

PALMTM technology

SOUND & STAGE • LIGHTING • INSTALL SOUND • MUSIC PRODUCTION • DJ TECHNOLOGY

A Note from the Editor:

2017 REDEEMS BIG STAGE RENTAL. BUT THE STORY IS SMALL. FURTHER GROWTH AND EXPANSION IS THE STORY IN 2018

A non-defining listing of pro sound and lighting products impacting the global market

Features:

- **FOHrecast**
Top engineers weigh in on the present and future of live sound consoles
- **FOH - What's in my House**
with **Rahul Samuel**
- **ON TOUR** with
Pramod Chandorkar
- **NJSM elaborates on**
Going Big with Smaller Boxes



Ed Sheeran

"The Shape of the Divide
World Tour" in India



Product Focus:

- **The Sound of Music**
Line-up of Stage Microphones

- **Mixing it up for the Live Stage:**
Line-up of Touring Consoles

FOH ISSUE

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2017 redeems big stage rental. But the story is small. Further Growth and expansion is the story in 2018.

This last year has been rather redeeming for the big live acts. Just to recap – Justin Bieber; Ed Sheeren, UB 40, Dream Theatre, Macklemore, Marky Ramone, Chainsmokers, A R Rahman, Arijit Singh, Kygo. A mix of genre - punk, rap, edm, pop, R& B, folk. Then jazz at the Mahindra Jazz festival plus the regular festivals –Sunburn, Supersonic, Magnetic Field. This list more or less sums up the action. The big five rental companies are Sound.com, SNL Pro, Electrocraft, LED Solutions, J Davis & Sons. The year has gone well with kudos for Indian sound and light engineering from the big international acts. Inventory has been praised. However, one must view the reality in the scene being rather modest at this point.

Modern inventory and mojo from new crop of FOH engineers

My thoughts are on new energy and investment - A much more modern inventory with the best of the best on offer here [at least in Mumbai, the entertainment capital!]. I wonder how much scope presents itself in respect to the big stage business. The action from 2017 isn't as promising to warrant major purchase of the best and latest in line array, sound-reinforcement, lighting, trussing. The issue at the top-end of the pyramid is return on investment. Plain speak is that there aren't yet enough acts local or international though we can surmise at best the going is getting better. So the market here is yet to grow and mature. But entertainment isn't the only source, in India corporate, devotional, government and other stage activity offers equal if not more opportunity for rental.

Top FOH talent forecast

Grow it will in 2018, and sharply is what PT predicts. In tandem with the economy, 2018 will see major growth in investment into inventory and new kids on the block with mojo and aimed at the entertainment market to sustain business. FOH engineers will drive this new course.



Anil Chopra - Editor, PALM technology magazine (l) and Smita Rai - Managing Editor, PALM technology with the newly appointed PT DJ Editor - Reji Ravindran

manufacturers in their product literature and marketing and advertising. Our philosophy since inception has been “putting technology in place, motivating the market”. It gives me great pleasure to present the 3rd TOP 50 list. Cheers!

Alert! March April 2018 will feature a preview of the 18th PALM EXPO. Special pages will list only new product on display by exhibitors. Booth nos will also be published. Attract visitors with a clear purpose from across the country to your booth. See page 99 for the deadline to submit product information. PALM Soundscape conference is previewed [page 92]. PT editorial team alongwith our new team member Reji, have put together PALM Soundscape programme. Reji joins PT's edit team. I am glad in his doing so. It's eight years now since we have been working together on PALM DJ Championship and the Soundscape. Reji joins our eminent columnists whose dedication has given PT so much knowledge. Warren D'souza, Viraf Pocha, Pramod Chandorkar. I take this opportunity to thank them for their belief and support to our industry media to share and contribute to its growth and knowledge. Cheers again!



FOHrecast-Top engineers weigh in on the present and future of live sound consoles [page 70] puts the spotlight on outstanding talent in India that spoke to PT. 15 top names who give insight to their wish list of features on the new age FOH console.

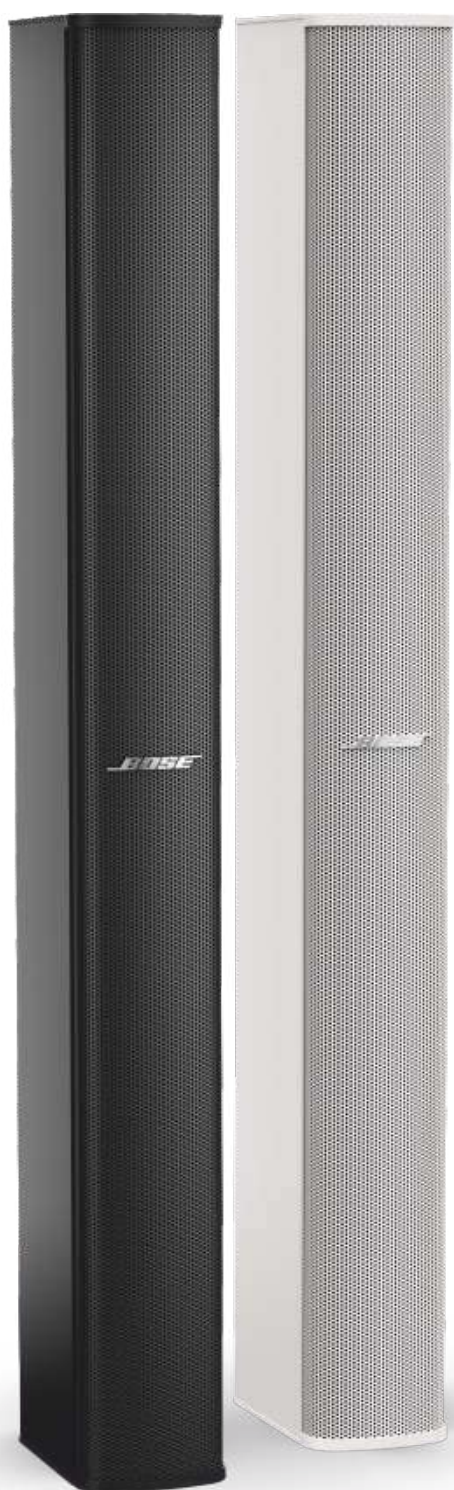
The irony though is whichever feature does materialise on which ever console it will be Audiotonix, the maverick firm that has snatched all the big console brands without a worry – SSL, Allen & Heath, Digico, Calrec. I wonder why would Audiotonix see sense in owning a string of brands in the same tech.

Pro Audio industry in on a wave of implosion. While every other day we have a new speaker brand. Console brands take a life time or two to establish and its dismaying to see them all gobbled up like this.

3rd TOP 50 Pro Sound and Pro Light Products 2018 presented after comprehensive research by PALM Technology editorial team. The annual evaluation of new product is very well received by industry as well as professional users as a benchmark that speaks about product innovation and features that define both practical usability and utility. The list in 2017 evinced much appreciation from manufacturers who wished to promote product selection on PALM Technology TOP 50 list. This is now possible with the logo design pictured on this page that can be used by

Anil Shiv Raj Chopra - Editor

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Product Focus on Stage Microphones

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Opus Night Club Bangalore installed QSC WideLine 10; Powersoft Duecanali 804 and Duecanali 4804 systems; QSC Ceiling-Mount Loudspeaker; Mackie pulsates the Dance floor at Fisco Restobar; Sun Infonet to Distribute Meyer Sound; Celestion driver range; Adamson Point Source Models; Meyer Sound Ashby Series; Eaw Amplification And Processing Solution; Allen & Heath Dante Domain Manager; Just Audio at Por Do Sol Beach Lounge; NEXT-proaudio installed and small portable Matrix Series.

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ADAM Audio new Near field Studio Monitors; HARMAN Professional Solutions JBL 3 Series MkII; Audient iD44 audio interface; Aston Pop Filters & Shockmounts; ME Audio ADI-2 DAC; Focusrite Clarett Sound on USB, Antelope Audio Breakthrough Bundle; Focal Shape Twin; API 529 Stereo Compressor; sE Electronics and Rupert Neve Designs Flagship Multi-Pattern Tube Condenser.

80 Lighting

Mark Larcombe joins ETC; Chauvet Ovation LED Followspot; Paul Wong Avolites Managing Director's Role; PR Lighting XLED 6019; Control Products from Elation Professional; Chauvet Freedom H1; High End Systems Hog 4 V.3.8.0; MA Lighting grandMA3; ADJ Lighting Shipping Vizi CMY300; Pixelflex and Vectorworks, led display technology; Frank Hoehn SGM Global Sales Manager.

95 DJ Technology

DJ Championship Director Reji joins PT editorial team; Reeloc KUT; Pioneer Lighting Mode Rekordbox; Korg Volca Mix; Audio-Technica DJ Products; Technics Additions to Audio Lineup.



"Sonu ji, is a perfectionist and will work with the band and engineers to the minutest detail" Pramod Chandorkar

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Viraf Pocha ponders on "Equipment - An Investment OR a Liability". "Warning - This a Nerdy article. Even if you find it boring - Read. It may change your view of life," he says.

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Music revenues STREAM ahead: A look at revenue models of the music industry vis-à-vis ways in which audiences consume music in today's digital age

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Fire & Safety at Venues – Where do we Stand: In his first column as PT DJ Editor **Reji Ravindran** writes about prevention of fire and other disasters at entertainment and hospitality venues and an immediate need for fire & safety drills for employees including resident DJs.

94 Stage Sound & Tech

Dummies Guide to Computers for Live Sound Recordings & Audio Applications: **Warren D'souza** elaborates on the genesis of making a good piece of well-built gear, which also includes computers.

// SIZE DOES NOT MATTER! I've always believed that engineering today has reached a stage where smaller boxes can deliver the similar dynamics that a bigger box can. //

Nixon Jhonny, Founder NJSM

74

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SLASH ENTERPRISES NOW GEARED UP WITH DIGICO SD9

Slash Enterprises in Hyderabad has recently invested in a DiGiCo SD9 digital mixing console. It was purchased through India distributor, HiTech Audio Systems Pvt.Ltd., New Delhi.

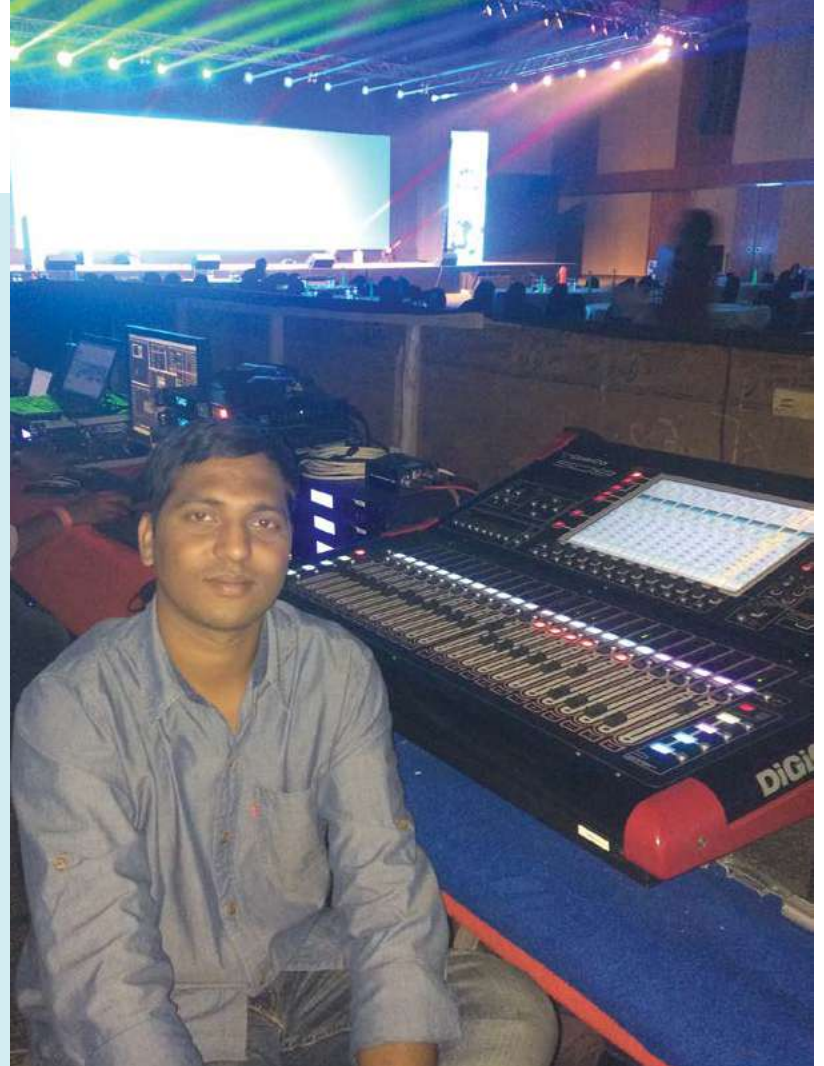
'We were looking for something compatible for our line of work and were introduced to DiGiCo SD9 by HiTech. I was awestruck by the features of the consoles and instantly loved everything about it,' says **Ronald Daniel**, owner of Slash Enterprises.

Slash Enterprises was found by **Francis Daniel** who used to handle DJ events for weddings and corporate shows. With time the company expanded its sphere of work by mixing for live bands as well as church events. Francis's younger brother Ronald Daniel joined the team and gave a new vision to the company. With the help of advance technology and cutting-edge equipments, Slash Enterprises joined the big names of

Hyderabad's audio rental industry.

Whilst Ronald has experience as a sound engineer, now his rental company- Slash Enterprises has various clients for live mixing. 'Mostly I mix for closed space venues to open air live shows. The audience footfall varies and the needs of artists are more demanding. For this array of shows, ease of use is a prime consideration in my console choice. And DiGiCo SD9 is a perfect choice for my scope of work,' says Ronald.

So what makes DiGiCo SD9 a class apart and a whole generation ahead? The groundbreaking SD9 boasts 96 Channels at 48kHz/96kHz. Standard channel processing, whether inputs or outputs, includes Channel Delay, Single and Multi Channel Presets, Dual insert points, Hi- and Lo-pass filters @ 24dB/octave, four-band dynamic parametric EQ with band curve selection, DiGiCo's DYN 1 (Compressor, De-esser or Multi Channel Compressor) and DYN 2



Ronald Daniel with DiGiCo SD9

(Gate, Compressor or Ducker).

The console also offers 155 Dynamic EQ processors, all of which

can be assigned to any of the input or output channels. Plus there are also 155 Multiband Compressors, 155 DiGiTubes, 16 gangable 32-band graphic EQs, 12 stereo effects (selectable from a palette of 33), and 12 control groups (VCAs) that enables user to work with flexibility as well as provide precise control. Moreover using snapshots feature, engineers can now switch between complete configurations in any live environment. Beside these, SD9 has an array of features that makes it the most preferred console among industry's best.

'Team HiTech are always quick on their feet for any kind of troubleshoot and training. Moreover their experts have provided me the much needed technical support for DiGiCo SD9 console during a live show. It was a wonderful experience to work with team HiTech,' says Ronald.

'We are proud to associate with Slash Enterprises and believe in providing best customer support. It's a value addition step for Slash Enterprises by investing on DiGiCo SD9. We hope that in future we can enter new business venture with Slash Enterprises and ascend the peak of success together,' concludes **Rajan Gupta**, Managing Director of HiTech Audio Systems Pvt. Ltd.

BETA THREE AUDIO INDIA TO FOCUS ON SALE AND SERVICE OF PRO AUDIO EQUIPMENT PAN INDIA

Beta Three Audio India specializes in Sale and

Service of Pro Audio equipment PAN

India. The principal company Beta Three was originally founded in 1988 in Dongguan, Guangdong, China by 3G Audio. Beta Three China has nearly 30,000 square meters of manufacturing capacity, 700 skilled workers and 71 experienced engineers, primarily engaged in R&D, manufacturing and promotion of professional Audio Systems and MI products.

Beta Three Audio India will now provide reliable products suitable for many applications where quality audio is required, strong technical support, marketing, and after-sales service to domestic and international customers.

With strong engineering



strength, Beta Three has already completed many large-scale sound reinforcement projects, such as:

- 2008 Olympic Stadiums (Beijing Workers Stadium), China
- Weifang Olympic Sports Center Stadium, China
- National Sports Center of Bahamas
- Jodhpur convention center, Jodhpur, India
- Ambey Valley, Pune, Maharashtra, India
- Leading Clubs & Restaurants in India and more.

In the coming months Beta Three plans to organize launch events at some



of the major cities across India like Delhi, Mumbai, Pune, Ahmedabad, Kolkata, Hyderabad and Bangalore to increase awareness through improved visibility and effective communication with the target audience. Also this will give an opportunity for face-to-face interaction to build trust and credibility and to help buyers make informed purchases.

Beta Three product range mainly comprises of below industry segments:

- Cinema & Theatre Sound
- Commercial Audio
- Installed Sound
- Touring Sound
- Live & Portable Sound
- Professional Amplifiers



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YAMAHA RELEASES NEWEST ADDITIONS TO DXS SERIES OF POWERED SUBWOOFERS

Yamaha has announced the release of its newest additions to the DXS Series of powered subwoofers, the **DXS15mkII** and **DXS12mkII** and the last 2 models of the popular line of PA portable systems **STAGEPAS 400BT** and **600BT**.

The **DXS15mkII** and **DXS12mkII** Powered Subwoofers

The new more compact and lighter weight, DXS15mkII and DXS12mkII are upgraded models of the current DXS15 and DXS12 sub-woofers that have adopted technologies developed for the DXS18.

Both models feature an upgraded 1020W Class-D amplifier and a 15" or 12" powerful woofer, now housed in a sturdier band-pass type plywood enclosure. Able to deliver 3dB higher SPL and 5Hz lower LF than their predecessors, the DXS15mkII can deliver an impressive 135 dB maximum SPL and an extended LF response down to 40Hz, while the DXS12mkII can produce 134 dB SPL and reach down to 42Hz with exceptional clarity and minimal distortion. They also feature D-XSUB original Yamaha proprietary DSP technology for additional control of the low frequency range via

two selectable modes— BOOST and XTENDED LF— as well as a selectable crossover with three different options (80/100/120Hz) for various applications.

For even more portability and versatility than the current lineup, they are equipped with both M20 and 35mm pole sockets allowing for more flexible set up options, as well as an optional wheel kit for more efficient portability and set-up. Yamaha also offers the optional speaker covers with a functional design that provides added protection from unfavorable weather conditions during outdoor performances, dusty and dirty warehouse storage, or the rigors of road travel.

"Live sound reinforcement can present a broad range of challenges for live sound beginners and professionals alike, so we are always paying strict attention to the needs of our customers and how to improve their live audio experiences," said **Yoshi Tsugawa**, General Manager of Yamaha Pro Audio Division. "Working with our sister company Nexo, these new additions to the DXS Series add performance, flexibility and reliability, enabling them to exceed the demands of wider ranges of environments requiring high-quality bass performance and versatility in



Powered Subwoofers
DXS series DXS18 DXS15mkII & DXS12mkII

compact packages."

THE NEW STAGEPAS 400BT AND 600BT

Both the 400BT and the 600BT feature two elegant and lightweight speakers and a removable self-powered mixer, along with a pair of speaker cables and a power cord, providing users with a complete and portable sound solution that can be configured quickly and easily in a variety of configurations and environments. Its Bluetooth feature allows users to transmit audio remotely from a distance of up to 10 meters from the amplifier / mixer unit, allowing musicians, speakers or instructors to have instant access to background music, sound effects or any other audio they choose from their music library.



Producing 400 watts and 680 watts respectively, the 400BT and 600BT offer

STAGEPAS 400BT and 600BT.

a significant amount of output power considering the compact size of the system. Yamaha's powerful DSP technologies ensure that each STAGEPAS delivers consistent high-quality sound at any volume level, while extending the life of

(Continued on page 14)

AUDINATE ANNOUNCES AVIO ADAPTERS SERIES

Audinate has introduced Dante AVIO, cost-effective endpoint adapters that enable audio professionals to easily connect legacy analog and digital audio equipment to Dante networks. This series features six new adapters including line-in and line-out analog adapters, a bi-directional AES3/EBU adapter and a bi-directional stereo USB adapter.

Audinate states that each Dante AVIO adapter acts as a completely independent Dante network device, allowing legacy gear to enjoy the benefits of networked audio. These devices can now seamlessly transmit high quality, uncompressed audio streams over long distances without the noise and ground issues common to analog connections. It also allows for nearly unlimited scalability while

providing incredibly low latency and easy configuration.

"Audio networking has been growing rapidly, but we recognize there are still millions of legacy endpoint devices that could benefit from the flexibility and scalability Dante delivers," stated **Lee Ellison**, CEO of Audinate. "Our new line of Dante AVIO adapters enables live sound engineers, systems integrators and even home recording enthusiasts to easily integrate their audio equipment into a Dante network."

Key Features Include:

The Dante AVIO Analog adapters are available as dedicated inputs or outputs with one or two channels of audio. Analog input adapters allow mixers, mic preamps, stage DIs and more to connect to a Dante audio



network, while analog output adapters are perfect for driving amplifiers, powered speakers or recorders. Long runs of noisy analog cable can be eliminated and all signal routes are managed via Dante Controller software.

The Dante AVIO USB adapter connects any computer to a Dante audio network without additional software, providing class-compliant stereo input and output that can be used by any audio application. Ideal for presentations and conference rooms, the Dante AVIO USB adapter

Audinate Dante AVIO Adapters Series

may be passed between computers without altering networked audio connections.

The Dante AVIO AES3 adapter provides stereo input and output, preserving investments in AES3-connected DSPs, mixers, compressors, preamps and more. Any AES3 device may be fully connected to any Dante network with no degradation of signal due to extraneous D/A and A/D conversion.

Thunder Meets Lightning



LINE ARRAY

L-28 TWO WAY LINE ARRAY 960W



L-210 TWO WAY LINE ARRAY 1300W



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L-218BV2 SUB-WOOFER 4000W



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SUN INFONET HOSTS DLIVE MASTERCLASS

Sun Infonet in association with **Reynold Inc.** Chennai conducted day long Masterclass across two days, focusing on Allen & Heath dLive digital mixer. Organised in the Hotel Radha Regent, Chennai, the programme consisted of complete training regarding the desk's installation, operations and troubleshooting. The dLive S7000 was demonstrated in combination with DM64 Rack to show the advance features and network ability of console using dante network card. This workshop was open for sound professionals, sound engineers and rental companies.

Sun Infonet Product Specialist

and Sound Engineer by profession, **Rohit Reddy** led the sessions, which was attended by Sound Engineers and sound professionals from local sound companies.

Reynold Inc. Chennai has been selling pro audio equipment to sound professionals and corporates since 2013, and regularly conducts workshops in partnership with Sun Infonet.. **Mr. Venugopal**, Branch Manager, Reynold's Inc. commented, "By conducting such workshops, participants keep themselves updated with the latest features of Allen & Heath mixers and also gain hands-on knowledge and experience".

"I was surprised to see the interest



dLIVE Masterclass, Chennai

shown by participants as they wanted to know more and more about dLive" says Rohit.

"The Master Class has definitely fine-tuned in enhancing the technical skill sets of the Participants and also has kept the participants' abreast with the evolving technology. commented by the participants from Media Power,

Kumar Audio and Anitha Audio."

Riding on the success of the workshop, Sun Infonet & Reynold Inc. will conduct similar events more frequently in the coming future, ensuring that industry professionals are continuously updated on new technologies & innovations.

AHUJA ANNOUNCES LAUNCH OF NEW HIGH PERFORMANCE DUAL 12" LINE ARRAY SPEAKER SYSTEM

AHUJA has announced the launch of a high performance dual 12" line array speaker system ALX-11000. Each module comprises of two powerful low-frequency drivers and a high quality high frequency driver to deliver natural, intelligible and clear sound in a variety of music & speech applications. With power rating of 1000W (RMS) and impedance of 8 ohms, ALX-11000 delivers the required power for stage / live events while keeping the cost of operation minimal.

ALX-11000 has been designed in-house by AHUJA's R & D engineers to provide controlled & coherent coverage pattern with excellent high frequency response. It offers 1200 horizontal coverage and 100 vertical coverage with various splay angle

options – 00, 10, 20, 30, 40, 50, 60, 70 and 80.

In addition to two powerful woofers, each module comprises of a powerful 1.5" exit high-frequency driver with a waveguide horn for constant curvature line array system. And to top it all ALX-11000 boasts of strong, well braced & resonance free speaker cabinet in durable paint finish and heavy duty steel grille with acoustically transparent foam to protect speakers from various adverse working conditions.

Simple rigging arrangement ensures quick & secure installation. A sturdy and rugged flybar frame AHUJA



With power rating of 1000W (RMS) and impedance of 8 ohms, ALX-11000 delivers the required power for stage

ALX-11000 is a perfect blend of legendary AHUJA reliability at most affordable price and ultra-modern aesthetics making it an obvious choice for a wide variety of applications

including fixed Installations, Rental, Djs and Live Sound Reinforcement.

model ALF-11 is available for rigging the line array cabinets.

B&C SPEAKERS COMPLETES PURCHASE OF EIGHTEEN SOUND

B&C Speakers SpA has announced the purchase of the premium quality transducer manufacturer, Eighteen Sound.

"We are proud to add Eighteen Sound and Ciare to our group, and we look forward to offering both brands access to more resources. We can now blend our knowledge in manufacturing and development, helping to offer an improved product range, build quality and overall

customer experience.", says B&C CEO **Lorenzo Coppini**.

Ron Tizzard, Director of Sales for B&C added "These are two great brands that each have a strong culture and legacy that we hope to build on. Both Eighteen Sound and Ciare already have many dedicated OEM customers, and a well-developed distribution network that will require few changes."



YAMAHA RELEASES UPGRADED DXS SERIES...

(Continued on page 12)

the amplifier's vital components using advanced limiter circuits. The innovative design of the loudspeakers also increases the performance of the system by offering high quality sound evenly distributed over a wide coverage area.

"Since its launch in 2005, STAGEPAS has been a staple of live musical performances, events and applications such as lectures,

training for beginners in audio engineering or musicians who prefer to configure their own sound," said Yoshi Tsugawa, General Director of the Yamaha Pro Audio Division. "With the addition of wireless audio playback through the new Bluetooth audio streaming feature, we hope that the additional flexibility and freedom will inspire more creative and successful use with our best STAGEPAS."

WHEN THE BEST SOUND ISN'T ENOUGH



VTX SERIES A12

For over 70 years, JBL has pioneered loudspeaker design - the VTX A12 represents the culmination of this engineering experience. An innovative HF section integrates the phasing plug and waveguide for high sensitivity and linearity, even at high output levels. A redesigned Radiation Boundary Integrator® reduces horn edge diffraction, improves LF sensitivity, lowers distortion, and provides up to 120° coverage down to 250 Hz. And a new dual-voice coil, dual-magnet arrangement in the LF section increases linear excursion, power handling and sensitivity.

Besides all this, we understand that the best live sound solutions need to offer more than just the best sound, so find out everything that the VTX A12 has to offer.

— To know more, call us on 1-800-208-8880 —

QSC INTRODUCES ULTRA-COMPACT KS112 POWERED SUBWOOFER

QSC has introduced the newest K Family member, the ultra-compact KS112 powered subwoofer. Joining the previously-introduced KS212C cardioid powered subwoofer, the KS112 is the second model in the KS subwoofer series. With its innovative design, legendary QSC amplification and advanced DSP, the KS112 is the perfect choice for a variety of installation and entertainment applications for which high output, low frequency extension is needed from an ultra-compact and portable package.

The KS112 features a single 12-inch transducer in a 6th order bandpass premium birch cabinet. On-board DSP provides variable crossover, delay, and savable/recallable Scenes for commonly-used applications while advanced thermal and excursion processing further

optimize system performance.

Two M20 threaded pole receptacles provide a positive, wobble-free connection to a threaded speaker pole in either vertical or horizontal deployment (pole not included). Rugged, low-noise casters are included, while a locking security cover and padded

transport cover are available options.

"With the introduction of the KS112, QSC offers users the ability to choose the perfect subwoofer for their application in a way never before possible," says **Chris Brouette**, Product Manager, Pro PA Loudspeakers. "From the ultra-compact KS112 and directional

KS212C cardioid sub, to the portable KSub, punchy and powerful KW181, and KLA181 for flown applications, the wide variety of options available, all as complementary members of the K Family, present extraordinary and compelling low-frequency solutions for sound reinforcement professionals and enthusiasts of all kinds."

Musicians, bands, mobile DJs, system integrators and AV rental/production professionals alike will appreciate the performance of the KS112 for a wide variety of applications – particularly when paired with TouchMix Series mixers, further optimizing KS Series performance, or as a complement to K.2 Series loudspeakers. The KS112 also features the renowned QSC Global 6-year warranty with product registration.



KS112 Powered Subwoofer Features High Performance in a Compact and Portable Package

SENNHEISER'S G4 WIRELESS SERIES TAKES WIRELESS AUDIO FURTHER

With the launch of the evolution wireless G4 series and two brand-new XS Wireless 1 Dual Sets, Sennheiser has expanded its portfolio of exciting new wireless solutions.

The G4 series with a sleek new user interface, allows to generously expand the switching bandwidth and higher RF output power for the 300 and 500 series, new multi-channel functionality

for the 100 series and brand-new on-camera systems. It also delivers high-quality, reliable audio for musical performances, houses of worship, theatres, business and education settings as well as camera work.

"With evolution wireless G4, we have built on the extremely rich feature set of the G3 series, expanding its capabilities even further, while still maintaining the compelling pricing of the preceding generation,"

said **Dennis Stegemerten**, product manager for evolution wireless G4. "Many user-inspired improvements have been included, and all systems will be fully compatible with all

previous evolution wireless generations, safeguarding our customers' investments."



SOLID STATE LOGIC JOINS AUDIOTONIX

Audiotonix has announced the acquisition of Solid State Logic (SSL) as part of its expanding Group that already includes leading audio brands DiGiCo, DiGiGrid, Calrec and Allen & Heath. The deal brings together the top fight of the world's mixing console companies.

James Gordon CEO of Audiotonix says, "We are growing the Audiotonix Group with professional audio brands that have exceptional technology, committed people and a real passion for what they do. With their incredible history and reputation, their enthusiasm and loyal customer base, SSL is ideally placed to be the next partner in the group. The whole group will benefit by having SSL as

an integral part of the team going forward. Having their help to further expand our international reach, technology and customer base will be a lot of fun."

Antony David, MD of Solid State Logic, added, "I am very proud of the achievements our team has made to date with the expansion of SSL. To reach our full potential we need the support and resources of a larger group to help us achieve our aspirations. In Audiotonix we have found a partner that is as fiercely obsessed about audio, products and customer service as we are. Audiotonix' success in investing in and nurturing similar audio focused

businesses was crucial to us. Once we got talking, we quickly discovered that this was something we both wanted to happen."

Peter Gabriel, the majority shareholder in Solid State Logic, becomes an investor in Audiotonix



as part of the transaction. He added, "My relationship with SSL began as a user, a customer and then as part owner. SSL has always made wonderful innovative equipment that encourages creativity and I got

involved because I never wanted to imagine a world without SSL. It is obvious with this sale that there are many in this growing Audiotonix group that are as nuts about new tech and good audio as we are. Each manufacturer has their own particular markets, strengths and idiosyncrasies but through collaboration, there will be a lot of opportunities to spread knowledge and skills to benefit the group as a whole. I am also excited by what could be created by all these new potential synergies so I have chosen to use a chunk of the sale money to invest in this newly expanded version of Audiotonix. I wish Audiotonix and all who now sail in her, every success."



DT 240 PRO CREATE BETTER

PROFESSIONAL MONITOR HEADPHONES

The DT 240 PRO is made for producers, podcasters and filmmakers who want to take full advantage of their equipment's potential. A clean deep bass, vivid midrange and defined treble are part of the trusted beyerdynamic sound signature that each DT 240 PRO comes with. Ideal for recording in a studio environment!

beyerdynamic 

BOSE DEBUTS NEXT GEN T8S AND T4S FOLLOWED BY S1 PRO MULTI-POSITION PA SYSTEM

Bose Professional has extended the ToneMatch audio engine series with the powerful new gig ready eight-channel T8S ToneMatch mixer and the four-channel T4S ToneMatch mixer, representing the next generation of the ToneMatch line and offering unprecedented connectivity with intuitive control. S1 Pro multi-position PA system – the ultimate all-in-one PA, floor monitor, practice amplifier and primary music system, is the latest addition to the acclaimed Bose portable professional product line.

T8S TONEMATCH MIXER:

Craig Jackson, Product Line Manager for Bose Professional, remarks, "Typically you need to invest in larger, more complicated consoles to get the audio quality and powerful effect engine in the new ToneMatch mixers. Performers value audio quality and options, but we know that in-performance usability, portability, and reliability are just as important." Their rugged enclosures have a protective, magnetically-coupled cover to protect controls and connectors. A chassis-bottom insert allows the use of standard mounting accessories to keep the mixers in reach during performances.

The performer-focused and compact eight-channel T8S ToneMatch Mixer is intuitive to operate, with illuminated, stage-friendly tactile controls, an easy-to-read display, and scene recall. ToneMatch processing presets with the powerful and advanced DSP engine (including studio-quality effects and Bose zEQ equalization, which redefines low, mid and high ranges for each ToneMatch preset) making it easy for musicians to take control of their music. When used with Bose L1 and F1 systems, the T8S provides full end-to-end tonal optimization.

Each T8S channel has dedicated ToneMatch, EQ, dynamics, and effects. The T8S effects include compressor, limiter, de-esser, noise gate, chorus, flanger, phaser, tremolo, delay and reverb functions. Tap tempo delay and a chromatic tuner are built-in. Aux send 1 has a dedicated reverb of its own while a master output EQ helps compensate for venue acoustics.

