



The  
United  
Reformed



CHURCH



# Livestreaming your church service: some options



## What is livestreaming?

Live streaming is the broadcasting of real-time video and audio to an audience over the internet, this can be done on a variety of platforms from a number of devices.

## What are some options?

on the equipment and expertise available to you and your church. This will start with a smart phone streaming to Facebook, all the way up to multiple cameras with band performance.

The most accessible platform for streaming to existing members is Facebook (which we will cover in detail in Option 1) but you can also stream on YouTube, Twitter (via Periscope) and YouNow among others. There are limitations for each platform (including needing 1000 subscribers to stream to YouTube from your phone) but each comes with their own merits which will need to be examined before using any platform.

As Facebook is the most accessible platform for most people, we will explore streaming to Facebook in more details in Option 1. For guidance on setting up a Facebook page for your church click [here](#) for the URC's guidance on this.

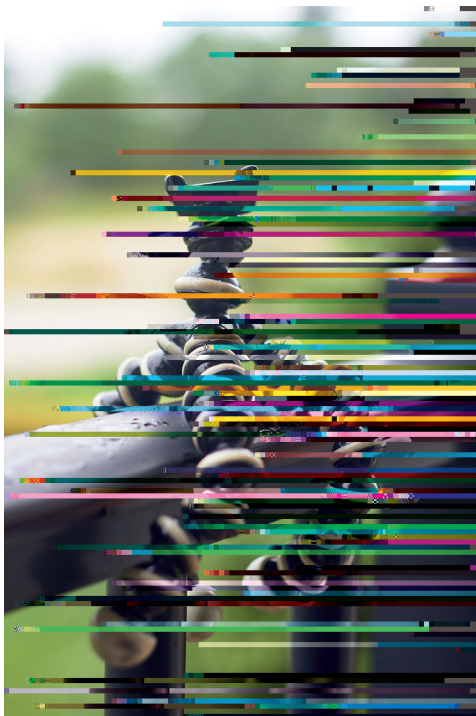




- Whether or not you have a microphone, project your voice to the room as though it is a full church! This will aid your stream audio quality.
- If you are unsure about what your congregation will see and hear when streaming using a mobile device, record yourself as a practice from your phone's video camera and then watch it back. This is what your congregation will see and hear, and it will allow you to understand if you need to make any adjustments to speaking or where your camera sits.



Make sure the phone is in landscape mode, and the front camera (the one you look at when you normally use your phone) is selected if you are on your own. If you are able, and it is safe to do so, you can have a separate person behind the camera to monitor what is in frame and ensure the stream is working, which allows you to focus on delivering worship. This will also allow you to use the rear camera (the one on the back) which will increase the video quality of your stream.



Place into tripod and position camera close to the speaker to get the best audio possible, which means ensuring nothing is covering the microphone, usually on the bottom of your phone, as well as being as close to the microphone, and preaching as though it is to a full church.

Tap the 'Start Live Video' section on your screen to start streaming. That's it – you are live.

You members should already be friends of the Facebook account, or have 'liked' the Page if that is what you have set up. You should publicise that you will be streaming, and what it will contain, before you do so to ensure people know it is happening.

Your livestream on Facebook can also be scheduled beforehand but this will have to be done on a computer. This can be found under publishing tools on the Facebook desktop website, but it cannot be

Tabletop tripods for your phone are reasonably priced including the

- [LINKCOOL Flexible Smartphone Tabletop Wireless Tripod](#)
- [LINKCOOL Aluminum Lightweight Smartphone Bluetooth Tripod](#)
- [Hitch Aluminum Lightweight Smartphone Bluetooth Tripod](#)

## Improving the audio

Clear audio is key for any stream, especially services as they are centred around the spoken work. It always helps to get your camera as close to the preacher as possible while maintaining a clear image of the worship leader with some of the background in the frame; it is also recommended to avoid large, echoey rooms. You should also keep the phone away from buzzing noises, fans, and open windows.

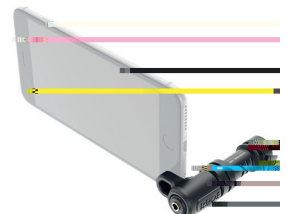
microphone rather than the one on your phone.

- 1) Plug in a microphone. The most basic of which is one that will plug directly into your phone headphone jack. There are a number of pr9tJ1) for this application.

Firstly, you could get a lapel microphone, such as the [RODE SmartLav+ \(which is shown\)](#)



Another option for a microphone for your phone is one that mounts on top of the phone, such as the [RODE VideoMic Me](#) which is shown here. This option costs around £60.



- 2) The limitation of option 1 is the length of the cable from microphone to camera, to negate

this a wireless system is a simple solution, which is used in addition to any microphones.

A good, and reasonably priced, system for this is the [RODE Wireless Go system](#). This is a compact system which allows the connection of the microphone to your smart phone without being limited by cable length. This system is linked below and will cost around £179 for one pair (1x transmitter and 1x receiver).



your church, which will utilise the microphones and equipment already in your church building. This is not necessary but if you would like to, this is detailed in the 'Audio' section of Option 2.

