Trans-Siberian Orchestra
A Well-Oiled Machine
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28 CLAIR GLOBAL GOES SMALL WITH THE iMICRO AND IAN ANDERSON
Well, this issue wraps up our 2012 coverage of the touring season and appropriately, TSO is the cover feature. Once again we chose this tour for the season-ender, but not because of their seasonal theme, but because of the new and spectacular production. Our coverage should give you details, but it is a great show from all aspects and apparently a good and happy crew and a good group of vendors. Also covered in this issue is Barbara Streisand’s latest production. I think you will find both features informative and hopefully, a little entertaining.

Now, a few words concerning the Top Dog ballot this year. For the first time, we eliminated several nominees that have won the award several years in a row. Our purpose is to recognize these companies and individuals as “Perennial Winners” at the show. They will be eligible again next year to be nominated, but this year is a special year for them (and for us).

Finally, as the year winds down, we hope that you will let the spirit of the Holidays touch you during your work and pass it on. It is easy to let the pressure of our work affect our attitudes, the way we feel with others and the worries we take to bed each night. Yes, it happens to all of us. The difference is that some of us can turn on and off that switch in our heads that controls our emotions. So, be happy, work safe and enjoy the upcoming New Year.

Larry Smith
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"You guys saved the day…we couldn’t have done it without you! I’m sure thousands of fans are thanking you as I type”
A substantial cast of Clay Paky Alpha 1500 HPE Spots and Profiles have been dazzling young audiences on the Ice Age Live! ice show extravaganza.

Respected lighting designer Luc Peumans of Painting with Light specified a large number of Alpha Profile 1500 to provide special effects along with even more Alpha Spot HPE 1500, many of which incorporate bespoke made gobos for both projection and masking to prevent spill when projecting onto the set.

Peumans choice was based on the extensive tests he had done last year, while designing the popular Holiday on Ice: Speed, which will be touring the UK this year. He decided then that Clay Paky fixtures were “the best fixture for the challenging and fast paced environment that is a stage made of ice! They give a lot of output for the wattage; they have excellent projection quality, great frost functions and they are super fast. This makes them the ideal choice for me and for this particular environment. We chose Clay Paky fixtures for their excellent optics and long throw, which makes them great for creating the atmosphere I wanted.”

Peumans rig design is Cathedral like. He uses the fixtures in a variety of very clever ways, some of which are quite experimental! “I have five 1500 Profiles that have been converted into partly manual operated follow spots,” explains Peumans. “We added two control wheels to change the necessary parameters like maximum intensity and beam size. Over a long distance range it’s hard to get the same light intensity on the characters. The manual iris control on the fixture doesn’t only control the iris but it also controls the zoom through the console. We wanted to automate this to ensure a consistent light level across the wide playing area.”

“Clay Paky's Alpha Profile1500 and Alpha Spot HPE 1500s are well known for their powerful zoom functions and high definition projection,” states Pio Nahum, chief commercial officer for Clay Paky. “Both the Profile and Spots feature a range of effects ideal for theatrical events and, as Luc Peumans so cleverly demonstrates, at the same time they are versatile enough to allow for experimental use.”

With a large video backdrop, part of Peumans role was to collaborate with video content designer Jean-Luc Gason to create three-dimensional visual lighting effects that compliment the video world. This is where 300 custom-made gobos came in. Installed in the Alpha Spot HPE 1500s, some replicated images or atmospheric effects within the video content bringing the video environment out onto the ice. “It was an exercise in unity,” explains Peumans. “The ice is a big white surface on which you can paint with lights. The ice makes an excellent projection surface that can either blend with the video wall or contrast with it, depending on what we choose to do with the lighting.”

Ice Age Live! is a complex show. Many of the skaters and performers are dressed in supersized animal costumes, some of which are flying or doing mid air acrobatics while the performance space itself comprises various moving levels. Peumans lighting canvas is therefore everything from the ice to the top of the video screen. The challenge is to light this effectively for everyone without blinding the audience or getting too much spill, especially given the audience is viewing the show from three sides of the stage.

Peumans discusses: “The staging is radio controlled and wireless, so we have some complex and dynamic choreography that interacts with the moving platforms. In addition there are a number of acts that perform in mid air. This dynamic staging has led to the need for some fast moving energetic lighting. The strong and dramatic power of the Clay Paky Alpha range plus fast response and precision focusing means they are ideal for highlighting every part of the action, wherever it happens.”
Starlite Productions Lights up the Philadelphia Orchestra

For only the eighth time in its storied 112-year history, the Philadelphia Orchestra welcomed a new Music Director, Yannick Nézet-Séguin. The Canadian-born maestro took to the stage in Philadelphia’s magnificent Kimmel Center on October 18th, 2012 and wielded his baton with great vibrancy as if to paint on a canvas the very reaches of Brahms’ massive 4th Symphony.

The undulating walls of the immense concert hall were awash in brilliant color as though something magical was happening. And indeed it was.

“Yannick Blue is what we called it.” Said Steve Kosiba, one of Starlite Productions’ lighting designers. “During much of the evening we lit the hall with the new conductor’s favorite color. It was on posters all over Philadelphia for weeks prior to the show—it was a sort of branding, if you will, and gave the audience a sense of his artistic vision.”

All three levels of the walls behind the stage were brilliantly illuminated by a staggering 124 Phillips Color Kinetic Color Blast 12s. The CB12’s High-intensity LEDs cast a constant wash of rich color against the walls and completely change the dynamics of the room especially a room as dynamic as the Kimmel Center’s grand Verizon Hall.

30 Martin MAC101s were employed to provide backlight to a short upstage scrim. These eight pound wonders are bright, versatile and energy efficient enough that all 30 fixtures were powered by only two 20 amp circuits.

6 Phillips Vari*Lite VL3500 Spots make a statement with a six-position color wheel, two gobo/effects wheels and separate dimmer and ultra-fast strobe mechanisms. Starlite Productions’ Sr. Project Manager Jason Danowitz chose the 3500s for their highly advanced framing shutters, which allowed the fixtures to exclusively light a giant Yannick sign and not spill any light onto unwanted areas.

Controlling these more than 150 lighting fixtures was MA Lighting’s very capable Grand MA Full Size rig. This powerful board offers the lighting designer fast and unparalleled control over conventional, moving and LED lighting fixtures.

From the earliest years of the 20th Century, the Philadelphia Orchestra has led the way in technology including radio, television and electrical recordings. Yannick’s joining the ranks of musical innovation giants Stokowski and Ormandy is cause for great fanfare and cultural pride for the city of brotherly love. Starlite Productions added to the celebration with the latest in lighting technology—a magnificent eye for the spectacular and a deft feel for the texture inspired light creates.

www.starlite.com
XL Video Takes the Crown with Robbie Williams

XL Video supplied scenic LED plus projection and camera/IMAG systems – including some of their newest products - to Robbie Williams’ acclaimed three nights at London’s O2 Arena last week. With a rousing performance in-the-round, the star re-established himself in grand style as a solo artist and one of the UK’s greatest popular music entertainers.

For XL, it was the continuation of a long and fruitful relationship with Robbie Williams and his production team which stretches back over a decade. Video has always been an integral part of Robbie’s live shows and his tours have blazed a trail for innovative, design-led applications of new video technology.

This was once again the case, making maximum impact at the O2 shows. The third show was broadcast live on Sky 1, and in other territories worldwide, and can now be seen on Sky’s On-Demand service.

