

Lighting & Sound America

\$10.00

plasa media

Entertainment, Presentation, Communication

Bruce Springsteen & the E Street Band

The Wrecking Ball Tour

Theatre:

Newsies on Broadway

ALSO:

Asia 69 and Parametric Design

LED Screens Simplified

Lectrosonics HH Handheld
Wireless Transmitter

LETTERS



Welcome to LSA's June issue! If you're at the InfoComm show in Las Vegas, we look forward to seeing you there, and hope you can join us at the InfoComm/LSA Staged Event Awards and cocktail reception on Wednesday June 13, from 4:30-6:30pm, following the annual Rental and Staging Forum.

Congratulations to this year's winners for these outstanding staged events held in 2011:

- McCune Audio Video Lighting, for the Tech Awards Gala for the Tech Museum of Innovation

- LMG, Inc., for the BlackBerry World 2011 event

- Freeman, for the Telefonica Booth at the NAB 2011 trade show

- Eleven Producciones SAS for the LG Cinema 3D Smart TV launch

Congratulations as well to this year's Honorable Mention awardees: AVW-Telav Audio Visual Solutions, for the Gala Reconnaissance event, and Freeman for the 38th Annual IBEW Convention "Brotherhood Beyond Borders." All the winners will be included in our feature coverage in the August issue.

As many of you know, our second PLASA Focus U.S. show opens in Nashville, July 11-12 at the Nashville Municipal Auditorium. If you haven't already done so, check out the great show floor and free professional development program, and join us there! Register for free today at www.plasafocus.com/nashville/. Confirmed PLASA Focus: Nashville exhibitors to date include: 4Wall, Elation, Techni-Lux, Clay Paky, Seachanger, Link, d&b audiotechnik, IATSE, Interspace, A.C.T Lighting, MDG, Wireless Solution, Drape Kings, TMB, ZFX, *Technologies for Worship*, Mainstage Theatrical Supply, Show Sage, Rosco, LSC, Robe, LynTec, Applied

Electronics, The Light Source, Thern Stage Equipment, Martin Professional, White Light, PixelRange, Chauvet, High End Systems, Nicolaudie America, coolux, Creative Stage Lighting, Ultratec, Doughty Engineering, Barbizon, Doug Fleenor Design, and CAST.

See you in Nashville!

Jacqueline Tien,
Publisher/General Manager
jackie.tien@plasa.org



As our startling cover photo shows, Bruce Springsteen isn't your average rock star. How many of his colleagues would consent to body-surf his fans to reach the B stage? It reveals an amazing rapport between the singer and his audience, the fruits of a relationship now in its fifth decade. Certain aspects of Springsteen's shows with the E Street Band rarely, if ever change, but, this time out, the star's lighting and production designer, Jeff Ravitz, has implemented some very interesting

new gear choices. Sharon Stancavage fills you in.

Sharon also reports on *Asia 69*. The latest in a series of pop DVDs aimed at the Vietnamese market, it features an elaborate production design by Christian Choi. This time, the show served as a laboratory for parametric design, which, he thinks, will have a profound impact on the future of scenic design for entertainment applications. Judge for yourself.

One of the biggest surprises of the Broadway season is *Newsies*, a new musical based on a 1992 film that didn't exactly burn up the box office. That's not that case at the Nederlander Theatre, where *Newsies* is racking up very healthy grosses. In addition to a strong book, a rousing score, and a gifted young cast, it has an original production design that combines the best of yesterday and today. We give you an inside look.

Also, Mark Johnson checks out Lectrosonics' HH handheld wireless transmitter and VR Venue receiver. Charles Kaiser recalls the experience of going digital, in this case with two versions of DiGiCo's leading console line. Richard Cadena looks at the Tupac Shakur "hologram" seen at Coachella. And Ellen Jones reports on the latest edition of *Lighting and the Design Idea*.

