

WorshipAudio

Asia

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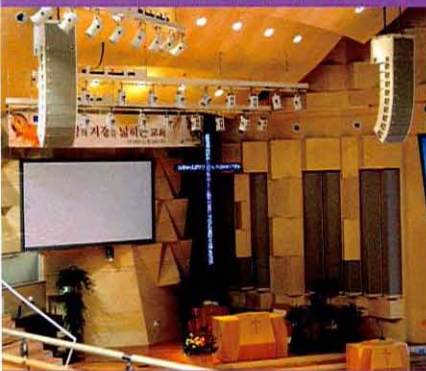
Spring 2008



AUSTRALIAN ACOUSTICS
ST PAUL'S CATHEDRAL



JE-JU'S CROWD PULLER
SEONG-AN CHURCH



DAEJEON'S DELIGHT
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SOUND SERVICE Bethesda Bedok Tampines Church

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Full service

Having extended its Singapore premises, the BBTC needed sound systems in keeping with its modern services and on-line facilities, as **Richard Lawn** discovers



The sanctuary

IN THE 21 YEARS OF ITS ministry, the congregation attending the Bethesda (Bedok Tampines) Church in the east of Singapore reflects the growth of the republic in which it is based. Two years in the making, a newly completed wing recently opened its doors with a 250-capacity Youth Hall on the second storey and a 1,500-seat main sanctuary on the third, which are the focal points of the new annex.

With no full-time technical staff on the books at the church, it falls to the young and dynamic group of volunteers led by Young Adults Pastor Andrew Tan to take responsibility for co-ordinating all the audio-visual events in the church. While construction of the new five-storey wing was underway,

it was Mr Tan's task to source the A/V equipment that the Youth Room and sanctuary would require for the services they would host – which are both musical and contemporary in nature. 'I was invited to look around the Trinity Church in Paya Lebar, where there is an Electro-Voice sound system,' he explains. 'I was impressed by the price-performance features of this system as well as the work of the contractors that had installed the PA, and so had little hesitation inviting Concept Systems Technologies to prepare a shoot-out and quotation for our needs.'

Concept Systems Technologies (CST) is a relatively new breed of Singapore systems integrator, primarily serving the hotel market, but seemingly spending

an increasing amount of time on contracts for houses of worship in the country. It offers a range of services in audiovisual solutions, including A/V system design, sound reinforcement, video projection, wireless control integration, stage and theatrical lighting, architectural lighting and effects lighting systems. Following an initial evaluation of the venue, CST's team of Jimmy Lim (system designer) and Gerald Fong (assistant project manager) worked closely with the church in order to ensure that their designs were correctly implemented on-site.

The Youth Room is used every Saturday, but is also available for weddings and functions. Here, there may be only 250 seats, but there are enough Watts to ensure the audience's fullest attention. The room's walls and wooden panels had to be acoustically treated by Alpha Acoustics once the main, delay and side fill PA system consisting of eight EV FR152 and two EV FR181 subwoofers had been suspended from the ceilings. Smaart analysis software assisted Mr Lim to fine tune the system further and direct the system's energy to the audience, while limiting the SPLs of the delays near to the entrance, which face the doorway.

Four motorised ceiling screens cater for presentation needs, including a central 4m x 3m A/V screen above stage centre accompanied by two smaller 3m x 3m screens for the audience in the left and right wings. There's also a further 3m x 3m screen that drops into position at the rear of the hall for the benefit of the speakers on stage, acting as a large speech

monitor. Eiki 5200 Lumen projectors have been installed to project video footage and PowerPoint presentations.

In the main 1,500-seat sanctuary, a larger scale set-up was required in order to cater for the audience in the downstairs stalls and upstairs balcony areas. After considerable thought, Mr Tan and the committee opted to fly a Dynacord Cobra 2.0 line array system consisting of three top boxes and three subwoofers per array in an LR configuration. In addition, four white EV FR152 cabinets provide fill/delay for the under balcony area towards the rear of the hall, with Dynacord LX2200 and CP1800 amplifiers supplying the power to the Cobra and EV cabinets respectively.

On stage, the musicians, choir and singers have six EV SX250 monitors powered by EV Precision Series CP1800 amplifiers. Shure SM57 dynamic microphones are used to mike-up the various instruments used, while the singers and speakers are free to roam with wireless Sennheiser G2 ew100 microphones. Panasonic Viera 42-inch LCD screens serve as visual monitors for the stage, while two 5m x 5m side screens and a central 6m x 6m screen address the congregation, with two Eiki 5200 projectors dedicated to the 5m x 5m screens and a larger Eiki LC-XT4 12,000 Lumens projector trained on the central screen.