XL’s Project Manager, Phil Mercer, worked closely with Robbie’s long-term Production Manager Wob Roberts. The set and stage architecture was designed by Production Designer, Mark Fisher with Creative Director Willie Williams and overseen by Executive Producer, Lee Lodge.

More than 2000 of XL’s new Pixled FX-200 LED spheres were utilised. This very versatile product was made up into a series of oval shapes measuring between 2.5 to 4 foot in diameter, then rigged onto a set of hand-rails built by Tait Technologies. The structure flew in from the ceiling to meet a scenic bridge across the stage creating a colourful element of the ever-changing set.

The versatile FX-200 is a small opaque plastic ball encasing LEDs which can be fitted together and configured to suit any design. It’s ideal for bespoke applications of this type. The FX-200 offers twice the brightness of similar LED spheres and can be used both indoor and outdoor due to its IP 65 rating.

A large playback projection system featured six of XL’s brand new Barco HDQ-2K40 40K projectors – currently the world’s brightest projector for rental and touring. These offer an impressive 40,000 Lumens output with a 2K resolution. These shows were their first outing for XL.

Four of these were positioned in each corner of the Arena on special platforms; the fifth was rigged on an 18 ft high platform at what would normally be the ‘stage’ end of the O2; and the sixth was at the opposite end, up above the sky-boxes in the ‘gods’ of the venue.

These projected onto four reflective gauze surfaces, all of which moved in and out on an automation system.

The first gauze was 12 metres wide by 7 metres high landscape orientated, positioned at one end of the arena. There were three 15 x 7 metre portrait surfaces above the stage, each fed by three HDQ-2K40s rigged on their sides to optimise the brightness and framing capabilities.

The final two projectors – both in corner positions - were multi-purpose and mostly used to shoot video right across the stage and out into the audience, sometimes catching part of the screens, depending on their positioning at that time.

Playback material was produced by Sam Pattinson and Luke Halls from Treatment Studio to Willie Williams’ creative brief.

The HD camera mix was cut by Matt Askem using a Kayak DD 2.5 M/E switcher, for which XL supplied six Sony HXC-100 camera channels. Four of these – fitted with XJ86 lenses - were stationed right beside the projectors in the four corners of the auditorium, while the other two were fitted to Telemetrics ‘hot heads’ with HJ22 lenses. These were operated from backstage by XL’s Ed Moore and Marcus Wareham.

The IMAG was projected onto four 24 x 13ft screens hung high above the stage, rigged off T-trusses together, each fed with a pair of double-stacked Barco FLM HD20 machines also on each of the T-trusses.

The playback material was stored on and programmed in ten Virtual VTR servers feeding into a Barco Encore screen management system - operated by Video Jedi Richard Turner – from where it was sized and output to screen.

Phil Mercer, Group Head of Concert Touring for XL Video, said: “As is typical of our long-standing relationship with Robbie Williams and his production team, we are always looking to keep the show state-of-the-art by using new video technology.

“As is so often the case, to achieve this we push new tech straight into action, and thankfully all of the new equipment performed flawlessly!”

www.xlvideo.tv
Country superstars Faith Hill and Tim McGraw took to the stage at The Venetian in Las Vegas recently with a spectacularly designed set of elaborate, segmented proscenium arched structures, provided by Tait. Opening night showcased Tait’s world class quality and craftsmanship in both staging and scenic elements, as well as providing key automation elements within the performance. Set design by Leroy Bennett, the flown scaffolding design is a multilayer system where a variety of textures and depths can be created. The key scenic elements provided by TAIT are as follows:

**SCENIC ELEMENTS**

- **Proscenium Horn:** 43’ wide at base, constructed with steel tubing and integrated with Martin Tripix 1200 & 300 LED lighting strips.
- **Ribbed Rings:** four ring arches which diminish in diameter moving upstage, incorporating lighting fixtures. Rings can break into three pieces and sit on weighted bases.
- **Flown Rings:** Four solid flown rings which are flown via TAIT/FTSI’s Navigator system for simultaneous horizontal and vertical movement.
- **Scaffolding Wall:** 46’ wide by 24’ high made from 1.5’ clear and black tubing. Built in five layers with custom Tait connections.
- **Scaffolding Columns:** Four 4’ wide, 4’ depth, 24’ high columns built from 1.5’ diameter clear and matte black tubing to resemble Roman columns.
- **Logo drop mounted to a stretcher frame flying upstage of the house proscenium, which is translucent and displays Tim & Faith’s logo.
- **Flooring made from panels laminated with a skin on both sides, containing a thin piece of mirror material inlaid into the floor in the shape of Tim & Faith’s logo.**

“Capital is on the Piste at Relentless Energy Drink Freeze Festival

Q: What do you get when you put Capital Sound, a huge ski jump and a bunch of top class DJs in Battersea Power Station?

A: Relentless Energy Drink Freeze Festival.

Held at the end of October, Freeze Festival was two full on days of world class snowboarding, skiing and live music which, in combination with alpine style bars, a shopping village and gourmet food brought the joys of ski and, just as importantly, après ski to south west London.

Working for client Vision Nine (formerly known as Sports Vision) and with Robin Conway as Capital’s project manager for the event, the line array tech and crew boss Marty Harrison deployed a Martin Audio LC system with 218 subs for the main stage, where Dave Poynter looked after FOH, Kevin Smith took up the monitor position and Duane Williams handle stage tech duties for sets from Grandmaster Flash, Public Enemy, DJ Shadow, Mark Ronson and Zane Lowe, amongst others. A smaller version of the system was sited adjacent to the ski jump, and a Meyer UPM system took care of the VIP area.

“This is a huge site, so we probably did as much exercise getting round it as the guys did skiing and snowboarding,” says Robin. “We had quite a short set up time, with only a day to get everything ready and getting cabinets up to the top of the ski ramp was a bit of a challenge, but taking the feed from the OB truck, which made it easier to manage.”

With the skiers and snowboarders getting air and carving up the slopes and the DJs mixing up a storm, Freeze Festival kept the crowds happy.

“The Capital team was extremely professional and integrated well with our festival stage managers and acoustic consultants,” says Vision Nine senior produciton manager Tom Sabin. “The sound was excellent all over the site and got some great feedback from artists.”
New Renkus-Heinz Distributor From France Announced

Renkus-Heinz is delighted to announce the appointment of a new distributor for France, signing an agreement with leading French distribution company SoundCo to handle the distribution of Renkus-Heinz products for the French market. They will also cover the North Africa countries Algeria, Morocco and Tunisia, on a non-exclusive basis.

With offices in the Paris suburb and a sales agent team, SoundCo offers its customers support throughout the country.

The company works in all of the entertainment technology sectors including the live sound / PA rental market, the MI market (including both online and retail outlets), installation and system integration companies and the broadcast industry, and more besides.

Another string to the company’s bow is the direct import and distribution of pro audio products. SoundCo is the exclusive distributor for France for Lewitt Microphones GmbH, ESI Audio GmbH, M Pro Audio, Violet Audio and DVK Technologies.

Its customers include rental and service providers in the performing arts, corporate and events sectors; integrators and installers; recording studios; broadcast; distributors (direct sales stores and online) and specifiers and end users including engineers and sound technicians, set designers and stage managers.

