

SETTING UP LIGHTING & AV FOR LIVE PERFORMANCES

They're complicated, try and make them easier

WHO AM I?

- Luke Bartholomew.
- Full time Theatrical Technician at Star Theatres & freelance filmmaker.
- I have a Bachelor of Creative Arts (Screen) from Flinders University.
- 10 years of experience as a theatrical technician.

Contact details:

Email: luke@wolfpackproductions.com.au

Phone: 0423404090



AREAS COVERED

- Lighting shows
 - Where to get royalty free music and sound effects
 - Controlling the sound
 - Controlling vision
 - Moving your media around
-

THEATRE IS LIVE!

The biggest thing to think about is reducing risks of human error

LIGHTING SHOWS

General theory

TYPES OF LAMPS

- Fresnels
 - Used for washing the stage with light.
 - Recognisable by their rippled glass lens.
- Profiles
 - Used for single highlights/spots.
 - Usually long in body.
- LED PAR64
 - Most affordable way to colour.
 - Require 3-7 channels to operate.
- Moving Lights
 - Most versatile, but expensive.
 - Requires many channels to operate.



SPECIALTY LIGHTS & EFFECTS

- Strobe.
 - Lasers.
 - Pin spots + Mirror Balls.
 - Floor lights.
 - Hazers/Smoke Machines.
 - Gels.
 - Gobos.
-

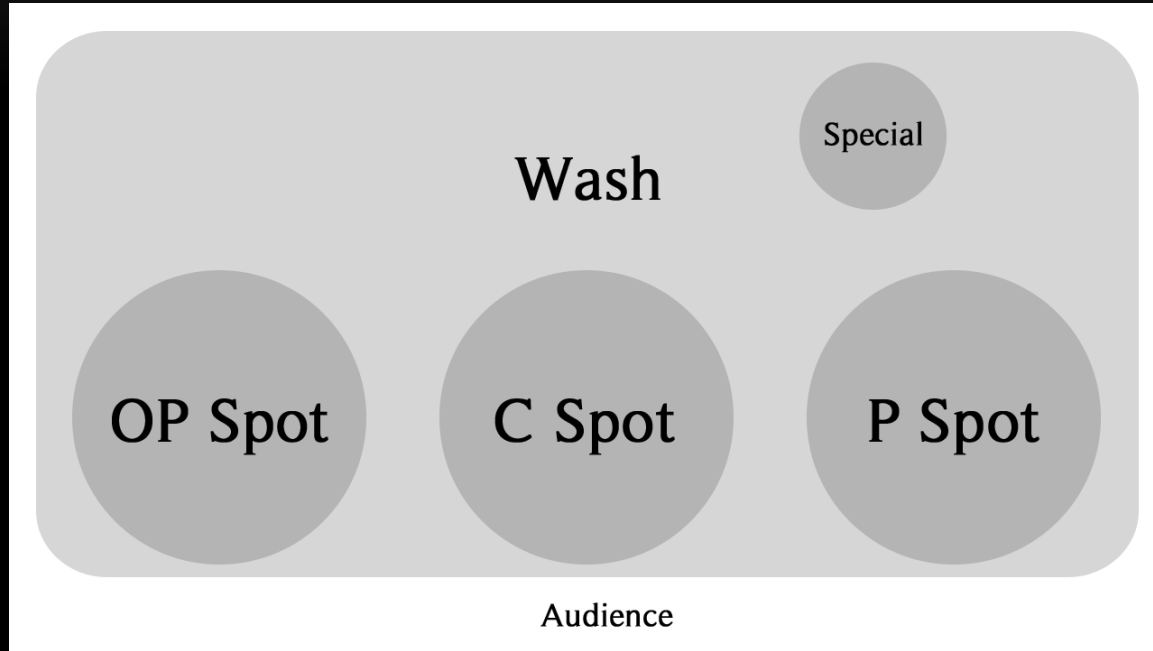
THE GLOBE CRISIS

- Incandescent globes aren't being manufactured anymore.
- This means the old lamps that use globes will become obsolete eventually.
- This is sad.
- It's getting harder to get globes.
- There's a company in Melbourne called Clearlight Shows Pty Ltd that is the only place in Australia still stocking globes. They're more than happy to chat on (03) 9553 1688 or you can email them through their website: <http://clearlight.com.au/>

