

# SOLUTIONS FOR HOUSES OF WORSHIP



**First Baptist Dallas**



**Casa de Dios**



**Trinity Fellowship**



**12Stone Church**

# First Baptist Dallas Spreading the Gospel with Grass Valley

## Background

Opening its doors in 1869, in Dallas, Texas, First Baptist Church of Dallas has grown into a facility spanning six city blocks. In 2009 First Baptist Dallas decided to embark on the ambitious project of opening a new, high-tech campus adjacent to its existing sanctuary. The result of the multi-year construction is a state-of-the-art, \$130 million campus that opened March 2013. Today's campus includes a 3,000-seat worship center connected by a glass skyway to the Horner Family Center (home to youth classrooms), a gymnasium, playgrounds and a seven-story parking structure. In addition, three-quarters of an acre of public community space surround a cross tower and fountain, making the campus an easily identifiable local landmark.

## Solution

As part of its new campus, the church rolled out a full HD production system featuring the latest Grass Valley production technologies, including nine LDK 8000 Elite series cameras and a Karrera Video Production Center switcher.

Several factors went into the church's decision to purchase Grass Valley equipment. "I've been in the broadcast industry for 37 years and have come to know Grass Valley as a longstanding innovator in technology. We chose to partner with the company because its solutions are reliable, intuitive and cost-effective, and they give us the power and flexibility we need to deliver various kinds of coverage to our congregation, whether through television, the web or radio," said Grable.

The church's Grass Valley equipment is used for live and tape-delayed coverage of Sunday morning church services for its domestic television

The construction of the new campus required not only the demolition of several buildings, but also an overhaul of existing, archaic broadcast equipment. "Our broadcast infrastructure was 25 years old. We knew we needed to take our productions to the next level, and moving from SD to HD was imperative for us to maintain the level of positive impact we've had on the city of Dallas all these years," said John Grable, minister of communications at First Baptist Dallas.

and radio audiences, along with its international, web-based viewers. These services typically include a 200-voice choir and a 50-piece orchestra. For the in-house congregation, the Karrera switcher feeds a massive video screen at the front of the sanctuary with live and taped images displayed simultaneously via a Coolux multiview system.

The viewing screen is 150 feet wide and stretches across two-thirds of the worship center. It consists of seven HD projectors that work together. "The screen is positioned behind the choir, and we consider it the true focal point of our sanctuary," said Bryan Bailey, director of media and production at First Baptist Dallas. Bailey works with senior producer Peter Shay on the AV presentations each Sunday.



Watch the First Baptist Dallas Video Case Study at [grassvalley.com/fbd](http://grassvalley.com/fbd)



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John Grable, Minister of Communications,  
First Baptist Dallas

## Benefits

One of the concerns Bailey and Shay had with using such a large screen was latency. “If there were any time delays from the camera lens to the screen, we knew the congregation would have difficulty following the service. So we tested for latency early on and the Grass Valley equipment passed with flying colors,” said Bailey.

In choosing a switcher, Bailey and Shay needed a system that could deliver a large number of inputs and outputs without having to spend thousands of dollars on multiple M/Es. “Karrera supporting up to 192 inputs and 96 outputs is a huge plus for us. Also, its software-based configuration and modular construction meant we could upgrade it over time, which was also an important factor in our decision,” said Bailey. In conjunction with the Karrera, the church purchased three different control panels for each of its three feeds, including a 3 M/E panel for feeding the images on the 150-foot screen in the worship center, a 2 M/E version for the broadcast feed, and a third 1 M/E soft panel to handle the live Internet stream.

“Delivering three different feeds every Sunday morning is challenging, but it helps us grow our congregation beyond the four walls of our sanctuary,” commented Shay. He points to Karrera’s large control panel as a huge advantage. “We use the entire panel all the time. The 2 M/E panel handles our live broadcast, which goes into post production for television and is then broadcast on the Daystar Network on a 60- and 120-day delay, as well as an audio feed to 720 radio stations across the United States daily. We also have an online audience of several thousand who are all watching at once, and the software panel enables us to easily stream to them live every Sunday morning.”

For IMAG at the front of the sanctuary, the church often delivers up to five discreet images on the screen at the same time. “With a 200-voice choir and a 50-piece orchestra, there’s a lot to capture. But the 3 M/E panel works beautifully in delivering crisp, clear images onto the screen,” said Shay. Nine LDK 8000 Elite cameras are strategically placed throughout the worship center to capture a variety of angles. Four of the cameras are manned, with two positioned side-by-side on a camera platform in the sanctuary’s center, one stationed right for a 3/4 view, and one in the balcony. A fifth camera is housed on a jib near the pulpit to provide coverage of the worship leader. The remaining four cameras are robotically

controlled. Two are placed in the orchestra pit, and are raised and lowered as needed. One is positioned in the first row of pews, and the final camera is situated on a MAT-TowerCam, which enables the camera to telescope up to 16 feet for a smooth on-air move.

