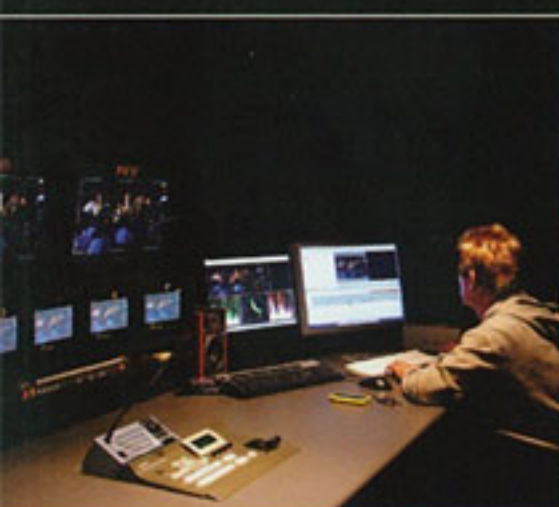


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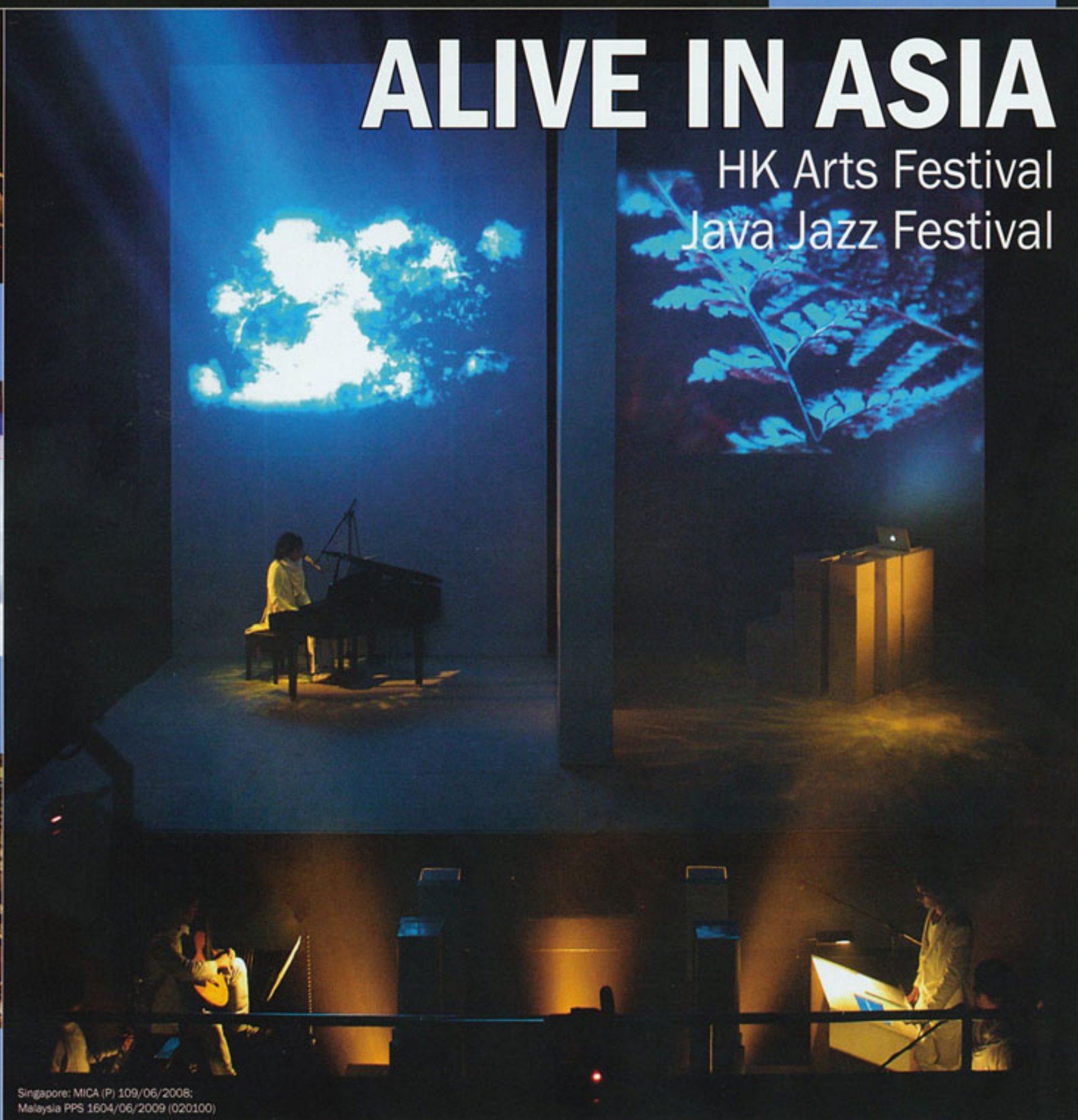
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Hidden treasures

