



The praise band on stage

Rack and roll worship tech

For satellite services that require set-up and tear-down each week, First Baptist Concord opted for a self-contained AVL system packaged touring-style. **Frank Wells** reports

WHEN KNOXVILLE, TENNESSEE-based First Baptist Concord (FBC) secured the gymnasium of Knoxville's West Hills Elementary school for satellite services, producing a dynamic, contemporary worship experience posed some atypical challenges. 'With the decision to launch a second campus,' shares Jeff Lawrence, FBC pastor of worship, 'we knew it was critical that we create just the right atmosphere for our worship venue. Once we knew this would be a public school gym with weekly set-up and strike, it became clear we must engage a qualified team to help us. We chose JSS (J Sound Services of Nashville), and specifically, Luke Lasater, to design a system which would transform this most unlikely of spaces into a creative and inviting sanctuary of worship.'

FBC was the home church of Mr Lasater, a JSS engineer. Jason Spence, JSS president and CEO, notes that Mr Lasater 'designed and specified the audio, video, and lighting systems, staging, seating, and pipe and drape per the church's vision.'

The gymnasium's challenges include cinder block walls and a corrugated metal ceiling with open metal joists. 'We draped the entire room for aesthetics, which also helped to knock down the HF,' says Mr Spence. Black fabric drapes are hung on a pipe and



Looking at the stage across the Yamaha CL-3 digital audio console

base system to frame a room-within-a-room each week. A 9.8m-wide x 3.7m-deep by 0.6m-high stage is set at one of the 23.5m-wide x 21.3m-deep x 6m-high gym's long ends; FOH is at the centre of the opposite end of the space. In between, 250 chairs are placed. Lighting and video are controlled from one side. Trusses, lifts, chairs, stages and pipe and drape are stored on-site at the school.

'The approach to design was that the system would be a blueprint for other upcoming locations, as well as for retrofitting existing spaces as necessary to unify the sound, look and operation of equipment across all the campuses,' Mr Spence informs. 'It was important to choose equipment brands with deep catalogues that could handle

just about any audio, video or lighting need – and any budget. The system also needed to be road worthy since it would be loaded in and out each week, living in the back of a truck during the week.'

The system design grew out of the seating layout, says Mr Spence. 'We had to provide even coverage throughout the listening areas. The church wanted a clear articulate system for speech, but wanted to feel the band too.' End-firing sub arrays focus the LF 'feel' energy where it is needed, minimising LF build-up in the gym.

Concord West Hills draws 200 worshippers each Sunday for a single 10:30am service. The worship band each Sunday includes drums, bass,

two guitars, keyboards and two to four vocalists. The microphone package is dominated by Shure wired models. Shure UFX-D digital wireless systems are used for lead vocals (with SM86 capsules) and for spoken word (with MX153 headset mics). A Royer SF-12 ribbon mic in the overhead position 'makes the drums smooth and coherent,' says Mr Lasater, adding that sometimes the overheads and a kick mic are all that's needed in the mix. That kick mic is an AKG D12-VR. Royer's R-122 MkII ribbon mic is in use on the lead guitarist's amp, playing a consistent role getting the sound 'he wants and expects.' Bass and acoustic guitars use Rupert Neve Designs' RNDI for direct feed to FOH. 'The warmth and precision, on the bass, is unreal – the RNDI handles the intentional dynamics of the player with excellence. Radial Engineering's JDI Duplex DI is used for keyboards.

Yamaha's CL3 digital desk controls the audio. 'We needed a brand that sounded excellent, was flexible, could be easily learned by volunteers and had consoles to fit a wide range of uses,' shares Mr Lasater. 'Yamaha was the obvious choice.' The 64-channel console, configured with 24 faders, also features Dante networking. The Shure ULXD4Q quad wireless receiver is also Dante enabled. 'Having Dante built into the



PROJECTS

Shure units makes mic performance monitoring a breeze,' says Mr Lasater. 'On the CL3, we can see if a mic is on, check battery or RF levels right before someone goes live.' A 16-channel MY ADAT I/O card is fitted to one of the CL3's MY card slots for connection to a myMix personal monitor system.

The eight myMix mixers are fed a combination of direct outs and sub-mixes from the FOH console. 'We have been specifying myMix for a



The amp, RF and stage box rack



Rolling in the cased gear

while,' Mr Spence confides, 'because of its superior sound quality, simple operation, and ease of integration with other systems. We have heard comments from everyone on stage about how detailed their IEMs are. You can hear the benefits in the house too.' Accurate monitoring, says Mr Spence, means that vocalists aren't straining their voices and the band can balance with each other. The band plugs their custom or universal personal IEMs directly into their myMix, while the worship leader and vocalist plug into Shure PSM300 wireless receivers that are fed from their myMix mixer.