“Our new worship center has 3,000 seats, but there’s also a contemporary worship venue on campus that takes an HD feed. Having nine cameras in the new worship center enables us to capture the sermons from varied angles and deliver creative productions to our audience, whether they’re on campus, watching on broadcast television or watching online,” said Shay.

The LDK 8000 Elite series gives First Baptist Dallas a comprehensive, multi-format, and future-proof camera system. It can capture HD images natively and switch instantly between multiple formats and selectable frame rates of up to 1080p60. “That’s another advantage of the cameras,” Shay added. “Right now we’re running our in-house productions at 720p60. In the future, we’d like to upgrade to 1080p. We know we can do it with the LDK 8000.”

Another advanced feature of the LDK is its ability to deliver crisp, clear images in low-light conditions. “Our worship center is a brand-new facility, so we’re still troubleshooting some lighting issues. The LDK cameras often go from stage lighting to audience lighting, so the cameras settings can be quite different. We also have a baptistery in our outdoor fountain, so one of our LDKs usually comes outside with us to capture baptisms. You can imagine the challenge of constantly moving from indoor to outdoor light, but with the LDK it’s not an issue. It lets us save white balance settings so we’re not constantly making adjustments. We can easily move from indoors to outdoors without having to recalibrate. At the end of the day, this saves us a lot of time and keeps our quality up,” said Bailey.

The church delivered its first broadcast on Easter Sunday 2013, beginning a month of Sunday celebrations with special event speakers and multiple music events, including a performance in April by the famous Brooklyn Tabernacle Singers. “The Easter Sunday broadcast went off without a hitch. It was standing room only, and we couldn’t have been more pleased with the performance of our Grass Valley cameras and switcher,” said Grable. “The goal of our new HD system is to deliver first-rate productions and help spread our message to the people of Dallas and beyond. Grass Valley has been absolutely instrumental in making this happen.”

# Christian Church Casa de Dios (House of God)

## Transmitting the Christian message with the latest technology

**C**hristian Church Casa de Dios (House of God) is the largest and fastest growing house of worship in Guatemala. They selected Grass Valley solutions to deliver high-quality programs to their audience and for the members of their congregation.

On a daily basis, the Church telecasts Casa de Dios and Noche de Gloria, reaching audiences in the US, Central and South America and some European territories via TBN Enlace USA.

Casa de Dios worked with solutions integrator Comtelsat, a Grass Valley representative in Central America, to plan the inauguration of its new broadcast production center. The Church received a wide range of Grass Valley equipment, including eight triax LDX Première cameras with 3G transmission capacity, one Kayak HD video production switcher with Kayenne XL control panel, a four-channel K2 Summit 3G media server with AVC-Intra codecs, a Concerto 64x64 routing switcher and GeckoFlex signal processing modules. Comtelsat will support the commissioning of the equipment and staff training, with a four-year support agreement.

“We are implementing a state-of-the-art church, at the same level as the best houses of worship in the US. We wanted the latest in audio and video technology because it’s really important for us that our congregation enjoys high-quality content,” said Alexander Calderón, Director of Broadcast Production, at Christian Church Casa de Dios.

“Grass Valley solutions allow us to deliver the best live productions in HD to our audience, within the Church and around the world. The company offers an unrivaled product portfolio that never compromises image quality and allows for future updates when necessary,” he added.

“Comtelsat and Grass Valley worked hand-in-hand offering personalized attention and the perfect solutions for our production needs,” said Calderón.

Grass Valley’s LDX Series of advanced imaging cameras offer a new level of business flexibility — one hardware platform with a flexible GV-eLicense upgrade model that expands the cameras capabilities on a 7-day term or perpetual basis, including the ability to license up to 15 F-stops of HDR on a weekly or perpetual basis, with the LDX 86<sup>N</sup> Series and the LDX 86 Series.

With performance that includes native 4K UHD, 1080p50/60, full compatibility with Grass Valley 3G transmission solutions, and amazing images in 1080p/1080i/720p, the LDX Series is the most advanced camera range in the industry.

“So far we have experienced excellent results in terms of quality, operation and support. The image quality provided by the LDX cameras is very satisfactory and the versatility of the other products complement them to deliver a high-level production,” Calderón remarked.

