we are actually up to eight because one of the horn players sings. When I heard you were coming out to talk to me about mixing the show I thought, ‘Well, that won’t take very long because I really don’t know anything.’”

Clif is, of course, being modest, but being a live engineer is not his background. “I have known Thomas for more than 20 years. I was in his band and we are studio mates. This all came about because he wanted to play at SXSW, and they booked a few dates between California and Texas to fill in. He asked me to do this and I told him I didn’t really want to. I hate mixing live. In the stu-

dio, if I hit a mute button by mistake, it is not the end of the world. Live, well, it’s a much bigger deal. But he asked and I agreed, and I have actually had a great time. We have played some interesting venues — including a company cafeteria and now a Las Vegas casino — and we’ll finish up in a punk club in the Bay Area back in California.”

Like many acts hitting the Club at The Cannery for the first time, Clif was very surprised at the size and quality of the house JBL VerTec/Midas/Soundcraft system. “This is

easily the biggest and nicest system we have played through on this entire run of shows,” he said. “And the house crew is fantastic.”

Where it is normally expected that an act like Dolby steeped in sequenced electronica would play to presequenced or recorded tracks, he actually created the backing tracks on the fly, using and then played live parts and sang on top of it. Dolby is totally unassuming for a probable billionaire. Minutes before the show, he entered through the front door and strolled through the full room without anyone really noticing him. He went backstage and donned the trademark glasses and a gray trenchcoat and “became” Thomas Dolby.

Of course, someone as smart as he is isn’t going to use just any old mic and monitor system. He wears what appear to be old-style headphones that actually have a pair of Sensaphonics ProPhonic 2X-S ear pieces inside and a headworn mic. The rig also includes a head-mounted video camera that was being mixed — live — with other footage and effects by a U.K.-based DJ named Johnny Dekam.

All of the synth parts come to Clif as a premixed stereo pair, as do Dolby’s vocals, with all effects already added from the rack onstage. Hence the eight inputs.

Clif may not like doing live mixing, but he made those eight inputs sing, and the show was great. It also drew some major Vegas live audio names, including Cirque sound designer Jonathan Dean. Of course, a big part of it is the fact that both Clif and Dolby do music for the sheer joy of it and not because they need the money. During the show, Dolby explained that he became disillusioned with the music business in the early ‘90s and moved to Silicon Valley and started a tech company. That tech company, Beatnik, developed technol-

ogy used in about ⅔ of the cell phones sold in the world. And while he was doing that, his bandmate Clif got together with some friends and developed downloadable ringtones which they sold to Cingular and others. They are not on the road because they need to pay the rent. When I said to Clif, “So, you guys do this for fun.” He replied, “Oh yeah, this is summer vacation.”

The crew for the gig. Left to right: Matt Druzvik, Clif Brigden and Blake Norris



Gear				
FOH			4	Crown MA-5002vz (Lows)
			6	Crown IT-4000 (Subs)
	1	Midas Heritage	MON	
		2000 (43 mono + 5 stereo)	1	Soundcraft MH3-40
	1	BSS FCS-960	5	BSS FCS-960 (12 mixes)
	1	Lake Contour	5	DBX Driverack P.A.
	1	Yamaha SPX-2000	1	TC Electronic M-OneXL
	1	Yamaha SPX-990	1	4 ch. Klark Teknik DN 504
	2	TC Electronic M-One XL	1	8 ch. Behringer MultiGate Pro
	1	TC Electronic D-Two	4	JBL TTM-129
	1	2 ch. Drawmer 1960	12	JBL TTM-149
	1	8 ch. Drawmer DL241	2	JBL SRX4733 (sidefills)
	1	4 ch. Klark Teknik DN 504	1	JBL MPRO 415 / 418 Sub
	1	8 ch. Klark Teknik DN 514B		(drum fill)
	12	JBL Vertec 4888	4	JBL EON-15G2
	12	JBL Vertec 4881	8	Crown MA-36x12
4	Crown MA-3600vz	2	Crown MA-3600vz	
	(Highs & Mids)	4	Crown IT-4000	

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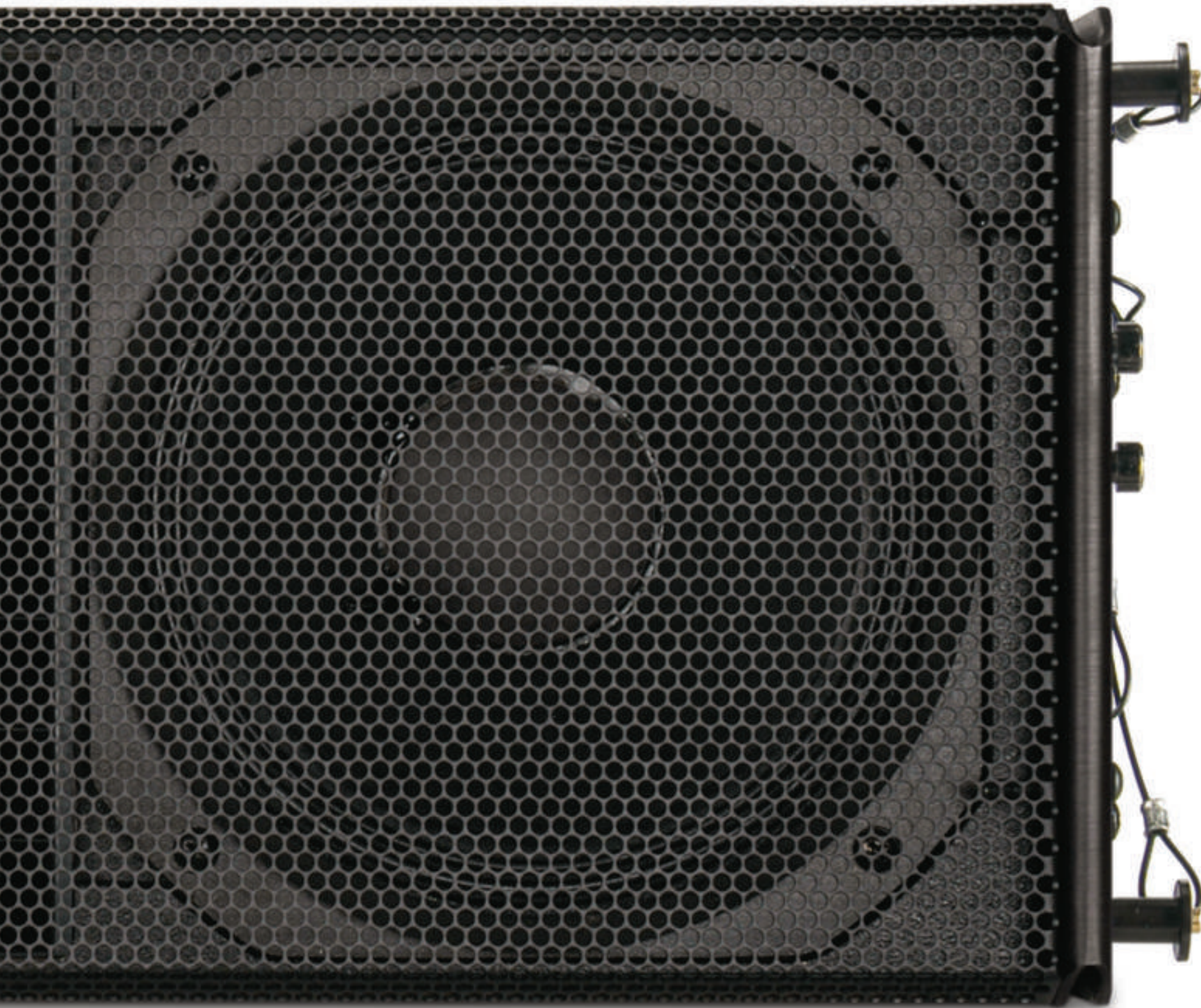


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Actual Size

(Grille backing material removed to reveal detail.)



Caution: Object Will Sound Larger Than it Appears

QSC's new WideLine-8 is an ultra-compact, high-output line array and subwoofer system designed for touring, corporate and installation applications in which compact size, preservation of audience and camera sightlines and ease of transport must be achieved without compromising audio performance.

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www.qscaudio.com/WideLine-8



QSC HPR POWERED LOUDSPEAKERS

By Jamie Rio

When my fearless leader and editor Bill Evans called me to review the new QSC HPR powered series loudspeakers, I was pretty excited. When he told me I had to test the hell out of them and have the piece done in a little more than a week, my excitement began to wane. However, the first real amplifier I ever bought was a QSC, and to this day I have a great deal of respect for the company. I honestly don't know how long they have been building amps, but I think Noah had a rack of them on the ark. In other words, this company is an icon in this biz and I expected to field test some high-quality gear.

The Gear

(RT)

When I first saw the QSC boxes at the NAMM show I thought, "Those are some handsome speaker enclosures, I wonder how they sound?" In the past, appearances have not been that important, but in the last few years, I have been doing a lot of corporate events, and my thinking has come around to the point where I either need to make the speakers invisible or use something cool looking. Anyway, QSC is offering up five good-looking boxes in their HPR line. The HPR122i (12-inch 2-way), the HPR152i (15-inch 2-way), the HPR153i (15-inch 3-way), the HPR151i (15-inch sub) and the HPR181i (18-inch sub).

All the cabinets are built of rugged birch plywood and have a textured black paint covering. Rigging points using M10 bolts are on all the 2-way and 3-way enclosures. Of course, all models sport ergonomic handles and bullet proof-grills. Power amps are all QSC and matched to the various models' speaker and driver components. On board electronics in-

clude active EQ, electronic crossovers, limiting and thermal overload protection. This is what I call standard fare in the powered speaker biz. However, QSC added a couple of very smart additional features. On all 2- and 3-way units, there is a 100 Hz low-cut filter. If you are using the boxes with the subs, engage the switch. If you are going sans subs, forget the switch and let the enclosures drop down a little lower. The subs also have a full range and 100 Hz hi-cut outputs. Another brilliant little feature is an LED on/off switch. If you don't like your LED, turn it off! The rubber feet offered on the 2- and 3-way models are actually low profile rubber strips. Another very handy feature.

The HPR181i sub has four beefy casters bolted to its back. At 127 pounds, you will obviously need them to move these babies around. QSC was gracious enough to load their toys into some really nice road cases for me, but I did wheel the subs over grass (the sound guy's nemesis) and they went just fine.

I think that should give you an idea of what we are dealing with here. So, why don't we take a look at how these powered speakers performed in the world of live music?

The Gigs

(RT)

Three shows in three days, with gear that I had zero experience with. That was my mission and I jumped into it feet first. Day (or should I say night) one was at a big church in Los Angeles with a six-piece gospel band and a five-piece choir. I decided to use the HPR122i boxes as monitors for the choir. This 2-way enclosure features a 12-inch woofer with a neodymium magnet and 3-inch voice coil, powered by 400 watts and a 1.4-inch diaphragm neodym-

ium compression driver pushed by another 100 watts. The box weighs in at 60 pounds and is suitable for monitor or front of house applications. In the monitor position, they worked beautifully. They have plenty of power and are tuned so nicely that I used very little EQ on the overall mix. This model was definitely my favorite of the ones I tested. The choir has very happy with what they heard, and, as you know, good monitors make the performers happy, and that makes for a good show. Just a note here, if you engage the low cut switch on these enclosures you can push them quite hard without getting any bass tubbiness.

The following day, I took the 122is to a very upscale golf awards dinner in the Santa Clarita Valley (about 50 miles north of L.A.). I was servicing about 200 bodies with light background music and vocals for an M.C. and an auctioneer. I set the QSCs up on sticks at FOH and added two other powered bins as side fills. Once again, the 122is sounded smooth and rich with very little EQ. I used the boxes full range, which gave me a little more punch in the low end, and I turned off the LEDs. The M.C. even commented on how good the speakers looked. That's pretty rare in the business. The main thing, though, was that the coordinator was satisfied, which means I'll be back next year.

