In Conversation with
Bishwadeep Chatterjee

Conceptualizing Sound Design in the Box

FEATURES

» **Studio Install:**
Mondosonic Studio, Kerala

» **Corporate Feature:**
Celto Acoustique; Marantz

» **Show Preview:**
PALM expo 2021

» **Studio Showcase:**
Manicpod, Mumbai
Riwayat, Mohali
Bay Owl, Mumbai

Acoustically OdBle with
Vijay Benegal and Mujeeb Dadarkar

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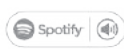
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DIGILAND INVESTS IN ADAMSON S-SERIES

Based in New Delhi, **Digiland** is a reputed sound reinforcement solutions company for events in and around the area. Now, with the addition of the **Adamson S-Series system** to its inventory, the company is well-positioned to continue their mission with a wider scope and reach.

Their new system consists of 12 **S10 two-way, full range array enclosures** complemented by 8 **S119 subwoofers,** all powered by **Lab.gruppen PLM20K44 amplifiers**. Digiland's staff and technicians also received Adamson's globally-standardized training with **Nitesh Narayan** and

Karan Nagpal, Director of Sonotone.

Manish Jindal, Director of Digiland shares, "I am really impressed with Adamson's S-Series, they boast a magnificent quality of sound and effortlessly adapt in any environment owing to their compact size and easy rigging. We needed a system that can provide excellent sound reinforcement for a number of different productions, and the S-Series completely fits the bill. Another major selling point is Adamson's Blueprint AV software - it's straightforward to use, and the result is crystal clear sound that translates seamlessly to the real world."

Manish Jindal (c) with L to R: Sachin Agarwal, Karan Nagpal, Nitesh Narayan and Eshdeep Bhasin

MARTIN AUDIO LAUNCHES FIRST CONSTANT CURVATURE ARRAY AND 3D PREDICTION SOFTWARE

Martin Audio has unveiled two major developments: the company's first constant curvature array, **TORUS**, and the introduction of new 3D prediction and optimization software, **DISPLAY 3**. Both were formally showcased for the first time online at a recent 'virtual' launch event.

For applications that typically require a throw between 15-30m (50-100ft), a full-blown line array is not always practical, optimal or affordable. Conversely, a point source solution may not be sufficient in coverage and SPL.

TORUS is a constant curvature array designed to fill that gap, combining optimized coverage, SPL profile and cost efficiency.

However, **Dom Harter**, Managing Director, said, "TORUS was in development for three years in an exhaustive bid to further the acoustic concept and performance achievable.

"Typically, constant curvature arrays have adjustable horizontal dispersion but their performance can vary considerably in terms of tonality and effectiveness of coverage when different dispersions are selected. Equally, many lack sufficient sensitivity in the mid-band frequency, critically important for voice projection and clarity. They also can suffer from comb filtering. TORUS fundamentally addresses these areas and more."

Each TORUS cabinet is designed for a flexible horizontal dispersion

pattern and this can be manually adjusted between 90°, 60° or 75° (asymmetrical) via the unique Dynamic Horn Flare. This not only moves and locks the waveguide but also adjusts the horn mouth, including the low diffraction termination into the baffle, to ensure correct geometry and optimal performance in each of those settings.

The Dynamic Horn Flare is moved by a rotating mechanism accessible from the front grille so is easy and intuitive, while leaving the grille design to be both smart and fully protective of the drivers within.

A vertical pattern of either 15° or 30° is achieved via two separate cabinet types: T1215 and T1230, respectively. These cabinets can also be combined to fit venue and coverage requirements.

TORUS features a phase plug mounted in front of the 12"

neodymium driver to increase mid-band sensitivity, and along with three 1.4" HF polymer dome neodymium compression drivers, the sonic performance is not compromised even when driven at higher SPL.

TORUS is also the first product to take full advantage of DISPLAY 3, Martin Audio's all new prediction and optimization software, and the second big announcement from the event.

DISPLAY 3 is set to be a powerful tool for both live and installation projects. It works seamlessly with Sketchup for sophisticated venue modelling or allows for more simple venue and shape creation. Initially, DISPLAY 3 will natively support prediction and optimization of TORUS, with line arrays being imported from DISPLAY 2. Over time, however, DISPLAY 3 will incorporate all Martin Audio line array, point source,

ceiling and subwoofer solutions for a complete self-contained system design and prediction platform.

Summing up, Harter said, "These two major announcements show both the resilience and the ambition of the company. Through the pandemic we had a proactive approach with the continuation of R&D investment and the belief that companies that consistently add value to their customers will have a brighter future. The introduction of TORUS enables Martin Audio to compete in more applications and DISPLAY 3 will develop further to be a leading 3D design and prediction software that enhances the working lives of installation and live event professionals."

TORUS will start shipping worldwide from April and similarly, DISPLAY 3 will have a public release at that time.

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- A3 Paper Size Format
- Only 15kg / 33lbs
- 136dB Peak (1pc)
- 16 ohms (passive)
- FIR Presets

Celto Acoustique presents IsoRay, next Generation of 10" coaxial line source. Offering same performance than industry standard dual 8", IsoRay is 60% smaller and 40% lighter!

IsoRay System is the perfect solution that combines portability, minimum visual impact, pristine sound quality, coherent coverage, and unmatched SPL/Size Ratio

DIGICO UNVEILS QUANTUM225 CONSOLE

In January, **DiGiCo** announced New Year New Hope, giving three lucky winners three great gifts - a DiGiGrid MGB MADI to SoundGrid Interface; the first of the newly launched KLANG:kontroller - Serial Number 1; and a one of the first DiGiCo Quantum225 console.

DiGiCo has designed the **Quantum225** to be agile and flexible allowing the system to adapt to the demands of our changing world. Specified with the new DQ-Rack with integrated Dante this is the perfect system for AV installation and the demands of an AoIP networking environment. Alternatively specified with the MQ-Rack for MADI connectivity for touring infrastructure allowing Quantum225 to integrate with existing infrastructure.

The Quantum225 includes 72 inputs channels with 36 busses + Master Buss

and a 12×12 Matrix. There are four MADI ports and dual DMI ports for added connectivity, 8 x 8 analogue and 4 AES channels for local I/O, built-in UB MADI, optional optics and Waves SoundGrid, plus dual PSU.

The Quantum225 also incorporates familiar features from the existing Quantum Range including Mustard Processing channel strips, Spice Rack plugin style native FPGA processing options, Nodal Processing and True Solo.

There is a 17-inch, full colour, daylight bright, TFT multitouch screen with the Quantum Dark application combined with 41 mini TFT's located across the surface to provide unrivalled user feedback and interaction.

What is unique to Quantum225 is a custom designed, multi-purpose mounting bracket that attaches quickly and easily to the left-hand panel of

the console. This can accommodate an additional channel or overview screen, a KLANG:kontroller be further expanded to fit either a laptop or a script – particularly useful for theatre applications. The bracket can be installed at two angles with quick release to cater for all preferences or applications.

The new compact, 6U DQ and MQ racks have been designed specifically for modern application demands. They

feature 48 mic/line inputs, up to 24 analogue outputs or up to 8x AES outputs. Clever audio design allows the user to reconfigure 4 of the analogue line outputs to be either analogue outputs or dual AES outputs. This I/O flexibility and other configuration changes are managed from the racks very own TFT Configuration screen. Standard features included Dual PSU and 48k or 96k operation.

PP SOUND LIGHTS PREPARES FOR RETURN TO LIVE EVENTS WITH SHURE AXIENT DIGITAL WIRELESS SYSTEM

Despite the COVID-19 pandemic that shut down the live events industry across the globe, one company in India is preparing for a return to live events - **PP Sound Lights Productions**, which recently invested in Shure's **Axient Digital wireless system**. Complex setups, high channel counts, and constrained spectrum are everyday hurdles for today's major events and tours. To make sure Shure could meet the most demanding wireless needs, Axient Digital was developed with input from top audio professionals. Axient Digital is engineered for the moments that command the highest degree of attention and designed to maximize stability, quality, control, and scalability.

PP Sound Lights Productions decided to make the decision to prepare now for the anticipated growth in live events once

officials deem it safe to return to this type of entertainment, paving their way toward success when the market is ready. Among the attributes they cited as reasons for choosing Axient Digital include:

• **Safeguarded Signal --** No matter how tough the spectrum environment, Axient Digital is tougher. It includes next gen digital radio with encryption, true digital diversity, Quadversity and High Density modes.

• **True Sound** -- Transparent audio comes through—artifacts and color don't. With impressively low latency, flat frequency response, and multiple digital audio output options, sound fills every corner of the space—clean and clear. It's integrity you can hear.

• **Streamlined Management --** Because efficiency is the bedrock of reliability; Axient Digital gives you

Shure Axient Digital Wireless System

more command & control. From wide tuning receivers and transmitters, to Wireless Workbench and ShowLink control, to networked charging and more, it improves every part of a live event workflow.

• **Made for the Main Stage --** Axient Digital has been the wireless solution for some of the biggest spotlights including major award

shows, sporting events, music festivals, broadcast, and theater. It's the system audio professionals count on when sound is critical.

"We want to be ready for our client's when live events return and we feel confident knowing that we have Shure equipment ready to go," said **Prasad Parkar** at PP Sound Lights Productions.
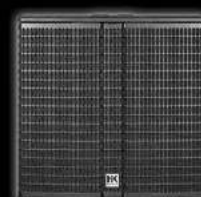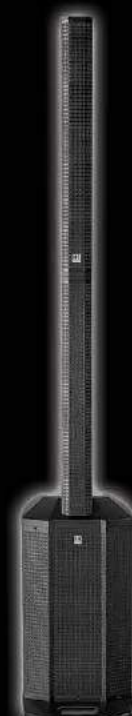
N-LABS EXTENDS VERSATILITY WITH NEW T7 THREE WAY LINE ARRAY SOLUTION

Gujarat based **N-Labs** has announced immediate availability of yet another new product, the new **T7 three way line array system** for focused coverage and long-throw applications. The system is designed for outdoor events requiring high SPL like concerts, touring purpose, live sound and other big scale events.

Built to perform in tough conditions, the IP65-rated enclosure ensures weather protection and protection from dirt, dust, oil, fire and other non-corrosive material. Completely Made in India, the T7 is constructed from original Russian birch plywood with a three layer high resistant fireproof, scratchproof, and waterproof coating which makes it very good for outdoor applications.

Key Features of the T7 include:

- Components: LF: 2 x 15"; MF: 4 x 8"; HF: 3 x 1.5"
- Dispersion: 90° x 5°
- SPL max: 145 dB
- Continuous SPL: 127 db
- Sensitivity per driver: 99dB SPL for lows; 102dB SPL for mids; 111dB SPL for highs
- RMS Passive: 4600 W (1200 watts per driver in the lows, 400 watts per driver in the mids and 200 watts per driver in the highs)
- Frequency Response: 60HZ – 21 KHZ
- Weight: 75 kgs

"The dispersion of the array is 90° by 5° and it has 5x5° points, so we can angle the array accordingly. The covering distance of the array is 112 meters without any problem. The covering distance was measured at the Pro Wave outdoor line array demo in Hyderabad as well as at our roadshow in Bhopal," says **Hemal Bhatt**, Founder & CEO of N-Labs.

The entire system includes 12 tops and 8 dual 21" subwoofers driven by the all new N-Labs **X2.5D** amplifiers which are network enabled. The amplifiers are 4 x 3500 Watts per channel, uses inbuilt networked audio processing, onboard DSP phase correction with FIR filters all powered with universal power supply making the systems road friendly and suitable for all venues and applications.

The T7 outdoor line array system can also be used by itself without a subwoofer, making it a great choice for touring bands and mobile DJs also. "It can go up to 60 hz without any problem even without a subwoofer. So for speech
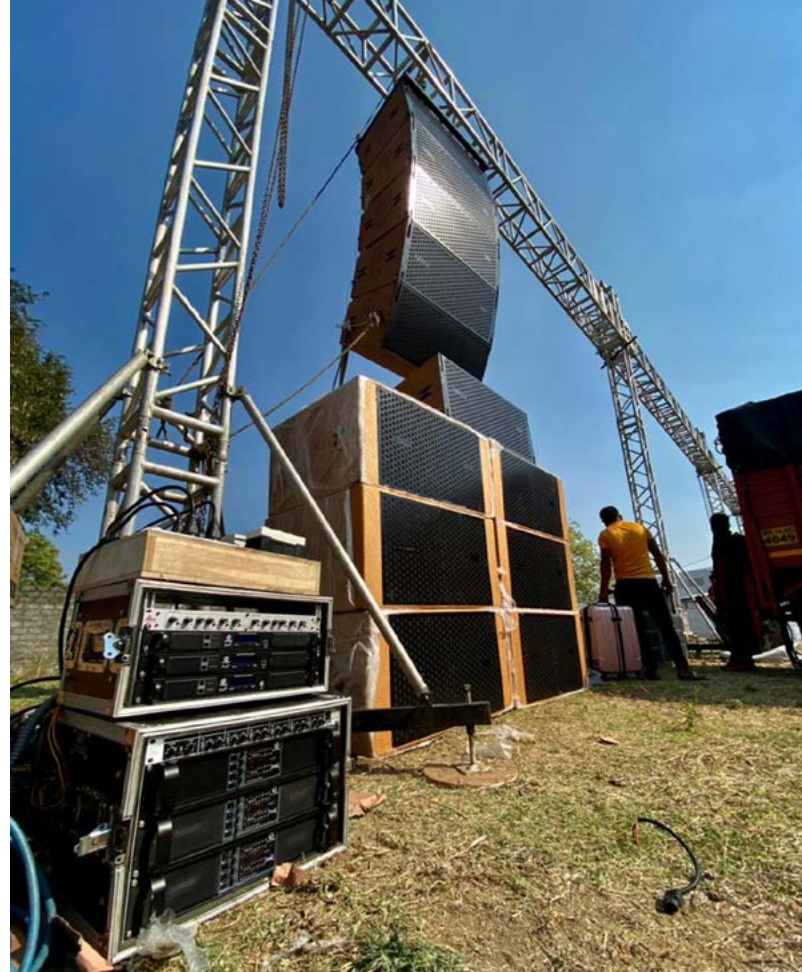
The T7 three way line array at the Pro Wave Outdoor Line Array demo in Hyderabad

centric events, we don't need the subwoofers. We can just put the tops and it will be enough for the event," says Bhatt.

The T7 is covered with a 5 year warranty programme which protects customers against any sort of manufacturing defects. Made in India the complete sound system including the subwoofer and amplifier costs less than Rs 30 lakhs. "The T7 is designed to match the multinational brands present in India which have a very good output response. This is one of the only Made in India systems, which is capable of delivering high output," concludes Bhatt.

RCF UNVEILS HVL SERIES FOR LONG THROW APPLICATIONS

RCF has launched the **HVL Series** – a sound solution system for stadiums. Focusing on stadiums and big arenas, HVL Series speakers are capable of providing concert-level performance in arena-sized venues. Featuring point source, line source, and subwoofers speakers, all modules embed RCF Precision Transducers, horns, and waveguides for optimal coverage and clarity.

The HVL Series improves on the concept of providing modular and scalable speakers with RCF reliability and advanced technology. The weather-proof HVL cabinet combines six RCF neodymium Precision Transducers in a symmetrical, horn loaded configuration for maximum efficiency and sound quality over long distances. Initially designed for American football stadiums as a high-power solution the HVL Series is now available to the market offering a modular and scalable system for large venues and events.

With in-house transducers' design and manufacturing for no-compromise performances, the HVL Series transducers feature state of the art neodymium magnetic circuits, radically new voice coil ventilation systems, and ground-breaking voice coil assemblies.

Made for direct-exposure outdoor installations, each cabinet is made of Baltic birch plywood with polyurea coating and includes a weatherproof barrier strip for connections. The grille is powder-coated heavy-duty steel with open-cell fibers and water repellent woven-fabric backing.

HVL 15 cabinets are outfitted with a pair of 15-inch drivers at the low-end, a pair of 10-inch midrange drivers, and two titanium dome compression drivers with four-inch voice coils at the top. With a frequency response of 43 Hz – 18,000 Hz (-10 dB), these three-way, long-throw boxes are driven in bi-amped mode and are capable of producing a maximum SPL of 133 dB (LF) and 145 dB (MHF). Two coverage options available: 90° x 30° (L) and 60° x 30° (P) and one bass module (S).

AHUJA INTRODUCES SMS-450 SERIES: SMART STAGE MONITORS

Ahuja introduces a new range of smart stage monitors for theater, auditorium and other stage applications. Available in both passive **(SMS-450)** and active **(SMS-450P)** configurations, these elegant and compact 2-Way Loudspeakers are powered with a single 38.1cm (15") LF Speaker and 2.54cm (1") throat HF Compression Horn Driver.

With 400W power rating, SMS-450 comes as an optimally angled enclosure for effective floor monitoring in various indoor & outdoor applications. The system is housed in an acoustically treated Bass Reflex enclosure made of 18mm board in durable paint finish.

SMS-450P on the other hand is a professional self-powered Stage Monitor Loudspeaker which has built-in Bi-Amplifier for LF and HF driver separately. Well engineered design with cross-over frequency of 2.5 KHz and best in the segment Filter Slope of 24dB per octave makes it an ideal loud-speaker system for professional sound reinforcement requirements. SMS-450P is equipped with an on-board mixer having 1 x Balanced Mic (XLR) / Line Input selectable through a push switch and 1 x Line Input that can be used for receiving balanced MONO signal through jack or unbalanced STEREO signal source through dual RCA. On output front, SMS-450P has a facility of balanced output (Switchable either as a Loop through output of Input-1 or a mix output of Input-1 and 2) to link another SMS-450P or for recording on a computer, record player.

The smart design allows them to be used as an F-O-H or side-fills speakers also in variety of professional sound applications. Adaptor is also provided at the bottom for stand mount applications. In addition, ergonomically designed handles allow ease of mobility and transportation.

Ultra-modern design powered by the most truthful components and backed by AHUJA reliability, makes SMS-450 and SMS-450P the most suitable options for professional stage monitoring applications.

Key Specifications: SMS-450
Power Rating: 400W RMS/800W Program
Configuration: 2-Way
Frequency Response: 45-18,000Hz
Max. Rated SPL: 124 dB
Nominal Impedance: 8 ohms
Input Connectors: 2 X Speakon

Key Specifications: SMS-450P
Power Rating: LF: 350W RMS at 1% THD, HF: 50W RMS at 1% THD
Configuration: Bi-amplified
Frequency Response: 50-20,000Hz
S/N Ratio: 60 dB
Tone Controls: Bass: ±5dB at 100Hz, Treble: ±5dB at 10kHz 8 ohms

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P.A AMPLIFIERS

Step Inside the all new
MONDOSONIC STUDIO

Varun Krrishna - Music Producer and Owner, Mondosonic Studio

The all new Mondosonic Studio, located in Ottapalam, Kerela, is a custom Music Production Facility and Studio. With Recording Equipment, Workflows and an amazing Recording stage that are exclusive to their unique Music Production techniques, this private studio has collaborated with artists on a global level.
*In an interview with PT, **Varun Krrishna** - Owner - Mondosonic Studio, talks about his passion and how his musical influence led him to create a studio inspired by Abbey Road Studios.*

A Beginning

Varun Krrishna's musical inspiration and influence has been the great pianist Yanni and the Liverpool based English rock band The Beatles. Varun started showing interest in music at a very early age. He started taking piano lessons at the age of six, however could not continue his classes. After six months of taking piano lessons he stopped. "I couldn't let my interest go away. I practiced myself by ear and being a self-taught pianist "YANNI" was a great inspiration." Varun later got interested in Music Theory and composing music and made film scoring his strength. "Being a music producer, I have read many cases studies of Western Classical Composers and their musical works and that has greatly influenced me."

NX Audio

INDRA SERIES

MID BASS

👍 **BEST SELLER**

INDRA-154
400 Watts RMS
3" Voice Coil

INDRA-1810
1000 Watts RMS
4" Voice Coil

INDRA is the god of lightning, thunder & storms in Vedic literature and the INDRA series of loudspeakers from NX Audio brings the same kind of Energy to your Sound System. Using high quality components from reputed manufacturers, INDRA is the culmination of years of R&D in Speaker Technology. Comprising of 6 Models, the INDRA series uses Y30 grade Magnets, Taiwan Paper and Spider plus 2 layer copper wire on Glass Fibre Polyamide Voice coils and can deliver fantastic SPL's. The tonal quality is further enhanced by using heavy duty cast aluminium frames ensuring increased rigidity. The optimized ferrite motor produces a strong and symmetrical flux density in the gap, allowing high value of SPL, thrilling dynamics and very low distortion.

INDRA-158
800 Watts RMS
4" Voice Coil

INDRA-156
600 Watts RMS
4" Voice Coil

INDRA-154V2
400 Watts RMS
3" Voice Coil

INDRA-122.5
250 Watts RMS
2.5" Voice Coil

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Some of Varun's favorite classical pieces are: Vivaldi's Four Seasons: Summer, Edward Grieg's In the hall of the mountain king, Bach's Orchestral Suite No:2 and Toccata & Fugue, Mozart's Eine Kleine Nachtmusik and Turkish March, Johann Strauss II's The Blue Danube, Jacques Offenbach - Overture to "Orpheus in the underworld, Richard Strauss - Also sprach Zarathustra to name a few.

A Shot of Rhythm and Blues

Varun started his first studio under the same brand name in 2013. After completing a Masters Certificate in Film Scoring from Berklee College of Music he went on to further study advanced Music Production, Mixing and Mastering at Point Blank College, London where he also learnt room acoustics and developments. After completing his studies, he visited a number of studios in the United Kingdom and realized that he needed to rearrange his studio's nature and workflows. "The British studio vibes drive me crazy always. They still have a very classic approach in their workflows which changed my vision towards music production. That's how I turned mostly into the Analog domain."

Varun needed a colossal plan because going that route would be an extensive task. He took a long break from the industry to do a case study of British Studios and the various preferences they had with them. While visiting the studios in the UK, the picture started to become clearer for Varun and he started to understand what was it that he needed for his own studio. "As a Music Producer, I have my own sounding, and I needed a more outstanding design to accommodate them. That's how it started. The all-new Mondosonic Studio."

Varun, has never considered analog superior to digital or vice-versa. "How about saying "Different"? Digital is much easier to work, but too many tools on the digital domain make it less engaging and less challenging. In the analogue domain, it's all about trusting your ears. I prefer that."

Varun enjoys old school methods. Artificial Intelligent algorithms which do audio corrections by themselves according to Varun, hinder the creative minds and relying on such things is the last thing he will ever do. He primarily uses plugins to cut the frequencies, and most of the boosting are done using outboard gears.

Free As A Bird

"My style of work is not something that can be done in a span of one day. I produce Music for artists with a proper understanding of their musical requirements and its always time-consuming." Varun has seen cases where artists who

The Walnut and Black Ash Wood finish Audient ASP8024 - HE Analog Mixing Console is the pride of Mondosonic Studio

play guitar come one day, finish their work and go. Then the other artists within the band come after a few days and do the recording and so on. This strategy is something that he avoids. According to Varun, if he is involved in a project, he needs to finish it in its continuity without going to other projects which are entirely different in terms of sounding. "To me, all the concerned artists in the band should be available during the whole recording process. That is very important to me." The new studio has been developed so artists can stay close by, work efficiently and interact with nature as well. "It's more productive."

Roll Over Beethoven - Acoustics

Varun took a long time going through a lot of acoustic development case studies. According to him there is no such thing as a perfect sounding room. "Some people prefer dry rooms, and I prefer something more balanced. I never wanted a space which is too dry and boring." Varun designed the rooms in a way that its reflections were carefully distributed using calculated diffusers. Since the rooms were big enough, he did not have much room mode issues, and as the console room had pressure based absorbers which are tuned membranes, Varun was able to get rid of the problematic low-end frequencies. He took help from the Portugal Company Artnovion Acoustics who helped him in supplying products that were needed to fulfill his design requirements.

Recording Hall

The Recording Hall has got that Barn/ Countryside atmosphere. The 600 sq. ft. hall has a lush yet controlled sound, the sidewall has been done with a com-

bination of absorption and diffraction techniques to bring in some liveness to the room. Not a dead sounding room it has got its own tonal characteristics. The ceiling is with a combination of diffusion arrangements specifically set for the drum area to get vivid and shimmering textures out of Cymbals. On the front wall facing the drums, the recording hall has an array of tuned membranes to make the low end on the room tighter and balanced. The upper region of the Hall is set with natural stones so that the partially reflective surface will maintain the overall liveness inside the room more balanced and interesting. The wiring to the Microphones, Guitar Amps etc. has been directly connected into the Console from the Recording Hall without any junction boxes.

Since Varun uses high-end microphone and speaker cables, he prefers to get the cables directly to the microphones from the console.

Control Room

The Control Room is 600 sq. ft. dark and luxurious. It has tuned membrane-based pressure absorbers in combination with diffusers on the rear sidewalls and ceiling. The Mixing console is set in approximately 38% from the front wall, and for the Atmos Preview Theater projections, the seating arrangements are set on the 38% from the rear wall.

With A Little Help from Friends - Inventory

Varun decided on all the equipment that he would require for his new studio. "I have my own sounding, which is more on the vintage side." A huge fan of Abbey Road Studios and The Beatles, Varun has a complete equipment chain

which includes their renowned REDD Console and TG Console section.