SoundCo’s key people are Martin Broucqsault, who holds a postgraduate degree in Marketing Management from top business school ESDES Lyon, and a former sales agent for SCV Audio (Harman Pro French distributor) and EVI Audio, dealing with Electro-Voice, Dynacord, Midas and Klark-Teknik. He has strong experience with PA and rental companies and his combined skills provide marketing and sales strategies for the different markets of the pro audio business.

Jérôme Hardy holds a graduate degree in Electronics Applications. A former sales agent for CINECO, the French distributor for Shure, APEX, Symetrix, Celestion and QSC, and SCV Audio, French distributor for the Harman Pro Group with brands JBL, Crown, Soundcraft, AKG, BSS, DBX and Native Instruments, Merging, NTI and more, and was product manager for Audio-Technica.

Håkan Sjöö, Renkus-Heinz European Sales Manager, commented: “We are really delighted to have secured the services of SoundCo. We believe their deep knowledge of the French market, their enthusiasm and their broad customer base will strengthen the Renkus-Heinz brand in the country and enable us to grow into new markets.”

www.renkus-heinz.com

Florida’s Sound Media Expands Turbosound inventory

It is said that success breeds success, and Sound Media, a sound and lighting production company located in Hollywood, Florida, is a great example. Having purchased the Turbosound Flex Array (TFA-600H) system a year ago, the company has experienced a growing presence in the south Florida market, necessitating further investment. Flex Array combines elements of line array theory with proven virtual point source technology in a single product range for exceptional flexibility in application.

“Working directly with Turbosound and our area rep, Mainline Marketing, has been great. Both did a tremendous job in supporting our deployment of Turbosound products to our customers; this was a critical component of the success we have experienced,” reports Lennox Foster, Sound Media’s President and founder. “We bought 16 of the 75-degree boxes last year, and it took our business to another level. The TFA-600 is one of the best sounding boxes I’ve heard in a long time. Now we’re expanding again, so it was natural to stay with the sound signature that has helped us get so many new and repeat customers. Now we have enough Flex Line Array for stadium shows of 15,000 or more.”

To augment their existing systems, Sound Media purchased several additional Turbosound models, most notably expanding capabilities by adding eight TFA-600HW (100-degree dispersion) Flex Array elements. In addition, they bought eight NuQ-8DP and four Aspect TA-500 loudspeakers.

“One thing I love about the Turbosound system is the seamless integration and consistent audio characteristics between products,” says Foster. “We do a diverse range of events, from large arena shows and casinos to outdoor festivals and corporate shows. With Turbosound, all I have to worry about is coverage and power, so I can mix and match the different loudspeakers to meet the needs of the venue.”

Foster points to the Aspect 500 as an excellent example of Turbosound flexibility. “It’s an outstanding full-range box for point and shoot applications,” he says. “It’s actually bigger than the Flex Array, a 3-way with a 15-inch woofer. We can use two of them per side at an outdoor show for 2,000 people, no problem. It’s also a perfect sidefill to use with the Flex Array at bigger shows.”

Similarly, the smaller NuQ-8DP finds utility in a range of applications. “We do a lot of smaller corporate shows, where sound quality is important, but the client does not want to see large black boxes,” says Lennox Foster. “The NuQ is perfect for that, because it has high fidelity, is very compact, and still has plenty of output. Then, at our bigger events we can use it as a frontfill and as monitor wedges on stage for speeches. It’s a very diverse box.”

Interestingly, Sound Media opted for the unpowered versions of both the Flex Line Array and Aspect speakers. “Sometimes our speakers might be up for two or three days, and we get a lot of rain in Florida,” explains Foster. “So for our needs, separate amplifiers are best. But for smaller speakers like NuQ, we bought the self-powered version, since they’re usually indoors or down at stage level.”

An electrical engineer by education, Lennox Foster has firm opinions.
on the design features that make Turbosound speakers so good. “There are a lot of very good speakers on the market today, but what’s unique about Turbosound is the vocal presence,” he explains. “The crossovers on the larger systems are designed so that the vocals are primarily all coming out of one speaker, which keeps it very cohesive and very intelligible. There is no smearing of the vocals with Turbosound systems, and that is very important to us, and to our customers.”

As Sound Media continues to grow, Lennox Foster is looking forward to expanding his stock of Turbosound loudspeakers even further. “With the growth we’ve been experiencing, it’s great to know that all our Turbosound systems are compatible with each other,” he says. “That allows me to create system designs for virtually any size and shape of venue, line array or point source, and still have confidence that it will sound incredible.”
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Over the past 14 years Trans-Siberian Orchestra has become as familiar during the holiday season as the showings of “The Christmas Story”, “It’s a Wonderful Life” and “The Grinch Who Stole Christmas”, except this is Christmas with a twist – or maybe a bang. For the uninitiated, picture Christmas Eve with enough pyro to be seen from the International Space Station.
The show is a high energy Christmas rock opera wherein there is no star of the show. Yes there are soloists throughout the production, however, they all blend in to make the show itself and – more importantly – the production the real star. This year’s production was different from years past in that TSO founder Paul O’Neill, who is also the show’s composer, lyricist and producer decided it was time for a new story line.

With the new script came the need for changes to the production. “Obviously we all had 100 percent faith in Bryan [Hartley],” said Tour Director Elliot Saltzman. “We knew he’d come up with something tremendous and before we committed to the new design we showed it to Paul and he loved it.”

The new design still obeyed some of the long held standards of the production, which is to bring the show as far-out into the house as possible. However, the way that was achieved was completely different in part through the use of a massive lighting package supplied by Epic Entertainment Technologies. The stage look was also unrecognizable as well. The upstage line comprised of three concentric arches. The two outer arches were made up of straight truss sections lined with four Clay Paky Sharpy’s per section. The inner lighting arch had seven sections with the outer arch comprised of nine sections. The bottom of the three arches was a pyro bridge.

This array made it possible for Hartley to put the focus of the show anywhere he wanted with intense precision using all or any part of the rig. Conversely, the system also gave him the ability to launch out into the house in a massive explosion of light. In addition to the [64] Sharpy’s the arches also housed 16 Martin Stagebars and 16 Martin Atomic Strobe 3000’s.

This accounted for the show’s backlight. Although house followspots were used for key (front) light, down light as well as some key light was provided by four 12' diameter circular pods flown directly above the downstage line, which were loaded with eight Vari*Lite 3500 Wash’s, eight Atomic Strobes and 12 Stagebars. These pods flew in and out at various points of the show on winches in the mother grid.
flown specifically for the pods.

Above the pods in the mother grid Hartley placed 10 Vari*Lite 3500 Wash FX’s. Because a huge part of this show is beam play with the Sharpy’s, massive amounts of fog was needed. Therefore, there were also seven Martin ZR44 Hi-Mass fog machines each working in conjunction with a J&M Special Effect RE II Turbo Fan. Certain performances of this very theatrical show took place with snow falling. To make this happen the mother grid also contained 10 snow machines, the output of which was distributed by way of one Hurricane Fan per unit.

There was a need for more key wash than the overhead pods could deliver to the downstage apron. To address this issue, Hartley put larger 24’ foot pods out over the audience that were loaded with eight VL3500 Wash’s and eight Atomic Strobes. In addition to offering the aforementioned key light this also gave judiciously placed downlight on the audience.