Next day next gig, — this time with the 181i subs and the 153i mains. The subs are loaded with one 18-inch speaker featuring a 4-inch voice coil and 700 watts of power. The 153is are 3-way boxes with a 15-inch speaker and 3-inch voice coil backed by 400 watts, a 6.5-inch horn-loaded midrange powered by 100 watts and a 1.4-inch diaphragm compres-

sion driver, also powered by 100 watts.

I was doing a little Sunday-in-the-park gig in Sierra Madre, California. It was a beautiful afternoon for some rockin' blues, and I was hoping I wasn't underpowered for the show. I had about 500 bodies, and I wanted to rock them. I was relieved and thrilled to hear the subs slugging out some real bass. Nice, tight and precise, these bins sound bigger than they are. The 153i 3-way boxes also felt and sounded like they had more energy than their 600 watts. They emit a very smooth hi-fidelity sound from low to mids to highs. I successfully blanketed the audience with some very nice blues. The show ended and I couldn't have been happier. Every event went well, and QSC was a big part of my success.

If you noticed, I didn't write anything about the HPR152i or 151i. That's because I didn't have those models to test. With regard to the models I did test, they are all great sounding, well built and attractive. Especially considering how inexpensive they are. ●

What It Is: Powered speaker enclosures

Who It's For: Bands, sound companies, schools, churches and clubs

Pros: Great sound, small price

Cons: I want to see bigger boxes (2X18 sub or maybe a 2X15 three-way)

How much?: HPR122i - \$1,199.00

HPR153i - \$1,699.00, HPR181i - \$1,849.00

Web site: www.qscaudio.com

YAMAHA SP2060 SPEAKER PROCESSOR

By Jamie Rio

When I bought my first crossover as a teenager I thought, "Now I'm a sound expert." Well, I haven't been a teenager for a few decades, and I'm still not a sound expert. What does that have to do with the Yamaha SP2060? Not much, really, but I just had a birthday, and I have been thinking about how far sound technologies have come over the last 25 years.

It's mind-blowing what a piece of gear like this SP2060 can do compared to what was available from Yamaha in the early '80s.

The Gear

(RT)

The Yamaha SP2060 speaker processor is a multipurpose digital speaker management device. It features two analog inputs, an AES/EBU connector and six analog outputs. You can basically crossover anything from multiple 2-way systems to a 6-way system and set up multiple zones of speakers. There is also onboard EQ, delays, level and limiting. You can also control your SP2060 via DME Designer. This downloadable software allows you to run the unit from a laptop. You can get this at the Yamaha Web site along with the lat-

est firmware versions for the SP2060. These two features will give you lots of flexibility and keep your Yamaha working at its best.

OK, back to the speaker processor. The SP2060 features 12 configurations of crossover and speaker distribution settings. These 12 configurations are only one piece of a "scene." A scene is a combination of a configuration, EQ, delay, etc. There are 12 preset scenes, and you can edit the different parameters and store your own user scene. The combinations are pretty deep, but very easily accessible. I don't have space to run through all possibilities, but I will tell you about one I used and why.

For one of my shows, I set up zones. Using a three-zone system (via the Multi Zone feature of the SP2060), I was able to control my front of house system and its EQ, as well as control the delay, EQ and output volume level of two separate satellite systems. This feature alone dramatically improved my mix. As I mentioned earlier, this is only one of the many speaker-processing possibilities.

Let's look at the unit and see what the buttons do. First, we have the display screen, which



displays the parameters selected for editing and information about the currently recalled scene. To the right of the screen is the Back/Store button, which selects previous parameters and stores a selected scene. The Inc/Yes and Dec/No button are stacked one above the other. These buttons change the parameter values and confirm or decline the changes. The Next/Recall button selects the next parameter and recalls a scene. The next nine keys are pretty much self-explanatory: the level key adjusts the input and output levels; the routing key is a little harder to figure out, it routes the input connectors and the output channel signal sources; the Scene key displays the scene store or recall options; the Delay key displays the delay settings; the X-Over key displays the crossover settings; the Utility, EQ, Limiter and Mute keys display the settings for their various names. This description may seem a little boring, but there is nothing like having a button,

switch or key do what it says.

Anyway, next we have eight buttons that select a corresponding channel for editing. These channels all have level meters and limiter indicators for the six output channels. Last, there's an On/Off button.

The Gigs

(RT)

I used the SP2060 on two stages I ran at a two-day festival event in Los Angeles. As I mentioned earlier, I used the Multi Zone feature. This was because I was using self-powered speakers. However, the crossover function is only one feature of this speaker management system — all the other features can be used with a self-powered set-up. At any rate, the main FOH was set up as you would usually expect (left and right at the stage), but the satellite speakers were set in some unusual areas. This was as a result of some vendor locations and the pig racing show just left of

DYNACORD D15-3

3-WAY SPEAKER

By Mark Amundson

When I saw the Dynacord "D-Lite" D15-3 speaker at the winter NAMM show, I thought, "Great, another plastic stage monitor." But when Jeff Taylor of Dynacord fired the D15-3 up, I was truly impressed — it rocked my socks off. During the quick briefing, I was told that this was a 15-inch + 6.5-inch +1-inch 3-way cabinet tuned for flatness, with Neo-Dymium magnetized drivers, except the DH3 HF driver. What caught my immediate attention was the DH3 mention, because I have been using DH3 drivers for upgrades and homebrew 2-way wedges for a long time, but I'd never heard it sound this good.

Of course, the secret of this cabinet is the careful selection of the drivers and their crossover points. When I received a pair of these D15-3 cabinets, I read the datasheet, which revealed how the magic was done inside these polypropylene cabinets. Most quality touring wedges are just two-way, as compact size and high-power drivers dominate wedge needs. But when you are the Dynacord designers, and have the whole line of Bosch/Telex/EV raw driver compo-

nents at your fingertips, you can create some great combinations.

The Gear

(2T)

The Dynacord DND 15400 LF driver is used for its 15-inch size and 500 watt RMS power handling. And its upper-90s to 100 dB SPL sensitivity from 80 Hz to 700 Hz is just the ticket for professional usage. Covering the all-critical 700 Hz to 4 kHz vocal mid-band is a Dynacord DND 6120 MF driver at 6.5-inches in size, with plenty of sensitivity to keep the SPLs and power handling with the passive crossover in place. And then there's the DH3

covering the 4 kHz to 20 kHz range on a constant directivity 90 by 50 degree horn. I liked Dynacord's bravery in publishing the crossover schematic, showing the no-frills passive networks, plus a fancy relay drive circuit for each driver, which would open a relay and power-on a halogen light bulb should any one driver see excessive power in its frequency band.

While I am no fan of plastic

Continued on page 43



What It Is: Touring-grade monitor wedge

Who It's For: Anyone who wants a lot of power and crystal clear mids in a wedge

Pros: Pristine sound, plenty of loudness, flexible application

Cons: A second carry handle would be nice.

How much?: Dynacord D15-3 \$1,500.00 SRP, Dynacord LX3000 \$2,490.00 SRP

Web site: www.dynacord.com

the stage. (Yes. Pig racing.) With those various obstacles, I needed to use delays and equalization on all the satellites so the 1500 – 2000 person audience would have a great audio experience.

The Delay feature allowed me to control signal input delay through input A/B and SUM and output delay through output channels one through six. I was also able to apply eight-band parametric EQ through input channels A/B and SUM. Each EQ was adjustable for the specific width of each frequency range, the center of each frequency range and the gain or reduction (up to plus or minus 18 dB). There is also a six-band parametric EQ routed through output channels one to six. The bottom line on the parametric EQ section is that you have enough frequency adjustment tools to correct and improve any EQ deficiencies. The output limiter features allow you to adjust threshold, attack and release levels of all 6 output channels. Along with the limiting function, volume levels can be adjusted to all output channels/zones.

The end result for my particular show was more control and better audio for my audience. And I only scratched the surface when it comes to the myriad possibilities available with the Yamaha SP2060. Yamaha didn't just build a nice digital crossover, they built a tool that takes a bundle of essential features and makes them work together seamlessly. The end result is that we have more control over our sound systems and, consequently, better sound. ●

What It Is: Digital speaker processor

Who It's For: Everyone who wants more control over their sound.

Pros: All-in-one toolbox of essential tricks

Cons: None yet

How Much?: MSRP \$1,499.00

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APB-DynaSonics

A console company glows and grows

By Kevin M. Mitchell

Who: APB-DynaSonics, Inc.

What: Manufacturer of analog audio consoles and mixers and related products (MixSwitch)

Where: Totowa, New Jersey (about 20 minutes from Manhattan)

When: Founded in December 2004

Full-time employees: 12

Products in catalog: Spectra-C, Spectra-Ci, Spectra-T, Spectra-Ti, ProRack-House, Pro-Rack Monitor and MixSwitch

Current clients include: Soundworks; Sound Services; Stone Pony Club, Asbury Park, N.J.; The Colonial Theatre in Pittsfield, Mass.; The Church of All Nations in Colorado Springs, Colo.; Christian City Church in Whitehouse, Vermont, Victoria, Australia, among others.

Recent projects of note: The introduction of ProRack small-format mixers, with an audio design based on the Spectra Series consoles, and ProRack Monitors.

Recent company highlight: "In business just two years, and sales are growing fast."

Claim to fame: Being a U.S. manufacturer with all products manufactured in the

United States. All products are manufactured in New Jersey.

Degrees of separation: John (JP) Petrucelli, Taz Bhogal and Chuck Augustowski (Company Principals) have over 70 combined years of console design and manufacturing experience with such companies as Allen & Heath, Trident and Crest Consoles. 🎧



The founders of APB-DynaSonics, from left to right: Chuck Augustowski, sales/product manager; John Petrucelli, chief engineer; and Taz Bhogal, senior design engineer



1



2

1). Left to right: Jackie Gil, Felipe Hernandez and production manager Luis DeJesus in the APB-DynaSonics warehouse.

2). John Petrucelli (left) and Taz Bhogal with the first working Spectra prototype.



3



4

3). The APB-DynaSonics crew at their holiday party.

4). Chuck Augustowski and mechanical engineer Olga Gomelskaya with the ProRack mixer prototypes.



"It's a no brainer!"

Phil Papotnik is serious about sound. As owner of Raven Sound, a major pro audio provider in Western PA, he needs serious gear that will cover everything from corporate events and theatre, to festivals and concerts. We talked to Phil about why he chose A-Line for all his line array systems.

"First, AL10's use top-shelf components like B&C drivers and built in ICEpower® amps complete with DSP. Alternating powered and unpowered AL10's in a line array gives us a hybrid active system eliminating the need for power amp racks.

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Then there's the sound — the definition, clarity and vocal transparency — **FANTASTIC!** Finally, they actually **COST LESS!** When you add it all up, it's a **NO BRAINER!**"

Thanks Phil, may we quote you?

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Dive in the Desert, Find a Pearl

The high-stakes game of Vegas entertainment takes on another player in the Palms

By Dave McGinnis with Jacob Coakley

Las Vegas suffers from no shortage of performance venues. Throughout its history as a resort destination, performers have made their way to Vegas to play any one of the many hotels and casinos that call Sin City home, but the Palms hotel and casino has upped the ante with the addition of their new venue, The Pearl.