For his studio, Varun procured his inventory from Europe and India. Chandler Ltd, Solid State Logic, Genelec and Reference from Italy with cables provided by **Shiv Sood** from Sound Team, in Mumbai. "We have been in touch with Varun since 2015 supplying gear for his earlier studio. The new studio includes equipment from Sound Team that include Manley Reference Cardioid Microphone, Solid State Logic Sigma Analogue Mix Engine and Solid State Logic Fusion Audio Processor, Chandler Ltd. Curve Bender EQ and Zener Limiter and the Chandler Ltd. vacuum tube based RS124 Compressor (Matched Pair) and REDD47 Preamp," says Shiv Sood of Sound Team. The main field monitoring solution includes Genelec 1238DF Three Way Active Smart Active Monitoring with Genelec 7380A Smart Active Subwoofer System using the setup & calibration features of Genelec Loudspeaker Manager software, he adds further.

One of the important pieces in building an audio studio is the selection of the loudspeaker systems. Shiv had a discussion with Varun in this regards. "Varun was looking at a high powered three-way active monitor but didn't want to flush mount the monitors. The Genelec 1238DF Monitor was perfect; as its cabinet depth is around 10 inches and coupled with the 7380A makes it a perfect full range monitoring solution," informs Shiv. He further informs, Varun prior to ordering the system had questions about calibration, phase alignment, level matching etc. of the loudspeaker system and they were able to explain how effective the Genelec Loudspeaker Manager software would be in this vital setup process.

Shiv and his team had custom cables made off-site using Reference Labs, Italy cables as per the lengths and connectivity specified by Varun.

"It was a joy working with Varun and to be a part of his dream project. He set out to maintaining very high standards to the facility he was building; right from the choice of cables being used, outboard processing selection and reference Monitoring requirements; Sound Team is glad to have been able to offer him these solutions," says Shiv.

The Burl Mothership B80 and Thermionic Culture Swift was provided by **Darshan Kwathra** from KK-Sound Planet. **Nagamouli** provided Varun with all the Neumann and Sennheiser products. The Audient Console was provided by **Tanseer**, Owner, The Inventory in Chennai.

The next big thing Varun needed in his studio was an analog console. After trying out a bunch of different consoles, he settled in a for a Custom Heritage Console from Audient. Varun was looking for a clean yet punchy sounding console as he uses more colored outboard gears. "I went on the roots of Audient. David Dearden, who is the brainchild of Audient and his close connection with Eddie Veal building consoles for John Lennon, George Harrison and Ringo Starr, connected my studio with the Beatles in a meaningful way."

"The console is the best decision I have made. It's built so well. The Walnut and Black Ash wood finishes make it visually stunning. The workflow is amazing. All my outboard gears are flawlessly connected into the console." The Audient console has made an impression on Varun. The switchable "Retro Iron" mode is so good that he keeps the button ON for most of his mixes. The EQ's are very transparent yet musical. The master compressor channel is punchy and has a fine texture. The preamps are clean yet warm sounding, the in-line architecture is useful to start mixing during tracking and gives an idea of how it goes in the final stage of song productions. With the help of DLC module, Varun can switch between the DAW control and Analog automation so easily and even patch anything into the DLC. "I use many outboard preamps with different colors, but I am fond of using the console's in-built preamps. It does feel great when I can do things just within the console range. The analog automation is efficient in situations where we need gain controls post compressions without affecting the input signals going into the compressor."

The team at Audient were helpful and quick to respond which was very important to Varun. "The owner of Audient Simon Blackwood is a great personality. He regularly contacts me personally to make sure that I am hav-

Inventory List

Audient 8024 Heritage Edition Console (36 channels, 80 input)	BURL Mothership B80 Conversion	Analog Automation: SSL Sigma
Dangerous Music 2 Bus + (Additional Summing + Color)	Dangerous Music Compressor	Heritage Successor Compressor
Chandler RS124 Matched Pair Compressor	Chandler Zener Compressor	Chandler Curve Bender EQ
Chandler REDD Preamp	Chandler TG2 Preamp	A design Pacifica Preamp
Thermionic Culture Swift EQ	SSL Fusion	Genelec 1238 DF
Genelec 7280A Subwoofer	Neumann KH 310	AXE FX XL + Guitar Processor
PRS MT 15 Amp Head	Orange Rocker 30 Amp Head	Vox AC 30 Handwired Amp
Fender Twin Amp	Mark Bass Little Mark 250 Amp	PRS Custom 24-08 (10 top)
PRS McCarty 594 (10 top)	PRS Custom 24 (Anniversary Edition)	Taylor GS Mini Acoustic Guitar (Limited Edition)
Fender Malibu Acoustic Guitar	Fender Precision Bass	Squire Jazz Bass
Yamaha Guitalele	Korg Kronos	Yamaha Clavinova
Pearl Reference Pure 7 piece (Custom Built-to-order)	Sonor Gavin Harrison Snare (Premium Edition)	Pearl Phosphorous-Bronze Snare
Pearl Reference Snare	Mapex Armory Daisy Cutter Snare	Zildjian Constantinople Hi-Hats
Zildjian Sweet Hats	Sabian Artisan Handmade Crashes	Istanbul Mantra Ride
Roland TD 30 K V-Drums	Neumann U67 Microphone	Neumann U87 Rhodium Microphone
Neumann TLM 102 Microphone	Neumann KM 184 Microphone (Matched Pair)	Manley Reference Microphone
AKG C414 XLS Microphone (Matched Pair)	Shure SM57 Microphone	Sennheiser 9 series Microphone for Drums
Mac Pro 8 Core (64 GB RAM)	Mac Pro 6 Core (32 GB RAM)	Mac Mini 6 Core (64 GB RAM)
Proprietary 16 Core, 128GB RAM, 20TB SSD specifically for Sample Library Server.		

ing a great time with the console. Such things feel great, and I am really proud to have that console."

Other gears from outside India includes Andertons, SXPro, and KMR Audio from UK and Thomann from Germany.

The Audient Console was supplied by Tanseer, from The Inventory. "We supplied Mondosonic Studios with Audient's latest flagship ASP8024 Heritage Edition Analog Mixing Console. The ASP8024-HE carries all the roots of David Dearden's original large-format analog console into the twenty-first century. It delivers world-class sound and its preamps exhibit a clean, punchy, musical character that breathes life into every recording. The ASP8024-HE delivers everything from transparent warmth to retro-style punch making it the ultimate analog mixing console for modern studios," informs Tanseer.

Varun reached out to Tanseer with one goal in mind - No compromises on the quality of sound and a viable recording, mixing & mastering solution for his investment. "It was a great experience interacting with Varun. He is an example of a perfect modern-day sound engineer & entrepreneur who is always forward-thinking, ambitious, and

had a clear vision for providing a fantastic end-to-end recording experience by making world-class studio equipment available and accessible to us in India. We are really glad and proud to support Varun in achieving his dream," says Tanseer.

Wade Goeke and his company Chandler Ltd supplied Mondosonic Studios with a built-to-order matched pair RS124 Mastering grade compressors, REDD Preamp, TG Zener Compressor and TG Curve Bender EQ.

Since adopting the analog workflow, Varun did not need a transparent conversion, rather he wanted something with a sonic footprint and he finally settled for the BURL MOTHERSHIP B80 ADDA Converter. "With all those BX transformers, I was able to get those vibes that of a tape machine. It defined the sound of my studio to a whole new level."

In conjunction with the console, Varun uses two other mix buss such as SSL Sigma and Dangerous Music 2 Bus Plus. On the EQ side, he uses the console's in-built EQ for sculpting sound. Other EQ's include Chandler Ltd. Curve Bender (Solid State) and Thermionic Culture Swift EQ(Tube). For Preamps, there is the REDD Tube preamps, Chandler TG2 and A Design Audio Pacifica.

For compression, the studio uses Chandler RS4, Dangerous Music, Chandler Zener and Heritage Audio Successor, Chandler REDD are used for Vocals, Bass and final Master. The Heritage Successor is a Diode-Bridge compressor which is used as a replacement to the classic VCA style compressor. Varun uses Chandler Zener for parallel Mix duties and Drum Room channels. "All the gears I use have a unique workflow: the secret sauce of Mondosonic Studios."

See the box for the complete inventory list at Mondosonic Studio.

Conclusion

Most of the work that comes out of Mondosonic Studio is outsourced work from the UK. With his love to collaborate with artists on a global level, it helps Varun to learn more about different types of music. From now onwards, Varun intends to be more involved in regional music productions and he already has a series of in-house productions lined up for this year.

"I am also involved in a film to do the Original Score. Pretty much excited about that too."

Through his in-house record label, Varun is bringing in a few talented artists to help them in the production and release of their music worldwide.

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AV-ICN
EXPO 2022

AV INTEGRATION COMMUNICATION NETWORKING EXPO

26 - 28.05.2022
BOMBAY EXHIBITION CENTRE, GOREGAON (E), MUMBAI, INDIA

Hosted in Mumbai, India, the **PALM AV-ICN expo** will take place from **May 27th – May 29th, 2021** at the Bombay Exhibition Centre, Goregaon, and will provide access to the expo floors and the many prominent features taking place concurrent to the trade show activities.

PALM AV-ICN is the largest professional audiovisual trade show in India with a plethora of products for pro audio, music production, audiovisual and lighting. The show attracts decision-makers across continents and segments for talks, purchase, workshops and networking. In order to accommodate the expanse of exhibits in a manner which facilitates efficient movement of

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R-4 Series

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cables and connectors.

The AV focus

The AV exhibits which share space this year with Pro Audio in Hall 1 accounts for the other piece of the pie. Audio Visual – AV and Display area is designated alongwith Pro Audio. **AV-ICN** focus is on providing equitable opportunity to all brands aiming at India's burgeoning AV market. Introducing new brand and product providing new technology for applications at a more competitive cost is the driving factor for Indian marketplace. The reason for this is adoption of AV communications and networking by MSME (micro small and micro enterprises) and government, and institutions on a very large scale. The impact of AV technology on our learning environment has also been nothing short of noteworthy. In the last decade technology coupled

tions and low entry hurdle has attracted scores of distributors. Modular systems, and higher quality resolution, with tremendous upgrade in LED control technology has seen LED displays replace LCD displays in numerous high-end applications. Outdoor and indoor display installs have created a demand and supply has been met with gusto from distributors investing in imported inventory. AV segment at PALM AV-ICN as such has improved remarkably. Aside from Display, the gamut of AV product such as PA, audio networking, video conferencing and communication products and software unified communications and collaboration , display, video, control, digital signage, home automation, security, VR and live events are exhibited.

AV consultants are challenged to provide solutions that fit the budget

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BOMBAY EXHIBITION CENTRE, GOREGAON (E), MUMBAI, INDIA

PALM AV-ICN's evolution in providing total solutions in event and entertainment technology has witnessed the largest gathering of system integrators than at any other expo in India.

The major global line-up of Live mixing console brands, wireless stage

of exhibited products and includes recording and reproduction equipment, loud speakers and monitoring speakers, range of studio, DJ and live mixing consoles, amplifiers and microphones, as well DSP [Digital Signal Processing] and DJ equipment and accessories like

market in install provides opportunity to new brands to penetrate easily, given the price advantage offered vis-à-vis product availability and satisfaction on quality specs.

LED Factor

The expo is a sourcing ground for LED displays, Videowall display and projection systems with many LED screens, projection and display companies showcasing their latest products in Hall 1. AV consultants necessarily attending PALM AV-ICN each year for sound and light solutions demand display and projection solutions integral to their project implementation. LED Technology is a major attraction at AV-ICN due to the humungous demand across the more than 1000 cities and explosion in entertainment and infrastructure. The demo of large format LED is an attraction most brands showcase. The entire LED market is at AV-ICN evaluating new product in this segment with the big distributors carving our market share at the show.

LED display scalability and applica-

Effects, Theatre & Auditorium Lighting, Trussing, Rigging, Studio Lighting, Club & Disco Lighting and lighting solutions and smoke & fog machines that create integrated experiences.

Lighting in Hall 2 has seen a rush and wave of product representing the second highest segment at the show. Entertainment lighting for stage, event and hospitality is witnessed across tier1, 2, 3 and tier 4 towns. This has led to dealership and distribution centres in the big metros with surge of rentals in hundreds of cities.

PALM Content Features

PALM AV-ICN has a very strong philosophy and belief in the assets it creates, their utility and purpose, contribution to evolving the industry to high professionalism, greater talent and better business. It is this sense of purpose that drives the dynamic PALM features like PALM Conference & Seminar Programme, PALM Lighting Design Showcase, 3D Immersive Projection & Mapping, Rigging & Trussing showcase,

Ehsaan Noorani and Loy Mendonsa check out new gear at the show

The CAVS- Certified AV Specialist – initiative by AV-ICN platform in its very first year received a thumbs-up from aspiring AV technicians

Indian Recording Arts Academy Awards   received a thumbs-up from aspiring AV

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Parallel Award shows at PALM focussed on Sound Engineering and Event Tech respectively *L:* Indian Recording Arts Academy Awards (IRAA) and R: PALM Sound & Light Awards

actual user visitors is purposeful. Expo has focus on education. The **CAVS-Certified AV Specialist** – initiative by AV-ICN platform in its very first year

consultants who are delighted at the conference that proves the platforms neutrality and independence to speak to a rich gathering of movers and

shakers. At the conference an award recognizes the **BEST AV Architect** for a marquee project that defines AV technology at its cutting edge in integrat-

ing communications and networking diverse spaces to maximum utility and a futuristic experience. This is the ethos of AV-ICN.

RUPERT NEVE, GRAMMY-WINNING AUDIO INDUSTRY ICON, DIES AT 94

Rupert Neve, an innovator and business owner whose analog audio equipment designs have become an essential component in music recording, live sound production and home hi-fi systems, died on February 12, 2021 in Wimberley, Texas, due to non-Covid pneumonia and heart failure. He was 94.

Rupert Neve's impact on the audio industry can hardly be over-

as a boy while growing up in Argentina. At the age of 17 he volunteered to serve during World War II, joining the Royal Signals, which provides communications support to the British Army. Returning to civilian life in England, he built a mobile system to record choral groups and public events onto lacquer disks. He also supplied public address systems for events involving Princess Elizabeth, now Queen Elizabeth II, and

equipment with which he ultimately became synonymous. In 1961, Rupert and his wife established Neve Electronics.

Adopting the latest technology, Rupert designed his first transistor-based equalizer in 1964, then produced his first transistor mixing console, for Philips Records' studios. In subsequent years, he designed and manufactured many of the iconic pieces of equipment for

environments such as churches and cathedrals. Rupert also developed techniques and equipment to enable the building of low-budget studios around the world. During the 1970s and '80s, he established the Cambridge Radio Course, an intensive residential course intended for Christian workers using radio to educate, inform and entertain their communities.

ARN Consultants moved on to work with Amek Systems and Controls Ltd. in Manchester, England. Rupert's first design project was "The Equaliser," a stereo mastering EQ produced by Amek under the Medici brand. That led to further collaboration with the manufacturer and the development of another large-format mixing console, the Amek 9098, and a line of outboard equipment derived from the analog desk designs. Rupert's Transformer-Like Amplifier (TLA) design was integrated into several Amek mixing console lines.

ARN Consultants, now operating from Wimberley, Texas, worked on a number of projects, including Legendary Audio's "The Masterpiece," a modular mastering system. Rupert also became involved in the MI (musical instrument) market for the first time, designing a preamp and pickup assembly for Taylor Guitars. In 2011 he partnered with sE Electronics to design the Rupert Neve Signature Series of active ribbon, condenser, and tube condenser microphones.

In 2011, Yamaha launched the first Rupert Neve Designs plug-ins, approved by Rupert, for its Steinberg platform. The plug-ins, emulations of the designer's current and classic module circuits, have also been integrated into Yamaha's CL Series and Rivage PM10 digital consoles for live sound production, another first for Rupert.

Rupert Neve, the iconic innovator whose impact on the audio industry can hardly be overstated

stated. It's no exaggeration to say that millions of people worldwide listen to music every day that was produced using equipment incorporating Rupert's designs somewhere in the process, from the vocal recording to the final mix, if not from beginning to end.

His designs, ranging from large-format mixing consoles to compact 500 series modules, are ubiquitous, and may be found anywhere from the largest production facilities to the most basic home studios. His audio hardware designs have also been reproduced as software plug-ins, making them available to anyone with access to a computer.

Rupert and his wife, Evelyn, moved to Wimberley in late 1994 and became U.S. citizens in 2002. In 2005, they acquired premises near where they had settled in the Texas Hill Country and established Rupert Neve Designs (RND).

Born in Newton Abbott, England, in 1926, Rupert showed an enthusiasm for electronics from an early age, repairing and building radios

Winston Churchill.

The company manufactures the 5088 analog mixing console and a range of rackmount and desktop processing, summing and other equipment, including the Portico, Portico II, and Shelford lines. In 2012 RND began producing equipment in the 500 series form factor and in 2018 Rupert released his first digital design, the RMP-D8 Dante-networked multichannel microphone preamp.

Rupert's contributions to the professional sound industry were recognized with a Lifetime Achievement Technical GRAMMY Award in 1997, an Audio Engineering Society Fellowship Award in 2006, 16 TEC (Technical Excellence and Creativity) Awards for Rupert Neve Designs products, and Studio Sound Magazine's Audio Person of the Century Award, in 1999.

After working for Rediffusion, Ferguson Radio and a transformer manufacturer for a time, Rupert set up his first business, CQ Audio, manufacturing home hi-fi amplifiers and loudspeakers. In 1960, a composer in Ireland commissioned him to design and build his first audio mixing console — the piece of

which he has since become celebrated, such as the Neve 80 and 50 series mixing desks.

Rupert adopted digital technology in 1977, introducing the world's first moving fader system, NECAM (NEve Computer Assisted Mixdown), and installing the first system at producer George Martin's Air Studios in London. The Neve 81 series of mixing desks integrated digital assignable controls into an otherwise analog design.

Rupert and Evelyn sold the Neve Companies in 1975, by which time they employed 500 people worldwide with manufacturing locations in England and Scotland and sales offices across North America. Austria's Siemens Corp. subsequently acquired the Neve brand from its new owner, later selling the company to AMS in England.

Rupert and Evelyn, now operating as ARN Consultants, established Focusrite Ltd. in 1985, producing outboard equipment and a large-format mixing console, of which just eight were made.

Part of the mission of ARN Consultants was to provide sound reinforcement and acoustics solutions in difficult

In 2011, Yamaha launched the

Rupert returned to his roots in 2019 with Fidelice, a new range of product from Rupert Neve Designs for the high-fidelity audio market. The line launched with a headphone amplifier, phono preamplifier and digital-to-analog converter.

Rupert is survived by his wife of nearly 70 years, Evelyn; five children, Mary, David, John, Stephen, and Ann; nine grandchildren; and five great-grandchildren.

PROMUSICALS EXPANDS STUDIO PRODUCT PORTFOLIO IN INDIA

ProMusicals has brought a range of new professional studio products in India. Launched and readily available these products are designed and developed for professionals bringing in new possibilities for music producers and recording artists to boost their creativity.

AIAIAI

TMA-2 Deviation Edition

TMA-2 Deviation Edition is a limited edition of the TMA-2 DJ developed with professional and renowned DJs. The titanium-coated S01 speaker unit delivers a neutral

and intense sound representation focused on all-round dynamics. Combining the durable H02 nylon headband and the E02 on-ear PU leather ear pads providing high isolation results in a powerful sturdy headphone suitable for electronic music.

TMA-2 HD

TMA-2 HD has a highly detailed and precise sound representation and ultra-soft over-ear cushions with Alcantara and memory foam for music making or the optimal listening experience.

The high-end S05 speaker unit with Bio-Cellulose delivers a clear and highly detailed sound representation. Combining the H04 headband and the E08 over-ear Alcantara earpads providing low isolation, results in super comfortable headphone with high-end audio, suitable for long and critical listening sessions.

Novation

Circuit Tracks

Circuit Tracks is an extraordinary standalone groovebox for the modern producer. With two refined polyphonic digital synth tracks, four drum tracks, creative FX and on-the-go capabilities, it's the perfect

hands-on device for the agile music maker.

Universal Audio

UAFX UAFX Astra Modulation Machine

The Astra Modulation Machine provides an impeccably modeled classic 1970s Japanese bucket-brigade chorus/vibrato effects. It features an authentic studio flanger/doubler effects from vintage analog rack unit and classic, inspiring tube amp tremolo with sine and square modes.

UAFX Golden Reverberator

The Golden Reverberator has three distinct tube-driven spring reverb tanks, painstakingly selected from 1960s American guitar amps. Vintage German studio plate reverbs, sourced from The Plant Recording Studio in Sausalito, CA and exact bit-for-bit late-1970's digital reverb algorithms from classic studio hardware.

UAFX Starlight Echo Station

The Starlight Echo Station has a stunning emulation of iconic tape echo units, with New, Medium, and Old tape types. The legendary bucket-brigade analog delay effects with the color, texture, and haze of the original hardware and pristine studio digital delays with flexible and inspiring modulation.

Austrian Audio

Hi-X50 - Professional On-Ear Headphones

The Hi-X50 supra-aural closed-back headphones provide on-the-ear comfort as well as portability with the foldable hinge design. Metal parts are used for all critical elements in order to guarantee long durability even under rough conditions be it in live or studio situations.

OC818 - Large-diaphragm Condenser Mic with Multiple Polar Patterns

The OC818 is a professional, large diaphragm microphone. Its high sensitivity, low self-noise and ability to handle everything from a whisper to extreme SPLs make it the most advanced microphone for studio, broadcast and live applications.

Ashun Sound Machines

Hydrasynth Keyboard

The HYDRASYNTH keyboard is both a sound designers dream synth as well as a performing musicians ideal. The sound engine is designed for maximum flexibility. The user interface is designed in a way to allow to edit the patch quickly with a minimal amount of paging and many workflow shortcuts. Utilizing an advanced wavetable synthesis engine, 3 Oscillators, dual Wave Mutators and 2 filters that can be configured in series or parallel, the tone generating capabilities are unmatched.

Hydrasynth Desktop/Rack

The HYDRASYNTH Desktop / Rack has the same great sound engine as the HYDRASYNTH Keyboard. The sound engine is designed for maximum flexibility. At the same time, the user interface has been designed in a way to allow to edit the patch quickly with a minimal amount of paging and many workflow shortcuts. The Hydrasynth Desktop / Rack has 24 polyphonic pressure touch pads so that users can play the unit without needing to connect a keyboard

or other controller. Using multiple pad layout modes as well as quick to access scale modes, the Hydrasynth Desktop / Rack is easy to make music on.

Cranborne Audio

Camden EC1 - Preamp, Signal Processor & Headphone Mixer

Camden EC1 is a Camden preamp with Mojo analogue saturation, and a reference-quality headphone amplifier with a discrete line mixer built-in to a desktop-friendly, half-rack chassis. Providing up to 68.5dB of pristine, clean

gain, Camden EC1 is the perfect preamp to pair with low-gain dynamic microphones and ribbon mics.

Camden EC2 - Two Channel Preamp, Signal Processor, and Dual Headphone Mixer

Camden Ec2 is a Two channel 19", 1u preamp featuring award-winning Camden preamps, Mojo analogue saturation circuits, and dual reference-quality headphone amplifiers with discrete line mixers. Camden EC2 features two reference-quality headphone amplifiers with independent line mixers that allow for direct monitoring of both Camden preamps using headphones connected directly to Camden EC2's front panel.

Steven Slate Audio

VSX Modeling Headphones

The VSX headphone system allows users to create music in precise models of pro mixing studios, mastering rooms, car stereos, nightclubs, audiophile mix rooms, boomboxes, and more from anywhere in the world. The VSX system starts with a reference quality closed-back beryllium driver headphone that includes Acoustic Ported Subsonics (APS) which delivers unrivaled lows

by harnessing the air pressure to supercharge low-frequencies. This state-of-the-art design creates the most linear sound with precise transient detail and jaw-dropping sub lows. The audiophile Slimline no-tangle cable relays music in perfect linearity and features gold plated-connectors, making it the closest thing to wireless.

Promusicals has also launched Telefunken TF11, Austrian Audio Hi-X55, and Austrian Audio OC18. These products were featured in the Top 30 products in the Jan-Feb issue of Palm Technology. You can read about these products by clicking on the link *http://palmtechnology.in/Article-94-Top-30-Products-2021-PALM-Technology.aspx*

The products are available through Promusicals website: *https://www.promusicals.com/*

AVID VENUE 7 SOFTWARE NOW AVAILABLE

Avid has released a software with post-fader inserts in it, with HEAT processing on every input channel and with bus-to-bus routing. The **VENUE 7** is packed with updates and a list of new features.

VENUE 7.0.0 Features include:
Hardware And Config Updates include I/O sharing & gain tracking for 3 Systems with MLN-192 Milan option card.

New Mix Features include HEAT processing on every input channel, Bus-to-bus routing, Parallel mix control on all Channel Dynamics, Mix control on all Channel EQ, HPF, LPF and GEQ on all outputs, EQ pre-Dynamics and Post-fader insert point.

Expanded Functionality for VENUE 7 include 400 plugin slots and 2-Track USB recording and playback.

Utility Features on the VENUE 7 comprise of the Matrix Mixer polarity switch, All-new Delay Compensation and Align Total Delay on attentioned strips.

Venue 7 also feature **Visual Updates** in the form of Big Meters, Mute and Solo indication on Meters View, Shortened channel names added to Strips Area and Shortened channel names added to Group Assign buttons and indicators.

Ease of Use Updates: The Venue 7 has a Make/Break Stereo button on MLM, Dialogue for active events, improve restore and activation procedures, Add System ID and Serial Number to software, and Integrated System Guide, Troubleshooting Guide, and Handbook in the software.