The outside (offstage) boundaries of the lighting rig were established by vertical trusses loaded with 12 GLP Volkslicht LED units. Rounding out the lighting design at the stage were six vertical trusses under the inside arch and above the bottom pyro arch loaded with 18 Coemar Par LED’s and a varied array of floor mounted Color Kinetics Color Blast 12’s, 20 Lite Blinders, Sharpy’s, Atomic Strobes and VL3500 Wash’s.

TSO has been using video for only the last three years or so. While there is no IMAG representation or huge upstage high/medium resolution video wall, Chaos Visual Productions delivered a video package that was as impressive as anything on the road if for no other reason than the power found in its subtle use.

Each of the two outer arches were faced with several panels (nine on the outer arch and seven on the inner) of 9mil WinVision that had the shape of a huge upper case “F” laid over on its face. In addition to the WinVision panels on the arches there were also four panels of the same shape on a downstage truss as well. The entire show played in front of an enormous 264’ x 33’ backdrop of SoftLED™. When the SoftLED was delivering content the show looked enormous. However, when it was off or just being used as a star drop, the lighting system – especially the Sharpy’s in the arches – seemed to come out of nowhere as the actual structure of the lighting rig blended into the backdrop seamlessly.

This also made for the true dramatic beauty of this show which is that while it could at times give the audience the sensation of sitting in the breach of a cannon, it could also be reined in and draw the audience in close to deeply emotional moments of intimacy with the performers.

The final bit of video technology was the face of a huge flaming pocket watch that opened the show swinging across the stage like an enormous pendulum. This is one of Hartley’s favorite design features of the show, “We had a clock on the Beethoven [spring] tour as well, he explained, “but it was in the video content there, and we have a lot of video content that has clocks in it. So it just seemed to fit.”

The face of the clock was put forth via an LED product from Chinese-based LEDigami called Paper LED. Despite its name the product isn’t actually made of paper but rather a very thin and pliable magnetic material that adhered to the internal frame of the clock. This was necessary because the flange feature of the gag required an internal 20 pound propane tank, which, along with rigging, took up a lot of space in the tight internal confines of the gag. The swinging move of the clock was achieved through the use of two winches designed by Eric Pearce at SGPS, which were placed close to the fulcrum position of the grid truss to which the clock was attached. The cable from the winches traveled offstage to redirect pulleys and down to the sides of the clock. Then it was threaded though pulleys on the sides of the piece and back up to an anchor position next to the redirect pulleys in the grid. This gave the winches a two to one weight advantage when swinging the clock back-and-forth across the stage.

In keeping with one of the tour’s long standing mottos, “Light it up! Turn it up! Blow it up!” this show uses a wide array of gags generically known as “pyro” presented by Toronto based Pyrotek Special Effects Inc. That being said, the effects Pyrotek brings to this show are categorized into three groups;

- Pyro Effects: Comets - clean burning shots that leave a trail behind them like a comet, Waterfall - cascades of silver titanium sparks and Spinners - an effect that has two jets to an apparatus that gives a pinwheel effect when the jets are fired.

- Flame Effects: Dragon - propane-fed device that emits a controllable flame column or fireball effect, Colored Flame (red and green) - alcohol based fluid is ignited by a propane-fed pilot light, Gatling Gun - propane-fed device that emits a powerful multi-burst flame effect, which can be fired vertically or horizontally, Fire Screen - a modular programmable pixel-based unit, which presents the ability to control various propane flame effects from high to moderate speeds.

- Cryo Effects: Cryo Jets - vertical jets that have the look of giant steam vents, Low-Lying Fog – just what its name implies.

These effects are only used roughly seven times throughout the entire show leading up to the last song of the night when they touch off 280 pyro effects.

Between fog cues that ran all night and a cryo cue, the production uses 26 50 pound Co2 tanks on a single show. The one and only cryo cue took place during the song “Christmas Jam” when four singer/dancers were elevated 15 feet into the air by lifts that came out of the SGPS shop in Las Vegas. Using telescoping technology, the elevators are capable of getting as much as 18 feet of height out of the 6 foot clearance envelope under the stage. As they are in the air, the cryo jets shoot upwards from the stage on either side of each lift.

The aforementioned Gatling Guns were placed on the top of two towers located at the mix position.

When asked if this is a big gig in terms of the amount of effects used in a given show, West Coast Pyro Crew Chief Ron Bleggi took no time to answer in the affirmative, “Oh yeah, absolutely. It’s huge. Especially when you do two in a day.” Because the tour is trying to reach as many people as possible during the weeks leading up to Christmas, the production actually has two completely identical tours running through the country with one touring the east coast and the other on the west. In order to cover the public demands the tour works Wednesday through Sunday with two shows on Friday and Saturday.
This not only means that on the matinee days the floors have to get marked at 5:00 a.m., but also that the pyro crew has a nonstop day. “The real challenge is having that 30 minutes to an hour to reload the second show after the matinee,” said Bleggi. “When we load-in, as we’re setting up for the first show we’re also setting up for the second show.”

Each show runs through 15 20 pound tanks of propane, which, along with the 26 50 pound Co2 tanks, all have to be switched out as the pyro effects in the truss are also being re-set.

The tower elevators at the mix position that have the Gatling Guns also have rotating platforms upon which members of the band perform at two different points of the show. The towers are chain-driven and telescope out to a height of roughly 35 feet using a chain drive mechanism and are lit from below by 12 Color Blast 12 units, eight Volkslicht units and six Vari*Lite VL 3500 Wash FX’s.

The most dynamic parts of the automation package on this tour consists of two mechanical arms that were built into the downstage apron of the stage. Late in the show during one of the most visually active songs, the violin player and one of the guitar players step to the platforms of the arms – which are surreptitiously fitted with protective railings – and the arms tilt up from their anchor point at each downstage corner of the stage and swing out over the audience. Once the arms have cleared one another, they telescope out to a length of 25 feet. As one can easily imagine this places an enormous amount of torque on the base of the 2,800 pound unit. In order to safely account for the stress, the base of the arm is not only tied into the stage, but it is also weighed down with 6,000 pounds of counterbalance weight.

“That’s exactly what we’re looking for. It’s one of the requirements that Paul [O’Neill] laid down in the very beginning,” says East Coast FOH Engineer David Whitman. “We try to keep the volume at a reasonable level so that all people can enjoy the show and be able to comment on the show to those around them. Yet at the same time I want to keep it powerful in order to keep up with the lights. I’ll admit that there were a couple times when the boss [Paul] said, ‘Dave, it’s getting a little loud.’ I’ve been a rocker all my career and sometimes I get a little frisky and he’ll remind me that it’s a family show.”

In addition to being a rocker all his career, Whitman has also been a studio engineer his whole career as well. When TSO first hit the road in 1999, O’Neill came to Whitman who engineered the first tracks and said he wanted Whitman to mix it on the road because he wanted it to be as close to the recordings as possible. “It wasn’t much of a conversation,” said Whitman. “Paul just said, ‘Dave I want you to go out and mix the show.’ I told him that I’d never had any experience in the live environment and he said, ‘Well you mixed the record so you should be able to do it live.’”

As was said earlier in this piece, the fact that this production is trying to get to as many people as possible in the brief couple of months a Christmas show can tour before the end of the year, it places the same challenge on everyone on the team. “The biggest thing we battle
on the tour is routing,” said East Coast Production Manager Jimmy Pettinato. “We typically roll the stage at 4 and a half hours and that’s pretty much the gage. The question we are always looking at is, ‘Can we make a 5:00 chalk – 6:00 load in on a matinee day from our previous load out?’ We can get away with a 6:00 chalk, but anything after that and we start to get a little nervous.”

