

Basic Live Streaming

An Introduction for Churches

Feel free to download, distribute, and modify this document. You can ask questions and make suggestions by selecting the text you want to ask about with your cursor and clicking the  **comment button** (see right).

If you are aiming to share your regular community gatherings with people who are isolated, or want to replace your gatherings entirely with an online option for a period, this guide will give you some tips and advice for how to achieve this. This guide is **not** exhaustive, and it is not composed by an expert (it's *barely* composed by an amateur).

This guide assumes two things which may not be true for your community: Both your church and your congregation have access to stable, good quality internet connections in their homes; and your congregation is confident enough with computers and smart devices to access sites like Facebook and YouTube (even if they are not regular users). Thought needs to be given to how your church will include people who are elderly, cannot afford internet in their homes, or have other barriers to entry to participate in the online world.

Before you broadcast or record musical worship, check your license agreement with CCLI or wherever you license music. You may or may not be allowed to broadcast songs under the license, and so sharing music to Facebook or YouTube may be a breach of copyright. **Don't breach copyright!** Check with your licensor or someone who knows about these things before streaming or recording musical worship (I don't know the answer!).

First Things First

Some basics. Whatever you choose to set up **test it at least two days before you need it**. Do not try and set anything up for the first time on the day you need it, you're just setting yourself and everyone else up for headaches. Do a **practice run** with all your tech **days** before your first stream so you can work out the issues.

When you use a piece of software, check its **tutorials** to learn how to use it. Most software has good documentation explaining how to use it, usually on the site you download it from. If you can't find anything on the site, use **Google** or another search engine to find tutorials on how to set it up. When you start using new software, **you are going to have to learn how it works** and not expect it to conform to your expectations of how it *should* work. Be ready to put in the time. On the plus side, streaming is something that is *incredibly common*, and there are heaps of tutorials written and recorded on how to set things up.

If at all possible, **designate someone to manage the stream**, and preferably don't just throw it onto the existing sound/projection/AV person to manage in addition to their service responsibilities. Periodically checking that things are working as expected throughout the service, not to mention engaging with comments on the streaming website, can be an attention-consuming job, as can AV. Don't overload your tech team!

Ask around your community to see if anyone has existing experience with streaming. If you have young adults or teenagers in your congregation, there's a chance some of them are doing this kind of thing already: it's very popular and very easy to do!

Some Terms

Live Stream: The near-simultaneous upload and download of video or audio *as it happens*.

Recording: Capturing video or audio at one point in time to create a file, then editing and distributing that file at a later time.

Both live streaming and recording can be shared through Facebook and YouTube. Streaming is more immediate, and allows people to partially participate live, but is more challenging, and you have to be more prepared. Recording your services allows you to *edit*, meaning you can remove problems and have a greater level of control over the final product, but there can be *zero* interaction with the service as it unfolds.

Video Conferencing: Interactive audio and vision where everyone watching can be equally seen and/or heard. Best for interactivity.

What's Your Goal?

When deciding what solution is best for you, it comes down to the outcome you want.

[I want my people to be able to watch the service as it happens, and interact via comments on a website \(click here\)](#) *(Best for services)*

[I want people to be able to watch the service whenever works for them \(click here\)](#)

[I want my people to be able to hold discussions and interact via voice \(click here\)](#) *(Best for small groups and meetings)*

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Live Streaming

Live streams of your services and gatherings can be hosted on YouTube or Facebook for free. YouTube is more designed for video, and is probably the best option for high quality streams. If you want to use YouTube, **create your church's account ASAP**, as there is a waiting period of about 2 days before you can use that account to Go Live (create a live stream). Facebook is probably more commonly used among your congregation already, and the difference in quality is probably only noticeable for the sticklers. To set up a stream on Facebook, you need to be an **administrator or editor** of the church's Facebook page.

Here are some different possible set ups you could use, arranged from simplest to most complicated (but most professional result). Remember, **it's okay if your live streams aren't perfect**. You're probably scrambling to put together a response to a global emergency. People get that. Choose the solution that you are **most confident with**. A basic set up done well is better than a professional set up done poorly!

Basic Options

Phone Streaming

Recommended option!

The simplest option is also probably the best for most churches. You need: A **smartphone** (the newer the better) and a **tripod**.

Simply set up your tripod and phone to capture the best view of your service, then press the Go Live button from your church's Facebook Page or YouTube channel*. Make sure your congregations knows **when** you're going to go live, and **where** (ie. on Facebook, or on YouTube, and how to find your church on that platform).

* To Go Live from your phone on YouTube you need at least 1000 followers. Most churches won't have this, especially if you just set up your account recently, so use Facebook instead.

