

St John’s HowTo No 2:- Recording & streaming tips and tricks

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2 See also

See other documents in the St Johns Church series of How To. These can be found in the church sharepoint Projection & Visual subsite here: (Permission needed.)

(<https://stjohnschurch809.sharepoint.com/Projection/Shared%20Documents/Forms/AllItems.aspx>)

These can also be found on the public website (www.benrhydding.org.uk) in pdf format.

As of today 29/6/2020 the following documents exist:

1. How to No1. Zoom meetings
2. How to No2. Recording and streaming tips and tricks for computer audio and video
3. How to No3. Recording talks, prayers and readings.
4. How to No 4. Video Montages
5. How to No 5. Including videos in church service sheets
6. How to No 6. Using OBS for streaming and broadcasting

3 Summary

This document is one of a series written during the Covid lockdown March 2020 onwards.

We have been using audio and video for live links (Zoom) and recordings during this time and have picked up a lot of skills and tricks along the way. This document attempts to capture some of these important bits of info.

4 The basic setup

4.1 Hardware needed

You need something to record (ideally) video or audio on. This is also needed if you are taking part in Zoom conferencing.)

In order of best to worst:

- Real Video camera. (Not the best choice for Zoom conferencing but the best for recording)
- Good quality external microphone and webcam connected to any PC
- Good quality modern smart phone with at least 32GB memory
- Good quality modern tablet
- Laptop PC with camera and microphone built in
- Memo voice recorder. (No video and usually speech quality sound only)

This is very much a generalisation but we have found that most smartphones are pretty good and most laptops, even expensive ones, are not good on camera or microphone.

Mixing and matching can produce a good quality result. For example adding a good quality webcam and external microphone to a laptop can produce very good results for reasonable extra outlay.

In all cases, doing a short 15-20 second video recording and playing it back with a critical eye is a good technique to spot errors in technique or setup.

4.2 Extra hardware if recording montages or multitrack sound

If you are recording a music montage where you are listening to a guide or click track and recording your contribution you need a little bit more hardware.

The minimum extra is a good set of closed or semi closed headphones so the part you are listening to cannot be overheard by the device recording you.

You can use the same device for playback and recording but it is actually usually easier to use two separate devices, one to play the guide track through headphones and one to record on. Use the best quality device for the recording.

4.3 Low cost hardware improvements

Adding an external USB microphone to a laptop will make a huge improvement to the sound quality over its built in mike. Consider something like the Samsung Go – approx. £60.

Adding an external good quality webcam to a laptop will usually be a worthwhile improvement for an outlay of £50-100. Avoid no-name far east imports and go for big name devices such as Logitech.

4.4 Software

Most smartphones and tablets have in built video recorders though do make sure you have plenty of spare memory. A typical 15 minute video recording can take up to a gigabyte of space. Some cheap but otherwise OK smartphones only have 8GB for everything. One video and your phone would be full.

Windows 10 PCs have a reasonable but not brilliant built in app called 'Camera'. It has limited adjustments available but you have a choice of resolutions and frame rates available.

In all cases you will need a way of transferring the resultant files to the technical team – see below. Most devices have one or more ways of doing this.

4.5 Video Settings/resolution etc

The ideal settings for video for the type of projects we are typically doing is 16:9 aspect ratio 1280 x 720 30 frames per second. Most smartphones will be able to do this, some older PCs will struggle and may drop frames. If you find the resultant video too jerky you may have to opt for a lower resolution than 1280 x720.

Always record in landscape, not portrait mode.

4.6 Basic audio settings

Again trial and error is the best way of testing this out.

Most smartphones seem to produce reasonable quality audio on their default settings.

Most laptops do not. Things to look out for on laptops, turn off automatic enhancements if you can find the setting in the audio setup. (It doesn't always exist.) A typical poorly setup laptop audio recording will sound a bit metallic and hollow at times, a little bit like the Daleks. (See later section for details.)

Turn off auto level control and experiment with setting the recording level manually.

If using Zoom for conference calling you will find that Zoom has its own set of audio and video settings which are independent of the computers own. Both sets of controls need to be checked as a wrong setting in either can really screw up the audio quality.

4.7 Recording environment

To re-iterate. Do a short recording and look over it with a critical eye (and ear). It is very easy to miss something when you set up and annoying if it comes to light later and you have to redo the recording.

4.7.1 Lighting

This is the most important factor to consider. Daylight is better than artificial lighting. Have plenty of light on your face and don't sit with your back to a window or bright light source.

If using artificial lighting, watch out for those lamps that produce a flickering on the recording. Trial and error is needed to check this.