The Pearl seats as many as 2,500 audience members for shows ranging from touring concerts to the Ultimate Fighting Championship. (You have to admit that going from Britney Spears on Friday to UFC on Saturday would be one memorable turnover for the in-house crew.) Seating is on three levels, with seating areas on the ground, in a mezzanine and in the balcony. In the interest of expanding the acts who may find the space useful, however, The Pearl has allowed for smaller expected houses. Where Las Vegas has long been home to mammoth theatres and intimate clubs with little in between, The Pearl's mezzanine and balcony can be draped off to reduce the capacity from its 2,500 maximum to approximately 1,100 to fill the "mid-size" void. Regardless of capacity, the house doesn't just plop down in front of the stage like so many other venues. By curving the seating in a near "thrust" arrangement — done in order to accommodate events other than concerts — audience proximity to the stage increases dramatically. Standing in the balcony of most large venues makes you feel like a small clam swallowed by a blue whale, but The Pearl's stage seems close, verging on intimate. HC Rowe, entertainment director for the Palms hotel and casino, told *FOH* that part of this might have to do with the fact that the distance from the lip of the stage to the back row of the balcony measures only 120 feet.

"You're not sitting in a room and looking sideways, like in the arenas," says Rowe. "Everything's focused in the right direction."

Hit the Deck Running

INST

In terms of audio, the Palms has provided The Pearl with a big package. For control, the facility has turned to Digidesign with a pair of VENUE D-Show consoles for FOH and monitors. The speakers include 40 JBL VerTec VT 4888DPAN powered enclosures, 20 VerTec 4882DP arrayable subwoofers and three groups of four VerTec 4887DPAN powered line array elements for a total of 12. House mics include a complement of Shure and Neumann elements. Sam Berkow from SIA Acoustics designed the acoustics, while Steve Sockey from SIA designed the sound system. Audio Analysts, based out of Colorado Springs, Colo., handled the install.

"In so many ways, it's the room I've always wanted to build," says Berkow. "The Palms mandated that this room not be just another multi-purpose room in Vegas, but that it be a special place for the audience and performers. That's not something that happens every day. People don't sit around and say 'let's build something really great.'"

Berkow listed the things he feels sets this room apart, starting with a lack of background noise.

"They wanted to keep the air conditioning noise relatively quiet," says Berkow, "so that there wasn't extra ambient noise in the halls during recording."

He also made sure the opening to the balcony was extremely high, so people don't feel as if they're under a balcony, but are still part of the event, and he placed a bass trap along the entire back of the balcony seating area to cut out the bass build-up that can plague the back wall of a short venue. This kind of thinking went into every aspect of the room.

"Every surface incorporates an acoustical element," says Berkow. "The architects and I worked together to create a look that achieves the visual appearance they wanted and the

acoustical performance I needed."

Marc Nutter, Audio Analysts' project manager for its work with The Pearl, submitted a bid to SIA for the install last July. Once they were awarded the contract, they wasted no time in getting to work.

"From the very beginning, everyone on board knew it was going to be very fast-track, high-paced and the intended opening was never going to be changed," says Nutter. "Everything had to be handled very precisely."

Audio Analysts worked with Bombard Electric for the wire pull, but handled all the rack wiring, termination and commissioning itself. And the end result?

"We're absolutely thrilled with it," says Nutter. "You have a combination of a system with great coverage throughout the room with a room that is acoustically very linear as well. At practically every seat in the house, you have a near-identical experience in both frequency response and level."

What Gets Recorded in Vegas

INST

But The Pearl's secret weapon might not be just one great room, but several great rooms. The Pearl offers 400 Amp, three-phase power on the stage deck for extra lighting, and a split from the stage snake goes right into their, in-house recording studio. In short, they've made it seamless for creating live recordings.

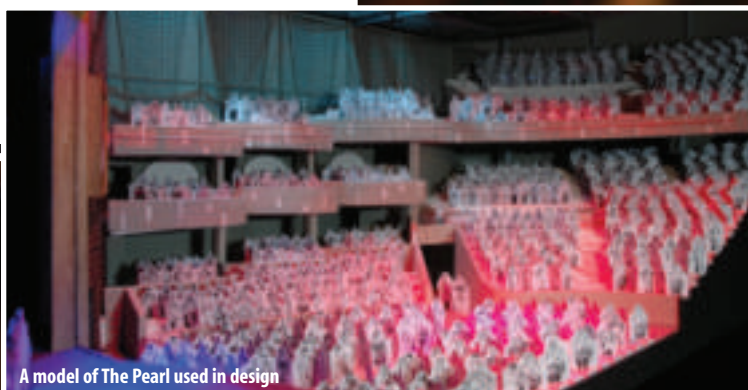
"We anticipate doing a lot of those," says Rowe. "You record a live album from here, you can go right up to the studio that night, do any fixing that you need to do, and it's pretty much done." Part of that anticipation of recording live shows led to a deal with iTunes to offer videos and songs recorded at The Pearl. Wolfmother and John Legend have already released videos of their performances, and MTV has signed on to present their Video Music Awards there this

fall. Suddenly, the potential paying audience for an after-concert CD just got a lot bigger.

And The Pearl hasn't forgotten the crew, either. For loading in touring rigs, the loading area has been outfitted with a two-truck dock that has direct access to the stage via a freight elevator that's as wide as a truck and 28-feet deep. As yet another boon for wayward techs in need, The Pearl provides an in-house shop equipped for numerous repair, construction and maintenance projects. With that in mind, this could easily become one of those tour stops the crew actually remembers and looks forward to.

Planning for The Pearl started two years ago, and the development of the space continued right up to opening day. While Palms management and ownership were ready to incorporate a top-flight performance venue into the design of their building, the addition was not without a certain degree of shuffling. For The Pearl to occupy its current location, with direct access from the casino floor level, a movie theatre had to be relocated, as well as the high-limit gaming area. It's not every day that a casino will mess with their high-limit gaming area to make room for a venue, so if we had any doubts about the Palms' commitment to this project before, the revelation that high-limit got moved immediately squashed them. Another good gauge of a company's commitment to such a project is the allotted budget. When asked what the expenditure was on The Pearl, Rowe simply replied, "A lot."

The Pearl at the Palms presents yet another Las Vegas venue of choice for incoming acts. If HC Rowe's expectations are met, and The Pearl does indeed book 50 acts between now and November, Las Vegas audiences, whether local or tourist, might find an intimate view to some big shows. While you can never be sure what might happen with ticket prices, Vegas is usually a good bet to get your dollar's worth. ●



A model of The Pearl used in design



The Pearl house from the stage

Rumble in The Pearl

The gear that will keep The Pearl rolling

- 2 VENUE D-Show Consoles
- 40 JBL VerTec VT4888DP-AN Speakers
- 6 JBL VerTec VT4888-AF Speakers
- 20 JBL VerTec VT4882DP-AN Speakers
- 24 JBL VerTec VT4887DP-AN Speakers
- 3 JBL VerTec VT 4887-AF Speakers
- 18 Crown I-4000 Amps
- 4 Crown CTS 8200 Amps
- 16 Audio Analysts VFX12 Stage Monitors
- 12 Shure SM57 Mics
- 12 Shure SM58 Mics
- 4 Shure Beta 57A Mics
- 4 Shure Beta 91 Mics
- 2 Shure Beta 52 Mics
- 6 Shure Beta 98S Mics
- 6 Shure KSM32/CG Mics
- 3 Shure UR24D/BET A87A Wireless Mics
- 6 Neumann KM184/MT Mics
- 4 Neumann KMS105/MT Mics
- 8 Sennheiser MD 421 II Mics



The view from The Pearl balcony



Evanescence at The Pearl

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The Customer's Always Right, *Right?*



This was not so much of a nightmare as it was a huge pain in my ass — someone else decided I was young and “must know nothing,” and so when they looked bad because they didn’t listen to me, well, it was still all my fault.

I was doing a little doctor meeting. It was easy — there were a few speakers, followed by a Q&A session at the end. On the first day, I told the head mic runner, who was with the production company, how I wanted the mics to be scattered in the room. She looked at me like I was nuts and laughed. After the first Q&A session went OK, she smugly handed the mics back to me. Whatever. Time for questions again — she makes a smart-ass comment about how she is going to have the mics in her hand, house left. I brushed it off.

The Q&A went fine, and now she thinks she should be running the board.

Come day two. Same meeting, different crowd. I again try to get this lady to have mics in a certain part of the room, to no avail. So what happens? A huge squeal of feedback slices through the room. I can’t find it right away, so everything gets turned down. I start raising faders and find the feedback. Lo and behold, it’s because one of her mic runners is aiming a mic right into a speaker — the same mic that should have been house left, not all the way house right. I was pissed.

Of course, the lady is mad, too, and wants to know why that happened. I bit my tongue. The rest of the show went fine, but that feedback (and the head mic runner) really got my back up. Maybe if I had let the room ring until I physically put all the mics where I wanted them to be, things would have been different.

Brian Crowley
Chicago, IL

In The Trenches

Jose “Rafael” Corona

Sound Tech
The Bridge Community Church
San Marcos, CA
760.715.6531
Jose@iamasoundguy.com

Services Provided:
FOH Engineer (houses of worship are a specialty), media presentation.

Clients:
The Bridge Community Church, Mira Costa College.

Quote:
“Trust me, I do this all the time.”

Personal Info:
For the last two years, I have been working FOH engineering at my church in San Marcos, California while I attend the Sound Reinforcement Program at Mira Costa College.



Hobbies:
FOH mixing, stagehand work, sports (baseball, surfing, airsofting)

Equipment:
Mackie SR32VLZ, QSC amps, JBL Mains

Don't Leave Home Without:
Wire cutters, wire strippers, soldering iron, solder, flashlight, two-way radios

Ernelle Bellamy

Technical Director
The Prizery, Big Fade Productions, LLC
Halifax, VA
434.454.4378
ernellebellamy@yahoo.com
www.prizery.com

Services Provided:
Sound, lighting and staging

Clients:
Nelson Riddle Orchestra, Virginia Gov. Tim Kaine, Pastor John P. Kee, Chiara Civello, SoBo Faith Fest, HCLT, Dottie Peoples, Bonnie Rideout, Lacivious Biddies.

Quote:
“Work smarter not harder, and if it ain’t broke don’t try to fix it.”

Personal Info:
Technical director and facility manager of a small cultural arts center in South Boston



Virginia. I also run a sound company called Big Fade Productions, LLC.

Hobbies:
Carpenter, DJ, working with my “stuff” (as my wife would say)

Equipment:
JBL VRX, Crown amps, Soundcraft GB8 and Midas Venice consoles, Shure, Audix and EV mics

Don't Leave Home Without:
Knowing that your system works.

“The Serato Rane Series Dynamic EQ is fantastic. This is one tool I want to take with me **everywhere.**”

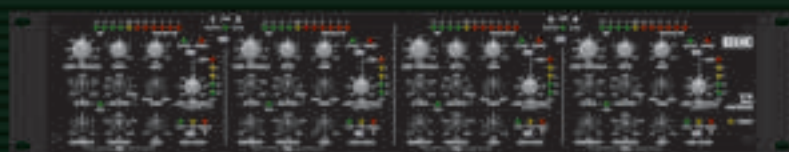


:: GREG NELSON, FOH: Pearl Jam and Incubus

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IN THE CONSOLE OR IN THE RACK



FILL SPEAKERS

By Bill Evans

OK, so you have spent about a gazillion dollars on a totally kickin' P.A. for your theatre/performance space/club/venue. And you fire it up and it sounds almost God-like. Except for a few places around the room where things just kind of drop out. And here is where philosophy enters into it.

Back in the day, when Buford Jones was mixing those classic Pink Floyd shows in quad, the sound was great in about 70 percent of the room. The attitude of the band and management (though knowing Buford we have a feeling he really wanted to fix it...) was that if you were in one of



The d&b E3

those 30 percent of seats with marginal sound then it was your own fault for not buying tickets sooner. We have seen big installs sacrifice the stereo image with big center clusters blow off separation in favor of total and

even coverage.

We have also seen more thoughtful approaches that involve anything from flown cabinets throughout the house to a few powered "outfills" to cover the edges of a very wide room stuck with a line array. Our fave has to be the guys who installed a whole slew of high-end studio monitors in the lip of the stage to cover the first three rows of seats that were not getting coverage from the main system.

