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SINGAPORE

New Mosque Takes Full Advantage Of AV

Electronics & Engineering follows through with yet another House of Worship



With so many distractions in the world, it has become more important than ever that the attention of worshippers is focused towards what is being preached. In this aspect, audio plays an important element in Houses of Worship, when it comes to preaching and ensuring the message is heard coherently by worshippers. Visual solutions too are now being included as part of the overall worship experience. This helps in engaging larger congregations, especially where there may be break-out rooms to cater to the growing number of worshippers.

The built from ground up Al-Islah mosque is a recent example which was out-fitted with audio-visual systems, installed and integrated by Electronics & Engineering Pte Ltd (E&E) to help the mosque better serve worshippers. The key objective was to enhance the experience of the worshippers and yet ensure that the AV blends in with the

mosque architecture and environment so that it does not become a distraction.

About Al-Islah Mosque

The Al-Islah mosque is located in Punggol, which is a fairly new town in the Northeast of Singapore. The mosque is the 24th mosque to be built under the Singapore Mosque Building Fund and is meant to cater to the needs of Punggol's young residential profile.

The four-storied building which also features a roof terrace and basement car-park, has room for 4,000 worshippers and features seminar rooms, a multi-purpose room, prayer room for ladies, a conference room, offices and of course the main prayer hall.

The mosque has ensured that all space is used effectively including the basement which features audio systems and projectors for spill-over during services, which acts as an extension of the Prayer Hall.

"As this was a ground-up build project, it gave us the opportunity to work with the consultant early on the AV requirement. There were some challenges but we managed to resolve them to suit the requirements of the client. The mosque team were also very forthcoming and enthusiastic in ensuring that the AV systems implemented are to be used effectively and efficiently," said Soon Chee Boon, Sales Manager, Electronics & Engineering Pte Ltd.

The Audio Solutions

All levels feature audio reinforcement except for the roof terrace. The main sound reinforcement solution installed throughout the mosque, including corridor areas by E&E, include EAW CIS300 4" ceiling speakers with volume control handled mainly by Atlas AT100 with a couple of Atlas AT35 wall-mounted panels for ease of control by users; EAW SMS4 weatherproof loudspeakers are installed at areas that are subjected to weather elements, and

Mackie speakers are installed where monitoring is required.

The Main Prayer Hall is an exception as it features 3 units of EAW UB52i compact two-way full-range passive speakers that feature acoustic fabric colours to match the Interior Designer's specifications. These speakers are complemented with 25 units of 8" C8 Community ceiling loudspeakers.

Two units of EAW UB52i also feature in the Multi-purpose hall. The speakers are all driven by a mix of 8 channel and 4 channel MTS PAG-series power amplifiers, except for the EAW UB52i which is driven by Ashly KLR-2000 amplifiers.

Speech reinforcement is handled by a mix of Shure microphone systems that include the wireless Shure BLX14R/ MX153 that comprises of a transmitter,



25 units of C8 Community ceiling loudspeakers were installed at the Main Prayer Hall

receiver and 'invisible' Headworn microphone and Shure BLX24R/ PG58 wireless microphone system with wireless handled transmitter that are complemented with Shure UA844 + UA874 x2 wireless antenna distribution system. The Shure SM58-LC wired handheld microphones are also included in the inventory. At the Main Prayer Hall as well as in the Multi-Purpose Hall, 2 units of Shure MX418/C Gooseneck microphones feature at the Mimbar, which is the pulpit where the Imam (prayer leader) stands to deliver sermons.

The Visual Solutions

A mix of projectors and LED panels have been installed within the mosque building. They are used to project the worship services and in the case of the classrooms as teaching aids. A range of mainly ceiling mounted Samsung 60" LED panels with a couple of 32" LED panels that come with in-built speakers are placed strategically where there is a need for the congregation to visually join the services.