David Barbour,
Editor-in-Chief
david.barbour@plasa.org

This month, we're at InfoComm; if you're there, say hello. Next month is really busy, what with PLASA Focus: Nashville and the NATEAC Conference in New York. Hope to see you at one of these great events.

New Technology from Morpheus

BRUCE SPRINGSTEEN WRECKING BALL

Photo ©Todd Kaplan

Morpheus Lights is proud to introduce the Ayrton Wildsun 500C automated LED washlight and the Morpheus CP7™ IP LED Blinder on Bruce Springsteen and the E Street Band's *Wrecking Ball* tour.

wildSun⁵⁰⁰
Light in action

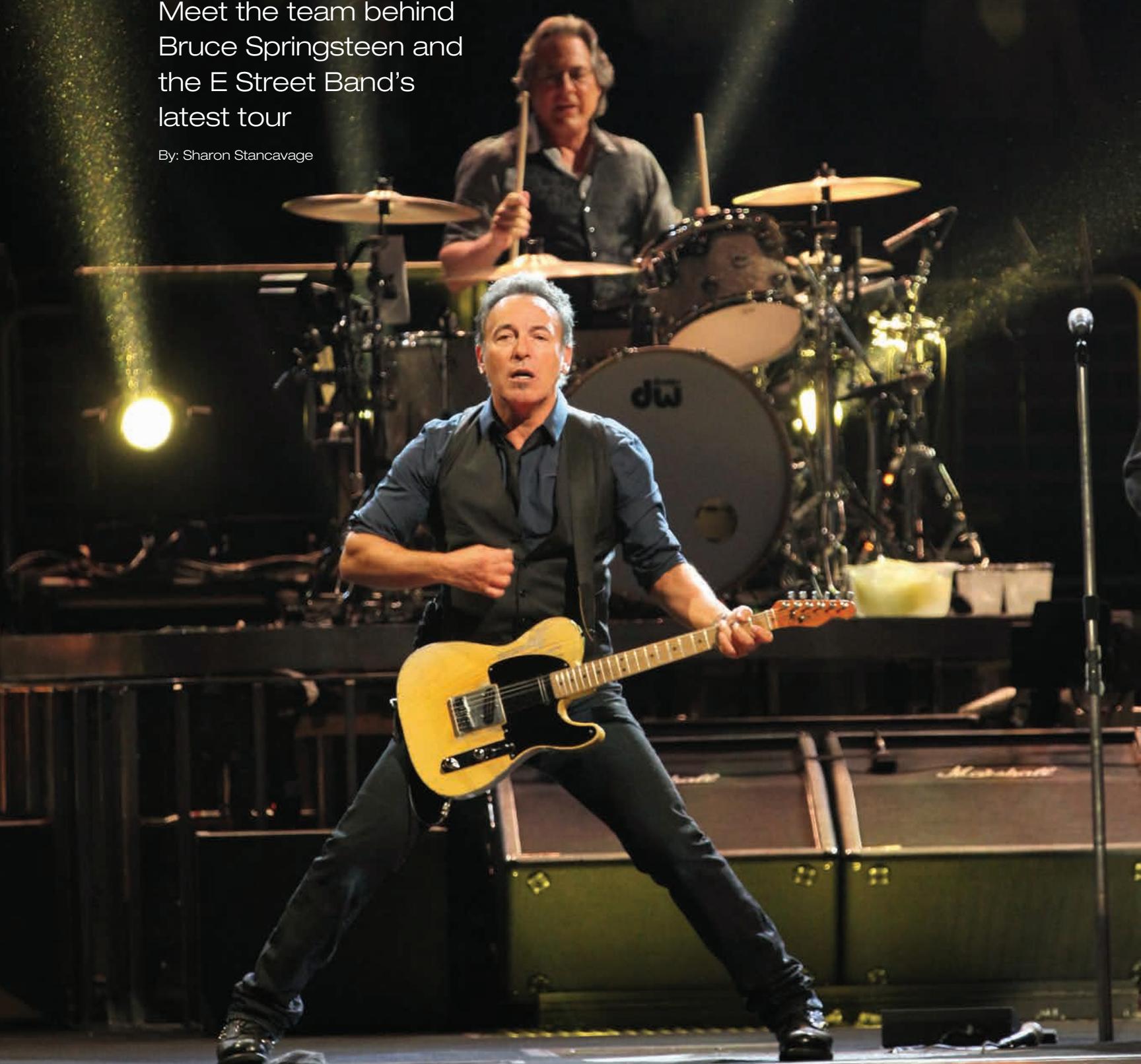
MORPHEUSTM
LIGHTS

1-888-MORPHEUS
www.morpheuslights.com

THE WRECKING CREW

Meet the team behind
Bruce Springsteen and
the E Street Band's
latest tour

By: Sharon Stancavage





the concert world, Bruce Springsteen's shows are legendary, and deservedly so. A performance can top three hours, and the song list changes from night to night. If a fan hands him a note with a song on it, there's a chance he will play it.

Obviously, this is an artist working inside his comfort zone. Then again, Springsteen is surrounded by a core group of people who have been with him for years. Officially hired 28 years ago as a lighting designer, Jeff Ravitz, of Intensity Advisors, LLC has, over time, become the singer's production designer. "I think they consider me to be the person who is watching the show most intently," he says. "For better or worse, I'm the one who comes to the organization with something of a design background." Ravitz's scenic input typically includes details such as "color of carpet, color of riser skirts, shape of risers, and things like that," he explains.

It would be an understatement to say that, in the past, the Springsteen scenic design was a little rough. "Basically, we used to go to Home Depot, buy chicken wire and chain link fence, and make the set out of that," Ravitz admits with a chuckle. "In a strange way, it was appropriate, and, at the time, it worked."

For the current tour, however, the 56'-wide-by-45'-deep set is customized, thanks to the expertise of Bruce