Both teams – East and West Coast – share one pre-rig package between them. While the East Coast team will only do two pre-rigs on the entire run, the West coast team will do more like eight due to the great distance between cities out west. That being said, there were a number of times when the West Coast team has sent its rigger out on the catering bus – which leaves before the show is over – in order to start chalking the floor before the crew shows up on days when things might be running a bit late.

This schedule can tend to beat on the crew after a while, especially on matinee days. “I see getting a nap during the day as part of my job,” said SGPS Grid Crew Chief Mark McKinney. “There are so many shows cues that require eyes on them and we [the entire SGPS team] are all responsible for that. We have to be alert. We want to keep everyone safe so they can have a good time at the show.”

This show comes out of the gate at full speed and never slows down until the last night. It’s truly a serious grind on everyone involved. In some cases it belies long held standards of the touring industry. One example of this occurred when Elliot Saltzman’s wife Karla, who flies as a Delta Airlines flight attendant, met a touring production manager on one of her trips. When he found out she is married to Elliot a conversation ensued about TSO wherein he insisted, with no small amount of [misplaced] authority, that the tour must be leapfrogging production sets. When Karla explained that there was only one set per tour he condescendingly let her know that she didn’t know what she’s talking about.

The fact is Karla knew exactly what she was talking about. The other fact is that there’s no way an 18 truck production should be able to keep up a schedule of Wednesday through Sunday with two shows on Friday and Saturday without leapfrogging. The answer is the extreme dedication of the people involved who know going into the tour that they’ll be pulling this kind of schedule throughout the holiday season. “You’ve seen the caliber of guys we have out here,” said Saltzman who is very proud of his team. “We have nothing but the best of the best out here. Each department has five department heads in it. Coming out of rehearsals it’s a well oiled machine. And that’s how the logistics of this tour works.”

This show comes at the audience like a runaway train and never slows down before impact. With a little more [audio] volume it could be weaponized. But then that would defeat the reason for the season, wouldn’t it?
TSO East Crew

Clay McGuiness, Chris Hanson, Eric Sewell, Ron Mooney, Gary Collins, Steve Hodges, Elliot Saltzman

Ken Mitchell, Tom Cusimano, Ben Bickel

Jim Perrussin, Jorge Del Ange, Terry Smith, Jeff Rats, Ryan LeComte, Marshall Blair, Glenn Rupert, Mark Abra, Stan Fruege, Suki Dukes

Robert “Kwi” Chase, Justin Dimitri, Jan Sanderse & Al Domanski, Nick Zangari

Wayne Boehnig, Joe Bradley, Kenny Ackerman, Brandon Oosterhoff, Rob Smith

Chad McClymonds

TSO East Laser Crew

Don Hall

Shane Bandy, Daniel Wright, David Medrano, Nate Loftus, Angel Aguirre, Will Gursko, Mark McKinney

Stephen Levy-Mazin, Matt Kuney, Elliot Saltzman, Jim Pettinato, Jeff Snider

Back Row: Kurt Mannhardt, Terry Johnson, Randy Davis, Bob Scheel
Middle Row: Roger Wilson, Stephen Dobson, Chris Freeman, Sam Hammond
Front Row: Pat Mudgett, Nate Thompson, Jimmy Cameron

Bryan Hartley

Elliot Saltzman with wife Karla & Tour Mascot Buddy Saltzman

Wayne Boehnig & wife Karla, Buddy Saltzman

Shane Bandy, Daniel Wright, David Medrano, Nate Loftus, Angel Aguirre, Will Gursko, Mark McKinney

Don Hall

TSO East Laser Crew

Elliot Saltzman with wife Karla & Tour Mascot Buddy Saltzman

Shane Bandy, Daniel Wright, David Medrano, Nate Loftus, Angel Aguirre, Will Gursko, Mark McKinney
West Band  
Musical Director - Al Pitrelli  
Keys - Jane Mangini  
String Master - Asha Mevlana  
 Bass Guitar - John Lee Middleton  
 Guitar - Angus Clark  
 Keys - Vitalij Kuprij  
 Drums - John O'Reilly  
 Narrator - Philip Brandon  
 Singers: Jeff Scott Soto, Andrew Ross, Dustin Brayley, Nathan James  
 Singers / Dancers: Chloe Lowery, April Berry, Jodi Kain, Dari Mahant, Ava Davis  
 West Crew  
 Tour Manager: David “DC” Comeau  
 Production Manager - Jeff Boguski  
 Production Coordinator - John “JD” Dlacich  
 Road Managers: Rick Fagan  
 Assistant Road Manager - Paul Serio  
 Stage Manager - Joeli Dennis  
 Production Assistant - Russ Martin  
 Drum Tech - Ron Hine  
 Guitar Tech - Chad Zaengisch  
 Guitar / Keys Tech - Eric Gorinly  
 Lighting Director - Dan Cassar  
 FOH Engineer - Michi Tanikawa  
 Head Rigger - Russell Keith  
 Riggers: Jimmy Vaughan, Ryan Floyd  
 Head Carpenter - Scott Wendland  
 Carpenters: Dana Vacari, Kevin Hale, Minh Nguyen  
 SGPS Grid / Crew Chief – Edward “Sunny” Oder  
 SGPS Grid Techs: Colin Nevins, Zachary Purcell, Alex Dew, Mike Burgess, Steve Davidson, Chad Brouillette  
 Epic Lighting / Crew Chief - Kevin Tyler  
 Epic Lighting Crew: Daniel Brooker, Brad Wagg, T.J. Benton, Ben Backbowe, Pete Hulin, Tony Ceresaudo, Travis Edwards, Alan Gregg, Paul Mundrick  
 Chaos Video Crew / Chief - Rusty Wingfield  
 Chaos Video Crew: Jon Schulman, Jeff Gainer, Johnny Hayes, Randall Garrriott, Chris Campbell, Steve Burkholder  
 Clair FOH System Engineer / Crew Chief - Dave Coyle  
 Clair Monitor System Engineer - Chris Hoffmann  
 Clair Sound Crew: Ken McDowell, Eric Swanson, Matt Patterson  
 Laser / Crew Chief - Brian Van Trigt  
 Laser Tech - Constance Bedoret-Kollen  
 EFX Tech - Paul Cusato  
 Pyro Crew Chief - Ron Bleggi  
 Pyro Shooter - Adam Bisouw  
 Pyro Crew: Tim Bolin, Gregg Pearson, Eric Muccio  
 Merchandiser - Rich Koffer  
 Lead Bus Driver: Ty Simmons, Bus Drivers: Jerry Burnsied, Joe Mooney, Kerry Wittington, George Aldrich, Tim McWilliams, Steve Headley, Scott Scealy, Robert Reddick, Richard Snipes  
 Lead Truck Driver - Cody Chase  
 Truck Driver s: Gary Stembridge, Alex Marronday, William Ferguson, Robert Aragon, Chip Parkinson, Danny Frederick, Jeff Von Behren, Paul Fyffe, Frank Russ, Shawn Wilkenson, Ron Dollar, Keith Hanley, George Crainfield, Scott Leblanc, Don Brown, Malcolm Ball  

