



ONLINE TECHNICAL GUIDE (PRE-RECORDED PRODUCTIONS)

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Introduction

So you want to produce a show for ADC Online. Where to begin? Hopefully this document will guide you through the process.

For experienced content creators, all I can say is do your thing. The following are recommendations of software and processes that I've tested and can support, but please feel free to use your preferred software and production processes.

For people who are little more concerned with just getting their recording to sound less like a video call, or to get started on some editing, or just how to capture audio and video in the first place, read on!

Processes

There are a few key processes in the production line for online content. They are as follows:

1. Rehearsal
2. Capturing Performance
3. File sharing
4. Editing
5. Upload

For pre-recorded productions you don't need to worry about the last point. We'll handle streaming the content out to the public. All we need from you is a video or audio file of your production sent to us in advance of the slot time. I'll do my best to break down how to achieve that below.

Rehearsal

Your best medium for rehearsal is always going to be a video call. I'm sure by this point in 2021 you'll have your video call service of choice. For the purposes of rehearsals I'd recommend Zoom, although if its 40 minute limit is too disruptive, Google Meet is a good alternative.

Webcams on Windows can only be used by one program at a time (i.e. if you're using it to record video on your PC you won't be able to send video to a video call). This may not be an issue, but it's worth knowing about.

Setting Up for Audio or Video Capture

Here are some pointers to get you the best video and audio quality possible:

Audio

Recording good quality audio can be tricky. There are a few key variables to keep in mind: mic quality, your distance from mic, any ambient sounds, the acoustics of your room, and echo from group calls.

Mic quality will vary, and it is best to test what you have available. If you have a proper recording mic, use it. If not, test your computer or webcam's mic as well as your phone mic, and decide which sounds better.

Once you've settled on your mic, you want to make sure that it is about one to two fully splayed hands' widths away when recording. This is because if you are too close to your mic, certain sounds, particularly plosives and sibilants, 'p's, 'b's, 's's, etc. will appear too loud among your other sounds.

However, you want to avoid being too far away as well, as the further away you are the more the room's acoustics will affect the recording. Additionally any distant ambient sounds will be more noticeable since they are relatively louder compared to your voice, which is quieter because it is further away from the mic.

Ambient sounds will vary based on your recording location. Obviously, you want to avoid them entirely where possible, but where not, you'll want to reduce continuous buzzing from computer fans, and avoid discrete noises like the kettle brewing, a car driving by, etc. You will never fully eliminate intruding sounds, and most of the time you can just retake if a dog does bark, but planning for it may save you and your editor some time down the line. (Some background audio fizzing can be edited out in post-production, though discrete sounds like cars or dogs cannot be easily removed).

The acoustics of your room will affect your voice. Usually this won't be a problem, but it can start causing slight echoes if you record close to flat hard surfaces, like walls. The best way to solve this is to record with your back to a broken-up surface, like a bookcase, or a soft surface, like a drape.

Finally, as most recordings will require dialogue, audio from calls can cause problems if it is picked up by your recording device. Your sound editor will want a separate audio file for each performer, with no audio of other performers within it, so any spill between recordings could cause problems. The best way to avoid this is to play the call audio through headphones while recording. However, where it is important for the production that someone is not visibly wearing headphones, reducing the volume of the call's audio and trying to keep the speaker as far away from the microphone as possible will help keep your audio feed clean.

Video

For video capture, by which I mean just visuals, there are three main considerations: the quality of the camera, the camera angle, and the lighting of your room.

Your camera quality is limited to the cameras you have access to, but usually your best option will be your phone camera. While your phone's back-facing camera is usually higher quality than its

front facing one, this difference in quality is unlikely to be visible in a video, and it is more convenient to be able to see the framing of your shot, so I recommend you use your front camera.

In an ideal world to get the best camera angle possible, you would use a small phone tripod. However, most people will probably have to go down a more DIY approach. More specifically, steal any and all large books you may have lying around, stack them up, and perch your camera against something that will hold it upright (I use my glasses case, but another smaller book tower may work). Of course this will vary based on what you have available, but you will get the best results if your camera is raised to head height.

Finally, you want to make sure you have plenty of facelight. That is, light coming from behind the camera. While you can get artistic with lights from two angles across your face if you have them available, experimenting with a desk lamp pointing towards you (or against a white surface in front of you if it's too glaring) will do wonders for your video's quality.

Capturing Performance

When you're ready to perform, there are two main approaches. The first is to perform in one go and record the whole thing. This one-take approach can be easier in that it reduces the amount of editing required, but is susceptible to a line slip up spoiling the footage and doesn't give the editor as many opportunities to control and fix things in post-production. It is ideal, however, for productions that rely on a sense of spontaneity, like improv or stand-up.