4.7.2 Your position

If sitting a good head and shoulders view works well. Make sure the gap above your head is not too big. If showing head and shoulders you only want a small 2-3 fingers space above your head.

If standing, the view could encompass waist upwards but again, don't leave too much space above your head.

Avoid being too low down. Just peering over your keyboard is not the best view!

4.7.3 Camera position

The ideal is central and level with your eyes roughly. This isn't always practical so at the top of your computer screen may work best. The idea is that you look natural and appear to be looking at the viewer.

If you are playing an instrument, make sure it is in shot. It is usually more involving to the viewer to see hands on a piano or the neck of a guitar. The video editor can always zoom in or crop the image but cannot add things you don't record in the first place.

4.7.4 Camera support

If necessary make sure the camera is isolated from vibration on a tripod or books on top of a cushion. (I once had a music video sent to me where foot tapping to keep rhythm was making the camera jump very badly. This wasn't noticed by the person doing the recording.)

4.7.5 Background

Look behind you on the test recording. Check for doors at angles, shiny picture frames, anything else that distracts the viewer. Consider taking down pictures temporarily.

4.7.6 Your speech

Do speak up. Laptops (especially) smother the recording in their own mechanical noise and you need to speak over that. Not quite so critical with smartphones or if you have an external microphone on a laptop.

4.7.7 Background noises

Do carefully listen for what are normal routine noises and maybe consider switching things off. Eg Noisy washing machine. We are very good at blocking noises out – but they will show up on the video.

4.7.8 Starting and stopping the recording

Do allow a bit of time sitting smiling or whatever– maybe a **silent** count down from 4 at beginning **and end** of the video to allow me to fade in/out. Don't reach straight for the stop recording button when you finish recording as I need time to fade the video before you lunge to the device controls.

If your video is to go into a montage and you are contributing just to a middle chorus don't chop your video just before and after your 'part'. If you hang around it adds to the authenticity of the finished result. Do however make brief notes to pass over with the recording so the editor knows what you were intending. ("I bopped around for the first two verses and sang harmony in the third! That sort of info is useful.)

If recording a guide track for others to work to, consider an extra long pause before that start of the metronome. This allows folk to press play, walkover to an instrument and get themselves ready. Suggest about a 10 second pause, then the click count in.

4.7.9 Continuity

I can cut and splice video passages using VSDC. If you make a big mistake, rather than stop and start all over again, pause for a count of 2 or 3, go back to somewhere just before the mistake and pick up the recording again. Make a note before you forget roughly where that was.

Its better to do retries pretty much immediately. For a start you will forget where you got to if you leave it too long and also the lighting will change.

Consider spitting the video into 2 or 3 sections and do separate recordings. I can edit the parts together and may make your recording task a bit easier. The compromise here is that cutting and splicing takes significant time for me. Ask me perhaps! A straight cut is quick to do – splicing together half a dozen sections is not.

If you do anything like this, do make notes as it can be very difficult and time consuming for the editor to work out what happened otherwise.

5 Uploading Video files to the cloud

Video files are large and can usually not be sent via email unless no longer than 15-20 seconds. Typically anything over 15MB cannot be sent by email. A five minute video could easily be 200-400MB.

Dependent on your device and online accounts you may have there are a number of ways. I recommend WeTransfer and Google drive. If using a service that has security such as google drive make sure the link you create has permissions set to **'Anyone who has the link can view'** or the equivalent.

- Wetransfer. Free doesn't need an account but can be slow. They are pushy at getting you to sign up but you don't need to.
- Google drive free. Usually plenty of space. Put the file in your own googledrive folder and email a **'anyone who has the link'** type link to me. As an alternative you may have been given a link to someone else's google space. You can upload a file to that.
- Church sharepoint - onedrive. If you have a fred.bloggs@benrhydding.org.uk email address you will also have access to the public area of St Johns Sharepoint site: [Media needing preparation](#) Ask admin if needed. This site needs a login.
- Dropbox. Free but limited space both at sender and receiver end can be a problem
- Icloud. Most apple users will have icloud to allow sharing. Don't ask me how to use it though!
- Many many others, Just hunt on the web.

6 Audio settings – make huge improvements.

6.1 Laptop microphone audio

Laptops with built in microphones tend also to have enhancement features for the audio. Enhancement seems to be interpreted by Microsoft as **'make the user's voice sound like a dalek talking down a long tube'**.

(These enhancements are additional to the specific enhancements in Zoom. Zoom has its own set of things that need setting correctly to get a good sound. See Zoom documentation for more info.)