East Band  
 Musical Director: Derek Wieland  
 Narrator: Bryan Hicks  
 String Master: Roddy Chong  
 Bass Guitar: Chris Caffery, Joel Hoekstra  
 Bass Guitar: Dave Zabolowdys  
 Drums: Jeff Plate  
 Keys: Leci Butler  
 Singers: Rob Evan, James Lewis, Jay Pierce, Chris Pinella, Kayla Reeves  
 Singers / Dancers: Georgia Napolitano, Natyala Piette, Autumn Guzzardi, Erika Jerry  
 EAST CREW  
 Tour Director - Eliott Saltzman  
 Production Manager - Jimmie Pettinato  
 Production Coordinator - Jeff Snider  
 Road Manager - Jimmy Pendolino  
 Assistant Road Manager - Matt Kuney  
 Stage Manager - Steve Roman  
 Production Assistant - Stephen Levy Mazin  
 Drum Tech - Imy James  
 Guitar Tech - Kyle Sabel  
 Guitar / Keys Tech - Kris Leprugage  
 FOH Engineer - Dave Wittman  
 Lighting Designer - Bryan Hartley  
 Head Rigger #1 (10/27-11/26) - Bobby Carrell  
 Head Rigger #2 (11/27-12/21) - Ken Mitchell  
 Riggers: Tom Cusmano, Ben Bickel  
 Head Carpenter - Jack Dettering  
 Co-Head Carpenter - Adam Biscow  
 Carpenters: Steve Robinson, Rick Ortega  
 SGPS Grid / Crew Chief - Mark McKinney  
 SGPS Grid Techs: Angel Aguirre, (PRGM)  
 Dianiel Wright, Will Gurski, David Medrano, Nate Loftis, Shane Bandy  
 Lighting / Crew Chief - Jim Petrusson  
 Epic Lighting Crew: Jeff Railes, Jorge Del Angel, Mark Abra, Terry Smith, Ryan Lecomte, Marshall Blair, Michelle Dukes Stuki, Glenn Rupert, Stan Fruge  
 Chaos Video Crew Chief - Kenny Ackerman  
 Chaos Video Crew: Brandon Oosterhoff, Wayne Boehning, Chad McClymonds, Brent Crawford, Joe Bradley, Rob Smith  
 Clair FOH System Engineer / Crew Chief - Jim Ragus  
 Clair Monitor System Engineer - Scott Fraser  
 Clair Sound Crew, Jason O’Dell, Robert Taylor, Rachel Stremke  
 Laser / Crew Chief - Jason McEachen  
 Laser Tech: Jason Bridges  
 EFX Tech - Nick Zangari  
 Pyro Crew Chief: Jan Sanderse  
 Pyro Shooter - Reid Schulte Dema  
 Pyro Techs: Justin Dimm, Robert Chace, Al Domanski  
 Merchandiser - Don Hall  
 Lead Bus Driver: Production: Chris Hanson  
 Bus Driver BL: Pyro, Gary Collins  
 Bus Driver-Riggers/Carpenter/Lasers: Clay McGauness  
 Bus Driver-Lights: Steve Hodges  
 Bus Driver-Video/Sound: Eric Sewell  
 Bus Driver-SGPS/Sound: Ron Mooney  
 Bus Driver: Mike Lee  
 Bus Driver Band: Jerry Rutland 11/11-25  
 Bus Driver Band: Brandon Bowles 11/26  
 Bus Driver Singers: Phil Hipsher  
 Lead Truck Driver - Ben Pinel  
 Truck Drivers: James Johnston, Bob Scheel, Kurt Mannhardt, Sam Hammond, Pat Mudgett, Chris Freeman, Stephen Dobson, Jimmy Cameron, John Ruiz, Chris Ball, Randy Davis, Nate Thompson, Adam Morris, Roger Wilson, Terry Johnson Joe Parker  
 Catering Crew: Mark Metzger, Sue Poe, Dave Morrison, Robert Rupert, Jason Hovan, Chris Genovece, Jake Johnson, Jacob Bruckner, Ben Yarger, David Suzuki  
 Catering Production: Shane Huebner  

Angel Aguirre, Steve Robinson, Brian Bassham, David Madrano, Rick Ortega, Jack Dettering  

Steve Roman  

Randy Davis, James "JJ" Johnston  

Kyle Sable, Kris Lepurage, Imy James
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Barbara Streisand

Bab’s Dream Team is in the House

Mobile Production Monthly pulled into the MGM Grand Garden Arena in Las Vegas hearts aflutter at the dream team we were there to see. The crowd arriving in a few hours was there to see a singer named Barbara, but we were there for the team that made the show happen. Chris, Kevin, Ian, Steve and Blake.

Yep, it’s a Streisand tour, something that happens pretty rarely. When she jokes with guest star Chris Botti during the show about him doing as many shows in a year as she has done since 1963, it’s not a joke. We counted. (Thanks Wikipedia). After an aborted run in ’66 and 26 years away from the stage except for specials and one-offs, there was a tour in ’94, one in 2000 and one in 2006 prior to this run. About 75 dates total with a box office of right around $250 million. Take that, U2.

“You’ll notice we have a fairly high ticket price.” That’s how FOH engineer Chris Carlton started our interview. And it was appropriate because that fact does drive some of the system design. The MGM is a small-ish arena (17K max) and we’ve seen a lot of shows there. But this is one of the few where we saw an extensive system of delay speakers set to make sure that every word the singer sang or uttered was as clear for those in the “cheap” seats as it was in the front row. That clarity and coverage have been part of the formula since Babs first hit the concert stage again after a quarter century away.

For the 1994 tour, Streisand turned to Bruce Jackson—engineer extraordinaire for clients including Elvis (six years) and Springsteen (a decade), system designer and recipient of awards for his work in developing technologies that touch every part of the live audio world—to build a team that could serve two masters. First, the boss. Back in ’94, Streisand had a reputation for pretty extreme “butterflies” onstage. Making her totally comfortable was a huge challenge that entailed using technology of nearly two decades ago to create a completely controlled environment onstage.

Boss 2: The audience that is paying premium prices even in the “cheap seats.” Creating the best-sounding show money could buy from any seat means this is not just another rock show. Example: At the MGM show, the entire arena floor had been carpeted at substantial expense.

Jackson had been out of the touring game for more than a decade. After finishing his time with Springsteen, he founded Apogee Electronics out of his garage in Santa Monica and the digital converter technologies he developed had made its way into virtually every piece of pro-level digital audio gear made. Getting him back on the road took a bit of convincing, but he agreed because he was offered a once-in-a-lifetime opportunity to work with a client who insisted on the very best audio possible regardless of expense.

Jackson built a team that included orchestra mixers Chris Carlton and Kevin Gilpatrick and the core of that team was in place for the 2000-2001 tour and with the addition of monitor mixer Ian Newton for the 2006 outing, the Dream Team was in place. Then in early 2011 an unthinkable event broke that team up.

Jackson was an avid private pilot who would occasionally just “take off” without a real agenda or itinerary. Death Valley was a favorite destination. This writer remembers the morning of Feb 1, 2011 in the waning days of my tenure at another magazine getting a phone call about a rumor that Jackson’s plane may have gone down near Furnace Creek several
days earlier. Tragically, the rumors turned out to be true and at just 62 years of age, the audio world lost one its pioneers and leaders. And Team Streisand was short its captain.