There are some massive features in this release: bus-to-bus routing, post-fader inserts, comprehensive delay compensation, HEAT on every input, parallel dynamics and EQ on every channel, certified Milan support, and much more. VENUE 7 is the biggest VENUE update that has ever been released, and is packed with as many user requests as could possibly fit. Loaded with tons of new capabilities, stability improvements and massive optimizations to achieve the lowest system latency of any VENUE release, VENUE 7 will move the S6L system forward in stability, functionality, and technical features.

VENUE 7 is now available to download at no charge if users have an S6L system and a valid Avid Advantage Elite Live support contract.

EVE AUDIO INTRODUCES SC4070 STUDIO MONITOR

On the eve of the company's 10th anniversary **EVE Audio** has announced the debut of their newest monitoring solution, the **SC4070 Studio Monitor**.

Designed and assembled in Berlin, Germany, the SC4070 is a high-resolution, four-amplified mid field / main monitor optimized for precise midrange and enhanced powerful bass response. With a rotatable centerpiece that houses midrange and tweeter section, the SC4070 is flexibly suited for vertical and horizontal installations and a work piece for mid to large size control rooms where quality and consistent power output are important variables.

The SC4070 powered studio monitor utilizes two 6,5" low frequency drivers and a 4" glass-fibre honeycomb diaphragm woofer. The latter has been designed to reproduce clear midrange frequencies with utmost detail. The twin woofers allow reducing distortion even on high SPL and deliver an incredible tight and homogeneous bass down to 32Hz and a very linear overall response.

EVE Audio's proprietary RS3.1 Air Motion Transformer completes the system and reproduces silky-smooth and accurate high frequencies.

All of the SC4070's frequency response parameters are controlled by high-resolution DSP electronics supported by a high quality A/D converter from Burr-Brown. Four high-quality Class D amplifiers with a total short-term output power of 1000W are directly connected to the DSP section with no additional conversion to ensure extreme reliability and a max output level of 126dB (SPL @ 1m, half space, pair).

The speakers are packaged in sophisticated cabinet that endows a bevelled ultra-stiff front plate to reduce unwanted resonances and diffraction.

RODE INTRODUCES WIRELESS GO II

The **RØDE Wireless GO II**, is a new ultra-compact and extremely versatile dual channel wireless microphone system. Offering the same pocket-sized form factor and professional sound quality as the best-selling Wireless GO, with a host of incredible new features making it even more powerful and flexible.

The original Wireless GO revolutionized audio for content creators. With its innovative form factor, unique clip 'n' go versatility, and in-built microphone offering truly wireless recording for the first time, it changed the way creators captured sound for video.

The Wireless GO II offers all of these features and much more, including dual channel recording, universal compatibility with cameras, mobile devices and computers, extended range and improved transmission stability, and on-board recording capabilities.

"The Wireless GO II is a huge leap forward in terms of usability and versatility, while retaining all the elements that made the first edition such a success. It represents RØDE's mission to innovate and continue evolving our product lines, always with creators in mind. The Wireless GO II is once again going to change the way people record audio for their content," says RØDE CEO **Damien Wilson**.

The Wireless GO II features a 3.5mm analog TRS output for plugging into cameras, plus a digital audio output via USB-C for plugging into smartphones, tablets and even computers. This universal compatibility with any device makes the Wireless GO II extremely versatile, ideal for everyone from filmmakers to YouTubers to business professionals.

The Wireless GO II can record over 24 hours of audio directly to each transmitter (without the need for an SD card), ensuring a backup recording is always available in post-production in case of transmission dropouts and other audio issues.

The Wireless GO II also comes with three furry windshields, which incorporate an innovative new twist-to-lock design for recording in windy conditions, ensuring crystal-clear, professional sound in any situation.

FARHAD K. DADYBURJOR JOINS ALPHATEC AS NATIONAL BUSINESS HEAD - STUDIO

Alphatec has announced the appointment of **Farhad K. Dady-Burjor** to their team as the National Business Head - Studio for their expanding operations. Farhad joins Alphatec with his prolific career and first hand real-world expertise in engineering, end to end design, specification, and implementation of studio systems and builds.

Farhad has been working as a Recording and Mixing Engineer since 1989. He started his career by helping to build, and then engineering at The Digital Domain, India's first digital studio for 5 years. He left The Digital Domain in 1995 to build a world class recording studio, Galactica in Mumbai, where he was engineering in-house till recently.

Over a career spanning 33 years, he has recorded and mixed every possible kind of musical genre at different scales, for almost every kind of media release, from movie songs and soundtracks to orchestral scores, Grammy nominated albums, radio plays, sound design jobs, stage shows, besides engineering innumerable advertising commercials.

Read Farhad's interview in the Jan-Feb 2021 issue of *PALM Technology Magazine.*
https://issuu.com/palmtechnology/docs/palm_technology_january-february_2021

Farhad K. DadyBurjor

NEUMANN MA 1 – FIRST AUTOMATIC MONITOR ALIGNMENT; JOINTLY DEVELOPED WITH FRAUNHOFER IIS

Neumann.Berlin has launched the **MA 1**, an integrated hard/software tool for acoustic calibration and room correction, tailor-made for Neumann studio monitors. Calibration algorithms, jointly developed with the Fraunhofer IIS, ensure best possible monitoring quality in any environment – from acoustically untreated bedroom studios to professional control rooms.

According to **Vipin Pungalia**, Director, Professional Segment, Sennheiser India, "We are thrilled to announce the launch of Neumann MA 1 automatic monitor alignment in India. As the world is recovering from the pandemic, many professionals are looking for solutions that will enhance their recording quality whether recording from home or large control rooms. For this, we introduced Neumann MA 1 automatic monitor alignment which uses calibration algorithms to rectify the acoustic issues. We are looking forward to seeing how our customers respond to this."

According to **Ralf Oehl**, CEO of Neumann.Berlin, "The Neumann studio monitor portfolio is experiencing an enormous increase in demand; in some cases, more than 60% compared to the previous year. According to user feedback, one of the main reasons is that our monitors have the highest acoustic consistency on the market; i.e.

different models deliver identical mixing results in varying listening environments. This is of crucial importance, especially when different decentralized monitoring processes are involved. To further perfect this advantage for our customers, automatic room correction is the next logical step. Together with our partner, the Fraunhofer Institute for Integrated Circuits (IIS), we want to create our own absolute reference for room correction in studio monitors, regardless of whether it is for small home studios or large control rooms of the highest professional standards."

The system consists of an individually calibrated Neumann measurement microphone and the corresponding software for Mac and PC.

Neumann's Automatic Monitor Alignment is available for all DSP-controlled stereo systems of the KH line, i.e. currently the KH 80 DSP as well as the analog studio monitors KH 120, KH 310, and KH 420 in combination with

the subwoofer KH 750 DSP.

Neumann's Room Correction: A Simple Solution to Complex Problems

Neumann's decades of experience in the calibration of studio monitoring systems has been incorporated into the software. It guides the user step by step through the measurements and analyses the respective listening

environment; unnecessary "eye candy" has been deliberately omitted. The resulting correction data is stored and processed directly in the DSP-controlled monitors.

KH 80 DSP stereo pairs can be controlled directly by the software. All other non-DSP-equipped – stereo pairs of the KH Line can be aligned by connecting them to the analog outputs of the KH 750 DSP subwoofer. Owners of KH 120, KH 310 and KH 420 monitors thus benefit not only from an extended bass response, but also from the room correction and the phase linearization of the analog speakers.

In addition, Neumann is offering attractive kits consisting of KH Line Monitors and the MA 1 package for the market launch:

Monitor Alignment Kit 1 (1x KH 750 DSP + MA 1 package)

Monitor Alignment Kit 2 (2x KH 80 DSP + MA 1 package)

Monitor Alignment Kit 3 (2 x KH 80 DSP + 1x KH 750 DSP + MA 1 package)

Priced at INR 19,990, the Neumann MA 1 will be available from 24th Feb via offline trade at Dealer & Distributor outlet.

www.palmtechnology.in

YAMAHA RELEASES MSP3A COMPACT POWERED REFERENCE MONITORS

Yamaha has introduced a new monitor speaker: the **MSP3A**. The newest addition to the professional audio line-up builds on the convenience and performance of its predecessor, the MSP3.

Faithful Sound Reproduction

The highlight features are its compact design, straightforward operation and high quality audio. It also features the Twisted Flare Port that delivers a clearer bass. It features a 22-watt in built amplifier that results in a faithful sound reproduction making it an ideal choice for smaller studios and post-production setups. The cabi-net weighs 3.6 KG making it a portable and much-loved choice.

Versatile Inputs & Controls

Like the MSP3, the MSP3A also has multiple inputs connectors and controls and is compatible with many optional brackets making it useful and versatile. In addition to a combo XLR/TRS connectors that allows direct input from a +4 dB mixer or other professional equipment, the MSP3A provides TRS and RCA jacks for convenient connection to electronic instruments and other audio devices.

Twisted Flair Port Technology

For the first time ever, the Twisted Flair Port technology, an aerodynamic sound control technology patented by Yamaha, makes a debut in this series. It controls noise generation mechanisms, adds air flow turbulence to both ends making the port flair or widen from input to output and adds a twist to it. Suppressing the turbulence in this manner reduces the muddiness in sound and manages the amount of noise at port ends delivering tight frequencies that stay true to pitch and rhythm.

This device is a find for those looking to monitor electronic instruments and surround reproduction. It is versatile, compact, with a beautiful design that takes the best from its predecessor and builds on that even further.

ABLETON ANNOUNCES LIVE 11

Ableton Live 11 is available at Ableton.com and at local retailers worldwide. The latest version of Live includes comping and MPE, new devices for experimentation, features for live performance, chance tools and much more.

A partial list of what's new in Live 11 includes:

Comping
- Live organizes multiple passes of an audio or MIDI performance into individual takes.
- Link two or more tracks to edit their content simultaneously.

MIDI Polyphonic Expression
- MPE support – Add bends, slides and pressure for each individual note in a chord, add subtle expression variations, morph between chords and create evolving sonic textures more easily.
- Expression View – Edit the pitch, slide and pressure envelopes of each note to refine the expression in the music.
- MPE-capable native devices – Wavetable, Sampler and Arpeggiator are updated to support MPE.

New devices
- Hybrid Reverb – Combines convolution and algorithmic reverbs, making it possible to create any space.
- Spectral Resonator – Breaks the spectrum of an incoming audio signal into partials, then stretches, shifts and blurs the result by a frequency or a note in subtle or radical ways.
- Spectral Time – Transforms sound into partials and feeds them into a frequency based delay, resulting in metallic echoes, frequency-shifted and reverb-like effects.
- Inspired by Nature – Six playful instruments and effects that use nature and physics as their inspiration.
- PitchLoop89 – Creates jittery glitch effects, delayed digital shimmers and outlandish vibrato.

Features for the stage
- Live Tempo Following – Live listens to and adjusts its tempo based on incoming audio in real time.
- Macro Snapshots – Store the state of Macros for later recall.
- Rack improvements – Racks can be configured to have between 1 and 16 Macros, Macro states can be randomized with the push of a button.

New sounds
- Voice Box, Mood Reel and Drone Lab are Ableton-designed Packs that each explore the spectrum of a specific sound palette.
- Upright Piano, Brass Quartet and String Quartet are three Packs created in collaboration with Spitfire Audio that capture popular orchestral instrument combinations in intimate detail.

New in Max for Live
Among the many improvements are:
- MIDI Channel Routings – It is now possible to route MIDI to and from Max for Live audio effects and instruments.
- New API additions – A redesigned, MPE-compatible note API gives Max for Live access to many of Live 11's features.
- Performance improvements – A complete overhaul of Max for Live's user interface integration for a smoother experience when working with Max for Live.

Hybrid Reverb combines algorithmic and convolution reverbs. Chorus-Ensemble features updated sound and a new algorithm. All AAS devices now have updated UIs.

Live 11's new Macro features and Rack improvements, the Spectral Time effect and two of the redesigned devices, plus per-track CPU monitoring.

"PLSG21: LIVE AND ONLINE" TO UNIFY, SUPPORT AND MEET THE IMMEDIATE BUSINESS NEEDS OF THE GLOBAL PRO AV AND ENTERTAINMENT INDUSTRIES

To adapt to the 'new normal', the organisers of Prolight + Sound Guangzhou (PLSG) have unveiled details of enhanced digital services to run alongside the upcoming physical edition. PLSG was the first pro lighting and audio trade fair to resume in China during the critical period in 2020. And this forward-thinking spirit will be continued in 2021 not only at the physical event, but also via the new "PLSG21: Live and Online" initiative which has been introduced to foster a global marketplace, and to gather, support, and inspire professionals from all over the world with the latest products and innovations.

The physical fair is on track for 16 – 19 May 2021, taking place in an expanded space of 150,000 sqm (up 87.5% from 2020) and with 1,300 exhibitors in attendance. The increased scale of the physical event is a reflection of renewed hunger amongst industry professionals to meet for face to face business networking and product showcasing.

What are the new digital offerings?

One-on-one onsite and virtual buyer-exhibitor matching platform

Participants, no matter their location, can preview participating company profiles and products and match with the right suppliers using smart tools. More specifically, a newly introduced **"Online Business Matching & Appointment Making Service"** is a bilingual, pre-booking appointment services for registered participants. The system bases its recommendations on products of interest to provide the best fit for visitors and to optimise the quality of contact suggestions at no extra cost. This allows exhibitors to come into contact with high-quality leads who are precisely interested in their product and solution spectrum. This feature will be available both before and after the fair, with a real-time online chat running from 10 – 26 May.

Enhanced industry engagement through a 365-day online platform

During the fair, a professional filming team and moderator will provide coverage of product demonstrations, fringe events and conduct interviews with company representatives and industry experts. Overseas media and exhibitors will also be connected online to discuss hot entertainment sector topics and share technical knowledge. PLSG's live and recorded programmes will be presented online after the physical fair has closed its doors.

Ms Judy's Cheung, Deputy General Manager, Messe Frankfurt (HK) Ltd says: "PLSG is combining the best of both worlds, both physically and virtually: personal interaction and virtual networking options. We want to create a digital opportunity for all companies and professionals, elevating and extending the fair experience to new heights."

Further information about the "PLSG21: Live and Online" will be available at *https://prolight-sound-guangzhou.hk.messe-frankfurt.com/guangzhou/en/PLSG21_live_online.html*

PLSG's selection of pro lighting and audio products:
- Professional Audio
- Professional Lighting
- Stage Equipment
- AV & Communication Equipment
- Parts & Accessories
- Projection & Display
- System Integration
- IT & Data

PLSG's selection of pro lighting and audio services:
- Construction
- Design
- Event & Production
- Location Service
- Maintenance
- Rental Company
- Security
- Total Solution
- Training
- Media / Publications
- Association
- Others

SOLID STATE LOGIC INTRODUCE UF8 ADVANCED STUDIO DAW CONTROLLER

The culmination of 40 years of mastering studio ergonomics experience, the new **Solid State Logic UF8 controller** delivers a new level of user focused design; insightful displays, intelligent fader and control access and function, multiple stand angles for user defined placement, and a production workflow enhancing control layout. The high-spec touch sensitive faders, encoders, and high-resolution color displays, compliment the premium build quality that belie this new price point for an SSL controller.

Expandable to a 32 channel control surface with integration for all major DAW platforms, UF8 is ideally suited to music creation, production and mixing, post production and webcasting. The new SSL 360° control software manages multi-controller configurations, customized user keys, and DAW switching across multiple layers, allowing for seamless switching between numerous sessions.

Andy Jackson, SSL Studio Product Manager, comments "UF8 is an obvious next step in SSL's development in ergonomically designed studio tools for todays' mixers, producers and creators. The layout and build quality are all about our fixation with 'human engineering'; creating products that

keep you in the creative zone with high-speed access to every fader or control, without operator fatigue or discomfort."

Welfare Check!

Bishwadeep Conceptualizes Sound Design in the Box

Having spent most of his career in Song and Music Recording, Bishwadeep Dipak Chatterjee was constantly toying with the idea of getting involved in designing sound for films. Thanks to his training at the Film and Television Institute of India (FTII), Pune, which prepares you for virtually every aspect of Sound Engineering and Recording, he could make this shift effortlessly. After recording and mixing the songs and the film score of Sanjay Bhansali's film 'Devdas', Bishwadeep realized that the Music Industry, the world over, was going through a massive change. Bishwadeep spoke to the PT team in length about the transition to digital and his journey to "conceptualizing sound design in the box" at Qfactor, his newly done up Atmos-ready mix room

Ironically, the Music industry went into a kind of a recession two decades ago due to new developments in digital technology. "People began downloading free music instead of buying CDs off the shelf. Upgraded technology also meant musicians investing in state-of-the-art Digital Audio Workstations, VSTs, professional hardware like Speakers, microphones and mic-preamps at very affordable

rates. This enabled composers, music producers and musicians to have their own music recording studios, the cost of which they could include in their package, effectively bringing down the recording time and budget of an average film song in large professional recording studios from about 10 days to hardly 1 or 2 days. Many large music studio facilities started folding up as the turn-over drastically dropped. As a Mu-

sic recording engineer, I was involved with a song right from its conceptualization to the final mixed product, but in the current scenario, I wouldn't have been exploited to my full potential. I took up Sound Designing for films not as an alternative, but because I wanted to extend my creative involvement in shaping the entire soundscape of the film. That doesn't mean that I have abandoned music. I still record, mix and

master music and songs for films, music albums, ad films and documentaries - not just in stereo but also in surround," says Bishwadeep.

"The biggest challenge for me was to break out of the complacency of doing a job and starting out on my own. I had to think of something unique to present to the industry that would break the conventional system of working and bring in a more efficient and systematic approach to designing sound for films. I started off by discussing my approach and plans with the directors that I was mostly working with at that time, like **Sanjay Bhansali, Rajkumar Hirani, Pradeep Sarkar** etc. I wanted to take away the 'burden' of the humungous task of creating the soundscape for a film from their shoulders and wanted to present it to them before we went in

The entrance door on the back wall of Qfactor is curved - giving it a 'semi-cylindrical' shape. Double doors lined with magnets at the borders ensure that there are no gaps when the door closes.

for the final mixing of the film. "Sound Designing" for me isn't just creating and laying sound effects, but treating the dialogues, the music and even the songs in a way that all these elements would harmoniously 'fuse' with one another, creating a unique overall aural experience complimenting the film. Now the director would be able to hear the soundscape of his film in its entirety and take most of the creative calls at this stage, creative calls like when to bring in the music, what kind of music, how the effects would sound, how the dialogues are treated etc., before we entered the mixing studio. They would end up feeling more confident about their sound and eventually the overall edit of the film."

The Sound Design Journey

Bishwadeep's first offer to work as a Sound Designer came from the late Rituparno Ghosh, for his Bengali film "Chokher Bali" (2003) starring Aishwarya Rai. "The sound design work on this film was largely done in Kolkata, in a studio that I had designed. Then the majority

of the sound post work, including the surround mixing was done in Rama-naidu Studios and Ramoji Film city. The main reason for doing it in Hyderabad was that none of the film mixing studios in Mumbai had Protools. The film mixing studios had barely switched from the 35mm magnetic tape format to the Hi-8 modular tape based digital format. I needed to mix on a non-linear platform as I did not want to be restricted to premixing all my dialogues, effects and music to just 24 tracks. I needed a Digital Audio Workstation (DAW)."

Bishwadeep soon invested in a DAW called 'Pyramix' as he couldn't afford to buy the Protools at that time and started working on a Hindi film by Rituparno Ghosh called 'Raincoat' (2004) starring Aishwarya Rai and Ajay Devgan. "I also invested in Pulz Speakers (which were modelled on the Tannoy dual - concentric speakers, for the front LCR and a Subwoofer. For the surrounds I invested in a pair of Yamaha MSP5's – which also doubled up as my nearfield monitors for stereo mixes. I had a projector and a foldable screen on a stand. I intended this outfit

to be a mobile unit so I could prop it up wherever the production team would set up their edit facilities. I soon realized that the concept of travelling with this unit was becoming too cumbersome. I had all the basic equipment by now but I didn't have a place – all dressed up and nowhere to go! It was then that I decided to set up shop in my fairly long living room at home with some basic acoustic padding. I dare say that my living room was sounding much better than many studios that I have worked in. I would check my design and mixes in various mixing stages and was quite happy with the outcome. However, for music and song mixes, I would still have to depend on proper recording studios as the Pyramix was not compatible with most of the Protools DAWs in studios. The Pyramix had excellent sound quality and their own proprietory plug-ins that were seriously something to reckon with. But it was slow. The editing, file naming, etc were very sluggish and even though I had configured my PC as per their recommendations, there were constant issues between the PC and Pyramix which ate into my precious

time. But I did carry the workstation along to wherever I mixed my films and it would play out really well. I don't want to boast, but the interface was in my head and I knew that my little 5.1 living room facility was like a 'Surround Nearfield' monitoring system. Ofcourse, I had to tweak some for a bigger surround environment, but the mix was 90% there! Eventually I realized that I now had to move into a commercial space as I was beginning to stress out everyone at home."

The Q Factor

Close to where he lived, in Andheri-Lokhandwala, Bishwadeep was lucky to find a place opposite Infiniti Mall, on the Link road in Andheri west. This area has now become the hub of the entertainment industry. "I moved in to a rented 250 square foot rectangular commercial office with a height of about 14 feet. I loved the height as I could hang my projector high and have a fairly large screen of about 7 feet by 5 feet. Having run out of funds, I did a make-shift padding up of the walls and the ceiling. A wall-to-wall carpet on the floor. This was heaven compared to what I had at home. My white picture screen was a Bombay Dyeing bedsheet, which had the perfect 'audio transparency' for the speakers that I would place behind the screen fabric. It was enough to arrest early reflections. That's how my studio -**Qfactor** was born!

Shortly afterwards, I upgraded to the Protools and the Genelec 1037C's with a matching Genelec Sub-woofer as my main monitors. I needed more 'power'. I dedicated the Yamaha MSP5s to the surround and bought a new pair of the Genelec 8040 for my stereo mixes. Apart from Music, the 1037C was great at handling 'transients' and the dynamics of film mixes."

Bishwadeep was also doing a lot of recording for ad-films and felt the need
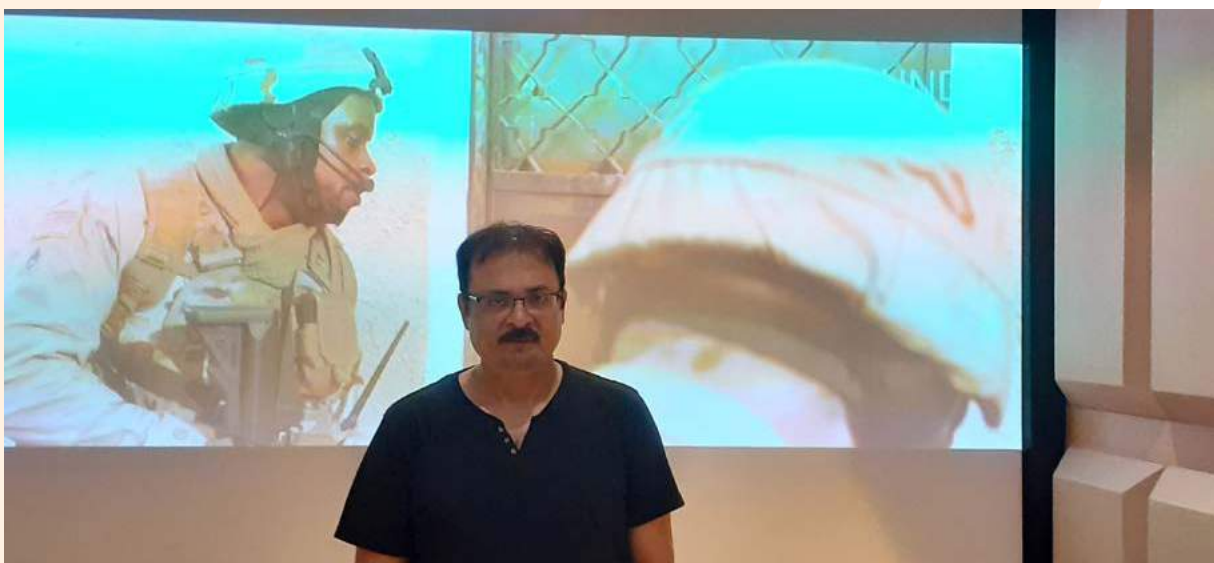
The cinematic professional screen behind Bishwadeep is tightly woven and has a minimum masking effect on the High frequencies.

to come up with a recording studio around Bandra to mainly cater to advertising. "I met a budding actor and voice artist **Abhishek Pandey** through common friends and he too was working on the idea of a recording studio as he had space. We got together as partners and opened **Orbis The Studio** at Khar in 2007. **Orbis** has in the past also won an IRAA award for *Best Recording Studio - Ad film*."

Meanwhile, Bishwadeep bought the unit housing Qfactor and decided to turn it into a small Atmos-ready mix room by properly designing the studio. "Continuous work in the studio was preventing me from executing the planned overhaul. After finishing work on Vinod Chopra's '*Shikara*' and Mohan Krishna Indraganti's Telugu film '*V*', the lockdown due to Covid was enforced. I utilized this time to work on my studio design. Shortly afterwards, a partial relaxation of the lockdown was announced and the labour force started returning to Mumbai from their respective home towns, I got busy executing the studio design work. Many offices in our building had permanently shut down due to the lockdown. I was probably an idiot who was building a studio with whatever funds I had left in my account, given the uncertainty that was to follow. But I had no choice⋯"

Qfactor started taking shape with a massive 11 feet X 4 feet bass-trap concealed in the ceiling above the screen. "I reinforced a side wall I share with the adjacent office, with a brick wall 3 inches from the outer wall. I then treated the whole room with a combination of high-density foam, rockwool and glass-wool. The wooden floor sits on a combination of rubber mats, rockwool and plywood isolated from the inner walls. Wood has a 'spongy' effect when compared to hard tiles or parquet flooring, which is ideal for good and uniform frequency response. The entrance door on the back wall is curved - giving it a 'semi-cylindrical' shape. Double doors lined with magnets at the borders ensure that there are no gaps when the door closes. Now there's a professional screen in the front which is tightly woven and has a minimum masking effect on the High frequencies. I invested in an expensive Laser *Viewsonic* projector which gives a sharp and bright visual quality. 4K projection isn't necessary for me, as we usually work with offline low resolution picture quality. I have wired for overhead speakers which I will eventually mount after upgrading my hardware." Bishwadeep is now very happy with the end result because the room is sounding exactly like what he had wanted it to sound. "It is a very labour-intensive work beneath the fabric finish in terms of material used," he adds.

