

Church Production

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Magazine

Temple Baptist Church, New Bern, North Carolina
How one church achieves extreme production control

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Photos by Jim Kumorek.



Point, Click, Control

Ethernet-based technical network offers church production extreme control

By Alison Istnick



Photo (top left): Temple Baptist's Worship Leader Mark Galbreath and Director of Communications & Media John Cook are thrilled with their new facility and A/V/L systems.

Photo (center inset left): FSR switching equipment—an Eagle 100 switcher and a Compass presentation switcher—provide control over what goes to the two Barco RLM H5 Performer projectors.

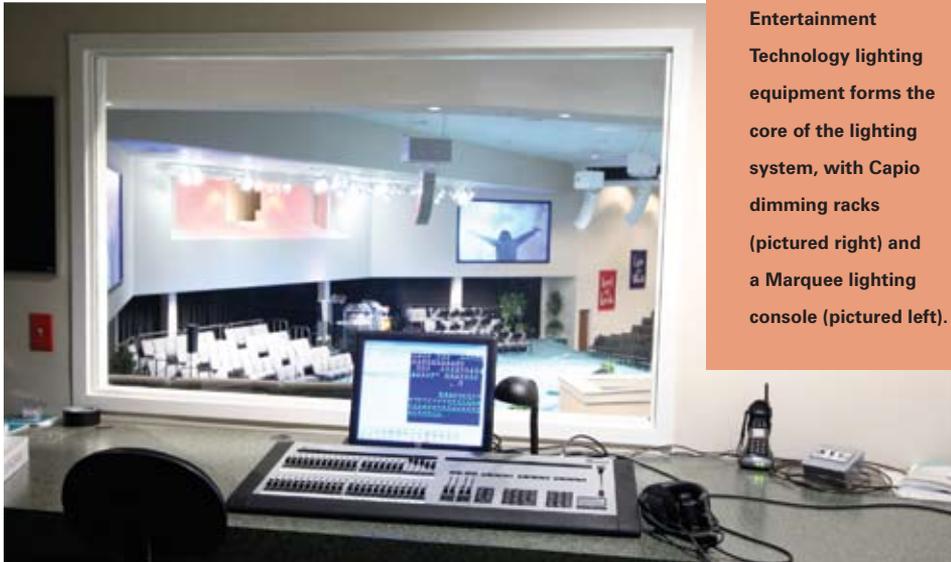
Photo (bottom left): Temple Baptist Church of New Bern, North Carolina underwent a new construction project, installing SLS line arrays, an Allen & Heath DSP system and audio console, and Entertainment Technology dimming and lighting control. Ethernet-based control systems were also installed, enabling manipulation and monitoring of the systems.

Situated on the peninsula of two main rivers sits New Bern, the second oldest city and colonial capital of North Carolina. It is here that the leadership of Temple Baptist Church constructed their new 1,900-seat—expandable to 2,500-seat—auditorium.

Temple Baptist's Worship Leader, Mark Galbreath, sees the growth of their church in the community as essential. "We are a proprietor of furthering the mission. There is nothing like this in the area. We offer contemporary praise and worship as an outreach—a way to get excited about church." Since opening the doors to the new facility in June, 2006, attendance has increased by 25 percent; their warm and welcoming presence has especially drawn in military personnel and their families from nearby Cherry Point Marine Base.

A unique feature that sets this vibrant church apart technically is their Ethernet-based network which integrates sound, lighting and video equipment into one system. "The advantages to this can be tremendous, especially within a church environment," explains Greg Hochstetler, president and founder of GNH Productions of Gainesville, Florida. Hochstetler, who provided the design and build for the auditorium and its technical systems, initially advised Temple Baptist to add a separate technical network into their church's IP system. Hochstetler notes, "They re-

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Entertainment Technology lighting equipment forms the core of the lighting system, with Capiro dimming racks (pictured right) and a Marquee lighting console (pictured left).



ally liked the idea of IP control and were already going to wire things in the building anyway—classrooms, office space, the choir rehearsal room, etc. So bringing the network into the worship area was not a big expense.”

This new system allows one to designate a single computer on the technical network to monitor or adjust equipment almost anywhere in the system. The team at Temple Baptist recognized the control that would be provided to Galbreath in managing the technology in the church. “I think Mark is extremely pleased to see how much more control he has than even he had imagined,” tells Hochstetler.

To assist the church in making the technical network a reality, Hochstetler drew upon the expertise of Tony Thompson, systems integrator with GNH Productions. Thompson’s first advice to Temple

Baptist was to separate the technical network from the church’s main data network. He explains that in a large facility technical pieces of equipment can bog down the entire network when “they talk” with the amount of data being exchanged.

Thompson also outlined how a network can be a huge help in assisting minimally staffed churches to manage their technical components more efficiently. “A technical network lets churches use their volunteer staff a little more wisely, especially where you have a lot of volunteers without technical experience,” says Thompson. “Also, for a volunteer-run ministry it’s a fairly easy system to learn. For example, computer logging of events, status panels and real-time monitoring of equipment lets fewer skilled people keep larger technical systems running

smoothly,” emphasizes Thompson. The system at Temple Baptist allows control and/or monitoring of lighting, sound amplification, processing and routing, and projector control.