From the outside, no one could guess at the treasures waiting inside Singapore's Tang Choon Keng Performing Arts Hall. **Richard Lawn** goes exploring



Kelvin Lin at FOH with Midas Siena 640 64-channel console

APPEARANCES CAN BE DECEPTIVE

to the point that what lurks within the confines of four walls is often disguised by its outer facade. That's certainly the case with many theatres and entertainment centres, and Singapore's latest Performing Arts Hall exemplifies this perfectly. The Tang Choo Keng Performing Arts Hall is situated within walking distance of the famous Newton Circus hawkers centre within the site of the junior Anglo-Chinese School. Founded in 1886 by Bishop William F. Oldham, the school has educated many prominent Singaporeans including Mr Tang Choon Keng's son, Mr Tang Wee Kit, who donated substantial capital investment to the school's building fund, including the hall's audio, video, visual & lighting systems. As a result, both Mr Tang Choon Keng and Mr Tang Wee Kit have now left their marks on the community with this impressive facility.

Leading Singaporean Audio consultant Kelvin Lin was appointed with the responsibility of specifying a befitting AV solution for the venue – a task that he did not take light-heartedly, but given the passion he takes in his work coupled with his acute attention to detail, he has overseen the creation of, what is, quite literally a work of art. 'It was an honour for me to be commissioned by such an ardent supporter of this school and a patron of the arts,' revealed Mr Lin, with regards to being asked to handle the project by the managing director of Tang Holdings. Not that this is the first project that Mr Lin has undertaken for Mr Tang Wee Kit, as he has worked on other projects

on his behalf in the past including the Singapore Marriott Hotel and his own personal residence. 'There is much more to the performing arts hall than the system we have installed in here.' It doesn't take long into the guided tour by Mr Lin and his installation team from Lin Asia to realise why.

Work commenced in November 2007 and just over one year later on 5 February 2009, Lin Asia finally commissioned the project. The school uses the hall for its own theatrical and musical productions in addition to various school ceremonies and it also hires out the venue for outside events, with the Cairnhill Methodist Church using the hall twice per week. 'We wanted to create a high specification hall that could be used by international performers and artists, and it being a hall rather than a theatre broadens its appeal to other productions,' explained Mr Lin. Backstage, dressing rooms and a storage / rehearsal area are linked to the outside world by a stage door and loading bay as well as the theatre via LG 22-inch TVs connected to a Sony overhead BRC-300P colour video camera positioned above the front of house area.

It is once the artist is on stage that the richness of this venue will envelop them. The 22m wide open wooden stage looking out onto the 702 red tiered seats is served by six EV low profile FRI-28LPM monitors whose speaker cables are fed through three small stage holes to FOH, allowing them to be positioned anywhere on stage. Hidden from the audiences' view, the stage has an overhead catwalk system, accessible via two vertical

steel ladders. The front of house area is quite a focus of attention itself. 'The plans for this was quite a challenge for me,' admits Mr Lin, pointing out at the vast area it commands perched above the main entrance / exit leading to the foyer and pre function area. 'This takes up 30 seats, but I think the end result is worth it.' A Midas Siena 640 64-channel console takes up pride of place together with various playback, recording and duplication equipment. Separate power supplies ensure full redundancy. 'The Midas Siena 640 has a warm and rich full-bodied sonic character which contributes substantially to the overall sound we wanted to achieve in the hall.'

Twenty EV RE-2 UHF wireless systems are stored under lock and key adjacent to the console for the performing artists who can be equipped on stage with RE-97TX low profile head worn microphones, whilst speeches are reinforced via two RE-90P microphones installed in a portable lectern. The microphone inventory in store also includes 10 hanging RE-92H, 10 RE-200, three RE-510 cardioid condensers



TCK Performance Arts Hall Stage



Exterior of TCK Performing Arts Hall

and a wide selection of EV N/DYM instrument models, together with eight Klark Teknik DN-100 Di boxes together with other accessories and stands for various applications. The signal feed can also be further enhanced by two Klark Teknik Square One graphic equalisers, two BBE M-882i Sonic Maximisers and a Lexicon dual reverb effects processor. However, there are no compressors or limiters in the signal chain. 'We prefer to keep the audio path as pure and as minimalist as possible,' explains Mr Lin.