Rodgers, of Tribe Inc., who created the basic layout a few years ago. "The stage is similar in layout to what was used from 2007 to 2009, and utilizes some of the same equipment from our rental stock," says Aaron Siebert, project development manager at Tait Towers, of Lititz, Pennsylvania. "Modifications were made, such as the addition of decking to the upstage area, changing the height to accommodate changes in the band, changing stairs for band access, and building fascias to follow the profile of these changes."

There's also an 8' x 8' B stage. To get to it, Springsteen uses the audience to body-surf him there. "Bruce makes his way there once in a while, just to be even more united with the crowd," notes Ravitz.

The set includes what Siebert terms "integrated accessories." He explains, "There are grilles for monitor speakers, pop-up mic stands, and windows to allow lighting from below; the fascia is custom-made aluminum with a mesh wire to catch the light. The mainstage decking has inlaid recycled rubber glued to the decking plywood, to provide a cushioned surface for the band to stand on; carpet is rolled out on top of that."

Because the show is sold in-the-round, there are no backdrops. "We have almost no scenery to speak of, nothing behind the band, like some shows might have," says Ravitz. "The only things I can really light are the 6"



"We have no scenery to speak of, nothing behind the band," says Ravitz. "The only things I can light are the 6" and 12" fascias of the risers and stage levels."

CONCERTS

and 12" fascias of the risers and the stage levels." Also, says Ravitz, "The band members very much become my scenery—they become sort of a foreground, middle ground, and background, depending on where they are on stage and how I reveal Bruce with light."

Springsteen generally eschews video content for his tours, says Ravitz. "He doesn't want anything literal; if he's singing about factories, he does not want to see a factory. But he doesn't want abstract wallpaper-type patterns, either, so, really, there's not a whole lot left." On the other hand, the singer does like IMAG. "It's a really, really important part of Bruce's show," says Ravitz. "He recognizes that there are people 300' away from the stage, and this allows him to do facial expressions that would otherwise never reach to the back of the venue."