You may notice all this equipment advised so far is made by RODE, they are a fantastic manufacturer of high-quality audio equipment for video applications and have very easy to use products.

Equipment purchases for this set up will enhance your stream, but the basic kit needed to perform one of those streams is just a phone with Facebook, a tripod, and you!

## Option 2: single camera stream using OBS

To ensure a better, clearer image with more vivid colours for your

quality camera, especially one that has a zoom function. High quality cameras are reasonably priced and will give you the option getting wide and close-up shots of your preacher, worship team or other participants (make sure you have permissions to do so).

If, however, you want a better-quality camcorder, you may want to consider the Canon XA range, or equivalent Sony, Panasonic or JVC. These range from £1000-£3000, like the Canon XA55 at around

£2500 with SDI output. The use of an SDI output will mean you have to consider what cable connector your equipment will use and the limitations of each. SDI and HDMI can both carry high resolution images but HDMI is limited to 15-20m maximum cable length, but it is a more common connector on most equipment. If you need to convert signal, the best converters are made by BlackMagic Design and are linked [here](#).

livestream by letting you choose what is broadcast on screen including PowerPoints, holding slides, and live cameras. It allows easy integration with several streaming platforms as well as the ability to show the camera and the PowerPoint/hymn lyrics on screen at the same time. Advanced tips on uses of OBS and what settings to use are available in the 'Advanced Tech' section of this document.

## Video

- Camera
- Tripod with the ability to adjust height, pan, and tilt
- CamLink (such as Elgato CamLink) to link your camera to your

will not work as this port is for external displays)

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Canon Utilities for camera settings optimisation), the streaming platform (e.g. YouTube or Facebook), and audio interface

Tech' section

- Appropriate HDMI/HDMI mini cable, including USB-C or USB adapters, but this depends on what equipment is used. E.g. Elgato CamLink uses a HDMI in but most camera do HDMI Mini out.





- [Elgato CamLink](#)
- [RODE VideoMic](#) (around £160)
- [Focusrite Scarlett 2i2](#) (around £150)
- [Yamaha MG16XU](#) (around £400)

## Using your church sound desk

You can make use of your church sound desk and microphones for use

USB or connection by audio interface.

- If you have a newer sound desk it may well have a USB-B link on the back of the sound desk (the connector your printer will use) and this means you can connect the sound desk output directly to your laptop/PC via a USB connector and then selecting it as the microphone on your computer settings or in OBS.
- If your mixing desk does not have this option, all is not lost! The use of an audio interface is all you need (such as the aforementioned Focusrite Scarlett 2i2). For this, you take the  
  
instead of to your church PA system. You can then connect the interface to your laptop or PC and select it as the microphone in.

Regardless of how it is connected you will need to set the levels of any microphones and tracks in the sound desk the same way you would for a service, as though it is coming through the PA system.

## Internet connection

connection, preferably through a wired ethernet connection from the router for preference on bandwidth as well as a more stable connection. It is recommended to have a consistent upload speed of 8-10 Mbps on the network you will be streaming from, this can be tested at [www.speedtest.net](http://www.speedtest.net) (a speed of 8-10 Mbps is the same as most standard home broadband packages).

# Copyright

with copyright issues while streaming a service, the URC has issued guidelines on these which is linked [here](#).

## Option 3: multi-camera with vision mixing

This is very similar to the above option but is more suited for set ups with multiple speakers, cameras, and most likely a worship band performance. It requires a greater amount of equipment as well as a larger amount of technical expertise, but this is not out of the

- Multiple camera (either manned by operators adjusting zoom/
- Vision Mixer (such as an ATEM Mini Pro) for cutting between cameras as well as putting lyrics/PowerPoints on screen using a PiP feature (picture in picture). The [ATEM Mini Pro](#) is the easiest to use piece of equipment for this application and can connect to a laptop via USB and be selected like a webcam. The Pro model also allows for on board encoding and a built-in preview view. This equipment costs around £600
- Appropriate microphones, usually a podium microphone at the pulpit, lapel mics on additional speakers, and microphones for the band
- Audio mixing desk (either analogue like the MG16XU or digital for this application such as Allen and Heath QU16 for increased processing and quality). Digital mixing desks are a greater investment (over £1200 new) but can also be used for PA

## Tutorials and online help

- [URC Church Information Guides](#)
- [Starting to use OBS](#)
- [Using Facebook Live](#)
- [Connecting an Elgato CamLink and using it in OBS](#)

## Advanced tech

### Additional option – [Sling Studio](#)

Sling Studio is a portable, wireless, multi-camera broadcasting platform. It's capable of monitoring, recording, switching, editing and streaming live video. It does so wirelessly by connecting to one or more smartphones, and even a video camera with the adaptor. It can also have slides broadcast from a phone.