The second approach is to record in sections, individual takes that can range in length from lines, to short exchanges, to scenes. Bear in mind that the shorter and more numerous the takes, the longer the editing time will be. Recording scenes, or longer exchanges between characters, may be a good compromise. This approach is advantageous for shows that are looking for a more polished finish as the burrs of performance can be smoothed out in editing and the editor has more control over the end product.

Audio Capture

We will begin by looking at capturing audio.

There are two main ways to capture audio: **remotely**, where the audio is sent to one person through a call and recorded there, and **locally**, where each performer records themselves, uploads it to a sharing service, and it is then downloaded by an editor. The former has the advantage of being a lot easier – only one person needs to worry about recording, and it cuts out the whole transferring files faff. However, recording remotely does involve compressing audio files so the end result may be of a lower quality than recording locally, which does not use compression for transmission. Additionally, any stutters in internet connection will be picked up in remote recording, but not in local.

Another important consideration is that your audio recording method must record each performer separately so their audio tracks can be edited by a sound editor individually.

For remote recording, I recommend **Zoom**. Zoom lets you record calls, but very usefully also lets you record audio from each user separately in addition to a master mp3 for audio and mp4 for video. You need to turn this on by doing the following:

1. Start a Zoom call.
2. Click the upwards arrow next to the microphone symbol in the bottom left. Then select "Audio Options" in the menu that pops up.
3. Select "Recording" on the left menu.

4. Make sure “Record a separate audio file for each participant who speaks” is ticked.
5. Make sure “Optimize for 3rd party video editor” is ticked.
6. Set where you want the file to record to in the bar at the top by clicking “Change” to the right of the file-path.
7. Close the options window and return to the call.

Only the person actually recording the call needs to do this, other participants can join the call and have their setting configured as normal.

It is useful when doing this for one person to call the scene number and take number when starting a recording (or any similar system your show is using) so the editor knows later that this take was Scene 2 Take 3, not Take 7.

The other method for audio recording is to do it **locally**. For this I'd recommend simply having a video call of your choice open so you can perform to other performers over the call, but recording audio separately (e.g. computer via a different recording software, or on your phone, whichever has a nicer mic). Here however it is doubly important for each performer to state what scene and take it is at the beginning of a recording, and to keep any audio run-in short, so that the audio editor has an easier job of syncing up the individual audio tracks.

Video Capture

Video capture is similar to audio capture but has a couple of differences. Firstly, because video has a larger file size than audio, video quality is badly affected by being compressed to be sent on a call. All video capture should then be done locally and transferred to the editor later. Most likely the best way to do this is to record on your phone, while you perform over a video call on your computer.

Additionally, with video, you need to worry about keeping audio and video in sync, otherwise viewers will notice that the lipsync is off. This is not a problem if you are recording audio and video on the same device, but if you are recording them separately (for example because your mic is better on your computer, but camera is better on phone) you should clap at the beginning of each recording, like a clapper board in film, so the editor can line them up precisely later.

As with audio it is also helpful to label each recording with a scene and take number. This can just be spoken.

File Sharing

To get your recording to your editor you can use your file sharing service of choice, though it might be a good idea to establish a standard option across your production. Google Drive is probably the easiest, and every ADC Online show has one set up for it on the ADC's system Drive account (details about this will be distributed in the initial round of emails and info packs). Just have everyone upload their recordings in a folder, making sure to label their takes with their and the scene/take numbers and give the editor the link.

Editing

So, you've been given a link to a Google Drive filled with recordings. What now?

This will depend greatly on the requirements of the production and your experience editing. If you're an experienced audio or video editor, edit in whatever way and whatever program you prefer. Export the file as a .mp4 for video or .mp3 for audio and upload it to a link given to you by ADC Management.

If you are new to audio or video editing, I am currently putting together a couple of introductory training videos which should be available at www.adctheatre.com/technical soon. If you have any specific questions feel free to drop me an email at eduardo@adctheatre.com, though please be aware that we are working reduced hours over this lockdown, so it may be a day or two before I can respond.

Audio editors:

Audacity (<https://www.audacityteam.org/>) – Quick, pared-back, but powerful. Audacity is a very clear way to edit and provides powerful tools without huge complexity. It's particularly good for improving the audio quality and crispness of a recording using its 'Noise Reduction' effect, and for removing knocks, plosives and other burrs in the sound file. Audacity is entirely free. Available on Mac and PC.