Pete's Big TVs, of Wilmington, Delaware, supplied the Springsteen tour with its new MC7 high-resolution LED panels, provided by the Surrey, United Kingdom-based LED panel specialist DigiLED. "They are lighter in weight than what we used on Springsteen's past tours," says Peter Daniel, president of Pete's Big TVs. "Their resolution is higher at 7mm, which is perfect for broadcast quality. We're tighter, as we've got custom-designed tour cases, made by Tait Towers, for the panels. Each case fits six panels, so load-in, set-up, and load-out is faster."

There are 384 MC7 panels comprising six screens: The main center screen over the downstage is 12 MC7 panels high and 16 panels wide. The two side screens are

configured as upside-down Ts. The wide part of each side screen features a 16:9 aspect ratio and is 16'-by-9' tall. The T portion is 7' by 7'. This configuration allows for video director Chris Hilson to achieve different camera looks. "When Bruce has a guitar in hand, Chris shoots the wide screen, the bottom of the upside-down T, and Bruce is 9' tall on this screen," says Daniel. "But when Bruce is off his guitar and with the mic or not playing, we go into the 'Hero' mode—and, in the center part of the screen, Bruce goes from 9' tall to 14' tall."

In addition, the screens are placed so that the first 20 rows can't see those at right and left. "It's a pet peeve of Bruce's to see people right in front of him looking up at the screens," notes Ravitz. Finally, there are three smaller screens located upstage for the fans sitting behind the stage.

Ravitz freely uses the words "theatre" and "dramatic," in discussing his philosophy of lighting a Springsteen show. "Each song really is its own little play," he says. "They've got characters in a storyline, and a beginning, middle, and end. The arena becomes a black-box theatre, because there's a void behind them, and there are performers on a stage with no background."

In keeping with this philosophy, his lighting isn't overly flashy. "This show almost designs itself," Ravitz notes. "Frequently, the songs will start with kind of a low energy level, then the band will burst in and the tenor of the song will change. That gives me opportunities for cues, for

"I do see other shows that come out with a 100% different lighting system tour after tour, and completely redesign every cue. We've really honed the system down to the point where I'm lighting the band in what I consider to be the optimum way to reveal them interestingly and appropriately, song by song. The changes come in the form of new fixture types and in the cuing of new songs." — Ravitz

intensity and angle changes. There's a lot to work with if you remember it's not about the flashing lights. It's about lighting the performers on stage and creating a color rhythm palette for the song that emphasizes the accents of the music.

"There is always the question of what are we going to do this time that is completely different," Ravitz says. "I do see other shows that come out with a 100% different lighting system tour after tour, and completely redesign every cue." His approach is somewhat different: "We've really honed the system down to the point where I'm lighting the band in what I consider to be the optimum way to reveal them interestingly and appropriately, song by song. The changes come in the form of new fixture types and in the cuing of new songs."



Pete's Big TVs supplied its new DigiLED MC7 video panels for the show's IMAG complement.



This new LED-infused rig represents a change for Ravitz. "It's a strikingly different look, because the saturated colors are so vivid," he says.

Going LED

The lighting rig, provided by Ravitz's longtime vendor, Morpheus Lights, of Las Vegas, combines new gear with old favorites. "In the past, we've used 80 or 90 automated wash lights, primarily Morpheus FaderBeams, to create broadly based tungsten washes with subtractive color mixing," says the designer. "This time, that job is being done by the new Wildsun 500C, an impressive automated RGBW LED fixture made by the French company Ayrton."

The Wildsun 500C is a 10,000-lumen, high-CRI, 4,000°K moving-head wash light, exclusively distributed in the U.S. by Morpheus. "It has a very warm white, which, since the show is overwhelmingly tungsten-based, is something Bruce likes," says Ravitz. "These colors start off being warmer than what we have observed in other LED fixtures."