Even in the live event area, and even

at the low end, the subject comes up. Example: I just booked a show for the second year in a row. This is an outdoor fund raiser/awards ceremony/concert/dance party with a crowd ranging in age from early 30s

The Dynacord VariLine VL262



to 80s. The organizers smartly set up seating so that the older audience members are farthest from the stage so they don't get "turn that darn music down" complaints during the show, but now the oldsters are complaining that they can't really hear the speeches and awards, so we are looking at some back-fill speakers that will only be used during those

portions of the evening.

Some day we may end up with some kind of system where everyone in the audience has their own personal monitors and can choose a mix. Until then, we have to fill the holes. Here are some of the choices for doing just that.



The EAW KF650z

Chart on page 34

The JBL VRX928LA



The Community i2W8

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mix back.

- Affordable, flexible 15x12x2x2 monitor mixer
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- Dual switch-selectable effects sends
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- Channel Inserts
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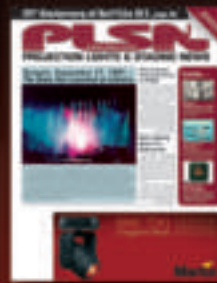
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atrio

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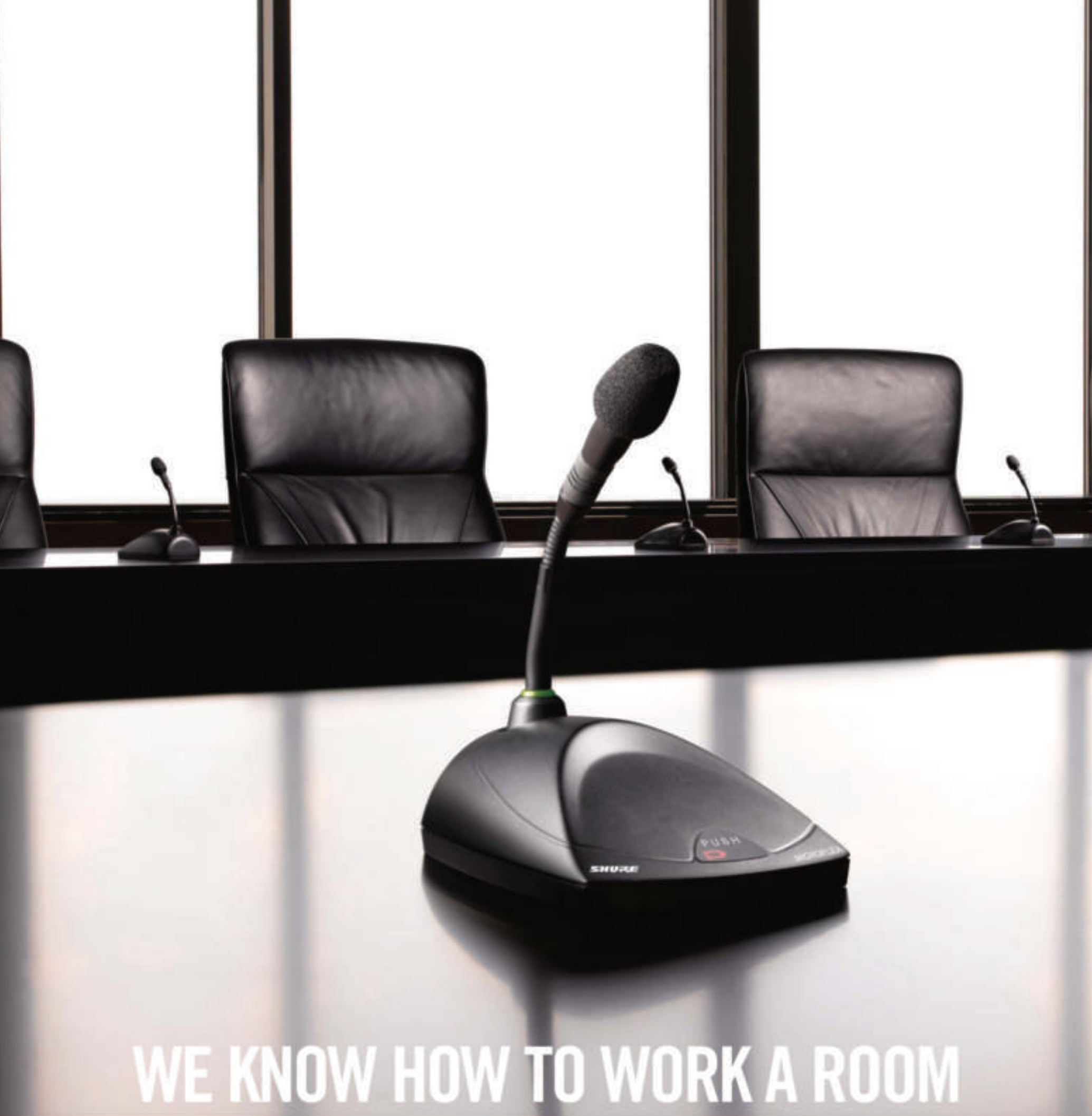
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Manufacturer Web site	Make/Model	MSRP (* = Varies by exchange rate. Call for current pricing)	Dimensions (HxWxD)	Driver/Horn Complement	Flyable	Frequency Response
Adamson www.adamsonproaudio.com	M15	*\$4,730.00 (CAD)	18.37" x 28.5" x 12.1"	2 way, active/passive, 50 x 50 degree conical waveguide, LF ND-15 15" Neo-Kevlar, HF 1.5" compression driver	Yes	60 Hz - 18 kHz
	SpekTrix	*\$6,400.00 (CAD)	8.6" x 27.9" x 18.9"	3 way, 15 degree vertical, 120 horizontal coverage. ND8-L 8/5"Kevlar Neod. LF driver, ND8-M 8.5" Kevlar Neod. Driver, 1.5" Neodymium compression driver	Yes	80 Hz - 18 kHz
ADR Audio www.adraudio.com	EONA U 103 HH	\$4,950.00	11.8" x 22.4" x 13.6"	10" LF, 1.4" exit HF 75 x 55 degree rotatable horn	Yes	65 hz - 17 Khz +/- 3 dB
	EONA U 61 HH	\$3,900.00	8.25" x 14.4" x 12"	6" LF, 1" exit HF 80 x 50 degree rotatable horn	Yes	75 hz - 17 Khz +/- 3 dB
Bag End Loudspeakers www.bagend.com	TA6000-R	\$750.00	22" x 9" x 11"	(2) 6.5" & 1" HF	Yes	95 Hz - 19 kHz
Behringer www.behringer.com	CE1000P	\$249.99	17.5" x 10.25" x 8.25"	8" LF driver and 22 mm HF	Yes	50 hz - 20 khz
Community Professional Loudspeakers www.communitypro.com	i2W8	\$1,165.00	11.3" x 21.75" x 10.4"	(LF) Two 8" carbon fiber, ferrofluid cooled; (HF) One 1" exit titanium HF driver, ferrofluid cooled	No	95Hz - 15kHz +/-3dB
D.A.S. Audio www.dasaudio.com	SML 12A	\$2,382.00	23" x 15.4" x 12.5"	(3" 1.5" exit) 50 x 50 / (3" 1.5" exit) 60 x 40	Yes	70 Hz-17 kHz / 55 Hz-18 kHz
	SML 15A	\$2,503.00	28.5" x 18" x 13.9"	(3" 1.5" exit) 50 x 50 / (3" 1.5" exit) 60 x 40	Yes	70Hz-17kHz / 55Hz-18kHz
Dynacord www.dynacord.com	VariLine VL 262	\$1,300.00	21.3" x 8.5" x 9"	Dual neodymium 6.5" woofers & EV DH3 1" compression driver	Yes	90 Hz - 20 kHz -10 dB
	VariLine VL 62	\$1,100.00	15" x 8.5" x 9"	Neodymium 6.5" woofer & EV DH3 1" compression driver	Yes	90 Hz - 20 kHz -10 dB
EAW www.eaw.com	KF650z	\$3,859.00	33" x 20" x 20"	(1) 15" woofer; 10" cone (horn loaded); (1) 1.4"-exit compression driver on CD horn	Yes	65 Hz - 17 kHz +/-3 dB
	FR129z	\$867.00	22" x 14" x 15"	(1) 12" woofer; (1) 1" compression driver on horn	No	80 Hz to 18 kHz +/-3 dB
GrundorF www.grundorf.com	GT-UB-1210	\$809.00	16" x 26.75" x 15.75"	HF -1" compression driver / LF 12" woofer	Yes	50 Hz - 16 kHz
	GT-UB-816	\$379.00	19" x 10.75" x 10.75"	HF - 1" comperssion driver / LF 8" Woofer	Yes	65Hz-19KHz
ISP Technologies www.isptechnologies.com	HDM 115	\$2,170.00	30.7" x 17" x 16"	(1) 15" Neo woofers, (2) 2" mid-compression drivers (1) 1.75" neo HF	Yes	50 Hz - 19 kHz, +/- 3 dB
	HDM212	\$2,499.00	37.4" x 17.9" x 16.3"	(2) 12" Neo woofers, (2) 2" mid-compression drivers (1) 1.75" neo HF	Yes	79 Hz - 19 kHz +/- 3 dB
JBL www.jblpro.com	VerTec VT4887A	\$3,999.00	31" x 11" x 16.3"	New 2168J-1 8" low-frequency drivers offer improved performance and extended low-frequency response	Yes	67 Hz - 20 kHz +/- 3dB
	VRX928LA	\$1,299.00	9.0" x 16.5" x 10.5"	Two patent-pending neodymium HF	Yes	87 Hz - 19 kHz, +/-3db
L-ACOUSTICS www.l-acoustics.com	8XT	\$1,265.00	16.6" x 9.8" x 10.6"	1.5" diaphragm compression driver coaxially loaded onto a 8" LF transducer	Yes	65 Hz - 20 kHz, -10 dB
	KIVA	\$2,350.00	6.9", 4" x 20.5" x 14.1"	Two 6.5" drivers and a 1.5" diaphragm compression driver coupled to a DOSC waveguide for HF reproduction	Yes	80 Hz - 20 kHz ("line source" configuration)
Martin Audio www.martin-audio.com	W8LM	\$3,989.00	24" x 9.6" x 15.8"	Dual 8" Dual 1"	Yes	60 Hz - 18 kHz +/-3dB
Meyer Sound www.meyersound.com	UPJ-1P	\$4,050.00	11.15" x 22.43" x 12.25"	(1) 10" neodymium magnet cone driver, (1) 3" diaphragm compression driver on rotatable horn	Yes	66 Hz - 18 kHz +/- 4 dB free field
	UPJunior	\$3,490.00	8.94" x 19.00" x 10.20"	(1) 8" neodymium magnet cone driver, (1) 2" diaphragm compression driver on rotatable horn	Yes	75 Hz - 18 kHz +/-4 dB (free field)
NEXO www.nexo-sa.com	PS-8	\$1,199.00	16" X 9 7/8" 5 5/8"	LF:8" HF:1" throat driver, constant directivity asymmetrical dispersion horn with a dispersion: 50° to 100°H X 55°V	Yes	69Hz - 19kHz +/- 3dB
	PS-15	\$2,699.00	26 5/8" X 17 1/8" 14 1/2"	LF:15" HF:2" throat, 3" titanium diaphragm, constant directivity Asymmetrical Dispersion horn with a dispersion: 50° to 100°H X 55°V	Yes	50Hz - 18kHz +/- 3dB
Peavey www.peavey.com	AA - Impulse 2652	\$539.00	24" x 10" x 9.5"	(2) 6.5" woofer, 2" Compression Driver	Yes	100 Hz - 18 kHz +/- 3 dB
	Peavey SSE 26	\$449.99	24" x 10" x 9.5"	(2) 6.5" woofer, 1.4" compression driver	Yes	100 Hz -17 kHz +/- 3 dB
QSC Audio www.qscaudio.com	HPR 122i	\$1,199.00	26.9" x 14.7" x 14.9"	12" neodymium transducer with 3" voice coil & 1.4" diaphragm neodymium compression driver	Yes	62 Hz - 18 kHz
	WideLine-8 WL3082	\$3,159.00	9" x 20" x 16"	A triamplified configuration includes 2 high-powered, 8" drivers with neodymium magnets and a 3" voice coil-equipped neodymium compression driver	Yes	68 Hz - 18 kHz +/- 3 dB
Renkus-Heinz www.renkus-heinz.com	SGX42	\$540.00	5 5/8" x 16 7/8" x 13 3/16"	Dual 4" woofer and single 1"CD	No	300 Hz - 20 kHz
	TRX82	\$1,130.00	9.75" x28.x9"	Dual 8"woofer and 1" CD	Yes	60Hz - 18kHz
SLS Audio www.slsaudio.com	2403	\$310.00	16.75" x 6.93" x6.125"	(2) 4.5" LF, (1) 3" Ribbon HF	Yes	100 Hz-20 kHz
	8190T-I	\$730.00	18.5" x 11.75" x 8.5"	8" LF x 5" Ribbon HF	Yes	80 HZ - 20 kHz
WorxAudio Technologies www.worxaudio.com	UltraMax M1-P	\$3,817.00	25.25" x 18" x 15"	12" bass, 1.4" exit to stabilized waveguide horn	Yes	50 Hz - 16 kHz +/-3db
	WaveSeries 8M	\$1,012.00	18.25" x 12.375" x 11.5"	8" bass, 1" to 75 degree waveguide	No	68 Hz - 16 kHz, +/-3db
Yamaha www.yamahaca.com	IF2205	\$699.00	5 7/8" X 18" 8 3/4"	LF:2 X 5" HF:1" exit, 1" voice coil compression driver with a rotatable constant directivity horn with a dispersion of 90° X 60°	Yes	85Hz - 18kHz +/- 3dB
	IF2115/AS	\$1,999.00	30 3/8" X 17 5/8" 14 3/4"	LF:15" HF:1.4" exit, 3" diaphram compression driver with a rotatable asymeric horn with a dispersion of 60°-100° H X 60° V	Yes	60Hz- 20kHz +/- 3dB