At Qfactor Bishwadeep is running the Protools Ultimate on the old Mac pro tower, with the Omni interface among other things. "I will shortly be upgrading the computer to the new Mac Pro (Cheese grater), the MTRX Studio and the S1 controller. The MTRX studio will obviously provide the extra outs for my overhead speakers. Qfactor is now Atmos –ready! This reminds me, when I was working for the film Madras Café, Dolby came out with this wonderful new format at the time called Dolby Atmos. I wanted this new format for Madras Café since I thought that it would complement the subject big time! I hung two speakers from the ceiling to get the feel of a chopper flying overhead in the theater and needless to say, it was a very exciting experience. Madras Café became the first Indian film to be mixed in Native Atmos. It also gave me my first National Award as a Sound Designer. Since then, all the films that I worked on were in the Dolby Atmos format." Bishwadeep's current projects in Atmos include **Karan Johar**'s *Brahmastra* and *Attack* by **John Abraham**.

To give the *PT* team a feel of the new suite, Bishwadeep played a small sequence from a film that he had worked on called *Chintu Ka Birthday* directed by **Satyanshu** and **Devanshu**, which is about an Indian family stuck in Baghdad, when the Gulf War breaks out, with Vinay Pathak playing the protagonist's role.

Audio post production is arduous and time-consuming (and also monotonous to the unimaginative) but not so for Bishwadeep. The film was shot in an indoor set in Mumbai and Bishwadeep was tasked with having to create Baghdad from his studio. The time and effort that had gone into the seemingly small and minor details like bomb explosions and gun shots and the reference he had taken from the earlier CNN coverages of the first Iraq war was evident. The sound actually surrounded us in the true sense and added a potent layer of significance to what we were watching on screen.

Students at the Timbreworx Advanced Film Audiography Institute (TAFA) with faculty members Bishwadeep Chatterjee (top) and Nihar Ranjan Samal (below)

CELTO ACOUSTIQUE

CELTO team at Prolight + Sound Frankfurt 2019. Left to right - Xavier, Siddharth Sood, Alain Pouillon-Guibert, Nicolas Lucas, Arthur Felix

Established in 2011, CELTO Acoustique is a premium manufacturer of professional audio products for the events and install industry.

F ounder, owner and CEO - **Arthur Felix** first displayed his entrepreneurial skills at the age of 14 when he built his first loudspeakers with his father in their garage. He manifested these skills by starting his own audio consulting company, AG AUDIO PRO in 2003 which designed custom installation speakers for clubs, theatres and auditoriums. In 2006, he partnered on a new professional audio brand – AUDIOCENTER. Eventually, Arthur decided to start his own manufacturing facility in 2011 and started developing the CELTO Acoustique brand. Today CELTO has grown to be one of the fastest growing

Demo room at CELTO facility

Pro-Audio Companies in the world with a growth rate of 1500% over the last 7 years.

Under the leadership of well-known French engineers **Alain Pouillon-Guibert, Mr APG** (CTO) and **Arthur Felix** (CEO), CELTO's research and development is based on exceptional European engineering practices, from which stems CELTO brand Tagline - *"Engineered Beyond Expectation".*

The Company is young but the global management team brings with them

CELTO
acoustique

over 110 years of experience in the professional audio and sound reinforcement industry.

To maintain required design, production standards and quality control, CELTO develops and manufactures all products within their modern onsite

facilities. This includes state-of-the-art R&D centre, critical transducer design, electro-acoustics, complete manufacturing, painting and assembly. CELTO continues to build a global distribution network and to date have built strong business relationships in 37 countries

which also includes four CELTO Acoustique owned and operated distribution and service centres statically placed for quick delivery of their products to their network.

CELTO's 100,000 sq feet totally integrated manufacturing facility includes –
- Wood workshop with 4 CNC auto loading machines,
- 4 environmental compliant paint booths,
- Fully-automated Transducer production line with up to 2000 woofers per day ,
- System Assembly - 4 production lines, 300 speakers per day,
- Office, Demo, R&D facility,
- Industrial 3D printing for samples,

The CELTO range of products include:
- Professional loudspeaker - Point source and Line source
- Professional Power amplifiers
- Networkable digital processing

CELTO ACOUSTIQUE INDIA

To show its commitment to the Indian sub-continent, CELTO Acoustique India was incorporated in 2017, to offer Sales, Service and Marketing Support. Headquartered in New Delhi, CELTO has a young, dynamic and growing team which looks after CELTO's operations in India through a dedicated CELTO Experience Center as well as Centralised Warehousing, Service & Tech facilities. Within a short period it has had a fantastic run with 300+ installations throughout the country with a growing Network of Channel partners in all provinces. Moreover, key rental companies are also recognizing the CELTO Advantage.

CELTO will exhibit their range of products at **PALM expo 2021** at the Bombay Exhibition Centre, Mumbai from May 27-May 29.
For more details contact:
moshe@celtoproindia.com *or* siddharth@celtopro.com

Wood workshop at CELTO facility

CELTO India experience center at New Delhi

Bishwadeep Conceptualizes Sound Design...   *(Continued from page 35)*

"I had to create Iraq here in this room of mine. It's a very time-consuming job. There are hundreds of tracks that you are working on and I also had to be careful to not overdo the whole war sequence so that it does not interfere with the drama," he explained.

TAFA Times Ahead...

"Encouraged with the success of my little sound design/mixing room, I, along with my partner and ace Production Sound Mixer and Sound Designer – **Nihar Ranjan Samal**, opened another two such studios to handle the workload between our projects. We call our

company **Timbreworx India**. "

Both Nihar and Bishwadeep were being invited to FTII (Pune), SRFTI (Kolkata) and several private institutions to hold workshops, masterclasses, seminars and presentations on Sound Design and Production Sound in cinema. Many of these institutions would request them for internships for their students. It was then that they decided to open an institute of their own that would focus on imparting specialized training in Film Audiography and thus the **Timbreworx Advanced Film Audiography Institute** or TAFA was born. "There are many institutes providing training in

Music Production and Recording, but apart from FTII and SRFTI, there were hardly any places that would provide training on location recording, film post production and Music recording. Our studios become classrooms early mornings from 8.00 am to 11.00 am, 6 days a week. We believe in backing up theory with intense practical training. We have our music recording practicals at Orbis. We have been recording songs with singers, composers and musicians from the industry. I have designed this concept in such a way that both the students and independent artists benefit mutually. Aesthetics and sensibilities

go hand in hand with practicals. Our footfalls are gradual as we don't want to bite off more than we can chew, but we are getting there. Unfortunately, the second wave of Covid is preventing us from admitting the next batch of very eager students, but we are hoping that normalization comes soon.

Being practicing professionals in the film industry, both Nihar and I treat our students as potential professionals of the future. When students are joining us, they are not joining an institute – but they are directly joining the industry! Hence our motto- *Professionals for Professionals!*" he concludes.

15th edition
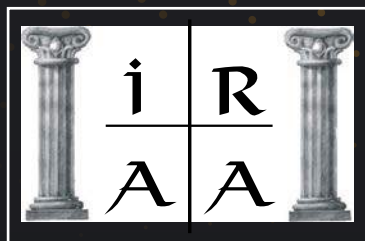
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Acoustically OdBle

With Vijay Benegal and Mujeeb Dadarkar

Vijay Benegal and *Mujeeb Dadarkar* have between them more than 4 decades of extensive experience in the audio industry in India. They have done it all, from recording and mixing for ad films, to doing live sound for renowned artistes, from recording and mixing music in the studios to designing studios, performance spaces and more and teaching in various audio institutes across Mumbai.
Having founded OdBle in late 2004, the duo began their journey into acoustic consultancy adding prestigious projects into their profile. In this interview with *PT*, Vijay and Mujeeb describe their journey in this industry and share their perspective and experiences in the acoustics domain.

Tell us something about your background. How did you find your calling in audio engineering? Any main early influences?

Vijay: I would probably say my early influence was my dad who was very much into music, so music was always an integral part of my life. When I got to college, I met Shantanu Hudlikar who was in the same batch as me and we hung around together a lot and spent a lot of time listening to albums. That was the point in time when my whole attitude towards music changed. After college I worked for 3 ½ years in computer software development, completed my MBA in Manila, Philippines, after which I jumped three jobs in one year. I was very unhappy with what I was doing. My brother's band Rock Machine was recording their second album around the same time in a studio called Music Room, where Shantanu was the chief recording engineer. I would spend all my free time in the studio, observing and getting an idea of what transpires in the studio. One night when I was complaining to Shantanu about my job, he told me they needed another engineer and to consider it as an option. That's when a loud bell rang in my head and I realized that this was my calling. So, I would say Shantanu was an early influence and Ehsaan Noorani too as I worked a lot with him in the early days.

Mujeeb: Formal education is in electronic engineering. I was always an avid music listener, but I never thought I'd end up making a career out of it. When I came back from the US, I was working for a consulting engineering firm in Bangalore and Rajesh Jhaveri along with his cousin was building a studio in Mumbai. A friend asked if I could help set it up and that's how I came back to Bombay and helped set up the studio and got involved in this field. This was in 1984 and I roped in another friend, Rajiv Kenkre to help me set up the studio. Rajesh then asked us if we could also run the studio for him and that's how my journey in this industry started. I worked in a studio called Rave after that and after Rave folded in about 1989, I went completely the freelance way, as a result of which I used to go to Music Room as well and that's where I met Vijay.

In those days studio sound engineering was a lot about trial and error, but in those days, the business wasn't as big or as politically complicated as it is now. It was fairly common for random people to show up at the studio and hang around, so people had an easy access to knowledge and trading information.

How did OdBle come into being?

Mujeeb: I had already done some

Mujeeb Dadarkar (l) and Vijay Benegal (r)

projects as a consultant and I was having a hard time dealing with so many irons in the fire at the same time. At some point, I spoke to Vijay and I said I have a new, upcoming project and I don't think I can manage it by myself. That's when I thought of formalizing this and getting into business together.

Vijay: We could fill in for each other so one of us would always be available to the client.

But did you start OdBle because you were bored with what you were doing and you thought we should do something else?

Mujeeb: Not really. My work continued. Also, by that time, I had almost recused myself from the mainstream advertising business. I haven't done recordings for commercials from more than 10 years. I found myself losing interest in coming in at 8:00 in the morning and doing a remix because the client doesn't like it or because someone decided to try another voice.

Vijay: Many aspects of the advertising world were changing and not in a nice way, at least not for us. It was more of a pain or an imposition and we were losing interest as well as the creativity. We were just getting mechanical at the job. Mujeeb backed out of it much before I did and eventually I did too. For a long while, I only had one client in the advertising world. I did whatever work came from the film business as it was more interesting.

Mujeeb: Advertising expanded hugely and it became a business of volume rather than that of quality, which explains why you can't remember a single jingle from recent times, but you can from the 80s. Eventually, everything just became mechanical and boredom set in. Around the year 2000, I said to myself, I will only do the work that I'm interested in so I started going on tour for live performances, whereas Vijay sort of focused more on feature film music. Of course all this was independent of OdBle.

Is it easier to start a venture with friends or is it more challenging?

Vijay: More often than not money is always an issue when you start a business together and, this is one of the things I stated to Mujeeb very early on in our partnership, because I knew that this could destroy the relationship. I have always believed and it's something I learnt during my MBA, that friendship and business don't go together. If you are getting into a partnership with your friend, both have to be very clear. So at the very beginning I told Mujeeb, I don't ever want to get into an argument about money. I trust you and you have to trust me and everything should be split down the middle, whether it is expenses or profits.

But we don't shy away from arguments where work is concerned. We've had enough arguments, shouting matches, where technical and creative decisions about the project come in but that's part of the process, and we will eventually come up with the design that we are both happy with.

Tell us a little more about OdBle. What are the services OdBle offers?

Vijay: We offer acoustical consulting services which apply to any space that might require to be treated acoustically. We have also had some unusual projects come to us like treating somebody's kitchen.

Treating a kitchen?

Mujeeb: Yes. We got called by a client who had an unusual problem. In his home he had moved his kitchen to where the bedroom was earlier for Vastu reasons. The banging of kitchen cupboards and pots & pans was a constant source of irritation and disturbance to the neighbour who had his bedroom on the other side of the wall. The client had moved his kitchen intentionally, which is a noisy environment, to where the bedroom was without thinking that the neighbor had his bedroom on the other side. Now he wanted us to treat the room and make it soundproof. So we also get such types of strange projects.

Vijay: We have also done some interesting live venues. Our services are not limited only to designing the internal acoustics but also analyzing the qualitative aspects of audio inside the space. We also get involved in the specking and integration of systems that may be required.

Do you find it difficult to manage unusual expectations?

Mujeeb: No. The difficulty is usually that you have the brightest ideas in the world, but not bottomless pockets. Everything is possible provided you have the ability to throw enough money. So, in our business, you don't just have to find a solution but you have to find a cost-effective solution and that is where the difficulty lies. Sometimes we surrender and sometimes you have to say this problem can be solved but it costs an inordinate amount of money. Also, we have to be honest and consider if the client can justify that expense. I can't imagine getting a client to spend a large amount of money just to solve a problem that has no commercial benefit or ROI for the client in the long term. Whatever we do should be in the client's interest, even if he doesn't realize it at the time. We do not want to be the cause of the client spending large amounts of money to achieve something that he thinks is right but is actually not beneficial for him. He should then be told the truth and after

that if he still wishes to go ahead then we are fine with it.

Vijay: On occasion, we've been called in to solve a problem that somebody else has done with an attitude that this is the way the client wanted it. On many occasions right advice has not been given to the client and we have had to say that you need to tear this down and build it again.

Mujeeb: And this is painful to anybody. Now, the guy before us chose to do this, and you agreed with him because you didn't know better, or you thought he was advising you correctly but now it turns out to be a problem. In fact, I think we at OdBle were responsible for turning down more jobs than we should instead of getting involved in a situation where we have to say that you wanted it. In all the classes I take, I make it a point to tell my students there's a concept called gold plating. Gold plating is when the client can afford to have his water taps gold plated, and so he insists on it, but the water coming out of the taps will still be the same that the water department is supplying. I find it very hard personally to be able to justify that we did it because the client wanted the taps gold plated.

Vijay: There was a studio we did wherein for the outside of the door which was facing a public area the interior designer wanted full teak but we said that's way too expensive and let's do teak veneer instead.

Mujeeb: All the nine doors in the premises had the teak veneer and were hand polished and looked fabulous.

Vijay: After this was done the interior designer comes to us and says "I think we should paint it blue."

Mujeeb: And we're thinking to ourselves, if you were going to paint it blue, we could have left the plywood, what's the point of the fancy teak which cost the client six lakhs. The client however was ok with painting the doors blue because he felt the designer had the liberty to change her mind. But if we would have told the client to buy another preamp which costs three lakhs, he would have asked us if that would get him more money.

You both started as sound engineers, was acoustic consultancy a natural progression? Was there any formal training or was it all learning on the job?

Mujeeb: No, it isn't like that. It was a peripheral idea that always existed in an informal sort of way as it's an allied line of business.

Vijay: I would say it probably just happened organically because as a studio engineer you also start understanding the intricacies of the studio acoustics.

Mujeeb: Neither of us have any kind of formal education on how to make a studio. We know it because we have

lived in these environments for a long time and have dealt with so many variables that we have learnt to figure it out. For instance, having seen or even helped build soundproof doors in past we are well placed to give 'sound' advice but that's not possible while you are sitting and mixing someone else's project.

So can we say it is easier for sound engineers to become acoustic consultants?

Mujeeb: I wouldn't say that. Being a consultant requires domain knowledge in areas that are different from sound engineering. If you're going to build a studio, you need to have the ability to deal with civil engineers, carpenters, with structural consultants and all other consultants or a vendor which is not part of your domain knowledge as an engineer.

Vijay: Also the science behind acoustics, the physics and the theory behind it is very complicated and requires a lot of self-study.

Mujeeb: You have to get back to the texts, study them and try and figure out what applies to your current problem, and your backlog of experiences puts up a flag in your head that says, "Yeah, I've seen this problem before and this is what we did to tackle it, then."

It's not an education in the formal sense. It's the sum total of who you are and the experiences you have collected along the way. Sometimes those experiences also mislead you. For instance, you many have a bias towards certain products because of your past experience with them but you may not have the same experience in today's digital scenario. You have to step back at this point and like Vijay said, go back to the books. Also, things change down the years, because technology evolves and sometimes an improvement the manufacturer did not claim turns out to be useful.

It's the same thing with acoustics. Acoustics is called an imperfect science because we know all the facts and theories, but you can't control all the parameters. So, you have to do your best to build a space that is going to sound neutral, and if you're lucky, it's going to sound good and if you're terribly unlucky, or alternatively, you've done pretty much everything wrong, it's going to sound bad. Now, to fix a bad job is serious because that is always going to involve a great deal of grief, time, effort and money. Usually the architect or the interior designer is at fault because they don't have a clue about sound and acoustics. All I'm saying is why doesn't it occur to clients to get advice on this first, before actually spending money.

Vijay: On the other hand, if in the beginning itself the clients decide to get a consultant on board, the architect

will say, he can do it just as well because he has done one semester on architectural acoustics. It's a different story that they screw it up and the client then has to spend more because then we will have no other option but to tell them to tear it down.

With OdBle which was your first project?

Vijay: Bandwagon Studios. We began the designing work in 2004 December and the studio was launched in 2005.

What are some major challenging projects you have completed under OdBle?

Vijay: I think one of our most interesting and challenging projects has been a project by the G5A Foundation called Black Box and I'm glad that we took it up. It is a unique, multifunctional space, which has just completed 5 years. It is literally a "black box" used for screenings, conversations, performances, presentations, workshops, etc. It was designed with audio systems which fire in two different directions. The clients wanted one sound system set up in three different ways, so that was a new challenge to work with.

Mujeeb: Plus, they wanted variable acoustics wherein the place would sound naturally reverberant as well as dead. Cinema requires acoustically dead spaces but if you're doing a live play without amplification, you want the place to be as live as possible. They wanted the system to be able to operate in two different orientations, as well as for surround cinema, as well as for unamplified performance. There was a long list of challenges on this project. When they came up with the specs, we initially felt this is crazy as it was incredibly complicated, but we wanted to be flexible as well.

We would have these marathon meetings (which included a lot of arguments) with the ladies running the place, starting at 10 in the morning and sometimes ending at 10 at night. They were unaware of the technical requirements for doing the acoustics of the place and we spent a long time trying to make them understand the theory.

They had a pretty good idea of what they wanted, but of course had no clue as to how it could be achieved. Eventually, they learnt to frame their requirements better and we learnt to understand their ideas better and we were able to deliver as per their brief, only just not in the way they were thinking.

Vijay: But eventually, I think they were really happy because it has been better received than they ever expected.

So as acoustic consultants, what kind of projects do you prefer? Clubs, studios, auditoriums?

Vijay: No preferences. Studios, auditoria, classroom, boardroom - we are open to everything. It would be nice to do another interesting challenging project like the G5A one.

So how is designing a club or auditorium or even a broadcast studio different from designing a music recording or post production studio?

Mujeeb: Basics are the same, the ultimate end purpose of the space is different and we make allowances for that. The science behind isolation or internal acoustics or equipment is all the same. Ultimately, that's driven by the client and what the client expects to do with the space.

Vijay: The first question one has to ask is what the intended use is. So even with G5A we had extensive meetings discussing what they were actually going to do with the space. So effectively, that understanding of the intended use is fundamental and the foundation of what happens with this space eventually.

What is the biggest acoustic 'mistake' that you come across in studios?

Mujeeb: You will not find major mistakes in professional spaces in my opinion, because obviously people taking the calls are more sensible than that. Amateurs, who have just decided they want to make a studio or build a restaurant which is going to have noisy, loud music, mistake internal acoustics for isolation. It is not clear to them that isolation is completely different from internal acoustics and from this stems the idea that we can just put foam somewhere and everything will be fine. They don't understand that this does not prevent the sound from traveling through, it just changes the way it sounds within the room. So, this is actually the biggest "non-industry" mistake.

When it comes to monitoring, what's the most common monitoring mistake people make either in terms of position or process?

Mujeeb: Getting monitors bigger than the space can support is the biggest mistake. People will set up monitors that are too big for the space and then wonder why it all sounds bad. The reason they do, is to impress clients with big monitors. There are so many studios that have large consoles, which are hardly ever used. They're only there because the client will not pay you 4000 rupees an hour if you show them a tiny little console.

Ideally, the room should be designed around the monitors. If the client has already decided on a certain pair of monitors, then he or she should allow us to design the room around the monitors, not the other way around. If it's the other way around, then you're going to have to take a call based on

the modalities of the room and which speaker is going to work best in that environment.

With technology becoming global, do you think the whole attitude now is who needs acoustics? With all signals being recorded in digital memory, does the studio require any acoustic treatment? This whole transition to digital has resulted into the decrease in big studios and emergence of small home studios that are all just digital! Do you think digital has killed the studio industry in a manner so to say?

Vijay: You have to play it back, do you not? You have to listen to it, right? So we use loudspeakers to listen to it, which means, it is generating sound. So what actually is acoustics? It's about treating qualitatively the aspect of the sound. It doesn't matter whether things are digital or analog. Eventually, it will be analog, because the sound will come out the speaker to our ears. Acoustic treatment will always be necessary.

Mujeeb: Acoustical problems can only be solved acoustically. You're in a closed environment, and that environment is going to contribute, which means acoustics are still important. More people are in fact becoming conscious that acoustics is important. Now whether they're willing to spend money doing it or not is a separate question. Many may easily buy a fancy sound system for 20 lakhs but resist the idea of spending 10 lakhs for acoustical treatment.

So, now that a lot of small home studios are coming up, do you think the concept is changing?

Mujeeb: With home studios, many times the owner hasn't been a part of the professional circle long enough and they will not mind spending money on fancy equipment, but they will resist spending money on acoustical treatment. It's not until they regret it that they understand the importance.

Vijay: A lot of music is being produced in the bedroom. When you are playing an instrument, shouldn't it sound the way you want it to sound? If your bedroom is not acoustically treated it will react in a particular way and that's what you're going to be hearing. Is it correct? Is it accurate? Does it sound the way you wanted to? Maybe it does, but when you take it to the studio it will sound terrible and then you will wonder why it is sounding like that when it was sounding fantastic at home. This is because your bedroom does not have the neutral acoustical character of the studio. So, acoustical treatment it is essential. You don't have to make your bedroom into a studio. But you should be able to apply some amount of treatment to get as neutral a character as possible. Acoustical treatment of your environment, in principle is essential for

any kind of audio production, whether it's in a studio, or whether it's in your bedroom.

Mujeeb: Also, you don't want to bother your neighbors.

Do you think digital is actually killing big studios?

Vijay: To some extent there is an effect on larger studios. Worldwide and not just here, a lot of the big studios have actually closed down or found alternate uses for the spaces that they have.

Thanks to technology, you can program a string orchestra on your keyboard. It doesn't sound exactly like a real string section but it's possible to do it and if you're really good at the job you can probably make it sound almost as natural as a real orchestra. So now studios, with large halls which can accommodate 60 to 100 musicians at a time, are not required as much. So yes, digital production and digital technologies have had quite a severe impact on business for sure, but I don't think it's completely killed off the big studios. There are still productions that do require the use of large spaces. Large film projects will want a large live orchestra for the background score recorded and you can only do that in a large studio or a large space.

So do you see a comeback of the big studios?

Vijay: Not the way that it used to be. In the earlier days, why was the big studio required, because the technology of that time required the space. You didn't have bedroom composers recording in a studio.

Mujeeb: I have a different take on this. Most objections that you hear about the whole digital wave is that, the old way of working is gone and we miss the days of acoustic recording of everything. Technology has empowered more people, and cost vis-à-vis time and effort has come down. There was a minimum level of infrastructure that was needed before you could do a recording earlier, but now that has come down to a point where you can successfully set up a recording studio at home and with a little bit of acoustical treatment and with reasonably priced equipment reach the same quality standards that a professional studio 20 years back might have achieved, which was simply not affordable for the home musicians at that time. The problem is that technology has empowered people to make music at home. One person composes, somebody else does the strings in his home studio, somebody else does the drum session in his own studio and somebody else does the bass parts in his own studio while somebody else records the vocals and some other guy mixes it and yet

another person approves it. We are no longer interacting and because you don't interact, all projects end up sounding more or less the same. Earlier, 20 musicians, engineers, producer, composer, everybody in the same room at the same time, meant things evolved and moved something from good to fantastic. That doesn't happen anymore, because there's no interaction. To me that is a bigger problem than the technology. My regret is not that we are no longer recording songs, but we have reduced human interaction which does not help creativity. Creativity comes from bouncing ideas off other people. Now if that stops, then what you hear these days is going to be the result.

But then Abbey Road or Nashville, have been there for decades, what do you think could be the reason?