The T8S offers high-density connectivity unparalleled in a small digital stereo mixer. Eight high-quality audio preamps with XLR-combo

jacks accommodate microphones or instruments, with switchable phantom power. Two Aux inputs allow for additional source inputs. Outputs include four aux sends, balanced quarter-inch TRS and XLR stereo outputs, and an independent headphone output. USB-A and USB-B connections allow for USB drive playback or PC/Mac interface. The T8S includes a ToneMatch power supply. Dimensions: 8.4" x 12.25" x 3.25" (214 mm x 311 mm x 83 mm).

T4S TONEMATCH MIXER:

The four-channel T4S offers most of the same features as the T8S, except for the following differences: the T4S features an Aux send count of two, and outputs to either quarter-inch TRS balanced stereo or dual ToneMatch links – designed to send digital audio to L1 Model 1S/II systems while receiving power on the same provided ToneMatch cable (note: when not used with an L1 system, the T4S can also be optionally powered by an accessory ToneMatch power supply). The final difference between the mixers is the T8S exclusive output meter. Dimensions: 8.4" x 7.25" x 3.25" (214 mm x 184 mm x 83 mm).

S1 PRO MULTI-POSITION PA SYSTEM

The S1 Pro is engineered to be used in four different positions to accommodate a wide range of applications – tilt-back, elevated, mounted on a speaker stand, or placed on its side (as a floor monitor).



Bose ToneMatch T4S & T8S

Built-in sensors detect positional changes and trigger Auto EQ, which automatically recalibrates the system's internal settings for each different placement/application, ensuring that users always sound their best with optimum sound in any position.

At only 15 lbs (6.8 kg) and with dimensions of 13" x 9.5" x 11.2" (330 x 241 x 286 mm) (easily fitting in an airplane's overhead compartment), the ultra-portable and rugged S1 Pro is lightweight and designed for effortless transport using the convenient carry-handle.

The S1 Pro comes with a three-channel mixer. Reverb and tone controls are featured on two channels with XLR / quarter-inch combo jacks, and a third channel is for either 3.5 mm (1/8") line-in or wireless Bluetooth® connectivity. Additionally, a line-out jack offers easy expansion to other systems.

Using the wireless channel, music can be played from a mobile device easily using Bluetooth streaming (great for pre-produced backing tracks or background music), while getting great sound quickly with integrated ToneMatch processing for microphones and instruments. Additionally, users can enjoy hours of play on-the-go with the S1 Pro's optional rechargeable lithium-ion battery; a special setting and intelligent circuitry offer a choice between trickle charge or dedicated full-power charge.

Bose S1 Pro key features:

- High-output sound from a small, convenient system that is ready to perform whenever and wherever
- Lightweight, ultra-portable enclosure is designed to transport effortlessly using the convenient carry-handle
- Onboard three-channel mixer offers independent ToneMatch, reverb and EQ controls on two channels (XLR / quarter-inch combo inputs), with a dedicated channel for either wired (3.5 mm) or wireless Bluetooth music sources (offering streaming from mobile devices with one-touch pairing)
- Multiple positions with Auto EQ ensure that users always sound their best, regardless of placement orientation
 - Speaker-stand compatibility, for standard 35-mm pole mounts
 - Optional rechargeable lithium-ion battery allows users to perform anywhere for hours
 - An optional rugged backpack-style carrying case with special storage compartment (for cables and accessories) further enhances portability



Bose S1 Pro Multi-Position PA System

HPL PROFILE
MSS(P)-220 HPL



SPOT PROFILE
1000W Halogen



LED PROFILE
MSS(P)-300W



1000W Par-64
PAR CAN



ENTTEC



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Mode : PR-8120

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Xpar 150
Model : PR-8202

LED LIGHTING



JNR MINI BEAM 230
JNR-8129

Deals In :

LIGHTING / TRUSS / SOUND / VIDEO / INTEGRATION

SUN INFONET & ALLEN & HEATH CONDUCTS WORKSHOPS ON DIGITAL CONSOLES AND CERTIFICATION ON SQ

To educate new sound engineers, Sun Infonet along with Allen & Heath launched SQ mixers in India and conducted day long workshops on "Digital Consoles and Certification on SQ" in the three prime cities of India i.e., Mumbai, Bengaluru and GOA in January 2018.

The training session which was led by **Chris Pyne**, the Technical

Roshni Audiometrics.

Chris Pyne has 37 years of international experience in all areas of live touring and recording as a mix engineer, audio system technician, production and tour management, studio management and extensive experience in the Asia Pacific region. During the



Workshop in Bengaluru



Workshop in Mumbai

Marketing Manager of Allen & Heath was attended by renowned Sound Engineers like Ramchandra Jamsandekar, Prashant Rane, Students of Audio Engineering College (CMR), Sound Engineers from production houses, Churches and School of Art including freelancers and by Audio Engineers working with renowned Rental companies in India like D S Pro,

training session he covered History of sound enforcement, Basics of digital audio and Features of SQ Mixers.

"This training is going to benefit those sound engineers who were new for Allen & Heath consoles or just shifted from Analogue to Digital or going to shift in near future. The SQ is the best sounding console in the price range. 96kHz sampling, just enough buses and great FX's

Sound Engineer from Sun Infonet commented.

Sound Engineer, participant and owner of Mumbai based Rental Company, **Prashant Rane** says, "It was a really fantastic experience. Workshop on Allen & Heath digital mixing Console conducted by Chris Pyne and organized by our very own Sun Infonet India Pvt Ltd. We all got good knowledge shared by Chris

makes it even more magical. it has set the bar really high for the fellow manufacturers."

Rohit Reddy, Product Specialist and

from his vast experience in the Industry". Further he adds, "About SQ series console, I can say Allen & Heath will get good market again in India which it was largely having from many years ago in its analogue systems and yes even we have added SQ 6 with 2x DX 168 in our inventory. We are already proud to own DLive s7000 with DM 64 with Dante and Giga Ace cards. I had a good experience in the past show with dLive S7000 for FOH & Monitor Mix via Giga ace card in Mumbai. It's perfect for both the applications. Our future plan is to upgrade our Dlive by adding Waves 3 card with Waves grid. Thanks, and warm regards to Neeraj Chandra for excellent after sales support for Allen & Heath Consoles and other products as well."

Neeraj Chandra, Director, Sun Infonet is always keen to conduct such workshops plans to conduct more in Delhi, Hyderabad and Chennai to keep the sound professional up to date in terms of changes or updates and is committed to bring the latest technology for the sound industry. He Commented, "Conducting workshops with the help of Chris Pyne was definitely going to be beneficial and help upcoming and existing sound professionals to learn techniques and troubleshooting from Chris Pyne who dedicated his almost 37 years to this industry. After attending this training, one would feel confident to operate Allen & Heath mixers, especially those who have just shifted from analog to digital consoles."

OUTLINE DEBUTS NEW PRODUCTS

Following on from the success of the Stadia Series of loudspeakers designed for permanent outdoor installation, Outline announced the launch of Arena Series at ISE 2018.

The **Arena Series** comprises two models, the 215 CX and the 212 CX. Both reproduce high-intelligibility full-range audio, the former from a

15" LF transducer and a 15" mid-low driver incorporating a co-axial 3" diaphragm HF compression driver, mounted on Outline's proprietary moulded waveguide. The 212 CX uses the same acoustic design but is fitted with 12" LF driver and 12" / 3" co-axial transducer, providing a smaller and lighter option.

Both designs are uniquely configured as 'two-and-a-half' way

systems both electrically and acoustically and both models deliver audio performance that approaches a three-way design with extended low frequency, outstanding sound quality and remarkable SPL. Better still, thanks to Outline's exclusive internal crossover designs, both models can be driven by a single channel of amplification, which adds desirable cost-efficiency to an already compelling package.

Outline has also launched their new STSUB-215. This is the the companion subwoofer for Stadia Series, featuring the same 'OutSide' weatherproofing system and extending the applicational usefulness of the Stadia Series still further.



Outline Arena Series



Outline ST-SUB215



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DGK EVENTS CHOOSES DYNATECH'S DVX-212LA FOR THE ULTIMATE IN SOUND REINFORCEMENT

DGK Events is a stellar event production company that gained recognition for conceptualizing and executing some of the most brilliant events to have graced the region of Chandrapur. From private parties to public functions like galas and the ever famous Ganesh Visarjan – DGK Events has done it all; and with a great deal of success.

And when asked about the secret behind their success, Dhiraj Dethe – the owner of DGK Events and an actively performing DJ – shares that a great contributing factor comes from their in-house audio inventory that delivers all the amazing audio performances across various events commissioned by DGK Events.

And the loudspeaker system powering this success is the formidable and comprehensive Dynatech DVX212LA system that forms the heart of their loudspeaker inventory, and which was purchased through Liberty Electronics – a key dealer of Dynatech products in the region.

Mr Dethe shares his comment on the purchase saying, "I'm extremely pleased with my Dynatech DVX212LA system. The quality of sound is fantastic, the performance is unbeatable, and every aspect of its usability is amazing. I love using this system!"

Mr Urjesh of Liberty Electronics



DGK Events, an event production company conceptualized and executed Ganesh Visarjan in Chandrapur

shares his thoughts saying, "Dynatech products are known for their top quality performance, efficiency and reliability, and I am extremely pleased that we were of service to Mr Dethe and his team at DGK Events. To know that they have found everything that they were

looking for in the Dynatech DVX212LA – amazing tonal quality, performance output, ease of use and maintenance etc– is a great feeling. We wish Mr Dethe and his team the very best for the future with their trusted Dynatech DVX212LA system."

VERITY AUDIO INTRODUCES IWAC220P ACTIVE LINE ARRAY

Verity Audio announced the introduction of the IWAC220P, the most advanced line array yet to be introduced in their Verity product family.

Meticulous attention to physical design has minimized group delay for precise sonic imaging ideal for the next generation of high-resolution sound. It's compact size and 120° horizontal coverage make it ideal for medium to large events.

Onboard custom 3-channel Class D power amplifier (1 X 250watt,

2 X 800 watt) powers 2 X 1-inch Neodymium HF (1.75-inch voice coil) and 2 X 10-inch Neodymium LF (2.5-inch voice coil) Frequency Response



Verity Audio IWAC220P Active Line Array

is 80Hz to 20KHz (-10dB). Maximum peak SPL is 136dB (1W/1M – 1 Box)

The Verity V-NET network control can remotely address (via PC or MAC) each of the 3 drive units independently for full control of onboard DSP. A second dedicated network bus can monitor the entire system.

Innovative rigging hardware design allows users to set array angles on the ground for rapid setup and the transport trolley design allows stacking of up to 4 cabinets for

efficient loading, unloading, and setup, as well as protection during transport.

The companion SUB136P Active dual 18-inch bass cabinet has 2 X 1200 watt Class D custom amplifiers driving 2 X 18-inch Ferrite LF with (4-inch) voice coils to deliver effective output to 30 Hz for flat, low distortion, high impact, and musical VLF response. Frequency Response is 25Hz to 1.5KHz (-10db). Maximum peak SPL >141dB (Pink noise @ 1M – 1 Box).

FUNKTION-ONE LAUNCHES F124 BASS ENCLOSURE

Funktion-One had launched its brand-new bass enclosure – the F124.

As Funktion-One co-founder **Tony Andrew** explains, the new enclosure marks the next logical step in bass speaker development: "With the 32-inch F132, we have introduced something unique to the market: transient in the sub frequencies, as far down as 25Hz. From there, we felt there was potential to go further by using the knowledge we'd gained when developing the F132 to create a 24-inch bass speaker."

By re-visiting a 24-inch frame and tooling they had developed during a previous R&D phase, the basis of the new enclosure quickly fell into place. To create the completed package, Funktion-One invested

significant time into ensuring the other elements were exactly right. Key among these was the magnet and coil. Andrews and the Funktion-One design team worked closely with Precision Devices to find the best performing solution, eventually developing a double 6-inch voice coil motor with an unprecedented BL factor of 50 to give the necessary motive power. To Funktion One's knowledge, this is now the most powerful electromagnetic structure in a loudspeaker.

The results are astonishing. Two voice coils and intense magnetic flux control a 24-inch cone with impressive accuracy, ensuring excellent transient response and extended depth to below 30Hz.

This combination of mid-bass speed and impact with low-bass extension from a single enclosure makes the F124 the perfect bass partner for the company's Evolution systems and other Funktion-One mid-high speakers.

As Andrews notes, the universally enthusiastic feedback the F124 has received during testing provides confirmation that the team's time has been well spent. "It's probably the best all round bass device on the planet," he says. "Everyone who has experienced it has been blown away. It was quite a long development process – around two years – but that attention to detail has returned a fantastic result."

He continues: "The fact that it's



horn-loaded means that its output is solid and precise. At this sort of size, most other manufacturers use bass reflex technology, which gets a completely different result. I believe we're the only company doing anything that is genuinely different that works, and with the addition of the F124, I feel that we've got a complete range of the highest performing bass speakers on the market."

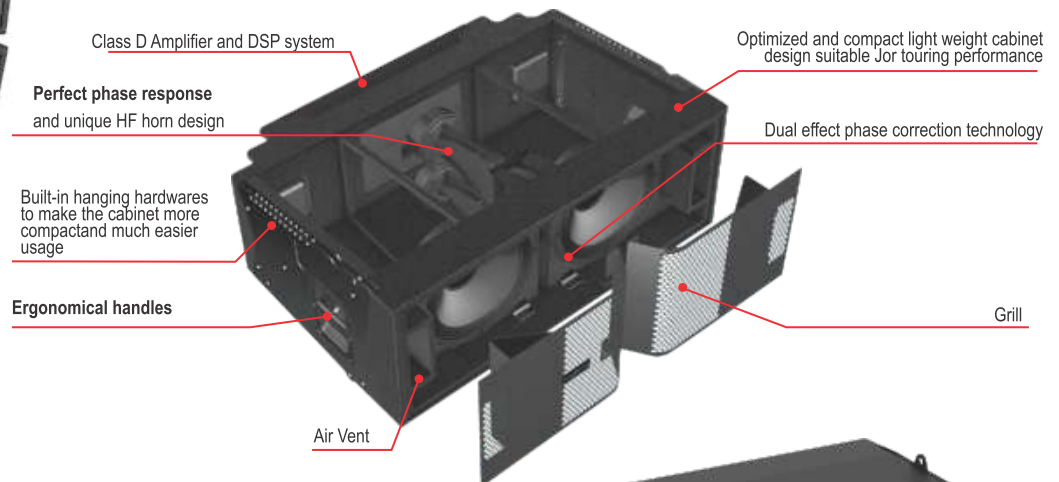
Audiocenter

Dynamic Audio Solutions

K-LA212 DSP

2-way active DSP-controlled line array speaker

- Customized drivers from BEYMA
- PTV HF horn ensures even coverage and optimized for smooth frequency response
- Dual phase plug design for an extremely precise dispersion a Two way crossover Tri Amplified design
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- 1600W RMS Class D amplifier from PASCAL
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It's the first issue of the year 2018 and PT is back with its annual selection highlighting the Top 50 pro sound, light and DJ products and technologies of the year gone by. Here, readers will find a non-defining listing of different products that demonstrate superlative innovation and define both practical usability and utility, globally. Some of the products have passed through years of R&D in perfecting their technology, while some others have established sufficient evidence of being user friendly and popular in the Indian market. Listed in alphabetical order, the selection can be accessed by our readers as a preliminary guide that aims to spotlight global technology that has influenced the international and Indian market.



ADAM Audio S-Series

The S Series, a flagship reference monitoring range from Adam Audio, comprises five models of increasing size: S2V, S3H & S3V and the S5H & S5V (H denotes a speaker designed optimally for horizontal use, V the vertical version). This series includes: completely new woofers and mid-range drivers, newly



designed waveguides for the S Series tweeter (and the mid-range driver on the S5 models), and a new DSP engine which provides crossover optimization, voicing options and expansion potential. The cabinets of the entire S Series Line are solidly constructed from thick, vibration resistant material to reduce unwanted resonance and coloration, even at the highest listening levels. The design also features large-radius rounded edges, which help to minimize unwanted edge-diffraction effects. The robust finish of the S Series line is built to offer extra protection to withstand the stresses and strains of daily life in a recording environment.

ADAMSON IS Series

The IS-Series brings the rider acceptance and performance of Adamson's touring products to the world of integration. Leveraging proprietary technologies such as: Controlled Summation Technology, Advanced Cone Architecture and intuitive rigging solutions have ensured that the IS-Series meets with Adamson's high standards. The IS-Series, made its debut with the IS7 and IS118 subwoofer. The IS7 is a two-way, full-range line array cabinet containing two ND7-X5, 7"



Neodymium drivers and an NH3, 1.4" exit compression driver and The IS118 subwoofer sports a lightweight, long excursion 18" ND18-S Kevlar Neodymium driver utilizing Adamson's Advanced Cone Architecture and a 4" voice coil, all mounted in a front-loaded enclosure.

AHUJA AIP-7000 Series

AIP-7000 Series is a smart solution



for Public Address applications at factories, hospitals, transportation centers, prisons, airports, metro / railway stations and large educational campuses using the Internet Protocol (TCP/IP). Announcements can be made through a modernized IP Network (LAN/WAN) based Paging Microphone (AIP-701RM2) which has 7-inch resistance touch screen, built-in 2Watt speaker and numeric functional keys to call in individual zone, a group of zones or all zones. Proprietary control server software (AIP-702SP) offers intelligent user-friendly features such as User Management, Terminal Status, Recording services, Call Log Report, Monitoring, Time Schedule Broadcasting and Call Waiting. Network Audio Unit device under AIP Series (AIP-703NA) acts as a decoder and receives digital signal transmitted on IP Network in form of data

and converts it into analog audio signal which goes into amplifier for broadcasting. Intercom Unit of AIP Series (AIP-704IC) is an appropriate device for Industrial duplex (2-way) communication from any remote area to command control center, the device is equipped with one Press-To-Talk button to communicate with control center, built in high sensitivity microphone for long distance pick up and built in 5W full range speaker. In a nut-shell AIP-7000 series is the answer to all public-address requirements using the existing LAN / WAN.

AKG C636

The AKG C636 master reference handheld condenser microphone is built on the legendary studio-quality sound of the acclaimed C535 microphone. The C636 eliminates feedback by combining a uniform cardioid polar pattern throughout the entire frequency spectrum with a specially designed suspension and grille for the capsule. This unique approach to housing the capsule avoids unwanted sound reflections on the back of the capsule, ensuring feedback and





spill over rejection. AKG C636 comes with the world's first double shock suspension system to greatly reduce unwanted handling noise. The capsule sits on a highly absorbent rubber bearing that eliminates any structure-based noise, while an adjustable balancing network cancels vibration over a wide frequency range. It also has a multilayer protection system to prevent unwanted pop noises. The protection system consists of the grille, a foam layer behind the grille and a magnetically attached computer-modeled mesh layer on top of the capsule—providing singers with a clear, plosive-free vocal performance. This three-layer protection system is virtually unique to AKG and sets the new standard for pop noise suppression in the market.

ALLEN & HEATH dLive C Class

The dLive C Class is founded on XCVI, the same 96kHz FPGA core which drives the flagship dLive S Class mixers, and also shares its DEEP processing architecture. This new range includes the ultra-compact C1500, the first 19-inch rack-mountable dLive surface. Aside from the C1500, another two twin screen control surfaces join the ranks, the C2500 and C3500. The C Class surfaces use the dLive



Harmony UI with gesture touch control via 12-inch capacitive screens and colour-mapped rotary controls. There are three new MixRacks in the series — CDM32, CDM48, and CDM64. The MixRacks provide capacity for 128 inputs with full processing and 16 dedicated stereo FX returns, plus a fully configurable 64 mix bus architecture with processing on all mix channels. Each surface and rack have a 128 channel I/O port supported by an array of networking cards including Dante, Waves, MADI, fibreACE optical and more. dLive C Class is also compatible with S Class hardware and the ME personal mixing system.

ANTELOPE Audio – Goliath HD

This new flagship interface by Antelope Audio features 64 channels of high-quality audio I/O and powerful upgrades including the adaptable new Accusonic preamps. Beyond the wealth of features that make it more versatile than many interfaces on the market, the Goliath HD also sounds unlike any other interface on the market. For one thing, it sports the lowest total harmonic distortion (THD) available in a multi-channel interface across all 64 of its channels of input and output. Powered by the most advanced ESS chips available and Antelope's legendary 64-bit Acoustically Focused Clocking (AFC) jitter-management technology and unique noise-lowering techniques, it also sets a new standard in digital conversion clarity. Its



flexible digital connectivity allows it to interface with both Mac or PC in a snap via Thunderbolt or USB 3.0. And boasts dual MADI connections, which are compatible with MADI to

Dante Bridge products. The Goliath HD pushes the envelope in the world of input and output, offering a staggering 64 channels of I/O in its modest two-rack space frame. These include 16 of Antelope Audio's new Accusonic mic preamplifiers, each with individual volume controls. Goliath HD's 32 analog inputs offer an impressive 124db of dynamic range, with its 32 analog outputs going up to 129db of dynamic range.

APART Mask C series

The Mask C series is an affordable, reliable wall-mounted loud speaker solution for professional applications. Included with the Mask C series is the pre-assembled, Apart-patented Clickmount bracket. The bracket can be positioned on almost all flat substrates, including concrete, wood and plastic, and all brackets can be aligned by using the integrated spirit level to assist with ease of installation. For environments that



require seamless operation, the Mask C features a three-step overload protection. With LED indication when maximum volume has been reached, followed by power reduction and complete speaker shut down until the volume has been reduced. Connecting speaker cables is hassle-free and discreet, with the ability to feed cables through the top and rear of the bracket. Cables can be easily daisy chained between each mount bracket, making installation of multiple speakers hassle-free.

ASTON Starlight

In an imaginative move that has potential to become standard throughout the microphone industry, Aston revealed the world's first laser targeting pencil microphone in NAMM last year. The Aston Starlight



features a 20mm cardioid capsule "hand picked by a panel of more than 50 top producers in double blind listening tests, and a high-spec discrete mic amp circuit, enabling the connected mic preamp to work at lower gain for less distortion. The Starlight allows for recall of mic position in studio use, and incredibly quick and easy set up in live applications. This microphone also

showcases Aston's unique variable voice switching for sound contouring, a nearly indestructible build quality, a signature sintered head, and Aston's, now famous, tumbled 100% stainless steel chassis.

AUDIO-TECHNICA AT 5047

The AT5047 is a transformer-based phantom powered design microphone has an exceptionally wide dynamic range which allows it to capture the expressive character of instruments and voices. From the softest sweep of brushes on a snare drum to powerful rock vocal. The custom wound transformer-coupled output gives the 5047 a smooth character without making it stuning new design of external



shock mount and the new internal shock mounting decouples the capsule from the microphone body meaning that you only hear the

sound heading for the diaphragms, not sounds from the floor or mechanical noise. Four exquisitely matched ultra-thin diaphragms together (with

function outputs proprietarily summed) as Audio-Technica's largest-ever element, providing combined surface area twice that of a standard one-inch circular diaphragm. Each AT5047 microphone is hand assembled and individually inspected for 100% quality control. The microphone is enclosed in an elegant housing of aluminum and brass with a high-quality silver finish.

AUDIO-TECHNICA 6000 Series

The high-density 6000 Series wireless system operates in the 944-952 MHz band and uses advanced IMD suppression methods to enable its channels to be spaced at 125 kHz intervals, allowing up to 31 simultaneous channels within 4

MHz of bandwidth. With its full-rack metal chassis, reinforced mounting ears and rear rack mount capability, the system's ATW-R6200S receiver installs quickly and securely, providing two channels per rack space. The receiver's clear, easy-to-read displays and front-panel controls makes it simple to configure the system and monitor frequency, RF and AF levels, transmitter battery level, mute status



and more. The receiver has a 3-pin XLRM balanced output and 6.3 mm (1/4") balanced output for each channel, and a front-panel 6.3 mm (1/4") headphone jack with volume. There are two transmitters available for use with the 6000 Series: ATW-T6001S body-pack transmitter and ATW-T6002xS handheld transmitter. Both transmitters feature rugged, ergonomic metal bodies, highly visible OLED screens, programmable features, and soft-touch. The compact ATW-T6001S body-pack transmitter comes with a flexible 1/4 wave whip antenna and is equipped with a newly designed, rugged cH-style screw-down 4-pin connector that works with a variety of Audio-Technica mics, and cables.

AVID Pro Tools 12.8

The Avid Pro Tools 12.8. Post production mixers features Dolby Atmos mixing along with Avid Nexis for Pro Tools HD. Until now, mixing



in Dolby Atmos required extra plug-ins and complex routing workflows to accommodate the multi-channel and object-based audio format. Avid and Dolby partnered closely to bring an inclusive suite of Dolby Atmos workflows. New features include built-in Dolby Atmos panning, support for 7.1.2 stems, deep Avid pro mixing control surface integration, advanced automation with the Dolby Rendering

and Mastering Unit (RMU), and more. Support for Avid Nexis shared storage eliminates the time wasted moving files between systems, resulting in faster turnarounds and increased productivity. The free Pro Tools First version now features Avid Cloud Collaboration to make music anywhere over the Internet. Track Freeze, allows to quickly freeze or unfreeze all plug-ins on a track — or just up to a certain insert — to free up processing power. Integration with Soundbase allows to search for fresh sounds and instantly hear how they fit into any track or project.

BEYERDYNAMIC DT240 PRO

Ideal for musicians, podcasters and filmmakers: Beyerdynamic presents the DT 240 PRO compact monitor headphones. The DT 240 PRO monitor headphones from Beyerdynamic fit perfectly into mobile workflow. Creative minds can work anywhere with these headphones – start a project in one place and continue working on it somewhere else. At the mixing desk, behind the



camera or on the train, the DT 240 PRO ensures seamless audio control without compromising on quality. And best of all: its attractive price also makes it affordable for producers with a smaller budget. Due to its low-ohm acoustic transducers (34 ohm), the DT 240 PRO requires little amplifier power and can work on all devices. Its compact, robust design—specially shaped ear cups make the DT 240 PRO very easy to handle. In addition, its sound is characterized by a clean, deep bass, lively mids and clearly defined highs. Creative sound smiths will find it difficult to find its equal in the price category up to 100 euros. Excellent sound insulation ensures that the same high-performance levels are also achieved in loud environments, for example, at trade fairs or live concerts. In other words, a model like the DT 240 PRO is what musicians, podcasters, YouTubers and semi-professional filmmakers have wanted for a long time. Now the wait is finally over.

BEYERDYNAMIC TG 500

Beyerdynamic has introduced the TG 500, a versatile wireless. The system focuses on modern features and can be used license-free almost all over the world depending on the frequency band selected. For performances on smaller stages, theatre productions, speeches or presentations – the new Beyerdynamic TG 500 wireless system is a genuine all-rounder. At the heart of every Beyerdynamic TG 500 wireless system is an attractively-designed receiver with a durable metal housing and a parametrized



front panel. The combination of intuitive operating elements with a backlit LCD display packed with status information (HF/NF level, battery level, transmission frequency, name) makes menu navigation particularly user-friendly. The two audio channels of the TG 500 wireless system's TG 500DR dual receiver can be relayed via a common output if so desired. The diversity antenna operation guarantees optimum reception for the Beyerdynamic TG 500, ensuring that there are no unwanted interruptions in transmission even in challenging environments. Intermodulation-free transmission frequencies in preconfigured groups ensure the TG 500 offers interference-free multi-channel operation. Alternatively, frequencies can be chosen at leisure. A scan function with automatic search provides assistance for system set-up. The integrated pilot tone function ensures interference-free transmission and gives a warning when the battery power is running low.

BOSE EdgeMax

EdgeMax in-ceiling premium loudspeakers features propriety Bose PhaseGuide technology, which provide room filling coverage while improving overall sound quality compared to the performance of convectional ceiling loudspeakers. Designed for mounting near wall



PRO+ 3400

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ANA
by **AHUJA**



boundaries, EdgeMax loudspeakers projects high frequency sound throughout rooms up to 65 feet (20m) wide using only perimeter mounting locations and can effectively cover an area that would require up to four conventional conical-coverage models. These EdgeMax in-ceiling premium loudspeakers are available with two different horizontal coverage patterns i.e. EdgeMax EM90 and EdgeMax EM180. Both models feature 75-Degree asymmetric vertical coverage, which is optimized for ceiling heights between eight feet and twenty feet. EdgeMax EM90 provides nominal 90-degree horizontal coverage from room corners and Edgemax EM180 provides nominal 180-degree horizontal coverage from center ceiling-wall locations.

CLAYPAKY K-EYE K20 HCR

The K-EYEK20 HCR belongs to the K-EYE HCR series. K20 is the fixture size, while HCR stands for High Colour Rendering. With 37 LED's, K20 sits well over its smaller sibling the K10 – loaded with 19 LED's. This 22kg device has a six colour engine, with RGB, Amber, Lime and Cyan, controlled over 12 channels. There is a colour match ability to match to either Rosco or Lee colour numbers which helps a lot of designers who like to get about the colours applied. The static version is rectangular and sits on a regular yoke. The K20 has various dimmer modes, to match the fade of various tungsten lamps – from 700 watts to 2,000 watts. Allied with accurate colour rendering and a tricky Osram (owners of Clay



Paky) algorithm, it will deliver pro performance for theatre or TV.

DENON DJ SC5000

The biggest DJ news of 2017 came from Denon DJ with the introduction of the Prime Series consisting of the SC5000 Prime media player and the X1800 Prime mixer with Rekordbox import capability. The Denon DJ SC5000 Prime represents a real paradigm shift in DJ Technology. The Media Player has a high definition, hi-contrast display that enables multi-touch gestures for the ultimate in latency-free, tactile track navigation, load and playback. The SC5000 is also the



world's first DJ Player capable of on-board music file analysis, really empowering you with its innovative dual-layer deck capability and an 8-inch rugged jogwheel with central display that displays either current playing track or custom artwork. Powered by a dedicated, multi-core internal processor, the SC5000 runs 'Engine Prime.' Unique on the SC5000 is its bank of eight multifunction trigger pads that deliver unprecedented creative expression for hot-cues, loops, slices and roll playback – all safely locked down by the SC5000's accurate beatgrid analysis. Up to four SC5000 Players can be LAN networked for synchronized data transfer between units, plus users get enhanced BPM and FX possibilities using 'Engine Connect' protocol to work with Denon DJ's new X1800 Prime, 4-Channel mixer.

DIGICO SD12

SD12 is the first in the SD Range with built-in recording interface. It is a true powerhouse, compact, affordable, multi-application digital console with dual 15-inch touch screens, which is never seen in any console in this price group. In addition, the SD12 includes a DVI output, new LED meters allow for a brighter, faster operation, and the SD12 Lightbar. With all these it also has features like advanced surface



connectivity with optional DMI cards, latest generation Super FPGA, familiar work flow and control in a more compact frame. Also offers various connectivity options, which includes 8 local mic/line inputs, 8 local line outputs, 8 mono AES/EBU in/out, Dual MADI in/out, Dual DMI card slots, Optional dual Optocore loops, UB MADI 24 channel USB interface, 16 GPI/GPO, MIDI, Wordclock in/out and Overview monitor output, USB, Network.

DYNAUDIO LYD-48

The LYD-48 is the latest addition to Dynaudio's acclaimed LYD studio monitor range. The new LYD-48 features a three-way speaker design, coupling an eight-inch and a four-inch woofer with a one-inch tweeter, making them well suited for nearfield as well as midfield monitor applications. Each of the woofers and the tweeter are powered by a dedicated Class D amplifier, delivering 80W / 50W /



50W of power per monitor. The amp features a 96kHz/24bit signal path and selectable input sensitivity, as well as the same Standby Mode as the original LYD speakers. Also, like the other LYD monitors, the new 3-way version features Bass Extension, allowing for a choice between the default setting or pushing towards maximum bass or maximum volume. Switching between these modes affects the low-end response by employing a tilt, but importantly the linear frequency response and phase remain intact.

ELATION Artiste Dali:

This product is probably the first diffracted laser in an LED spot luminaire making for a very versatile product. The Award winning

Artiste Dali LED moving head luminaire has a powerful 380-Watt LED-Laser phosphor hybrid engine with advanced optics and motorized zoom producing 14,000+ total lumens, 3-8° beam and 8-43° spot apertures. Other features include

full CMY color mixing and linear CTO color correction, 10 dichroic colors including CTB and UV, 6 rotating interchangeable glass and 11 static-stamped metal gobos, full 360° bi-directional animation wheel,

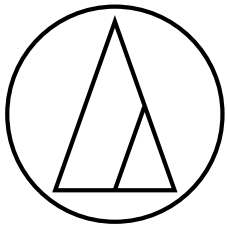


5-facet and line rotating prisms and prism macros, frost filter, motorized focus and auto-focus, high speed iris, shutter, and strobe, electronic dimming and variable dimming curve modes, DMX, RDM (Remote Device Management), Art-NET, and sACN protocol support, Elation's E-FLY internal wireless DMX transceiver, 5pin XLR, RJ45 etherCON, and powerCON TRUE1 in/out connections, full color 180° reversible menu display with multi-button control panel, battery backup for display power, and a multi-voltage universal auto switching power supply (100-240v).

ETC ColorSource CYC:

The ColorSource CYC is a dedicated cyclorama fixture with a sole purpose of creating beautiful, smooth washes of light on a cyclorama or wall. ColorSource CYC produces a wide range of bold colours using a unique,





AT-ONE



Your Perfect Wireless Companion

Introducing **AT-One**, Audio-Technica's new entry-level UHF wireless system.