On each side of the stage, on crank-up lifts, are a Nexo S1210 and an S1230 cabinet for FOH, while four Nexo LS18s subs are spaced on 0.14m centres under the front of the stage. 'The sound and build quality of Nexo were the first factors in the loudspeaker brand's selection,' says Mr Lasater. 'While they work as a Nexo yoke-flown pair per side in this small environment, the array could be flown and expanded with more boxes as needed for other spaces.' A single Nexo NXAMP4X4 DSP-equipped amp provides power and processing.

Video content – messaging, song lyrics, and virtual pastor videos – are rear projected through a Draper 16 x 9 aspect, 4.5m x 2.6m screen, located upstage, centre, via a Digital Projection E-Vision 8500 laser

CONCORD WEST HILLS BY THE NUMBERS:

Setup team members:

- Audio – 3
- Video – 2
- Lighting – 5
- Stage/Pipe and Drape/Chairs - 6
- Service call staff:
- FOH Audio - 1
- Lyrics/Video PB - 1
- Lighting - 1
- Stage Manager - 1
- Producer – 1

Weekly set-up timeline:

- Saturday:
- 17:00 Setup
- 19:00 Programming
- 20:00 Out



Countdown to worship

- Sunday:
- 07:00 Call
- 08:00 Rehearsal
- 09:00 Volunteer service
- 10:30 Main service
- 11:45 Loadout
- 13:15 Lunch time!



Preparing loudspeakers for mounting

projector. A Kramer CSM-4x4HFS switcher can freely matrix the video sources feeding each of three destinations – the projector and two side-of-room televisions. Two Apple computers run ProPresenter software, feeding HDMI into the Kramer. The Thunderbolt output of one of the Macs feeds a Crestron HD-EXT3-C HDBaseT transmitter which connects to a Crestron receiver at a back-of-room confidence monitor. Crestron EXT3-C pairs also connect the Kramer to the TV and projector inputs. When virtual sermons are used, the early service from the main campus is delivered via Dropbox to one of the Macs for playback.

A downstage lighting truss is flown on Applied Electronics crank-up lifts, upstage trusses on bases, and there's a small floor package. 'The rig is stored and transported in road cases,' Mr Spence explains. 'All fixtures stay prepped with clamps. All power and data is loomed as you would expect in a touring package. It goes up and down quick.'

Lighting fixtures are all LED, Martin Rush Par1s for backlight and accents, Rush Par2s for FOH wash, with Rush MH8 mini profile moving lights on stage. 'I think we raised the bar a lot on the lighting system from what the church expected, especially on their budget,' shares Mr Spence. 'The Martin Rush series gives us the most bang

for the buck.' Completing the lighting system are ElektraLite eyeBall RGBW fixtures for drape warming, and eyeBall warm-white Architectural fixtures as house lights. A Chauvet Amhaze II hazer is used for lighting effects.

Lighting control is via Martin's M2GO console providing four DMX control universes.

Concord West Hills rolls their own power, the tech systems sharing a three-phase, 225A/208VAC generator, with power distribution from Motion Labs.

JSS had a short timeline from materials order to delivery, Mr Spence recalls. 'It was important,' that JSS had the entire system tour-ready prepped – labelled, loomed, colour-coded, racked and cased, because we only had one day to set up the entire system with their staff and train them.' The



Light fixtures being mounted



Prepping for worship

system was ready on time, and so were Concord West Hill's volunteers, most of whom had very little experience. 'They are now loading in and are ready for service in two to three hours,' says Mr Spence, 'and their loadouts are down to one hour. I have a couple of decades of touring experience and those load-in and -out times are impressive.' The volunteers were self-sufficient even for their first service, he reports.

The FBC leadership enthuses about the results at West Hills. 'It sounds and looks great every week,' says technical coordinator Doug Mentzer, 'and the load-in and -out times are quick, thanks to how well everything is organised. Additionally, once everyone was trained the load-in and -out times dropped significantly – even with smaller crews.'

At project's end, JSS learned that the church expected only 'okay, or pretty good' performance from their mobile system. 'Our expectation of ourselves,' says Mr Spence, 'was that we would deliver exactly what the church asked for; an impactful concert-style sound system, suitable lighting system for modern worship, and a life-size pastor projected on the screen. It's extremely gratifying to deliver well beyond their expectations. And there is no higher compliment than to be asked to help improve the worship experience across their other campuses.'

Mr Lasater shares that, 'Growing up in this church gave me opportunities to develop my technical skills, and it was very rewarding to deliver a quality system that fits their unique needs.'

David Henderson, associate pastor of worship and multi-site at FBC, concludes that the design has 'blown way past our expectations of what a portable setup could look and sound like.' Mr Lawrence agrees. 'Not only did JSS accomplish and exceed our expectations, they did it in record time! We couldn't be more grateful of how JSS has helped us venture into the unknown of a second campus to create something we think is pretty special.'

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