Vijay: You are not wrong. Abbey Road as a studio is a brand. But that's not the only studio that has become a brand. There are many studios in the US which have been known over the years and they're still functioning. There have been revivals of some studios but obviously as a brand, they're not the same. There are people who are deciding that they want to revive the studio, redesign it, and maybe move into a new location but with the same name. That is happening.

So as sound engineers do you prefer the old style, big rooms accommodating the entire band.

Mujeeb: Even with new digital technology, nothing is stopping you from working together. The point is we have changed the way we function because of which there's a huge increase in mediocrity and it is not a natural byproduct of the technological process. It is because the price point of that technological process has come down to a point where you can afford to do these things at home. What you don't realize is in the same way that the technology has empowered you it has also handicapped you because you become an island. You're sitting by yourself in your home studio, no matter how nice it may be, but you're not interacting with anybody else involved in the project. That to me is a bigger defect in the process. You haven't interacted with anybody or thrown ideas back and forth or fought over the correctness of things. Everybody interprets music differently or else every orchestra playing the same piece would sound the same. If you take away human interaction and just following the rules, it may all be correct, but it doesn't add any value to the project. It's one thing to be technically correct and one thing to have some emotion. Ultimately, enjoying music is the transference of an emotion and if

you haven't conveyed that, what have you done? What is happening now is we're reducing things to the lowest common denominator and losing the meaning of the human character. If Vijay is saying big studios are not going to go away, I would actually be a little more optimistic and say more big studios are going to come back. Eventually people will realize that the fault is not in the technology but in the way we are engaging with it.

You'll have done home studios as well? Where budgets are concerned what is the kind of budgets people are allocating for home studios? And do you think that justifies the work that you do?

Mujeeb: Till today we have not got any client, whether it's a big studio or a home studio, who said money is not an object, spend as much as you want. The point is, what do you expect to achieve and what is the reasonable amount of money to spend on it. This depends on the person. There are people who we call fancy, who are agreeable to spend a lot of money. But there are also times when you have somebody who is really talented but can't really afford to do the best that they should have.

Vijay: We also function in two modes, one as consultants and the other is turnkey execution. Generally

speaking, the turnkey solution might, in an overall sense, turn out to be more expensive. If the client has his own set of contractors, most likely they will be cheaper than the ones we use, because we are using highly skilled labour who have their price point. In this situation, we'll give the clients all the details and drawings etc. and they can get it done themselves. So we need to adjust and consider if it is really worth putting in so much effort, plus a lot of it has to do with relationships as well.

Mujeeb: We have found over time that typical office and home contractors are just not able to get the job done, because they don't understand why something was written down in a certain way. Sometimes you have to predict and tell the client that we know that your guy is cheaper but he's going to make you do the same thing three times over and the cost of lost labor and lost material is going to be much more.

What do you think will be the big challenges in future (if any) when designing studios?

Vijay: We have to always stay current with technology and materials. Also certain aspects of the science of acoustics change; there are always some new theories being proposed as to how to apply it.
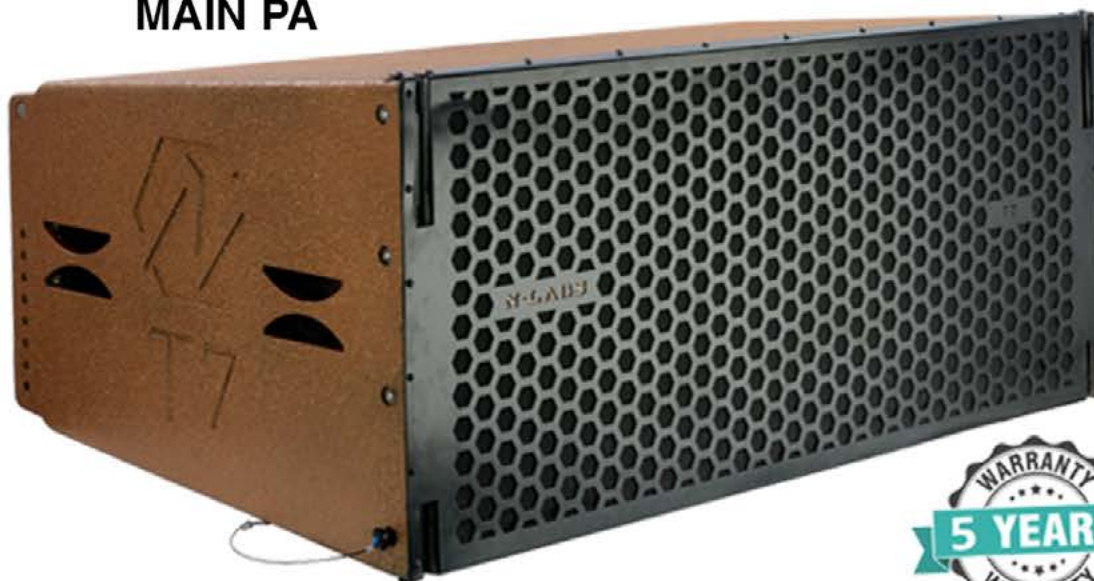
Creating Music

Ableton Live 10 Lite

Included with a number of apps and hardware products, Live 10 Lite is a lightweight version of Ableton Live 10. It comes with all of Live's essential workflows, instruments and effects – everything that is needed to record songs, create hands-on with the controller, take music made in the apps further and so much more.

Main Features include:
- Unique Session View for quick, intuitive composition, flexible performance and improvisation
- Nondestructive editing with unlimited undo
- Multitrack recording up to 32-bit/192 kHz
- Powerful MIDI sequencing of software and hardware instruments
- Advanced warping and real-time time-stretching
- Group tracks
- Use multiple levels of groups to mix with greater flexibility and manage detailed arrangements more easily.
- VST and Audio Unit support
- Time signature changes
- Multiple automation lanes
- Track Freeze
- Capture MIDI
- Automatic plug-in delay compensation
- MIDI remote control instant mapping
- MIDI output to hardware synths
- MIDI Clock/sync
- ReWire
- Multicore/multiprocessor support
- WAV, AIFF, MP3, Ogg Vorbis, FLAC file support
- Ableton Link
- 8 Audio & MIDI tracks
- 8 Scenes
- 2 Send and return tracks
- 8 Mono audio input channels
- 8 Mono audio output channels
- Complex warp modes
- Advanced algorithms for stretching audio, ideal for working with mixed audio or full tracks.

AVID Pro Tools Ultimate

Avid Pro Tools redefined the music, film, and TV industry, providing everything needed to compose, record, edit, and mix audio in the studio or in the cloud, from anywhere. Avid Pro Tools | Ultimate sets the stage for Avid Cloud Collaboration and flexible options, so users can access the industry standard in more affordable ways than ever.

Main Features include:
- Hundreds of tracks and a wide range of plugins including support for Voice Expansion Packs
- Powerful recording, editing, mixing and automation tools
- Latest features like Folder Tracks and improved video playback upto 4K /120 fps.
- Track presets for quick and easy recall of track settings.
- Elastic Audio for quick rhythmic or time-based adjustments.
- Create and work on sessions in surround & immersive audio formats like Dolby Atmos & Ambisonics
- Support for Pro Tools HD hardware options like HD Native Thunderbolt, HDX, HD OMNI, HD IO, HD MADI, MTRX, MTRX Studio, Sync HD
- Advance automation features like Preview/Capture, Glide, Snapshots
- Use Clip Effects to apply real-time EQ and dynamics to a single audio clip or clip group.
- Multiple video tracks and files in a single session
- Included Avid Complete Plugin bundle (115 plugins)
- Get closer to the analog sound with HEAT (available in subscription licenses)
- Free software updates and support for 12 months from date of activation
- Connect and collaborate with music creators and audio professionals to expand your creative opportunities using Avid Link.

FL STUDIO 20

FL Studio is the complete software music production environment, everything you need in one package to compose, arrange, record, edit, mix and master hit music. FL Studio 20, comes with the classic features including the Graph Editor, Precomputed FX, plus updates to the Channel Sampler.

Main Features include:
- FL Studio is now available for macOS 10.11 and higher. It's a native 64-Bit application Including support for Mac VST and AU plugins. Projects made on Mac and Windows are interchangeable. Project interoperability extends to 3rd party plugins installed on both platforms.
- FL Studio supports Time Signatures, including unlimited Time Signature changes, independently in both the Playlist and Patterns (Piano rolls).
- Bounce selected Audio and Pattern Clips to audio. Options include; Consolidate Playlist Clip selections or complete tracks. Render Clips to Audio, Render Clips to audio and replace Playlist Pattern Clips.
- The Playlist now supports multiple 'Arrangements' (Playlists). Each Arrangement is the complete layout of Audio, Automation and Pattern Clips.
- Plugin Delay Compensation (PDC) and Automatic PDC have been rebuilt, from the ground up, to support today's complex workflows. Manual and Auto-PDC can now co-exist. Updates include: Mixer send compensation, Wet/Dry mixer FX compensation, Audio input compensation, Metronome compensation, Plugin Wrapper custom values remembered per-plugin and improved PDC controls in the Mixer.

The most creative tool in your studio is the Digital Audio Workstation (DAW). The music production software has enabled musicians and engineers to change their visions into a reality. Whether starting a song or putting in the final mastering touches, the DAW has enabled creating music fast and easy. PT has put together some popular DAWs in the market today.

PreSonus Studio One 5

Studio One 5 is a music-creation and production application for macOS and Windows that makes audio recording, MIDI sequencing, and audio mastering easy and fun. From tracking to mixing to mastering and distribution, this is a creative environment built for intuitive use, speed, and efficiency.

Main Features include:

- The only DAW that allows to compose, record, produce, mix, master, and perform all from a single, intuitive application
- Available as standalone or as part of the PreSonus Sphere membership
- Score View for traditional notation
- Use recorded assets to bring studio sound to the live show; play virtual amps live; sequence and re-arrange Setlist all from the new Show Page
- Completely redesigned Native Effects plugin suite
- MPE/Poly Pressure support for advanced MIDI instruments
- MTC/MMC synchronization
- Intuitive single-window work environment; quick and easy drag-and-drop functionality; multi-touch support.
- Unlimited audio and instrument tracks, advanced automation features, virtual instruments, buses, and FX channels
- Console Shaper emulates sound of analog console with control overdrive, noise, and even true channel crosstalk
- Chord Track manipulates audio and note data of any or all tracks for Harmonic Editing and song prototyping
- Five virtual instruments including: Impact XT drum sampler; Presence XT virtual sample-player; Mai Tai polyphonic analog modeling synthesizer; Mojito monophonic subtractive synthesizer; and Sample One XT live sampler and sample editor
- Patterns allow for intuitive drum and melody composition via familiar drum machine/step-sequencer style UI.

Steinberg Cubase 11

Cubase 11 comes with a range of workflow and performance improvements to its studio-grade audio and MIDI tools for composing, recording, editing and mixing. Cubase 11 is for music producers, songwriters, engineers and composers and those who aspire to become all of these.

Main features include:

- Advanced Audio Export: Save time with new export queues
- Sampler Track 2: New creative features including slicing, LFOs and legato glide
- Scale Assistant: Follow, quantize and play live to a set scale
- Advanced Key Editor: Create perfect pitch bends and more
- Frequency 2: Precise dynamic EQ for better mixing
- Squasher: Improve leads, tame bass and enhance reverb for EDM
- Score Editor: Workflow improvements and beautiful new fonts
- New Samples: Six fresh, exclusive sound and loop sets
- SuperVision: Super-flexible, customizable metering
- Imager: Multiband stereo placement for perfect panning
- MultiTap Delay Surround Support: Delay in up to 5.1 surround sound
- Windows 10 Variable DPI: More scaling settings
- Multiple Side-Chain: Improved input architecture
- Eucon Support: Latest Avid console compatibility
- VST Connect SE 5: Resizable HiDPI-ready interface for remote recording solutions
- Workflow and UI Improvements: Refinements to make your working life easier
- SpectraLayers One: Remarkable visual editing and audio source separation

Tracktion Waveform Pro 11

Waveform is a rapidly evolving application specifically designed for the needs of modern music producers. Specializing in creative and inspirational workflows and avoiding features not explicitly needed to allow the app to remain surprisingly fun and intuitive.

Main features include:

- Arranger Track -- With the Arranger Track simply create an arrange clip to control the entire region of your arrangement. The arranger track has contemporary features such as magnetic movement, commonly found in video editors, that automatically open and close regions of the arrangement based on your selections.
- View Presets -- Edit view setups can now be saved and restored.
- Quick Action Bar -- The quick action bar is located just above the properties panel or transport bar and can be used to assign any shortcut action including custom macros. With the Quick Action Bar, create multiple workflow templates and quickly switch between them with ease.
- Quick Action Window -- The quick action window has been designed with touch screens in mind, giving access to the mixer and a number of quick action bars which can be easily stacked with the click of a button.
- 5 new MIDI tools – Arpegiator, Note Repeat, Chord Companion, MIDI Monitor, MIDI Filter
- Plugin Sandboxing – With the plugin sandboxing once activated, the work environment is protected by keeping plugin crashes contained.
- Updated Modifiers -- The new tools consist of: LFO, Breakpoint, Step, Envelope Follower, Random and MIDI Tracker
- Chord Track -- The chord track allows to visually track the musical progressions throughout the arrangement. Paired with the MIDI pattern generator, users can experiment with different chords across multiple synchronized MIDI clips..
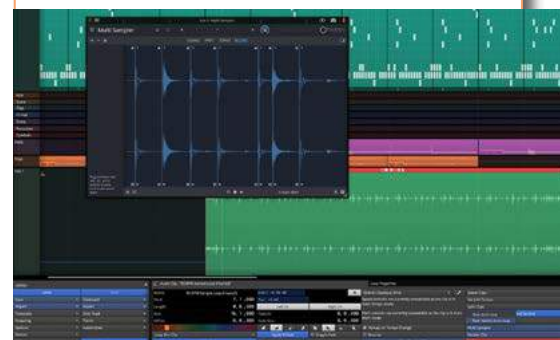
An Unequal Music

THE DIY SOUND PROOFING GUIDE

For this month's article we will be discussing the basics of DIY soundproofing for any bedroom producer at home. Building on our last article, we have discussed the rise of the bedroom producer and the factors that have contributed towards music production moving to a 'in-the-box' format that is accessible to most and that leverages technological innovations to allow

by **Abhimanyu Malhotra**, The Sonic Arts Co.

producers and engineers to achieve global audio standards using just softwares and home studios.

To begin with, let us discuss and clear what soundproofing actually does and what it does not do. Most people misunderstand the term 'Soundproofing', while the more accurate term is 'Acoustic Treatment'. Soundproofing essentially makes the room quieter by blocking out external noise while Acoustic treatment makes your room a better recording and mixing environment by absorbing excessive ambience. The most effective and ideal method is to use a combination of both techniques, however the 'soundproofing' method actually requires major structural changes if being done in an already constructed and built up space. Acoustic treatment is easier, cheaper and more accessible to the masses. There are 4 basic tactics that need to be covered in order to achieve effective acoustic treatment for any room, and these are:

1) **Adding Mass:** Adding mass or density has the primary function of preventing sound from entering and exiting a room. The walls of such a room require lots of mass, which prevents them from vibrating in response to sound energy. Adding mass to an existing room calls for additional structures to be built on the walls using materials such as mass loaded vinyl or sheet block. Such materials also have a metric known as STC (Sound Transmission Class), the higher the STC, the better the ability of the material to absorb vibrations and not transfer them forward.

2) **Damping:** Similar to adding mass, damping is a method of acoustic treatment that dissipates kinetic energy from sound waves by converting it to heat. One can use material such as green glue or rock wool, sandwiched between two rigid panels (made of drywall, plywood, or medium density fiberboard) and place these strategically around the room in order to facilitate sound absorption and room damping. Damping is meant to make a room a lot less resonant, as it prevents sound waves from bouncing off walls and prevents the buildup of standing frequencies. This is especially effective in rooms that have a prominent slapback echo, or resonant surfaces such as glass and windows.

3) **Decoupling:** Decoupling is the process of separating two structures in your room that are in direct contact with one another. This can include furniture and objects that conduct sound waves with least resistance when placed in contact with one another. The objective of decoupling is to block the transfer of sound by isolating the contact points, usually with some sort of dense and pliable rubber. Other methods can include but are not limited to: building a floating floor (using rubber isolators), building double walls (which leaves an air gap to help block out sound, can also add insulation to increase absorption), isolating layers (using resilient channels and sound clips to create a floating wall or ceiling) and isolating metal studs from the floors/walls/ceiling by applying gasket tape for absorption. This ensures that any type of resonance that develops in the room can be contained and is not amplified by the surrounding surfaces.

4) **Filing Air Gaps:** The final task for effective acoustic treatment is to make sure all air gaps and holes in the room are sealed up and are air tight. Sound can sneak through the tiniest of passages and it is vital to block these out as effectively as possible. Common tools used to plug up such gaps include Acoustical Caulk, Foam Gaskets and Automatic Door Bottoms.

Most of the materials required for effective DIY acoustic treatment can be purchased at your local hardware store or Amazon. Having a strategy that covers all the points above is a good way to make sure your room has effective acoustic treatment.

> **Most people misunderstand the term 'Soundproofing', while the more accurate term is 'Acoustic Treatment'. The 'soundproofing' method requires major structural changes if being done in an already constructed and built up space.**

HARMAN PROFESSIONAL SOLUTIONS ANNOUNCES LAUNCH OF JBL COMMERCIAL IN INDIA FOR PROSUMERS

New brand launch by introducing high-performance lavalier mics featuring the iconic JBL sound for content creators and working professionals

HARMAN Professional Solutions has newly launched **JBL Commercial** for the Indian market. JBL Commercial focuses on the growing community of content creators and professionals looking for quality sound at accessible pricing. The line of products will feature JBL Professional's signature sound quality in products that will make content creation and professional presentation easier, efficient, and elegant. The brand introduced its first range of products with two lavalier microphones - **CSLM20** and **CSLM20B**.

"JBL Professional is an iconic audio brand that has been catering to the needs of professional communities for more than 75 years. There is now a growing section of consumers that are starting as content creators and working

CSLM20 microphone

professionals. For these promising and ambitious consumers, we are excited to introduce the JBL Commercial line in India. The two lavalier microphones - CSLM20 and CSLM20B are a starter kit for content creators and working pros looking

to add a professional touch to their content and presentation," said **Aditya Todi**, Senior Director – Sales & Marketing, HARMAN Professional Solutions, India and SAARC. "We are looking forward to launching a wide range of products this year that will truly elevate the experience of working and creating content."

JBL Commercial CSLM20 omnidirectional Lavalier microphone comes with a windshield and a comfortable earphone that enhances audio monitoring on the spot. The earphone can also be used as a mic for work-from-home professionals as it's useful for video & conference calls and compatible with most smartphones, laptops, PC/Mac, and tablets.

JBL Commercial CSLM20B is a battery-powered lavalier microphone with a 3.5mm TRRS jack. Great for recording, podcasts, interviews, vlogging, presentations, speeches,

CSLM20B microphone

and more, it can capture audio all around with its 360 degrees' omnidirectional audio pickup. It is compatible with smartphones, most DSLR cameras, mixers, amplifiers, and has the added convenience of an extra-long cable.

AMATE AUDIO ANNOUNCES AVAILABILITY OF T-G7 SWAPPABLE CONNECTOR PLATES

Amate Audio has announced the availability of the **T-G7**, an ingenious design solution to enable instant conversion of the all-new **G7 Commercial Audio loudspeaker** from low impedance to 100 V line level operation.

The easily swappable connector plates enable changeable low impedance / 100 V line operation with the same stock unit. The T-G7 is the optional plate incorporating high performance transformer circuitry and a facia mounted selector switch for 5

W, 10 W, 20 W or 40 W 100 V line power settings, or a switch back to 'Direct' 16-ohm operation, and can be fitted in the field in just a matter of minutes.

This design feature reduces potential waste, eliminating the need for redundant circuitry and associated additional weight in facilitating optional 100 V line operation. Additionally, it offers contractors efficiencies in providing all modes of installation from a single stock holding. The design also contributes

G7, with swappable T-G77 100 V line connector plate

significant economies of scale in production.

The G7 is a dedicated Commercial Audio injection-mould compact design, able to match or exceed performance levels of larger wood cabinet loudspeakers. Its hexagonal-form, EN54-24 certifiable, reinforced ABS plastic enclosure is as striking in appearance as the 2-way design is crystal clear, articulate and musical sounding. Continuous program power handling and output capabilities, respectively rated at 120 W and 112 dB SPL, mean less cabinets are needed to provide coverage

in an installation, and the full-frequency response means sub bass reinforcement is an option not a necessity.

Its advanced internal acoustic architecture houses a proprietary 6.5-inch carbon-fibre woofer with performance characteristics equivalent to an 8-inch driver, matched with a 1" titanium dome, neodymium tweeter.

Affirming the significance of the G7 in offering the market a distinct alternative to the ubiquitous, mass market Commercial Audio product, Head of Sales **Jordi Amate** says, "We could not come to this market with a similar looking equivalent product, to that already in considerable over supply from far eastern manufacturers. In G7 we have something else, something more. Something that ultimately allows installers to offer a better customer experience. And that, for sure, represents the highest quality and performance to price ratio achieved with a plastic cabinet."

Amate Audio G7 Commercial Audio loudspeaker in white, black and titanium

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TO A GIANT LEAP

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# LD SYSTEMS EXPANDS PORTFOLIO FOR PERMANENT INSTALLATION SECTOR

At last year's Integrated Systems Europe show, **Adam Hall Group** announced a variety of new LD Systems audio products for audio-visual integration. The diverse range of professional installation solutions are now ready for release. In addition to the MAUI i1 – the first MAUI specially designed for use in permanent installations – and DQOR loudspeakers, which are also available in 70/100 V versions, the IMA and IPA amplifier series offer maximum flexibility as central signal modules functioning in the background. The steadily growing portfolio of LD Systems installation products is completed by the new ZONE X 1208 DSP matrix processors, which operate with configurable user layouts, app integration, and optional Dante network connection in the interface between integrator and end user.

"The goal of Integrated Systems is to always provide solutions," explains **Gabriel Alonso Calvillo**, Product Manager, Integrated Systems, and plays a major role in developing our new installation series. "That's why we initially focused on product solutions which are required for daily planning and installation operations. Creating relevant technical platforms will allow us to offer specialized solutions in the future too. In this way, we want to continually increase our market share in the AV fixed installation sector, while also simultaneously respecting the values that have always represented Adam Hall and its brands: reliability, performance, user orientation, design, and innovation. We are also expanding our project support at the same time. In the future, we will increasingly act as the point of contact for our partners and customers, both in-house and on site."

An Overview of the New LD Systems Installation Solutions:

MAUI i1 – Indoor / Outdoor Passive Installation Column Loudspeaker

The MAUI i1 has nine 3-inch full-range woofers and two 1-inch neodymium tweeters,
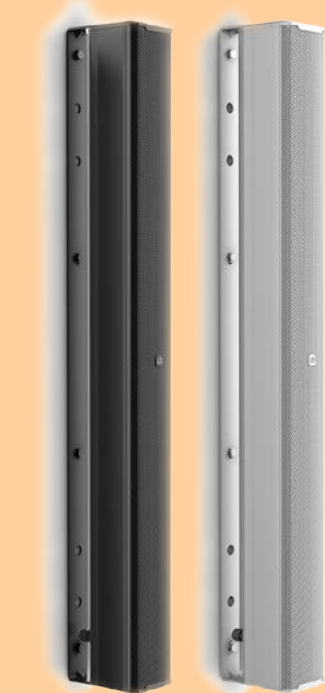
including a two-way frequency range, and supplies 120 watts (RMS) at 8 ohms. The BEM-optimized high-frequency waveguide makes it possible to precisely control the vertical dispersion and ensure the balanced distribution of sound throughout a space – even in difficult acoustic environments. The MAUI i1 is also equipped with an 8 ohm/70 V/100 V control switch with tap connections for 60, 30, 15, and 7.5 watts for smooth integration into constant-voltage loudspeaker systems. A special U-shaped mounting bracket for flexible wall mounting is included in the scope of delivery. The MAUI i1 installation column loudspeaker is now available in either black or white.

DQOR Series – Outdoor and Indoor Installation Loudspeakers

The new DQOR series' installation loudspeakers are suitable for both outdoor and indoor projects. The two-way systems are available in 3" (DQOR 3), 5.25" (DQOR 5), and 8" (DQOR 8) sizes and come in low- and high-impedance (T) versions with 8 and 16 ohms respectively. The DQOR models can also be

integrated into 70/100 V environments using a control switch for variable power tapping. The product housing is outfitted with a built-in wall mounting bracket as well as a handy slide/lock mechanism for flexible use in many different indoor and outdoor applications. The new DQOR series is available in black and white.

IMA 30 and IMA 60 – Mixing Amplifier with Four Priority Levels and 70/100 V Tap

The IMA 30 (30 W @ 4 ohms) and IMA 60 (60 W @ 4 ohms) models are the first products to be released by LD Systems in the new IMA series. The wide range of input and

output options, including Bluetooth for the wireless connection of music sources and a multistage priority circuit, means the mixing amplifiers in the compact 9.5-inch housing can be freely integrated into commercial and industrial applications. Both IMA models offer four priority levels for emergency calls, microphone/line

IPA 424 T/IPA 412 T – DSP-Based Four-Channel Power Amplifiers

The LD Systems portfolio now also includes DSP-based installation power amplifiers due to the introduction of the IPA series. The four-channel IPA 412 T (120 W) and IPA 424 T (240 W) models have built-in transformers for each channel, a 100 V/70 V tap, and a low-impedance output up to 4 ohms. Both models feature an

inputs, connected music sources, and an optional automatic standby mode.

expansion card slot that allows IPA amplifiers (including all DSP parameters) to be controlled via Ethernet and seamlessly integrated into larger installation networks via Dante (AoIP). The IPA series can also be operated with LD Systems remote control units and paging microphones by using a CAN-based (controller area network) REMOTE bus (in/out).