For any form of recording or streaming music using the microphone it is essential these audio enhancements are turned off. The enhancements are usually something you turn off once and leave off for ever

The menus where the enhancements are controlled varies from computer to computer – try searching for Sound Enhancements. As an example, my Dell laptop is as follows:

- in the search box type 'control panel'
- Click on the sound icon.
- Click on the recording tab
- Click on advanced
- Make sure the option use sound enhancements is NOT ticked

6.2 Zoom Audio settings

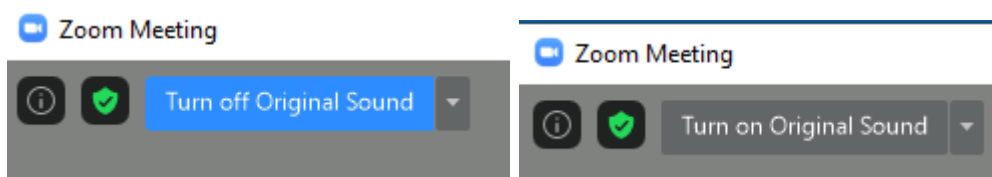
Zoom has a lot of audio specific settings that make a huge difference to the quality of audio you can send. These are additional to the laptop recording settings mentioned above. You need to do both to send out the best quality zoom audio.

6.2.1 Zoom settings – once only

1. Go into Zoom settings/audio. Find the option Automatically adjust volume. Make sure it is **NOT** ticked
2. Click the advanced box in the Zoom Audio settings page.
3. Find the option 'Show in-meeting option to enable 'Show original Sound. Make sure this is **ticked**. You may have to go into your Zoom online account settings to find this option if you are using an iPad.
4. Find the option **Suppress persistent background noise** option and set it to Disable
5. Find the option **Suppress Intermittent background noise** option and set it to disable

6.2.2 Zoom settings – during each meeting

If you wish to play music or a video with music over Zoom, you must turn ON the option ORIGINAL SOUND. (This is the button top left in the Zoom screen. It is Blue when ON and grey when off – see below.



If this button is not blue when you play music, the listeners at the other end will get a tinny and broken up sound.

It is a good idea to turn it back off again when you are just speaking. If you leave it on and you have a mechanically noisy laptop, your laptop will tend to interrupt other speakers to 'hum' at them! – Very irritating!

If you are sending music on Zoom it is also essential to ensure **ALL other participants are muted** to avoid them interrupting the music for everyone.

The very first time you try this – you may need to adjust the audio input level manually (**Zoom/settings/audio**) so it sounds as loud as possible to the listeners without distorting. (You have disabled the auto level control in the once off setup instructions above.)

7 Getting videos from the web

Some videos we use for church on a Sunday are taken from Youtube with a link embedded in a pdf document such as the service sheet.

We started by linking directly to youtube but could not guarantee to exclude adverts or follow on videos.

To get around this, we have been downloading the videos, checking them for content and maybe shortening them. We then upload them to the church sharepoint cloud site and create a link for inclusion in the service sheet. That link is a read only type link with an expiry date of around 2 months.

7.1 Downloading the videos

I use an application called any video downloader from here: <https://www.any-video-converter.com/products-freeware/>

In this application I can paste several youtube video URLs and click download. The app will download all the videos into the selected local directory.

7.2 Editing the videos

The downloading action skips intro and outro adverts but it is good to check the video for unwanted 'extras'. Sometimes we shorten a video or take out a long musical interlude. For these purposes I use a package called VSDC – a video editor.

7.3 Uploading the finished videos

For the church purposes – the videos are usually uploaded to sharepoint and a link created for inclusion in some service sheet document. This process is described elsewhere.

8 The techy notes on video clean up

With a typical single pass video recording of a talk I use computer software (VSDC video editor and Audacity audio tools) to perform the following actions before publishing the video.

With a simple talk recording the prep takes a few minutes but adding text or other images can add an hour or more.

- Make sure the audio and video are in lipsync
- Trim the beginning and end
- Frame/crop the video if needed
- Add any enhancements such as title bar, background, reading text etc etc
- Extract the audio into Audacity. Clean it up and apply compression.
- Re insert the improved audio back using VSDC
- Add fade in and fade out
- Add any effects such as text
- Export the video in compressed MP4 format

With a montage video there is a huge amount of work – typically 10 or more hours, the major part of which is making the video look good:-

- Import each video and make sure about lipsync
- Line up videos so the sound is in sync between contributions
- Split all videos into sound and video tracks

- Do the sound mix, usually applying a level control track to each contribution.
- Start to arrange the videos in the montage.
- Create copies of videos to do zooms/fades etc
- Add text such as lyrics and titles/credits.
- Top and tail the whole thing add fade in/out
- Use audacity to clean up the resultant audio track and put it back into VSDC
- Export the video

End of document