

INFORMATION Shared by some of our Churches

Bethel Community Church in San Leandro *(will move into a hybrid worship service):*

As Bethel Community moves forward, this is an important conversation that we continue to have, and we are glad that the Presbytery is having it as well.

As for a company, we had no company. I (Michael) have a bit of an audio and video tech background. Using that and the constraint of our budget, I was able to put together a basic partial setup that has gotten us through these past months.

HARDWARE: laptops (one of which needs to be replaced soon), Zoom Q8 camera, Zoom LiveTrak L-8 mixer, MOTU M4 audio interface, Blue Encore 100 dynamic microphone

SOFTWARE: OBS (open-source broadcasting software)

TECH SUPPORT: Me (Michael)

EVALUATION: While we are conducting church gatherings from our home, our current setup works just fine. However, we do plan on taking steps toward a hybrid gathering, for which we are currently unprepared. The major intermediate step would be us doing our Sunday gathering from the sanctuary, with a full tech setup and no one present except a (very small onsite) team to coordinate logistically. For this to come to fruition, we'd need a different camera, a different computer, a change in our internet service (which we are preparing for), and maybe some specialized lighting. The normative cost of the tech improvements we'd be looking for would be around \$4,000-5,000.

I hope that answers your questions. Please reach out if you have any follow-up questions. And thanks again for all you are doing to serve our Presbytery!

-----*michael.*

Primera Iglesia Presbiteriana Hispana in Oakland

(Recently upgraded and/or installed equipment for live streaming worship):

Avimo designed, installed and commissioned this video / streaming system based on the specific needs of Primera Iglesia Presbiteriana Hispana de Oakland.

Some of the objectives included: Ease of use, flexibility and the ability to integrate more cameras in the future.

Here is an overview of the System:

PTZ Cameras (remote controlled)

Camera Controller

Video Switcher (receives all camera feeds and computer signal, etc)

Multiview Monitors

Computer based Video / Audio Capture Card

Mac mini Computer for streaming / recording via OBS (free service)

Presentation Software (ProPresenter - allows user to create text overlay, logos etc)

Technical service Includes: Various in-person training for volunteers and phone support for troubleshooting or questions.

Questions:

how much did the setup cost?

- *We paid around \$10,000. But that really depends on what each building needs.*

And how much monthly cost is incurred, if any?

- The only monthly cost is the internet. We had to upgrade it. I believe we are paying up to \$200 a month.

Is Avimo the company that created your environment; and who is the contact (Byron)?

- Yes, Byron is the owner. byron@avimopro.com

Does Primera plan to continue with both online/in person services after COVID? If so, will this current set up need to be upgraded or will it work just the same?

- Yes, we do because we have now another church, all those who follow us every week without being part of our traditional membership. When the building are open, we plan to continue serving them as well. The current set up is ready for both.

Finally, was the training to use the setup fairly easy or do you need to be technically savvy?

- I can say it is easy. Byron trained two members of our church; they got the idea easy.

--Pastor, Rev. Pedro P Morataya

Irvington PC in Fremont

(If you are looking to do continue with pre-recorded Worship service):

Here is the process. No fancy equipment.

1. The Pastor led the service from home.
2. Service was over zoom.
3. Host would control the service and let people in and everyone is muted, except the pianist and Pastor.
4. Also have two co-hosts who would tape the service to put on the church website immediately after worship and the other would bring up the songs or other props as needed.
5. Pianist would play prelude, doxology, postlude real time and host would feature the pianist as she plays.
6. Songs are pre-recorded and played during the service.
7. Worshipers may join in but they are muted.
8. Host will unmute the scripture reader at the appropriate time.
9. Pastor's message is real time. Pastor has a webcam ~ \$50
10. If needed like Prayers for the People, host will unmute everyone and then mute.
11. Church Announcements are real time person doing the announcements is the host and also has a webcam.
12. After worship, there is fellowship over zoom and everyone is unmuted and invited to join in.
13. that the service is sent out to YouTube and Facebook simultaneously. Zoom provides this capability. The Church needs to have a YouTube and Facebook account.

We can help churches with this process and set up if they need help. Have several technocrats in the congregation.

Hope this helps.

Blessings, *Mustapha*

Lafayette-Orinda PC

(Already equipped for live streaming worship):

Thanks for reaching out. I'm happy to help. I'll answer your specific questions inline below, but please feel free to reach out again if you'd like more information or would like to have a conversation about LOPC's Livestream platform.

- What company or person was utilized to build your infrastructure? (Contact info)

Almost everything was done in-house. Prior to our 2015 Sanctuary renovation I designed and installed a multi-camera system for Livestream and integrated it with our existing audio system. During our renovation process I worked with our general contractor (Plant Construction) and a subcontractor (Decker Electric) to design and install a future-proof wiring solution that provides ample category 6 network and RG6 coaxial cabling throughout the entire building. We employed an A/V design company to draw up the blueprints to my specifications.

- What does your technical infrastructure consist of--hardware, software and technical support?