ZONE X 1208/ZONE X 1208 D

ZONE X 1208 – a 19-inch hybrid DSP matrix processor with diverse remote control options, lets users load DSP templates for a variety of installation requirements. In combination with the integrated Event Scheduler (planner), calendar-specific workflows can be created to automatically change presets. The ZONE X 1208 also features a REMOTE bus for seamless integration of LD Systems wall panels and paging microphones. As a flexible signal matrix, ZONE X 1208 offers 12 balanced microphone/line inputs with high-quality microphone preamps and 48 V phantom power for

each channel, eight balanced line outputs, and eight GPI and eight GPO logic ports. In addition to ZONE X 1208, the matrix processor is available as ZONE X 1208 D with an integrated Ethernet + Dante card with 64 × 64 Dante AoIP channels.

Depending on the installation project's size and complexity, LD Systems AV solutions can be flexibly combined with Adam Hall's wide-ranging product portfolio of brands, including Cameo (lighting technology), Palmer (signal distribution), Gravity (stands and accessories), Defender (cable protectors), AH Hardware (cases and racks), and many more.

SENNHEISER INTRODUCES TRUVOICELIFT FOR TEAMCONNECT CEILING 2

Used widely in corporations and higher education institutions, **TeamConnect Ceiling 2** has become a leading microphone solution for conferencing audio in business and distance learning applications. Sennheiser is now offering a free firmware update for its ceiling microphone array. The free update brings TeamConnect Ceiling 2 into the heart of a voice amplification system: **TruVoicelift** ensures clearly audible in-room audio for classrooms, lecture halls, and boardrooms, with easily controllable features that make for a pleasant and clear listening experience.

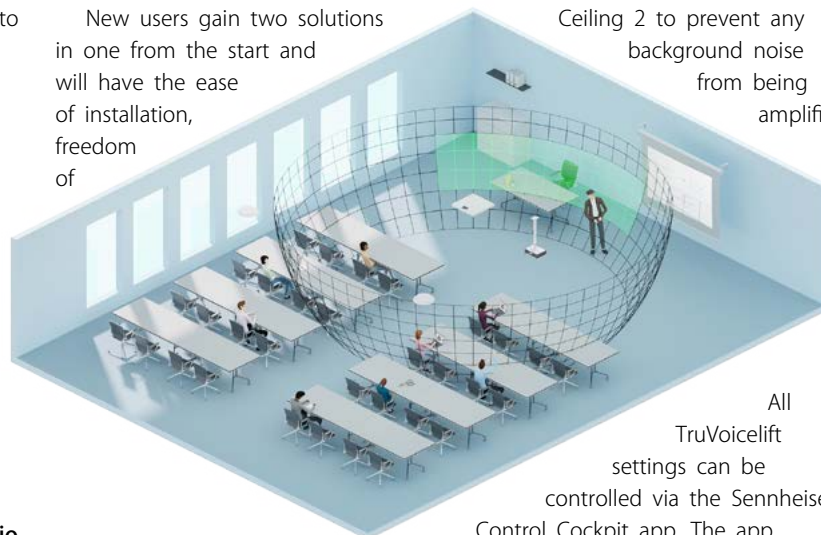According to **Vipin Pungalia**, Director, Professional Segment,

opening, it has become imperative to introduce touchless AV technologies to create a safer work and learning environment for professionals and students alike. Due to this, we have introduced TruVoicelift which ensures clear audible in-room audio for boardrooms with many easily controllable features that make for a pleasant and clear listening experience which reduces potential hygiene risks by encouraging social distancing. Collaborative tools like these enable people to connect seamlessly from anywhere in the world."

A free update for clear in-room audio

For existing TeamConnect Ceiling 2 (TCC2) implementations, users can

New users gain two solutions in one from the start and will have the ease of installation, freedom of

Ceiling 2 to prevent any background noise from being amplified.

TeamConnect Ceiling Application Conference room -- TruVoicelift ensures clear in-room audio for business applications

Sennheiser India, "We are extremely elated to announce the free firmware update – TruVoicelift to amplify the sound. With businesses and educational institutions gradually

now add the TruVoicelift functionality by installing the free firmware update (1.6.4) via the new version of the Sennheiser Control Cockpit app (4.3.0).

TCC2 Priority Zone High-Res -- The free Sennheiser Control Cockpit software allows to determine priority zones for voice amplification to focus on the speaker (green = selected priority zone)

movement and clear audio that TCC2 offers. Depending on the size and configuration of the room, additional TeamConnect Ceiling 2 microphones can be installed as audience mics, thus creating a completely touchless microphone solution that reduces potential hygiene risks.

Clever features for better listening and presentation experience

TruVoicelift is powered by an advanced frequency shift algorithm that delivers a few crucial extra dB of gain. At the same time, TruVoicelift also includes a "feedback prevention mute" function if levels get too loud.

During pauses in speaking, if a pre-defined audio threshold is not reached, a noise gate will be activated that mutes TeamConnect

All TruVoicelift settings can be controlled via the Sennheiser Control Cockpit app. The app also allows users to easily create "priority zones", i.e. areas where audio is predominantly picked up. This is helpful for any set-ups where audio usually comes from a defined place, such as the front of a lecture hall. Also, users can define "advanced exclusion zones", enabling to target and exclude noise sources with pinpoint accuracy, such as air conditioning or ventilation equipment.

Jens Werner, Portfolio Manager in Sennheiser's Business Communication Division, summarizes: "The free TruVoicelift update for TCC2 expands the feature set of the conferencing microphone array to a completely new usage scenario for both corporations and education institutions. TruVoicelift helps to establish pleasant audio levels in a room, and lets speakers be confident that they can be perfectly understood throughout the entire auditorium."

GENERATION AV EXPANDS IN ASIA PACIFIC

Generation AV has announced its expansion in the Asia Pacific region with the appointment of well-known industry figures located in Singapore

and India.

In order to expand its focus on the Indian market, Generation AV has roped in industry expert and

former Sr. Director, India & SAARC for HARMAN Professional Solutions - **Prashant Govindan** who joins the Generation AV team as Regional Consultant for India. "Having Prashant on the Generation AV team is a big win. His market awareness, customer relationships, and experience in the India market will really help to provide a strong local base for Generation AV and ensure we have a voice on the ground to support the business. Prashant will be initially focused on expanding the installation market for Martin Audio, LEA Professional, iMAGsystems, and DLW LED, and

building up the portable PA market for HH Electronics." said **David McKinney**, MD of Generation AV.

Other key appointments include **Kevin Kee** as Regional Sales Director and **David Wong** as Director of Sales.

In his role as Regional Sales Director, Kevin Kee will manage the video brands at Generation AV, based in Singapore. Kevin has spent over 20 years working in the video market in Asia with companies like Prism Dynamics, Visual Contact and Lightware Visual Engineering Asia.

L to R: Kevin Kee, David Wong and Prashant Govindan

CELTO ACOUSTIQUE POWERS UP THALASSA IN GOA

From selling Greek rolls at Arpora's flea market to opening her first Greek cuisine restaurant, Thalassa-Siolim in the year 2006, Ms Mariketty first came to India with her six-month old Son Spiro, who is one of the star performers at Thalassa. With her instincts of creating magic through her food, Thalassa has been the pioneer in providing world class entertainment with Greek dances and music as one of the key elements of the place. Today Thalassa is for the party goers as much a part of the Goa landscape as Baga beach.

The Thalassa – Siolim install was done in 2019, using the ultra-compact and **Co-axial CELTO iFIX8, CT12**, powered by **VAL GL amplifiers**. Key emphasis was to design a system that was punchy, clear yet crisp sounding even at low and normal listening levels of music as the place is not a nightclub.

Vernon Furtado from Sean Enterprises, Panjim, has become the preferred option for pro audio solutions across Goa. With over 10 years of experience in the audio industry Vernon is a Preferred CELTO Rental & Install partner for Goa. Sean Enterprises has executed various installs using CELTO gear such as Favella - Baga, Tataki - Panjim etc, besides using CELTO products in his Rental inventory. Adds **Vernon Furtardo**, Director Sean Enterprises - "The price-performance ratio which CELTO offers is unbeatable. You are getting a European product designed and manufactured with the highest standards at honest

and affordable pricing. I am yet to see this combination anywhere else in the market".

Vernon after understanding client needs said "CELTO Acoustique was the only brand that I could think of for the job as it had the right mix of products, which suited the clients'

at Panjim.

What makes it even more special is that the Thalassa- Panjim install was done during the COVID19 pandemic. With yet another restaurant opening in the capital city of Goa, Mariketty was thrilled once again to have Sean Enterprises install CELTO as their preferred sound system to make the venue a stunning place to celebrate electrifying music and life. As expected the musicians and the guests only had praises for the sound. Equipment used in Thalassa Panjim - **CELTO iFIX6 (White), iFIX7 (Natural finish), iFIX17S Subwoofers**, powered by **CELTO 2.6 & 2.10 amplifiers** and processing using **CELTO SP26 DSP**.

point source with HF compression drivers and not tweeters. This enables the speakers to be extremely small with minimal visual impact, at the same time capable of high SPL output with pristine sound quality. Besides other unique features the iFIX are using high-grade birch ply cabinets, not plastic ones with multiple arraying options.

Adds CELTO Country Head - **Moshe Aston** ``We at CELTO are delighted to have Sean Enterprises as our preferred partner for Goa. Further we congratulate Thalassa for their 2nd outlet during the pandemic and we are very happy to be a part of their journey. Wishing them many more outlets to come and powered using CELTO Acoustique gear. CELTO is growing really fast both globally

Thalassa Panjim installed with CELTO iFIX - Fixed install series

needs and budget". Mariketty and Spiro were so delighted with the sound and install they then gave Vernon their next project –Thalassa

The iFIX - Fixed install series has become CELTOs most widely selling series and not without good reason. It uses Coaxial technology, hence true

and in India. We have more than 300+ installs in India during the last 4 years of our official presence here".

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GENERATION AV EXPANDS...

"Kevin has all the experience and knowledge we were looking for to be able to increase the exposure of Digital Light Windows' LED solutions, and iMAGsystems software driven AV over IP solutions across the region," commented McKinney.

Also based in Singapore, David Wong will focus on the audio side of the business across the region. David has worked closely with

McKinney over the years, including during his time at HARMAN and at Electro-Acoustics Systems. McKinney comments "It is great to welcome David to the Generation AV team. His experience and relationships with system integrators and consultants across the region is a great advantage for the brands we work with. Good progress has been made with LEA and Martin

Audio, being seen in many of the latest project tenders, and with HH in the portable PA market. David will be able to build on this and take things to the next level."

"I believe with the expanded sales team of Kevin, David and Prashant and with applications support from Tony Sawyer located in Manila, Generation AV is now setup to take the business to the next level. At

the same time, the brands we work with have been expanding and enhancing their product and technology offerings, including the Connect Series Cloud enabled amplifiers from LEA and the new TORUS constant curvature line arrays from Martin Audio. With the new team and the new product offerings, 2021 is going to be an exciting year ahead."

NASA DEPLOYS DPA TO MARS

NASA's Mars 2020 Rover took off on July 30, 2020 for a seven-month journey to the mysterious Red Planet. It touched down successfully on February 18, 2021 with a **DPA 4006 Omnidirectional**, an MMA-A Digital Audio Interface and an MMP-G Modular Active Cable in tow.

"Everything about the mission — from the launch to the landing — is hostile, insofar as a microphone is generally concerned. It's very exciting to know that DPA was able to record something from so many millions of miles away, and have the sound travel back to us so quickly." – **René Mørch**, Product Manager at DPA Microphones

After the rover touched down, audio and video files were recorded from the surface and transmitted to NASA's base station. NASA sent these files to DPA's engineering team for processing and review.

The first to be rigged with microphones, the agency's latest Mars rover picked up the subtle sounds of its own inner workings during interplanetary flight.

The DPA 4006 Omnidirectional Microphone was devoted to capturing some or all of the entry, descent, and landing (EDL) sequence of the Perseverance Rover when it landed on Mars in February, 2021, but it already started to record the sounds of the spacecraft as it hurtled through interplanetary space.

Until recently, no one had ever heard anything from within the Martian atmosphere. In fact, the first sounds were only heard on December 1, 2018. A highly-sensitive seismometer on board NASA's InSight Mars Lander recorded vibrations caused by Martian wind. In addition, the vehicle's air pressure sensor also recorded the sound of wind. The sounds were picked up by instruments made for other purposes than sound thus the recordings are analogies to what you could expect to hear.

To gain some further insights into the Martian soundscape, the Mars 2020 Rover was outfitted with audio equipment from DPA Microphones.

What DPA equipment made the trip?

For this partnership, NASA strenuously tested a variety of mics and chose a selection of equipment from DPA. The 4006 Omnidirectional Microphones was the Rover's "ears"; attached to the vehicle and paired with **MMP-G Modular Active Cables**, which will act as ultra-transparent preamplifiers. Inside the body of the vehicle, acting as the auditory part of the "brain", will be a **MMA-A Digital Audio Interface**. The MMA-A's job is to digitalize the audio in the highest quality and send it to a computer in the Rover through a USB connection.

The trip to Mars subjected the Rover to extreme temperatures (as low as -100°C/ -148°F), wildly varying travel pressure and intense vibrations. To ensure that the equipment landed on Mars in good working order, the spacecraft design team created a specialized enclosure to mount the MMA-A interface inside the rover chassis. In addition, NASA's Jet Propulsion Laboratory (JPL) and the DPA R&D team worked together to create a custom MMP-G amplifier housing to bolt onto the exterior of the Rover.

Besides the customized amplifier housing, no major changes were made to the equipment once it left the DPA factory. One of the riskiest parts of the mission, entry, descent and landing (EDL) tracks the Mars 2020 Rover from the time it enters the atmosphere until touchdown in the Martian dust. No one had ever seen or heard a parachute opening in the Martian atmosphere, the rover being lowered down to the surface of Mars on a tether from its descent stage, the bridle between the two being cut or the descent stage flying away after the Rover lands!

The DPA microphones' mission was to capture these sounds for NASA. Not only did this allow project engineers and scientists to hear the fascinating sounds of the Rover descending, the public was also able to follow along as well.

This trip to Mars is not the first time DPA has worked directly with NASA to capture the most accurate and transparent sound during their missions. Because of their durability and ability to capture extremely high sound pressure levels (like the liftoff of a space shuttle), DPA has been chosen by NASA a few times, the first time over 50 years ago.

NEUTRIK NA2-IO-DPRO MIC PREAMP CONTROL ADDED TO YAMAHA CL/QL SERIES

Neutrik, has announced that with the recent version 5.6 firmware update for its CL/QL digital mixing console series, Yamaha has added preamp remote control options for Neutrik's new **NA2-IO-DPRO DANTE** audio network device.

"There's no doubt that the future within the Pro AV market is based on interoperability between different devices within an application. We have found the perfect partner with Yamaha to enable this feature for better ease of use and enhanced customer experience," says **Florian Frick**,

Product Manager for Neutrik.

With the CL/QL firmware update Yamaha added this specific support for Neutrik's small but powerful I/O solution, adding more flexibility in a network setup for Line, MIC and AES signals.

"Yamaha is delighted to have been able to integrate control of the NA2-IO-DPRO into the CL/QL series with the release of our V5.6 firmware, "says **Motome Tanaka**, Yamaha Manager, Marketing and Sales Group. "This collaboration further extends the options for CL/QL systems. In combination with the R series, customers can make their systems even more flexible."

Using the DPRO on a truss for example is a convenient way to establish ambient miking with short cable runs; remote controlling it via Yamaha CL/QL consoles is a real improvement for a Pro AV work environment.

Neutrik NA2-IO-DPRO Mic Preamp Control

Yamaha CL3 digital mixing console

All about Music, The Marantz story

In conversation with Joel Sietsem and Alankara Santhana

Marantz has established a strong foundation in the industry with their High fidelity audio systems since the 1970s. Marantz designs products that have intricate detail and a perfect finish that maintain the Quality of Marantz sound. AV-ICNx got in touch with Joel Sietsem, President, Marantz, &Classé brands, and Alankara Santhana, Sales and Marketing - India, South Asia, Middle East. Sound United HK Ltd to know more about, how the company manages its operations worldwide and what challenges and opportunities they face in the Indian market.

Marantz has been in the business of sound reproduction since the early 1950s, can you tell us a bit about Marantz technology, what makes it unique? How would you differentiate your product from others in the market?

Marantz design and build quality are exemplary, with a suite of advanced technologies and a unique sound signature that sets it apart from competitors. The Marantz sound is pure, dynamic, and musical. By musical, we mean it is capable of richly producing the dimensionality, detail and texture of the music. Marantz listeners sometimes describe these traits as "warmth," which we believe is an apt description of the signature Marantz sound quality.

Marantz's legendary prowess spans from developing top-of-the-line disc transports in-house to advance mastering technologies like Marantz's proprietary Marantz Musical Mastering (MMM) technique. MMM functions by re-clocking PCM data, then processing it by a 32-bit floating-point DSP to produce a 1-bit/11.2MHz sigma-delta modulation stream. Those high-frequency pulses are then passed through the player's MMM Conversion Stage—a DSD-to-analog low-pass filter—to the analog circuitry. This type of unique circuitry helps develop that signature musicality that Marantz listeners know and love. Another proprietary Marantz technology is its signature HDAM (Hyper Dynamic Amplifier Module) approach to pre-amplification, which offers yet another unique twist to Marantz's signature sound that separates it from other amplifier manufacturers. A standard integrated-circuit operational amplifier is a commonly used

Joel Sietsem, President, Marantz & Classé brands

Alankara Santhana, Sales and Marketing - India, South Asia, Middle East. Sound United HK Ltd.

method to increase output. These types of amplifiers are versatile, reliable, and inexpensive, but they also have serious limitations. Noise and a low slew rate — a measure of the rate of change in current over time — can greatly detract from the resulting sound quality, especially at higher frequencies. To combat this, in 1992 Marantz debuted a unique type of circuit board to take the place of the customary IC op-amps.

HDAMs are preamplifier modules, situated between the volume control and power amplifier sections that perform the same function as the more conventional circuits. However, a few key upgrades within HDAM technology provide a noticeably enhanced level of performance. And that leads us to perhaps the most important facet of Marantz, which is its signature musical sound. This is accomplished of course by cutting- edge technologies like MMM and HDAM, but also by the thousands of hours spent from Marantz's in-house Sound Master, who

meticulously reviews each and every new product from Marantz to ensure it, adheres to the company's signature sound. This high-touch approach is what so easily sets Marantz apart from the competition.

How does Marantz focus on the quality of it's product? Please tell us a little about the manufacturing facility and R&D process.

High end Marantz components are designed and built in the company's Shirakawa Audio Works factory in Shirakawa, Japan. Shirakawa Audio Works sets an incredibly high bar for manufacturing excellence, leveraging the famous Japanese approach to efficiency and gradual improvement, called Kaizen. Kaizen enables Marantz to continue improving on its processes to ensure ever-higher product build quality while leveraging the factory to its maximum output.

Importantly, and as stated previously, the way Marantz achieves its iconic

sound is facilitated by a dedicated team of world-class engineers and designers alongside the Marantz Sound Master, whose role is to listen to each and every Marantz product to fine tune the sound. This Sound Master learns how to conquer this approach via thousands of hours of apprenticeship from previous Sound Masters. Thus, the lineage of Sound Masters actually dates back to the company's founder, Saul Marantz, who originally engineered the amazing sound quality more than 65 years ago.

How do you identify with your target audience in the market?

Discerning music listeners who desire the absolute best sound quality, and design are our customers. For the Indian market, we have identified two separate groups of buyers, music lovers, and movie lovers. Customers who are movie lovers have the total home theatre packages for their consideration, which are sold online via ESS and AVS Stores. For pure music lovers, we have

dedicated music listening rooms across the country. As a customer steps into our experience zones, they can listen to the music and decide on their purchase based on budget and room size.

Marantz's manufacturing takes place in the US as well as Japan right? Are all products manufactured in both facilities or is the Japan facility specific for high-end products?

Marantz primarily manufactures its higher-end products in the Shirakawa Audio Works factory in Japan. Taking advantage of the parent company, Sound United's, extensive manufacturing capabilities all over the world, Marantz products are also manufactured in multiple other areas of South East Asia. Marantz does not currently manufacture any products in the United States of America.

Are any Marantz products manufactured in India and if not are there any plans on the horizon of having a facility in India?

As of yet, there are no plans to manufacture Marantz products in India. It is impossible to identify all future opportunities stemming from the market and regional conditions, so this may not always be the case.

Which product is Marantz currently pushing most aggressively in the Indian AV industry?

As India has large movie production houses and every movie has at least 3 to 4 songs, people tend to buy a home theatre package to experience the movie and also to listen to songs. Keeping that in mind 80% of what we sell are Marantz AV receivers. We proudly state Marantz AVRs hold 35% market share after Denon which holds 50% market share.

Marantz this year unveiled the first 2020 AV receivers with 8K upscaling.

Can you tell us a little about this product?

The latest 8K AV Receivers from Marantz offer the latest HDMI 2.1 capabilities (8K passes through, Dynamic HDR, 4K/120Hz gaming capabilities, etc.) alongside robust audio codec capabilities as well. For example, some of the new 8K Marantz AV Receivers and AV preprocessors offer DTS:X Pro, 13 channels of DTS:X and IMAX Enhanced playback. DTS:X playback was previously limited up to 11 channels. Marantz is also one of the few audio companies to support Auro 3D, which is another 3D- audio codec that enables audiences to experience music and movies in beautiful three-dimensional sound environments.

How does Marantz plan to market this product when 8K TVs are very few and 8K content is still nonexistent?

While 8K is nascent, gamers and other customers who wish to level up their existing media with the latest audio codecs still benefit greatly from the latest Marantz AV Receivers. With all of the latest object-oriented audio capabilities, advanced installer options and HDMI 2.1 updates like Auto Low Latency Mode, Quick Media Switching, and others make the receivers a great future-resistant option to keep your AV system rocking for years to come.

What are the major changes in the AV industry that has opened a new path for Marantz?

Streaming music has opened up a huge opportunity for Marantz. But not just any streaming music, streaming music in high resolution. That's where Marantz has a clear distinction from other brands, with the ability to stream Hi-Res music leveraging our Home Entertainment Operating System (HEOS) platform has led to a big boon

for products with wireless streaming capabilities. Marantz is also enabled with other streaming capabilities, like Airplay for Apple users and Bluetooth for folks looking for the easiest way to stream their favorite tunes.

In addition to this, we're seeing a general "flight to quality" as it pertains to people flocking towards better-sounding and better-produced high-resolution music. Everybody is streaming music these days and as a result, we're seeing more high-resolution streaming applications pop up in the market to differentiate and attract more demanding customers. Those demanding customers need the best-sounding audio equipment to properly use the high-res streaming services, and Marantz is more than happy to meet that demand.

How has the pandemic changed the face of the AV industry and how is Marantz dealing with it?

Covid-19 has levied both challenges and opportunities for the AV industry generally speaking. On the opportunities side, more people than ever before were listening to music, watching TV and movies at home as a means to cope with the stresses involved with the pandemic. And as a result, we've seen a huge increase in people willing to invest in products that give them a better listening experience.

On the challenging side, the closure of retail environments made selling products direct to customers one of the biggest changes for the AV industry generally speaking. Marantz has been very nimble in this regard and rapidly improved its online experience, including the ability to buy products directly from Marantz, which is a new service for the brand. While this isn't available in all markets yet, it is something the Marantz organization is continually aiming to improve.

What is your strategy when it comes to the distribution of Marantz products in the Indian Market? How different is the distribution model in India vis-a-vis other countries?

Marantz is sold exclusively via our India Distributor, MZ Audio. We have ensured no-sub distribution is allowed for Marantz products. Thereby we cater to at least 350 Active AVS stores, all ESS Stores and online channels. As Marantz has a wide range of AV products, we have all types of channels promoting our products, be it CI or SI channel for AV Splitters. Our Marantz SR and NR series AV receivers are all sold via online platforms/ AVS / ESS Stores. Whereas our 2 channel products, like CD players and Design and Compact Hi-Fi Series are sold through Telecom and Hi-Fi Channels.

Any other new product from Marantz, which the industry can look forward to in the near future?

Yes! Marantz will have exciting new products to keep an eye open for. You probably saw our recently introduced Model 30 integrated amplifier and SACD30n networked streamer/SACD player. That new design language and the advanced capabilities will continue to find its way into new, exciting Marantz products in the future. For now, there isn't much we can say about what's next, but suffice it to say that we are hard at work creating the most musical components to continue driving Marantz forward in the hearts and minds of music lovers around the world.

Interview Vijay Benegal and Mujeeb... *(Continued from page 43)*

Is OdBle working on any studio projects at the moment?

Mujeeb: We have a potential out of country project coming up. The client wants it turnkey, but that is impossible given the current scenario, so we may just give them the drawings and the details and they can get it done from their contractors there. There is also one other commercial studio where work is ongoing at the moment.

Can two sound engineers provide the same kind of output?

Vijay: Being a sound engineer is not restricted to the technical

aspects. We have creative inputs as well.

Mujeeb: I can't mix like Vijay and he can't mix like me because we're different people. Our experiences in life have been different, our attitudes are different and our character is different. In some cases, my attitude might bring value to the job or it might be a handicap, in which case either I don't want to be hired for that job, or the producer has the sense enough not to hire me for it.