This new, LED-infused rig was quite the change for Ravitz. "It's a strikingly different look, because the saturated colors are so vivid," he says. "The LED response time required some adjustment in our cueing, since it's a little different than a tungsten lamp's. And we've cut power consumption of the lighting system in half—there's certainly a lot to be said for that. The stage colors can be so vibrant; the colors that used to disappear when they got too saturated are now very pure and extremely rich-looking."

Also featured are Zap Technology's L2D2 large-format automated LED units. "These fixtures were built as a collaboration between Zap, the maker of the BigLite line, contributing their VIP One M pan-and-tilt-arm, and Ayrton, contributing the RGB LED light engine," notes Paul Weller, of Morpheus. The L2D2 has a 24" diameter array with a 29,000-lumen output that is focusable from 10° to 22°.

Twelve of Morpheus' new CP7 IP blenders replace the

conventional nine-light-plus-ColorFader combination used for audience illumination on previous Springsteen tours. According to Weller, "The fixture, born out of a request by Jeff for a bright, large, and unique LED audience wash, is based on the Chauvet COLORado 1-Tri IP. Each is comprised of seven Chauvet units, assembled into a frame that Morpheus designed and manufactures. At about 600W, the CP7 IP gives us an impressive reduction in power consumption compared to the 6,000W nine-lights."

The Wildsun 500C is one of the workhorses of the system, as is the Philips Vari*Lite VL1100 framing light. "Every band member has one or two VL1100s assigned to them from different angles, so we get a lot of value out of those fixtures," says Ravitz. He cites their ability "to key-light the band very sculpturally and surgically when we want to just carve them out of the darkness; it's nice to have a light that has that capability. We can also shift the color and add a pattern. I get an awful lot of mileage out of the 1100s."

The lighting rig, organized by returning crew chief Brad Brown, also includes Morpheus FaderBeam, PanaBeamXR2+, and BriteBurst 2000E units, plus MFader3 and XLFader3 color scrollers; Philips Vari*Lite VL3000, VL2500, and VL3500 spots; Clay Paky Sharpys; and Martin MAC Aura fixtures. "The XR2+ is a really powerful, punchy daylight wash light that we use for toning some of the staging elements and for supplemental audience coverage," Ravitz says.

Non-automated LEDs used on the show include Philips Color Kinetics ColorBlaze 72, ColorBurst TR, and iW Blast TR units, and Chauvet COLORado 2 Zoom Tours. Ravitz says, "Using LEDs, we've cut the power consumption of

CONCERTS



Above: Cooper says the band uses Shure SM58 mics for all vocals. "They're tried-and-true, and they work really well," notes the front-of-house engineer. Bottom left: Morpheus Lights CP7 IP LED Blinders provide the audience coverage. Bottom right: With the addition of LED units, says Ravitz, "we've cut the power consumption of the lighting system in half while benefiting from all the advantages of additive color mixing."



the lighting system in half while benefiting from all the advantages of additive color mixing.” Other conventional gear includes ETC Source Fours and Source Four PARS, and Martin Professional Atomic 3000 strobes. Morpheus also supplied its FlipBox truss to the tour; additional truss comes from Total Structures, who also supplied two RSC Lightlocks, which dampen the swaying motion of hung moving lights.

There are also ample lighting positions on and inside the stage, Ravitz says. “We uplight Bruce through the floor downstage of him, behind him, and from the side, and

“This is a very unique situation, in that we do a lot of set list changes on a daily basis, and a large number of songs from his catalogue; the music-mixing aspect of it is extremely dynamic, in that sense.” — Cooper

almost every band member has uplights on them coming from at least one or two angles. It’s a perfect way to flip your perspective on the show’s point of view, by suddenly going to an uplight look. More so, it imparts a unique interpretation to a lyric, when appropriate.” Eleven Robert Juliat Topaze and Manon followspots are located in the truss to cover Springsteen and the band on the main stage from front, side, and rear angles. The tour also carries four Robert Juliat 4kW Lancelot long-throw followspots to pick up Springsteen when he moves to the apron wings and into the audience during stadium shows.