Today the possibility of installing a technical network is feasible for most churches. This, in part, is due to manufacturers producing more and more equipment that is IP-compatible. Many of Hochstetler’s purchasing decisions were IP-compatible based. “A lot of manufacturers now recognize the importance of network access and have given you the option at least to add on devices or use a card that would give you that Ethernet-based



Altman ellipsoidal and Fresnel lighting fixtures illuminate the stage at Temple Baptist. White fixtures were chosen to blend in with the ceiling, posing less of a distraction.

control. We tried to find pieces of gear that not only met our specifications but that also give that piece of [control] software to the client," he recalls.

One such innovative product is the lighting dimmer system specified by Hochstetler. Entertainment Technology's Capio dimming rack works over IP as well as DMX, one of the new generation of dimmers with this option. Utilizing a new technology out of the Dallas, Texas-based manufacturer, the IGBT dimmers do several things well. Hochstetler explains, "You can put something shorted into the plug that goes into the dimmer and the dimmer protects itself—it doesn't burn out like an SCR does. If it gets too hot it will turn itself off rather than burn out, and it is also quiet. Some of the issues we have with lights are when the filaments will chatter or hum—and this particular dimmer won't cause that." Maintenance issues are also helped by the Capio Plus dimmers that report when a bulb has failed anywhere in the system.

For its ability to handle intelligent lighting and its "horsepower," GNH chose the

Marquee lighting console from Entertainment Technology. "We built this facility with forethought—even though the church doesn't have any intelligent lights at the moment, in the future all they will have to do is plug them in," states Hochstetler. A feature that works well with the Marquee is the Elo 17-inch touch screen. It offers a touch screen that you would typically see in a retail environment. Hochstetler notes, "With the Elo Touchsystem monitor you can literally touch the light and the circuit on the screen and control the cues from there. Another advantage is that it's easy to learn. The worship pastor, Mark, can go through and set up his entire worship service step by step and his volunteers can come in later and run through it. This is one of several features that make it simpler for the volunteers."

Lighting fixtures chosen for the project feature traditional theatrical fixtures. Hochstetler notes, "We are using mostly ellipsoidals. In the cove out front over the sanctuary we're using 10- and 20-degree Shakespeare Ellipsoidals made by Altman. For color washes we use lots of Altman's 65Q six-inch Fresnels that have barn doors." Hochstetler commonly finds that theatrical lighting in church environments can be distracting aesthetically. To solve this problem GNH ordered everything—

the lights, the power strips and the pipes—in white. "It costs a little bit more money but the church is very pleased with the results," tells Hochstetler.

Temple Baptist purchased an FSR Eagle 100 switcher and two Barco RLM H5 Performer 4,500-lumen projectors, all capable of HD. Video is being used for IMAG on the pastor. Hochstetler says the church is making good use of the Eagle's ability to downstream key—layering graphics over video. The church sets a head shot in the upper two thirds of the picture with text keyed onto the lower third. Eventually Temple Baptist plans to go with Media Shout to expand graphic capabilities. For its curtains, Galbreath and Hochstetler went with Rose Brand black velour panels; both electric and manual. "Rose Brand is one of the original companies on Broadway. They've been around a long time and make a quality product," says Hochstetler.

After years of working with box speakers on productions for Florida's Baptist Convention, Hochstetler started making use of line arrays. "With the line arrays we could achieve complete coverage. There were no holes. The sound was the same on the main floor as it was in the balcony," emphasizes Hochstetler, who decided on SLS' ribbon-driven technology for the Temple Baptist project. He installed LS6500 line array boxes with ribbon high-frequency drivers. The three arrays are hung stage left and right and the other from center stage. "I listen to a lot of different systems and I really like the ribbon technology. Some speakers have an edge at 1,000 to 2,000 hertz, but these are flatter and have a warmer sound to them. It doesn't have the harshness that a normal horn can have," he says. In

An Allen & Heath GL4800 48 channel mixing console was selected for FOH (front-of-house) audio control.

SLS line arrays and subwoofers were installed in a left-center-right configuration. SLS speakers feature ribbon-based high-frequency drivers instead of the more common horn-loaded compression drivers.



In addition GNH Productions hung three SLS 218EL dual 18-inch subwoofers. "In this particular case we had to hang the subs because there was no room under the stage. Even though SLS modeled the room for us I was

kind of concerned. So we went through all the right steps and I'm amazed at how great they sound," says Hochstetler.

The FOH audio portion of the project involved the implementation of an Allen & Heath GL4800 console. Hochstetler chose the board for its quality and features. "Allen & Heath offers the best audio gear for the price that I can provide churches," he says. Hochstetler also selected Allen & Heath digital signal processing components for loudspeaker management: the iDR-8 DSP System with an iDR-OUT eight-output expander. Ashly amplifiers were selected for their IP compatibility.

The advantages to IP control are numerous—the network enables Galbreath or the volunteers to monitor multiple facets of the Ashly amplifiers. Their software, for instance, allows you to see the

temperature of each amplifier, how much input and output levels for each amp, and whether there is an issue with clipping.

Hochstetler remembers Temple Baptist's initial service in their new auditorium, "On opening Sunday I was able to control everything from my laptop. I could see the amplifiers, the volume, and monitor the iDR. We could even tune the EQ on the fly using a sound-tuning system called SmaartLive by EAW. I can make adjustments during performances if needed," says Hochstetler.

Pastor of Worship Mark Galbreath is elated to have the Ethernet-based network. "I didn't even know it was an option until Greg explained it to me," relays Galbreath. "The ease of it—knowing that even in my office I can turn the system off if I needed to—it's the next step in technology, the direction where everybody will be going."

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