AT-One is designed with simplicity and ease-of-use in mind. Equipped with a rack-mount kit, detachable antennae and a portable carry case, **AT-One** is ideal for those looking for accurate, reliable performance at an entry-level price.

AT-One's 'dual-group' frequency plan is tailored to provide two groups of four channels, increasing flexibility and maximising protection against interference.

Available in three configurations, **AT-One** can be purchased as the **ATW-11F** Wireless System with a sturdy, discreetly designed beltpack, as the **ATW-13F** Wireless System, equipped with a cardioid condenser handheld transmitter, or the **ATW-11/PF** Wireless System, with a beltpack and a tie-clip microphone.

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all-LED, five colour mix of red, green, blue, indigo, and lime. Furthermore, these fanless, LED fixtures consume a fraction of the power of other standard CYC fixtures. However, lower power consumption doesn't equal reduced light output. In fact, it's possible to light a full cyclorama with a fraction of the fixtures typically required. With a compact and lightweight design, this affordable fixture practically blends in with the background. ColorSource CYC can be quickly set up on a stage floor, or hung from a pipe with ease, meaning it's no longer necessary to lug around large, clunky, boxy fixtures or setup ground row after ground row or border after border. Each fixture includes an optional hanging yoke, power in and thru connections for easy installation. With the new ColorSource CYC fixture, comes an update to ETC's CYC Tool.

FOCAL Shape Series

FOCAL uses a very clever design to optimize the sound of studio monitors. The Shape series is the new compact design monitoring speaker by Focal Professional, which is composed of three monitors, Focal Shape 40, Focal Shape 50 and Focal Shape 65. Their unique designs make them capable to meet the needs of sound engineers looking for nearfield monitoring equipment, these speakers offer an unrivalled solution for those working in environments with limited



space. The new Focal Shape models also feature a new M-shape inverted aluminium/magnesium composite tweeter offering a linear frequency response below 6 kHz and optimizing the crossover with its woofer counterpart. The rigid design is surrounded by housing that has been designed to reduce distortion and provide equal horizontal and vertical directivity. Plus, around each of the drivers, Focal have employed a TMD surround system which optimizes harmonic absorption ensuring a piston like action reducing distortion and yielding a greater overall stereo



image. And finally, as per Focal professionals, the class AB amps have been specially chosen to ensure optimal control over signal and dynamic range.

GENELEC 8331 / 8341 The Ones

The 8331/8341 "The Ones", which Genelec claims to be the world's smallest three-way compact coaxial monitors are designed to provide precise imaging both on- and off-axis and enable users to make mix



decisions with confidence while also listening for longer; the dramatic reduction in unnatural imaging aims to reduce listener fatigue to a fraction of that experienced with other systems. The short-term maximum output capacities for each of the models is 104 dB SPL for the 8331 (at 1m), and 110 dB SPL for the 8341 (at 1m), with accuracy better than ± 1.5 dB, and respective frequency responses starting at 45 Hz and 38 Hz (-6 dB) and extending beyond 40kHz both for the analogue and digital inputs. At a listening distance of just 50 cm, the maximum SPL capability (headroom) is raised by more than 5 dB.

JBL 7 Series

The JBL 7 Series are engineered to deliver a powerful and flexible monitoring solution for music, post and broadcast production. This series has four models—the install 705i and 708i and the powered 705P and 708P—these monitors deliver exceptional output, stunning detail, an expansive soundstage and impressive accuracy. All models integrate with the Intonato 24

Monitor Management Tuning System, which provides intuitive remote control and calibration. The 725G five-inch low-frequency transducer used in the 705P model provide 14 mm peak-to-peak excursion with greater linearity, delivering exceptional low-frequency output down to 39 Hz. The 728G eight-inch low-frequency transducer inside the 708P leverages JBL Differential Drive technology to reduce power compression and provide greater sustained output and extended, linear low-frequency performance to 35 kHz. These proprietary drivers allow the 7 Series to deliver two to three times the output of existing studio monitors. Inside each monitor is a built-in dual amplification system that's optimized for the high-output drivers. A 120W amp powers the 2409H high-frequency transducer, while a 250W amp is dedicated to the 725G and 728G low-frequency transducers, delivering unparalleled output and detail even at great listening distances.

JBL EON ONE Pro

The EON ONE PRO is rechargeable lithium battery powered, compact, lightweight portable PA system and has integrated handles rendering it perfect for gigging musicians, DJs, educators, fitness studios, corporate environments and more. With a maximum SPL of 118 dB (peak), the EON ONE PRO provides



detailed, distortion-free audio. An unobstructed 8" bass-reflex subwoofer delivers tight, accurate low-frequency response for DJs and playing back recorded music. The high-frequency section features JBL's patent-pending Directivity Control Geometry, which optimizes the spacing and angles of the six-two-inch high-frequency drivers to deliver full and clear sound over a wide coverage area, ensuring that the entire audience hears the sound accurately and

consistently. Its built-in seven-channel mixer with Hi-Z inputs and phantom power enables users to connect microphones, instruments such as acoustic guitars, electric guitars and keyboards, and other sources. The mixer features bass, treble and reverb controls to optimize the sound. The unit also includes a pass-thru XLR connector for integrating additional units for more robust sound reinforcement.

L ACOUSTICS Syva

Syva is a new format, high power speaker system which features six medium-frequency and three high-frequency speakers in a sleek J-shaped progressive curvature format. The transducer arrangement called segment source produces an H/V



140° x 26° (+5/-21°) directivity pattern that is optimized for exceptional surface coverage and 35 meters of throw. The Syva comprises of Syva Sub infra extension to achieve 142 dB max SPL, Syva Low enclosure features two K2-grade 12" drivers designed to provide low frequency contour and extended bandwidth down to 40 Hz. And Syva Sub features one KS28-grade 12" driver, to further extend the bandwidth of the system in the infrasound domain down to 27 Hz.

LECTROSONICS Duet

The new system consists of the M2T dual-stereo half-rack transmitter and M2R diversity belt pack receiver. The Duet covers the UHF



X5 Coupe
440W (3 In 1)



X4 Coupe
370W (3 In 1)



Beam 350
(Original Philips Lamp)



Beam 280



Raytheon
(4 In 1)
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frequencies of 470-608 MHz in a single range, uses digital modulation for transmission, and can accept analog or Dante digital inputs. The new system is designed and developed with professional touring, installation, theater, filmmaking and broadcast customers in mind. The M2T half-rack transmitter houses two independent stereo transmitters allowing for up to four stereo or dual-mono transmissions in a single rack space. The audio inputs can be individually configured to be analog or Dante compatible. The analog input connectors are full size XLR/TRS combo types for balanced line level analog signals while the input preamp circuits use a special balanced amplifier with very high common mode rejection to minimize hum and noise. A Dante Ultimo interface via dual RJ45 connectors accepts Dante networked audio inputs and can cascade the digital stream to additional units via CAT6 cables. An additional RJ45 jack provides an Ethernet connection for programming and control via Wireless Designer software and a USB jack on the front panel allows for firmware updates.

MACKIE Thump 15A

Thump 15A is a powered loudspeaker whose ultra-affordability, class-leading performance and reliability and bring it to the next level with an all-new design and



technology that redefine chest-thumping low-end and versatility. Delivering proven, chest-thumping low-end, the 1300W Thump 15A loudspeakers are equipped with built-in mixers and 4 application-specific speaker modes to get you set up and sounding good faster than ever. Other features include: Built-in 2-channel mixer features Vita preamps with Wide-Z technology to handle mic, line and instrument signals, four Application-specific speaker modes for instant system optimization, power Factor Correction and durable, lightweight molded enclosure.

MARANI DPA-260P

The DPA-260P is a cost-effective 2-IN/6-OUT digital speaker management system, designed to cater any crossover configuration and provides the suitable processing and control for live application use. It comes with 2 analog inputs, and 6 analog outputs, managed by a powerful MARANI M704 DSP Engine, in addition to a full matrix mixing mode where inputs may be routed/ mixed in any ratio to any output. Other features includes



its excellent sonic performance with 24bit high end converters coupled with 48kHz sample rate, 11 band parametric equalization per input channel, 7 band parametric equalization per output channel, front panel interactive LCD display for local access and configuration, simultaneous control up to 32 units via PC software, up to 48 storable user presets and Security Lockout.

MARTIN AUDIO Wavefront Precision Series

The award winning Wavefront Precision Series is a new generation series of multipurpose line arrays, which comes with Martin Audio's signature sound and coverage consistency. The series includes dual-10 WPC and dual 6.5-inch WPM, which incorporate the new external iKON multi-channel amps and automated DISPLAY software. The series also includes the new SX118 and SX218 (single- and double-18) subwoofers. And the XE units are new coaxial 12- and 15-inch low-profile wedges, designed to be partnered with the new iKON 4-channel amplifier for up to 143



dB SPLs. Adopting the principle of scalable resolution with external, dedicated multi-channel amplifiers, Wavefront Precision line arrays are uniquely flexible, upgradeable, and financially accessible.

MARTIN AUDIO XE Series

The XE Series features unique Coaxial Differential Dispersion technology with a patent-pending third static waveguide. Combining sleek, low-profile enclosures with unique, high SPL Coaxial Differential Dispersion technology, XE Series delivers perfect monitor sound with a defined coverage pattern that allows the artist freedom of movement, while reducing overlap with adjacent monitors. Coaxial Differential Dispersion technology allows the artist to stand directly over the monitor or further back, without significant



changes in SPL or tonal balance. It produces the optimal coverage pattern over a listening plane at head-height, helping to contain the sound within that region. In addition, it is partnered with the new iKON four-channel amplifier, maximizing the capability of the monitor while ensuring both engineer and artist will experience the same high level of consistent performance from an XE monitor anywhere in the world.

MARTIN Professional MAC Encore

The Martin MAC Encore Performance, is a full-featured, LED moving head that claims to deliver levels of light quality and consistent operation never seen before in an LED-based stage lighting unit.

Designed to produce premium white light in a wide variety of applications where critical lighting is required, MAC Encore Performance is available in two dedicated color temperature variants: WRM for unparalleled, 3000 K warm incandescent emulation and CLD for crisp, 6000 K neutral daylight. Furthermore, MAC Encore Performance integrates cutting-edge LED technology with a proprietary and innovative light engine that has been carefully engineered to generate pristine, full spectrum light with ultra-high color rendition. This is all housed in a cleverly cooled and packed optical design. Also, it weaves together coveted features and dynamic effects including vibrant



CMY color mixing, ultra-slow gobo rotation, Animation FX system for 3D beam animations, smooth color temperature correction, dimming to full blackout, and variable frost.

And it performs them all with extreme speed and accuracy of movement, precise framing shutters, all in a record-breaking, low noise engine.

Meyer Sound LINA

The self-powered LINA loudspeaker measures only 20.27 inches (515 mm) wide and weighs in at a mere 43 lbs. (19.5 kg), making it an ideal choice when discreet appearance, portability and hanging weight restrictions are critical considerations. On the inside, LINA has been outfitted with new drivers, an updated amplifier and a signal processing package. As Compared to MINA, the newly designed class D amplifier affords greater efficiency, and an upgraded power supply enables higher peak output. In most applications, LINA loudspeakers will





VHD Series

Large Format Point Source System

In a world that is hanging multiple speaker cabinets linked to numerous processors programmed by various predictive software one company has found a better way. KV2's legendary VHD System continues to amaze audiences worldwide with its incredible output clarity and coverage from such a compact, easy to rig plug and play system.

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be integrated with the companion 750-LFC low-frequency control element for extending deep bass performance across its operating frequency range of 36Hz to 125Hz. The 750-LFC houses a 15in, dual voice coil long excursion driver along with a two channel, open loop class D amplifier and signal processing to provide separate, precisely synchronized power to each voice coil.

Nexo Geo M10

The new high-output NEXO GEO M10 sound reinforcement system has been developed for long-throw theater and live music applications and draws on structural and acoustic innovations first released in the groundbreaking NEXO STM Series modular line array, particularly the STM M28. The NEXO's GEO



M10 combines many patented technologies with advanced DSP control and integral, 'no loose parts' rigging to create a compact, powerful, wide-bandwidth module that's quick and easy to deploy in flown arrays or groundstacks. It also partners a 1.4" titanium diaphragm HF driver with a single, Neodymium-magnet 10" driver and delivers an unprecedented ratio of LF response to cabinet size, outperforming many larger, dual-driver designs. And with a maximum SPL of 136dB, GEO M10 is twice as powerful as its sister-system, the GEO M6, making it ideal for speech and music events with larger audiences..

NUMARK NTX1000

Taking notice of the return of vinyl Numark launched the new NTX1000 Professional Direct-Drive Turntable last year. With the resurgence of vinyl for DJ gigs, the NTX1000 direct-drive turntable has all the features and performance demanded by the professional DJ. Moreover the new model merits itself on its affordable price. Key Features



include:

Full-size platter with high-torque direct-drive motor; 2-speed design: 33 1/3 and 45 RPM; S-shaped tonearm for accurate tracking; Tonearm with height adjustment, damped cueing and anti-skate control; Pitch range adjustable to $\pm 8\%$, $\pm 16\%$, and $\pm 50\%$; Adjustable counterweight for perfect tonearm balance; Pitch fader with reset button; Start and stop time knobs for adjustable time ramping and 45 RPM adapter included.

OHM TRS-218

The TRS has been in production for over 30 years, recently given a facelift with active versions. the TRS 218p takes centre stage with its 2k AES amplifier module with touchscreen, internal DSP with pre-sets, PEQ, delay, IR filters, AES in, buffered AES out, AES to analogue redundancy auto switching and stereo line out for connecting TRS 212 or Cora line array. The TRS-218 is a 1250 W high power, 30 Hz capable subwoofer designed for large venues and outdoor events. TRS-218 can



be used singularly or in multiples in both horizontal or vertical orientation due to the inclusion of Ohm's TRS stacking system. This ensures secure stacking of multiple units and total integration with all TRS mid-high cabinets. Using two of OHM's proprietary 18" cast aluminium chassis drivers coupled with a hybrid horn/reflex design, this cabinet has a frequency response of 29 Hz to 180 Hz (-10dB) at an astounding 141 db SPL (peak). All this performance weighs in at a manageable 88 Kg.

OUTLINE Newton

The next generation in multi-function processing and control – the Newton is a full-featured, FPGA-based 'Multi Media Nucleus' that takes technology convergence for audio-visual systems to the next level. In

addition to comprehensive loudspeaker system control facilities it additionally offers media conversion, sync and clock management plus audio distribution with networking capability, along with a very high potential i/o count (up to 216 in both directions simultaneously). Newton also features several innovations that solve common real-world problems. As standard it is fitted with Analogue, AES, MADI optical, MADI



coaxial and Dante inputs and outputs, which can be freely mixed and matched to suit the application. Further, it has the unique ability to simultaneously manage multiple clocks from different sources: this means that several non-synchronised digital protocols can be connected to Newton without affecting the phase coherence of the audio outputs. At a point where systems convergence and integration is more important than ever, this feature is set to make life a great deal easier for many professional users globally. Newton is also equipped for the most mission-critical applications in terms of backup strategies – for example, unlike any other device currently available, Newton features dual redundant internal power supplies with separate AC inlets. It can also be configured to use different types of input as 'main' and 'backup' with auto-switchover in the event of failure, an ideal safety net for major televised events and similar applications.

PHILIPS Lighting VL6000:

After setting the trend for hybrid luminaires Philips Entertainment Lighting is leading the way again with a new generation of beam light. Hailed as a 'revolutionary essential', the Philips VL6000 Beam is a feature-rich, mid-air effects light with a large 19" front aperture. It uses a new exclusive Philips ellipsoid reflector array system, producing a retro style searchlight effect from a high output column of light with a tight, 6.4° beam angle. Reminiscent of the much-loved and iconic Philips



Vari-Lite VL5 with its distinctive look, the Philips VL6000 Beam merges a plethora of new features with handpicked Philips Vari-Lite favourites to offer designers a fresh yet familiar approach to large-scale rock and roll and event lighting. Perfect for arena size applications, the Philips VL6000 Beam offers a super bright output that exceeds 55,000 lumens. A range of effects can be created through its aerial beam and image projection system, with 7 gobos selected from much-loved Vari-Lite images, including a break-up effect from the VL4000 series and tri-cone from the original 500 series. The ability to adjust the sharpness of the beam edge and image appearance adds a new dimension to the traditional Vari-Lite gobos. The Philips VL6000 Beam's dynamic static color system allows the fixture to maintain its highest output at all times. It offers lighting designers 18 direct colors from 3 color wheels as well as color mixing to achieve up to 55 vibrant combinations.

POWERSOFT Quattrocanali DSP+D

Powersoft's new Quattrocanali Series four-channel amplifier platform consist of three models: Quattrocanali 4804: 1200 W per channel @ 8ohm; 1500 W per channel @ 2 ohm; 3000 W bridged @ 4 ohms, Quattrocanali 2404: 600 W per channel @ 8ohm; 800 W per channel @ 2 ohm; 1200 W bridged @ 4 ohms and Quattrocanali 1204: 300 W per channel @ 8 ohm; 500 W per channel @ 2 ohm; 1000 W bridged @ 4 ohms. This completes the Powersoft Installation Series that includes Duecanali (2-channel) and Ottocanali (8-channel) series. This new 1RU four-channel amplifier platform packs a serious punch, delivering crisp sound and sustained output volume. It features Powersoft's trademark switch-mode power supply with power factor correction, smart rail management and bridgeable switch mode fixed frequency Class D output circuit

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Integration and Unified Software Platform.

QSC K.2 Series

topology. Quattrocanali is available in both DSP and non-DSP versions, both fully remote controllable via standard GPI/O connections on the back panel, Powersoft's proprietary Armonia software, dedicated web app, or third-party application. Remote operation on the Quattrocanali is available via the web app and Armonia, enabling the user to access all the amplifier's functions from a decentralised location, further reducing the need for personnel on station. It seamlessly integrates within a networking environment, making monitoring and operation capabilities remotely accessible. The operator may also set up the Quattrocanali off line, saving precious time, and enabling the audio engineer to work on presets from the comfort of his office.



Matched Transition) ensures smooth coverage across the entire listening area. Advanced on-board DSP provides Intrinsic Correction voicing and advanced system management to further optimize performance. The new K.2 Series, which is comprised of the 8-inch K8.2, 10-inch K10.2 and 12-inch K12.2 full-range loudspeakers, offers a number of significant feature upgrades, establishing an entirely new standard in powered loudspeaker technology. The K.2 Series can function as either the Main PA or as a Floor Monitor. Each model can also be flown, wall- or truss-mounted or placed on a speaker pole, either straight-firing or with 7.5 degree down-tilt. This flexibility makes it a smart choice for a wide range of live sound applications.

Superbly flexible, the K.2 Series provides its operators with a library of preset contours for common applications such as Stage Monitor, Dance Music, Musical

Instrument Amplification, Hand-held Microphone and more, while also offering storable Scenes to recall user-configurable settings such as input type, delay, EQ, cross-over and selected contour. Operated as either main PA or as a floor monitor, each model can also be flown, wall- or truss-mounted, or placed on a speaker pole, either straight-firing or with 7.5-degree down-tilt.

RCF HDL 30-A

HDL 30-A is an incredible achievement for RCF. Building on the company's hugely successful HDL 20-A this new line array is a compact bi-amped 2-way active touring system for medium to large events, both



indoors and outdoors. It features two 10-inch woofers and an impressive 4-inch titanium compression driver. The time coherent waveguide is the result of in-depth research and design. HDL 30-A is the first line array in a composite cabinet with zero-degree phase and ultra-linear amplitude response. The built-in 2200W, 2-way class-D amplifiers and a high-power DSP, the unit is capable of producing a max of 137dB SPL. A consistent level or reproduction is assured throughout the frequency spectrum, thanks to a new processing technology from RCF, known as FIRPHASE.

ROBE MegaPointe

MegaPointe has set new standards and expectations in moving light technology, taking the original concept of the all-in-one fixture to a whole new level. With the utilization of an exclusive 470W short-arc lightsource, Robe's diligently crafted MegaPointe optics produce phenomenally bright parallel beams, incredible spot gobo projections, together with super-quick movement, smooth CMY colour mixing and a multitude of effects. Its zoom ranges from 1.8 to 21 degrees in Beam mode - tight, powerful and punchy, and goes from 3 to 42 degrees in Spot mode with crystal clear high-clarity output through a 150 mm diameter front lens, with a stunning total lumen output of 20.375 and an impressive CRI of over 80. There is a static 14-slot plus open gobo wheel fitted with glass gobos for precision surface projections and exciting in-air impressions, and a second wheel contains 9 rotating, indexable and replaceable gobos. These can be combined with a variable speed, bi-directional animation



wheel which can be used in conjunction with any of the gobos. A remote adjustable hot-spot control can further influence the appearance of the lightsource, and there is yet more versatility with a series of pre-programmable 'random' strobe and pulse effects. In keeping with Robe's commitment to smaller-brighter-lighter fixtures, it weighs only 22Kgs (48.5lbs).

sE Electronics V7 X

The V7 X is an instrumental mic with a specialized capsule that features an aluminium voice coil and new acoustic design suited towards instrument recording. The V7's road-ready design is all metal and the chassis' high quality, highly durable zinc alloy is designed to hold up under on-stage stress for years. The DM7 dynamic element in the V7 has been custom-developed for a crisp, open sound that perfectly captures your voice in the most natural way you've ever heard on stage - and its sophisticated supercardioid capsule design helps isolate your voice from other instruments, ensuring vast amounts of gain before feedback. The V7's brand new, patented shockmount efficiently decouples the capsule from mechanical vibration, providing exceptionally low handling noise.



SENNHEISER HD 200 Pro

These headphones are built on the successful HD4x1 series, and come with Sennheiser's own proprietary 'neodymium magnets', which the company claims deliver excellent sound reproduction, including a more powerful bass. Sennheiser states that because of HD 200 PRO closed back, over-ear and lightweight design, it also ensures isolation from outside ambient noise, make these well-suited for monitoring sessions. Also, the



QSC Q-SYS Core 510i

The Core 510i processor is an audio, video and control processing system that leverages Intel CPUs and motherboards as well as a dedicated, Linux Realtime operating system developed by QSC to provide class-leading capabilities for AV systems of any scale. The Q-SYS Core 510i processor offers flexible audio I/O of any Core in the Q-SYS Platform, perfect for applications that require a diversity of analog, digital and



networked audio connectivity. It features eight onboard I/O card slots, Q-SYS Core Mode to provides an abundance of raw processing power for all audio, video and control processing requirements including integration with the new Q-SYS AV-to-USB Bridging solution and onboard acoustic echo cancellation (AEC) processing, allowing the ability to manage multiple small- to mid-sized conference spaces or a single large space. It also consists of I/O Frame Mode which offers the ability to integrate up to 128 x 128 audio channels in to the Q-SYS system for processing on a separate Q-SYS Core processor with other features like External Device Control, Peripheral



CIRCLE

PRO AUDIO

Wireless & Wired Microphones | In-Ear Monitors | Lapel Microphone |
Headset Microphones | Antennas | Accessories

headphones are fitted with powerful Sennheiser drivers with an impedance of 32 ohms. The headphones come equipped with a 2 m long cable with a straight 3.5 mm headphone jack and a 6.3 mm adapter.

Technical specifications of HD 200 PRO are: Frequency response is 20 – 20,000 Hz, sound pressure level (SPL) at 1kHz/1Vrms is 108 dB, and impedance is 32 ohms. The earphones have 3.5 mm jack, and weigh 184gms with a total cable length of 2.0 metres.

SENNHEISHER Xs Wireless Systems Series

The Xs Wireless System series offers complete sets with sturdy units, simple operation and high-quality sound. It has transmitters with a battery life of up to 10 hours, while a switching bandwidth of up to 24 MHz, provides flexibility in the choice of frequencies. The series



for the E frequency range). This allows up to 12 wireless links to be operated simultaneously, ensuring trouble-free operation even at somewhat larger events.

SHURE Axient Digital

The award-winning Axient Wireless System is built on the superior performance of Shure's UHF-R, ULX-D, line of mics to create the most advanced wireless platform and can handle all wireless assignments and situations.

This system features a receiver that is compatible with its two transmitter offerings, the AD Series and ADX Series, which incorporate ShowLink, providing real-time control of all transmitter parameters with interference detection and avoidance. The ADX Series also includes the first micro-bodypack with an integrated self-tuning antenna, enabling greater concealment and comfort.

Axient Digital features Quadversity receiver technology, significantly mitigating the potential for signal fades or interference that can cause dropouts. Quadversity mode allows users to place sets of diversity antennas in different zones or double the number of antennas in a single zone, to improve RF signal-to-noise in challenging environments. High Density mode increases the maximum simultaneous system channel count from 17 to 47 per 6-MHz TV band, from 23 to 63 per 8-MHz TV band.

SOUNDCRAFT Vi1000:

Representing the culmination of the groundbreaking achievements and rich feature sets offered by Soundcraft's acclaimed Vi Series, the new Vi1000 is the most compact member of the Vi-000 family—at just 86cm x 81cm (34" x 32") in size—yet it retains all the mixing and processing power of its two larger siblings, the Vi2000 and 3000.

The Vi1000 is designed for live touring, music venue and corporate AV customer with applications



where a compact and cost-effective, but powerful console is required. Employing Soundcraft's unique and highly intuitive Vistonics IITM channel strip user interface, together with

FaderGlow™, the console combines the operating principles and workflows from the highly successful Vi3000, 5000 and 7000 consoles with Soundcraft SpiderCore™—a powerful built-in DSP and I/O engine based on STUDER technology, offering 40-bit floating point processing for class-leading audio quality.

YAMAHA HPH-MT8:

The HPH-MT8 headphones are a physically impressive set of cans, designed to deliver accurate response and high-resolution sound with precise stereo imaging, and faithfully reproduce every nuance of the mid to high-end with tight bass. They're thickly padded and comfortable to wear. Unlike many other pro headphones, HPH-MT8 comes with a detachable cable, which is lockable and replaceable. Both a 3-meter straight cable and a 1.2-meter



(stretchable coiled cable as are the threaded 1/4" adapter and storage bag. All connectors are gold-plated. The cuffs are closed-back and do a great job keeping ambient sound out, and either cuff is reversible for single-ear monitoring. The wires connecting each cuff are completely recessed and the cuffs also fold into the headband to reduce storage space, and the pads are replaceable.

YAMAHA RIVAGE PM10 V1.5:

New components and a firmware update further boost the versatility and performance of YAMAHA's

highly acclaimed RIVAGE PM10 digital mixing system. The new Yamaha RIVAGE PM10 firmware update V1.5 includes an Eventide "H3000 Live" Ultra-Harmonizer plug-in and Dan Dugan Sound Design automatic mixer plug-in.. The original Eventide H3000 Ultra-Harmonizer, which offers outstanding effect quality making it an enduring favorite among engineers and



musicians, and the newly developed H3000 Live plug-in offers that same performance optimized for live-sound applications. The Dugan plug-in also suppresses feedback and comb filter effects, freeing the engineer from the need to keep track of numerous faders in challenging unscripted speech situations, numerous Speech System channels, and five groups so processing can be divided into as many as five independent automixers. A new analog delay and other Yamaha plug-ins have been added in PM10 V1.5 expanding the variety of sound-shaping tools for mix engineers.

Yamaha –TF Series V3.5:

The firmware update v3.5 has significantly expanded the utility of the Yamaha TF Series by the addition of the acclaimed Dugan Speech System auto mixing capability. Developed in cooperation with Dan Dugan Sound Design Inc., the update includes the original, innovative automatic microphone-mixing algorithm. The Dugan automixer can be applied to up to eight channels in the TF Series, automatically raising the gain of microphone inputs



that are active, while lowering the gain of inactive microphone inputs, and adjusting each to create a consistent overall mix level. This will eliminate the need for complex fader operation. The advanced Dugan automatic mixing algorithm also maintains a safe feedback margin, ensuring high quality, high clarity sound always.

360 PRO SOLUTIONS



SKB CASES



OPUS NIGHT CLUB IN BANGALORE EQUIPPED WITH QSC WIDELINE 10

Bangalore's Opus Club has recently installed a QSC WideLine 10 Series line array, along with the Q-SYS Platform. The venue is one of the largest of its kind in Bangalore with a mezzanine floor and an outdoor brunch area, which is part of the club.

Opus was very specific with their requirements and had a clear vision. They needed a system that could accommodate both live performances and DJ events, which meant the solution needed to provide additional headroom and flexibility for any visiting

processing requirements, SD Audio selected the Q-SYS Platform. Not only did it provide the flexibility to select and change DSP requirements almost instantly, it also allowed them

Q-SYS enabled CXD4.5Q network amplifiers. Designed specifically for the Q-SYS Platform, the CXD-Q Series amplifiers combine the power of QSC audio technology with the

power of the Q-SYS network processing and control systems. CXD-Q passes telemetry information to Q-SYS, which allows users to have an immediate glance of the system and easily control and view the status of

house is supported by QSC GP218-sw subwoofers combined with a variety of QSC K12, and KW181 loudspeakers.

K.Gopi & Sommaih, Opus Club owners says, "Our Vision was a great club with the a sound system that ensured clarity and the right tonal balance, QSC was the obvious brand as they maintain the same tone across their entire speaker systems."

The full QSC system was an ideal solution for Opus as it caters to any form of performance and provides amazing experience to the audience



Bangalore's Opus Club installed a QSC WideLine 10 Series line array, along with the Q-SYS Platform. To provide an even coverage across the entire space, the front of house is supported by QSC GP218-sw subwoofers combined with a variety of QSC K12, and KW181 loudspeakers

mix engineer to easily adjust the system, but with enough controls to protect the system.

To handle the complex DSP

to easily route audio over a standard gigabit network.

To provide the backbone of the system, Q-SYS routes audio through

all loudspeakers connected on the amplifiers.

To provide an even coverage across the entire space, the front of

as well as gives sound engineers and DJs an advanced mixing tool, which is big step forward from traditionally used sound system.

POWERSOFT UNVEILS NEW DUECANALI 804 AND DUECANALI 4804 SYSTEMS

Powersoft announced the launch of the new Duecanali 804 and Duecanali 4804, a two-channel amplifier platform with optional DSP and Dante dedicated to the fixed install market.

The **Duecanali 4804's** two channels each provide 2,400W @ 4Ω, which reportedly makes it a 'cost-effective' solution for small to medium size installations. The **Duecanali 804**, meanwhile, delivers a pair of 400W channels that offer a lower total power solution for installations where a single two-channel amplifier is enough to meet the system requirements, without the need for additional channels or power.

Powersoft states that the newly completed Duecanali range is able to drive low impedance loads (2/4/8 Ohm) and 70V/100V distributed lines selectable per channel. Furthermore, it provides more than 16 different

possible output configurations, delivering a maximum output power per channel of: 400 to 1250 W at 8 Ω; 400 to 2400 W at 4 Ω; 500 to 3000 W at 2 Ω; 1000 to 6000 Watt at 4 Ω bridged; 800 to 4800 Watt at 8 Ω bridged; 400 to 2400 Watt at 100 Volt and 70 Volt.

The two new models complete the Duecanali Series, bringing consistency in terms of size and power, as well as look and feel, for Powersoft's installation market. The products are available in standard or DSP+D versions, which extend system performance with on board high-end signal processing and Dante digital audio distribution. Both models can be managed with the newly launched user friendly Armonia 2.11 Pro Audio Suite version.

"With DSP onboard, interoperability created via third-party plug-ins, networking and remote control,



The Duecanali 4804

Powersoft amplifiers have been converted into smart controllers of the future," says **Francesco Fanicchi**, Powersoft's Brand and Communication Director. "This has great bearing

on integrators involved in multiple disciplines like audio, video, ETH cabling, power distribution and UPS provision, meaning that the future becomes a whole lot easier."

POWERPLAY P16-M
16-Channel Digital Personal Mixer



Easy, affordable digital stereo mixer for **live or recording musicians/vocalists** to take control of their own monitor mix.

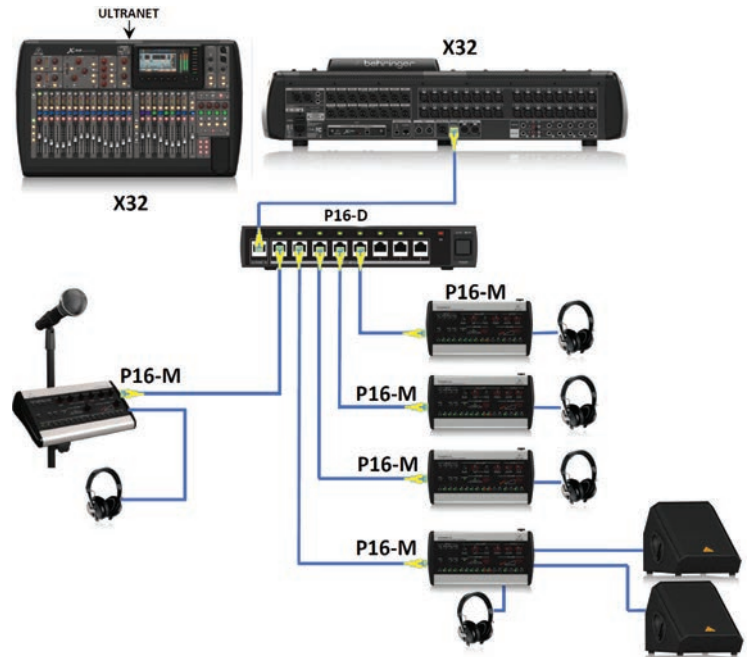


Features



- Ultra-intuitive "analog" operation with total recall & 16 presets for custom mixes.
- Level and Pan/Spread control per channel with LED meter.
- **3-band EQ** per channel with mid-band frequency control.
- Solo and Mute functions per channel.
- High power and "drummer proof" headphones output.
- State-of-the-art **24-bit** D/A converters for premium audio quality.

