

ProAudioAsia

LIVE SOUND • INSTALLATION • AUDIO FOR BROADCAST • RECORDING • POSTPRODUCTION

September-October 2005



FOLLOWING CONVENTION
IPALS, PALA AND SMPTE



REBOXX ROCKS
CLUB CLASS IN SURABAYA



UPTOWN INSTALL
SINGAPORE MARRIOTT



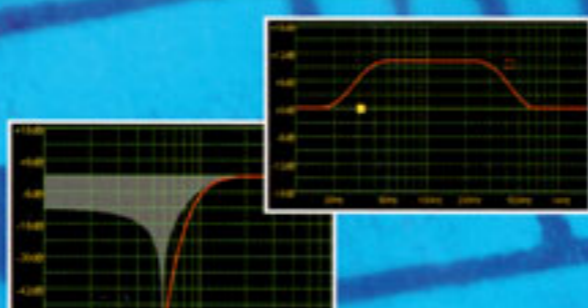
NOVA 91.9 FM

The birth of a radio station

ALGORITHM & BLUES



With a new AudioCore control program to harness all the capabilities of the DP428, realising your audio vision, or simply getting the job done, has never been easier or faster.



4 x 8 open architecture routing - any input to any number of outputs
Four front-end Graphic EQs
Up to 104 Input/Output Filters - each selectable as Notch, Bandpass, Allpass, Phase, Parametric, Shelf, VariQ HP/LP or Elliptical
6, 12, 18, 24 and 48 dB/oct crossover slopes
Front panel control of all functions
96Khz/24-bit processing
AES/EBU Digital I/O standard
Wireless Walkabout ready

T+44(0)1299 879977
E info@xta.co.uk
www.xta.co.uk

xta
LISTEN CAREFULLY

LAP OF LUXURY

The glitz of the Singapore Marriott Hotel hides the rigorous A/V installation within. **Richard Lawn** booked a behind-the-scenes stay

LOCATED AT THE CROSSROADS

of Scotts Road and Orchard Road and in the heart of Singapore's business, shopping and entertainment hub, the Singapore Marriott Hotel is a landmark not to be missed. The 30-storey pagoda tower contains 382 guest rooms with a host of modern facilities and services including a fitness centre, rooftop poolside, a spa with extensive beauty and well-being services, and award-winning restaurants serving the best of international and local cuisine. Catering for both business and leisure travellers, the hotel also has high-speed broadband internet access for maximum mobility, offers fully-equipped meeting rooms, a grand ballroom and a 24-hour business centre.

Behind the public façade, the hotel management team recently decided that a complete overhaul of the original PA/BGM and function room audio systems was overdue. Taking on such a major renovation of part of its infrastructure is no small undertaking, as it is disruptive, digs into profits and can hardly be sold as a welcoming feature in travel magazines. But the Marriott decided that a solid reliable PA system would not only be beneficial, but was vital to maintain the hotel's status in one of the most dense hotel populations in the world.

Installation commenced on 5 January with a team of 20 technicians and the system was commissioned on 14 June. At no point in time were any hotel services disrupted or room floors blocked for this installation. Behind the audio installation was Lin Asia, headed by principal consultant Kelvin Lin, director of marketing Gina Ler, chief engineer Jonathan Lee and project manager Mark Ang. Mr Lin is no run-of-the-mill consultant, and the system that he designed is far from ordinary. A Fellow of Trinity College, London (violin) and also a Fellow of the Royal Academy of Music (piano), he worked in the studio and live-sound sector before attending the Institute of Audio Engineering at the Greenwich Institute in New York. It is this background that has led him to be described as 'a consultant with an extremely critical ear on music playback systems'.