Reaper (<https://www.reaper.fm/>) – Not as good for editing individual tracks as Audacity, but really comes into its own when you're editing multiple tracks. Its effects system is also a lot more user friendly and its interface is generally more forgiving of mistakes. I'd suggest touching up audio tracks in Audacity individually first, and then exporting them into Reaper for multitrack editing. Reaper is a paid tool but has a 60 day free trial. Available on Mac and PC.

Additionally, **Logic Pro** (<https://www.apple.com/uk/logic-pro/>) is a world-class audio editor, and currently has a 90 day free trial. It's Mac only, so I won't be able to offer much help with it, but if you're familiar with it, be my guest.

Video editors:

Lightworks (<https://www.lwks.com/>) – Initially a little counterintuitive, but this is my current (free) video editor of choice. Lightworks works on an 'in' 'out' marker system and is really nice for close frame-by-frame editing. Includes built in audio editing and visual effects tools, though I'd still recommend editing your audio in a dedicated audio editing software. It's definitely worth watching an introduction to Lightworks' interface as it takes a little getting used to, but it is more powerful than Shotcut, and less processor/graphics card intensive than Davinci Resolve (I've been able to use it fairly happily on a laptop without a dedicated graphics card). It has a free version which limits your export files to 720p, but that's pretty standard for most YouTube uploads. Available on Mac and PC.

Davinci Resolve 16 (<https://www.blackmagicdesign.com/uk/products/davinciresolve/>) - A powerful, cross platform editor. Also includes built in audio editing and visual effects tools. While it's possibly slightly better than Lightworks on paper, Resolve suffers from being very processor and graphics card intensive, and has a tendency to crash out often on weaker computers, and get quite laggy. Exporting long videos on computers without powerful dedicated graphics cards can also be a struggle. Available on both Mac and PC. Free.

Shotcut (<https://www.shotcut.com/download/>) – Lacks the bells and whistles of other editors, and its interface isn't the most intuitive, but this is a solid video editor that works on less powerful computers and is quick to get your head round. Has a standard suite of effects. It's often called the next stage up from Windows Movie maker, in both simplicity and power. Works on both Mac and PC. Free.

There are many other paid alternatives, notably **Adobe Premiere Pro** and Apple's **Final Cut Pro**. **Adobe Premiere** has a 7 day free trial, and is available on Mac and PC. **Final Cut** has a 90 day free trial (<https://www.apple.com/uk/final-cut-pro/trial/>) but is available for Mac only. If you have access to either, or any other preferred software, please feel free to use it, but as I lack access to them I won't be able to offer much help.

Other useful software:

VLC Media Player (<https://www.videolan.org/>) – A useful media player for playing many different filetypes. It can also convert between filetypes easily.

To convert filetypes:

1. Open **VLC Media Player**.
2. Click "Media" on the top bar.
3. Select "Convert / Save" from the drop-down menu. A pop-up window should appear.
4. Click "Add" and select the files you want to convert.
5. Click "Convert / Save" at the bottom of the window. Another window should open.
6. Set the "Profile" to the filetype you want to convert the file into.
7. Click "Browse" beside the "Destination File" field. Navigate to where you want the file to be stored. Write the new filename in the field at the bottom of the window.
8. Make sure both "Display the Output" and "Deinterlace" are unticked.
9. **Important.** Before clicking "Save", make sure you add the file extension to the file name in the entry field (e.g. "Test Project.mp3").



10. Then click "Save", and the file should be converted and saved in the new location. The source file will remain where it was.

If you have any questions, feel free to drop me a line at eduardo@adctheatre.com and I'll do my best to help.

Miscellaneous:

On Sound Effects and Copyright:

In general, all sound effects and music that are published under the creative commons licence are fair game to use, although you have to be sure to acknowledge them in some way. I'd recommend appending a credits section at the end which lists the creators of the effects.

Good sources for royalty free or creative commons content:

YouTube's Audio Library (www.youtube.com/audiolibrary/) – useful in that everything here is guaranteed to be good to use and you don't even need to credit them. Also nicely searchable. Less useful in that you've probably heard lots of these sounds before when browsing YouTube.

The ADC's Sound Effect Collection – We've managed to extract our sound effect collection from the Production Office computers and it is free to use from this Google Drive. All sound effects should be free to use.

Archive.org (www.archive.org) – some really good stuff here, particularly old video content, that's no longer in copyright, but beware, there are copyrighted things here, so unless something specifically states that it's creative commons or free to use I'd advise against using it.

Free Stock Music (<https://www.free-stock-music.com/>) – the name kinda sums it up. It's got some good stock music. Most of it's creative commons so remember to give credit.

If you know of or come across any other good sources of free sound effects and/or music drop me an email at eduardo@adctheatre.com and I'll add them to the list!