- **MIDI IN** port for real-time remote control of all channels by external MIDI device.
- Standard **CAT5e** connection delivers power and 16 signals to each Personal Mixers.
- **ULTRANET** connector to daisy-chain up to **48** x P16-M mixers for large systems (in conjunction with P16-D).
- Ultra-low system latency of less than 1 millisecond.



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*MOP = Market Operating Price.

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QSC ANNOUNCES NEW ACOUSTICCOVERAGE CEILING-MOUNT LOUDSPEAKER FOR LOWER CEILING ENVIRONMENTS

QSC has announced a new AcousticCoverage Series loudspeaker - the AC-C2T, which is a 2.75" full range loudspeaker with 70/100V transformer and 8 ohm bypass making it ideal for lower ceiling environments such as distance conferencing reinforcement, wide area paging and business music applications.

"This new addition to our loudspeaker lineup provides integrators a cost-effective option that not only provides exceptional voice coverage, but

also improves musicality not typically found in products designed for background music," said **Travis Nie**, Product Manager for QSC Installed Loudspeakers. "It also provides a much wider conical coverage which reduces the number of loudspeakers needed in low ceiling applications."

To further enhance performance and create a complete QSC systems solution, integrators can use advanced voicing

with Intrinsic Correction via the Q-SYS Platform or CXD Series amplifiers. In addition, the AC-C2T includes

a 4-pole Euroblock connector to easily loop thru wiring and eliminate termination hassles.



MACKIE PULSATES THE DANCE FLOOR AT FISCO RESTOBAR, MUMBAI

Fisco Restobar is a new exclusive dining and party venue providing patrons with the best of wining-dining and dancing, giving them the perfect space to indulge and let their hair down as they party the night away to an eclectic mix of EDM, hip-hop, house, international pop, and commercial music, interspersed with Indian pop chart-toppers. The place has become a unanimous crowd-favorite mainly because of the high-energy music and the amazing ambiance; and due credit goes to the awe-inspiring loudspeaker system at the dance floor featuring state-of-the-art audio architecture from Mackie.

The audio system at Fisco Restobar features Mackie SRM550 high definition portable active loudspeakers

along with the Mackie SRM1850 high performance subwoofers delivering the low-end thump, all of which is processed and controlled through the Mackie ProFX16 V2 mixing console. The Mackie system delivers unparalleled coverage and impactful aural delivery, with crowd absolutely loving the high energy atmosphere that music and sound creates.

Prashant Gandhi, owner of Fisco Restobar shared, "We're elated with the response and love that Fisco Restobar has garnered from the crowd here.

So many people have complimented us saying that they absolutely love

The audio system at Fisco Restobar features Mackie SRM550 high definition portable active loudspeakers along with the Mackie SRM1850 high performance subwoofers, controlled through the Mackie ProFX16 V2 mixing



the music and the sound. The vibe at Fisco Restobar is truly unique, and we

thank everyone who've played a key role in bringing the place together."

SUN INFONET, DELHI TO DISTRIBUTE MEYER SOUND FOR PRO AND COMMERCIAL MARKETS IN INDIA

Sun Infonet Pvt. Ltd. of New Delhi has been named exclusive distributor of Meyer Sound products for the professional and commercial sound market verticals in India, including the sound hire, commercial installation and live entertainment business sectors.

"Sun Infonet has a fantastic team," says **Sandeep Braganza**, Meyer Sound Sales Manager for India. "They are known for their

integrity and for their dedication to the brands that they represent. Also, with multiple offices spread across India, they will provide Meyer Sound customers with timely post-sale service and support."

Headed by Managing Director **Neeraj Chandra**, Sun Infonet Pvt. Ltd. was first established to distribute and service state-of-the-art radio and data communications equipment. Following appointment as the Shure distributor,

the company further expanded its portfolio to include Allen & Heath mixing consoles and DIS conferencing systems, among other product lines.

"Over the past nearly fifteen years, working with Shure and other brands, we have developed close and constructive relationships with consultants and system integrators throughout India," comments Neeraj Chandra. "This groundwork will enable



us to work quickly and effectively in bringing more Meyer Sound solutions into the high-end market for auditoriums and large venues. We have earned the trust of our collaborators with our proven record of technical expertise and prompt customer support."

The Sound of Speed



SQ

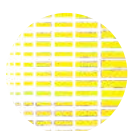
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CELESTION LAUNCHES NEW SMALL-FORMAT, COAXIAL DRIVERS AND WEATHER-RESISTANT, COMPACT, LOW-PROFILE DRIVER RANGE

Celestion, announced the launch of two new small-format, coaxial drivers and the AF weather-resistant, compact, low-profile drivers range, designed for use in compact line arrays, column speakers and compact single-speaker applications.

Cost Effective TFX Drivers Complement Existing FTX Series

The two new pressed steel chassis of the TFX0512 and TFX0615 provide a very cost effective complement to the



The TFX0512 & TFX0615 Small-Format Coaxial Driver

company's well-established FTX series of coaxial units, for applications including compact, fixed-install sound reinforcement and cinema audio. Both TFX

drivers feature a Celestion ferrite motor driving the low frequency element. For HF reproduction, they feature a high sensitivity, 19mm/0.75inch (TFX0512) or 25mm/1.0inch (TFX0615) neodymium magnet element incorporating a silk diaphragm.

With neodymium having a stronger magnetic force than ferrite, this permits the high frequency element to be built with a much smaller magnet assembly than would be the case if ferrite were used. The

resulting compact size of the HF unit enables it to be positioned inside the LF driver's voice coil, at the exact point where the acoustic centres of both sources are 'coincident'. The benefit of this is

well-matched directivity and time alignment of the LF and HF signal, delivering maximum signal coherence for a more natural sounding reproduction.

"The launch of the TFX range is all about providing designers of sound reinforcement equipment with more options," explains Celestion Marketing Director Ken Weller. "If you liked our coaxial drivers such as the FTX series, but ideally needed drivers that are more compact, more affordable, or both of the above, the TFX range provides a solution that fits your requirements."

Ferrite Magnet AF Drivers Complement Existing AN Line Array Driver Range

The first models in the series consist of two lightweight full-range models, the three-inch (75mm) AF3010 and the four-inch (100mm) AF4010, the new driver range complements the company's existing AN series of line array drivers.

"Our AN series drivers have been so well received by our customers that we wanted to offer the AF Series as an alternative, designed



Celestion AF3010 & AF4010 Range

to reach a wider marketplace," explains Ken Weller, Celestion Marketing Director.

The new lightweight (around 600g/20oz) AF series uses exceptionally cost-efficient materials, meaning that together with the existing AN drivers, customers now have a wider range of driver sizes and construction types to suit all design budgets.

The three-inch AF3010 is a 35W driver with sensitivity (@1W/1m) of 87dB, and with a frequency range of 120Hz to 19kHz. The larger AF4010 also delivers 35W, with a slightly higher sensitivity of 88dB and frequency range of 100Hz to 16kHz.

ADAMSON PREVIEWS NEW POINT SOURCE MODELS FROM ACCLAIMED IS-SERIES

Adamson Systems Engineering has previewed a pair of new point source additions to its heralded IS-Series of install-focused loudspeaker products - The IS7p and IS10p.

"The response to our IS-Series throughout Europe has been tremendous," says Adamson's Sales Director, EMEA, and Jasper Ravesteijn. "We want to offer integrators an advance look at these products so they can experience their performance in a real-world environment and work them into their specifications for upcoming projects."

Like the existing IS-Series offerings - the IS7 and IS10 two-way, full-range line array cabinets and IS118 and IS119 subwoofers - the new point source models pack Adamson's sophisticated tour-grade technology into a sleek package with rugged and unobtrusive rigging solutions, keeping the focus on the architecture in any given application.

DESIGN & FEATURES:

The **IS7p** is a two-way point source cabinet with two ND7-LM16 7" Kevlar Low-Mid drivers (2x 16 Ω) and one NH3-8 1.4" exit compression driver (8 Ω). The **IS10p** is a two-way point source cabinet containing two ND10-LM 10" Kevlar Low-Mid drivers (2x 16 Ω) and again one NH3-8 1.4" exit compression driver (8 Ω).

Both loudspeakers feature newly designed waveguides, which are refined through boundary element analysis (BEM) and incorporate the best aspects of 30 years of Adamson waveguide technology. The rotatable waveguides are available with nominal dispersion patterns of 70° x 40° or 100° x 50°, respectively, and ensure a smooth transition from on- to off-axis positions,

delivering natural sound without diffraction or lobbing. Depending on the application, their full-range



Pair of new point source additions to IS-Series

capabilities can negate the need for a subwoofer, and with their high SPL-to-size ratio, the IS7p and IS10p are remarkably efficient solutions.

The choices in dispersion pattern

enable the IS7p and IS10p to be used as main systems or to supplement larger setups as fill cabinets in theatres, musicals, and houses of worship as well as dance clubs, large meeting rooms, and arenas. The cabinets feature marine-grade birch plywood and aircraft-grade aluminum and steel. The models come equipped with Speakon NL4 connectors (IS7p and IS10p) or barrier strips (IS7pb and IS10pb). A plate-and-screw rigging system is placed on four faces of the

enclosure, with a multitude of accessories allowing the enclosure to be deployed seamlessly in a variety of applications.

The IS7p and IS10p will be available in June 2018.



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MEYER SOUND INTELLIGENTDC HITS THE CEILING WITH NEW ASHBY SERIES

Meyer Sound has announced the launch of the Ashby Series self-powered ceiling loudspeakers, the latest addition to its growing family of installation products incorporating the company's exclusive IntelligentDC technology. The two new Ashby loudspeakers join seven surface mount models in the existing IntelligentDC line, all of which offer the inherent sonic advantages of self-powered systems along with the installation ease of distributed low-voltage systems.

The Ashby Series comprises two flush-mount models: the **Ashby-5C** with a 5-inch low-mid cone driver and the **Ashby-8C** with an 8-inch low-mid driver. Both employ a concentric 0.75" metal dome tweeter and are housed in integral, quick-mount metal backcans with Phoenix connectors for fast, simple installation in new or retrofit systems.

The innovative dual-driver concentric design provides a uniform 100-degree dispersion pattern, allowing use of fewer speakers to cover a wide listening area.

As with other IntelligentDC models, Ashby loudspeakers connect to a remote MPS-488HP rack-mount unit that supplies both balanced audio signal and 48V DC power for the amplifier. Connections are made using a single 5-conductor cable, and because no conduit is required by fire codes in most jurisdictions, the cables can be placed in open troughs with quick termination on 5-pin Phoenix connectors. Cable lengths



Ashby Full-Range Series Speakers For Discriminating Designers

of up to 450 feet (127 meters) are accommodated with no more than 1 dB loss using 18 AWG wire, and longer runs are possible using heavier gauges. In addition, remote monitoring of individual loudspeaker status on a Windows or Mac computer is available with the addition of the optional RMS module, RMServer and Compass software. Ashby loudspeakers provide an optimal solution when uncompromising audio performance must be combined with discreet, flush-mount installation. Typical applications include restaurants, hotels, airports

and other transit terminals, corporate board rooms, and high-end retail locations.

"The Ashby loudspeakers are a long-awaited addition to our IntelligentDC line," says **Pablo Espinosa**, Meyer Sound's vice president of R&D and chief loudspeaker designer. "Now integrators can combine both surface-mount and flush-mount models in the same installation using the same power supply and signal distribution units. This allows complete freedom for architects and consultants in system design, while also simplifying installation and reducing rack space requirements."

In addition to the two Ashby models, the IntelligentDC line includes five full-range loudspeakers (MM-4XP, UP-4XP, UPM-1XP, UPJunior-XP, UPJ-1XP) and two subwoofers (MM-10 and UMS-1XP).

EAW DEBUTS NEW AMPLIFICATION AND PROCESSING SOLUTION

Eastern Acoustic Works has announced its new UX Series, which offers complete amplification and processing solution for install and production applications utilizing EAW loudspeakers.

The UX series ensures the best possible performance of an EAW sound reinforcement system in a fraction of the time required with other amplifiers through seamless integration of EAW's Greybox technology and Resolution software.

"We are excited to provide our customers with an amplifier solution that offers pristine audio quality in an incredibly durable and reliable package," explains **TJ Smith**, general manager EAW. "Setup through Resolution software simplifies loading the appropriate Greybox settings and leverages the power of EAW core technologies such as DynO and Focusing while minimizing time spent tuning the system."

The amplifier series consists of two 4-channel amplifiers – the **UXA4406** and **UXA4410** – as well as the eight-channel **UXA4810**. These Class D amplifiers offer a unique combination of power and audio performance integrated with precise 48kHz digital signal

processing. The four channel models deliver up to 2,500 watts (5,000 watts bridged), while the UXA4810 delivers 1,250 watts per channel (2,500 watts bridged).

Incredibly versatile, each amplifier channel can be configured to deliver its maximum power into two, four or eight ohms, nominal loads as well as 25V, 70V & 100V constant Voltage (CV) lines. This offers designers and integrators



UX Series a complete amplification and processing solution

unparalleled flexibility and cost effectiveness. The final component

of the UX Series is the UX48 processor, a high performance and easy-to-use signal processor that offers processing for four inputs and eight outputs. It takes advantage of the latest analog to digital conversion and DSP technologies to deliver impeccable audio. The full front panel user interface offers simple and intuitive operation.

ALLEN & HEATH ANNOUNCE SUPPORT FOR DANTE DOMAIN MANAGER

Allen & Heath has announced Dante Domain Manager Support for its dLive and GLD digital mixing systems via the M-Dante audio networking card, further widening their use in install applications.

All new Allen & Heath M-Dante cards will be supplied DDM-ready. Existing cards can be made DDM-ready by updating to V4 firmware, available from the Allen & Heath website. The M-Dante audio networking card can be fitted to any Allen & Heath dLive system or GLD mixer to provide a 64x64 Dante

interface.

Nic Beretta, Allen & Heath's Head of Product Marketing comments: "We always strive to make our products as integrated as possible within an installation. Dante Domain Manager is an excellent solution for many of our customers. As soon as we heard about it, we put things in motion to be among the first manufacturers to release V4 Dante firmware with DDM support."

Audinate's **Josh Rush**, Sr. Vice President, Marketing said, "Dante



Domain Manager is network management software that brings standard IT best practices to AV. It can help ensure audio networks are more secure, while making systems more scalable and controllable. We're thrilled that forward-thinking companies like Allen & Heath are embracing the system in their products."

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JUST AUDIO THE CHOICE FOR POR DO SOL BEACH LOUNGE, GOA

Por do Sol is the newest beach lounge on the Ashvem-Morjim strip in Goa (Morjim). It was opened in December 2017 with Chef Roger Ubach Bolde from Spain whipping up local and Spanish delicacies at the venue.

The powerful and efficient audio system at Pôr do Sol has been designed and commissioned by the team from **Just Audio** in Goa—the comprehensive pro audio solutions provider, and the official distribution partner of Audiocenter and NX Audio products in Goa.

Troy Furtado was responsible for the elevated experience customers have had at Por de Sol by installing the premium range of products by NX Audio and Audiocenter. These powerful and efficient systems have been installed after carrying out an extensive research and detailed analysis.



The powerful and efficient audio system designed by the team from Just Audio in Goa

The comprehensive house system comprises of 2 of the ZED10 amplifiers by NX Audio which powers up 4 units of the high quality K-LA210 line array systems by Audiocenter, consisting of Beyma drivers and Russian birch plywood. These dual 10" 2-way line array systems consist of 1600W RMS which can really rock any venue.

The subwoofer installed here is the SW218 consisting of 2400W RMS. These dual 18" subwoofers by Audiocenter are placed strategically to deliver uniform coverage with great clarity and impact. To make the sound impactful and clean but not obstructive and irritating, the DBX260 loudspeaker management system has been given the responsibility of fine

tuning the speakers and subwoofers, controlling the audio level and maintaining optimum audio performance at all times.

Talking about the kind of impact the overall vibe of the place has had on patrons who visit the place, a senior member of the Por de Sol management mentions, "Por de Sol, is one of the finest and newest

Ibiza style sunset beach lounges in Morjim, offering a little slice of the Spanish high life haven of Ibiza right here in Goa, where one can indulge in a luxurious sundowner. It has now become the go-to place because of its cocktails, mocktails and the food. But what makes this place stand out is the peaceful sunset mixed with the music that just blows your mind."

NEXT-PROAUDIO FOCUSES ON INSTALLED AND SMALL PORTABLE SOUND SOLUTIONS MATRIX SERIES

NEXT-proaudio has focused on installed and small portable sound solutions with a Passive Column Array series addition to its catalogue.

The MATRIX passive column arrays are composed of closely-spaced state of the art, 3" neodymium transducers housed in a stylish and yet sturdy aluminum / wood chassis designed to be the ultimate column speaker system in architectural integration, comprising two models, MATRIX M8 (8x3") and MATRIX M3 (3x3").

These speaker arrays have been developed in order to offer the highest intelligibility at high SPL and wider frequency response while providing constant beam-width over a user selectable vertical coverage. This accurate beam control extends up to 10kHz, well beyond the benchmark of 4kHz of traditional single-driver loudspeakers. To better control the lower frequencies, the Tuned Dipolar Technology was developed by NEXT-proaudio engineers to provide much more consistent low frequency

pattern control than other similar size systems.

A user selectable Music / Vocal mode switch is incorporated to allow quick and easy system optimization. Music mode provides a flat, balanced frequency response, while Vocal mode adds a mid-range presence for enhanced speech intelligibility.

NEXT MATRIX column arrays are able to focus the acoustical energy where it is needed, the listening area, leading to significant improvements to speech intelligibility and musical clarity even in critical acoustic environments.

For even greater versatility, the vertical dispersion pattern can be switched for Wide or Narrow coverage.

Small conventional column loudspeakers arrays provide no significant vertical directivity control at lower frequencies due to their physical size. To better control the lower frequencies, the Tuned Dipolar Technology was developed

to provide more consistent low frequency pattern control than other similar size systems. This can be useful in reducing the stimulation of resonant room modes at low frequencies. The heart of the NEXT MATRIX column arrays is the internal processing board. This proprietary special circuitry takes care of the array optimization and allows the user to easily adjust the system behavior to meet the application requirements. For an architectural



integrated installation, a 16mm cavity in the back of the speaker provides ample space for hidden speaker wiring, even when the speaker is mounted flat against a wall. Removable Input screw connector offers reliable, easier and more efficient wiring. A variety of accessories is available to provide linking, hanging, and wall or pole mounting.

For high-impedance (100V) operation, an optional multi tap transformer is available.

This series can fit permanent installation, Bars, Clubs and Restaurants, Speech reinforcement, Transportation halls, Houses of worship as well as Critical Environments Auditoriums.



DJ-202

DJ CONTROLLER

- TWO-CHANNEL, FOUR-DECK CONTROLLER FOR SERATO INTRO
- LARGE PLATTERS WITH THE LOWEST AVAILABLE LATENCY, OPTIMIZED FOR SCRATCHING
- EIGHT SOUNDS IN EACH TR KIT: BASS DRUM, SNARE DRUM, CLOSED HAT, OPEN HAT, TOM, RIM, CLAP, AND RIDE



DJ-505

DJ CONTROLLER

- TWO CHANNELS AND DECK SELECT FOR UP TO FOUR DECKS
- LARGE, LOW-LATENCY PLATTERS OPTIMIZED FOR SCRATCHING
- EIGHT DEDICATED PAD CONTROLS FOR SERATO DJ WITH HOT CUE, ROLL, SLICER, TR, PATTERN, AND SAMPLER MODES

DJ-808

DJ CONTROLLER

- BUILT-IN ROLAND TR DRUM MACHINE WITH 606, 707, 808, 909 KICKS, SNARES, CLAPS AND HI-HATS
- CONTROL THE SERATO SAMPLER WITH THE TR-S SEQUENCER
- BUILT-IN VT VOICE TRANSFORMER WITH PITCH, FORMANT, DUCKING AND SERATO KEY MATCHING



Available At Exclusive Stores:

East - Guwahati: Rhythm Scape (09864055240), **Kolkata:** Roland Pro Music (09831005558), Singh Musicals (09830431657), S.S. Music (09830742060)
North - Amritsar: Khem Singh & Sons (0183-2541309), **Dehradun:** Venus Music Care (09837121890), **Delhi:** Raj Musicals (09899272572),
 R.N. Bhargavas & Co. (09811160729), **Ghaziabad:** Music Garage (9717517775) **Jaipur:** Digital Music Care (9983244489),
Jalandhar: Calcutta Music House (09814075422), **Lucknow:** Alfa Link Vision (08090211999), **Ludhiana:** Calcutta Music Industry (0161-2446774)
South - Bangalore: Soundglitz (09886754864), **Chennai:** Krish Music (09841440156), **Cochin:** Sangeeth Mahal (09895482629),
Hyderabad: Khords Complete Music Store (09908583067), **Trivendrum:** Sruthi Musicals (09846029134)
West - Ahmedabad: Nrutika Enterprise (0971246969), **Jabalpur:** Ajit & His Beats (09425151979), **Mumbai:** Shalu Music (09892642311)
Ujjain: Shree Mahakal Music House (09827006143), **Vijaywada:** Taal Musicals (09392113553), **Vishakhapatnam:** Harmony Musicals (09949466685)

Touring Consoles

Mixing it up for the Live stage

Allen & Heath SQ-6

SQ-6 is a next generation digital mixer, powered by Allen & Heath's revolutionary XCVI 96kHz FPGA engine. Created to excel in demanding scenarios such as AV, corporate events, live productions and houses of worship, SQ-6 offers class-leading high-resolution audio fidelity and an ultra-low latency of



<0.7ms. The console features 24 exceptional onboard mic preamps, plus 8 stereo FX engines with dedicated return channels and access to the renowned RackExtra FX library.

Main features include:

- 48 Input Channels
- DEEP Processing ready
- 25 Faders / 6 Layers
- 12 Stereo mixes + LR
- 3 Stereo Matrix
- 8 Stereo FX Engines + dedicated returns
- 7" capacitive touchscreen
- SLink port for remote audio / expansion
- 64ch I/O Port for audio networking
- 32x32 USB audio interface
- SQ-Drive direct recording to USB
- AES output
- Chromatic channel metering
- Integrated LED illumination
- Dedicated physical controls
- 16 Assignable SoftKeys
- 4 Assignable Soft Rotaries
- Channel LCD displays

Avid Venue SC48

VENUE SC48 combines all I/O and digital signal processing into a single console package, making it one of the most affordable and portable Avid live systems. It re-creates the studio-quality sound live with full plug-in support and record shows directly to Pro Tools through the built-in audio interface.

Main features include:

- *Have everything all in one:* As all I/O, digital signal processing, and mix control

are packed into a single compact console allows to mix big and travel light. Gives the power and performance to handle up to 64 processing channels.

- *Achieve amazing sound – live:* SC48 is a powerful performer, enabling the user to create multifaceted mixes in stunning sound quality. Get incredible audio fidelity and sound transparency through studio-grade mic preamps. And with direct support for the same plug-ins used in top recording studios, user can easily re-create an artist's signature studio sound live.
- *Boost mix efficiency:* Provide immediate access to and control over any channel strip function, from inputs to Aux sends, using the Channel Control encoders. Control all software functions remotely over a wired or wireless Ethernet device. And maximize user's efficiency by triggering macros to perform complex functions with a simple button press, footswitch stomp, or fader move.
- *Mix anywhere:* When it comes to mixing



live sound, being able to present the highest quality audio possible is critical. VENUE software makes it easy. As the common platform across all VENUE systems, it speeds up all aspects of live mixing and recording, eliminating complexity.

- *Record straight into Pro Tools:* Provides the most powerful live recording and playback capabilities in the industry. Just connect a laptop. Create a Pro Tools session automatically from the current VENUE show file in seconds. Record and play back up to 32 tracks through the built-in FireWire interface. And control live mixing and recording rigs as one.
- *Boost your efficiency:* With Snapshots, user can store and recall console and plug-in settings instantly. Set multiple snapshots to handle changes for every song in a set list. Or quickly switch settings for different performers or scenes. User can also trigger time-consuming but

frequently performed actions using Events. And get immediate access to all channels in a VCA or group across the console with VCA spill.

DiGico SD12

The SD12 is a compact, affordable, multi-application digital console with dual 15-inch touch screens, which is never seen on a console in this price bracket. It is the first console in the entire SD Range with built-in recording interfaces; which makes Virtual Soundchecking very straightforward indeed. Furthermore, the SD12 now includes a DVI



output, for an overview of the console. New LED meters allow for a brighter, faster operation, and the SD12 Lightbar is identical to that of the SD5 and flagship SD7 consoles.

Main Features include:

- 24 channels in 1 view
- Dual operator mode
- Advanced surface connectivity with optional DMI cards
- Latest generation Super FPGA
- Familiar work flow and control in a more compact frame
- Live Touring, Corporate, Install, House of Worship, Theatre & Broadcast
- Connectivity
 - 8 local mic/line inputs
 - 8 local line outputs
 - 8 mono AES/EBU in/out
 - Dual MADI in/out
 - Dual DMI card slots
 - Optional dual Optocore loops
 - UB MADI 24 channel USB interface
 - 16 GPI/GPO, MIDI, Wordclock in/out
 - Overview monitor output, USB, Network
- HTL (HIDDEN TIL LIT) TECHNOLOGY
 - 2 x 24 encoders with RGB HTL ring
 - SD7 style channel strip with HTL EQ encoders
 - New Dynamics metering on channel strip
 - New high intensity meters by faders

This is Part I of PALM technology's focus on Live Consoles, with the second line-up being scheduled for the May-June "Live Sound" issue. We chose some FOH consoles in the market which exhibit great technology and are deployed on many a stage show acts across the world. The product focus section is intended only as a guide and does not endorse any product

MIDAS M32R

After establishing its name in the industry with some of the classic analogue console, Midas introduced the M32R Digital Console for both the studio and stage. It features 40-input channel, 16 award-winning MIDAS PRO microphone preamplifiers, 25 time-aligned and phase-coherent mix buses. The mixer is divided into different sections to select a channel, and then to have all the physical controls at fingertips; including full channel strip controls, preamp controls, equalization and more.

Main Features include:

- AES50 networking allows up to 96 inputs and 96 outputs
- Open architecture allows for future 96 kHz operation
- 192 kHz ADC and DAC converters for outstanding audio performance
- Industry-leading design by Bentley* Motors Designer
- High-performance aluminium and high-impact steel structure
- Rack mount brackets included for ultimate flexibility
- 40-bit floating point digital signal processing
- 8 DCA and 6 mute groups
- 8 digital signal processing effects engines
- 17 MIDAS PRO motorized 100 mm faders
- Daylight viewable 5" full colour TFT display screen
- 32 x 32 channel USB 2.0 audio interface
- DAW remote control emulations of Mackie Control and HUI protocols
- Optional wireless remote control with MIDAS Apps for iPhone and iPad
- Auto-ranging universal switch-mode power supply
- 10-Year Warranty Program



Soundcraft Vi1000

The Vi1000 digital mixing console is the combination of groundbreaking achievements and rich feature set offered by Soundcraft's acclaimed Vi Series. The new Vi1000 is the most compact member of the Vi-000 family—at just 86cm x 81cm (34" x 32") in size—yet it retains all the mixing and processing power of its two larger siblings, the Vi2000 and 3000. Its reduced footprint makes it ideal for smaller touring projects, rental companies, corporate AV applications, as well as music venue, theater and HOW installations in search of a versatile digital mixer.

Main Features include:

- 96 input channels with 24 mono/stereo mix busses, plus LRC master busses
- Vistonics II proprietary 'knobs-on-glass' functionality; key to the console's streamlined, intuitive operational interface and widely praised as the easiest-to-use digital console on the market
- SpiderCore integrated DSP engine ensures superior audio performance
- Soundcraft Fader glow color coding illuminates the fader slots according to function
- Integrated Dante interface facilitates instant connection to industry standard Dante audio networks.
- Two double-slot expansion slots for Stage-box connection or option card installation.
- Built-in Lexicon world-class reverb, delay, and pitch effects from the industry's leading brand.
- Onboard BSS DPR901ii dynamic EQ digitally modelled after the original, industry-standard BSS analog unit.
- Integrated microphone monitoring for AKG, Shure, and Sennheiser wireless systems.
- Included vMIX automatic microphone mixing for two groups of up to 16 mics in conference or theatrical applications.
- Proven electronic and mechanical design delivers the performance and reliability Vi Series consoles are known for.



Yamaha CL5

With a three-section fader layout for efficient hands-on control, the CL5 is the ideal choice for a diverse spectrum of live sound systems. Furthermore, in CL5 the colors are used more creatively and screen brightness



are greatly improved to make onscreen navigation far easier and faster than its predecessors.

Main Features include:

- 72 mono and 8 stereo input channels
- 16-fader left section, 8-fader centralogic section, 8-fader right section and 2-fader master section
- Built-in meter bridge
- Aluminum stay for iPad support
- Creative console for expressive engineering
- Efficient, enjoyable operation
- Scalable, versatile network capabilities
- Creating the ideal natural sound platform
- Prodigious quality and creative potential
- Digital approach to acclaimed analog quality
- Centralogic at the heart of an evolved interface
- Every detail designed for optimum operating feel
- Newly designed faders
- Editable channel names and colors
- Direct access to the parameters
- Harmony in form and function
- Dante for fast, flexible networking
- Up to eight I/O rack units
- Simple setup
- Redundancy for reliability



In this article lives sound engineer, Rahul Samuel shares perspective on what an FOH engineer and the industry can expect from each other at a venue

What's in my House

People from the audio industry are seldom seen at live events, but are ever present. Not many were aware of this field until recently. It wasn't long ago when I tried to explain what I do for a living and always ended it with, 'Never mind'. However, over the past few years, the role of a sound engineer has evolved into a glamorous one. FOH engineers like Big Mick and Robert Scovill ensure that their work don't go unnoticed and are considered a part of the band, owing to the quality of sound they create. This is great for the audio engineering community.

Even in India, it's a great time to be an FOH engineer. Currently, we have the equipment, technology and workforce to satisfy international standards. Of course, there are players in all segments of the market, and you might come across some not-so-global ones. However, our top players stand at par with the global market. We have a handful of extremely knowledgeable FOH engineers who have built a respectable and profitable career. In our industry, most of the learning happens on the job.

Do you work alone?

There are many variables that come into play for an FOH engineer - artist, client, technology, promoter, venue, weather, production vendor and schedules etc. These must come together to make the gig a success. Venues with bad acoustics have always been an issue, and doubling as a system or

monitor engineer doesn't always go well. This increases the work load on an engineer who may not be equipped to handle the task.

All established FOH engineers' opinions will be taken seriously and rider system preferences met. However, I believe that a decision on system should be a well-informed one and must be made by system engineers. If you have a good system engineer doing the rig for you, try to communicate and exchange as much information as possible so they know what to expect from the gig.

An FOH engineer doesn't work alone. To run a successful show, we need to have a system engineer, monitor engineer, FOH engineer, RF engineer, riggers, stage tech and audio technicians to help them. Besides, meeting a tech rider is not sufficient, a good crew on site is essential. An FOH engineer must rely on a set of crew with very specialised skills. These roles have lately garnered recognition and are now more defined.

While more and more artists are seeing the benefit of touring with FOH and monitor engineers, it isn't uncommon to see a traveling system engineer. It is ideal to have the task split between engineers. They can perform duties better and pay dedicated attention to the task at hand. For pub gigs with a 3 to 4-piece band, handling the FOH and monitor duties alone is acceptable, but if you're handling a more demanding act, get a monitor engineer to share the responsibilities.

What's in and what's not

Consoles by Avid, Digico and Soundcraft seem to be popular in India while the Avid S6L and Digico SD7 are global favorites, and mine too. I see the SSL L500 gaining momentum with a good go-to-market strategy. The most persistent desk in the business seems to be the Midas Heritage 3000 which has been around for about two decades - a desk I would happily choose over any digital desk if it's provided with the outboard gear of choice.

Coming to the very volatile topic of outboard gear, portable versions of outboard in the form of plug-ins have made their way into every FOH. More than often than not, they are abused with excessive use. When used wisely, plug-ins can add to your mix. Call me old-fashioned, but I limit my software plug-in use to two or three and still love using analog outboard. I also see a trend in the global market where the analog FOH racks are making a silent comeback. A combination of very flexible digital consoles with analog outboard seems to be a less known magic trick used by leading FOH engineers. Some of my favorite outboard include Avalon VT-737SP, Avalon VT-747, Maxx BCL, Eventide, Yamaha SPX990, Lexicon PCM91, TC Electronics D2 and Lake EQ.

With costs coming down and technology developing at an undeterred pace, the digital domain has changed the way FOH operates. Virtual sound checks, time code triggers, live playback

layers which sync seamlessly, special FX and lighting sync etc. are not far-fetched ideas anymore. Parallel compression, time alignment and virtually unlimited DSP are just a few clicks away.

Want in?

The demand for FOH engineers in the country has shot up by leaps and bounds in the last decade. You can rise to the top tier in a matter of five years, provided you have the inclination and temperament required. This is very rapid growth compared to earlier - it took an average of ten years for a talent to be recognised. Despite the surge in FOH engineers, we are still short of reliable talent and this makes it a worthwhile career.