“Grass Valley and Comtelsat provide us with a great advantage — they have designed a workflow specifically to meet our current needs, and the flexibility in the design allows for any future growth, representing a technological benefit for the Church,” said Calderón.



“They offered personalized attention adapted to our needs. In each area, Comtelsat and Grass Valley worked hand-in-hand offering the perfect solutions for our production.”

Alexander Calderón, Director of Broadcast Production, Christian Church Casa de Dios

# 12Stone Church Serving its satellite congregations with synchronized dual-feed services

## Background

As one of the fastest growing churches in America, 12Stone Church® — a Wesleyan Christian Church — recently opened its Sugarloaf campus outside of Atlanta, to join with its Central campus in Lawrenceville, GA and two satellite locations in Hamilton Mill and Flowery Branch, also in Georgia. At these four locations, 12Stone provides 20 worship services weekly to a congregation of over 30,000, with Sugarloaf seating 1,000, Lawrenceville seating 2,600, Hamilton Mill seating 800 and Flowery Branch seating 500.

## Solution

With nine venues in total, 12Stone needed a flexible way to distribute live-to-tape services across their growing network of campuses. While the church deployed two Grass Valley Karrera 2.5 M/E production switchers and four LDX Première cameras as part of this project, two K2 Summit 3G and four K2 Solo 3G media servers are at the heart of the flexible workflow that accomplished their production goals.

The growing multisite trend in Houses of Worship provides tremendous cost savings and attendee flexibility and convenience by opening satellite venues as opposed to main campus expansions but which require the deployment of video transmission between sites. The cost of video coverage at satellite venues is typically far offset by the cost in money and disruption of expanding the main campus.

## Benefits

While other dual-feed synchronized channel solutions require ganged channels to make an application of this sort work, they are riddled with opportunities for errors, including accidental swapping of clips in the playback channels, as well as the channels playing-back out of sync.

K2 with ChannelFlex provides for a simplified solution as easy as playing back a DVD. K2-delayed transmissions and pushing clips from the

Originally brought in by 12Stone in 2008 to upgrade the Central campus to HD production, Technical Innovation's Blue Hat Design, a systems integration firm specializing in audio/video installation and broadcast solutions for houses of worship headquartered in Norcross, GA, was once again tapped in 2014 to install a fully equipped HD video production facility at the new Sugarloaf campus.

In practice, it is difficult at best to synchronize the events at the satellite campuses with the main campus so they all “arrive” at the message from the main campus at the same time. This is where K2 Solo is the king in simplicity of deployment and operation, as well as being uniquely qualified with ChannelFlex to execute Grass Valley's “Time-Slip” application where dual-feed transmission of time-synchronized material occurs a design requirement for future use (see [www.grassvalley.com/docs/Application\\_Notes/servers/k2\\_solo/GVB-1-0106A-EN-AN\\_K2\\_Solo\\_Playback\\_Time\\_Delay.pdf](http://www.grassvalley.com/docs/Application_Notes/servers/k2_solo/GVB-1-0106A-EN-AN_K2_Solo_Playback_Time_Delay.pdf)). Larger churches not only transmit a traditional switcher-based program feed to their satellite venues, but for their larger satellites, they also transmit a graphics rich side-screen feed for the satellite venues.

originating campus from prior events to the satellite venues as backup provided a high level of confidence of availability at the all-volunteer-operated satellite venues.

Fully operational since Easter Sunday in 2014, the system at 12Stone's Sugarloaf campus won Technical Innovation a 2014 Commercial Integrator BEST Award for Best House of Worship Project for its innovative design.

“Once the K2 servers were set up and the staff trained, we found that running the application in a workflow that could be considered complex by non-media professionals was fairly easy for the volunteers to handle.”

David Roche  
Project Manager, Technical Innovation's Blue Hat Design



# Trinity Fellowship A Christmas Crisis: A multisite church replaced and enhanced its broadcasts just in time for the holidays

## Background

Trinity Fellowship in Amarillo, Texas operates a fully staffed professional production department and a 10-camera HD broadcast center. For the church's main location — a 3,800-seat worship center built in-the-round — quality video production for IMAG is crucial.