The carpark area that also doubles up as a spillover space and the multi-purpose hall each feature a BenQ PU9730 7000 ANSI lumens WUXGA resolution projector. The conference room has a BenQ 5000 ANSI Lumens WUXGA resolution projector whereas the 8 seminar rooms in level 2 and the two Religious seminar rooms in level 5 each feature a BenQ 3500 Lumens LCD projector. Motorised and manual pull-down Remaco projection screens are installed in all the projection spaces.

A Panasonic PT-DZ870EK is installed at the Main Prayer Hall, at the side of the Pulpit and in-front of a glass panel window. Due to the very limited space, between the screen and projector placement, a Panasonic ET-DLE030 ultra-short throw lens is used to project onto the 3.5m (W) x 2.2m (H) motorised Remaco TEN-3522C tab tensioned screen. The 8,000 Lumen WUXGA projector ensures sharp crisp images in what can be considered a bright environment.



EAW CIS300 4" ceiling speakers installed across the mosque.



2 units of Shure MX418/C Gooseneck microphones feature at the Mimbar



EAW SMS4 weatherproof loudspeakers



LED panels dot the mosque to help the congregation to be visually connected to the proceedings



A Panasonic PT-DZ870EK, with an ultra-short throw lens is installed at the Main Prayer Hall, at the side of the Pulpit and in-front of a glass panel window.



The AV Control room

AV Control Room

The building features 3 separate control rooms at the basement level, level 1 and level 4 which allows for easy control of the AV in the entire building. All the equipment are racked on a Grandbright 42U AV Equipment rack that comes with a ventilation fan. Kramer solutions form the backbone of the video infrastructure. Both the level 1 and level 4 Control rooms feature a Kramer 8 input and 16 output Digital Matrix Switcher whereas the basement level features an 8 in and 8 out Digital Matrix Switcher. A Kramer VIA Collage wireless presentation system is also racked-up at the basement and level 4 control rooms. The key purpose for the Collage is to cater for presentations. There are also Fiber to HDMI and HDMI to Fiber Kramer output cards installed within the Matrix Switchers, with the respective cables running between the Basement and Level 4 AV Control Room to enable fast transmission. Each of the Control rooms also feature a unit of Sony RM-BR300 camera control unit for the PTZ cameras that are installed within

the mosque; a Panasonic DV-Recorder with TV Tuner and a 17" Samsung LCD Preview monitor.

All the power amplifiers are also installed within the AV Control Room Racks. Each control room also features a Symetrix Radius 12x8 that are responsible for the audio DSP. Level 1 features an additional Xin12 and 2 units of XOut12 expander cards whereas Level 4 features an additional XOut12 expander card.

"We have almost exclusively used the Symetrix DSPs for our projects simply because we find it reliable and easy to configure. With the expandable cards we were able to keep the costs down within a 1RU unit. Being a six-storied building with a number of different areas using audio, the Symetrix was the perfect choice to control the routing and distribution as well as zoning of the audio for a more effective management of the sound. Being Dante-enabled we were able to connect each of the Symetrix Radius within the three different levels with Ethernet, making the installation a breeze. In addition, we were able to integrate the ARC-WEB within the Crestron CP3 interface making it easy for the user to control or check on preset configurations via the iPad," highlighted Chee Boon.

Control At The Finger Tips

An Apple iPad with docking for charging can also be found in each of the control rooms. The iPad features Crestron CP3 control system interface to the AV equipment that enables the users to wirelessly control the systems should there be a need. The Crestron App enables the user to control the audio, projectors and screen, video routing and includes audio presets from the Symetrix app that has been integrated into the control application.

Chee Boon commented, "With the mobile Crestron control system, it made it easy for the mosque's technical officer to walk around the mosque and adjust settings should there be a need, making his job not only effective but productive. The user interface is easy to understand and manipulate which is of course useful for the end-user."

The mosque that started its services just at the tail end of the Puasa month (the fasting month of July 2015) has been welcomed enthusiastically by the Muslim community in the Punggol area.

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