A flourishing career in audio will ensure you never stop learning. You must adapt to the latest technology, music, culture and people. I believe this helps me stay relevant not just in the business but on a personal level too. You will always have people to be grateful to in this ever-encouraging industry.

Rahul Samuel is an award-winning live sound engineer and founder of LiveEnd. With over 13 years of global experience in the professional audio industry as FOH, Monitor and System Engineer, he has the privilege of working with the best. He blogs about professional audio at www.rahulsamuel.com

Ready for Anything

Line Array

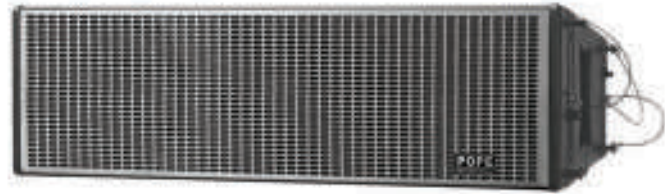
GL-112V2 TWO WAY SPEAKER 800W



GL-12 THREE WAY SPEAKER 1800W



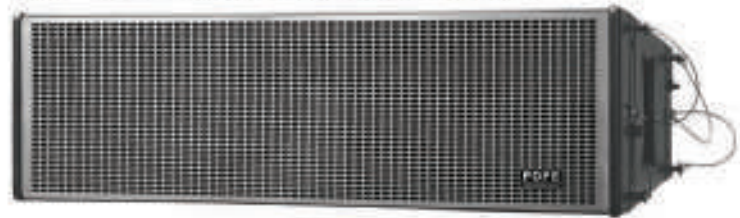
GL-28 TWO WAY SPEAKER 960W



GL-10 TWO WAY SPEAKER 700W



GL-210 TWO WAY SPEAKER 1300W



Electronics

MAC-SERIES AMPLIFIER

MAC-3202



MAC-5202



MAC-7202



MAC-8202



XP-SERIES DSP

XP-2060



XP-4080



MA-SERIES

MA-7200



MA-8200



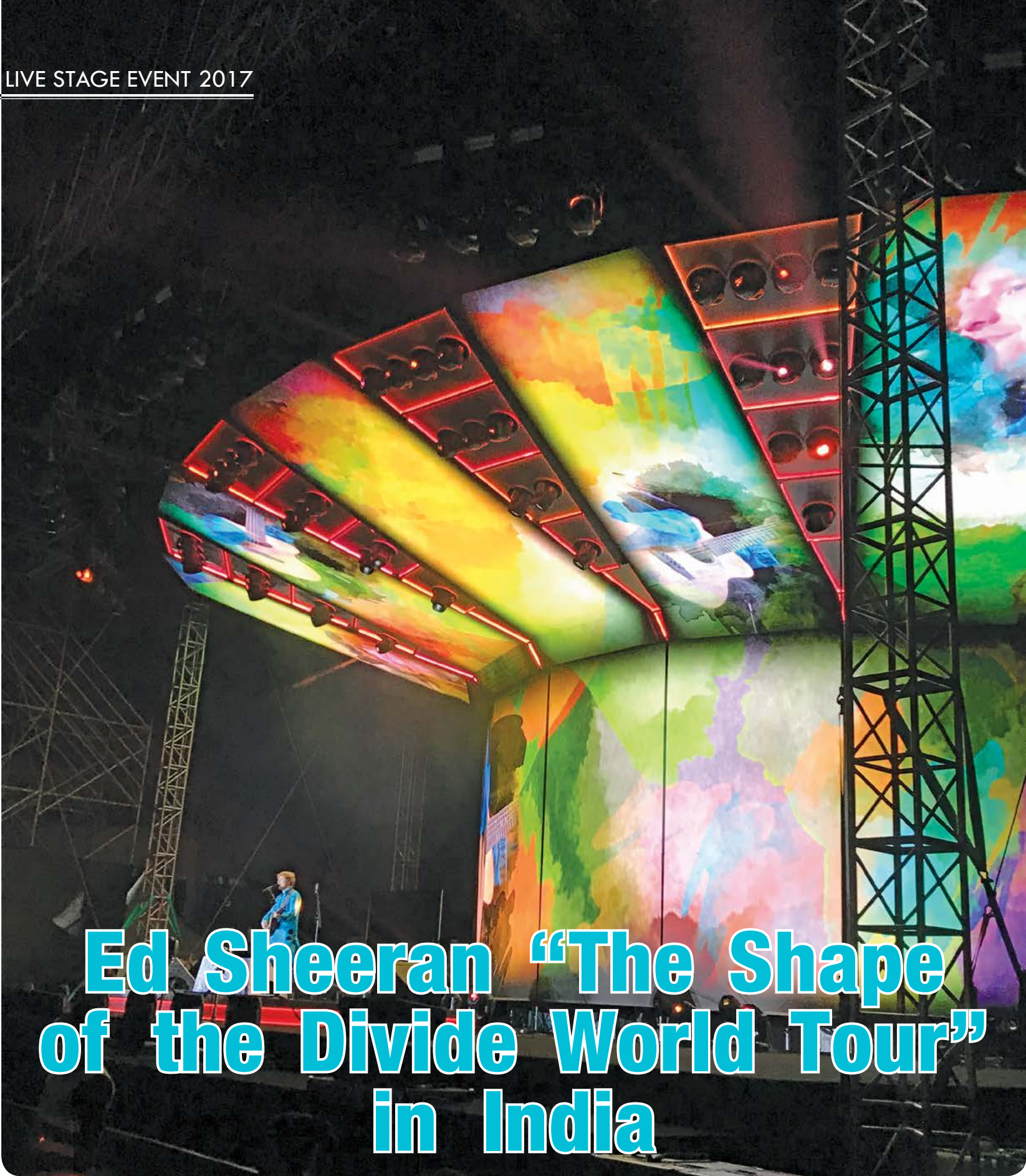
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Ed Sheeran “The Shape of the Divide World Tour” in India

Trussing and rigging are more often than not, relegated to an unassuming corner position when it comes to live stage acts, while sound, light and visuals hog the lime-light. However, on some occasions they have the power to take centre stage as was witnessed during Ed Sheeran’s Divide World Tour in Mumbai last November.

Despite the bicycle accident resulting in a fractured wrist and several cancelled shows across East Asia, Last October/November, Ed Sheeran did not disappoint his fans in India. The English singer-songwriter, performed in Mumbai as part of the Asian leg of his Divide World Tour to support his third studio album Divide, and left music lovers and his fans spell bound. The concert brought to India by AEG Presents and PR Worldwide in collaboration with BookMyShow took place

at the JIO Gardens in BKC, Mumbai. With fans in India showing immense promise and appetite for international musical acts, 2017 was a fantastic year for live stage music festivals and concerts in India. Besides Ed Sheeran, the best of international talent like Justin Bieber, Dream Theater, Incubus, Chainsmokers, Steve Vai & UB40 made their presence felt to millions of music aficionados in the country; Diverse artistes, different countries, varied genres. The only factor that remained constant



SOUND.COM not only provided sound for the Ed Sheeran show but also played an important role in elevating the infrastructure design

was Warren D'Souza's SOUND.COM.

Given their reputation for doing top tier acts like this in the recent past and also the added advantage of doing the first Ed Sheeran show in India 3 years ago. SOUND.COM was the only company that was retained from the previous show to provide the audio &

infrastructure along with Star Dimensions supporting hoists for the rear LED & a few lighting fixtures. The project was confirmed to D'Souza in February 2017 even before the Justin Bieber show was announced because of the implicit faith Moksh Interactive, advisor & event manager to PR Worldwide in India had

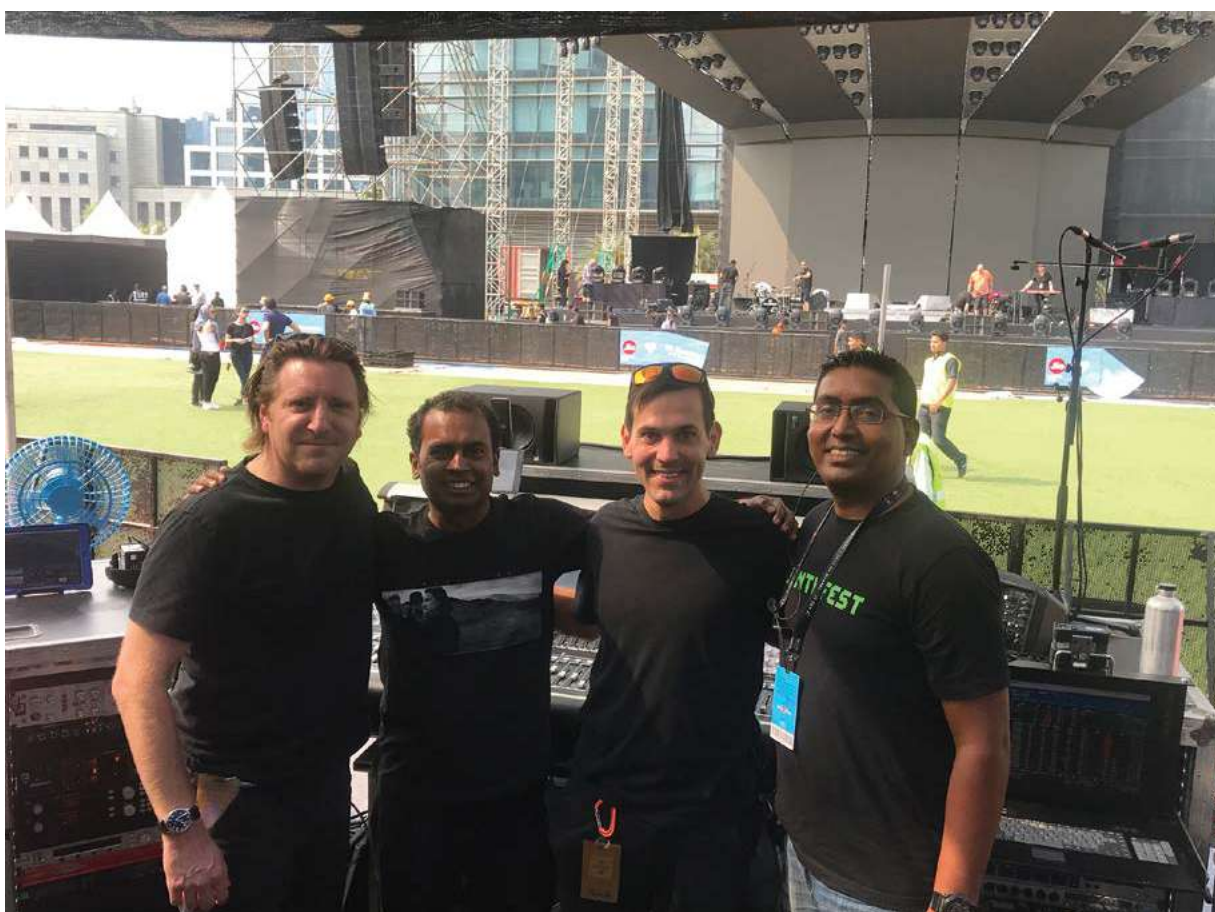
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The highlight of the Divide World Tour, besides Ed Sheeran belting out 17 of his popular tracks, was the extremely well thought-out and executed structural engineering of the entire rig. SOUND.COM team is known for their acumen and expertise in designing, calibrating

and deploying great turnkey sound systems for live acts, however the Ed Sheeran Live in Mumbai concert put the spotlight on their role and proficiency in handling rigging and staging for top grossing acts like these. SOUND.COM not only provided sound for the show but also played a very important role in elevating the infrastructure design and execution levels. "The Ed Sheeran Concert was the best project I did this year in terms of infrastructure," says Warren Dsouza, Managing Director of SOUND.COM. "Ed Sheeran was a stellar job audio wise and there is no rocket science to it by SOUND.COM standards, however it was the first time I had done a structural engineering job on a project, consisting of the rear LED Cantilever over Cantilever & the PA Cantilever."

The stage backdrop comprised of five large LED Video panels arranged vertically in a semi-circle and another five panels placed directly above, skewed towards the audience to form a stage roof. Concealed behind all the video, lighting and sound & PA gear was the infrastructure need to support the weight of the entire paraphernalia.

"There were challenges on this job as India does not have a steel roof. Importing a steel roof would have become costlier than the entire technical production. The roof we had bore load limitations even though it is the highest rated in India, as the load distribution was uneven, the requirement was that of a roof structure that was capable of bearing a unevenly distributed load of 28 tons. And so we had to shed 14 tons



L to R Chris Marsh - FOH Engineer & Production Manager, Warren Dsouza - Audio Director, Charlie Albin - Systems Engineer, Ranjeet Singh - Systems Control & Tech



A unique cantilever over a cantilever was built for the Ed Sheeran show, with 15 cantilevers being built on a single structure and another 4 over them. This was also the first time a Layher based cantilever was built for the main PA too

off the roof. We found a solution to this in the Cantilever based Layher structure, which took away that load and the balance was on the roof provided by Media Pro's Slick Truss. What we did was to build a unique cantilever over a cantilever. 15 cantilevers were built on a single structure, whereas the maximum you normally do otherwise do is three or four and furthermore we built another 4 cantilevers over it. This was something which has never ever been done so far in India," explains D'Souza. "Even our counterparts in western countries do not attempt this," he adds.

One of the most important roles of the rigging crew is to ensure that safety standards are maintained to the highest level by taking various elements, both strategic and technological, into consideration and D'souza played a crucial role in coordinating with stakeholders to ensure that both these elements were in place. The other crucial thing is to ensure that we use only rated parts and any weak element in the entire structure would be the most vulnerable element of the show, which is a risk SOUND.COM will never take in any event production.

"We kept working on the drawings every day to second day. We had to deploy 26 water ballasts, which equal 26000 litres of water to prevent the structure from tipping over. Safety on this job was crucial as and we ensured that all the drawings and structures were duly certified by structural engineers. I got Alex Melsen of Backbone International, who is one of the biggest

infrastructure designers in Europe to see the drawing and advise us. Mithilesh Kumar from Layher India advised me on the parts and accessories and fed all my drawings in AutoCAD into Layher's proprietary software Layplan to ensure we were doing the right thing and also to print out the number of each of the parts in the form of a BOQ. Sunil Karanjikar introduced me to the Beam clamps that saved me at least a foot in height by eliminating spansets and also sent me tutorials on cantilevers. We used beam clamps + shackles for each motor. We also procured 46 I-Beam to Layher clamp couplers & 24 Truss to Layher couplers. Even our clamps were procured from Layher as they are all rated and we now possess them for future productions."

Warren is all praise for all those who supported him to overcome the challenges as he elucidates on his LinkedIn page- "The biggest challenge I took up this year was to design & build the rear LED Layher structure for #EdSheeran in India. Never ever done before a Cantilever of 15 points over a Cantilever 4 points totaling to 19 Cantilevers in one structure, with over 26 tons of ballasts and all kinds of Layher paraphernalia, I want to thank some remarkable people whose professional advice & support has been priceless. **Alex Melsen** of Backbone International who went through the drawings and approved them, **Mithilesh Kumar** of Layher India who advised me on what parts & accessories we could use to achieve this and

certified the towers, **Sunil Karanjikar** for introducing me to the beam clamps and sending me tutorials on cantilevers, **Samir Sawant** the BMC approved

"It was great seeing you, The PA sounded really good to me, I had a great time in Mumbai..

Till the next time my friend, stay in touch, if there is anything you need...

Chris Marsh - Production Manager & FOH Engineer, Ed Sheeran

"Thanks again to you and your team for looking after us so well, I really appreciate it!"

Charlie Albin - Audio Systems Engineer, Ed Sheeran Tour

"Warren D'souza not only provided sound for the show but also played a very important role in coordinating with Layher and building an incredible structure. Apart from a great Audio engineer, I won't be surprised if his next career goal is structural engineering

Vinay Agarwal - Production Manager for PR Worldwide & BMS.

structural engineer for signing off the drawings & **Vinay Agarwal** for his help in getting things organised on-site and the hoists provided by **Ashish Mehta, Daniel Wiggill & Harold Fernandes** for setting up further challenges during design & working on solutions on site and their rigging expertise and last but not the least Mankaran Singh for his rigging gyaan!"

The Divide Tour was one of the biggest musical events of the year, with structural engineering eventually turning out to be one of the highlights of this event's production. "I am interested in doing challenging projects where creative scenic design, visuals, lights & audio meets concrete technical execution with safety standards, stuff like this mentally stimu-

late me and keeps my me & my staff motivated to push boundaries in all our milestone productions," D'Souza asserts.


Audio Perspective

As far as the audio was concerned this was also the first time a Layher based cantilever was built for the main PA. "This served a trio purpose - one was to give a clean hang without any obstructions and have a perfect horizontal coverage without the line array skewing with the Layher ledgers in the way; the second was to achieve a fantastic line of sight of the stage and rear LED without the PA tower jutting out and thirdly, but most importantly, acoustically this was also very helpful as we have a singer on stage with an acoustic guitar and his "Chewie" pedal board belting out his music at the volumes of a rock concert to a soft ballad there could not be a hint of feedback," says D'souza.

The rear delay towers were also structurally engineered by Warren to also accommodate the followspots on Ed at the back as well. His Layher team constructed the towers using steel decks and access decks with toe boards for the operators, this also acted as additional support for the delays.

The backline for the opening act LAUV was also provided by Gear-House, SOUND.COM's backline rental division.

Sonic reviews followed with great press on the show but for Warren the ultimate edification came from the Ed Sheeran management (see box alongside). "And after all the efforts, these are the best to go home with!" he concludes.



ON TOUR with Pramod Chandorkar

Being an FOH special issue, and as is the custom to feature a live sound engineer in this issue, PT caught up with yet another of the country's top live sound engineers this year. Our readers can be forgiven for considering FOH engineers and Studio engineers as two different species, but there are some engineers who simply do not want to be limited to either discipline; one such engineer being Pramod Chandorkar, a man who is equally at home behind an FOH console as he is in a recording studio, proving how varied a career as a sound engineer can be.

PT caught up with the man who has been mixing live for one of the most versatile and celebrated playback singers in the country – Sonu Nigam, since the past 14 years

The Genesis

Known more for his work in the recording studio, how did Pramod first get involved with live sound? Interestingly, his entry into the live sound realm was quite interesting to say the least. I am a musician first, a percussionist & a drummer if I can say. "It was the late eighties, when I first got attracted to sound," he says. I started to go to my Guru (a music composer himself) - Mr. Suren Akolkar's studio in Pune and train under him. In those days, there weren't many rental companies and Mr. Akolkar handled small live shows with very basic sound equipment and I learnt by assisting him. We use to do both Studio sound as well as live sound. I got my first break (which happened to be a disaster) when Mr. Akolkar organized a show for Lions Club. He was the organizer and asked me to handle the sound as a live sound engineer. In those days there were no separate FOH engineers and Monitor engineers in Pune; there

was only one "soundwala". The excitement of doing this show with the newly infused knowledge and the urge to try and prove a point got the better of me and I tried to implement whatever I had learnt into this show and in the process ended up making a fiasco of the show. The first lesson Mr. Akolkar taught me then was to keep it simple because simple was easy to handle. However, the show was full of feedbacks and everything else that should not be there. Mr. Akolkar then gave me an invaluable piece of advice that I uphold to this day – "Don't treat sound engineering as a technique of technology, treat it as an art," he said. That's how it started, and going ahead, I did a lot of shows in Pune where I was the sound engineer. Slowly I started investing in my own

sound system and was one of the first vendors in Pune who used to provide a monitor on stage and use an equalizer to cut feedbacks. (In those days even this was a big deal in Pune). Therefore, I actually started as a live sound guy and then got into studio engineering full-time when I moved to Mumbai."

The Sonu Nigam factor

And how did he end up working with Sonu Nigam on his live shows? "I

did studio engineering for almost nine years after which I felt that the boundaries of the studios were getting to me, and I wanted to travel, see different places, and challenge myself to better my art



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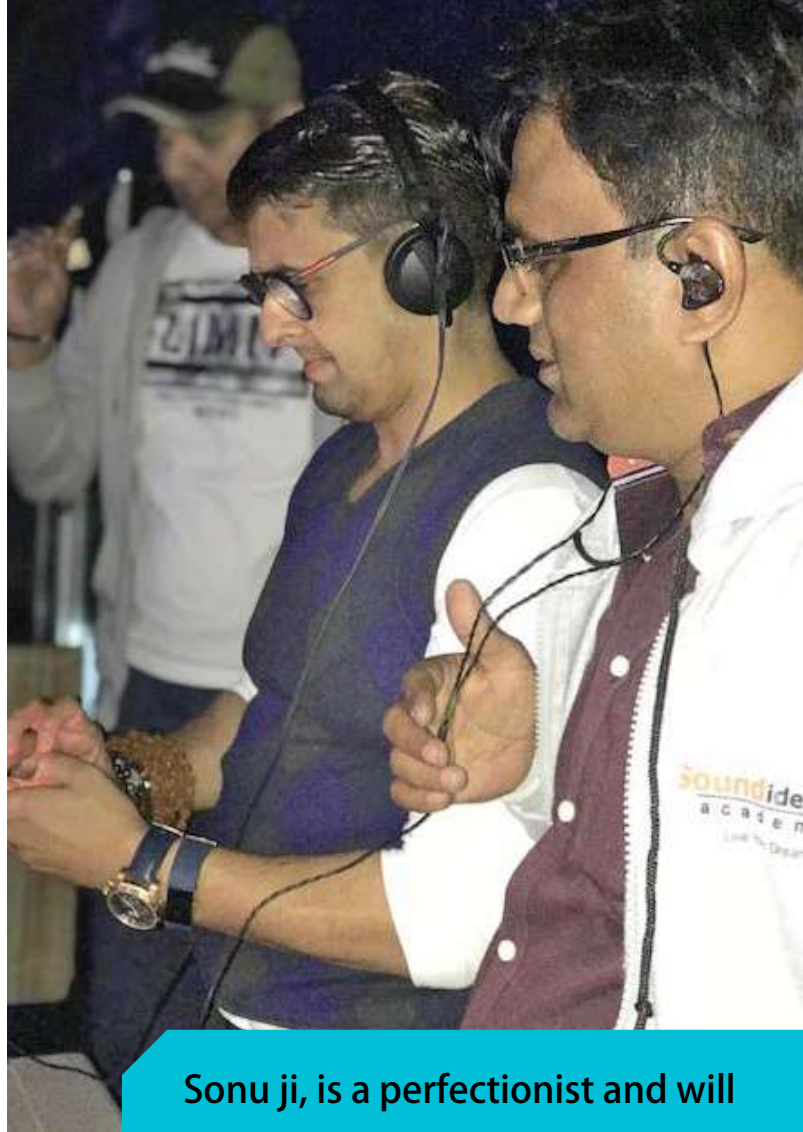
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because in live there is no retake and it is the ultimate test of an engineer," he explains. "Because of all the studio recordings I was doing, I knew almost all the play back singers and those were the guys who were also doing the live shows. I started expressing my interest to do live shows to these artistes and that is when Sonu Nigam agreed for me to start touring with him on international shows. "At that time little did Pramod know that he would not only soon embark on a world tour — the first of many, but more than 14 years on, Pramod continues to push the faders for all of Nigam's live concert tours.

Between 2004 and 2006, Pramod balanced his time between recording in the Mumbai studios and mixing live tours, which served to help hone his front-of-house skills. "It took me some time to get into the groove and to understand requirements of delivery. By that time, Line arrays were not very common, nor were digital consoles. We started with analog consoles like Soundcraft, Allen & Heath, Midas and others available in the market. I soon realized that travelling and mixing live, gave me a lot of satisfaction, so at one point I decided that I needed to take a break from the studio. I then started travelling with Sonu ji for all his shows and now it has been more than a decade that I am travelling with him, doing all his shows."

All engineers study their artiste's vocals and audience but in this instance where Pramod is completely aware of the frenzy his artiste's presence induces, his application to the task needs to be focused on delivering world class sound by finding a solution in any kind of panic situation. Citing an incidence in Ottawa, Canada where Nigam had to perform before a 5000 strong audience at an outdoor venue, Pramod elaborates, "when I entered the venue, I see that there is a small stage and there are just two speakers on the left and two speakers on the right. The organizer had almost given up because being a Sunday, it would be difficult to source any equipment in Ottawa. Obviously, it was impossible to deliver in this kind of a situation but I could not back out, as I had to bear in mind that 5,000 people had bought tickets to the show. If the show was cancelled, the audience would not understand the limitations and problems; they would just say Sonu Nigam came, but did not perform."

"I found out that there is a Blues Festival going on in Ottawa with 9 stages and the best gear from brands like Myer Sound, L-Acoustic. We approached the festival's production head who informed



Sonu ji, is a perfectionist and will work with the band and engineers to the minutest detail.

us that most of the PA available in Ottawa had been used up in this festival, but he guided us to a supplier who had some gear left in his warehouse. We got some speakers there and a LS 9, which is the smallest of Yamaha's digital consoles. I myself loaded the truck with the equipment and set it up at the venue with the help of Fali Damania who was the monitor engineer and the band members. Eventually the show was a major success" he enthuses. "It's not only about the technical knowledge you have but also about keeping your calm, dealing with people and situations and getting the work done," he adds.

Pramod is quite modest as he attributes the quality of this tour's audio rendition to teamwork and synergy more than his mixing abilities. "It's not just about the sound and the FOH. It's about the whole band, because if they don't perform well then I can't mix. It's about Fali as a monitor engineer. If the monitor does not work right, the artists won't perform right and I won't be able to do anything."

The Real Challenge

So what is the biggest challenge in producing the classic Sonu Nigam sound in the live environment? "The

biggest challenge is to be focused and alert," says Chandorkar. Given Nigam's status, it is easy to see the hysteria surrounding each tour. According to Pramod, audiences come prepared for the same exact soulful rendition that they have experienced on television or radio. "All his fans have heard his songs like "Kal Ho Na Ho" and his other timeless memories umpteen number of times, so they come here with that in mind. It is my job to ensure that they get that experience, for which I have to know every song very well to understand how I can deliver it equally well; so that is the challenge."

A key word for Pramod when he is mixing FOH is 'experience'. At a concert, he is looking to enhance an audience's experience to what is going on onstage and to create that indescribable magnetism that characterizes unforgettable gigs.

PT asked Chandorkar if he had managed to fit in other acts between touring with Sonu Nigam. "Yes I have worked with Asha ji, with Kunal Ganjawala and also mixed for Shan. Besides this, I have done classical music concerts like the Bengal Classical Music Festival in Dhakha, Bangladesh. I am the FOH engineer at this festival since the last

two years."

The Influence

So how much influence does a live artiste have on the mix? "As far as my artiste is concerned i.e. Sonu ji, he is a perfectionist and will work with the band and engineers to the minutest detail. He will ensure that what goes out is exactly what he wanted. What I have noticed is that the artistes are keen that they should get the monitoring right because until the artistes are not comfortable with what they are hearing, they are not going to perform right. The first 9 years with Sonu ji, I did monitor engineering as well as front of house. As engineers, the first task on hand is to make the artist and the band comfortable. Once they are comfortable they can give their best and that is what we can transmit out to the audience."

FOH Tools

PT wanted to know how Pramod made his choice of gear. Was it dependability or practicality? "Dependability is important and primary because if my gear is not right, I cannot do my job right. However, yes, there have been situations where I had little or no choice, but that does not stop me from doing my job; I have to get the maximum from whatever is available. Though we do have a say in what gear we require, there are times when you are tied up due to circumstances," he explains. "However, today it's not as stressful as it used to be and the quality of equipment in India has gone up by leaps and bounds. Indian engineers are technically sound and India has very good rental companies across the country who stock state-of-the-art equipment. Nevertheless, there is still scope for improvement in terms of delivery & crew", he adds.

Pramod has, at one time or another, worked on virtually every major mixing console on the market, however he claims that Avid Venue remain close to his heart. "I usually demand for an Avid or a Yamaha console. I don't have reservations about other consoles but the kinds of effects I use are available only in these two consoles I use a lot of Waves plug-ins. Today's technology has allowed us to deliver studio quality sound in Live concerts. I like to keep it simple because I learnt it the hard way. I ensure that I don't overdo the processing part and try to keep the sound natural. Having said that, I have consciously focused on being able to deliver similar results on just a basic console and a good PA."

Digico Consoles have been very good sounding and have grabbed a lot of my

attention these days and I am loving them too.

"I use a lot of delays in my show and that specific control of that delay is what is required. So if I don't have that in the console, then it limits my creativity," he adds.

Pramod's enthusiasm for sound is evident in his attention to detail. His fingers rarely leave the faders during a live show. "I have seen and heard lot of people say that as long as everything is audible don't touch the console; touch it only when there is a problem. I always feel that that's just the beginning. As a Mix engineer you have to strive to elevate audience experience. A sound engineer's work is never noticed; it is noticed only when there is a feedback. Even today after 14-15 years, I consider every show as my first one; I must deliver."

The good and bad of it

And what separates a good FOH engineer from a bad one? "I would not say that there is any bad engineer per se, because primarily sound engineering is an art and there is no good or bad in art. It's only the engineer's expression, which you may like or not. For me an engineer must respond to the music. If

Dependability is important and primary because if my gear is not right, I cannot do my job right

I go to a concert, enjoy the music and I have no complaints, then that is a good mix. Good mix is not noticed because it is so flawless," says Chandorkar.

The EDM boom

Commenting on the music festival scene in India, Chandorkar says that this segment is booming with EDM concerts, but many folk festivals are also giving stage to many musicians. "I always look forward to these kinds of music festivals. I genuinely feel that if Bangladesh can respect and honour Indian classical music, so much so that the BMF is now considered as the biggest Indian classical festival in the world, why not India. It is high time that Indian organisers invest in classical and folk music too besides EDM festivals. It is important to note that even these EDMs were not commercially viable from day 1. The faith and trust,

which organizers have put into the EDM concept, has made it viable," he rues.

The Academy

Today Chandorkar balances his time behind the consoles and in front of his students at the Soundideaz Academy which he started in 2010. "I have no formal education in sound engineering. I have learnt on the job. In my time, the only option to learn sound engineering

was the Film Institute and the criteria for admission into that course was to have graduated with physics and mathematics and I was a botany graduate. That's exactly why I started Soundideaz Academy, because when I wanted to learn there was no place," he asserts.

Live vs Studio

Pramod has notched up an excessive amount of time in recording studios and when queried about his preferences he says that that he tends to see both roles as essentially being different. "No preferences. I would like to do both, because both are different. It's a completely different ball game to mix live and a different ball game to mix in the studio. Though the tools and fundamentals are same, the approach is completely different," he concludes.

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ADAM AUDIO INTRODUCES NEW RANGE OF NEARFIELD STUDIO MONITORS

ADAM Audio has announced the launch of T Series - a new range of nearfield studio monitors for audio recording and production professionals. The German engineered T Series monitors share many of the design innovations created for ADAM's acclaimed S Series flagship monitor range, resulting in the accuracy, precise dispersion characteristics, and high dynamic range. Also, the T Series features ADAM's U-ART Accelerated Ribbon Tweeter along with a newly designed polypropylene symmetrical-excursion woofer that extends bass to lower frequencies with less distortion than historically

possible in this price category.

ADAM Audio's T Series of 2-way nearfield monitors brings significant technical achievements to a new lower price point with two models, the 5" woofer T5V and the 7" woofer T7V. Multiple technical innovations designed for ADAM's flagship S Series and iconic AX Series have been included in this lower priced monitor range, including ADAM's High Frequency Propagation System

(HPSTM) yielding extremely consistent horizontal and vertical dispersion across the frequency spectrum, DSP innovations for the crossover system, and

Class D amplifier systems.

"The engineering team at ADAM Audio was a given a challenge," says **Christian Hellinger**, CEO of ADAM Audio. "We asked them for a range of nearfield monitors that will fit into tighter budgets without compromising the design standards that made ADAM a fixture in studios around the world. The T Series delivers, with wide frequency response, low distortion, and precise dispersion control in a value-conscious solution."

According to Adam Audio, the availability of the T-Series studio monitors is scheduled for spring 2018.



HARMAN PROFESSIONAL SOLUTIONS DEBUTS JBL 3 SERIES MKII, POWERED STUDIO MONITORS

The JBL 3 Series MkII contains three configurations, including the 305P MkII (5" woofer), 306P MkII (6.5" woofer) and 308P MkII (8" woofer) and reportedly offers stunning detail, precise imaging, a wide sweet spot and impressive dynamic range that enhance the critical listening capabilities of any production space.

"The original JBL 3 Series received widespread acclaim for their outstanding quality and value, culminating in wide adoption from

hobbyists to audio professionals working in music, film, post and broadcast production, but with every product there are always features or improvements that our engineers cannot squeeze in before production," said **Peter Chaikin**, Director, Recording



JBL 3 Series MkII Powered Studio Monitors

Solutions, HARMAN. "The 3 Series was no different, so when the

opportunity presented itself, we decided to refine the transducers, add a frequently-requested feature, and apply our latest manufacturing learning's. The result is a new edition of this popular studio monitor that retains the best qualities of the original 3 Series—but now looks better, sounds better, and can provide transparent sound in even more production environments."

NEW ID44 AUDIO INTERFACE FOR THE CREATIVES BY AUDIENT

Audient raises the stakes with the release of its latest iD44 audio interface. This new audio interface has four Audient Class-A console mic pres. offering 60 db of gain, all new class-leading converter technology, options for digital expansion, new intuitive, mix-focused software specifically designed for managing large sessions, an impressive potential I/O of 20in / 24out and an all-metal build, providing the basis of the complete recording studio.