The broadcast center is also responsible for producing a number of other programs:

- Weekend sermon content for seven campuses throughout the Texas Panhandle and North Texas
- Additional video services at the primary location, such as creating a broadcast-quality IMAG experience for congregants attending services there
- All sermon content from the pastor
- Live studio tapings of a television program about marriage, where the head elder and his wife coach couples, gets broadcast via the Internet to more than 100 million households in North America and more than 200 countries

## Challenges

The original switcher suffered from critical overheating as a result of a lightning strike that caused a failure of the plant's cooling system months earlier, and the broadcast center's switcher completely failed as Thanksgiving 2015 drew near. With the holidays approaching, the church needed to find

a way to restore its broadcast center quickly. That would mean deciding what to purchase, installing the equipment and training the new staff — all in a matter of days.



“Our switcher had a catastrophic failure as a result of a lightning strike. Grass Valley and systems integrator Lubbock Audio Visual, Inc., were able to put together a complete proposal in less than 24 hours. We issued a purchase order on Tuesday November 24th and the switcher was on our dock by 9:30 am the following Monday morning, despite the Thanksgiving holiday.”

Michael Wells, Executive Director of Operations, Trinity Fellowship



“The new switcher was surprisingly easy to learn. Immediately following commissioning, we had a brief overview of the overall switcher operations and this carried us through for six fairly complicated operation weeks.”

Michael Wells, Executive Director of Operations, Trinity Fellowship

## Solution

The church’s executive director of operations first worked with Grass Valley more than 20 years ago while attending college. At the time, he used a GVG 110 switcher. This experience continued as Trinity Fellowship utilized a Grass Valley XtenDD-HD 4 M/E switcher for many years in its broadcast center. With the crisis looming, he once again turned to Grass Valley.

He chose Grass Valley’s Kayenne K-Frame Video Production Center switcher (4.5 M/E) because it’s the leading large-format broadcast switcher. By choosing the nation’s most popular switcher line, he knew he could easily receive future support and parts for such an important asset.

## Benefits

Working with equipment dealer Lubbock Audio Visual, Grass Valley shipped the Kayenne K-Frame to arrive the Monday after Thanksgiving — only five days after the purchase order was issued. It came with several upgrades from the old switcher, and during their first church service the team used 80 percent of the upgrades. That included additional 2D key transform options to overlay four different configurations of its IMAG feed onto a graphic background utilized for environmental projection of a Christmas production.

The church also utilized aux transitions, developed new custom transitions with the RAMRecorder key and fills capabilities, created fairly complex E-MEMs to simplify specific service cues and integrated the ClipStore to simplify and, to some degree, automate the playback of content during the service. The broadcast center easily integrated Kayenne with other equipment in the switcher configuration, including a Grass Valley Encore/Trinix router and Kaleido-X multiviewer — simplifying the number of steps required to reconfigure the broadcast infrastructure.

Kayenne was easy to install, easy to use with other production equipment and easy to learn. Grass Valley immediately conducted a brief overview of switcher operations, enough for the team to handle the holidays without formal, on-site training. When formal training occurred, the trainer’s extensive broadcast experience helped tailor the teachings for each member of the church’s staff and their volunteers.

Other considerations:

- The existing 4 M/E switcher needed to be replaced
- The church wanted the capability of enhanced DVE performance, as well as additional keyers, auxes, and input and output scalability
- The need for a multicontrol panel configuration for separate broadcast and IMAG TDs

Today, Kayenne helps with weekend services, concerts and studio tapings, providing a range of ways to enhance, automate and operationally simplify production. The 2D and 3D iDPM options, ClipStore, and RAMRecorder help the church consistently produce visually pleasing presentations, including subtle special effects while switching worship music sets. That includes film-look frame rate adjustments, color correction, lighting and keying effects, as well as graphics-enhanced transitions — all easily recallable or assignable to front panel buttons.

The Kayenne ClipStore can timeslip incoming content for delayed playback, and it allows for complex turn-arounds using playlist re-ordering and editing of recorded content. Combined with basic playlist transitions, this allows the church to easily feed dual H.264 encoder channels for distribution to campuses.

But the biggest surprise: the sophistication of the E-MEM timeline automation. The church’s old switcher had some of those capabilities, but all the pieces weren’t integrated tightly, so it was of little use. Another surprise advantage: the flexibility in configuring panel layouts, and the scalability of the frame size, which provides options for future expansion, ensuring quality on all campuses for the fast-growing church.

Michael Wells, Trinity Fellowship’s executive director of operations is pleased with the Kayenne. More importantly, however, he’s grateful for Grass Valley’s help during a crisis.

See how First Baptist Dallas uses Grass Valley camera and switcher technologies to streamline the production of broadcast, web and other types of content for domestic and international audiences.



Watch the First Baptist Dallas Video Case Study at [grassvalley.com/fbd](http://grassvalley.com/fbd)



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