To put the camera and PowerPoint on screen at the same time create a scene with the camera feed as the main image, then add the PowerPoint as a window capture and put that in a smaller box in the corner. You can then create a second scene with the PowerPoint as the base and the camera feed as the small window.

A show computer for a multiple source stream can be either Windows

system requirements. There are two main parts that matter for this

factor will be a graphics card, which is less common in laptops but not unheard of. One of these will ensure the highest quality pictures as well as quick processing of the video. Also, be sure to make sure your show machine is plugged in to its power supply if it's a laptop, and make sure that the sleep settings on any machine are changed so it won't unexpectedly go to sleep mid-stream.

- CPU/Processor – 7th Gen Intel or later, preferably i5 or higher
- most appropriate
- Graphics Card – Dedicated graphics card (Nvidia GeForce are the class leaders), Macbook Pro laptops have inbuilt graphics cards.

## Audio for church

There is a fantastic YouTube channel for mixing audio for church that covers everything from one microphone to full bands with plenty of processing. This channel also covers broadcast mixes too in a way everyone can understand. The channel is linked below as well as the

advice for all levels.

- [Channel](#)
- [Live Stream Audio Tips](#)
- [Live Stream Set Up](#)
- [Building Your Church Broadcast Mix](#)

## Hosting on your own website

If you have the expertise and equipment, you may want to host our live stream on your own website or on a dedicated website. For this you will need to host the stream on a dedicated server, and you will also need to ensure you are covered by the appropriate copyright license (see [URC Guidance on Copyright](#)). The easiest way to achieve this is to purchase bandwidth on something like Ustream or YouNow as this will mean you don't need an on-site encoder (in most applications). This option is a bespoke one and should only be performed with highly knowledgeable members of your church who are comfortable doing so.

This is a breakdown of the key components for a very good multiple-camera setup for your church



### Cameras

3 x Blackmagic Design Studio Camera 2 – HD	£1,350 each
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### Lenses

1 x Panasonic Lumix G X Vario 12-35mm f/2.8 II ASPH. POWER O.I.S. lens	£ 800
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1 x Panasonic Lumix G X Vario 35-100mm f/2.8 II POWER O.I.S. Lens	£ 900
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1 x Panasonic Lumix G Vario 100-300mm f/4-5.6 II POWER O.I.S. Lens	£ 500
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### For the stream

1 x Blackmagic Design ATEM Telev'n Studio Pro HD	£ 2,050
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1 x LiveU Solo SDI/HDMI Video Encoder	£ 1,375
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**Tripods** (many cheaper or more expensive options are available)  
3 x E-Image EG06FA2 Tripod System £ 600 each

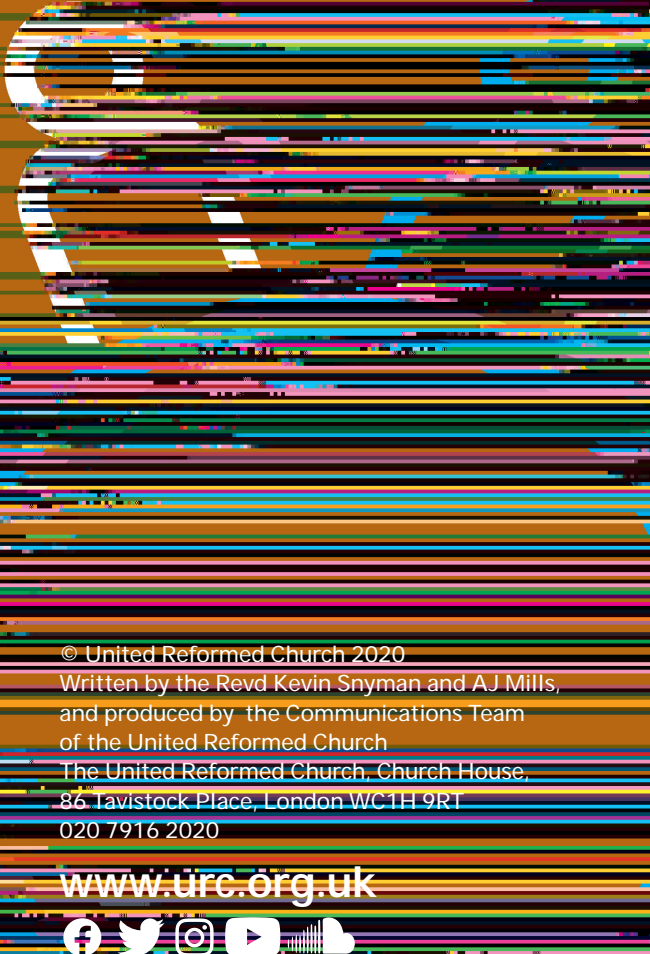
**SDI cabling:** this depends on local context £ 200

**TOTAL**

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This is one in a series of booklets designed to give information to those working and volunteering within the United Reformed Church.

The booklets can be read and downloaded at [www.urc.org.uk/information-guides](http://www.urc.org.uk/information-guides)



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