Moderately Priced Recording\Streaming Systems for Improved Quality

Many congregations have started streaming their worship during social distancing and now have discovered that they may want to continue streaming their worship on a more permanent basis. If you are one of those congregations and have a desire to improve the quality of you recordings or upgrade your equipment this document is an attempt to give you some options.

An example of a congregation that wants to upgrade is one that was recording their worship with an iPhone, editing it and then uploading the finished video to YouTube. Now the congregation is considering allowing a few people into the sanctuary, practicing social distancing but still continue recording the worship service. However, the iPhone will no longer work for them since it would need to be positioned very closely to the pulpit. So they need a solution where they can record with a camera near the back of the sanctuary; that is, they need a camera with a zoom lens.   Below are various ideas for providing solutions for congregations about saving money and still improving quality.

Ways of improving you sound and video for that matter

1. **Connect your laptop or camcorder to your sound system mixer.**   If you are using a camcorder, you will need one with an audio input. On a laptop, you will also need an audio input. The simplest way to connect to the mixer is to use the earphone out of your sound mixer and connect it to your camcorder or laptop input using a cable such this one from B&H Photo $22

   https://www.bhphotovideo.com/c/product/663902-REG/Lectrosonics_MC65_MC65_TRS_188_to.html

   2. If your sound system produces a buzz in your recordings you can also use wireless mics that bypass your mixer and feed directly to your camcorder or video mixer if you have one.   There are many products out there but these affordable mics from Nady produce good results. Nady DW-22 LT 24 bit Digital Dual Lapel Wireless Microphone System https://www.musiciansfriend.com/pro-audio/nady-dw-22-lt-24-bit-digital-dual-lapel-wireless-microphone-system?rNtt=wirelelss%20mics&index=33
   3. For some sound systems it will be better to use another output jack other than the earphone out. Check your system for information.
   4. Below are various cables and jacks you may need.

5. Be sure to keep speakers and musicians close to their microphones. Also remember that the best music production will be available if you use the YouTube or Facebook streaming platform only. You can also use this method of sound connection for Zoom meetings but zoom is not set up for music production. It is designed more for interactive meetings. You can improve music production on zoom by changing the audio settings. This tutorial gives a step by step procedure for changing them. https://www.cascadespresbytery.org/wp-content/uploads/2020/04/better-music-sound-in-zoom-tutorial.pdf

6. **The camcorder will give you superior sound and video** but requires more equipment and setup as well as expense. Below is the least expensive way to set up a camcorder streaming system. You can also set up a multicamera streaming system but the price tag rises quickly because you will need a video mixer. Moderately price dual systems are listed below.

Some Churches are Pre-recording their worship services and then posting them online

If you are using this method you can record your video and upload them to YouTube, Vimeo, Facebook or your favorite site. You may want to edit your videos in this case. A simple and inexpensive video editing software option is here. If you purchase, be sure to create an account and download your software from the account pages, otherwise you may be using the demo version. Mac users can use iMovie which normally comes with your operating system or can be easily downloaded. If you are confused by the interface and would like assistance, Steve Parker may be able to assist you.

Contact

High Quality Basic Setup

Panasonic HC-V770K (for better sound quality, a camcorder such as this that has an audio input is needed) $450 for a more professional looking stream purchase two of these with a video mixer so you can switch back and forth between them https://www.bhphotovideo.com/c/product/1109405-REG/panasonic_hc_v770_full_hd_camcorder.html

Blackmagic Design ATEM Mini HDMI Live Stream Switcher $295
https://www.bhphotovideo.com/c/product/1507214-REG/
blackmagic_design_swatemmini_atem_mini_switcher_control.html

HDMI to HDMI mini cable $18 (You will need this to connect your camcorder
to the Video Mixer) https://www.bhphotovideo.com/c/product/1062798-REG/
hyperthin_sahtm08black_hyperthin_mini_hdmi_to.html

Magnus GP-100 Light-Duty Tripod (basic tripod. You may want to purchase a
sturdier tripod for more stability. **$12.95 https://www.walmart.com/ip/50-Inch-Aluminum-Camera-Tripod-For-Canon-Nikon-Sony-Samsung-Olympus-Panasonic-Pentax-eCost-Microfiber/134062957**

Magewell USB Capture HDMI Gen 2 This will be used to connect the video mixer to your
computer. $299 https://www.bhphotovideo.com/c/product/1105735-REG/
magewell_xi_100_d_usb_hdmi_one_hd_hdmi_usb.html

**(note: the adapters and cables below are designed to fit a number of sound
and internet systems. If you are streaming wirelessly you will need a strong
signal. If you want a better, more stable stream, use ethernet cables. You may
not need all of the audio adapters below depending on the sound mixer in your worship
space.)**

Audio Cable Lectrosonics MC65 TRS ¼" to 3.5mm Cable (10', 3.05 m) $22
https://www.bhphotovideo.com/c/product/663902-REG/Lectrosonics_MC65_MC65_TRS_188_to.html

Movo Photo F-XLR 3.5mm TRS Female to XLR Male Adapter $13
https://www.bhphotovideo.com/c/product/1500857-REG/movo_photo_f_xlr_3_5mm_trs_mini_jack_female.html

Ethernet cable 50' $18 https://www.bhphotovideo.com/c/product/633523-REG/
Comprehensive_CAT6_50BLK_50_15_2_m_Cat6.html

Neutrik XLR Female to XLR Female Adapter $8.88

https://www.bhphotovideo.com/c/product/491522-

REG/Neutrik_NA3FF_XLR_Female_to_XLR.html

The free OBS software would be a good match for this system.

If you wanted to add PowerPoint presentations to the live stream you could use the streaming computer with and OBS software or a separate computer with HDMI output which can be connected to the Datavideo Studio. (with OBS software you can display lyrics from PowerPoint on it's own screen, in a window, or superimposed with the black screen effect. You can also use the text option within the OBS program and bypass PowerPoint altogether).

If you want to check the success of your current live stream, I would recommended doing this on a tablet or smartphone to save space. OBS can be downloaded here. https://obsproject.com/ Tutorials for the software can also be found on the site.

Alternative Systems

PTZOptics 20x-SDI Gen2 Live Streaming Camera $1,699 https://www.bhphotovideo.com/c/product/1237026-REG/ptzoptics_pt20x_sdi_gy_g2_gen2_20x_sdi_video_conferencing.html

The advantage of this camera is that it can be controlled remotely with presets to cover multiple angles in your worship space. It will still need the blackmagic video mixer above or one similar to it.

Another option: **PTZOptics 20x-USB Gen2 Live Streaming Camera (Gray)** $1799 https://www.bhphotovideo.com/c/product/1237028-REG/ptzoptics_pt20x_usb_gy_g2_20x_usb_gen2_video_conferencing.html

The advantage of this camera is that it has the pan tilt zoom capability of the camera above but also has a USB interface. This means it will not need a video mixer and can connect directly to your computer.

Because both of these cameras are part of a one camera streaming/recording system it might be advantageous to add a high quality webcam to your computer. This way by using the free OBS software discribed above you can use the webcam while you are lining up your next shot with the PTZ camera so that your audience will not see the movement of the PTZ camera.

Here is a possible webcam for your use.   **Logitech C920s HD Pro Webcam $69** https://www.bhphotovideo.com/c/product/1461727-REG/logitech_960_001257_c920s_hd_pro_webcam.html

This webcam can be found at many locations, however, it is very popular and the stores may be out of stock.