New for this tour is the use of haze, with Ravitz employing the MDG Atmosphere APS for the job. “I’ve always been proud of our ability to create effective lighting that didn’t rely on haze,” he explains. “However, with the addition of the Sharpys and with the more defined beam of the Wildsuns, a very light application of haze has added another layer of depth to the look.”

The show was programmed by Jason Badger. Lighting director Todd Ricci operates an Avolites Diamond II console and calls followspots, while John Hoffman is on an MA Lighting grandMA. “For control, we have a combination of a full-size grandMA 1, and, as a lot of people know, we use an Avolites Diamond II, which is the workhorse of the system,” explains Ravitz. “Most of the cues are executed on the Avo. The grandMA operates color and position, and the Avo, for the most part, operates the intensity of lights. Some effects are achieved more elegantly on the grandMA, but the Avo allows for the human connection that works perfectly for Bruce’s music.”

The ready-for-anything sound system

Like many live sound engineers, Springsteen’s man at the front of house, John Cooper, relies on an Avid Profile console. “It’s a very solid piece of equipment as far as architecture and reliability,” he says. “It was the first to

facilitate plug-in architecture for third-party plug-ins. There is zero outboard hardware for my show; it’s all done with plug-ins.”

Speaking of which, Cooper says, “I use primarily Waves [gear], from vintage L2s and L3s and SSL 4000 modules to very modern Waves-designed plug-ins such as MaxxVolume, Renaissance Bass and Renaissance Maxx, and C6 multiband compressors.” Cooper also uses Crane Song Phoenix, which is his only non-Wave item.

The engineer says he likes to experiment with his plug-ins. “I always try to encourage people to take one that

might be designed for a guitar and try it on a snare drum. You never know what’s going to work. That’s how I arrived at a lot of my conclusions—in fact, I use a plug-in designed by Waves for guitar on cymbals. There’s no correlation to what a particular plug-in was meant for and what it works well on.”

The Springsteen show poses challenges for Cooper. “This is a very unique situation, in that we do a lot of set list changes on a daily basis, and a large number of songs from his catalogue,” he says. “The music-mixing aspect of it is extremely dynamic, in that sense.” The current version of the E Street Band has 18 members, and, as a result, Cooper says, there is “in the neighborhood of 100 inputs at the front of house.”

For his microphones, Cooper has a package that is, in his words, “simple and straightforward. We use Shure SM58s for vocals across the board. They’re tried-and-true, and they work really well.”

In the past, Cooper has veered off the SM58 path, with unsuccessful results. “We were trying a different vocal mic on Bruce, and we really liked the sound of it. He even commented that it sounded good, but the wireless package wasn’t quite what we were looking for, and it dropped a syllable on the first night,” he explains. The SM58 came out, but Cooper, monitor engineer Monty Carlo, and Springsteen decided to give the new mic another chance. On its second night, it dropped another syllable. “He was downstage center at the time and we found that microphone upstage left on the floor; that’s where it landed. That was the last experiment we did with wireless mics and different types of mics for his vocals.”

For the rest of the band, Cooper says, “We use a combination of quite a few [Shure] SM57s for guitars, Leslies, and some Sennheiser 409s—the older ones; we just had some reconditioned—for the guitars; that’s becoming a rapid favorite of mine.”

CONCERTS

On the drum kit, Cooper is using a Shure Beta 91 (kick), a Shure SM57 (top tom), Shure KSM138s (cymbals, hi-hat, and bottom snare), a Beyerdynamic 88 (kick drum), and, on the toms, a Heil PR 28. "We just switched them and are really pleased with them on the toms," he says. The wireless package used on the horns is comprised of Shure 98s. Also used are Radial, Countryman, and Avalon DIs.