"iD44 is the natural expansion of Audient's high-performance audio interface range, building on award-winning features; utilizing high grade components and adding innovative, new enhancements inspired by listening to our customers' feedback,"

says **Andy Allen**, Audient's marketing manager. "As with our smaller interfaces, the mic pres. is exactly the same as those you find in our large format recording consoles, making us the only company to use the same discrete Class-A mic pre-throughout our entire product range. iD44 continues to deliver real analogue heritage right to our customers' desktops."

The ADAT inputs and outputs give the user flexibility to grow their studio, enabling the addition of up to 16 extra channels of mic pres – ideal for bigger sessions such as tracking a live band or mic-ing up a drum kit. "iD44 is the perfect long-term investment for those wanting to build up their setup over time," continues Andy.



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ACT-311 · ACT-312 Wireless Systems

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- One-touch AutoScan & ACT sync channel set-up.
- The backlit LCD offers clear visibility and easy differentiation of "Working" and "Standby" modes.



ASTON LAUNCH POP FILTERS & SHOCKMOUNTS

British manufacturers, Aston Microphones, have launched a new range of universal pop filters and shockmounts. Formed from solid stainless steel, precisely acid-etched to create a mesh of hexagonal holes, the Aston Shield pop filter promises crystal clear vocals and perfect plosive control.

According to Aston, with its heavy-duty gooseneck and sturdy crocodile clip, the Shield will quickly mount onto any mic stand and stay where it's put. Gently curved to present a larger surface area, it's also fully washable should it end up catching more than just plosives.

Meanwhile, the Aston Swift

universal mic mount is designed for mics ranging from 30 to 55 mm in diameter. It is constructed from aluminium and glass-filled nylon polymer and features Aston's proprietary rapid mounting and release system, which uses a pair of sprung clips to anchor the mic in place, and latex 'ShockStar' suspension.



Aston Pop Filter

RME AUDIO LAUNCHES ADI-2 DAC, NEW REMOTE CONTROLLABLE HEADPHONE AMPLIFIER AND USB-DAC

RME Audio released the ADI-2 DAC, a 2-channel high-end digital/analogue converter in a 9.5"/1HE housing. With its outstanding audio quality and wide range of conversion options it is targeted at both studio professionals and audiophiles.

It uses the latest 32-bit/768 kHz reference converter RME SteadyClock technology for excellent jitter suppression and a powerful DSP processor and also offers zero-compromise conversion and playback of digital signals into the analogue world. The DA converter features two high-performance headphone outputs, including a dedicated in-ear connection.

Headphone amp with IEM output

The powerful and sophisticated headphone section is suitable for connecting high-impedance studio and HiFi headphones through an Extreme Power output, and modern high-quality in-ear systems.

These generally have particularly high sensitivity, revealing the intrinsic noise of an amplifier stage in an unpleasant way. But the ADI-2 DAC's superb signal-to-noise ratio of up to 120 dBA and extremely low distortion meets the needs of even the most demanding studio professional or audiophile enthusiast.

In addition to its excellent sound quality, the ADI-2 DAC provides impressive internal signal processing options, a 5-Band parametric EQ, user-friendly bass/treble adjustment, Crossfeed playback, and an innovative loudness control for the analogue stereo outputs.

DA converter & audio interface

The ADI-2 DAC has flexible digital and analogue ports. To make it even more versatile the DA converter has a USB recording function for incoming SPDIF signals. The ADI-2 DAC can therefore work as an ideal two-channel USB audio interface, capable



of recording at sample rates up to 192 kHz and playing back up to 768 kHz, both PCM and DSD signals.

Informative & flexible display

To ensure that users have quick access to the wide variety of I/O options and processing functions, the ADI-2 DAC has an ergonomic user interface and high-resolution IPS display, where users can access such tools as the internal analyzer, based on the famous Spectral Analyzer from the DIGIcheck analysis tool. The

display's background and label colours can be inverted for sensitive eyes or environments. Even less obtrusive is the "AutoDark Mode", which will automatically switch off the display and all the LEDs after ten seconds.

Convenient remote control

The supplied remote control makes using the DA-converter even more convenient. Various functions are available, including volume up/down, playback source selector, and equalizer on/off.

THE FOCUSRITE CLARETT SOUND - NOW ON USB

Focusrite has launched a new range of studio-quality USB audio interfaces under the Clarett line. The Clarett USB series features three interfaces: the **Clarett 2Pre USB** (10-in, 4-out), **Clarett 4Pre USB** (18-in, 8-out) and **Clarett 8Pre USB** (18-in, 20-out).

The low noise, low distortion and up to 119dB dynamic range of Clarett can now be experienced with any Mac or PC supporting USB 2.0 and above. The included standard USB

and USB Type-C cables connect to Mac or PC, enabling users to record with super-low latency through amp simulators and effects plug-ins.

Focusrite chose 24-bit/192kHz A-D and D-A converters for the ideal signal path. In addition, the Air-enabled mic preamps can reproduce the input impedance, clarity and frequency response curve of the Air feature from Focusrite's original ISA mic preamp. Included software is

from XLN Audio, Focusrite, Softube, Ableton and Loopmasters.

The simplest of the three interfaces, Clarett 2Pre USB, provides two mic/line/



instrument inputs, four line outputs, MIDI I/O and an ADAT input. Clarett 4Pre USB and Clarett 8Pre USB add

mic/line inputs, S/PDIF I/O and two headphone outputs with volume controls.

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ANTELOPE AUDIO ANNOUNCES BREAKTHROUGH BUNDLE COMPRISING DISCRETE DUAL ULTRA-LINEAR MICROPHONE PREAMP

Antelope Audio's professional audio equipment manufacturer has announced its new EDGE Strip — a breakthrough bundle comprising its DISCRETE MP Discrete Dual Ultra-Linear Microphone Preamp.

The EDGE Strip places the same transistor schematic that beats at the state-of-the-art heart of the aptly-named DISCRETE 8 Thunderbolt & USB Interface with 8 Discrete Mic Preamps and DISCRETE 4 Thunderbolt & USB Interface with 4 Discrete Mic Preamps series siblings.

Furthermore, the EDGE Strip

bundle comes complete with a package of microphone emulations, bringing field-tested microphone classics destined to make musical inroads into studio setups the world over. Developed in close collaboration with world-renowned experts, these must-have microphone emulations are available in native formats, facilitating lightning-fast workflow. Preamp emulations are also included in the package, together with the STAY-LEVIN compressor, personally

designed by Igor Levin at Antelope Audio.

Antelope Audio has always collectively prided itself in coming up with technologies that unite the digital and analogue audio worlds. While both

DISCRETE MP and EDGE are all-analogue devices, making them fully compatible with any audio interface and A/D converter central to any studio setup anywhere, DISCRETE MP allows users to explore the full potential of EDGE in both Antelope Audio-centred setups or other audio systems.



FOCAL SHAPE TWIN, A WEAPON OF MASS PRODUCTION

One year after the launch of Shape monitors, Focal has expanded its monitoring range with the new product: Shape Twin. This standard bearer of the Shape series features two passive radiators, woofers equipped with a new Flax cone, and the latest 'M'-shaped Aluminum/Magnesium inverted dome tweeter. Shape Twin is designed to meet the needs of nearfield monitoring, these monitors combine an ingenious design and numerous settings optimized for the acoustics of small

listening rooms. Shape Twin stands out through its excellent rendering over the whole audio spectrum, its broad frequency response in the low end, and its high SPL considering its size. The compact design makes it easy to integrate even into the most cramped of rooms. Finally, its 2.5-way design gives it a decisive advantage when it comes to controlling the bass and lower mid-range registers which are the hardest to control in small rooms.



API UNVEILS THE NEW 529 STEREO COMPRESSOR

The latest 529 Stereo Compressor is carefully designed to deliver a wide range of compression options, warmth, clarity and punch, whether used for subtle adjustments or heavy



SE ELECTRONICS AND RUPERT NEVE DESIGNS UNVEILS FLAGSHIP MULTI-PATTERN TUBE CONDENSER

The RNT is a premium large-diaphragm multi-pattern tube condenser microphone created in collaboration between sE Electronics & Rupert Neve Designs, founded by the legendary audio designer Mr. Rupert Neve. "Much like the RNR1 Active Ribbon and RN17 Small-Diaphragm Condenser, the RNT is something truly special, developed over several years of careful listening and measurement by Mr. Rupert Neve, Mr. Siwei Zou, and the engineering teams from both companies."

"The partnership between sE Electronics and Rupert Neve Designs is an extension of the great friendship between the two founders. This

elegantly different tube microphone design was one of the first concepts they originally discussed long ago - and after many years in development, we are exceptionally proud to see it brought to life."

This new flagship tube microphone features the finest handcrafted capsule sE has ever developed - nine switchable polar patterns, two custom Rupert Neve Designs output transformers, an ECC82 tube gain stage in the microphone, and a second gain stage in the floor box using the same high-performance op-amps as those found in Rupert Neve Designs' flagship 5088 console.

It also features fully discrete class-A

electronics throughout, three switchable gain levels, and two switchable low-cut filters. The RNT ships standard with a high-end custom shock mount, a wooden microphone box, and a robust flight case.



The RNT new flagship tube microphone

compression effects.

The new 529 compressor features API's patented THRUST circuitry for a punchy low end, along with an Old/New switch that lets you choose between classic and modern compression characteristics: Old for vintage-style feedback compression and New for today's more common feed-forward compression. The Auto-makeup Gain button allows for ratio and threshold adjustment without affecting the output level.

Using API's discrete op-amps and transformer technology, the 529 provides the legendary analog sound of API. Like all API products, the 529 features API's unique 5-year warranty.



FOHreicast

Top Engineers weigh in on the present and future of live sound consoles

Anupam Roy

There are no challenges anymore; the modern consoles have taken all the challenges out of the game. Nevertheless, one of the main challenges I personally face with some of the modern consoles is with I/O. What I would like to see in modern day consoles is more open architectures in terms of fader layouts. Modern consoles have integrated many DAW features and I come from



what used to be predominantly a studio space. Now I'm mostly focused on live, but I would like to see more DAW kind of features in terms of flexible routing and architecture should not be limited to old analog style of working. The main

feature I would like console makers to implement is automatic delay compensation across everything.

Ashish Saxena

There are no technical challenges as such and with regards to what I would



like to see in future consoles, I can't really think of any special addition.

Fali Damania

There are in fact fewer challenges, as you have access to all forms of processing at your fingertips and I do not really



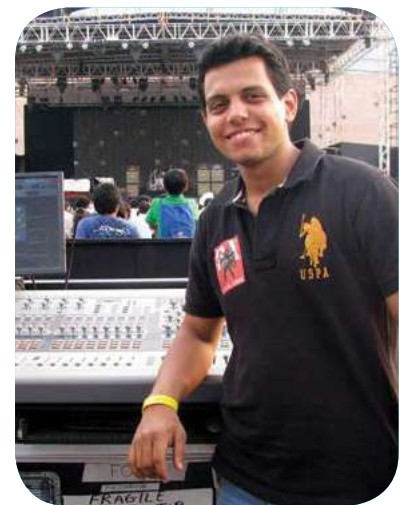
have an answer to what I would like to see in future consoles.

Farhad Daruwalla

There aren't too many challenges to be very honest, as all modern live sound consoles are well equipped with all the features that our artists require. I too am very open to use any console – be it Avid, Soundcraft or Digico. I'm not too finicky about consoles and I don't face any issues as of such.

The feature I wanted most is actually now being incorporated in the next update of the Digico. Top of the end consoles have everything that an engineer would require.

Having said that, most consoles have their own off-line editors with which we make show files before we get to the venue; however majority of the consoles



are still windows oriented because of the Windows OS that the consoles operate on. If we can have those off-line editors launched for Mac OS as well, then it would be great. As of now companies like Digico, Avid and Soundcraft don't have off-line editors for Mac as they only work on window OS.

KJ Singh

Learning new operating systems with updates coming in fast and furious and



This being the FOH issue, PT approached and tapped the experience of some of India's top live sound engineers to find out key challenges faced by them while working on the new age live sound consoles and features they would like to see on future consoles.



learning shortcuts of different consoles in order to be more efficient and fast when doing live shows can be a real challenge. Some of the consoles have such few knobs, which is shared for five or more functions, making it time consuming to immediately reach out for something.

I personally would love to see more knobs for a faster reach of functions, a uniform operating system and a system to load show files of one console into another.

Mark Thomas

Bugs in software, consoles going down due to weather conditions,

interconnect issues due to poor cabling infrastructure choices by console manufacturer is a challenge. Maybe it would be great to have inclusion of faster workflows (nonlinear), better outdoor visibility of screens, hot swappable



power supplies, more flexible snapshot windows, ability to export IO lists from session files, and onboard conversion of session files for various formats of consoles.

Mujeeb Dadarkar

There aren't any major challenges. Basically, the challenge is pretty much

about getting a good mix without causing feedback and getting decently loud without losing the quality of the sound. I would say that modern consoles have all the features that are required and I would really think that the real improvement, which is required, is to improve the control surface for workflow. I would say to all the manufacturers of modern consoles that they should look into ways for improving the workflow.

Nikhil Mulay

One of the challenges would be when you move from console to



console, the interface changes. For instance, if I move from Digico to Avid to Yamaha, they are completely different. If you have not used the console before and are using something for the first time then it will take little bit of time to understand it, as opposed to this, the older analog consoles were more or less the same. You could just walk up to the console and start working. It takes a little time to understand modern consoles, but if you know your basics then you can figure it out. The only other challenge is the technical complexity, if something is to go wrong. It is very rare that something goes wrong, but when it does, then it can be a major failure.

The main feature I would like to see in future consoles is plug-in integration. Avid has had it for some time but none of the other consoles have it, wherein the plug-in runs inside the console itself. Looking in to the future, something futuristic would be if a console manufacturer could sell individual packages of software and hardware. For instance if I bought a software package and I wanted 40 faders and I could customize my consoles accordingly, it would be great. That would be something, which I feel is futuristic, where everyone has his or her kind of customized board.



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Pramod Chandorkar

I do not see any challenges while working with modern consoles. If the concept and the theory of consoles is clear there should be no challenges. I have used almost all brands of consoles and have never had the need to open



their manuals to learn something.

Everything is available in a console these days, nevertheless, I would love to see some kind of spectrum analyzer in a live console. Also, they should have better LCD panels, which can be easily used in sunlight and a wide choice of plug-ins, instead of just Waves.

Rahul Samuel

A lack of uniformity in work flow



across consoles from different manufacturers is something that bothers me.

There is always a few minutes of starting trouble when I move away from a familiar console. I would like to see some sort of a standardised workflow that all console manufacturers can incorporate. I do understand that they all come with extremely different feature sets bringing in the need for a very different approach, but I'm sure if we put all the great minds designing these desks in a room, they can come up with a solution.

Ranjeet Singh

There are no challenges as such, because we ask for a good console therefore we don't face any difficulty. We already know about the consoles which do have issues and we ask for



those, which are robust and powerful.

There are innumerable things, I would like to see in future consoles, one of them being, that the consoles should not have limitations. For instance, the new Avid S6L does not support Waves. There are other new consoles, which have come up with 96 inputs but are having only 24 outputs. Even if they have more outputs, they have fewer busses, which is a major problem nowadays. This is the reason we have to choose Digoco or bigger consoles, for smaller events too. Therefore, I personally would like all future consoles to have enough output busses.

Sunil Karanjikar

Most modern consoles let you do one thing at a time, which is not conditioned

to somebody who has come up from the analog era. People who are used to analog are used to doing more than one thing at a time. Most digital consoles allow you to work on only one channel at



a time and this can get cumbersome. I am not used to working like that, so the biggest challenge I face is, being stuck to one channel at a particular time and, especially when I am mixing a festival or a big concert.

Many manufacturers use their own proprietary protocols to transmit the audio back and forth and then they will not play well with amplifiers and with the other speaker systems. In addition, you cannot merge two different consoles together. So, this is one feature I want to see, and I would like a true digital split between monitors and front of house and broadcast.

Vijay Benegal



If I am familiar with a console then nothing is a challenge really, but if I am using an unfamiliar one then I prefer having an experienced tech alongside to assist with setups, routing, patching etc. The biggest problem I face is with one particular brand, which has all kinds of compatibility issues between software versions, file transfer between different models etc. That is just ridiculous nowadays. What I would love to see on future consoles is more analog style controls access (less button pushing).

Vijay Dayal

There was a time when my engineer friends suggested me to shift from analog consoles to digital. I was a little bit hesitant as my primary concern was sound, and one more challenge of coping up with the multi-layer faders, not having everything at a glance like an analog console, which enables you to tweak anything on any of the channels in a fraction of second, and that doesn't happen in most of the digital consoles. But the biggest advantage of a digital console was having compressors, gates, expanders on each channel which was a dream in case of an analog console,



where we used to hook up loads of outboards, which was not physical. Finally, what I look for in a dream console is, accessibility and sound of an analog console and the ease and flexibility of a digital console.... waiting for that!!!!

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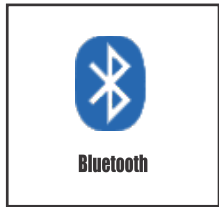
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GOING BIG WITH SMALLER BOXES

New products and strong brand building initiatives hail big-ticket shows for NJSM

Launchpad

For those who are familiar with NJSM, Nixon Johnny will be the one you associate as 'the face of NJSM'. Founded by Nixon almost two decades ago, the rental company has today grown rapidly from when it first started with manufacturing speaker boxes - mainly for churches in and around Mumbai. "20 years ago, after completing my technical education from Don Bosco, Mumbai, I started making speakers as a passion with no intention to sell initially, but eventually along with my friend Jokim, I started NJ Sound Machine to rent out these speaker boxes; So the NJ in NJ Sound Machine initially meant Nixon and Jokim," says Nixon.

"I first started with an inventory of my own handmade boxes as there were no branded boxes at that time. Even a rental biggie of that time had its own locally manufactured boxes, only difference being that they used branded components while I didn't have the money to use branded components.

Investment into quality sound equipment and a fresh business outlook is broadening NJSM's horizon on the festival circuit in India. In a tête-à-tête with Nixon Johnny, Sachit Subramanian and Sancheth Suvarna, PT finds out what's new and what's next for the rental company

The first branded speakers, which came into NJ Sound Machine, were from YAMAHA and JBL. What is commendable I feel is that we were only the third rental company at that time that had brought these brands in Mumbai," he adds.

Dream Team

Though Jokim quit the rental business within two years, Nixon is eager to point out, that today there are two other members who form the core, young and energetic dream team of NJSM (as it is known today) – Sachit Subramanian and Sancheth Suvarna. Nixon's expertise lies in Vendor Management and Sales, while Sachit is the Marketing and PR brain and Sancheth handles the core technical as-

pect; the trio trusts each other implicitly within the respective fields.

"We came into the picture in 2010. That was when we also acquired our first line array system, which was the db technologies' DVA T4. That was our first box and today we have an inventory of 32 boxes of db technologies. Those boxes are the ones, which pulled us from being a very small rental company to a decently big rental company. By that time, we were doing decently big shows, including college festivals," enthuses Sachit.

Breakthrough

It was a slow start for the rental company, however, it was the ownership of

the d&B audiotechnik boxes, which really accelerated the NJSM growth in the Indian rental market. After a dark and confusing patch of two years (which the trio feels best forgotten as a thing of the past), NJ Sound Machine decided to up its game by investing in topline sound inventory.

"We were not getting the kind of gigs which we would get with bigger boxes. We were using the DVA T4 which is a smaller box and can't be used for super large-scale concerts or events so we decided to go for bigger boxes," says Sancheth. "By July 2016 we had decided that we need to do something different because if we continued with the existing gear for one more year, we



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would have lost a whole lot of business and be judged as a mediocre rental company, which is just struggling to do business," he adds.

Despite Leslie from Ansata (official distributors of d&b audiotechnik in India) suggesting the Y series, which is the smallest of the d&b boxes, Nixon decided to go for the V series as he had bigger plans. Facilitated by Ansata, the first shipment of 12 tops of D&B V series with 4 dual subs and 4 single subs reached the NJ Sound Machine storehouse in December of 2016. Stepping up on the inventory, the company also purchased the L-Acoustic dV-DOSC from Bangalore based rental company J Davis Prosound & Lighting which would in future help with banquet shows and small outdoor shows.

Upping the Ante

"We realized soon enough that we are now getting more shows. People were getting to know about the quality of our equipment and standard of work and that is when we made some major decisions. We went into a rebranding phrase wherein we contracted a design team and started portraying ourselves as a company that is driven by people. That is when NJ Sound Machine became NJSM," says Sachit.

"We also realized that it's not only about speaker boxes; we were also lacking on ancillary equipment. In April when I visited Prolight & Sound Frankfurt and got a hands-on, on the Avid S6L and I decided NJSM needed this board to go to the next level. It had all the features, which we as a company felt we needed. Again supported by Ansata, I closed the deal right there in Germany. We are probably the second or third company in India to have invested in the S6L, with the first one being bought by SNL Pro a year prior."

"We had two SC48s in the large formats and others like Yamaha TF5, Presonus boards etc. but the S6L was another milestone for us," says Sancheth. "We wanted to buy more d&b and for that you need to have that kind of infrastructure and you need a big board with plus

48 inputs when you are doing bigger shows," he adds.

The Big-ticket

The new direction and move had knock-on effects for NJSM. In 2017 the company engaged in some impressive projects. "When the season started, that is when things went through the roof and we started getting calls from top rung event companies like Percept. Percept wanted us to execute the Arena event. That was the same day when we had quoted for a Vishal-Shekar show scheduled to take place in Goa. That was when we realized that we were falling short of boxes. Both the shows were confirmed and we had promised d&b to both but we didn't have the box count to do both," says Sachit.

NJSM needed 40 d&b V series boxes to do both shows but their box count at that time stood at 12 boxes. "We tried to dry hire but the financials were not working right and that's when we decided to just go ahead and buy another 12 tops from Germany. We also invested in another 8 dual subs. Thanks to Ansata, within a week we had our boxes in India and the remaining we had to dry hire from other rental companies. Just one gig had grown our inventory from 12 tops to 24 tops."

On the strength of the newly acquired d&b Audiotechnik V Series rig, NJSM delivered outstanding audio support for SUNBURN by Percept's KSHMR and KYGO tours for their Kolkata and Mumbai chapters respectively in 2017 and 2018 kicked off with Nucleya in Belgaum and Amit Trivedi in Mumbai.

"I personally toured three cities for KSHMR. It was after the KSHMR Calcutta gig that we were offered the Kygo tours," says Sachit.

The Kolkata event was powered by 24 V Series tops with 20 Subs. "Typically we have worked on this venue for previous events of Sunburn, and now are well aware of the venue, but this time we had a challenge since we were working with a different system. However, d&b's ArrayCalc made it very easy for us," says Sachit who was also the Chief System

Engineer on the show.

The show was pre-planned with the help of accurate venue data from Sunburn's crew, which was later on used to create simulations on ArrayCalc, therefore making it very easy to setup for the technician crew and also during the show for Sancheth who doubled up as a Mix Engineer. "I used one Waves plug in on the Subs and one Waves Multiband Compressor on the master, and that's about it, tuning the system is practically not needed when it comes to the d&b, just basic time alignment is all that is needed" says Sancheth. The event had over 5000 crowd footfall and the audio was spot-on, making it another successful event for the NJSM team in Kolkata.

The Kygo Mumbai event was a very different challenge, the venue was a broader venue and crowd expectancy was over 7000 people, also since it was Mumbai the home turf for Percept and NJSM, there was no scope for mistakes. NJSM knew it was also home ground of India's biggest rental companies like Sound.com and SNL Pro and that they would be judged if things did not go as per the brief. It again started with accurately analyzing and measuring the venue data with the help of d&b's ArrayCalc. "The Mumbai Kygo gig was a benchmark for the year 2017-2018. We successfully proved that you don't need bigger boxes and if you are technically sound then you can really pull off a great show," says Sachit

COMING FULL CIRCLE

But NJSM rental is just one part of the equation for the trio. As a manufacturer of "India designed" microphones via the Circle Pro Audio brands, the company has witnessed great success in India. Circle's Cost Effective Antenna Distribution system pack with its excellent gain structure has already captured the attention of many small rental companies since its launch and the team is all set to introduce some more great products at the PALM expo Mumbai from May 31 – June 2nd. "One of the products we will introduce is a custom in-ear combiner. The prototype is ready and visitors to

PALM will get to test it. We feel all the products we are launching at PALM this year, are going to change the market altogether for a very good reason," confides Sachit.

In 2017, the trio also associated with Biren Seth of Kiran Sales to start a new venture under the 360 Degree Pro Solutions banner and the first two products that were launched through 360 was dSnake a CAT6 based AES, Analogue & DMX distribution system as well as an EP isolator box. 360 has also signed up as distributors of US based leading case manufacturing brand SKB which again will be showcased at Palm 2018. "We were once a small rental company and we have grown over the years. We know the problems small rental companies face and what they need, and in India, the smaller rental company market is huge pie of the market and that's why we started 360 Pro solutions with Biren Seth," says Sancheth.

FUTURECAST

As NJSM settles back into its stride following a year of great projects, they are clear where they are headed to in the near future. "We have already jotted down what we need to buy for 2018. We will wait for this session to end and get our finances in place and then our aim is to own 48 boxes of V series, and at least 30 dual subs of B22 by the start off the 2019 season. We will also invest into enough amplifiers to array process all the shows, which means we will have a total of 12 amplifiers only for the tops," says Nixon. "SIZE DOES NOT MATTER! I've always believed that engineering today has reached a stage where smaller boxes can deliver the similar dynamics that a bigger box can and d&b V Series have proven that to us time and again," he concludes.

Though, going by the current growth pace, PT does think that NJSM may just need the bigger boxes in times to come and only time will tell if NJSM will make the switch to the bigger d&b audiotechnik GSL series once the target of 48 boxes of the V series has been reached.

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EQUIPMENT - AN INVESTMENT OR A LIABILITY

What scale of Business do you aspire to?

I have struggled with this over my career. Before I climbed aboard this wild ride of Entertainment Electronics - I had studied to be a management professional.

Warning - This a Nerdy article. Even if you find it boring - Read. It may change your view of life.

Before I knew about 'Stage Life' I had studied 'Office Life'. Before the college of sleepless nights, missed meals, crappy hotels, no family, early morning smelly flights and most importantly - dealing with grinning, well meaning idiots (most of whom I grew to love), I went to a college of brews and professors.

Not knowing that life would shine in a few years time - I was one of those nerds who actually studied.

So I learnt about Investment, Risk, Profit Centres. I learned it well enough for it to still stay with me. One of the first things I learnt was how to stay profitable. A huge aspect of that was learning how to manage Scale. In short - How Big Do You Get?

Most Industries or Businesses have an optimum size. Once you reach that spot, you need to reorganise from ground up to either grow or diversify in some form.

A struggle between a state of - 'Too Big to manage' and 'Too small to grow'

Most of us lie somewhere in between. I hope, by the end of this article you are in a position to gauge where you are - and shape where you want to go to next.

Management Principal 1. - To Get a good answer / solution that fits - ASK the right question !

Question. What Do I want to Be ?
Option 1: Technical Professional. (Within a Team or as an individual)

Option 2: A Rental House. Somebody asks for my equipment - I go out there and install it.

Option 3: A Turnkey Operator. A Client calls with a Project - I offer an end to end solution (Design, Install Operate)

I expect the most common answer is - a bit of all three. You will justify this by saying that the market is small and

unpredictable - so let me grab what I can when I can. While this may make sense let's examine this in a bit more detail.

All three of the above options call for different skill sets. Perhaps they all distil down to the same point but remember we are a service industry. Our knowledge, expertise and experience count for nothing. Simply because our clients have No clue what we do and have No interest in how we do it. They simply want the job done on their time scale on their budgets.

So pause and consider what goes through their minds before they hire one or the other of us.

Everybody will have their own take on this. In my opinion all of what you will probably say boils down to one concept - Perceived Reliability.

One of the features of our profession is that we cannot model or display even half of what we will deliver on each individual show. We can talk, design, present, demo all we want. In the end its how the client puts all these factors together in his head. How well you manage that will govern whether you win the contract or not.

That will all be based on how REAL your presentation has been. For him to have the confidence that you can bring all the pieces together for him on that date - to stage a successful event.

Those facts are often wildly divergent from the actual skill sets required to execute the project on the day. You are the bridge between His Perception to the Audiences Reality.

Heavy stuff ? It gets easier the less you struggle. Of course you will add refinements.

Know this about your businesses and within this knowledge is the basis on your understanding of the optimal scale of your business. Where you enjoy the maximum benefits of scale without leaking away too many inefficiencies and overheads.

So how do you select the right client or market segment for you to chase.

Let's stick to Just one component of this equation for this issue - Equipment.

What equipment will you need to support your business. Limitless

possibilities. Limitless Opportunities. Limitless horizons. Limited Budgets. Limited Time.

That's the gap within which you will find the answer.

Let's look at equipment from a different perspective.

1. The Must Haves. This refers to equipment that is fundamental to your business.

For a Lighting Guy - Dimmer Packs, Power Distros, Basic Lights (Pars, Profiles etc)

We must establish what the costs of purchase and maintenance are per year. How long will they stay in our inventory before they become ineffective. This is the meat and potatoes of your business. If this part of your inventory is not 100% reliable on the ground - your business has to suffer.

Decide how much of your total budget is tied up in this section. I recommend 40 - 50% of your total spend as a benchmark.

2. Support Infrastructure. The hidden everybody costs nobody keeps track off - and most effective drain on your profits. This includes the cabling, the bulbs, the walkie talkies, the batteries.

Ideally this should not account for more than 20% of your total spend. Sadly a general lack of foresight, last minute scrambling, bad maintenance make this the weakest point in our chain. Turn a blind eye here as managing this is both painful and cumbersome - could lead to disastrous results.

Everybody in your company must buy into your companies policies on this.

3. What sets us apart. By definition every company you compete with will have some version of this above you have. Assume nothing really differentiates you (Only equipment wise). You must have some Unique equipment that you can demo your client to keep you ahead of the pack.

I recommend that 60% of all your companies research time is spent on this aspect. To keep abreast of what the market offers, and how to tweak it so that you present it to a client as a 'Must have accessory'.

In investment terms I recommend spending no more than 20% of your budget - but this can vary on how significant and desirable the product is on offer. For God's sake

never give this away for free. Remember this Rs 20,000 piece has brought you a Rs 1 lakh contract that is the only reason you can pay off Rs 80,000 of the rest of your companies overheads. Understood ?

4. Vanity Purchases. Ahem! we all know what this is. This is what makes industry tongues wagging - and not much else. The only reason it is necessary is when a large contract is in the balance and the client has demanded it.

It may not fit the rest of your equipment, hard to say how often you will use it - but it gives you bragging rights. And so ideally never allocate more than 10 to max 20% of your budget.

Of course these benchmarks will vary, But I urge you to fix a benchmark for yourself and measure yourself against it every year to see where you stand. Compare this ratio with your profitability of the year and I am sure you will see a consistent and proportionate relationship.

Also measure your return on investment on each section of the investment. Of course the allocations may be arbitrary, but I urge you to do it. See which section gives you maximum financial return and which bit brings you maximum marketing clout. Once you have a few years data - your Investment decisions will be far more informed.

Most importantly your investment will not slide into a liability. When you look upon a huge pile of equipment that you so eagerly purchased a short while ago. Now you scratching your head on how to free up godown space to make room for your next vanity purchase.

Now go out there and sell the hell out of these facts. This is the groundwork on which you build the rest of your business proposition. To target the right clients who can provide you the best return on your investments.

(The views expressed by the author are his own personal comments and the magazine does not subscribe to them).

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MARK LARCOMBE JOINS ETC AS REGIONAL SALES MANAGER FOR INDIA

ETC has appointed **Mark Larcombe** as regional sales manager for the Middle East and India. He takes over from **Darren Beckley**, who was recently promoted to the position of sales manager for ETC Ltd.

In his new position, Mark will be responsible for the sales territory that includes the United Arab Emirates, Saudi Arabia, Qatar, Oman, Kuwait, Bahrain, Iraq and India. He will be based out of ETC's London office, with much of his time spent in the field, working in cooperation

with ETC's distributors, dealers and integrators in his territory.

Mark joins ETC from the UK-based systems integration, sales and Rental Company Stage Electrics, where he most recently served as an international sales manager. During his eight-year tenure with the company, he was involved in many prestigious global projects. Most notably, in the Middle East, he played an instrumental role in installation projects for the PAAET Theatre, Shuwaikh Campus, in

Kuwait City; the Oman Convention & Exhibition Centre; and the Royal Opera House Muscat.

"I have known Mark for many years and I am delighted to pass the mantle to him," says Darren Beckley. "With his enthusiasm, persona and market knowledge, Mark will be a valuable addition to our international sales team. I have every confidence he will continue to drive the business forward and maintain our high levels of service in his region."



Mark Larcombe will be based out of ETC's London office & will work in cooperation with ETC's distributors, dealers and integrators in his territory.



CHAUVET UNVEILS NEW OVATION LED FOLLOWSPOT

Chauvet's new Ovation SP-300CW offers the efficiency of LED technology in a bright professional-level followspot fixture. Powered by a 260-watt 5500K cool white LED engine, and featuring a 10°-20° zoom, the high-output fixture is designed to provide mid-sized venues with a practical, reliable and cost-effective followspot solution. "Theatres, churches, and other

mid-sized venues will find that the Ovation SP-300CW offers them all the benefits of LED technology in a high-output followspot that produces a crisp cool white beam," said **Albert Chauvet**, CEO of Chauvet. "We also added quite a few user-friendly features to this fixture."