The amplification racks are stored in an air conditioned room at the rear of the theatre and bear all the signature trademarks of Mr Lin. The two racks containing 15 Dynacord L-2400 Linear Precision amplifiers do not have rear casings, allowing a clean flow of air through them. Each amplifier is clearly labelled both on the front and rear as to which speakers they are supplying. In addition, the current has to pass through four Furman Sound PL-PRO DE Series II AC voltage conditioners, which also monitor the current. 'We have been using power conditioners for some 25 years now and always insist on using them,' he said. 'This has to be one of the most poorly understood aspects of the signal chain. Basically all audio equipment takes electrical voltage and converts it to audio energy. If you ensure

that the electrical source is clean, you can be sure that it converts to natural clean audio. What you put in, you get out. If you do not, you're allowing spikes, surges, and ultrasonic and subsonic noise to filter through to the equipment.' The earth connections go to ground next to the equipment racks. Two clean earths – also for redundancy. 'Noise will always find the shortest path to ground – by eliminating it, the fidelity is maximised.'

Eight EV Xi-2153A/64F loudspeakers have been installed as a true stereo L-R configuration into the proscenium above the stage as the front of house system. These point source clusters were positioned following CAD simulations and hoisted into position with a scaffold tower using a one ton chain block hoist. 'It's a true tri-amplified system and doesn't need any low frequency enhancements in the form of subwoofers,' he continues. 'You want the lows, mids and highs to hit the audience at the same time. Once I had calculated the angles, the human ear took over. There is no other measurement device in the world that can be more critical or subjective and so that is how I prefer to conduct my final tuning – with my ears and not with my eyes.'



View of stage from rear seats



Front of house

However, a Rane analyser sits at pride of place in front of the Midas console, ensuring that Mr Lins' ears are finely tuned themselves.

No single disruptive electrical element has been ignored – even the Theatrelight Rackpack II lighting distribution boards have been situated in a rack that can only be accessed from outside the hall. 'They need massive amounts of power, so we keep them as far away from the audio cables as possible.' The audio cables are a combination of Canare Starquad speaker, microphone and power cables terminated onto gold plated Canare, Neutrik and Switchcraft connectors. An Eiki LC-XT9 projector has been ceiling mounted at the

rear of the hall, taking its feed from the Sony camera, LG DVD player and LG DVD recorder via Kramer switchers. A Theatrelight Cuemaster 120 lighting desk controls a variety of ETC spotlights, Selecon Fresnel and Desisti Par Cans.

The audio emitting from this system can be compared to the finest stereo systems – it's clear, it's clean and it has high definition. What is more, the resultant sound is evenly dispersed to the 702 seats. The air conditioning was run for 48 hours before any equipment was brought in to be installed as Mr Lin's team wanted to ensure that residual dust didn't penetrate any of the equipment. That seemed a long time after project manager

Mark Ang, chief engineer Jonathan Lee together with the other nine members of the Lin Asia installation team had pulled cables in June 2008 following the installation of the conduits. But clearly the wait was worth it once again, as nothing has been allowed to compromise the sound. Mr Lin concludes the tour by saying: 'Our product is not the hardware that we install – it's the integrity, credibility, belief and trust we offer in making our clients' vision a reality.' The exterior walls may be made of concrete, but Mr Lin has indeed ensured that no stone has gone unturned.

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Low profile EV FRI-28LPM stage monitor



EV FRI-28LPM stage monitor



20 EV RE-2 UHF Wireless systems at Front of House



Kelvin Lin highlighting dual redundancy ground earthing



EV X12153A 64F FOH speaker cluster



Amplification racks

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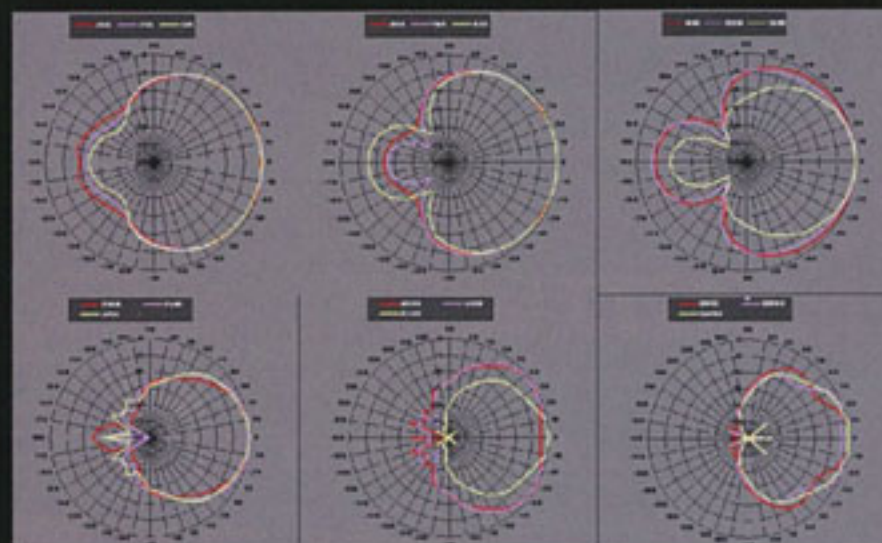


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