We currently use two network-controlled Panasonic PTZ 1920x1080 cameras, a Marshall compact HD-SDI camera permanently installed in the organ console as a "pedal cam", and various other cameras for specific shots as needed, including two BlackMagic Design (BMD) Pocket Cinema 4K cameras.

All video is routed through a BMD video matrix system which allows on-the-fly digital routing of any signal to any location in the room. We use two BMD video switchers: one for our theatrical projector and one for our Livestream. CGI is provided by an iMac running ProPresenter with the SDI and Alpha Channel modules.

Our projector is a Christie Digital Boxer 30,000 Lumens with long-throw lens. Our screen is a Da-Lite retractable +1db gain HD screen on a custom mount.

Our video program is streamed on the Livestream (owned by Vimeo) platform and encoded via Livestream Studio software on a dedicated iMac. Because our campus is located in a residential area with less-than-ideal internet service, we recently hired WiLine to install an enterprise-grade dedicated OTA 200Mbps service. This has solved our intermittent, but previously persistent streaming issues.

I recently installed a new Allen & Heath Avantis front of house audio mixing board with a Dante network audio card. All audio is routed over the Dante network for independent mixing for live (when we return to live worship) FOH, campus-wide video monitors, stage monitors, and Livestream. LOPC has a fairly robust enterprise-level campus data network.

As a part of our Sanctuary renovation we installed a new theatrical lighting system with LED lights.

We have no formal 3rd-party tech support. I oversee our technical staff and coordinate troubleshooting when problems arise.

Since COVID we have pre-produced our weekly worship service. With the help of my staff/contractor team and a combination of volunteer and professional musicians I produce, edit, mix, and deliver the worship service each week. During the week we record and produce various musical elements and our clergy record some spoken-word elements at home (prayers, announcements, etc.). We record the sermon and some other elements on Fridays in the Sanctuary and I spend most of Friday evening and Saturday finishing the program.

For music production I use Apple's Logic ProX and various third-party audio software applications and hardware (this is in my own personal recording studio). I edit the service in Apple's Final Cut Pro X and generate some motion video content in Apple Motion. My workflow includes various utility applications such as Handbrake and Apple's Compressor (for video compression), Dropbox (for cloud sharing and file transfer), and Chrome Remote Desktop (for remote control of our production Macs on the LOPC Campus).

- How much did the setup cost? And how much monthly cost is incurred, if any?

Rough numbers:

Video system (cameras, switchers, etc.): \$40,000

Video Projector and Screen: \$125,000

Audio System: \$25,000

Lighting System: \$225,000

Monthly costs include the Livestream platform subscription (\$99/month), staff/contractor hours (~\$25/hour), and dedicated internet service (\$1,000/month).

- Finally, was the training to use the setup fairly easy or do you need to be technically savvy?

This setup requires professional operation. Our team consists of me (director and producer), our Worship & Music Coordinator (full time), a part-time audio engineer, and a contract video camera/switch operator. Each of us is capable of covering more than one technical area, and I have trained the whole team in basic video editing.

- Has it been working well with your congregation and with you?

Our congregation is very pleased with our COVID season Livestream programming. Prior to COVID we averaged around 100-150 live viewers each Sunday, and now we average more than 1,000.

- Any other guidance that might be helpful to know/understand.

Obviously we are very fortunate with ability to commit significant resources to our Livestream program. Looking at it now, the total investment seems rather incredible, but it is important to note that we built our system over 8 years, and actually spent much less money than other churches to achieve our quality of production. My previous church, Menlo (formerly) Pres, spent a few million dollars on their A/V streaming upgrade a few years ago.

In the year before I joined the LOPC staff our then-Worship & Music Coordinator spearheaded the Livestream program with a single camcorder and a \$500 Livestream encoder box. You can go back on our Livestream archive and watch services from that era. We've come a long way! In 2014 I proposed a then-major equipment upgrade of around \$25,000, and when we began our Sanctuary renovation project I integrated existing equipment with additional equipment that was purchased as part of that capital campaign. When COVID hit we were already experienced with Livestream, had already been pre-producing video content for incorporation into our live worship, and had 6 years of archival material to use before we began producing new music for Livestream. That is why we were able to very quickly adapt to a high-quality pre-produced service.

During COVID I've consulted with a few other churches on Livestream production. The most frequent question I get is about what equipment and software I use. That is understandable, but it's not really about specific technology. In my opinion a quality Livestream can be scaled up or down to meet the needs and budget of any congregation. The most important factor is skill, artistic sensibility, quality control, and attention to detail. It starts with great content and ends with seamless editing and simple transitions. Good production is about putting the content first.

"By day" I am the Director of Worship & Music. Production tech is a life-long avocation for me, but in this past year it has become a co-equal vocation along with worship and music design and direction. I am fortunate to have a position where I can flex all these muscles. LOPC is fortunate to have these skills at their disposal in a single staff person. Normally they would need an additional full-time staff position for this. Indeed, none of this work exists in my current job description.

I hope this info is helpful.

Best,
Brett Strader