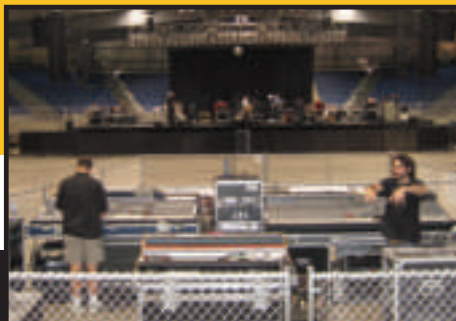
Power Handling	Interface	Cabinet Finish/Grill Material
Max SPL Continuous: Passive w.monitor preset 129.5 dB, Active w. monitor preset 131.5 dB, Active w.FOH preset 131.3 dB	Neutrik Speakon NL4	5/8" Baltic Birch, 14 gauge cold steel
Max SPL Continuous:130.1 dB w. Xover, 129.8 dB full range, Max SPL Peak: 136.1 dB w. Xover, 135.8 dB full range. Power Handling (Watts/RMS): LF 250, LF peak 500, MF 250, MF peak 500, HF 80, HF peak 260	Neutrik Speakon NL8	Rugged 11ply Baltic Birch, 16 gauge cold steel
Powered, 1230 watts of B&O ICEpower, 129 dB Peak SPL with music at 1m	Powercon & XLR in and through	1.5 mm stamped steel powder-coated grill with acoustic foam, 15 mm birch ply cabinet finished with Warnex paint (custom color available)
Powered, 660 watts of B&O ICEpower, 124 dB Peak SPL with music at 1m	Powercon & XLR in and through	1.5 mm stamped steel powder-coated grill with acoustic foam, 15 mm birch ply cabinet finished with Warnex paint (custom color available)
150 W - 600 W Peak	Dual NL4	Black Rotex - Steel Grille
300 Watts peak	Screw / Banana	Vinyl / Resin
250W RMS / 600W Program	Two NL4MP/ Two terminal barrier strip	13-ply baltic birch, black or white Tuf-Coat / Steel, black or white powdercoat
Self powered - 500 Wrms Lows 100 Wrms High	Male/Female XLR & PowerCon NAC3	Textured Paint
Self powered - 500 Wrms Lows 100 Wrms High	Male/Female XLR & PowerCon NAC3	Textured Paint
8 Ohm 300W, 600W, 1200W	Dual NL4	Painted wood cabinet, foam grill backed by steel
16 Ohm 150W, 300W, 600W	Dual NL4	Painted wood cabinet, foam grill backed by steel
Continuous: LF-700 Watts; MF-400 Watts; HF-160 Watts	2 Neutrik NL4 Speakon; 2 Neutrik NL8 Speakon	Baltic birch with textured paint; steel grill
500 watts continuous	2 Neutrik NL4 Speakon	Baltic birch with textured paint; steel grill
400 RMS / 800 Program / 1600 Peak	Speakon or Binding Post	Paint (Black or White) or Natural Finish / Metal grill
150 RMS / 300 Program / 600 Peak	Speakon or Binding Post	Paint (Black or White) or Natural
900 watts RMS active	XLR line level input and output	13 ply baltic birch with polyurea rubberized spray finish steel metal grill
900 watts RMS active	XLR line level input and output	13 ply baltic birch with polyurea rubberized spray finish steel metal grill
LF: 1000 W Continuous, 4000 W Peak (AES / 2 hour) MF/HF: 225 W Continuous, 900 W Peak (AES / 2 hour)	Neutrik Speakon NL8 and NL4 (2x each), Pin 3+/- for Lows & Pin 4+/- for Mid-Highs	Wedge frustum 5 degree side angle enclosure. PlyMax™ engineered wood composite structure, DuraFlex™ finish, 2 handles with integrated LF ports/ Black perforated steel grill, foam backed
Passive: 400 W / 800 W / 1600 W; Bi-amp LF: 400 W / 800 W / 1600 W; Bi-amp HF 30 W / 60 W / 120 W	Neutrik Speakon NL4 (x2)	Powder-coated, black, 18-gauge perforated steel grille with acoustically transparent black foam backing.
Contact L-ACOUSTICS for spec	Two 4-pin Neutrik Speakon	Maroon-gray finish with black epoxy perforated steel grille and acoustically transparent Airnet grill cloth
Contact L-ACOUSTICS for spec	Two 4-pin Neutrik Speakon	Maroon-gray finish with acoustically neutral Airnet grill cloth
400 watt AES 1600 watts peak	NL4 speakons	Black finish
Self-powered, 300 W total burst output	Line level XLR-F	Black textured/Powder-coated hex-stamped steel, black mesh screen
Self-powered, 300 W total burst output	Line level XLR-F	Black textured/Powder-coated hex-stamped steel, black mesh screen
200 to 500 watts into 8 ohms for 1 X PS-8; 400 to 1000 watts into 4 ohms for 2 X PS-8 per channel	2 x NL4	Textured Black Paint/ Metal grill
550 to 1200 watts into 8 ohms for 1 X PS-15; 1000 to 1800 watts into 4 ohms for 2 X PS-15 per channel	3 x NL4; Passive In, Passive Loop, Thru, Active In	Textured Black Paint/ Metal frame with open cell foam front overlay
150/300/600	NL4 and Barrier Strip	Paint/cloth over Metal Grill
150/300/600	NL4 and screw terminals	Paint/cloth over Metal Grill
500 W	Balanced male and female XLR	CABINET: Birch plywood enclosure finished in black-textured paint. GRILL: Powder-coated 16 gauge steel
HF: 85 W, MF: 250 W, LF: 250 W	2 x NL8 in parallel	Available in black (WL3082) or white (WL23082-WH) paintable; Perforated grille, 16AWG steel, backed with black/white cloth fabric
240 watts program @16 Ohms	Barrier strip and NL4	Black/black metal with fabric liner
400 W program	Barrier and NL4	Black wooden metal fabric-lined grill
80 W RMS (18 Volts) AES/2	Terminal Strip	Black/White Latex/Natural
150 W RMS (24 Volts) AES/2	NL4 x2	Black/White Latex/Natural
400 watts RMS-800 Peak	XLR-PowerCon-Powered Speaker	Catalyzed polyurethane finish, grill powder-coated steel grill
200 watts RMS-400watts peak	IN/OUT NL4 Speakons	Catalyzed polyurethane finish, grill powder-coated steel grill
100 W (EIA)	Barrier Strip	Textured Black or White Paint/ Metal frame with open-cell foam backing
600 W (EIA): Bi-amp LF:700 W(AES) HF: 80 W(AES)	2 x NL4 and Barrier Strip, wired in parallel	Textured Black or White Paint/ Metal frame with open-cell foam backing

Voltstar Powers Up

Brad Higbee and company prove there's more to Idaho than potatoes



Some of the Voltstar Crew (left to right): Brad Higbee, owner; Joel Keyes, FOH mixer; T.C. Smith, monitor tech; Tony Deschamps, backline tech/video tech; Billy Willis, lighting tech.



Voltstar crew setting up for the Oregon State Fair



Papa Roach on a Voltstar stage and rig



The rig for a Gaelic Storm show

"When we first started it was really small, just doing the local stuff, but now we're up to three semis and a bunch of guys." — Brad Higbee

By David John Farinella

So many successful business stories start with the line, "I was asked to..." that it should almost be considered a cliché. So when Voltstar Productions president Brad Higbee reports that he got his start when someone asked for sound and lighting help, it's not a shocker.

Higbee opened the doors to Voltstar Productions over 20 years ago, providing audio and lighting services to local venues in Idaho Falls, Idaho. The company has grown to be one of the leading regional sound providers, reaching from Oregon to the Dakotas, Washington to Wyoming.

Higbee's team of six, not including any local crew hired to fill the need of a gig, has worked with a wide range of artists that includes country songstress Sara Evans, alt-rock legends Violent Femmes, jam-rockers Blues Traveler and rock legends Ted Nugent and Creedence Clearwater. The company has grown from working in 200 seaters to PGE Park in Portland, Ore., to the Tacoma Dome and the recently renamed EnergySolutions Arena, formerly the Delta Center, in Salt Lake City, Utah.

One of the company's touring jobs came a couple of years ago when it took a VerTec

rig out with the Mormon Tabernacle Choir to venues in California, Idaho, Washington, Oregon and Nevada.

"We started with audio and lighting, but on a really small scale doing local production in really small 200-seat venues," Higbee reports. "Now we're the biggest full-production company in all of Idaho. There are a couple of other companies, one out of Boise and one out of the Jerome area, but we don't do local stuff, so our competition is more regional. We are competing with people in Portland and Denver and Salt Lake. We compete with all the big boys out there."

And the company competes while cooperating, especially when it comes time to lend a hand or accept a hand. "I have six mainstay employees who do lighting, staging, sound and various things," he says. "Then, depending on the show, we could go up to as many staffers as 20 or 30 with local hands. Over the years, we've built up a pretty good network with other audio companies throughout Montana, Oregon and different places where, if they need additional equipment or help I provide that, and vice versa — when I need some additional people, they help. It's kind of

a small world in this business, even though it's a thousand miles between people."

In addition to audio and lighting, Higbee has added staging, roofs and backline to the company's list of services over the past years. The company has two roofs and two stages, one that folds out and one that's modular, that can be built into different sizes. "When we first started, it was really small, just doing the local stuff, but now we're up to three semis and a bunch of guys," he says.

Although the install side of the business hasn't been a source of concentration, Higbee admits that he's investigating how to grow that business. "We are starting to get more calls for that nowadays," he says, "but mostly because of time, I haven't had a lot of time to pursue that market. We are looking into that more heavily now."