Among the standout features of the Ovation SP-300CW are its fully closeable iris, which allows more precise lighting control. The new followspot also has on-board linear

dimming, as well as smooth manual sliders for zoom, and a focus that optimizes its spotlight for throw distances of 50'-100'.

It's 6-slot manual boomerang in front of the light source makes it easy to add gels for quick color changes. Extremely quiet, the Ovation SP-300CW is well suited for recital halls, broadcast studios and similar venues. Additionally, the fixture's 2300HZ PWM frequency results in flicker-free operation for video

applications.

Extremely bright, with an illuminance ranging from 7,330 to 17,296 lux at 5 meters depending on the zoom angle, the Ovation SP-300CW has the output needed to meet the requirements of virtually any mid-sized venue. "We see this fixture fitting the needs of a wide variety of applications," said Chauvet. "It will give end-users yet another way to incorporate LED technology into their rigs."

PAUL WONG FILLS AVOLITES MANAGING DIRECTOR'S ROLE

Avolites has appointed Paul Wong, an experienced Business to Business with a track record of strong growth in multiple industries with a focus on industry-leading technological innovation as Managing Director.

He joins Avolites with a wealth of experience, most recently as MD at Bosch Security Systems Ltd and MD of Record UK Ltd. Paul brings a Master of Business Administration (MBA) focused in Strategy & Finance from Cass Business School and a degree in Electronic Engineering, Software and Communications from The Manchester Metropolitan University.

Paul is welcomed to Avolites as an addition to existing senior management - **Steve Warren**, Director of Business Development and **Ric Salzedo**, Chairman.

"I'm thrilled to be joining

Avolites at this exciting time for the company. Avolites has a great history as one of the pioneers of lighting consoles and a major innovator of new features which have transformed the visual experience of live entertainment. I am looking forward to working with a team who are busy working on incredible new products, which will be greatly appreciated by the loyal Avolites fanbase, as well as new users," says Wong.

Having held the roles of both Chairman and Managing Director for a number of years, Ric Salzedo will now retain the position of Chairman. Along with Steve Warren, he was both architect and overseer of many of Avolites' innovative products, and also guided the successful acquisition and integration of Avolites Media.

Ric says, "As part of our long-term plan we have been putting young blood into the executive team, which



Paul Wong, has been involved in a wide range of technologies including Electronic Access Control, CCTV, Biometric Identification, Video Analytics and big data applications

started with JB and Koy joining the Board as Technical and Sales directors. The next step is Paul joining the

company as Managing Director."

Sales Director, **Koy Neminathan** says, "The Avolites team is delighted to be joined by Paul who brings industry knowledge, a thirst for innovation and strong business experience to Avolites. His appointment comes as the company moves into the next level of technological advancements with a clear focus. We are extremely excited to have Paul steer this 'ship' towards its goal and achieve the great things for all our users, new and old, in 2018 and beyond!"

He has been involved in a wide range of technologies including Electronic Access Control, CCTV, Biometric Identification, Video Analytics and big data applications, and has spearheaded numerous large projects ranging from transport, major stadiums, universities, MoD, and utilities.

Presenting the 12th edition of the Indian Recording Arts Academy Awards (IRAA)

IRAA is an initiative to acknowledge and honour exceptional talent in the field of music, soundtrack recording and mixing for albums and movies. Head to <http://iraa.in/Registration.aspx#Registration> to nominate your work of art. The IRAA Awards Jury comprising of experienced and prominent sound engineering and music industry professionals from the industry will review and recognize works of distinction and exceptional achievements.



Anil Chopra
Founder & Chairman of IRAA
(Indian Recording Arts Academy) Awards



Pramod Chandorkar
IRAA Director 2017 & Founder & Director,
Soundideaz Academy Pvt. Ltd

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Yogesh Pradhan
Eminent Music Arranger



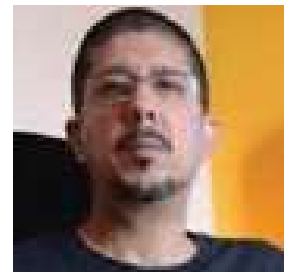
Ashish Saxena
Eminent Sound Engineer and Director,
Purple Haze Studio Pvt. Ltd.



Bishwadeep Chatterjee
Eminent Sound Designer and
Co-founder, Orbis Studio



Indrajit Sharma
Eminent Music Composer/
Arranger/ Producer



Vijay Benegal
Eminent Recording & Mix Engineer
and Co-founder, OdBle Studios



Vijay Dayal
Eminent Sound Engineer and Chief
Sound Recordist at Yash Raj Studios



Shantanu Hudlikar
Eminent Recording, Mix Engineer &
Chief Sound Engineer, Yash Raj Studios



Mujeeb Dadarkar
Eminent Sound Engineer
and Owner, OdBle Studiosf



Sandeep Shirodkar
Eminent Indian film Composer/
Record producer/Arranger

Chairman & Founder of the IRAA 2018 Awards is Anil Chopra & the IRAA 2018 Jury will be presented at
The IRAA Award Ceremony on 2nd June at Bombay Exhibition Centre.

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*Any query can be sent at: awarddirector@iraa.in

PR LIGHTING DEBUTS NEW XLED 6019 WASH LUMINAIRE

PR Lighting has announced the launch of its new XLED 6019 wash luminaire containing 19 high power Osram 60W RGBW (4 in one) LEDs, with linear colour temperature change from 2'700K-10'000K. It is capable of producing mid-air parallel beams to create a uniform wash and variable built-in dynamic effects. This fully-featured moving head offers unlimited RGBW colour mixing, with macros and 0-100% dimming, linearly adjustable. Beam angle (1/2 peak) is θ 1/2 and Linear Zoom 3.3°-60°.

Additional features include: electronic strobe 0-25fps; motorised zooming linearly adjustable; rainbow, wash,

beam, profile, effect modes (e.g. kaleidoscope, swirl), with multiple macros; head movement: pan 0 –



540° and Tilt 0 – 180°, with auto position correction; 19-channel operation in standard mode, 92 channels in extended mode. It also includes preset memory, user memories, and wireless DMX control.

Finally, other useful functions include: pixel control; bi-directional and continual rotation of the front lens panel; colour touch screen and brightness-adjustable; pan and tilt speed adjustable; firmware upgraded via DMX interface and XLR cable; over temperature protection. All effects are contained in a high-temperature, engineering-plastic moulded IP20 chassis, and net weight is 29.5Kg.



CHAUVET LAUNCHES NEW FREEDOM H1

The new Freedom H1 is a compact wireless, battery-operated LED wash light with a built-in D-Fi transceiver and a single hex-colour (RGBAW+UV) 10W LED. This compact fixture can be mounted virtually anywhere: free-standing on the floor, attached to a lighting stand/truss or mounted directly to a metal surface using its magnetic base. Multiple units can be remotely controlled simultaneously via stand-alone mode, wireless DMX or IR. The Freedom H1 X4 system includes four fixtures, four diffusers, a carry bag, multi-charger and IRC-6 remote.

NEW CONTROL PRODUCTS FROM ELATION PROFESSIONAL

Elation Professional introduced three new lighting control products 4CAST DMX BRIDGE, eNode2 POE & IPC415-DMX Power Control Center. All three are designed to ease communication, optimize functionality, and increase compatibility of intelligent lighting systems.

Features of 4CAST DMX BRIDGE

The 4CAST DMX BRIDGE is a compact four-universe wireless device which seamlessly bridges Wi-Fi, Art-Net, sACN, and E-FLY (Elation's wireless DMX solution) signals to wirelessly control compatible DMX devices, an ideal solution for small production events, nightclubs, bars, or any event or venue which requires hidden data cables. The 4CAST DMX BRIDGE creates a private standalone 2.4GHz DSSS (Direct Sequence Spread Spectrum) Wi-Fi network, which coexists in busy RF environments alongside other wireless technologies. No existing network infrastructure is required, or it can connect to an external network. The device sends constant and reliable wireless DMX signals to compatible DMX devices via DMX-512, Art-Net, sACN, or E-FLY. Using the 4CAST iOS app installed on an iOS compatible device provides additional easy control of compatible DMX devices.

Features of eNode2 POE

The eNode2 POE is a compact two-universe Ethernet-DMX node powered over Ethernet (POE) that supports Art-



4-Cast DMX Bridge

Net compatible DMX control systems utilizing a single RJ45 auto-switching 10/100Mbps Neutrik etherCON input and two multi-configuration five-pin Neutrik DMX data outputs. Features include DMX bilateral conversion support, a four-button control panel, an OLED system menu display and three LED status indicators. Compact and made of lightweight die-cast aluminum, it includes a mini omega bracket for easy clamp/truss mounting. No external power supply or cord is needed.

Features of IPC415-DMX

The IPC415-DMX Power Control Center is an intelligent DMX power control center featuring four powerCON outputs (15A max each), four five-pin XLR DMX outputs, one five-pin XLR DMX input, and one five-



eNode2 POE

pin XLR DMX thru-put. Power to the powerCON outputs can be scheduled to automatically switch on/off via an internal scheduler when the DMX signal is lost or when a specific cue is triggered from a DMX console. The IPC415 can be mounted in a standard 19" rack space using the included rack ears, or truss mounted using a



IPC415-DMX Power Control Center

clamp (not included) attached to the M10 rigging point in the center of the unit. It includes a multi-voltage universal auto switching power supply (100V - 240V) for use anywhere in the world.

HIGH END SYSTEMS RELEASES HOG 4 V.3.8.0

High End Systems announced the release Hog 4 v.3.8.0 software for the Hog 4 console range. The release includes several new features and bug fixes. Hog 4 OS v.3.8.0 adds external monitor / touchscreen capability to all HedgeHog 4 and HedgeHog 4N console models that have a VGA/ DVI connection on the rear of the console. Additionally, a more theater-friendly desktop color



scheme called 'stealth' has been added to user preferences. Lastly, touchscreen updates include support added for Dell P2418HT Touch Monitors, and iiyama ProLite T2252MTS touchscreens now function properly in Hog 4 v.3.8.0.

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For Registration & more information, Visit:
www.palmexpo.in/About_DJSoundscape.aspx

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MA LIGHTING ANNOUNCES GRANDMA3

MA Lighting has announced grandMA3 console, which is founded on the legacy of the previous grandMA consoles. The company states that grandMA3 represents “a radical re-think of what’s possible from a lighting control platform”. The elegant new system-architecture incorporates new fixture, feature and effects-handling at its very heart.

The system features groundbreaking concepts from top industry visionaries, presented within a refined user interface, and is designed to make practical tasks more intuitive. And the physical design detail of the grandMA3 range is extraordinary and focused on delivering the best possible user experience, now and into the future.

grandMA3 Key Features

- Its full-size and light models feature huge multi-touch screen surface area; All dedicated encoder and playback information is accessed directly on the letterbox screens allowing the larger screens to be fully-configured to suit user needs.

- The grandMA3 breaks the limitations of Local Area Networks (LAN) with the ability to access Wide Area Networks (WAN). Software updates, technical support, online help and fixture downloads are all features to be supported within the WAN framework.
- With the use of advanced MA-Net3 protocol, grandMA3 systems can output up to 250,000 parameters. There are three sizes of grandMA3 processing units to expand the console parameter count.
- The grandMA3 full-size and light models incorporate a sophisticated thermal design, transferring heat to a cooling corridor, which isolates critical components from harmful dust and keeps fan-noise to a whisper.
- The lightweight chassis has been designed for durability and easy handling. The large screen housing on the full-size and light models have a dual friction hinge system, providing fast-folding for portability whilst ensuring maximum visibility for users.
- The control software utilizes a flexible new fixture concept,



MA Lighting grandMA3

- developed to replicate the real-world physical components of the most complex fixtures. All features of the new fixture concept are generic, allowing intuitive control of all possible fixtures.
- A fully flexible assignment of playback functionality allows for 30% more playback handles than any previous grandMA series console. All playbacks have direct access to button pushes as well as intensity and timing changes thanks to the new rotary RGB backlit encoders.
- New buttons have been specifically developed for the grandMA3 consoles, to satisfy the needs of the most demanding users.
- At the heart of the grandMA3 control system is a powerful new MA designed processing engine featuring high performance Intel technology. The capacity and power of the cutting-edge

hardware is far in excess of current requirements, allowing plenty of headroom for future developments.

- In addition to the lighting control capabilities, the grandMA3 software features an integrated 3D visualiser for pre-programming, and the ability to manipulate and playback basic media content directly from within the console.
- The grandMA3 control consoles are compatible with shows created on grandMA2 consoles. Where features allow, existing shows can be exported from grandMA2 software 3.4 for use in all grandMA3 console models. The grandMA3 full-size and light console models also incorporate fully featured Mode2, which runs native grandMA2 software version 3.4 and later.

ADJ LIGHTING'S FLAGSHIP VIZI CMY300 NOW SHIPPING

The award-winning unit offers a whole host of professional features, including CMY color mixing, twin GOBO wheels, motorized focus, zoom and iris, wireless DMX and two rotating prisms.

Key Features of Vizi CMY 300

The signature feature of the Vizi CMY300 is its full CMY color mixing ability. This gives users the freedom to select from a much wider palette of colors than a regular color wheel. Independent cyan, magenta and yellow color paddles – which allow variable intensities – can be mixed together to create almost any color imaginable. In addition, the fixture still incorporates a standard color wheel which allows easy selection of popular colors including UV. This also features a 3200K CTO filter, which allows the beam color temperature to be altered from the cool white of its LED light-source to a warm white that emulates older lamp-based fixtures.

Two separate GOBO wheels allow a huge amount of creative potential when it comes to shaping the fixture's beam. To ensure that GOBO patterns appear sharp regardless of the projection distance, the Vizi CMY300 offers motorized focus. It also features a motorized zoom function which allows the beam angle to be altered between 8- and 46-degrees, allowing for tight beam effects as well as wider GOBO projections. In addition, the fixture offers an in-built Frost filter which switches the beam from a hard-edged spot to a soft-edged wash. Finally, the fixture is also equipped with a motorized iris which can be used to reduce the beam intensity to anywhere between 100% and 5%.

Offering even more creative potential, the Vizi CMY300 also features two separate multi-faceted rotating prisms. Also, with variable speed as well as fine pan and tilt control, the head is capable of both

smooth slow sweeps and fast precise movements. It has a pan range of 540-degrees and a tilt range of 270-degrees, making it capable of covering a wide area wherever it is positioned on a stage or within a venue. The Vizi CMY300 supports an input voltage of 100-240V at 50/60Hz, which means that it is suitable for international use and therefore worldwide touring duties.

With measurements of 14.75" x 12.75" x 24.5" / 370 x 325 x 619mm, the Vizi CMY300 has a smaller footprint than most other moving heads in its class. At 51 lbs. / 23 kg. it is also relatively lightweight, making it easy to carry and rig. For touring and event productions applications, ADJ's DRC16RX road case is perfectly sized to protect, store and transport a pair of the fixtures along with accessories



ADJ Lighting Vizi CMY300

such as clamps, safety cables and power cords.

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Bombay Exhibition Centre

PIXELFLEX AND VECTORWORKS, INC. PARTNERSHIP BRINGS LATEST LED DISPLAY TECHNOLOGY TO CAD AND BIM DESIGNERS

To provide ready-to-use LED video solutions for entertainment, architectural and commercial designs, PixelFLEX has announced its partnership with Vectorworks, Inc. software content community. Used by over 650,000 designers worldwide, the design symbols, images and specifications for the PixelFLEX FLEXTour, FLEXLite Plus and FLEXCurtain HD video solutions, including accessories, will be available for download in all Vectorworks CAD and BIM design programs beginning in March.

“As we have continued to expand our LED video solutions into a multitude of different markets, it has become imperative that we provide designers with the tools necessary to quickly complete their designs,” said **Jon Chavez**, technical director at PixelFLEX. “We have been very fortunate to have many talented

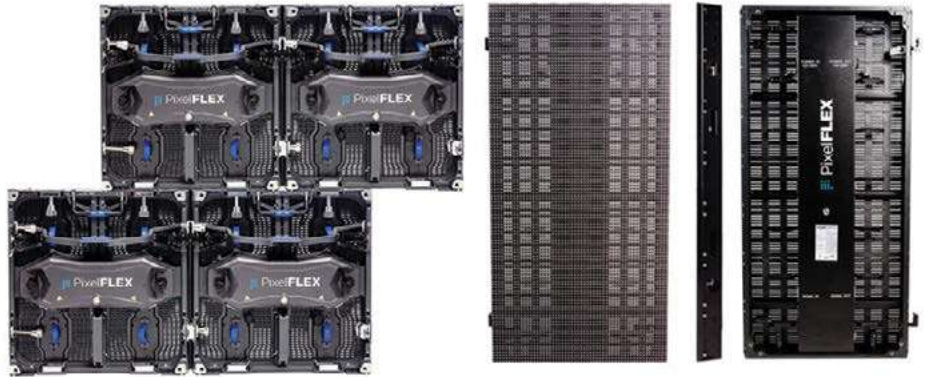
professionals incorporate our solutions into their design portfolios, and our partnership with Vectorworks will only allow them to further their creativity.”

A Nashville-based LED provider, PixelFLEX offers creative solutions and dependable service for their award-winning LED video display technologies. Working with architects, designers, engineers and consultants, PixelFLEX LED video solutions can create a one-of-a-kind design for any tour, live event or permanent installation, and can be downloaded through the latest updates of the Vectorworks design software.

Vectorworks is a global design and BIM software developer serving professionals in the architecture, landscape and entertainment

industries. With their 2D/3D cross-platform software, designers can build data-rich, visual models without sacrificing the design process, while

event world,” said **Chris Baccala**, content development manager at Vectorworks. “This partnership with PixelFLEX will give Vectorworks users



Vectorworks users can now access PixelFLEX product symbols, images and specifications for entertainment, architectural or commercial

collaborating efficiently throughout a project life-cycle.

“LED video walls are arguably the fastest growing part of the live

a massive advantage in accuracy, speed and flexibility in designing events and installs, as well as retail and hospitality projects.”

SGM APPOINTS INDUSTRY-RENOINED FRANK HOEHN AS NEW VP OF GLOBAL SALES

SGM has appointed the industry-renowned Frank Hoehn as new VP of Global Sales.

“SGM is structured in a very professional way, with all the right elements to continue to develop further to be a really important player, and I am excited to be able to use my experience to help SGM grow,” stated Frank, who most recently worked as Director of Business Development, and EMEA Hospitality for Martin / Harman International.

While Frank is a newly hire, he is not new to SGM development. In fact, he has been following SGM's growth from the sidelines for years.

“I have been very impressed with how Peter Johansen successfully developed the company; his ability to work on bold ideas, and make them into actual, tangible products. I remember when SGM introduced the waterproof G-Spot moving head and the whole industry was doubtful if it could work. Nevertheless, Peter and the awesome SGM team made it happen, and it is now part



Peter Johnson (Left) with Frank Hoehn (Right)

of a very successful product family.” exclaimed Frank, who loves the idea

of supporting lighting designers and producers in carrying out their creative visions.

“It might be a cliché, but I feel like, in this industry, there is a deeper purpose than just selling a product. We work with feelings and emotions, whether underlining a structure or landscape or enhancing the audience experience at an art performance, concert, or other live performance, we specialize in improving space through light. And SGM has all the tools and level of innovation to do that, plus a great team with a lot of passion and positive energy,” stated Frank.



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MUSIC REVENUES STREAM AHEAD

After decades of inactivity, the growth in Indian recorded music industry revenues seems to be showing some hope of a much-needed revival. As per recent surveys, this industry's revenues grew by almost 26 percent in 2016, securing the 19th rank worldwide in sales and outdoing the global industry's humble 5.9 percent. In addition, reports by FICCI/KPMG indicate that this industry is expected to grow to Rs 2,060 crore by 2020.

This growth in the revenue model may be attributed to the ways in which audiences consume music in today's digital age. With media (read Cassettes/CD/DVDs) long dead and Digital music streaming dominating music consumption habits of Indian consumers, the music industry continues to evolve with model revenues, which are in harmony with the consumption habits.

According to reports, with music streaming in India achieving a record volume two years ago, of 50-60 million active monthly users, streaming apps now account for a major chunk (more than 70%) of the total revenues generated by the music industry and this number is only expected to rise significantly over the next few years.

Following a deal with Warner Music Group to add "millions of soundtracks" to its upcoming music streaming service - Amazon Prime Music, in a recent move, Amazon signed a deal with Times Music to add 25,000 tracks to its service.

This is the seventh such deal by Amazon India over the past two months to beef up its ad-free music streaming service that will be available to Amazon Prime subscribers at no additional cost. Earlier deals include music labels like Tips Music, Sony Music, Saregama, Zee Music Company and Venus Music.

Prime Music, launched as a benefit under its Prime service at no additional cost, will house music across Bollywood and the other labels' catalogue of music, which includes international artists like Elvis Presley, Michael Jackson, Beyonce, Camila Cabello, The

Chainsmokers, Martin Garrix, Pharrel Williams, among others.

With this move, Amazon is getting a good grip on the market among some already established players, such as Gaana, Saavan and Wynk Music.

While streaming services witness heavy traffic for Bollywood songs and International music, the surprise element for the industry comes in the form of regional music. Though Bollywood has a lion's share in this market, what cannot be ignored is the rise in regional music downloads, with Tamil, Telugu, Punjabi and Kannada accounting for the bulk of the growth in regional content. Bharti Airtel's Wynk Music recently reported that about 13 per cent of its active users came in from rural India, contributing nearly 10 per cent to the



overall daily streams.

Prime Music too will provide access to South Indian Films and other regional languages and genres like Pop, Sufi, Indie, evergreen songs, ghazals, regional classics, Hindustani, Carnatic and devotional music besides Bollywood and International Music. The All India Radio (AIR), the national public radio broadcaster of India, and one of the largest media organisations in the world, which reaches out to almost 100% of the Indian population through hundreds of its broadcasting Centres has also jumped on to the bandwagon.

AIR has teamed up with Amazon Echo service, wherein people from all over the world can tune into AIR by giving a voice command. However, listeners need to buy the 'Echo' device

from Amazon's e-commerce platform to avail of this service.

Meanwhile, a group of the industry representing composers, lyricists and music publishers has initiated the process of seeking royalties from Indian telecom companies and platforms such as Apple and YouTube for the use of their works, including songs and music made available for streaming and downloads.

The Mumbai based IPRS has sent notices to carriers including Bharti Airtel, Vodafone, Idea Cellular and Reliance Jio to sign licensing agreements with them for collecting royalties. According to Rakesh Nigam, CEO of IPRS letters were sent to all these telcos asking them to obtain license for literary and musical works, sound recordings and cinematographic film that

is churning out, we were pleasantly surprised. Surprised not that the tracks were 'par excellence', but surprised that after months we had a top ten chart with fewer remixes of old songs; whew! Wonder if we will ever have a chart with no remixes at all; just refreshingly, fresh and new music!

Still hogging the limelight is "Dil Diyan Gallan" from Tiger Zinda Hai recorded at YRF Studios, followed by Amit Trivedi's "Aaj Se Teri" from Padman Recorded at A T Studios, Mumbai by Abhishek Sortey and Urmila Sutar, assisted by Firoz Shaikh and Mixed by Shadab Rayeen at A T Studios & New Edge Studios, Mumbai, assisted by Abhishek Sortey and Dhananjay Khapekar. The track is mastered by Donal Whelan at Masteringworld, U.K.

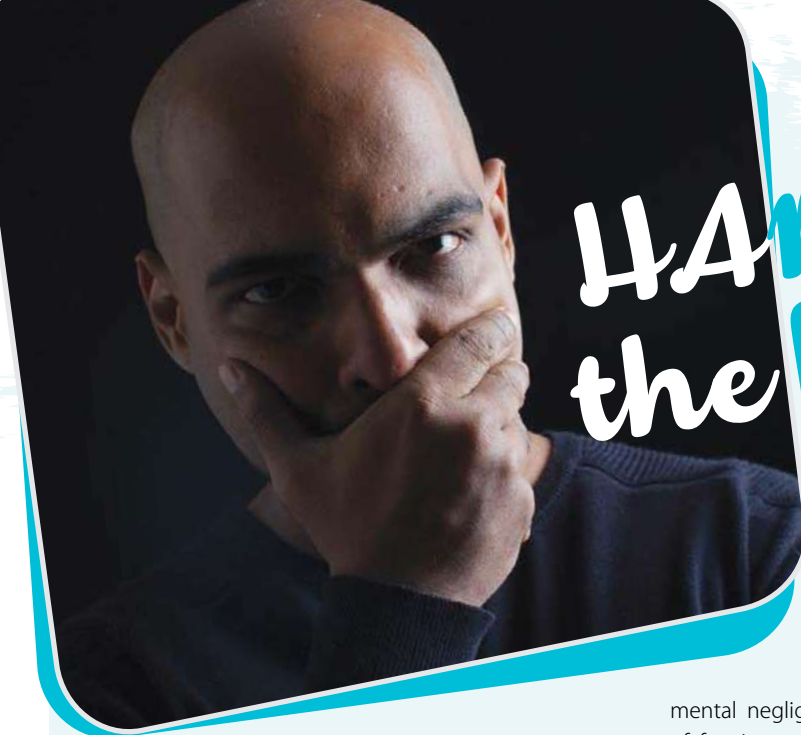
The track, which is here to stay - "Swag Se Swagat" from Tiger Zinda Hai is on number three. Recorded by Vijay Dayal at YRF Studios, the track has been Mastered by Donal Whelan at Mastering World, UK.

Recorded, Mixed & Mastered by Tanay Gajjar at Wow & Flutter Studio, the "Ghoomar" Song from Padmaavat holds fort at number four, while "Ek Dil Ek Jaan" from the same movie is on number eight.

Three of the balance five songs on the list have been lapped up by the yet to be released Romcom - Sonu Ke Titu Ki Sweetie. On number five is the recreated version of yesteryear's chartbuster "Dil Chori Sada Ho Gaya" originally sung by Hans Raj Hans. The new version sung by Honey Singh has been Mixed and Mastered by Vinod Verma.

Recorded by Rahul Sharma (AMV Studios) and Amey Londe and Vincent Joseph (Audiogarage Studios), "Subah Subha" is on number seven, while the recently added "Bom Diggy Diggy" track - a direct adaptation of Zack Knight's track, enters the top ten charts on number nine. Both the tracks have been Mixed & Mastered by Eric Pillai at Future Sound of Bombay, with Michael Edwin Pillai and Lucky as Mix As-

(Continued on page 94)



Hanging the DJ

Reji Ravindran

Hello & welcome to my brand new column - in your favourite industry magazine. In each edition, I'll be presenting to you news, perspectives & ideas related to the Indian DJing industry and its various off-shoots. This column aims to inform & empower its readers with holistic contemporary insights, which would hopefully propagate healthy discussions, standards & best practices within the industry - leading to a healthy, progressive & thriving market for the Indian DJ of any stature.

The Aftermath

I reside in Mumbai, and as I'm writing my first column, I would like to report to you that recent times have been pretty bleak for the nightlife & entertainment industry in my city. A major fire accident broke out in two adjacent venues in the heart of the city, leading to the unfortunate demise of 14 people and left 16 seriously injured. This catastrophe (which occurred just a few days before New Year's eve) created a huge furore on national prime time news, pressurizing the local municipal corporation to crack their whip on eateries/venues flaunting all sorts of fire & safety norms. This crusade has so far resulted into the inspection of 795 Mumbai eateries - out of which they found 438 outlets with violations, demolished 138 for illegal extensions & have sealed off 12 for serious negligence.

Due to its symbiotic nature to the hotel industry, this unfortunate incident has majorly affected the current DJ market. A big chunk of resident DJs in the city are sitting at home unemployed, waiting for their respective workplaces to open up again. Promoters have been hit big time as it has thrown their weekly/monthly programmings for their regular venues, into a pool of uncertainty. While we are still smack in the middle of the great Indian party season, a lot of international bookings have also gone awry. As this timing also coincides with India's ever-increasing rise in music festivals, organizers have been scampering for alternative venues for their pre-parties & their premeditated promotions. All in all, this aftermath has resulted in mighty financial losses for various professionals in their respective markets.

However, none of these losses can be compared to loss of life. Its really unfortunate how funda-

mental negligence (still) could turn safe havens of fun into potential death traps for customers and employees. And the worst part is that such catastrophes has happened too many times before and yet the industry has not learnt much from its past. In this moment of inactivity for us professionals, we have another brief window of time to once again meditate and start healthy discussions on the prevention of such incidents and/or work on protocols to adhere with - in case another incident like this rears its ugly head again.

Prevention better than cure

This proverb is the general theme in the aftermath of such accidents. And if you really need to see real change, you wouldn't find any other fundamental as honest and practical as this one. Regular fire & safety drills are a great place to begin with. Sadly, a major number of venues still don't prioritize such activities for their employees due to their 'this-would-never-happen-to-us' attitudes. In the wake of catastrophes of such stature, there is always a flurry of news, pictures & videos of municipal corporations and fire departments razing down venues with their bulldozers, for their respective violations. You really couldn't generalize these as each venue is different. After the authorities send their notices to venues, and after venue owners mend their ways to adhere with the required changes, the authority officials should ideally also work with each venue in designing customized fire & safety drills - pertaining to each specific venue. Likewise, conducting these drills periodically & checking on past (and avoidable future) violations with each venue should be mandatory responsibilities of government authorities and venues. Complacency shown in these matters by either parties would be the recipe for another disaster in the making.

The DJ Perspective

As I've been a professional DJ for 20 years now, there are a lot of points that I could bring forth on this matter - primarily from a resident DJs perspective. A majority of venue managements don't consider the disc jockey as a part of their 'team'. They have always perceived him/her more like a nonsalaried skilled professional/consultant, on a contractual basis. Only a handful few resident DJs have gained these contracts on their own as the placement of the rest for venues are made by well established old time DJs - who also moonlight

"FIRE & SAFETY AT VENUES - WHERE DO WE STAND?"

as music consultants for these outlets. As these consultancies have a big number of employed DJs on their rosters (& due to constant attrition), a majority of these venues have never had a constant resident DJ. These are some of the factors why venue managements have the general notion of the resident DJ as an 'outsider' and never a part of their team - resulting in various 'us vs. them' scenarios & altercations. In the case of disasters though, every trained and alert employee counts in ensuring the safety their patrons, co-workers & themselves. Hence, along with the rest of the staff, fire & safety drills must be made mandatory for resident DJs as well. Besides giving newly recruited residents a primer on what kind of music works for the venue, daily F&B allowances, work guidelines etc. they should also be immediately familiarized with the main power supply/circuit breaker boards, all the exits and the closest fire extinguishers. I personally know of a lot of senior resident DJs (having multiple renewals to their contract with their respective venues) who are still oblivious to the safety characteristics pertaining to their individual workplaces. If you are a resident DJ, then there is still time. Get in touch with the venue's senior management and insist on being included in the next fire & safety training session. Learn to be helpful instead of being helpless. Be pro-active in taking steps for safety of other's lives & primarily yourself. And finally, in case any unforeseen calamity, DJs should be well aware of the huge influence they have over patrons and use it with great effect through public service announcements.

Further extending their level of service, promoters and event organizers should also be a part of fire & safety drills. This works best in case of venues with whom they work with regularly. Their teams are present at the venue during major event nights and they could share the responsibility with venue's in-house team in ensuring the safety of the followers of their curation/sound. Most of what I have mentioned above is applicable for freelancing/touring DJs as well. They could demand a safety & precaution primer from their clients as a part of their technical rider. Likewise, its also good for clients to have these primers ready for individuals with whom they don't work with regularly. Finally, it really doesn't take much to print out the venue's layout, nearby exits, locations of fire extinguishers, safe assembly points & emergency/helpline numbers - as all these would fit into a single sheet of paper & could be circulated amongst every individual working on the day of each event. That's how simple & effective this primer could be and I don't see any reason why this couldn't be a common practice amongst all men & women working behind the scenes - for local DIY parties to major music festivals across India.

Remember that safety is not a matter of industry. It is a matter of humanity. We could reap the rewards of tomorrow only if we learn from the accidents of the past and work safely in the present.

Stage Microphones

The Sound of Music

AKG D5

The D5 professional dynamic vocal microphone for lead and backing vocals can deliver a powerful sound even on the noisiest stage. Its frequency-independent supercardioid polar pattern ensures maximum gain before feedback.



The D5 stands for a crisp sound that cuts through every mix. The dual shock mount eliminates any kind of mechanical noise for trouble-free live use.

Main Features include:

- Integrated pop filter for elimination of pops and wind noise.
- Spring-Steel wire-mesh grille and rugged die-cast housing, withstand every performance.
- Patented laminated Varimotion diaphragm for crisp sound that cuts through every mix.
- High feedback suppression with supercardioid polar pattern for trouble free use on stage monitoring.
- Dual shock mount of microphone capsule eliminates any kind of handling noise.

Technical Specification:

- General Specifications
 - Audio frequency bandwidth: 70 - 20000 Hz
 - Sensitivity: 2.6 mV/Pa
 - Electrical impedance: 600 Ohms
 - Recommended load impedance: 2000 Ohms
 - Polar Pattern: Supercardioid
- Dimensions
 - Length: 185 mm
 - Diameter: 51 mm
 - Net Weight: 320 g
- Design
 - Body: metal
 - Finish: dark stage blue
- Audio Output
 - Type: Balanced XLR
 - Contacts: 3-pin
- Application
 - Live Vocal: Yes

- Live Instrument: Yes
- Instrument
 - Piano / Strings: Yes
 - Horns / Wood winds: Yes
- Vocals: Yes

Audix i5



The i5 is a dynamic instrument microphone used for stage, studio and broadcast applications. It is able to handle sound pressure levels in excess of 140 dB without distortion and can be used to mic a wide variety of musical instruments, guitar and bass cabinets, vocals and speech. The i5 is characterized with a cardioid pickup pattern for isolation and feedback control and is equipped with a VLM (Very Low Mass) diaphragm for natural, accurate sound reproduction.