Any tips/message you want to share with aspiring sound engineers and acoustic consultants?

Mujeeb: Patience. This is a business

of people, not equipment and trust me, people require a lot more patience than machinery. The machinery will always do the same thing, well or badly, but people are different on a daily basis. And always remember there is no timeline for learning, you can learn something new every day, regardless of how much you already know. In fact, the more you know, the more there is to learn, because there are that many newer questions. And of course, if you want an easy job join a bank.

Vijay: Get a deep understanding of the fundamentals. Unless you have the basics solidly set in your head you

cannot do anything.

Finally, Vijay, as IRAA Director for 2021, are there new process or new initiatives have you planned or thinking of introducing?

Vijay: Well, there is about expanding our independent music categories because we want to be able to attract more from the independent music field. It's a large block of work that deserves more attention and we need to get more of them on board. We need to think of new ways to reach out to them and that's one of those pushes, for sure that I want to do.

ACOUSTIC AND AUDIO SYSTEM DESIGN FOR SMALL ROOMS

- PART 6

**By - Rahul Sarma, CEO, Menura Acoustic Labs
in collaboration with Sound Wizard**

We started this series with the definition of a small room, and went on to discuss wave interactions. We continued onto sound isolation, absorption and diffusion in parts 2 and 3. Parts 4 and 5 covered system design goals and finally how to optimize a system. While this is by no means a comprehensive list of acoustic and audio topics, it hopefully demonstrates a more practical approach to design, highlighting theory only when its understanding is absolutely vital to your design approach.

In this last and final part, we will focus on the software and hardware tools required to design, install and optimize a "small" room and audio system.

Software

Acoustic simulation

While acoustic simulation has more uses for larger spaces, it can also be deployed in small room design as long as its limitations are understood. AFMG EASE is the industry standard simulation software for larger spaces, in part due to its comprehensive database of loudspeaker manufacturers and acoustic materials. For high end listening rooms and studios, we use EASE to plan the placement and amount of acoustic treatment. Ray tracing can be used to find first reflection points between speakers and listener seats, and reverberation time simulation tells us if we are using the right amount and balance of acoustic treatment for a specific volume of space.

In *Fig.1*, a studio control room has been modelled using EASE. After running a ray tracing simulation, the
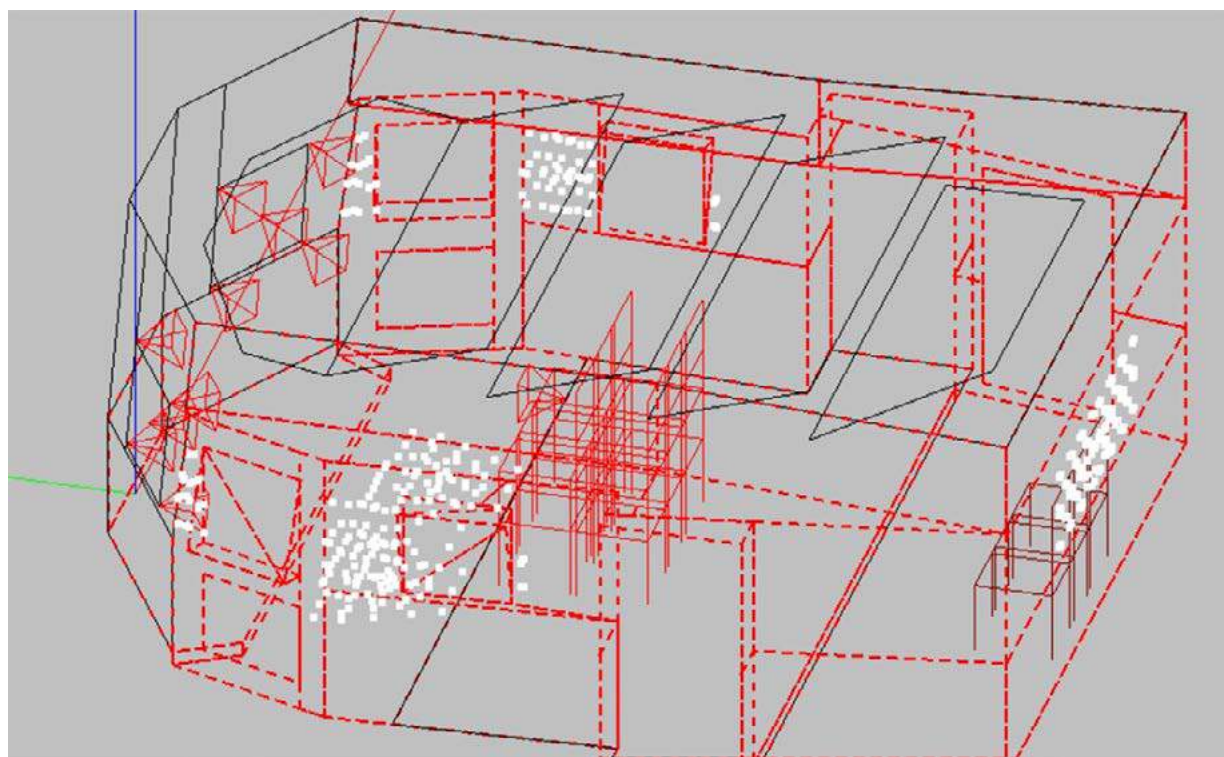

Fig. 1: Control Room design using EASE

locations of the first reflection points are visible as white bounces.

It is also a great presentation tool to demonstrate the thought process behind a particular decision, allowing you to justify budgetary decisions. For example, the full version of EASE comes with a module called EARS that allows you to hear a sample audio track as it would

sound in the space you are designing. For a client who may not grasp the concept of reverberation time, the ability to auralise what music or speech sounds like in a room with and without acoustic treatment is extremely important. For a consultant or acoustic material manufacturer, this is an invaluable tool.

Acoustic isolation

Although we touched upon this in part 2, it makes sense to revisit INSUL by Marshal Day Acoustics. The acoustical prediction software is used by engineers and architects to predict the sound insulation of walls, floors, ceilings and windows that enclose a space. Using simple theoretical models such as the mass law, and the critical and resonant frequencies of materials, INSUL provides accurate estimates of the transmission loss (dB) and STC (Weighted Sound Reduction Index) values of the composite layers of a surface.

When a sound wave impacts the surface of a solid body, some portion of its energy will be reflected, some absorbed and the rest transmitted through the body. The relative proportion of each depends on the nature of the material impacted. As addressed in part 2, a single layer of any material will have a resonant frequency, therefore a multiple layered partition composed of materials with different densities will work to isolate various frequency bands and result in lower sound transmission across the spectrum. INSUL allows a user to add up to three layers of panels per surface. We then compare its calculated predictions with practical measurements, allowing us to experiment with different materials to either achieve better noise insulation or find cost effective alternatives.

Fig. 2: Partition design with INSUL

Acoustic and audio measurements

There are many great (but expensive) audio analyzers like the NTI XL2 that bundle software along with hardware, but unless you plan on doing a great deal of environmental noise measurements, I find that microphones connected to a laptop through an audio interface gives you much more flexibility and for a much lower investment.

Systune and SMAART are good professional options that can be used for live sound applications as well, but for smaller budgets and installed sound, REW and Fuzzmeasure do an admirable job.

Hardware

Microphones

Whether you are an acoustician or a system designer, a good measurement microphone (or microphones) is an invaluable tool for a variety of jobs. Measuring reverberation time and other acoustical parameters as well as measuring system outputs for installation and optimization, a microphone reveals data that isn't always audible to the human ear. However, there are instances where microphones cannot replace your ears for system diagnostics, so it is important to always use both to ensure that nothing slips through the cracks. For example, the design of our ears combined with the processing power of our brains gives us the remarkable ability of sound localization. An omni-directional microphone only measures sounds and allows a computer to calculate arrival times, without providing you with any directional information. An example of a great type 1 microphone is the Earthworks M30, although it could be considered overkill for tasks like system tuning and calibration. A reasonable and solid budget microphone is the RTA-425 from Rational Acoustics. Ensure that the frequency response of any microphone you choose is reasonably flat (the signal is not coloured).

Accessories

For system optimization, it is a good idea to have an audio interface that has multiple inputs. Multiple microphones in multiple positions speeds up the process massively, allowing you to take averages and also quickly compare the responses at different listening positions. While calibrating/optimizing a system through a DSP, it is a great idea to carry a wireless router with you to create your own network (in case there is no local network). It is much easier to sit in the listener seats and make edits to a calibration curve as opposed to running to the rack to make every change. Most importantly, carry your own listening test material, whether it be high quality audio files or Blu-ray discs. This will be your benchmark to evaluate every installation that you choose to undertake.

Summary

There is no end to education – even the most knowledgeable pros are constantly learning to keep themselves at the top of their game. Hopefully this series was able to give you some new insights into acoustic and audio system design for small rooms. Feel free to get in touch with any questions you may have, or visit our website to keep an eye on future courses and trainings held at Menura Acoustic Labs HQ!
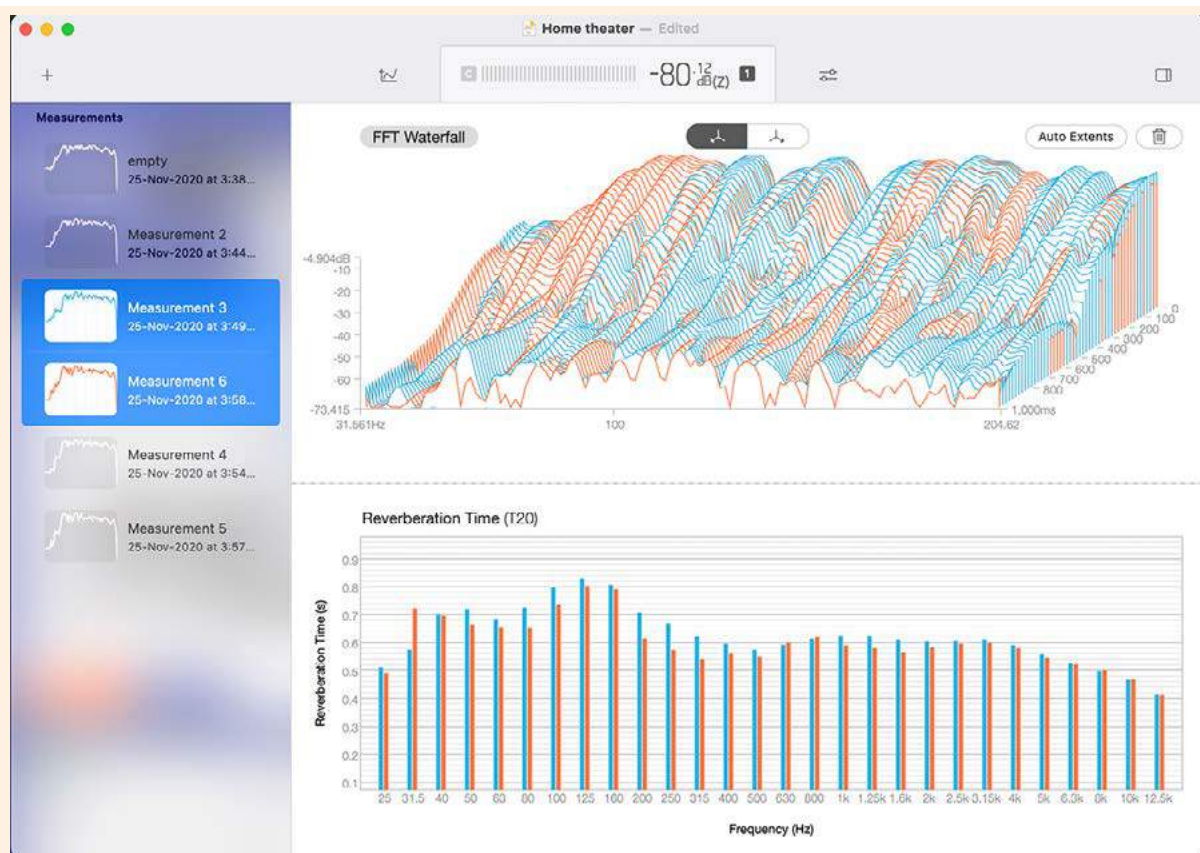
www.menuralabs.com

Fig 3: FuzzMeasure by Rodetest

The Bright Spark

Viraf Pocha

CUSTOMIZE MY DESK PLEASE!

Gotta Stay Active.

I have been active my whole life. Broken Bones, Malaria, this trouble, that distraction. You get out of bed and get on with it. Reflect, Introspect, Meditate. You're on your butt for a bit and then something calls and you're off. Mindfully choosing between acting and reacting.

Now for the first time in my Life I wake up wondering 'what the hell do I wake up and do?'

Every news channel is screaming wild stuff at you. Mostly irrelevant just a few minutes after engaging. Social media is a merry mix of dire predictions, warm sentimentality and mindless musti.

I've finished reading most of the books I had kept aside – and that was a huge stack.

Evening walks have been fun. People-watching the aggressive, committed, bored, the extremely fit, the comfortably flabby and the strugglers just getting along.

It's been hard to keep a positive mind. To focus on progress. I'm the guy who thinks of many things – but I got to implement them immediately. Action the thoughts. Be Tactile. See how it plays out. Adopt some practices, change some routines.

Even that engagement is getting harder and harder as people are drawn away into their own circumstances. I hear about some amazing experiences. People who have discovered some unique paths to good health, both mental and physical. It's been fun listening and learning from their experiences.

Somehow I always find a way to bring the conversation around to theatre and events. My Love and passion that have been shelved for far too long.

Inevitably I get pulled away into a 'what If' mode. Somebody told me that in the great Azim Premji's offices there is a sign that reads – 'If People are not laughing at your goals – They not High Enough'

I liked that. Idiot that I am, when I started my career my goal was to simply be a better lighting designer. People laughed at even that seemingly modest goal. Some are still laughing. Sometimes I'm tempted to join them. Ridiculous Idea.

Mr. Premji used that laughter to propel himself to be a billionaire.

What the hell did I do?

Had a huge amount of fun – that's what. Met some really interesting, crazy people. I believe – I have led a hugely rich and entertaining life. My Bank balance shows scars of both the fun and the accomplishment.

So with my unsteady legs and my unwillingness to get out of bed unless it's for anything substantial (I envy Naomi Campbell statement 'I won't get out of bed for anything less than $ 15,000'. Of course for me the substantial is Lemon Pancakes – But I'm getting there.....).... I Dream

What If....

What If we could customize our lighting desks? What If I could arrange all my faders and buttons to be laid out exactly as its intuitive for ME.

In My View – a Lighting Board operator (holds true for sound and video too) should never take his eye off the stage. Even if you glance at your desk it will take a few seconds for your eyes to re-focus into the distance under dramatically different light levels. That is why I insist on my boards to be lit at a similar intensity to the stage (relatively speaking). It drives director's nuts who believe that the console should be in blackout – apart from the desk light to read their cue sheets of course.

Below my Enlarged keyboard – let the processors keep changing. I mean – on a PC. I've had the same PC for years. It gets upgraded and refitted every few months. My keyboard stays the same. And when the keys get sticky – I get a new one. Every key is exactly in the same place. Same for mouse.

Why can't I do that on my Lighting desk?

Think about It. – My Sound and Video Brothers could add their ideas.

Programing the lighting and playing it back are two totally different functions. To Further segregate –

Playing Back a Tightly Cued show is totally different from Busking a show. We all know that.

A quick review of all the world's major board designers / architects confirms that very few have actually worked as journeyman board operators. They all tout some experience behind the board. When I probed and demanded to know about some specific feature that they insisted on incorporating that they missed as operators – I got a lot of hems and haws. That made me realise that today boards are designed by com-

mittee and try to be all things to all people. You know where that approach leads you.

I understand that with the traditional way of doing things these ideas would be impossible.

But what if we looked at the entire stage as an animated movie with limitless aspect ratios and in a 3D space. Like a cube whose axis proportion ratios we can customise. Each Block has an address and into each block we place a light fixture or light unit. To give them names 'Air Stage' as all the fixtures will be in the air around the stage (Even footlights will take air for the nit pickers) and each block is called air block. Each air block has a preset space of 1 cubic ft. I doubt if any unit is smaller. Larger units can consume more air blocks.

So now you are commanding air blocks in your air stage and not fixtures.

Note: For an LED Wall – Routines can break air blocks into smaller blocks. Some video genius will figure out the algo for this.

As soon as you plug in the unit – your Computer immediately accesses the light fixtures personality file and converts it to the boards standard. So now the board clusters each attribute like Pan / tilt etc. to a single channel number.

I understand that this necessitates manufacturer to standardise how his scrolling channels will be configured – But my guess is they will all fall in line or they will fall outside the universe. There will be a period while my genius board design will become world standard. There will be doubters – but we will figure out a way to deal with their issues.

1. Programing: Now programing becomes like an animated movie. Immediately I hear about the limitations of DMX. Guys we are an industry of the future. In the age of AI we still relying on protocols that were designed to go down telephone wires?

ADAPT if not Re-invent.

2. Programmers program by writing simple instructions in layered excel type sheets. Expanding cells corresponding to each air block and copy pasting them / exporting them to all the blocks in the group. Then each air block can be edited / modified by macros – familiar to all excel super users.

3. Movement is traced much like my animation brothers do.

4. Apps / routines can exist – can be sold / downloaded pretty much like you

do apps on your phone. These apps do all the magic shape generators do. Just input time and edit permutations and combinations available.

5. Then we work out triggers. LIVE for busked shows. Time coded for programmed shows.

Assign to playback triggers on your customised board.

6. Visualizers are used as they are now.

7. The much maligned Windows Operating systems had the advantage of bringing everybody down to a common language. Let the big boys fight it out on which operating platform works best. I'd love to see a task force with collaborators from every board manufacturer working on line during lock down.

8. All of the programing is put into a USB. Plugged into a Playback unit on site. Playback unit can be triggered by board manufactures layouts – From Touch Screens to customised real faders / sliders / wheels that the lighting designer can customise. Think about it.

9. Of course that on site unit can be used to tweak and program simple shows. For the fussy – the programing unit can be accessed on line from a central resource.

10. Lighting Operators need not buy programing systems. Just rent them off the cloud form the big Boys. On site they have a board assigned and laid out exactly haw their fingers move.

What's the response to my What If?

Haters will Hate. Doubters will Doubt. But I'm reaching out to the users who will demand. Calling all Visionary Designers to demand the tech boys to give them the tools to take their work above the visual clutter that screens all around us create. To Stretch the Live EXPERIENCE.

STUDIO
SHOWCASE

"If you had a sign above every Studio door saying 'This studio is a Musical Instrument' it would make such a different approach to recording." - Brian Eno.

In continuation from the Jan-Feb 2021 issue of Studio Showcase, here are a few more Studios that are equipped with some of the best technology.

Manicpod
Mumbai

INVENTORY

- QSEve Audio SC205 X 2 Studio Monitors
- iMac Pro Monitor + CPU
- Apple Wireless Keyboard (Black) Bluetooth Keyboard
- Apple Wireless Mouse (Black) Bluetooth Mouse
- Rodecaster Pro Preamp + Mixer
- Focusrite Scarlett 18i8 Preamp
- Rode Procaster X 4 Dynamic Mic
- Audio Technica ATH M50x X 4 Headphones
- Behringer HA400 4-Channel Headphone Amplifier
- Zoom H1n X 2 Recording Mic
- AKG C 417 PP – 1 X 6 Lapel Mics

- Zoom F6 Multitrack Field Recorder
- Sennheiser MD 42 Dynamic Reporters Mic
- P-Filters (Black) Mic Filter
- P-Filters (Red) Mic Filter
- P-Filters (Green) Mic Filter

Riwayat Studio
Mohali

INVENTORY

- Genelec 1037C Studio Monitors
- Antelope Orion Studio Audio Interface
- SSL Six Studio Mixer
- Neumann Mics
- Pro Tools DAW
- Beyerdynamic DT990 pro Studio Headphones
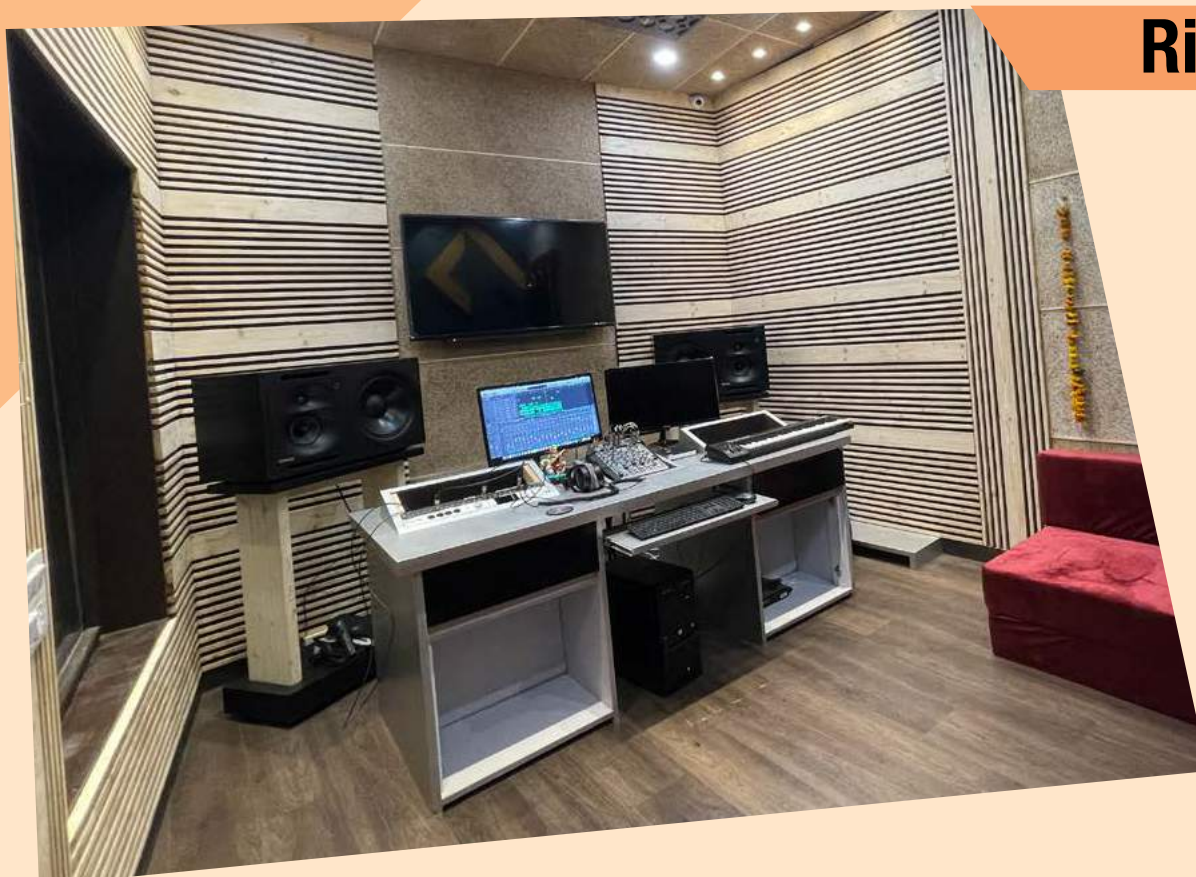
Bay Owl Studios
Mumbai

INVENTORY

Microphones
Telefunken TF-47
Telefunken TF-51
Neumann 103
Shure SM-7B
Shure SM-58 x6
Shure SM-57 x2
Dr.Aliensmith Dirt Mic
Dr. Aliensmith Sub Kick
Telefunken M-82
Telefunken M-81 SH x3
Telefunken M-80 SH
Telefunken M-60 FET x2
Sennheiser e609
Sennheiser e906

Licensed Software
Pro Tools Ultimate
Logic Pro
Presonus Studio One Professional
Ableton Lite
Slate All Access Bundle Plugin
Alliance Mega Bundle
FabFi ter Total Bundle
SoundToys Bundle
Izotope Tonal Balance Bundle
Izotope other select plugins
Soundly Pro
Splice Premium
Antares AutoTune Pro Bundle
Celemony Melodyne 5
Valhalla Select
Wavesfactory
Soundspot Mastering Bundle
WA Production Select Plugins
Cableguys Complete Collection

Studio A:
API The BOX 2 Console
Adam S5H Main Monitors
Focal Shape 65 Near Field Monitors
Manley Voxbox Tube Channelstrip
ART Pro VLA II Stereo Compressor
Audient ASP880 Preamp
Avid HD 10
Avid HD Native Thunderbolt

Studio C:
Presonus AR16C Mixer
JBL EON 15 Monitors
Marshall Code 1OOH Amp Head
Marshall 4x12 Guitar Cab
Fender Mustang GT200 2x12 Combo
Hartke LH-500 Bass Head
Laney R410 Bass Cab
Drum Kit - Mapex Mars 5 piece
Drum Cymbals - Zildjian 14" HiHat
Drum Cymbals - Sabian SBR 18" Crash Ride
Drum Cymbals - Sabian SBR 20" Ride
Kramer Striker 911Vintage Series Electric Guitar
Granada SemiAcoustic
Novation Impulse 61 Midi Keyboard
Arturia Microlab Mkll 25 Midi Controller
T-Rex Bloody Mary Distortion Pedal
TC Electronics Nova Modulator
Ibanez Weeping Demon Wah
MiniStorm Drum

Studio B:
API The BOX 2 Console
Adam S2V Near Field Monitors
Focal Trio11be Main Monitors
UAD LA-610 Mkll Tube Channelstrip
Avid HD 10
Avid HD Native Thunderbolt

CHRISTIE CRIMSON SERIES LASER PROJECTORS ILLUMINATE VICTORIA MEMORIAL IN HONOR OF NATIONAL HERO

The son et lumière celebrates the life and work of Netaji Subhas Chandra Bose, a nationalist and patriot

Christie Crimson Series 3DLP laser projectors deployed for an inspirational son et lumière on the façade of Victoria Memorial in Kolkata are mesmerizing guests with spectacular visuals that celebrate the life and work of Indian nationalist and freedom fighter, Netaji Subhas Chandra Bose.