Even with the expansion of services, Higbee reports that he's survived the tough times by keeping his overhead as low as possible. "I don't get myself too over-extended by purchasing stuff. I try to purchase the stuff I need at the time, and not try to just go for the gadgets and gizmos to play with," he says. "I concentrate on the

stuff that I need for the upcoming season and work toward that."

That said, he admits there is a demand for the best and newest gear. "You do have to stay on top of everything," he says. "Any time that I purchase equipment, I make sure that it's rider friendly. I don't ever try to second-guess or go for any cheaper gear. I always buy the 'A' equipment," Higbee says.

To wit, recent equipment purchases include a 30-box VerTec line array, a handful of new processing gear and some Crown I-Tech amplifiers. On the console side of things, Higbee has purchased a Yamaha M7CL and a pair of Soundcraft Series 5 boards. He has his eye on Soundcraft's new digital board, which he hopes to add to the assortment by the end of June. In fact, he's picking that board over the 5D. "I did a demo with it, and for the amount of money — it's a little more expensive than the 5D, but it looks a lot more flexible, there are a lot more inputs and a lot more things we can do with it."

From his seat in Idaho, Higbee has seen the call for equipment change over the past number of years. "Line arrays are pretty much mandatory anymore, digital consoles are probably 50-50 now and, in the next couple of years, I think it's probably going to be 80-20-ish," he reports. "I do see a few riders come across my desk that say absolutely no digital consoles, and I also have riders that say digital consoles mandatory. Most people still work on an analog console if there's enough time in the day, unless it's a big festival setting. If it's a festival setting, it's mandatory to have some kind of digital console just to get the day done as quickly as possible."

Thanks to the company's years of experience, the setting up and running of a show has become fairly easy. However, when asked about his company's most common challenges Higbee points to logistics. "Mostly day-to-day stuff, like making sure we get the load-in scheduled at the right time, so we get all of our equipment up and ready to go before the band starts loading in," he says. "When you're doing a big show, it's all about keeping everything flowing, making sure that the time-frames stay correct."

Higbee is right in the middle of it all, from making sure the gear is set up correctly to mixing either monitors or FOH. "I've been doing this 20 years and I plan to do it another 20," he states. "I love it. I haven't taken a salary from the company, I've just taken any bit of money I've ever made and reinvested it back to the company. That's why it's probably grown so fast."

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The Main Show and the Sideshow

Trade shows,
like everything else in the industry, are facing their next evolution

By Dan Daley



The “L” in trade show LDI’s name once stood for “lighting” (more recently it was changed to “live”). In the future, it might also stand for “Lots of other stuff, too, including audio.” At a time when much of the commercial landscape in the media technology world is moving toward a niche-based paradigm, some of the trade shows that have acted as hubs have sought to become more comprehensive. This is, in part, to address the effects of convergence — as more media technologies become

ucts out on “road shows” — demonstrating wares across the country unilaterally or in conjunction with complementary partners.

The 20-year-old LDI has been experiencing exactly that, with defections from this year’s November show in Las Vegas that include anchor exhibitors Martin Professional (a lighting company, not to be confused with Martin Pro Audio) and High End Systems. Other major lighting companies, such as Syncolite and Vari-Lite, have said they would cut back their presence at the show, too. Many cited a reallocation of marketing budgets away from large trade shows and into road shows. Bill Morris, executive vice president at High End Systems, says this

“a much more efficient use of time and resources.” Trade shows are still on the agenda, but they will be reviewed annually, he said.

This is the opposite of the “if you build it, they will come” approach that trade shows have historically replied upon. In fact, it seems counter-intuitive to think that adding marginally related industrial sectors to shows would increase their value, particularly when those sectors have plenty of trade shows of their own competing for their marketing dollars. But that’s what LDI was banking on four years ago when it inaugurated ET Live, its P.A. demo area in an adjacent outdoor venue. Companies could set up sound rigs, and attendees could literally get side-by-side comparison capability out of the arrangement. The basis for the putative synergy between lighting and sound is the rise (often via consolidation) of large rental and services companies that want to present themselves as one-stop shops to a greater number of their clients.

Reaction has been mixed to ET Live, but positive enough to keep the experiment alive. Martin Audio, which has had a booth

on the main floor at LDI for a decade, didn’t participate in ET Live last year, but Director of U.S. Operations Rob Hofkamp says the idea is still under consideration for this year’s show. He’d like to see the displays organized differently, so that there are more apples-to-apples comparisons available in terms of P.A. types and sizes. But he does like the idea of a large space that can accommodate sizable systems, something audio shows haven’t been able to offer. “You can’t put a line array in a demo room,” Hofkamp said.

Colin Beveridge, president of d&b audiotechnik, is returning to ET Live for a second year, not so much because he is attached to LDI, but simply because it’s a good time and setting in which to invite his own customers to see new products. “It’s a place to plug and play — it could be any trade show,” he says. “I’m not relying on the trade show organizers to bring people in. I’m doing that myself.”

In this regard, the trade show becomes kind of a one-stop road show. Taken a step further, trade shows themselves could become nodes on

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“I’m not relying on the trade show organizers to bring people in. I’m doing that myself.”

— Colin Beveridge

digitally based, their operation and functions increasingly overlap, such as having both Final Cut Pro and Garageband on a single laptop, for example. Additionally, it is an attempt to stem losses from exhibitors that are increasingly taking their prod-

has been his company’s strategy for the last year and a half, using “open house”-type events in local markets, bringing the products and training to the customer instead of counting on the trade show to attract them, and calling these tactics

Tips & Tricks

The Problem With Cat5

By Bill Evans



I was talking with a local sound guy the other day who told me they were “one 150-foot Ethernet cable away” from implementing complete system control from a laptop at front of house. It was not so long ago that if those of us in the sound tribe even knew what Ethernet cables were, we thought of them as something we used to hook our computers into a network and not something we would use on site at a gig.

But that has changed recently, and there are several system controllers that’ll make you carry Cat5 right next to your balanced XLR and TRS cables. The big problem with Ethernet cables (to be specific, a RJ45 connector on a piece of Cat5 cable) is that the ends were made for telephones and networks. No one ever envisioned that they would be plugged in and unplugged on a daily basis, and those plastic tabs are just aching to break — which makes the cable useless.

When the Cat5’s Away...

TT

There are two obvious fixes. The first has to come from our manufacturer friends who — if they are going to outfit gear with an Ethernet connection — need to use the Neutrik Ethercon system, which is designed to take the abuse of live use. The second fix is to buy a

bag of RJ45 ends and a good crimper so when that plastic tab inevitably breaks, you can cut the connector off and put on a new one.

I have ends and a crimper, but I got tired of having to use them all the time and started looking for ways to protect those ends. Buying only cables with “booted” ends helps, but if one fails, you still have to replace it with a vulnerable, unbooted replacement — not to mention the fact that each time you replace an end, your cable will shrink by an inch or so, more if you’re not the best crimper and have to replace the end multiple times. (And even if you are a good crimper, trying to arrange eight similarly colored wires in the dark, backstage, before a gig and then thread them into a jack is a recipe for frustration — always have lots of spares on hand. They weigh a heck of a lot less than XLR and distro.)

DIY Meets FOH

TT

I use a Hear Technologies Mixback and Hearback system that connects the main mixer and individual onstage monitor mixers to the central hub via an Ethernet cable. So I need at least nine of them every time I use the system. To combat incessant tip replacement, I came up with a storage and transport system that is — so far — working well.

I stole a trick from FOH contributor Jamie Rio. For a long time now, he has stored his XLR cables on one of those orange extension cord reels you can get at a hardware store. He just hooks them end-to-end and wraps them onto the reel. I did something similar with the Ethernet cables. I went down to my local electronic supply store and bought a dozen RJ45 couplers. These are usually used to make one long cable out of a couple of shorter ones, but I use them as shields for the ends. I wrap a cable onto the reel, put a coupler on the end of it, plug another cable into the other end of the coupler and keep wrapping.

I still carry extra ends and that crimper, but I have not had a cable fail since I started using the reel and the couplers. ●

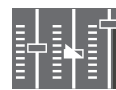
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Cat5 can spool nicely onto an extension cord minder.



Coupling your cables together protects the ends during transport and storage.





By Mark Amundson

Converting to Personal Monitoring

Is it time to trade in your wedges for more racks?

So you have been hanging on to the simplicity of wedge monitor mixing, but you are ready to take the plunge into the wild side of personal monitors. Welcome to the brave new world. Yeah, I like the thought of not lugging heavy wood wedges, long lengths of Speakon patches, racks of graphic EQs and power amplifiers as much as the next guy, but what replaces this?

I have seen great personal monitor (PM) systems, and I have seen less than adequate performances from acts that went cheap on wireless PMs. On the negative side, I remember a cover rock group that lost its sense of performance dynamic range once the lead singer and guitarists went over to PMs. In this case, the sound person could not bring the mono-volume lifeless performance back from the dead, but he did provide the performers a kind hint that things weren't working well.

All in the Mix

TP

Regardless of how much new gear you bring to the wedges-to-PMs conversion process, the monitor mixing game is brand new. What used to be "gimme some vocals and a touch of the guy on the other side of the stage" with wedges has now become the great salad bar of PM mixes, with just about all the mic and direct box inputs used for each performer. In fact, smaller acts will tote around a rack-mount mini-mixer so that each performer can walk up to the mixer and adjust their own monitor mix to individual perfection at sound check. But for dedicated monitor mix engineers, your sound check workload just went from routine to something like an order taker at a fast food restaurant at noon.

The good news might be that this gig may become a regular one, maybe even one you tour with, and saving the console settings (on paper or digitally) will be rewarded by fewer adjustments on the next gig. Another item to consider would be to place a couple of forward facing microphones for audience response, so that the performers feel less isolated wearing the PMs. Typically, this is a pair of mics placed on the forward sides of the stage, set tall

and inconspicuously so that feisty audience members will not start commanding your attention by grabbing and shouting into them.

Stereo or Mono

TP

Stereo PM mixes are the cat's meow if you've got the gear to handle them. But before you go saying you do, think of the idea of needing 12 aux sends per channel to feed six performers onstage. All but the top-of-the-line monitor consoles stop at 12 aux sends, so think of the reality of what really needs to have spatial separation. Even many famous live groups are happy with mono mixes, especially if they get a bit of stereo reverb added in. If stereo mixes are the word, consider what is to be panned and how much intensity will go into the panning. What might be a great FOH effect of panning the drummer toms might be an intense distraction to the other performers trying to keep the song on track.

And console selection fun does not end with the number of aux sends. Many PM wearing performers request a taste of reverb to be included instead of a mix of dry mics. This will quickly add 'verb units to your monitor mix rack if each performer needs a unique blend of sources and reverb types.

Wireless Issues

TP

And just like wireless mics, most PMs are driven by receiver belt-packs, and these packs eat batteries as voraciously as mic transmitters. Not to mention that the RF frequency bands and transmit power levels are under similar restrictions, so keep the PM transmitter rack near side-stage to keep the drop outs to a minimum.

And unlike wireless mics, having multiple frequency adaptability is a requirement. While you can backup a wireless mic with a wired mic in a pinch, you must have the performer freedom with PMs, because normally you do not carry backup wedges, and most PM belt packs do not have backup XLR signal inputs. And chances are that your PM transmitters and belt-packs are all the same make and model, thus making frequency diversity a must for non-inter-

ference between nearby install transmitters besides adjacent performers.

Bring on the DSP

TP

And with the rack of PM transmitters, each mix will likely need additional digital signal processing to save the performer's hearing. Make adjustments for equalization due to earbud model and personal tastes. Rane corporation makes a nice dedicated PM processor called the MM42, but you can use some speaker drive and digital equalizer processors as well. The type of processor you can use depends a lot on what is provided at the PM transmitter and belt-pack. If the transmitter/belt-pack has user-adjustable volume limiters to protect the performer's hearing, then the processing only has to be gain and frequency equalization.