Main Features include:

- All-purpose professional dynamic instrument mic for live sound or studio
- Clear, accurate sound with wide frequency response
- VLM Capsule
- Designed, assembled & tested in the USA
- 5-year warranty

Technical Specification:

- Transducer Type: Dynamic
- Frequency Response: 50 Hz - 16 kHz
- Polar Pattern: Cardioid
- Output Impedance: 280 ohms
- Sensitivity: 1.6 mV / Pa @ 1k
- Capsule Technology: VLM Type B
- Off-Axis Rejection: >23 dB
- Maximum SPL: ≥140 dB
- Power Requirements: None
- Connector: 3-pin XLRm
- Polarity: Positive pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector
- Materials / Finish: Zinc Alloy / Black Finish
- Weight: 248 g / 8.7 oz
- Length: 141 mm / 5.6 in

Behringer XM8500

The XM8500 is designed to capture the sounds with outstanding sensitivity and accuracy. It exhibits an impressive flat frequency response of 50 Hz to 15 kHz while incorporating a smooth mid-frequency presence rise for excellent voice projection and includes a two-stage pop filter to minimize breath and pop noises. The XM8500 is robust, resistant to moisture and capable of achieving high gain before feedback. This Ultravoiced dynamic mic is perfect for live vocal applications and for recording amplified instruments.



Main Features include:

- Dynamic vocal microphone with smooth mid-frequency presence rise for excellent voice projection
- Ultra-wide frequency response for brilliant and transparent sound
- Extremely high signal output ensures outstanding clarity
- Cardioid characteristic reduces background noise and feedback
- Shock mount system reduces handling noise
- Integrated spherical wind and pop noise filter
- Microphone stand adapter and impact-resistant carrying case included
- Designed and engineered by Behringer in Germany

Technical Specification:

- Type: Cardioid Dynamic Microphone
- Impedance: 150Ω
- Sensitivity: -70dB
- Frequency Response: 50Hz - 15kHz
- Connector: Gold-Plated XLR
- Weight: Approx. 240g

Musicians today are spoilt for choice when it comes to good quality microphones for stage performances and the task of choosing the right mics to suit your scope of work can be daunting. This product focus is primarily a preliminary guide to some great sounding wired mics available in the market today. Making it to the list is also one designed and engineered in India.

Sennheiser e835

The Sennheiser's e 835 performance Vocal Mic is designed for lead vocal stage use, it has a uniform cardioid pickup pattern that maintains signal quality when moving on and off axis. Gentle presence boost evens tonal response to ensure clarity and projection. Minimal proximity effect for consistently clear bass as singer moves closer or farther from capsule. The Sennheiser e 835 Performance Vocal Mic offers frequency response of 40Hz-16kHz.

Main Features include:

- Dynamic cardioid microphone for speech and vocals
- Cuts through high on-stage levels
- Clear reproduction with a high presence
- Consistent sound quality (varying distances, moving off axis)
- Handles high sound pressure levels
- Optional silent on/off switch
- Isolates handling noise, hum compensating coil
- Excellent feedback rejection
- Rugged metal housing

Technical Specification:

- Dimensions: Ø 48 x 180 mm
- Connector: XLR-3
- Frequency response (Microphone): 40 - 16000 Hz
- Weight: 330 g
- Sensitivity in free field, no load (1kHz): 2,7 mV/Pa
- Nominal impedance: 350 Ω
- Min. terminating impedance: 1000 Ω
- Weight w/o cable: 330 g



Shure SM58

Shure's SM58 is one of the most popular vocal microphone designed for professional vocal use in live performance, sound reinforcement and studio recording. Its tailored vocal response for sound is a world standard for singing or speech. The secret to the SM58's sound is its critically tuned frequency response, which cuts out low-end rumble and adds a noticeable rise in the upper-mid frequencies. This deliberate presence peak adds warmth and clarity to the vocals and allows to get the most out of a wide range of sources, including guitar cabinets, brass, and many other instruments.

Main features include:

- Frequency response tailored for vocals, with brightened midrange and bass rolloff
- Uniform cardioid pickup pattern isolates the main sound source and minimizes background noise
- Pneumatic shock-mount system cuts down handling noise
- Effective, built-in spherical wind and pop filter
- Supplied with break-resistant stand adapter which rotates 180 degrees
- Legendary Shure quality, ruggedness and reliability
- Cardioid (unidirectional) dynamic
- Frequency response: 50 to 15,000 Hz
- Replacement cartridge: R59

Technical Specification:

- Microphone Type: Dynamic
- Polar Pattern: Cardioid
- Frequency Response: 50Hz-15kHz
- Output Impedance: 150 ohms
- Color: Black
- Connector: XLR
- Weight: 0.66 lbs.
- Manufacturer Part Number: SM58-LC



Circle Pro Audio CPA 22

Circle Pro Audio came up with a unique solution by introducing the new CPA 22 wired microphone. Its design is simple yet unique as its outstanding sensitivity and accuracy ensures that the vocalist derives maximum potential of the microphone.

Main features include:

- Super cardioid vocal microphone with outstanding sensitivity for best vocal projection
- Clean & accurate sound for wide capture
- Rugged metal body ensures long life of the microphone
- Designed & Engineered in India

Technical Specification:

- Frequency Response: 50Hz-15 kHz
- Transducer principle: Pressure gradient receiver
- Pick Up Pattern: Super Cardioid
- Sensitivity :(Free field, No load) 1 kHz
- Front to Back rejection at 1 kHz at 180 >25dB
- Nominal Impedance at 1 kHz: 350 Min.
- Connector: XLR
- Weight: 330g
- Dimensions: 46,1=185mm



Soundscape 2018 set to trigger event business at PALM in

Key speakers covering Big Stage sound, light, visual, festivals, touring tech, FOH, artiste management, music production, A & R & all the ingredients for show biz.



Soundscape curator
Reji Ravindran

Soundscape 2018 carefully curates an intelligent response to the puzzle of the event industry in India, which is more smoke and mirrors than a reservoir of talent that can rock a ready audience. Every other year big international talent will inject energy and galvanise hardware rental for sound and lighting and all the other factors that go into putting up the big stage act.

Soundscape dissects the vital areas where knowledge from experienced professionals contributes to event creation, management and production. Soundscape equally focuses on professional capabilities that need to match international standards in organising big stage shows.

The three-day programme will kickstart with an introduction to the programme and the various sessions lined-up across the three days of the Soundscape by curator Reji Ravindran

Music talent is the be all and end all that drives stage business. India though is struggling with talent that can drive big stage acts, is and always has put up

a brave front substituting movie music for pure pop acts which is conspicuous by its absence. A session of real importance "Does India have Talent" discusses with leading A & R managers of leading music labels on developing music talent in building their popularity to evolve such music talent as major stage acts. The proposed plan is to get speakers like Srikant Seshadri and speakers from Sony, T-Series, Saavn amongst others.

India's burgeoning psychedelic trance scene has seen a rise in 'homegrown' artistes in this genre. India is no stranger to psy-trance. The history of Goa trance or psy-trance is eternally enchanting and ties in with the roots of the global rave music & culture. In the case of India, it is the country's original export & contribution to the world of electronic dance music. Psytrance has witnessed a growth in popularity and cult-following in India in recent years, evolving from the DIY beach & forest parties of India in its golden years, to dedicated stages at most of the highly ticketed festivals in the world. A panel on "Psy-Fidelity"



will introspect the past, present & future of one of the most loved genres in electronic music.

Also on the agenda is a workshop on "Hip Hop Music Production Techniques", another genre that is no longer relegated to an underground status and has come of age in the last couple of years.

India has seen a rapid rise in artiste management. Artiste management agencies have evolved as a full-time business. Tej Brar, Manager of Nucleya, has achieved iconic level reputation in developing stage contracts for talent he believes in. A session on "Artist Management Agencies / Avatar of a DJ" hopes to host a panel of Dev Bhatia,



Audience at the PALM Soundscape 2017

Big Stage catalyst for robust India's entertainment capital



Soundscape-Ground Zero for big stage tech and biz. Three days of confabulations on Soundscape stage at PALM 2017 witnessed the movers and shakers of top-line event pros imagining the future – Tuhin Mehta [Go Madras Festival], Parampreet Dhanoa [Time Out 72 ex Zee, Percept, Wizcraft], Warren D'souza [Sound.com Palm Technology columnist and Rental Guru], Ali Zafdar [Scoop Brand Holdings – Stage Productions], Roosevelt D'Souza [Martin Lighting Consultant and Lighting Designer extraordinaire], Kunal Khambhati [Book my Show]

Tarsem Mittal and other leading Artiste Management promoters to impart information and to familiarise attendees with best practises and mechanics and dynamics of promoting talent.

Today most Djs are music producers. It's a natural progression for DJs. A good Artiste manager is necessary who can take original DJ music talent to the next level on stage.

A Big Stage shows needs 'big' delivery in terms of sound, light and visuals. In the first part of Soundscape's Big Stage series of panel discussions, the programme will delve into the field of immersive lighting & visuals. A pre-requisite now for contemporary concerts; light engineers & visual jockeys play a vital role now in giving the performing artists & their fans an experience to remember. A panel on "Delivering Big

Stage Lights & Visuals" will give attendees all the information they need.

In the second part of the Big Stage series, the programme will focus on "Delivering Big Stage Sound". The quality of sound installations could make or break any performing artist and thanks to consecutive breakthroughs in its technologies & applications, public addressing has been an ever-evolving science. This panel aims to make aware on the inner workings of this aspect, through interactive discussions with leading sound engineers & vendors.

Organizing a BIG Stage event requires tremendous Investment & Finance. Arrangement for International talents and cost as well as the scope of operations involves deployment of large amount of men, material and money. The most important factor in making BIG Stage

Events a success is the marketing and sales of tickets to attendees. A proposed "BIG Stage Business Panel discussion" hopes to tap the experience of top league event organizers like Nikhil Chinnapa, and event companies like Ferriswheel, Bookmyshow, Viacom 18 Live and others, to explore and discuss this business angle.

Entertainment from all over the globe, has been visiting India since decades, and now Indian artists & bands have begun touring the world too. But, what does it take for an artist to go global and execute a successful tour? "The Great Indian Touring Phenomenon" panel discussion panel aims to answer this question while providing a peek into the world of tour management.

The three-day programme will conclude with the "Legalities Presenta-

tion on The Magnitude and Multitude of Royalty earnings of a hit song".

This session which hopes to get on stage Ali Sachedina who has years of legal experience representing a wide array of award-winning artists, producers, labels, and Achille Forler who has been a crusader of artist's rights in India since almost a decade. The session will paint the picture for an aspiring artist, composer or lyricist who should have the gambit of royalty earnings from his creative earnings on stage and mechanical rights from music that is played anywhere and everywhere in the world (Radio, TV, Hospitality, Airport, Institutions).

The Conference agenda is subject to change. For regular updates, please visit: http://palmexpo.in/About_DJSoundscape.aspx



DUMMIES GUIDE TO COMPUTERS FOR LIVE SOUND RECORDINGS & AUDIO APPLICATIONS ENGINEERING

I am not a computer geek, computers interest me, because it really helps me understand how I can get the best of my software applications, be it Test & Measurement, Recording and a Control Command Centre of various applications made by manufacturers that are made to get the best of their sound systems.

To begin with, I prefer making my own machines for serious applications and for starters rack-mount servers with commercially available parts according to me are the best starting points to build good machines for your relevant applications.

The motto here is RELIABILITY, SPEED & MORE SPEED and to do so I am going backwards. Lets get to the genesis of making a good piece of well built gear, this includes even computers.

Power Supply

Having a good supply will give you great stability and reliability for the system; any compromises here will lead to shutdown and you wouldn't want that especially if your computer was passing audio and serial part of the audio chain. There is a rule in electronics engineering and that rule is so true even till today that 'A great design is always benchmarked by the construction and quality of its power supply'.

Cooling & Noise

Not many know that computers slow down if they overheat and cooling plays a vital role in keeping all the parts running at the same speed equilibrium, for audio based applications the noise levels of the cooling has to be extremely quiet especially with computers built for recording applications, there fans needs to be pretty silent enough to keep a low noise floor in the room. Nowadays even the memory like the SSD & the RAM have heat sinks designed for them to make sure the speeds are consistent, no matter how hard they are driven by the applications.

Chassis

Strength and cooling here make a big difference, weak inferior quality chassis causes problems with computers that travel and my advice is to never use a desktop machine for

a professional application no matter how convenient it is to procure. Well-built rack mount chassis servers ensure that the parts of the computer are not flexed in transit and because all the parts are horizontally placed and not vertically the reliability of the machines are far much better.

Hard Disk

Don't look below SSD's out here and their speed cannot be matched by the HDD counterparts; whilst we all love SSD's the new speedster on the block is M.2 pronounced as (M dot Two). It is the new speed king and this can really read and write at some amazing speeds and also the fact that it sits directly on your motherboard eliminating a cable. I can tell you it's a bump in itself to invest in M.2. Off course you cannot ignore the price of regular hard disks and those come in use for archiving your recordings after the days work and backup.

RAM

RAM is expensive and good quality RAM with a high switching frequency is even costlier. It amazes me after all these years, the price of RAM is always so prohibitive and I can honestly tell you if you are not going to spend good money here then its pointless aiming for a speed demon computer, no matter how fast your processor is. Go for the best, the higher the RAM capacity the better, and if your motherboard supports higher switching frequencies then get that RAM to take your performance to the next level; you wont be disappointed.

Motherboard

No matter how expensive parts are, so many guys build machines with cheap motherboards and I don't understand why or probably I do! Is it because they cannot market themselves like the processors do is probably the reason we ignore this element altogether. However the name suggests, "Motherboard" doesn't that ring a bell that an i7 chip is so vulnerable to the abilities of its motherboard it sits on.

Chipset

Whilst AMD and Intel fight for

supremacy the consumers benefit with more bang for the buck and now that we are in i7's 8th Generation audio related tasks are such a breeze, speeds really matter with video related editing and hence people in the audio industry go with i5 machines, well here is the biggest mistake we make and the advantages of i7 are only realized when you are doing tasks in the field and the speed plays a very vital role. In roles of applications engineering an i7 just radically improves the speed.

GPU Graphics Board

We all generally use our on-board graphics cards to monitor our computers work, however we also run out of speed on our applications so often and we end up blaming our computers advanced abilities until we add a graphics board and a good quality graphics board can be the most expensive piece of hardware in your machine. This is very relevant with gaming applications and not much heed is paid to a graphics card for audio recording applications, however a graphics card added to the motherboard for running audio applications that have graphics intensive applications help a lot in relieving the on-board CPU's processing horsepower to do other applications

Networking

Gigabit networking has changed how we control all our equipment in the field, however I always see audio companies resorting to cheap consumer grade network switches for controlling their loudspeakers or LAN based digital audio transport systems and very low quality cables for protocolling between the devices, you cannot even imagine how important the quality of your network switches should be in order to have robust networking across your system and especially if you have over 100 amplifiers on your network then the computers on-board LAN or your LAN card has to be top notch.

Benchmarking

Total system benchmarking of the machine is a evaluation of the machines total ability to handle all the tasks you have applied it too and I assure you if you followed this simple ready reckoner, your computer will give you amazing service in the field for yours to come.

Warren D'souza - Founder,
Managing Director, & Working
Member of Sound.Com
#SoundGuyForlife
#AudioEvangelist

MUSIC REVENUES...

(Continued from page 88)

On number eight is Sunidhi Chauhan's soulful rendition of "Lae Dooba" from the film Aiyaary. The vocals have been recorded by Manasi Tare (supervised by Shantanu Hudlikar) at YRF Studios, while Guitars were recorded by Pankaj Bohra at Neo Sound, Percussion recorded by Alok Punjani at Studio208 and additional guitars and vocals recorded at Rochak Kohli Music Studio. The track is Mixed and Mastered by Shadaab Rayeen at New Edge studios with Abhishek Sortey and Dhananjay Khapekar as mix assistants.

Clinging on to the number ten position is "Ban Ja Tu Meri Rani" from Tumhari Sulu, Mixed and Mastered by Shadab Rayeen

With a slew of big starrer movies like Pari, Hichki, Manikarnika: The Queen of Jhansi, Veere Di Wedding and the Sanjay Dutt biopic slated for release in the next couple of months, PT hopes that the music industry will come out of the time warp it is currently stuck in and put rehashed music to rest. Signing off for now with a hope to report on the 'return of melody' in future issues of the magazine!

An Unequal Music

DJ CHAMPIONSHIP DIRECTOR REJI JOINS PT EDITORIAL TEAM

More juice on what's hot in the DJ Business

"With DJ business playing the role of a catalyst for the pro audio industry, PT gears up to focus on DJ technology and product market strongly from 2018. Reji Ravindran has worked closely with PT in planning and executing

or rather the talent force at large. It is a matter of joy that Reji joins the PT editorial board. I'm assured that in the coming issues our readers will benefit sufficiently as we work on intelligent, well researched articles analyzing DJ industry in India," says

programmes since the past 8 years and joining the team gives me the voice to represent the DJ fraternity. I hope my columns in the upcoming editions would be informative and entertaining to the loyal readers of PT magazine," says Reji.

DJ. For *PT*, its very useful and necessary that Reji with his knowledge quotient of the DJ Industry joins the PT team," said Smita Rai, Managing Editor of *PT*.

Reji will oversee the DJ news pages as well as the sharp Product Focus *PT* will select from the array of DJ equipment. The DJ Big stage issue will have much more information and analysis of DJ gear. Reji's column will equally cover DJs, the big DJ stage in India, as well as hopefully insider news on the organisers, impresarios, event managers, artist managers and fresh talent hitting the right buttons. Product Focus, future gazing.

With a musical career that has spanned more than 18 years, the multi-faceted DJ Reji has donned various hats in the alternative and electronic music scene in Mumbai – from being a DJ and Turntablist to an Educator and Curator. Born in Mumbai, Reji was bitten by the music bug during the 90s. After collecting loads of music on vinyl, cassettes & CDs through his teen years, he decided to give a shot at DJing in 1998. Since that year, there has been no stopping for Reji. You would still find him smashing dance floors of all sizes, along with educating minds on both sides of the DJ console through his various music industry related contributions.

He has been a driving force behind PALM DJ Championship since 2011, motivating young minds and making sizeable contributions to the DJ industry. He believes that the Championship is the first breakthrough for the participants, propelling them to the next level.



Anil Chopra - Editor, PALM technology magazine (l) and Smita Rai - Managing Editor, PALM technology with the newly appointed PT DJ Editor - Reji Ravindran

the PALM DJ Championship. "I realized Reji is as cerebral as he is a proficient DJ. He shares the spirit of motivation to serve the interests of the market at large

AC, Editor of *PT*.

"I'm honoured and super excited to join the *PT* editorial team in 2018. I've been working with the PALM DJ Championship and Soundscape

"*PT* covers a vast array of segments over a span of one year across 6 special issues dedicated to FOH, Studio, Live Sound, Audiovisual Integration, Lighting and Big Stage

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RELOOP'S KUT, A CLASSIC DESIGN BATTLE MIXER WITH INNOFADER + FX

Reloop has announced the launch of Kut, a two-channel mixer with a USB sound card (24-bit/96kHz) built-in



The Kut mixer to combine the old school with some decidedly modern touches

and InnoFader crossfader. To top it off, there's a look and feel behind the battle-style design that harkens back to classic Vestax PMC mixers.

Reloop KUT Features:

- Digital 2-channel battle mixer with

classic design, including a dynamic effect unit

- innoFader with non-contact technology for precise cutting
- Very smooth and high-quality battle linefaders
- Customisable curves for crossfader and linefaders
- Crossfader reverse function (hamster switch)
- Dynamic FX section with 7 combined effects: Phase/flange, white noise, LPF/HPF filter, gate/crush
- Creative toggling of effects via the on/off function
- Green status LEDs give direct visual feedback of the dynamic FX section
- High-speed 8 in/6 out USB audio interface with excellent sound quality in 24-bit/96 kHz

- Recording of incoming signals (phono/line/master) via USB to PC/Mac
- Selection of USB-recording source via switch on the back
- DVS-enabled for software with freely configurable audio interface support
- 3-band EQ with switchable modes (classic/isolator)
- Additional Aux/Mic channel with combined XLR/jack socket
- Two headphones outputs via

3.5/6.3 mm jack socket

- MIDI-compatible control elements
- High-retention USB 2.0-port, particularly resistant
- Visually separated panel layout, clear separation of fader section
- Brushed black aluminium and metallic gold finish
- Fader-start via 3.5 mm control cable
- Kensington Lock to secure the device

MWM LAUNCHES PHASE

Phase is a new device from MWM that allows users to control DVS software without the need for a needle, cartridge or even timecode vinyl. The device sits atop any 12" vinyl record and sends signals wirelessly to a USB receiver that converts the data to a readable signal by the

over 3,400 'ticks' per second – more than four times the amount of existing technology.

The system uses two wireless remotes which attach to your turntable spindles. When the record is in motion the Phase remotes measure the rotational information and relay them to the receiver which then decodes the signal into timecode for your software to understand. It integrates with all the DVS platforms on the market and minimizes cartridge and stylus replacement for the foreseeable future.



MWM Phase

compatible DJ software.

By removing the vinyl and needle from the equation, MWM hope to eliminate rumble and interference issues from defective equipment or less-than-ideal surroundings. When it comes to wireless technology and live performance, latency issues are always a concern. To combat this, MWM have created their own bespoke and patented wireless communication protocol that sends

MWM Phase boasts up to 10 hours of battery-life and thereafter the remotes can be housed in the receiver to charge. The company claims it to be four times faster than anything else on the market. The Phase system comprises of the dock which houses and charges the two wireless remotes. The dock has two stereo RCA outputs which run into your DVS mixer or interface, and by the looks of it, a battery level meter.

PIONEER DJ ADDS LIGHTING MODE TO REKORDBOX

Pioneer dj has added a new lighting mode to rekordbox dj, as well as a new piece of hardware to support the new dmx output. The rb-dmx1 – features a single usb input and a dmx out, allowing users to connect dmx-512 compatible lighting fixture.

Patterns can be automatically generated using new analysis features in rekordbox 5.1, but it's also possible to completely customize and program your lights on a track-by-track basis. Given that the mode is integrated

within rekordbox dj, it's also midi compatible meaning the user can use any pads or controls from



your dedicated controller to take over the lights during users sets without learning an extra piece of kit.

KORG INTRODUCES VOLCA MIX ANALOG MIXER

Korg's new Volca Mix is a 4-channel analogue mixer that is designed to connect the Volca units together and create the ultimate live performance rig. The Volca Mix is crafted in the style of a DJ performance tool and gives your Volca units new balancing capabilities and effects expansion.

The new Korg Volca Mix is the ideal tool for linking several of these products together to create the ultimate live performance rig. It has four-channels (3 and 4 in stereo) with volume faders, lo/hi cut filters, and a master chain that radically alters your sound. The Volca Mix also has key

parameters to keep track of your live performance, and a visual design that is aimed at performance rather than traditional mixing desks.

It has both output and monitor capabilities, alongside its own built-



in stereo speakers and headphone out for portable sound-creation when inspiration hits. It also has Send-out
(Continued on page 97)

AUDIO-TECHNICA EXHIBITS NEW LINE OF DJ PRODUCTS

Audio-Technica has debuted a new line of DJ products at The NAMM Show. The range includes the ATH-PRO5X and ATH-PRO7X Professional DJ Headphones, the AT-LP1240-USB XP Direct-Drive Professional DJ Turntable, and the AT-XP5 and AT-XP7

isolation, robust construction, and maximum comfort for long sessions. The PRO5X over-ear headphones are equipped with 40 mm drivers and offer 1,500 mW max input power for excellent audio reproduction even at high volume. They feature rotating



Moving Magnet DJ Cartridges.

Audio-Technica introduced two DJ-specific headphone models: the over-ear **ATH-PRO5X** (in black and white) and the on-ear **ATH-PRO7X** (in black). Both models reportedly feature impressive power handling, excellent

earpieces for one-ear monitoring and detachable locking cables (3.9 – 9.8-foot coiled and 3.9-foot straight). The PRO7X on-ear headphones are equipped with 45 mm drivers and offer 2,000 mW max input power for extremely accurate sound

reproduction. They include detachable locking cables (3.9 – 9.8-foot coiled and 3.9-foot straight) and premium, soft, durable earpads.

The **AT-LP1240-USB XP** is a direct-drive professional DJ turntable outfitted with the new AT-XP5 DJ cartridge. The turntable utilizes a powerful direct-drive 16-pole, three-phase motor for unwavering speed stability along with easy back-cueing, forward and reverse play and quiet operation at 33-1/3, 45 or 78 RPM. The turntable's S-shaped tone arm has various adjustments available, including tracking force, anti-skate, and vertical tracking angle. It features a removable headshell with the newly designed AT-XP5 cartridge pre-mounted.

The AT-LP1240-USB XP turntable comes with numerous additional DJ-friendly features including a damped cast-aluminum platter with stroboscopic speed markings and slip mat, an illuminated speed indicator and adjustable pitch control, a start/

stop button, a removable stylus target light, a dedicated tone arm grounding lug, a hydraulically-damped lift lever and a locking tone arm rest. The turntable has a built-in switchable phono pre-amplifier with dual RCA output jacks with detachable cables. An additional USB output allows direct connection to a computer without any special drivers, making it easy to transfer vinyl records to digital music files. Included are a USB cable, audio adapter cables, removable dust cover, and 45 RPM adapter.

Rounding out the DJ line are two new moving magnet DJ phono cartridges - the AT-XP5 and AT-XP7 designed to be robust and reliable, with a 0.3 x 0.7 mil elliptical bonded stylus and a tracking force range of 2.0 to 4.0 grams, offering the ultimate tracking ability for even the widest grooves and deepest bass. This tracking ability is combined with a powerful output level, with the AT-XP5 giving 5.5 mV and the AT-XP7 giving 6.0 mV.

TECHNICS ANNOUNCES TWO NEW ADDITIONS TO ITS REFERENCE CLASS AUDIO LINEUP

The Technics, known for its direct drive technology and superior performance, has extended its Reference Class line-up of audio components with its newest direct drive turntable and turntable system, the SP10-R and SL-1000R.

The **SP10-R** includes a double coil twin rotor-type coreless direct-drive motor with coils on both sides for 12-pole, 18-coil drive, and high enough torque to drive the heavyweight-class platter with ultimate sovereignty. The result is a stable rotation of 0.015% wow & flutter or less, which is considered to be the measurement limit.

The turntable also features an impressive turntable platter with a 10-mm-thick brass weight, enhanced with tungsten

weights on the outer periphery. The brass weight is laminated onto the aluminum die-cast, giving the platter a total weight of approximately 7.9 kg and an inertial mass of approximately 1 ton·cm. A deadening rubber for eliminating unwanted vibration is attached to the rear surface to form a three-layer construction to achieve an even higher rigidity and provide excellent vibration-damping characteristics.

To achieve further noise reduction, the control unit is separated from the main unit and its switching power supply is equipped with unique technology that provides a voltage supply with minimal noise via a newly-developed 'unwanted noise reduction circuit'. In addition, the communication between the main

unit and the control unit are engineered to resist the effects of external noise whilst increasing reliability. These noise-reduction measures enable the SP-10R to achieve the World's highest-level S/N.

The Technics **SL-1000R** system features an S-type universal tonearm with a lightweight, high damping magnesium tonearm pipe. The gimbal suspension construction tonearm uses high-precision bearings, and highly-skilled Japanese craftsmen handle all assembly and adjustments to achieve a high initial-motion sensitivity to precisely trace the grooves cut into the records. To further ensure the production of highly-vivid sounds, OFC is used for internal wiring, so



that the music signal relayed from the cartridge is not dampened and the musical energy cut into the record is not lost.

The tonearm base, to which the tonearm is mounted, is strongly integrated with the turntable. To safeguard exceptional tonearm performance, the tonearm bearings, turntable bearings and needle position remain constant – providing a structure in which the vibration caused by the rigidity of the turntable base materials has minimal effect.

KORG INTRODUCES VOLCA MIX ANALOG MIXER

(Continued from page 96)

and Aux-in capability to be used with external effects. The audio connections are mini-jacks; perfect for use with each Volca unit. The external effects would be ideal for use with

the Kord Kaoss Pad, allowing you to enhance your performance with standard effects.

Its 3x DC ports provides power to the devices, keeping users on-stage setup as de-cluttered as possible. It also has a SYNC function to act

as the master of the complete setup. A stereo expander allows to convert mono sources into a wider stereo image, while a dynamic-range compressor helps tame the high-frequencies according to the level changes of the low-frequencies.

There's also a side-chain effect that's the perfect tool for dance music.

The Volca Mix completes the Volca line-up and should cement this affordable series' popularity; it will provide great live performance potential at a fantastic price-point.

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Like every year, the PALM technology forthcoming Mar-April 2018 issue is the PALM show Preview issue, which will pack in an overview of key exhibits on the show floor and highlight new product launches, which visitors can look forward to.

All the exhibitors of PALM Expo 2018 are encouraged

to kindly share the details of the new products that you would be launching at the show for the very first time and the word limit for the same is 150 words. In addition to that exhibitors can also share the short brief about other products which you would be displaying at the PALM Expo 2018 show and the word limit for other products is 75 words.



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Normal diameter	15	inch
Nominal impedance	8	Ω
DC resistance	5.8	Ω
Nominal power handling	450	W
Continuous power handling	900	W
Sensitivity(1W/1m)	98	dB
Frequency range	40-4000	Hz
Voice coil diameter	3 in (75.5 mm)	
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Winding height	24	mm
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Nominal impedance	8	Ω
DC resistance	5.2	Ω
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Continuous power handling	2000	W
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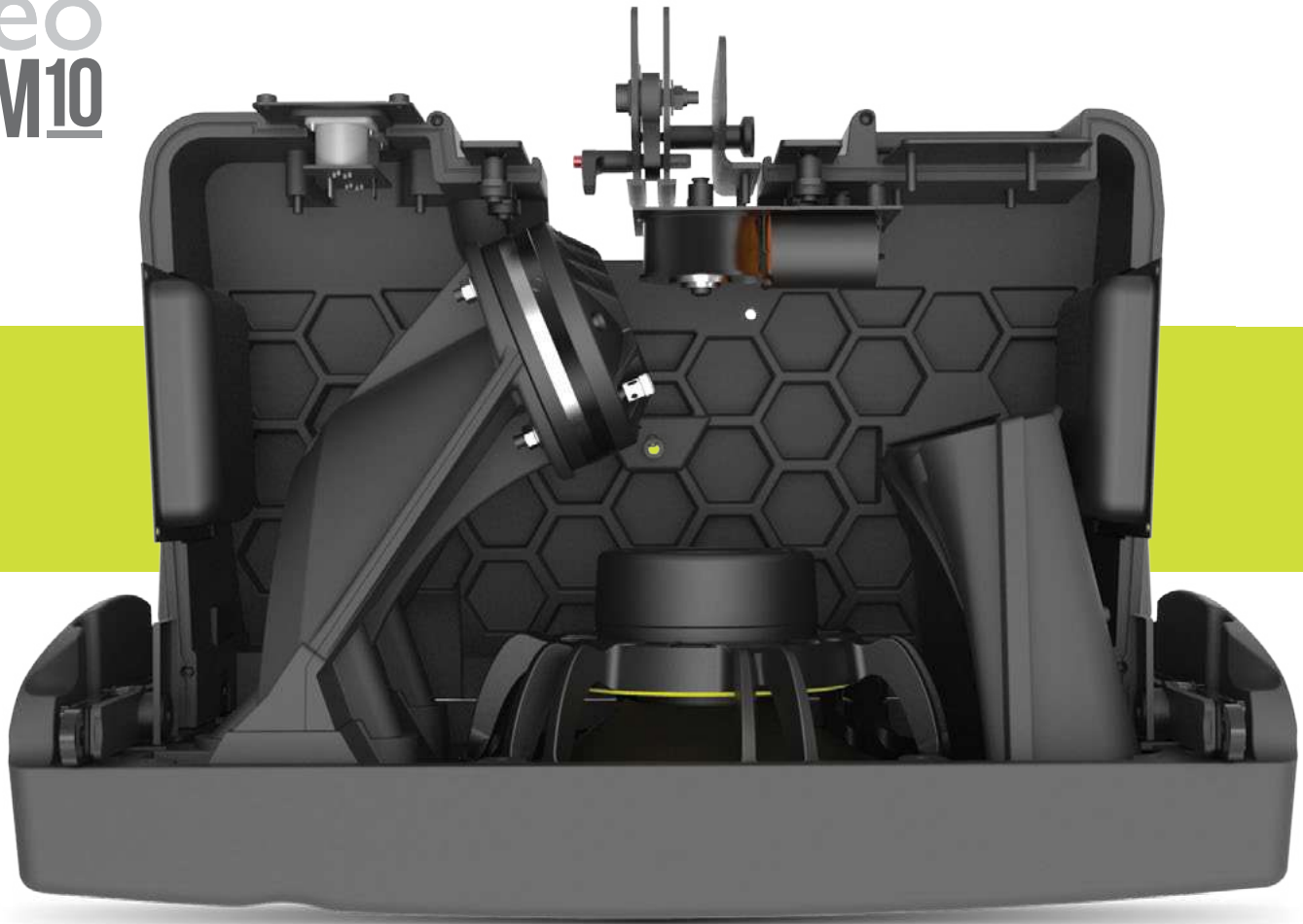
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