For his PA, Cooper relies on L-Acoustics gear, especially the K1, provided by the Las Vegas office of Solotech. "I personally believe that the K1 is the best speaker cabinet available at this point in time," he says. "If there's something better, I have not heard it, and I've tried to listen to a lot of different things. It is accurate, and it presents what I do from a mixing content standpoint in the manner that it should be presented."

Approximately 170 cabinets are used in the arena setup. "The goal is to deliver the same rock show experience to the people in the front row, in the back row, and in the very top rows behind the stage," Cooper says.

The main loudspeaker rig includes 32 K1s (16 per side) and eight K1-SB subwoofers (four per side). The main underhang consists of 16 KARAs (eight per side). The side hangs feature 28 K1s (14 per side), with 48 KUDOs providing rear fill in four clusters of 12 each. Providing front fill are eight Karas and eight SB-28 subwoofers (four per side). Front-of-house delay is handled by 16 Kudos in two arrays of eight. Twelve Karas, in two hangs of six, make up the side arrays. A center cluster of six Karas is hung off the center truss. Providing amplification are 26 LA-RAKs.

Etienne Lapre and Klaus Bolender are the show's system engineers. "Without them and the guys who do the hard work on the ground, I couldn't do what I do successfully," Cooper says. "We have a fabulous group of guys out here—the guys on my end of the cable take such good care of me." His team includes crew chief John "Boo" Bruey, and audio technicians Rob Zuchowski and Ray Tittle.

Things are just as busy, if not more so, in monitor world—so busy, in fact, that there are two monitor engineers. Springsteen's longtime monitor mixer Monty J. Carlo handles him, Steve Van Zandt, Roy Bittan, Patti Scialfa, the background singers, and the horn section. Troy Milner handles Max Weinberg, Nils Lofgren, Garry W. Tallent, Charlie Giordano, and Soozie Tyrell. Each is on a DiGiCo SD7—Milner at stage right and Carlo at stage left. "When we finished the last tour in 2009, we had pretty much pushed the Yamaha PM1D to its limits," explains Carlo. "With the SD7, I've been able to custom-tailor the console to my specific needs for this show."



Customization was also important to Milner. "The SD7 is so flexible in laying things out and then adjusting for the ever-changing stuff that Bruce wants to add or try. Also, loaded with Waves SoundGrid [the real-time audio-over-Ethernet networking and processing platform], the desk just sounds great; I'm not using any outboard gear at all. I don't know of another desk that is this flexible, with over 135 inputs that I have going on for my guys."

The tour features a combination of in-ear monitors and wedges. "Bruce doesn't want anything to get between him and his audience, so we stick with wedges hung under the stage," notes Carlo. "Between Bruce and the other musicians I'm mixing for, I've got 14 wedges around the stage and JBL VerTec 4888s in the air for side fills. The wedges are a variety of [Audio Analysts] 1x12", 1x15", and 2x12" custom monitors." Also used are d&b audiotechnik B2 subwoofers.

For his in-ear system, Carlo is using Shure UR4s and PSM 1000s and Sennheiser SR2050s; Milner is using the PSM 1000s. "They sound great, and having them all networked is a huge time-saver in terms of finding open RF channels each day. For ear monitors, we are using Ultimate Ears UE 11s for everyone," he says.

One of the biggest daily challenges in monitor world revolves around the wireless frequencies. "Between vocals, instruments, and ear monitors, we've got 70 channels of wireless to deal with on a daily basis," notes Carlo. "We're using Shure UR4s, Shure PSM 1000s, and Sennheiser SR2050s, and the technology integrated into them helps finding clean airwaves easier, but it can still be a challenge in some of the metropolitan areas we're playing."

The other challenge lies with Springsteen himself. Milner says, "You never take your eyes off Bruce during a show, as you never know what he will do next. I've worked with a lot of really amazing great people over the years, but Bruce always takes it to another level; we just try to keep up with him and the band for the three-hour-plus shows."

Bruce Springsteen and the E Street Band are currently playing stadiums in Europe; in August and September, they return for additional North American dates. 