In this day and age, a modern smart phone has a good enough camera and microphone to do the whole job in one go! Be sure to have a **charging cable** on hand, just in case the phone's battery life is poor. And have someone set up a computer to monitor comments and engage people in the service. Just because you're not in the room doesn't mean you can't talk during church!

One of the key **downsides** to this approach is that you cannot schedule your stream ahead of time. People will need to find your stream on Facebook at the time your service starts, and are likely to miss the first few minutes. This is very minor, in the scheme of things, but an annoyance for clear communication.

Go Live on a Page on Facebook:

https://www.facebook.com/help/pagesmanager/1721382298096251?helpref=uf_permalink

YouTube Live on Mobile:

<https://support.google.com/youtube/answer/9228390?co=GENIE.Platform%3DAndroid&hl=en>

Example Smartphone Mount for Tripod: <https://www.amazon.com.au/Manfrotto-Accessories-MCLAMP-Smartphone-Connections/dp/B0169SORDW?source=ps-sl-shoppingads-lpcontext&psc=1>

Webcam Streaming

If a smartphone isn't a good option for you, or you are determined to use YouTube to stream, or you want to **schedule your stream** ahead of time, a webcam stream is your best bet. You need: A **webcam** with built in microphone, a **computer**, and a **tripod** or stable mount for the webcam. Many computers have a webcam built in, but that will usually be facing you when you're looking at the screen. A USB webcam will be a lot easier to position, if you can afford it.

Set up your webcam and make sure it has a good view of the service. Connect it to your computer and go to [facebook.com/live/producer](https://www.facebook.com/live/producer) or [youtube.com/live_dashboard](https://www.youtube.com/live_dashboard). Make sure your input is set to *Camera* and not *Stream Keys* (more on that later, for the advanced class!).

From here, you should be able to **schedule** your stream for a time and date in the future. The main reason that you would do this is that it creates a **permanent link** straight to your video that you can send out to your congregation before the service starts that can be emailed, texted, or messaged out to everyone. If someone clicks the link, they will see a holding image until the stream starts. As soon as the stream starts, they will be watching live. No delays!

Webcam Stream on YouTube: <https://support.google.com/youtube/answer/9228389>

Going Live on Facebook Tutorial: <https://www.businessinsider.com/how-to-go-live-on-facebook-from-phone-computer?r=AU&IR=T>

Stream Scheduling on Facebook: <https://www.facebook.com/help/publisher/2087325741287572>

A Decent Webcam (Shop around! This is just one option! But get something that captures 720p or 1080p): <https://www.jbhifi.com.au/products/logitech-c922-pro-stream-webcam>

Advanced Options

You *absolutely* need to practice with all these options well before you need to use them, or bring someone on to manage them who has used them before! Don't get caught out! The more complex you go, the more things that can go wrong!

Streaming With Broadcaster Software and Webcam

Phone and webcam streaming are great because they are **easy**! The drawback is, they show whatever the camera is pointed at for the whole time the stream is running. If you start the stream early, or accidentally leave it running when the service ends, or have a coffee break and fellowship time during the service, you are left broadcasting an awkward empty stage to the world. **And that's fine**, because remember, you're probably just doing this as a stop-gap during this uncertain period.

But, if you're a stickler for quality, or just love learning new ways to communicate with the world, you can take a greater level of control by folding broadcasting software into your set up.

Broadcasting software like **OBS** (Open Broadcaster Software) are programs that take all the media inputs such as **video cameras**, **microphones**, pre-recorded video, and slides and mix them into one output which is then sent to Facebook or YouTube for display, all live.

The most basic use of this software is to set up a **holding slide** that you can switch to whenever there is going to be a long period of silence or something that isn't interesting to watch or listen to.

OBS uses a **stream key** to talk to Facebook and YouTube, so that it knows where to send the video data it creates. You need to set up your Facebook or YouTube stream first at facebook.com/live/producer or youtube.com/live_dashboard, and **copy the stream key** (a string of meaningless text) into your OBS settings. Then click Start Streaming in OBS to start sending data to Facebook or YouTube. **Your stream is not visible until you click Go Live on Facebook or YouTube.** ‘Start Streaming’ just means ‘start *sending* information’. Start streaming on OBS, check everything is working on Facebook or YouTube, then click Go Live on Facebook or YouTube to start sharing your service.