With cost-effective speaker processors coming from a number of quality brands, there is no reason why a nice 3 by 6 or 4 by 8 DSP unit could drive three or four PMs to keep the rack space consumed to a minimum. While I know of no PM software equivalent of Smaart or Spectra-foo, I would let the performers tweak from a flat or loudness compensated frequency response curve. And no one said you couldn't mix in a little of your favorite iPod tracks and adjust for the un-flatness of the earbuds, transmitter/belt-pack or anything else in the drive through the console.

With DSP processing, you can typically do more than just graphic and parametric frequency equalization with gain. Nice dynamic processing like downward expansion gating, loudness equalization for tired ears and a touch of compression to force a performance dynamics expansion are just some the things to consider.

Bundling Up

TP

So to supplant the floor wedges, cables, amps, drive processing and EQs for the monitor mix, you now have a rack or two with wireless PM transmitters, antennas, processors and maybe a multi-reverb/effects processor or more. Your monitor mix console may need an upgrade, but you could get by in the short term with mono mixes for each performer. Plus, don't forget a modest investment in audience response mics to open up the venue into the performers' plugged ear canals. And woe to

those of you production monitor mixers who need a little stage wedge mix plus PMs for performers who can't convert all at once. But more gear means more wages, right? I won't hold my breath waiting for your response to that.

Whisper in Mark's ear at marka@fohonline.com

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MULTIPLYING YOUR BUSINESS

No miracle required, just hard work

Most of the work I get with regards to worship sound comes from referrals. What I would like to talk about this month is how to get yourself into a position where you receive an abundance of referrals. It's like Jesus with the loaves and fishes (John 6:10). Somebody had to give him the first fish and the first loaf to get the ball rolling. So, maybe I can help you get that first fish.

I really don't think you have to believe in a God or a Supreme Being to work in the worship sound biz. But it does help, and I'll tell you why.

My first experience with worship sound came out of my own church right here in Pasadena, California. I got involved with the worship team at the Pasadena Foursquare about 10 years ago as a singer and acoustic guitar player. I knew the sound system sucked, but I really wasn't interested in taking on any more responsibilities. Especially not the live sound challenges of this church. I was already working my own sound company, playing the casino circuit and writing for another publication at the time. So my work life was very full.

Well, ultimately I got involved with the process of purchasing and installing a new audio system in my church. During that process, I developed a relationship with the owner of the music

store where Pasadena Foursquare purchased most of its new gear. Rob Dekarr is his name, and he asked me if I was interested in installing a sound in a Baptist church also in Pasadena. Rob had sold the church a very nice system, but he had no one capable of installing it. I took that job on, and over the next few years, I installed about a dozen worship systems for Dekarr music. It wasn't an overabundance of work, but it gave me the on-the-job experience I needed to be able to design and install sound systems just about anywhere. I put sound into Methodist churches, Baptist churches, Mormon halls and an occasional Jewish temple. I even had work with the local Masons and Shriners. Every time I would install a system, I would offer to come back, mix services (if I could) and also train the sound guys. Basically, I was reinforcing my personal relationship with the various houses of worship and that ultimately kick-started my referral business. That is the short story of how I got into this business. The longer version will be in my book.

What I am doing currently is quite different.

If I am driving around and I see a church I like, I'll stop in. I may like the look of the church, I may like the area that it is in or it may be just along the route from my office to my home. I work out of Pasadena, but I live in Sierra Madre, California. Sierra Madre has 10,000 inmates (residents) and

eight churches. It is also a modestly affluent community. Every church in town needs some help with its sound. Of course, that is just my opinion, but it happens to be true. What I really want to do is listen to a sermon or the choir or the worship band at these various venues.

Anyway, that can be very difficult considering I work on most Sundays. However, Wednesday is another service day for many churches, and that gives me an opportunity to check out more houses. I have just started with this latest experiment of dropping in on various houses of worship, and I will let you know how it progresses.

OK, for the moment let me go back to the question of belief. Whether you believe in a God or not, if you are attempting to build a reputation, you should be an active member of a church or temple or whatever. And you should be working as a volunteer (or paid) sound tech at that house of worship. Let's say that you walk into a church that you have never been in, you hand the associate pastor your business card and set up a consultation for the installation of a new sound system. Now, you may have a charismatic personality and make a great first impression. You may be the sharpest tack in the box, have great schooling and know your stuff inside and out. But, at some point, you will need to produce a resume and the appropriate references. There is nothing that will close a deal faster than a rave review from your

own pastor, a member of the pastoral staff or the leader of a church you have recently worked at. If anyone from another house of worship calls my church inquiring about my abilities as a sound tech or my character as a businessman, they will get an earful of accolades — everything from my technical abilities, to my honesty, to the fact that I will get the job done in a timely and professional manner with a smile on my face. The point is that a list of references on a resume pales in comparison to a live person giving a glowing report on your abilities.

Now that I think about it, maybe you should believe in some sort of deity. If you are an atheist, you will definitely hate working in this end of the sound business anyway. The fact is, if you intend on mixing praise or gospel music or a beautiful Buddhist chant, if you want every word of the Gospel or Torah or Koran heard perfectly, you will probably have to embrace some sort of religion. When you think about it, checking out different houses of worship, different denominations and religions will probably expand your horizons. You know what I mean? Give you more insight into life and what we are here for and why we want to make everything sound louder. These are deep questions my friends, and ones that only God can answer. ●

Ask for Jamie's references at jrio@fohonline.com

The Anklebiters



Ken: So Brian, here's how it goes: I'm usually a vendor coming into someone's venue. When I get there, I have trouble keeping the reins on the folks around me — getting them to do what's best for the show. There always seems to be simple, common sense problems with the venue's representative or another vendor. And they're usually doing something wrong that eventually becomes dangerous. I try to give them suggestions, but the trouble usually starts when one of these guys feels the need to give me his verbal resume to convince me of something that I know is a bad idea. Saying "I told you so" just makes me the asshole. Putting this problem on paper makes me sound conceited, but what is a guy supposed to do?

Brian: Have confidence. Sometimes I just have to take charge of the situation and say how it's going to go. If I'm running the event site like it's mine from the minute I get out of the truck, I'm able to take charge and let others view me as a figure with experience and authority. The guy that spills his verbal resume is just cocky. And it just makes him look like he's searching for respect that he doesn't deserve. Me? I'll wait until someone recognizes my talents and asks me what else I do, and I casually begin to drop names here and there.

Ken: I'm talking about easily anticipated problems. I try to be discreet and let them come to their own conclusions, gently convincing the client, venue, performers, generator guy, other vendors, etc., to use a little sound judgment. (Ha!) I know I have been doing this a long time, but I also know that one big turn off is listening to someone on the job site who starts his sentence with "I've been doing this for 25 years."

Brian: I know what you're talking about. It's the folks who can't lay cable out of a walking path or don't extend it when they should, leaving power lines draping through the air as they come off the distro. It's the idiots who start load-out by coiling the first cable that hit the floor on the in. Or my favorite one — the generator guy who left a trailer genie parked in the middle of

Pennsylvania Ave. in Washington, D.C., with the ground rod lying on the fender. We pushed that puppy over to the curb and found a soft spot in a flowerbed to get the rod started in the earth. I got my size 9 1/2 up on the other end of the rod and stood on it until it sunk down flush with the earth. I hope he had fun getting that one out.

Ken: Ooh — very evil! Sounds as though you might have saved him from an FBI probe, and we all know how painful that can be. As I get older, I think I am better at recognizing the situations — and knowing which vendors will take the hint. But my patience level has severely dwindled for those who don't get the clue after a third suggestion. After being proven right in about half a dozen issues over the last two gigs, including the resulting FIRE, how do you handle the dim bulbs (that was a hint) on the job?

Brian: Oh, I'll tell it to them straight. This is how it's gonna be, and this is why. You're not running loose feeder across a publicly accessible walkway, and you're gonna strain relief it where the tails come out of the disconnect. And, for goodness sake, you're not going to mate camlocks in the dark. Believe it or not, red and white look very similar in an unlit room. And why aren't your ground and neutral running reverse gender from the hots? Oy vey!

Ken: I tend to use more precise expletives. Of course, you are right. I want people to do it right because it's the right thing to do, not because I think it's correct. I think I will try your method and just pretend I am the production god on the gig and my word is law. And woe to those who defy me and suffer my sweaty wrath! I have spoken!

Brian: That's the attitude we're looking for! You've got to get out there and run the show, not just work the show. And we can lend some common sense to the idiots we have to work with along the way. Don't be afraid to put your foot down when you see something going on that's stupid, inefficient or unsafe. Whether you realize it or not, your reputation can be affected by the other production companies on the show with you. If someone were to get hurt on one of my shows because of something the lighting company did, it's still going to get around town that someone got hurt on MY gig. No matter what, we've always got to work safe and make sure those around us are doing the same. It's just good business. ●

Got a question for the Anklebiters? E-mail 'em at anklebiters@fohonline.com.



By **Steve LaCerra**



The Bleeding Edge



Taming the RF BEAST

Several months ago in *The Bleeding Edge*, we discussed the pending problem with the FCC's threatened release of "White Space" broadcast frequencies for wireless broadband use and unlicensed transmission. [Check out www.fohonline.com/whitespace for a complete rundown — ed.] While this directly impacts wireless pro audio systems, any increased activity in the airwaves — such as that from microwaves, cell phone signals, and emergency-band communications systems — presents a threat to our never-ending quest for interference-free audio. Any wire that is carrying low-level audio — such as from a microphone or mixing console — acts like an antenna, and may actually attract radio interference. Furthermore, junctions where the audio system may have gaps in its shielding — such as where a cable is connected to the chassis of an audio device — are an invitation for EMI to weasel its way in. Several manufacturers are addressing these concerns with new ways of battling RFI and EMI to keep it out of wired audio.

Before we go any further, a couple of quick definitions: RFI, or Radio Frequency Interference, is the unwanted reception of radio signals. As mentioned, any wire can act like an antenna, attracting RFI. EMI stands for Electromagnetic Interference. All electronic devices emit electromagnetic fields while they operate. When several electronic devices are in close proximity, the electromagnetic field from one device may interfere with the operation of another device. A physical gap in the shield of an audio system can allow EMI to enter the audio path.

Double Down

BE

Two great examples of anti-RFI/EMI technology come from major audio connector manufacturers Neutrik and Switchcraft. On the outside, Neutrik's EMC connector looks like a "normal" XLR connector. Inside the EMC's shell is miniature circuitry designed to prevent RF from entering the audio path, even in the most hostile of RF environments. The EMC contains a circular capacitor network which surrounds the shield of the audio cable, ensuring a continuous RF shield from the source end of the cable through the connector to the chassis housing. In addition to this capacitive network, the connector also features a ferrite bead between pin 1 and the cable ground for EMI suppression. The EMC is available in male and female inline and panel-mount versions.

The ferrite bead is not a new idea: whether you realize it or not, you see these everywhere lately. They are placed at the ends of computer monitor cables, inside high-end consumer and pro audio components and can be used to protect cables that are carrying low-level signals of a critical nature, as well as cables that carry AC line voltage. Most often, they simply look like a round plastic lump at the end of the cable. Underneath the plastic lump is a hollow cylinder made of ferrite (a semimagnetic material sort of like iron oxide, AKA rust,

combined with other metals — seriously). The bead (sometimes called a "choke" since its job is to choke off RFI) can be placed over the cable when it is being made, but sometimes the cable is looped through the bead several times. Some ferrite beads are halves that snap together to surround a cable that has already been terminated. This is a simple, inexpensive device that effectively suppresses high-frequency noise in electronic circuits.