A 40-channel Midas Verona 400 console is located at the rear of the balcony area, a vantage point that provides unobstructed views of the entire stage. Six of the console's microphone channels are dedicated to the choir, and a further

Main FOH System

Midas Verona 400
40-channel console
Dynacord Cobra 2 tops (6)
Dynacord Cobra subwoofers (6)
Dynacord LX2200 amplifiers (4)

DELAYS:
EV FR152 15-inch speakers (4)
Precision Series CP1800 amplifiers (2)

OUTBOARD
Klark Teknik Square One EQ
EV NetMax N8000 System Controller
Sabine FBX GraphiQ2
Rane SM268 splitter
Alesis Quadraverb

STAGE MONITORING:
Yamaha MS101 console
EV SX250 speakers (6)
EV CP1800 amplifiers (3)

Youth Hall FOH System

Midas Venice 320
32-channel console
EV FR152 15-inch tops (4)
EV FR181 18-inch subwoofer (2)
Powered by two EV Precision Series CP1200 and one CP1800 amplifiers

SIDE FILL
EV FR152 15-inch speakers (2)
Precision Series CP1200 amplifier (2)

DELAYS:
EV FR152 15-inch speakers (2)
Precision Series CP1200 amplifier

OUTBOARD
Klark Teknik Square One EQ
EV NetMax N8000 System Controller
Sabine FBX GraphiQ2
Alesis Quadraverb

STAGE MONITORING
Midas Venice 320
32-channel console
EV SX100 speakers (4)
EV PA2450L amplifiers (2)



EV SX250 stage monitor and Panasonic Viera 42 inch monitor



Midas Verona 400 in the sanctuary



Youth Hall stage front

nine to the drums and percussion instruments. CST sat in with Mr Lim and his team of church technicians for the first Sunday service in order to give them full 'hands-on' training. 'It was an entire round of day and night services,' says Mr Lim. 'It went well and we offered tips and advice where needed.'

The CST project team had spent four months on-site in the build-up to the first service, when there were as many as eight engineers and technicians present at the peak of activity. By using Ease prediction software in our pre-installation analysis, we were able to achieve a $\pm 3\text{dB}$ variation in coverage throughout the sanctuary. Once again, we were supported by Alpha Acoustics, as we are adjacent to a residential neighbourhood. The last thing the church wants to receive is complaints for excessive noise pollution...

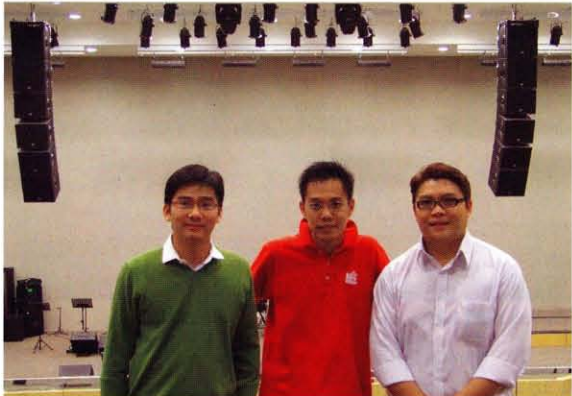
Alpha Acoustics is another local Singapore consultancy specialising in acoustic treatment and sound isolation, primarily serving discos, pubs and karaoke lounges.

In addition to the two morning Sunday services that are conducted in English and an additional service in Mandarin, the sanctuary is being used for graduation ceremonies and public speaking. The church also offers children's services on Sunday, Hokkien worship and youth services on Saturday, and seniors' fellowship meetings twice each month. Its website, meanwhile, offers streamed and downloadable audio sermons, as well as print archives of its sermons.

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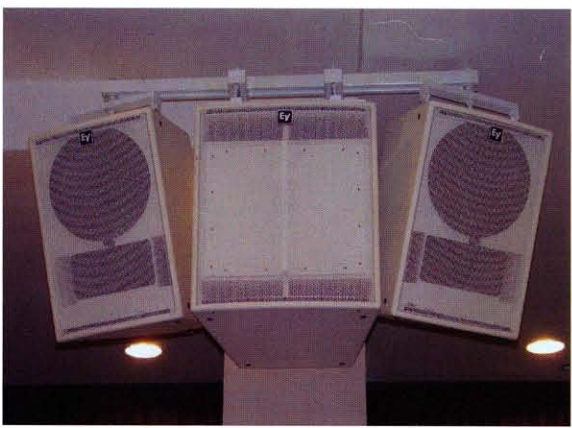
Alpha Acoustics,
Singapore: + 65 6846 8872
www.alphaacoustics.com



Jimmy Lim (CST) Andrew Tan (BBTC) and Gerald Fong (CST)



Main sanctuary stage left



EV FRI152 speakers with FRI181 central sub cluster in the Youth Hall



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