The 20-minute show, which features stunning projections using eight Christie Crimson laser projectors on the surface of Kolkata's iconic white-marbled monument, is a permanent installation jointly accomplished by Christie's longstanding partners Tricolor India Schauspiel and Modern Stage Services. Both companies are highly renowned systems integrators with numerous high-profile, large-scale projects across India under their belts.

Inaugurated by Indian Prime Minister Narendra Modi on January 23, the grand spectacle is widely considered to be an amazing achievement, having been put together under five days to mark the 125th birth anniversary of Bose, widely known by his honorific "Netaji", or "respected leader" in Hindi. With its flamboyant images and rousing soundtrack, the show is a fitting tribute to Netaji, who made extraordinary contributions to the nation's freedom struggle. The Indian government has also announced that Netaji's birthday will be celebrated on January 23 every year as "Parakram Diwas", so as to inspire its citizens to act

with fortitude in the face of adversity, and to infuse in them a spirit of patriotic fervor.

"We are honored to be involved in the creation and execution of this son et lumière to honor and

remember Netaji's indomitable spirit and selfless service to the country as we commemorate his 125th birth anniversary," said **Himanshu Sabharwal**, Chief Creative Officer, Tricolor India Schauspiel. "These are exemplified in the projected contents that we have meticulously put together. Even though we had a very short lead time, I'm heartened that our years of knowledge and experience in delivering large-scale projects have served us well to successfully bring this show to fruition."

Davinder Wadhwa, Managing

Director, Modern Stage Services, added, "Since this is a permanent installation, we needed a high brightness, high performance and dependable projection system that's rugged and able to provide years of

reliable and virtually maintenance-free operation. Christie's Crimson Series laser projectors immediately come to mind since they meet the requirements and have an excellent track record in India. In our opinion, the Crimson Series is best-suited to deliver the visuals for this major outdoor spectacle."

The Crimson Series was ultimately chosen as the client was highly impressed with Christie's 3DLP projection systems, which consistently offers better light efficiency and color control in comparison to any other

projection technology. For the inauguration, the eight Crimson Series projectors were fitted on scaffolds erected directly across Victoria Memorial to deliver optimal visuals. The long-term

plan is to house all projectors in outdoor enclosures to protect them from inclement weather.

Michael Bosworth, Executive Vice President, Enterprise, Christie, commented, "We are delighted that the Christie Crimson Series has been chosen to illuminate Victoria Memorial for this impressive light and sound show that honors one of India's most beloved national heroes. My heartiest congratulations to Himanshu and Davinder's highly

ETC ADDS NEW OPTION TO ARCSYSTEM PRO FAMILY

ETC has added a new option to its **ArcSystem Pro family** of LED solutions. Building on the success of the popular Pro One-Cell High Output luminaire, ETC now has a yoke variant available for purchase.

The High Output version of

the Pro One-Cell yields 8700 field lumens and is available in 2700 K and 3000 K color options. Featuring the same high-quality optics as its recessed counterpart, the new Pro One-Cell High Output variant has an adjustable yoke that can be mounted

or clamped in a wide variety of spaces.

All ArcSystem Pro solutions are designed for ease of installation, high-quality light, and smooth dimming.

ADJ INTRODUCES NEW LIGHTING CONTROL SOLUTION – THE LINK

ADJ has introduced the latest edition to its range of lighting control solutions - The **LINK**. This unique hardware/software system combines the processing power, wireless connectivity and multi-touch screen of an iPad with lighting-specific tactile controls and a four universe DMX interface to deliver a unique control solution. Powerful and user-friendly, the link fills the void between small single universe DMX controllers and large format lighting consoles. It is designed to simplify control for aspiring lighting designers, small production companies, churches, community theatres and performances spaces, providing a new connection between lights and creativity.

The ADJ LINK control system is powered by the dedicated Airstream LINK iOS App for iPad, which is available as a free download from the Apple App Store. The lighting control platform includes an extensive fixture library, making it easy to setup for different shows and equipment configurations. It incorporates powerful tools to allow the easy creation of complex movements and color chase effects, and allows the iPad's memory to be utilized for storing custom Scenes and Shows that can be quickly re-loaded when required. The software also makes use of the iPad's precise touchscreen interface to facilitate actions such as color mixing and drawing custom movement shapes.

To augment the iPad's screen interface, the LINK hardware offers a selection of ergonomic controls designed to give lighting designers the hands-on experience of a traditional lighting console. Four large rotary encoder wheels, with push-in selection, provide precise control over functions such as movement, zoom and focus. Alongside these are eight 100mm channel / submaster faders together with an additional master fader with dedicated blackout button. Each fader is also paired with a dedicated rotary control, with push-in selection, as well as two-page playback buttons. A matrix of 32 buttons provide instant access to specific scenes, fixtures or effects, while page scroll buttons – together with a 2-digit backlit LCD display – make it easy to keep track of a large quantity of scenes. Finally, dedicated buttons provide quick access to each of the app's main screens and an additional set of buttons provide shortcut control of key app functions.

Combined together, the physical dials, buttons and faders of the console, along with the visual interface facilitated by the iPad screen, provide an intuitive and comprehensive lighting control solution suitable for a wide variety of applications. Its smooth faders and extensive scene programming abilities will suit those working in a theater environment, while the significant number of instant playbacks as well as the powerful movement and color chase programming tools will appeal to concert and nightclub LDs. The easy to navigate iOS app makes the LINK system ideal for new designers, while its powerful features and versatile workflow will also suit experienced professionals.

Connection between the iPad (which needs to be purchased separately) and the LINK hardware can either be made wirelessly or via a USB socket (adapter not included). For wireless connection, the LINK device features an in-built dual band Wi-Fi antenna which creates a private standalone 2.4 or 5GHz DSSS (Direct Sequence Spread Spectrum) network. This is able to coexist in busy RF environments alongside other wireless technologies and allows the iPad to connect wirelessly without the need for any additional network infrastructure. Wireless connection means that the iPad can be moved away from the LINK hardware, which may prove extremely useful during programming when it is desirable to view a lighting rig from different angles while simultaneously making adjustments.

The LINK system can be used to control up to 2,048 DMX channels, four full DMX universes. Each universe is output via a dedicated 5-pin DMX socket on the rear of the hardware unit. The rear panel is also home to the USB Type 'B' socket for (optional) wired iPad connection, a Kensington Security Device Slot as well as a 9V DC power input for connection of the included low voltage power supply. An additional USB 2.0 Type 'A' Port is located on the front of the control surface, which can be used to power the USB gooseneck LED work light that is supplied with the hardware.

Measuring 20.2" x 12.9" x 3.6" / 514mm x 328mm x 91mm (L x W x H) and with a weight of 15 lbs. / 6.8 kgs., the LINK has a convenient desktop design that is easily portable. It features an integrated iPad cradle, which can be adjusted to provide an optimal viewing angle. For permanent installation or flight-casing, the plastic side panels can also be removed and replaced with the supplied metal rack ears to allow mounting in a standard 19" equipment rack (the unit will occupy 7.5 units of rack space).

ELATION ANNOUNCES EXPANSION OF KL "KEY LIGHT" SERIES

Elation Professional has announced the expansion of its **KL "Key Light" Series** of LED Fresnel luminaires with the full-color-spectrum **KL Fresnel 8 FC**. The new KL Fresnel 8 FC meets the strict standards of performance venues that are light critical and noise sensitive.

It is designed for TV, film, theater, tradeshows or any general AV application requiring high output soft light with precise color reproduction and adjustable color temperature. The KL Fresnel 8 FC produces light with dynamic color temperature adjustment and full color control. It houses a 500W RGBMA LED engine calibrated at 6500 Kelvin and produces over 18,000 field lumens with a motorized zoom range of 10° to 50° for easy adjustment of beam size.

Optimized for the specific requirements of broadcast, the KL Fresnel 8 FC can adjust for light that shifts away from pure white towards green or magenta through a green-magenta shift adjustment and a virtual gel library. Capable of matching the white balance for camera, users can easily shift the color temperature without the use of plus/minus green gels and filters.

ANIL LIGHT-O-SOUND INVESTS IN VOLITE GALAXY THUNDER 54X3W LED PARS

Anil Light-O-Sound based in Mumbai has recently upgraded their lighting inventory with the purchase of **250 Volite Galaxy Thunder 54x3W RGBW** and warm white LED Pars. The Galaxy Thunders are now being used for various projects, from corporate functions to live-streaming and broadcast events.

Speaking on the purchase, **Anil Mishra**, owner of Anil Light-O-Sound said, "I was looking for a LED-based product with quality color rendering that is lightweight and compact in size. Volite's Galaxy Thunder LED Par is all of that and more. They are easy to use, operate smoothly and are broadcast-friendly. Another highlight is its sturdy build-quality making it transport-friendly which aids in faster set-up. I am very happy with my decision to go with Volite."

Anil Mishra with the 250 Volite Galaxy Thunder

MARTIN BY HARMAN LAUNCHES LARGEST LIGHTING INITIATIVE

HARMAN Professional Solutions, substantially raised the bar for extremely bright and compact lights with the debut of Martin by HARMAN's revolutionary **Martin MAC Ultra Performance** and **MAC Ultra Wash** workhorse stage lights. Featuring benchmark lumen output across the zoom range, a uniquely advanced framing system, higher definition optics and astoundingly low noise levels, the MAC Ultra family is perfect for concert and touring productions and equally applicable for noise-sensitive broadcast and theater applications.

Powered by Martin's brightest engine ever, the MAC Ultra Series features an all-new 1150 W, 6000 K proprietary LED light engine. This gives MAC Ultra Wash the power to project a jaw-dropping 63,500 lumens and MAC Ultra Performance an astounding 46,500 lumens of output. With higher red content and better daylight balance, MAC Ultra produces dramatically rich, vivid colors and more natural skin-tones, redefining seeing is believing.

Creating peace of mind in fixture reliability was also a cornerstone of the MAC Ultra design. Without exception, every component can be relied upon to achieve consistent results from the first hour of use throughout the product's lifetime. In fact, the minimum LED engine life is rated to exceed 50,000 hours and deliver over 90 percent of its initial output after 20,000 hours of usage at maximum power.

The extensive MAC Ultra feature package includes a wide zoom-range, precision focus-control, uniform color mixing, variable CTO, additional color and spectral correction filters, motorized frost for a softer field, high resolution dimming and strobing all built into a sturdy MAC design. And, the brand new Martin Extended Framing System debuts for the first time in the MAC Ultra Performance, offering more flexibility, easier programming, quicker response time and precision shutter angling that surges the fixture into a new class of creative potential.

"We are so proud to be able to introduce MAC Ultra to our incredibly loyal client base of designers and customers," said **Peter Skytte**, HARMAN Professional Solutions Director of Lighting Product Management. "These fixtures were specifically designed to be the lights that they can achieve more with than ever before. From lumen output we never thought possible to you-have-to-see-it-for-yourself visual quality to hands-down, rock-solid reliability, there is not one facet of this product that we didn't over scrutinize and challenge our engineering team to get just right. The result is a feat of innovation like nothing else we've ever attempted. I encourage everyone to experience these lights for themselves and imagine the possibilities created by this new standard for stage lighting."

Martin MAC UltraPerformance 14D onblack

Martin MAC UltraWash 44 on colored background open chassis

CHRISTIE CRIMSON SERIES LASER PROJECTORS...

(Continued from page 61)

proficient teams for completing a remarkable installation in less than five days and yet deliver a highly engaging spectacle that the whole of India can be proud of."

Designed with both fixed and live events stagers in mind, the Christie Crimson Series is built-tough and is easy to ship, handle and install thanks to its compact form factor, quiet operation and 360-degree orientation. With its long-lasting brightness (20,000 hours of long life light), rock-solid reliability, TruLife Electronics, and BoldColor Technology, the Crimson Series combines the best in solid-state illumination with the brightness and color that's ideal for use in large venues, live events and high-usage environments.

Studio Headphones

The Unfiltered Window to Sound

AKG – K371-BT

AKG K371-BT Professional Studio Headphones strike the balance between professional-grade quality and consumer-friendly fit, comfort and portability. Combining cutting-edge performance, Bluetooth connectivity, AKG's Reference Response Curve tuning, extended frequency response and comfort in a closed-back, over-the-ear, folding design.

Main Features include:
- Oval earpads and closed-back design offer superior isolation and improved bass response
- 50 mm titanium-coated drivers, tuned to the AKG Reference Response Curve, provide superior performance with an extended frequency response of 5 Hz to 40 kHz
- Listen via Bluetooth with 40-hour battery life, or connect using one of the included cables
- 8-position articulated hinge, collapsible for maximum portability
- Superior comfort and fit for longer listening sessions with less bass leakage

Technical Specification:
- Headphone Type: Closed-back
- Driver Size: 50 mm
- Voice Coil: Pure OFC voice coil
- Connectivity: Wired and Bluetooth 5.0
- Battery Life: Up to 40 hours
- Connector: Mini XLR
- Frequency Response: 5 Hz – 40 kHz
- Sensitivity: 114 dB SPL/1 V @ 1 kHz
- Impedance: 32 ohms
- Weight: 300 grams (10.6 ounces)

Audio-Technica – ATH-WP900

The ATH-WP900 portable over-ear headphones feature flame maple housings for high-fidelity on-the-go listening and high aesthetics. A specially designed angled baffle improves airflow between the front and rear of the diaphragm for better low- to mid-range audio reproduction, and also optimally positions the earcups over the ears for improved comfort and sound containment.

Main Features include:
- Maple housings fuse thin slice of flame-grain maple on top of solid, machined maple for stiff, dense housings
- 53 mm drivers with magnetic circuitry deliver exceptional full-range audio
- DLC (diamond-like carbon) coating applied to diaphragms to improve high-frequency response
- Top-mounted PCB construction helps regulate airflow to enable precise diaphragm movement
- Angled baffle improves airflow between the front and rear of the diaphragm for better low- to mid-range audio reproduction, and helps seal the earcup
- Two detachable 1.2 m (3.9') cables with A2DC (Audio Designed Detachable Coaxial) connectors at the headphones: one with a 3.5 mm (1/8") gold-plated stereo mini-plug, the other with a 4.4 mm (1/6"), 5-pole gold-plated balanced plug
- Swivel-flat design enables headphones to easily be transported in included carrying pouch

Technical Specification:
- Type: Closed-back dynamic
- Driver Diameter: 53 mm

- Frequency Response: 5 – 50,000 Hz
- Maximum Input Power: 1000 mw
- Sensitivity: 100 dB/mW
- Impedance: 38 ohms
- Weight: 243 g (8.6 oz), without cable
- Cable: Detachable 1.2 m (3.9') cable (A2DC to 3.5 mm (1/8") gold-plated stereo mini-plug; detachable 1.2 m (3.9') cable (A2DC to 4.4 mm (1/6"), 5-pole gold-plated balanced plug)
- Housing: Maple

Audix – A152

With an extremely wide sound field and the most extended bass response, the A152 headphones represent a new level of sound reproduction for audiophile listeners. Studio or hi-fidelity listening alike, the A152 captures every detail and nuance in the sound field.

Main Features include:
- Dynamic closed-back design
- Excellent for audio playback and monitoring
- Over-the-ear design built for comfort and isolation
- Soft cushion ear cups with 90-degree swivel for easy single-ear monitoring
- High-performance, phase-coherent drivers
- Ultra-wide sound field
- Deep, accurate bass
- Accurate reproduction of subharmonics

Designed to reveal any imperfections in the recorded tracks or sound, studio headphones provide and unfiltered window making them a must-have tool for music creation. There are many great studio headphones in the market today. Here's our pick of some really cool ones used in professional studios across the globe.

Sennheiser HD 650

Technical Specification:
- Transducer Type: Dynamic
- Frequency Response: 8 Hz – 28 kHz
- Driver Size: 50 mm
- Magnet: Rare Earth Alloy
- Connector: 3.5 mm (1/8 in) stereo plug
- Output Impedance: 30 Ohm
- Sensitivity: 103 dB

With expertly balanced acoustics, luxurious construction and timeless design, the HD 650 has all of the perks. This open-back headphone is beloved by studio professionals and audiophiles alike for its musical, non-fatiguing sound while still offering intimate levels of detail.

Main Features include:
- Balanced acoustics, luxurious construction
- For audio editing, mixing, mastering or critical listening
- Smooth response and dimensional soundstage
- Open earcups provide ample room to expand
- 42mm transducer deploys a 38mm diaphragm
- Resonators feature stainless steel mesh
- Comes with a detachable, impedance-matched cable with ultra-low capacitance
- At 9.8 feet / 3m long, it offers unencumbered listening on gear deep within shelves, studio, or desktop
- ¼-inch / 6.3mm stereo connector offers audiophile-standard plug for connection to devices such as headphone amplifiers and A/V receivers, digital audio players, computer-based workstations, analog gear.

Technical Specification:
- Wearing style: Headband
- Color: Titan
- Frequency response (Headphones): 10 - 41000 Hz

Mackie – MC-450

- Sound pressure level (SPL): 103 dB
- THD, total harmonic distortion: < 0,05 %
- Contact pressure: 6.0 N ± 1 N
- Connector: 1/4 (6.35 mm) stereo jack plug
- Adapter: 1/4 (6.35 mm) stereo jack plug to 3.5 mm stereo jack plug

Cable length: 3 m
Transducer principle: Dynamic, open
Nominal impedance: 300 Ω
Weight w/o cable: 260 g

The open-back MC-450 delivers everything great about the MC Series with better imaging and low-end, perfect for mixing and audiophile listening..

Main features include:

High-Performance Monitoring Headphones
- High-headroom, reference-quality transducers provide an accurate reproduction of your mix and your music
- Precision-tuned enclosures deliver deep, punchy bass and enhanced high frequency detail for an ultra-wide soundstage
- Perfect for mixing, studio recording, critical listening and personal listening

Professional Design
- The soft padded adjustable headband and conforming ear pads provide an ergonomic fit for hours of comfort while ensuring optimal low-end
- Rugged design is built to last and meet the demands of professionals in the studio or on location
- Collapsible fold-up design allows for easy storage and compact portability when travelling.

Neumann NDH 20

Technical Specification:
- Frequency Response: 20 Hz – 20 kHz
- Sensitivity: 101 dB/mW
- Maximum Input Power: 54 Ω
- Drive Type: Dynamic
- Input Type: Male 1/8" or 1/4" Stereo
- Output Type: L/R Headphones
- Weight: 0.8 lb/0.4kg

The Neumann NDH 20 is a closed-back headphone combining excellent isolation with the carefully balanced sound image and outstanding resolution you'd expect from a Neumann product. The NDH 20 is thus ideally suited to monitoring and mixing tasks, even in loud and noisy environments.

Main features include:
- Studio quality sound with outstanding resolution
- High sound isolation in loud environments
- Excellent comfort for extended listening sessions
- High quality metal construction
- Foldable design for easy transportation
- Two detachable cables (straight/coiled).

Technical Specification:
- Ear Coupling: Circumaural
- Acoustic Principle: Dynamic Closed
- Transducer Diameter: 38 mm (1 1/2")
- Transducer Magnet: Neodymium
- Transducer Protection: Cloth covered grille
- Nominal Impedance: 150 Ohms
- Frequency Response: 5 ... 30,000 Hz
- Sensitivity at 1 kHz/1 Vrms: 114 dB SPL (1 kHz, 1 Vrms)
- Max Input Power Handling: 1000 mW

RANE ANNOUNCES NEW ONE CONTROLLER

Opening the doors and welcoming more DJs into the **RANE** family, the **ONE** is a complete DJ solution designed around RANE's intuitive performance layout. Showcasing all the hallmarks of RANE's build quality and intricate DNA, the ONE continues RANE's dedication to the foundations of the art of DJing in a digital world to a wider audience of DJs.

The RANE ONE lands in a unique space in the current DJ market with no other controller incorporating motorized 7" turntable platters for a traditional vinyl feeling, complete with a customizable high/low torque setting. The ONE gives DJs authentic, tactile control over their music and performance with the foundation art of DJing at its very core, all finished off with a traditional turntable plunger style start/stop button.

With RANE ONE's multi-function, independent performance pads DJs can get access to Hot Cues, Saved Loops, Roll, Sampler, Slicer and Serato's Scratch Bank feature. With 6 radio-style FX buttons, DJs can instantly activate any combination of software FX with a single press, fine-tune with depth and beat parameter controls, then activate with the independent aluminum paddle controls. Finally, they can take full control of their sound with the 3-band dynamic EQs and high/low pass filters on each deck along with dedicated loop controls.

RANE's reputation for the highest quality sound, and extended pro-connectivity, continues with the ONE. Each deck is switchable between 2 USB laptop connections as well as a line input that's switchable to phono for traditional turntables. DJs can amplify their music through RANE's pro audio circuitry to the balanced main & booth XLR outputs, and additional RCA main out. There are 2 dual TRS/XLR microphone inputs alongside an auxiliary input, giving up to 5 sources of audio to mix.

The ONE's crossfader features the latest MAG FOUR fader, RANE's lightest and smoothest fader, ever. With front panel controls for fast/slow contour adjustment, internal tension-adjust, reverse switch, and a new to Serato software cut in adjustment control, DJs will be able to get just the right feel they need for maximum performance.

KORG'S NOISE CANCELLING DJ HEADPHONES NOW AVAILABLE TO SHIP

Korg's NC-Q1 smart noise cancelling DJ headphones will start shipping from March and will be tentatively available to ship in India in April. In India the headphones will be available via **Furtados Music (I) Pvt. Ltd.**

The NC-Q1 is a new headphone monitoring with unparalleled hearing protection and sound control. KORG's NC-Q1 is a new kind of Bluetooth headphone technology, developed to protect the ears even in loud environments while delivering unsurpassed high definition sound and noise-less monitoring. Combining state-of-the-art Active Noise Cancelling, incoming sound attenuation and an array of smart features, the NC-Q1 headphones provide a flexible, controllable, powerful and great-sounding experience.

With this unique blend of Noise cancelling technology and high-quality sound, the NC-Q1 is perfect for DJs, drummers, front of house engineers.

Unlike most other Noise Cancelling headphones, the NC-Q1 has microphones on both the inside and outside of the ear cup that accurately suppress a wide range of frequencies and auto-adjust according to the external sound environment. Its powerful attenuation function allows the NC-Q1 to work better than other headphones at minimizing high noise levels which is the ideal choice for noisy environments.

Besides effective noise cancelling in extremely noisy environments, the NC-Q1 is ideal for use in a DJ booth. The "Smart Monitoring" and "Sound Enhancing" functions allow users to customize their hearing of external sounds by selecting an EQ preset, adjusting the volume balance, and even choosing the ear from which to monitor (right, left, or both).

Made to the highest professional standards, these headphones reproduce High resolution audio and with two (left and right) AUDIO IN physical inputs the NC-Q1 headphones can be connected to any audio player device, mixer or audio interface.

PIONEER DJ RELEASES NEW MIXER — DJM-S7

AlphaTheta Corporation has announced the release of a new mixer from its Pioneer DJ brand: the **DJM-S7**. The new 2-channel battle mixer gives DJs the freedom to customize their setup and bring their own unique style to every performance. The unit enables free use of Serato DJ Pro and it's a Hardware Unlock device for rekordbox.

The DJM-S7 has the same clean layout of the DJM-S11. The large Load button and 16 Performance Pads (8 per deck) making it easy to select tracks and trigger samples and features. All 22 Beat FX from the DJM-S11 are included and the effect levers offer an animated way to engage them as well as software effects. Pad modes are independent to trigger Hot Cues on channel 1 and use Roll on channel 2 at the same time and the Magvel Fader Pro delivers slick and stable crossfader performance.

Artists can wirelessly play audio directly from their smartphones with the mixer's Bluetooth connectivity. They can play loops to scratch over or trigger one-shots and route them straight to the master output or to either of the channels to hear them together with any other sound. The Loop MIDI allows the use of effect levers to send MIDI messages to Serato DJ Pro and rekordbox, giving users a new way to control performance features.

The DJM-S7 inherits a number of additional key features from the DJM-S11 which are available when using Serato DJ Pro, including Combo Pad mode, Scratch Bank, and Gate Cue.

The DJM-S7 gives users free use of Serato DJ Pro and rekordbox performance features, including DVS control of both applications. Users can simply connect the mixer to a PC/Mac running the latest version of Serato DJ Pro or the latest version of rekordbox to unlock the software. Subscribers can take advantage of advanced features such as Cloud Library Sync for seamless music management across multiple devices, and Edit mode, to create custom versions of any track to make performances unique.

Promotion Index

V-Series

Y-Series

T-Series

The Mobile range of d&b systems fulfils a broad spectrum of application demands, from touring productions and sports events, to live sound, performing arts and speech reinforcement. The loudspeakers and amplifiers are specifically designed to deliver scalability, flexibility and maximum efficiency, with dedicated rigging and transport accessories for easy redeployment from one venue to the next.

d&b
audiotechnik

When everyone is counting on you, compromise is not an option.

The Digital 6000 with superior RF technology keeps the limited frequency spaces free for more channels and allows operation in an equidistant frequency grid where neither transmission performance nor audio quality are compromised. The series is more straightforward to use and is compatible with dozens of capsule heads and antenna options. It goes without saying that the superior Digital 6000 platform is setting standards today – and staying ready for the challenges of tomorrow.

DIGITAL 6000

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