You'll also find a ferrite noise suppres-

sion device in Switchcraft's F Series of connectors. These are panel-mount XLR male and female connectors using an all-metal housing with a ferrite disk at the interior rear of the connector. The ferrite disk allows the connector to reject EMI which might otherwise leak into the audio path and cause nasty noises.

Cellular Cacophony

BE

At least two microphone manufacturers have recognized the fact that the confer-

ence room is a hostile environment — and not just for opposing business execs. Many conference rooms in large corporate offices employ some sort of modest P.A. to allow a speaker's voice to be heard over the other folks at the meeting. Of course, all these high-powered execs are carrying cell phones and PDAs with Web access and instant messaging. Often these devices — which generate RFI and EMI — are placed on the conference table, in close proximity to the microphones. When the cell phone *continued on page 43*

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Road Tests

Continued from page 25

speaker cabinetry, the Dynacord D15-3 weighs in at 53 pounds, which is not bad for a 3-way speaker. Its weight would be a beast if a wood cabinet were substituted. The 17.6 inch by 27 inch by 16.26 inch dimensions means that it still meets the spirit of compactness a wedge needs, yet doesn't leave much baffle un-driven. The D15-3 also has a pole socket on the bottom for stick usage, a single carrying handle and a rear jack plate for a pair of NL4 Speakon jacks. The jacks are wired for +/-1 use with the +/-2 wired through, but not used. The grille is a nice acous-

all-black cabinet.

Bring on the Power

12T

Dynacord couldn't resist sending me an amplifier worthy of powering a pair of D-Lite wedges, so an LX3000 was provided. From its P3000 ancestry, this LX3000 can deliver 2100 watts per channel into 2 ohms, 1500 watts per channel into 4 ohms and 900 watts per channel into 8 ohms. Weighing only 19.2 pounds and taking up just two rackspaces with a 15-inch depth, the LX3000 fits the description of light weight and touring capable.

Spec-wise, the LX3000 has 32 dB of channel gain, a 15 Hz to 40 kHz (-1 dB) frequency response and less than 0.05% THD with its Class H design

and switcher power supply. I do not need to mention all the over specs, but this amplifier exceeds all my standards for a great amplifier, and I would not mind having a bunch of them racked up for my needs.

The Gigs

12T

Out in the shop, my first no-EQ demo test was a bit of a surprise, as I was getting crystal clear mids and highs, and a lot of them. After consulting with the details of the frequency response curve, the first thing I did was insert a speaker processor, just for a few low-Q filters on the low and high ends to counter the slow upward slope of the frequency response. By doing this, plus a modest medium-Q dip in the 2 to 4 kHz band for Fletcher and Munson's sake, I had a killer high fidelity speaker, making it an enjoyable afternoon listening to MP3 tracks in the shop. And with that

100 dB sensitivity, the LX3000 never even indicated some warmth driving the D15-3 cabs to ear crushing levels.

Out at the gigs, it was readily apparent that the musicians were going to fight over which two giggers were going to use the D-Lite wedges for their smooth and accurate reproduction of the vocals. During the couple of gigs where I tested them, the D15-3 speakers and the LX3000 amplifier never gave me any trouble.

Looking for shortcomings, my only minor complaint is that I could have used a second carrying handle on the other side, especially when pole mounting or lifting vertically. Other than that, the Dynacord products certainly proved their worthiness, and I would be pleased to work with these speakers and amplifiers any time. 🎧

Taming The RF BEAST

Continued from page 41

or PDA receives a signal (not necessarily a phone call), it will generate a series of intense RF pulses. These pulses can be picked up by active electronics such as transistors or ICs, thus making their way into an audio path.

Shure combats this problem with its CommShield Technology, now incorporated in its Microflex and Easyflex series of microphones. These mics feature multilayer circuit boards for microphone preamplifiers, exten-

sive grounding techniques, tighter enclosures for increased shielding and improved microphone cable and audio connectors, making them highly resistant to RFI and EMI.

Audio-Technica's approach to killing RFI and EMI is embodied by its Engineered Sound line of microphones, which features UniGuard protection. Microphones employing UniGuard feature a completely shielded enclosure, paint-free connection points, cus-

tom RFI shielding and filtering on all input and output connectors. For added flexibility, Audio-Technica has developed a dedicated crimp tool and special RFI shields for connectors that enable contractors to shorten the cables and correctly reinstall connectors while maintaining the highest level of RFI immunity.

One easy way to help reduce RFI and EMI is through the use of balanced audio circuitry, the purpose of which is to reject such

type of noise if it should make its way into an audio cable. That, along with proper grounding, should keep your audio clean. 🎧

Steve La Cerra is the tour manager and Front of House engineer for Blue Oyster Cult. He can be reached via e-mail at Woody@fohonline.com

The Bleeding Edge

The Biz

Continued from page 38

companies' own road show strategies. In fact, satellite exhibits like ET Live can help deter another bane of trade show organizers: companies that set up shop in nearby venues like hotel ballrooms and use the gravitational pull of the show to attract attendees.

The idea of a broader range at trade shows has appeal for some. Kevin Madden, national sales manager for digital console maker Innovason, which had its mixers on the QSC stage at ET Live last year, says shows like AES and NSCA serve markets that are increasingly narrow, such as pro audio, and that there are too many of them. "I'd rather have fewer, more broad-based shows," he says, adding that road shows are good for

companies that have a diversity of interlocking brands, like Harman (which has an ongoing road show), or irresistibly attractive products (a situation which is implicitly fleeting, although Pro Tools does seem to defy gravity). Otherwise, partnering is essential, but after a while, even that can become little more than a micro-trade show of its own. InfoComm is a show that is cited

"You can't put a line array in a demo room."

— Rob Hofkamp

often by audio and lighting companies alike as having gotten it right, acknowledging convergence in its mix of exhibitors.

Jeffrey Cox, vice president of EAW, which exhibits at ET Live, says the fact that it's an appendage of a mostly lighting-focused show is irrelevant. "As a manufacturer, I'm looking for those opportunities that allow us to display and demonstrate a greater breadth of products than we can at a traditional audio show," he says. "Given the choice between trying to describe to someone how an enclosure sounds and actually letting them hear it themselves, I'll take the latter any day."

There is a city on the northwest coast of Belgium called Bruges that, during the Middle Ages, was one of Europe's most active trading centers. Then, the tides shifted — literally — and today it's a remote and muddy tourist attraction. The

notion of the trade show as the ultimate annual destination is slipping away, inevitably perhaps, given the sea changes wrought by technology. Synergy should be the goal for trade shows — let participants in a convergent landscape interact.

But people also still want to see, hear and touch stuff, and talk to each other besides on the phone or through e-mail. The trade show could have television's *The Family Guy* as its trope: named for its central character, but driven by the parallel narratives created by its "secondary" cast. The legacy trade shows will continue to experience turbulence around the main event as marketing strategies evolve, but at least for the highly technical trades, where better for a geek to shine than at the side show? 🎧



THE SHADOW'S ON THE PYRAMID

I recently returned from a trip to Cancun, Mexico, and other than the tequila and the beautiful beach, my most memorable day was one spent at Chichen-Itza, site of one of the well-known Mayan pyramids in the Yucatan Peninsula. The Pyramid of King Kukulcán, the serpent god, is the centerpiece of the area and dates back to about A.D. 1100. This spectacular pyramid showcases the astronomical, architectural and political brilliance of its creators. During the autumn and spring equinox, due to the position of the sun, one can still witness a shadowy snake moving impressively down the north stair. The story is told that the priests, because of their precise knowledge of the seasons, would come out and address the masses assembled below the pyramid and tell them when to expect rain. The arrival of the rain on the predicted date would cement the priest's claim that he had a direct line to god who, in the form of the bird-serpent Quetzalcoatl, lived in the temple built on top of the pyramid. The proof of Quetzalcoatl's alliance with the priests was that if someone clapped their hands at the bottom of the pyramid, the returning echo is a sound similar to the quack of a duck.

As you might imagine — being that I'm a professional in the field of audio — I was duly impressed, and as my wife went off to tour the rest of the site, I stood there like an idiot, clapping my hands over and over again just to hear the sound of Quetzalcoatl cawing at me from the temple high atop the pyramid. I stood there trying to imagine the sound of thousands of people clapping. I tried modifying the sound my hands made to see if the echo would change, but it remained the same. I banged on different objects, but the returning resonance still stayed unchanged. Even a "Whoop" came back as a "Caw." Even though I was thoroughly amused, I was beginning to receive some dirty looks from the locals as well as the "touristas," so before I ended up as a heartless sacrifice to Quetzalcoatl, I scurried off to join my wife at the ball court.

Apparently the largest of its kind, this ball court also has superb acoustics, and a low voice at one end of the field can be heard clearly at the other end. This led to another audio moment that amused me for more time than my wife had patience for, and if not for the blazing sun charbroiling us both, I would probably still be there, waving from six hundred feet away and asking her in a various voices, "Can you hear me now? What about now? And now? How about now?"

The pyramid at Chichen-Itza is considered to be one of the wonders of the ancient world, and I wondered how these intelligent people, who could control sound and understand the relationship of the rotation of the earth in conjunction to the sun, could be so brutal and warlike. After a few cervezas — and not much thought at all — I arrived at the conclusion that, as in most civilized nations, the motivating factors are power and wealth, and usually it is those with the most knowledge who attain those two things. Once achieved, it then becomes imperative to hold on to both while, at the same time, amassing more of the same. Disinformation and fear are tools used by a leadership class that requires people to keep coming back for their spiritual and political salvation. If those in power were to share their knowledge with the general population, then everyone would be self-sufficient and the relationship of the Haves and Have-nots would change.

So here I am in the middle of the Mexican jungle imbued with the Mayan spirit, not to mention a few Coronas, and my feverish imagination takes a few leaps and bounds and leads me to another wonder of the world — gain structure. Not the "Check, one two" type of gain structure, but, more importantly, the "Where's my check?" type of gain structure. I have steady work and I seem to be making money, but there is a hole in my pocket where my cash used to be, and for some reason I seem to be hemorrhaging money — and from my conversations with my fellow workers, it appears that I am not alone.

Now, I don't think that we are intrinsically



different from any other generation or civilization that has come before us, but we do live in a unique and politically charged time. More than ever, I find myself involved in political discussions with other technicians and audio vendors. Everyone has their opinions and beliefs, but it seems that the one thing we can agree upon is that gas prices are on the rise, and because of this, it has become increasingly more difficult to hang on to our cash. Despite our individual political leanings or our philosophical convictions, this economic affront affects us all.

Everyday we watch as the price per gallon of gas escalates. In three months time, the price per gallon has risen 70 cents, with no anticipated end in sight. While that may not affect us too much on a small scale, just imagine that every 10 gallons of gas now costs seven dollars more than it did before. Every 100 gallons now costs \$70 more than before, and without belaboring the numbers, just imagine if one is planning a small tour of the United States with one bus and a truck. A regional company that uses 1000 gallons of gas in a month's time has incrementally increased its monthly overhead over the past three months,

and at the end of the quarter it has spent about \$1200 – \$1500 more just in gasoline for fuel, not to mention the money spent on heating the offices or warehouse. If we pass these costs on to the customer, we are reminded in so many ways how, as we raise our prices, our vendors do the same — as do their vendors and theirs on down the line, until it inevitably gets back to us and the gas price then hits us twice.

While the economy is booming and the rich are getting richer, the middle class and mid-level companies are taking the hit. It's hard to argue with a leadership that has the technology and information, but we are in desperate need of real answers, and therefore real questions need to be asked. I don't mean to say that we should polarize ourselves, but we, in the audio business, are being affected along with everyone else in the country — and when we look up to the top of the pyramid for direction and guidance, we should expect to receive something substantial and not be cowed by a threatening sound effect from an empty temple. 🎧

If it walks like a feathered serpent, and quacks like a duck, it must be blee@fohonline.com.

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