When planning began for this tour Carlton moved to the captain’s chair and Gilpatrick moved to Carlton’s’ old slot as the house “right hand man.” The team is rounded out by monitor guy Ian Newton who mixes for Barbara only on a DiGiCo SD7 and Blake Suib mixing monitors for the band and orchestra on an SD10. Backstage—also on an SD10—is Steve Colby mixing the orchestra and sending section stems to both the house and monitor positions.

That dream team line is no joke. Carlton and Gilpatrick work together on gigs like the Winter Olympics. Ian Newton is doing this tour while on break from handling monitors for Roger Waters’ The Wall tour. We last ran into Blake when he was mixing house for Britney Spears and monitors for Barry Manilow’s Vegas headline show. When he’s not touring with Babs, Colby has a gig with a little local band called the Boston Pops. He’s worked with them for the better part of four decades and has been the only guy doing their sound on tour for the nearly two decades that Keith Lockhart has been the Pops’ conductor. In a 2008 interview Lockhart said, “I can’t imagine there’s anybody better in the business for doing live sound orchestrally in the kind of varying spaces and circumstances we work in. Anybody can get it right if you give them enough time and enough money…”

The big tech news for this tour is that FOH, monitor and broadcast recording engineers shared the 170+ inputs, generated from one central SD system rack—comprised of four DiGiCo SD Racks—and linked solely by a DiGiCo/Optocore 2GHz fiber optics network running at 96kHz.

“We’re very proud of our giant SD Cadillac of Love. We’re childishly, inappropriately proud of it.” That’s how Colby put it. Carlton was a little less colorful. “In the past, our system involved a lot of analog splits and another digital console, which worked well for us, but this is a much better, streamlined solution for having multiple mixers online with no passive splitters involved. Having an all-digital fiber optic distribution network ensured that we had no additional unwanted loading on the microphones, too.”

While the gear has been all about consolidation, in terms of work load, this tour bucks the trend of “everyone has three jobs” that has become all too common in the touring world. Originally, the EX-007 expander at house was just meant to be a kind of “sidecar”—additional faders for Carlton. But as planning for the tour proceeded, the huge number of inputs that Carlton had to manage plus the fact that the EX-007 has the ability to either be an extension or to mirror the main SD7 console, they decided to bring Gilpatrick out to assist with the house mix. “This way Chris could pay attention to the overall mix and do most of the heavy lifting on his side, and I could monitor little things, change or
Sound

save presets, and fine-tune different things on the EX-007 without affecting what he’s doing,” Gilpatrick said. “It’s almost like there’s two separate consoles out there and it worked seamlessly.”

Next, we head backstage with Colby who is used to running a ton of inputs. The Star Wars Live tour he did with the Boston Pops boasted 160 inputs all mixed from one position. “It was a chore,” he recalled. While this tour runs more total inputs (actually coming close to maxing out the I/O capabilities of the system), the work load has been spread around allowing for some specialization among the five engineers. “We’re taking all of the mics from the orchestra and breaking them down into submixes that go off to other mixers in the system,” Colby explained. “So Chris is taking my string stems and mixing with other discrete channels, and I make five stems that are sent off to Ian on monitors for Barbara and to Blake on monitors for the orchestra. We’re basically taking the first wave of huge chunks of inputs and cutting them down into something manageable, making lots of subtle mix changes from song to song that we hope will make a difference out front. I’m thinking about what it’s going to sound like in the room; how I can help Chris by giving him something consistent to work with, bumping up solos and things of that nature, so he doesn’t need to worry about it. I listen to that and then I also listen to the other stems at the same time from a monitor standpoint. The matrix capability lets me set up a different listening mix on every song, so it helps me to stay honest to the boys that I’m providing feeds for. Having a really deep snapshot automation that can drill all the way down into the matrix inputs and levels is incredibly powerful.”

And that flexibility is important. Every tour has last minute changes, but Streisand does everything big. Including the twists. At literally the last minute it was decided to add an 80-voice choir to the final part of the show. The depth and flexibility of the DiGiCo system made that possible. “We were able to adapt and suggest a few different solutions,” Carlton said. “I could add an additional 20 inputs to cover the choir with plenty of space to spare.”

Under the stage, Suib is flying largely blind (except for a video monitor) mixing for the band and orchestra. His SD10, run in conjunction with an Aviom system, is used to generate submixes that are fed to the string section’s in-ear monitors or to various band members with their own adjustable Aviom rigs. The idea for all of the mix engineers to share stage racks and preamps was new. While gigs like award shows often use this kind of shared arrangement, it is virtually never seen on a tour. “In my 30 years in this business, I’ve never had to consult with anybody on any setting on my console. But on this tour we have had to make agreements between all of us about some basic starting-point levels. We were able to set the input gains on the first day, make maybe a couple of tweaks here and there for the different zones, and were able to lock that down. Each engineer could change his own Digital Trim to boost or reduce the level on the discrete channel. It’s worked really well, and in the end, was definitely worth it because of the amount of inputs we have.”

While Suib has his hands full taking care of monitors for the entire band and orchestra, Ian Newton has just one person to worry about. She just happens to be the most important person in the house. Newton has handled monitors for both Streisand and her special guests since 2006, feeding a stereo mix to 40 pairs of stereo wedges around the stage. The idea is to keep the boss happy and able to hear wherever she is onstage and at the same time keeping outside audio sources from blowing into the orchestra mics. After all, it makes little sense having $40K+ in DPA mics on the orchestra (the same package Clair provided for the recent Sting outing with the Royal Philharmonic mixed by Howard Page) if they are not going to get a clean signal to begin with. Newton is a man of few words. We asked what was the coolest thing about the gig and he replied, “The coolest thing is that I am out here and not sitting at home unemployed. I’m not doing anything groundbreaking here. My main challenge is keeping an eye on Barbara all night.”

When the Barbara show hit the road again, Jackson designed and configured gear especially for her. Those designs and configuration were created specifically for her with no real worry about if anyone else would want to use them. An example for monitor world: Those wedges Newton is chasing Barbara around the stage with are custom jobs designed by Jackson with soft dome mid and high frequency drivers. Yes, boys and girls, no compression drivers. This is not about huge SPL and trying to compete with a bunch of screaming stacks and a rocking drum kit. It’s about consistent and quality sound and a comfortable star onstage. And the monitors sound fantastic. For Barbara, Carlton has tried to take them out with other clients who are notorious for demanding the best possible sound, including Seal and so far, no takers. A top-notch Brtuce Jackson audio innovation that sits in the Clair shop when Streisand is not touring.

Those monitors are actually a decent analogy for the whole tour. This is not about big and brassy and loud. It is about smooth, even and consistent. This is not a situation where an engineer is using technology to make up for talent shortcomings on stage (come on, we have all been there...). This is about one of the greatest singers in the history of pop music backed by some of the best musicians in the world playing timeless music for the ages. “With this kind of music, we are trying to represent it as naturally and organically as possible,” said Carlton. “We’re not doing a lot of processing. Just a little bit of compression and some high pass filters are all that are required to get us where we need to be. We
are using quite a few DPA microphones on the string section of the orchestra and high-end Beyer and Milab microphones on the rest of the orchestra. As far as for Barbara, I have an outboard Summit Tube Compressor on her vocal and a TC6000, but for the most part, I’m using onboard dynamics and effects for everything else.”

