

Sound for the faithful

Audio installations in Korean houses of worship are big undertakings and big business. **Tim Goodyer** finds out about Adamson's initiation into the Yoido Full Gospel Church



The year 1784 marked the appearance of western Catholic missionaries in Korea for the first time, and until the latter part of the 20th Century, the Korean nation was extremely resistant to the gospel message. The early Christian missions were met with resistance and achieved martyrdom in pursuit of their faith with the Anti-Catholic persecution reaching a climax in 1866 when 10,000 bishops, priests and Korean converts were massacred for their beliefs. In 1900, Korean Christians comprised only 0.4 per cent of the country's population. This number was on the rise, but with the eruption of the Korean War in 1950, hardship fell on all Koreans, and the Korean Church suffered as a result. But the end of the war in 1953 revealed a new freedom for the churches in South Korea.

A few years passed; and in the slums of Seoul, a Korean bible student named Paul Yonggi Cho established a congregation in a tent. This simple structure was the beginning of what would become the Yoido Full Gospel Church. By 1992, the Christian population of Korea had grown to 40 per cent, and today the Yoido Full Gospel Church has over one million members. With more followers than any other single Christian Church in the nation, the Yoido Full Gospel has three sanctuaries that, together, can accommodate up to 13,000 people. One of the sanctuaries - which plays host to a full gospel choir and a variety of upbeat Christian pop music - seats 2,500 people and had seen little in the way of technology upgrades over the last 10 years. The performances in this sanctuary seemed to be suffering.

In the early part of 2002, pastors David Cho and Sung Hoon Myung made the decision to install a new audio system. The church's chief engineer Mr Dong Kyu Cho began evaluating the market's leading industrial speaker systems shortly thereafter. When asked about the upgrade, he said: 'The church's previous sound system did not hold up well with the mixture of choir and rock-style instrumentation. There was very little output or clarity in this conventional PA system. We wanted a high-fidelity cabinet that, at the same time, could produce high sound pressure levels while maintaining its coherency. We were also very concerned with the aesthetics of the system. With the sightlines being a major issue, we were definitely interested in a line array. There were four companies that provided quotes and demonstrations, but it was immediately obvious that the Adamson Y10 fulfilled our needs.'

In October of 2002, Jae J Song, chief engineer of Hansam TRS (Adamson's support agent in Korea) conducted the Adamson demonstration and provided a complete system design for the two-tier room. The system design included Adamson Y10, SX Sub, and LX12s for the main system. 'I designed the entire system with the Adamson Yaxis Shooter Software,' says Jae Song. 'My initial design called for 20 cabinets, but the budget was cut back and in the end we installed 18. In this second design the Y10 array covered the entire room very smoothly, but the coverage just seemed to drop off in the front five rows so we decided to use the Adamson LX series for a front fill. Eighteen Y10s, eight SX Subs, and four LX12s gave us very uniform coverage throughout the room. The LX12s were also a cost-effective solution.' In order to fine-tune the new sound system to the room, measurement and analysis was done using Smaart software.

The entire FOH installation is powered with the Crown VZ series amplifiers. The MacroTech 5002 was used for both the subs and the Y10s, and the 2402 was used on the LX12 front-fills. 'We decided to use 5002s across the board for a couple of different reasons,' Jae Song says. 'When you use a good, powerful amplifier on the highs of the Y10, it seems to make a difference. The cabinet really opens up and the highs jump right out at you. We also had 70m cable runs, so I was a little concerned about power loss.' Anchoring the front of house position is a Soundcraft MH4 multipurpose live console.

SH Kim, crew chief for Korean A/V solutions provider Digiwave, was responsible for the monitor design. The monitor rig consisted of four Adamson 12MXi, and 10 Adamson 10MXs. Again, sightlines and aesthetics played a major role on the stage, and a discreet monitor rig was required. 'The Adamson 12MXi is a low-profile monitor that was perfect for this application,' SH Kim says. 'The 10MX is really compact as well. It's also a passive box, so we could save on amplification. The monitor rig needed to be out of sight and unobtrusive to those sitting in the front rows.' The 10MX and the 12MXi were installed using Crown 2402s and Crown 1202s for power. The monitor desk employed is the versatile Allen & Heath GL 4000, a popular choice for church installs because of its live recording tools.

In churches, a sound system must be able to reproduce both speech and music effectively, and so Hansam designed the system with two distinct processor settings for different applications. The standard Adamson Yaxis presets are loaded when a musical act is performing, and a second set of settings are used for the sermon. 'There is no major difference between the settings we chose to use,' says Jae Song. 'We lowered the crossover point and increased the level of the sub for more of a "rock" feel when it's needed. It just gives the system that extra bit of kick when someone is on a drum kit. All of the Adamson rigs in Korea are used with XTA processing. It is such a friendly unit to use, and the sonic quality is excellent.'

The original installation at the Yoido Full Gospel Church incorporated a delay system. Jae Song was confident that it was not needed, but the crew was dead-set on using the delays. 'In our proposal, the Y10s were covering this area,' he says. 'The Yaxis shooter software made it clear that they were not necessary. After the rig was up, we compared the system with and without the delays. We found that not only were the delays unnecessary, but they seemed to interfere and make it sound worse. The shooter is a great tool for installations — it's very accurate. The vocal intelligibility is incredible, and the sound really comes out at you anywhere in the room.'

Careful consideration, planning and execution has resulted in a flexible church sound system that incorporates the latest in technology, meeting the demands of today's high-energy worship presentations and delivering the best in audio quality to the congregation of Yoido Full Gospel Church.

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