OBS (free, safe broadcaster software): <https://obsproject.com>

Streamlabs OBS (a different recommended software): <https://streamlabs.com/streamlabs-obs>

OBS Help: <https://obsproject.com/help>

Facebook Live Help: <https://www.facebook.com/help/publisher/167417030499767>

Streaming with Broadcaster Software and Camera

Let’s be honest: Webcams are not the best tool for this kind of thing. They’re designed for close up video of your face sitting at a computer. They tend to struggle to capture detail and good audio when you point them at a distant stage. An SLR camera or proper video camera would be better. The problem is, proper cameras don’t tend to talk directly to computers: if you plug them in you can’t normally record through them (some computers and some cameras *do* talk to each other, so lucky you if you have one!). To capture camera audio and vision to a computer for your stream, you need a **capture card** that converts a HDMI signal from your camera into a **USB** signal for your computer. These can be costly, so **don’t invest unless you’re sure you need it**. But, once you have it, it should make your camera behave basically like a webcam, and you can use it as described above.

Elgato Capture Card: <https://www.jbhifi.com.au/products/elgato-cam-link-4k>

Broadcaster Software, Camera, and Audio Mixer

If you run all your audio through a mixing desk (including drums, if you’re playing music!), you can set up an output from your desk into your streaming computer and use the **mixing desk audio** as your audio input in OBS or whatever broadcast software you are using. The **pros** of doing this is that you’ll get strong, clear audio of people speaking into microphones and minimal background noise (good for talks and sermons). The **cons** are that if you’re broadcasting musical worship, the desk will be mixed for the *room you’re in*, not mixed for broadcast, and you may not enjoy the difference. A **workaround** could be to set up one scene in OBS for music (camera video, camera audio) and one for speakers (camera video, desk audio). Be ready to switch between them on the fly!

Broadcaster Software and Multiple Cameras

Let’s be honest, a single static shot of the whole stage does not make for interesting viewing. If you have access to two or more cameras, two or more capture cards, and a whole bunch of cables, you can set up multiple cameras and switch between them on the fly using OBS scenes. This set up potentially involves a lot of money, and a lot of headaches but, if you’ve got a good tech team and the budget, give it a shot! For a basic two-camera set up, put one camera on a wide shot of the band

for musical worship, and one camera on a tight shot of the place speakers will stand (and make sure the speakers know not to move about!).

Recording

You can use any of the streaming options above to **record** rather than stream. Just ignore all the stuff about Go Live on Facebook or YouTube, and click the Start Recording button in OBS rather than Start Streaming, or the record button on your phone.

You could record sections of your service separately, without the pressure of nailing the technology side on the first go, and upload them to Facebook or YouTube, then send them out as links in an email on Sunday morning as a kind of digital liturgy for people to work through in their own time. This process will involve a little editing of the videos, and a bit of admin to make sure everything is uploaded and linked correctly, but is easier to do than advanced streaming.

For your elderly, non-internet users, or non-tech-savvy folks, you could save files to a USB stick or DVD (old school!) to be delivered to their homes each week, with instructions if required.

Video Conferencing

If you want people to be able to interact with one another from a distance, such as for small groups, Bible studies, or meetings, **streaming will not work**. What you want is **video conferencing**. Video conferencing lets people interact **equally**, with everyone able to share voice and video.

Some basic tips to make sure everyone knows before using video conferencing for the first time. Please comment with your own advice.

- **If you are not speaking, mute your microphone.** You can usually do this by clicking the microphone icon in your software. In person, people are good at tuning out background noises to focus on voices. Microphones are *not* good at that, and will broadcast any and all noises you make when you shift your chair, take a drink of water, cough, etc, and these noises will be loud and disruptive. Mute yourself if you're not talking.
- **Sit facing a window, not with a window behind you.** If you sit with a window behind you, the glare will make it very difficult for others on the call to see you clearly.

Zoom

Zoom is probably one of the most feature-rich and reliable video conference suites available. It is free for one-on-one calls, but has a 40 minute cap on the length of calls with more than two people, so if you want to use it for small groups the **host** will need to have a paid account (~\$25 per month, month to month, cancel whenever) (the host is the person who sets up the meeting).

Zoom meetings can be scheduled ahead of time, creating a link that can be sent around to the group. People can join the meeting before the host arrives, so you don't have to perfectly coordinate everyone's timing (just like a normal small group!).

Zoom works on Mac and PC, and on most phones and tablets too, so it's easy for most people to join in. It also has options to dial in using a conventional phone call and participate using voice only, which may be more suitable for less tech-savvy people.

Zoom: <http://zoom.us>

Zoom Help: <https://support.zoom.us/hc/en-us/categories/200101697>

Skype

Another option for video conferencing is Skype, but I can't give much advice on that because I haven't used it in years. Zoom has always worked for me!

Skype: <https://www.skype.com/en/>

Conference Calls

Many smart phones and office phones support conference calling. Particularly for less tech-savvy people, or people who don't have internet in their home, conference phone calls may be a suitable solution. Check guides for your phone to see if you can set up conference calls.