Moving away from console land, the PA is an i-5 line array rig provided by Clair Global. The standard PA configuration is 16 x i-5 as the main left and right, with an additional 12 power side as outfills plus 10-deep hangs of i-3s as rear-fills. Positioned underneath the stage were four i-5b subwoofers to add a little bit of low end for first few rows. Additionally, there were approximately 10 FF-3 front fill cabinets spaced across the front of the venue, and they were employing a delay system of six clusters of a two-way i-DLcab.

“Chris places a strong emphasis on making sure the frequency response is really even across the front of the audience,” explains Weibel, “ensuring it is consistent even as you move from front to back. We spent a lot of time focusing on that. The addition of the delay system added a tremendous amount of clarity and vocal presence in the back of the arena. It was a great amount of work to install but it was worth it.

“Most groups wouldn’t be carrying delay speaker systems because it takes a lot of time, additional cost and extra effort to set up,” adds Carlton, “but because this is Barbara we wanted every seat to have the best sound possible.”

All the speakers are driven by Lab.gruppen amps which are in turn fed via the AES digital inputs from the DiGiCo SD stage racks. And everything has an analog backup. All of the amps are set up so that if there is no signal on the digital input, it automatically switches over to the analog option. At least that’s the plan if it ever fails which did not happen on the 12-show fall leg of the tour.

Will there be more Streisand shows? Maybe. She tends to do a tour about every six years and said during the show in Vegas that she intended to sing as long as she was physically able to. At age 70, the schedule would seen to call for another tour at age 76 in 2018, and a lot can happen in that much time. If there is one thing that Carlton learned from his mentor Bruce Jackson it was to do it right every night because there may never be another chance, an attitude that Jackson’s untimely death drives home. “The amount of things that Bruce Jackson shared with us over the years is staggering,” Carlton said. “One of the highlights of my career was working with him; it was a pleasure. Carrying on his legacy with Streisand, we’re trying to keep pushing that as much as we can. One of the most important things I learned from him was about thoroughness: nailing down every detail you possibly can to make it right, no matter what, and I believe we are doing just that with the Streisand tour. I think we’d make Bruce proud.”

Links:
Carlton Audio Services: www.carltonaudio.com
Clair Global: clairglobal.com
Epic Productions (lighting): www.epicpt.com
Peter Morse (Lighting Designer): www.petermorse.com
Screenworks (video display solutions): www.nepinc.com/welcome/screenworks
Streisand official site: www.barbrastreisand.com
Tait Tower (set and staging): www.taittowers.com
Each year, manufacturers present the live event audio industry with new and more sophisticated tools. Line arrays have become the speakers of choice for most touring productions. Large and medium format systems have evolved and improved with second, and in some cases even third generation versions being introduced. Because the initial offerings of line array technology were focused on the aforementioned large and medium format systems, small format line array packages are in great demand.

With that in mind, Clair Global has recently introduced the iMicro system. The three-way unpowered enclosure is loaded with JBL off the shelf drivers (one eight inch speaker each for lows and low mids plus a HF compression driver).

“We were going after something lighter, more compact and better suited for smaller applications,” Kelsey Gingrich, Clair Global Engineering Coordinator explained. “We wanted to take our years of experience learned through other PA designs and put that toward a smaller design. Our main goal was to combine great audio, ease of use and flexibility.”

Mobile Production Monthly recently spoke to Gingrich to find out more about the iMicro. “The iMicro Series design project started with collaboration between a number of Clair staff. We knew we could make a great sounding box, but we wanted it to be flexible and easy to use. To bridge the gap between road use and design, several of the top names in live sound mixing were involved throughout the project. It was a collaborative effort between a team of experts with diverse skill sets. To be able to see one person’s good idea turn into a great idea once it came through the group was an exciting process.”

Flexibility was high on the Clair wish list as these smaller boxes would be used in many different applications. Gingrich explained, “A big focus was being able to change the horizontal coverage pattern of the highs easily. This was accomplished by using ‘hornserts’: a small wedge that is inserted into the horn. The standard horizontal HF coverage is 120 degrees. This can be changed to 80 or even 160 degrees by removing the front speaker grill and inserting or removing the appropriate hornsert.
They are held in with magnets and captured by the grill frame which gives the user the ability to change the coverage of an entire PA in a matter of minutes without any tools.”

Gingrich tells us, “In addition to conventional hanging line array deployment, a number of other options are available. Single boxes can be placed on the stage edge for front fills, and arrays can also be ground stacked. Built into each box are six threaded mounting points which allow for a number of different mounting methods. Deployment of one or two enclosures can be accomplished with the quick release Cheeseborough truss mount or the adjustable angle pole mount. Also, a rotatable yoke mount for hanging up to four cabinets is available.”

Another top priority in the iMicro design process was making it easy to use. Gingrich explains, “Through careful material selection and plywood pocketing, the per cabinet weight was reduced to 53 pounds. We wanted to make it possible for one person to be able to handle one or even two boxes easily. The handles on the back are molded out of a rubber material that allows them to also serve as protective bumpers. A lot of time went into this design to optimize the fit, grip, and location. Their placement makes it easy to move the box into position using one hand while pinning the array with the other. The handles are also really useful when the boxes are packaged for a front fill application. They are cased face down and the rear positioned handles allow for easy removal.”

“One of the goals in making the iMicro small and light was to maximize use of truck space. Both dolly and case options are available. The three-piece case is able to hold two or four cabinets in several different configurations. One or two layers of two boxes can be stored face down, which is ideal when they are not arrayed and used individually. The case also accommodates a column of four cabinets vertically connected with the top grid and ready to hang. The other option is a tray dolly that allows connected cabinets to travel two, four, or six high. Up to twenty-four cabinets can fit in a single row making a very efficient truck pack.”

Gingrich points out that a great deal of time and effort went into the audio capabilities of the iMicro. “After a vetting process evaluating many products from different speaker manufacturers, JBL components were selected. Extensive effort was spent on low-end design and we went through various prototypes and internal shapes. We designed the porting to allow for optimal air movement. The low end extension we achieved has put us in a place where there will be applications where users can use these without subs.”

“Another part of the audio design was spent on the grill and grill frame. Sometimes the grill is seen as an unnecessary part that is added at the end of a design to protect the speakers. We started thinking about this at the beginning of the project so that it could be fully integrated. Significant time was spent on maximizing airflow through the grill to optimize low-end performance. In the final design the grill frame adds critical elements to the porting along with extending the horn bell to eliminate edge diffraction.”

Ian Anderson of Jethro Tull is currently touring with a Clair provided audio package including twenty-four iMicro cabinets. We recently saw and listened to the package at the Fox Theater in Detroit. Clair Systems Engineer Chris Nichols showed Mobile Production Monthly the cabinets as he assembled them into two arrays of twelve and set the correct angles based on his modeling software. Using one hand to position each box, he was easily able to lock the boxes in place. On several cabinets he loosened two thumb screws, removed the grill and installed hornserts optimizing the horizontal coverage of the system to the venue.

Supplementing the iMicro cabinets were six Clair subwoofers, (three per side) plus front fills on the downstage edge. Later, after flying the arrays to trim height, he tuned the system. Lab
Gruppen amplifiers provide power and their internal Lake DSP provides speaker processing. Nichols was able to walk the room carrying his laptop and make minor adjustments to tweak the coverage. Later, Anderson FOH engineer Mike Downs mixed the soundcheck. The two columns of twelve iMicro cabinets did an excellent job of providing high quality even coverage throughout the almost 5,000 seat theater. Expect to hear more from these new iMicro cabinets from Clair.

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