The hotel's Grand Ballroom is located on the third level, is extensively acoustically treated, and has a beautiful interior. It can



Above: The Marriott façade by night.
Right: The executive lounge.

seat up to 700 as a single space and can also be divided into three separate ballrooms with respective pre-function areas, or be used in any of six different configurations. Its audio is delivered by 40 Electro-Voice EVI-15W speakers within an inverted trough outlining the ceiling. The pre-function area and ballroom foyer use 32 Electro-Voice 409-8E ceiling speakers, powered by 14 Crown Studio Reference SR-1 power amplifiers, that can be matrixed into eight separate zones including the guest toilets and ballroom foyer. These are served by a 40-channel Soundcraft mixing console with a further 24-channel Soundcraft console as a back-up and an eight-channel Soundcraft console for smaller functions. The system is able to handle direct recording and duplication in real time with a Tascam CDRW-2000 CD recorder, Tascam 122 Mk.III cassette deck, Tascam DA-30Mk.II digital audio tape recorder and a Panasonic NV-HV-60 six-head VCR. An anti-feedback system is provided by 14 Peavey AA EQ-431FX. With his belief in sound being a marriage of art and science, Mr Lin also factored in seven BBE-882i Sonic Maximizers to enhance the overall musicality of the room. The microphone inventory includes eight Shure UHF wireless microphone systems with SM87 capsules, 20 AKG D3900s and 16 Audix OM-3xb handheld microphones. Such a fully-

integrated system also provides a strong marketing tool for the hotel's banquet sales team.

For the video facilities, five ultra-high-power projection screens are used. These increase light intensity gain by 2.8 times and, combined with three Telex PJR3300 3000 ansi lumens XGA projectors, provide bright and clear presentations. All system cabling is comprised of Canare star quad, which uses high-grade LCOFC copper for high audio quality. In all of the designs, power conditioners and regulators are an integral part of the system, eliminating spikes and surges, and filtering out noise for a much quieter system. For this purpose, the ballroom system has three Furman AR-2330 30A voltage regulators.

Moving down to the second level, there are eight function rooms with seating capacities ranging from 35 to 100, each room having its own independent audio system using two Electro-Voice EVI-15Ws semi-recessed into the ceiling and angled for even distribution of sound. A custom audio rack (matching the finish of each room) is neatly installed in a separate equipment room, giving the room a spacious and clean look uncompromised by visibly installed equipment. In each of the



audio racks is a Furman PS8E power conditioner, Tascam CD-450 for playback, Tascam 122 Mk.III for recording, eight-channel Soundcraft mixing console, two Digitech MEQ Mono-28 programmable equalisers and a Crown Macro Reference power amplifier. The system is easy to operate and does not require a specialist.

All function rooms have their own ultra high-power video screen custom recessed into the ceilings. These provide 2.8 times gain to any projector used in the function rooms.

Having a spa, fitness centre and gym right in the middle of Orchard Road is a luxury. The fourth level Retreat, as it is named, is equipped with 40 Electro-Voice 409-8E ceiling speakers which provide independent local theme background music for the whole spa, fitness centre and gymnasium complex. Both the gymnasium and the fitness centre have independent music control centres, and each of the three massage

rooms has its own private music system for patrons to play their own choice of music.

There are three restaurants with their own independent background music systems consisting of a CD changer and its own dedicated power amplifier. A selector allows switching between house and local music. However, the system has an override facility in case of an emergency, when the public address system will switch over and announcements can be heard over the local system. Finally, the public address and background music system that feeds the hotel, including the above venues and non-public areas such as the kitchens, staff areas and offices, is a Dynacord Pro-Matrix system

The project commenced with the installation of the primary cables in the risers. Next, installation and wiring of the control room equipment was started while, concurrently, the installation of the secondary cable networks and speakers began on a floor-by-floor



Left: The luxurious lobby lounge.

basis from the top down. Upon completion of each floor, multi-stage testing eliminated any system and human errors. The primary floor cables were systematically wired into the new system as each floor was completed. This ensured that the existing hotel system, which remained active throughout, provided zero down-time while the new system was being installed.

There are 1042 Electro-Voice Evid 4.2 ceiling and surface mount speakers providing coverage to the entire 33 levels of the hotel from the 31st level rooftop down to the B2 basement staff areas. A total of 31km of high-spec, fire-rated speaker cables traverse the hotel in insulated and grounded metal conduits. Primary speaker cables run direct from the amplifiers to the respective floor risers without any joints. All cables used are shielded and no expense was spared using gold plated Neutrik connectors. These are wired to 36 Dynacord DPA 4260 power amplifiers providing 72 channels of 600W each. A store cupboard houses six spare amplifiers in case of malfunction. Playback sources include a Harman Kardon TU-970 DAB tuner for the staff areas and a DVD player which provides 646 music titles in WMA lossless format without compression for background music in the public areas. These playback sources pass through dedicated BBE M882i Sonic Maximizers, which enhance the musicality and delicacy of the background music.

Within the spacious second level PA/BGM central control centre, custom equipment racks house all the control equipment. Ventilation perforations cut into the upper cabinet structure allow heat to flow upwards and away from the equipment, eliminating heat build-up. All wiring has been neatly relayed and labelled. All equipment is labelled on their front and back faces detailing to the zones they serve. 'The systems manager needs to understand how to put things right if a problem does occur and we make this as simple to understand as possible,' Mr

Lin says. 'If the equipment and routing can be clearly identified, problems can be easily rectified and there should be minimal disruption in transmission anywhere throughout the hotel.'

The system consists of 72 individual zones with independent controls covering the entire hotel. Two paging consoles that access individual zones or floor levels provide strategic evacuation

simple

assembly... durability... value

Fastest XLR Assembly in the World!

The AAA XLR Connector

Another first from Switchcraft...the quickest, easy-to-assemble XLR connector available today. The 2-piece construction of the AAA XLR Connector saves time in assembly, and increases your job efficiency.

And second...the all metal, RF shielding body is made with Switchcraft durability.

Put them together and you have a new level of value in critical components!

- Integral strain relief locks cable in shell, while 4 barbs comfortably adjust to cable diameter.
- Exclusive one-piece head with solder pots.
- 2-piece, all-metal, RF shielding construction.
- Available with:
 - 3 to 7 pins, gold or silver plated contacts
 - Black or Nickel finish

Visit www.switchcraft.com/aaa.pdf for detailed information on the new AAA XLR Connector.

Switchcraft

www.switchcraft.com
5555 N. Elston Ave. • Chicago, IL • 60630
ph: 773.792.2700 • fx: 773.792.2129

procedures or public announcements. A digital message manager provides 11 pre-recorded messages that can be used for standard announcements as well as records, stores and plays back any messages that were announced previously. A triple-redundancy factor in the design was catered for the guest floors where, in the event a guest room speaker fails, sound from the corridor speakers, which are an independent zone, would still spill through. And if these two fail, the two main tower stairwells (another independent zone) have speakers installed which still provide emergency announcements to guide the guests down. Isolated areas were taken into consideration in the system design including areas like the rooftop maintenance areas, lifts motor room, all handicapped toilets and storerooms. The system also has



Left: The Banquet Suite control room.

a preset event manager which turns BGM off when there is live piano music in the lobby, and turns it back on after the performance is finished. Event logging can be done via an RS232 link to PC, providing an updated event occurrence on a regular basis if necessary.

All electrical supply is from dedicated electrical lines with a clean path to ground. This is wired from a hotel emergency supply, which activates a standby generator in the event of a power failure. 10 Furman PM-PRODE power conditioners rated at 16A each supply conditioned power to the entire system. 'AC power supply is very unclean,' Mr Lin explains. 'If you don't regulate and condition your incoming power supply, your equipment is vulnerable to surges, spikes and mains-borne noise among other harmful electrical conditions. The resultant cleaner supply translates to optimum electronic

efficiency, significantly increases equipment shelf-life and allows much higher fidelity audio performance.'

The scale of the hotel's audio system cannot be gauged from the bedrooms dining rooms, bar, pool or gymnasium areas. It is as invisible as the large kitchen areas, store rooms, staff elevators and corridors, and probably less talked about. But a hotel system of such high quality is little short of stunning, and certainly rewards the meticulous work, detailed engineering schematics, endless preparations and numerous meetings that Mr Lin and his team undertook months beforehand.

Dining in the luxurious setting of the hotel will, no doubt, distract guests from concerns for their safety, yet no less attention has been paid to this than their obvious comfort.

Lin Asia, Singapore: +65 6767 6628
linasia@singnet.com.sg