THINKING ABOUT LIGHTING

- Try and direct in tableaux, keeping characters isolated to certain parts of the stage for moments. This focuses the scene and allows for nice lighting.
 - Otherwise your just washing the stage with light and it looks less dramatic.
 - Use colour to represent mood and feeling.
 - However for school productions and marking purposes it's always better reduce risk of operator error. If a student isn't in light, or is bad at finding light, it might be better to keep it simple. Lighting can add a lot to a production, but it's not what the student is graded on (unless you have an aspiring technician in your class).
-

KEEP PLANS SIMPLE



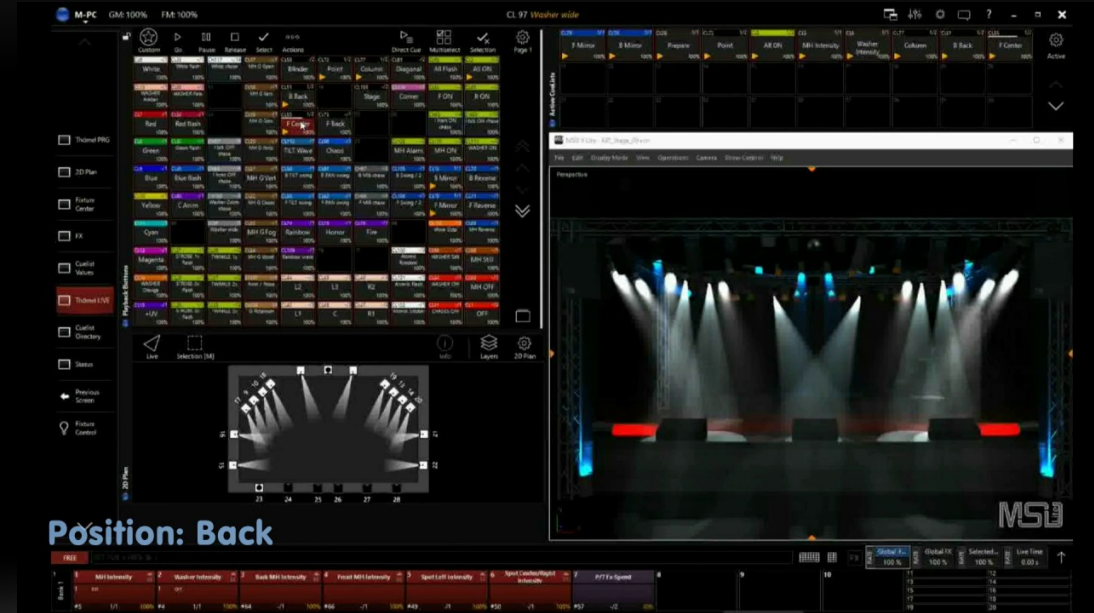
CONTROLLING LIGHTS

- The easiest option is a lighting desk.
- Each fader is assigned to a light.
- Groups of faders can be programmed to master faders.
- LED and other digital lights, such as moving heads, can take up more than 1 channel. This is where lighting desks begin to become less useful.



CONTROLLING LIGHTS

- If you're running out of faders, sometimes a program is needed.
- ONYX is the best free program on the market for controlling lights. All you need in a USB interface, such as the Enttec USB PRO Mk2.



More information and download here: <http://support.obsidiancontrol.com/Content/Home.htm>

CONTROLLING LIGHTS

- Onyx may be the best, but it's only on Windows.
 - QLab is good for lighting, but only accessible via the paid version.
 - Lightkey is a very simple to use and free program for Mac, but it's not great for running a show on, and can't program a cuelist as it's primarily made for music concerts.
 - All free programs tend to have features locked until you pay money. This varies on the program.
-

MUSIC AND SOUND EFFECTS

Where to get them, and how to play them

WHERE CAN I GET ROYALTY FREE MUSIC?

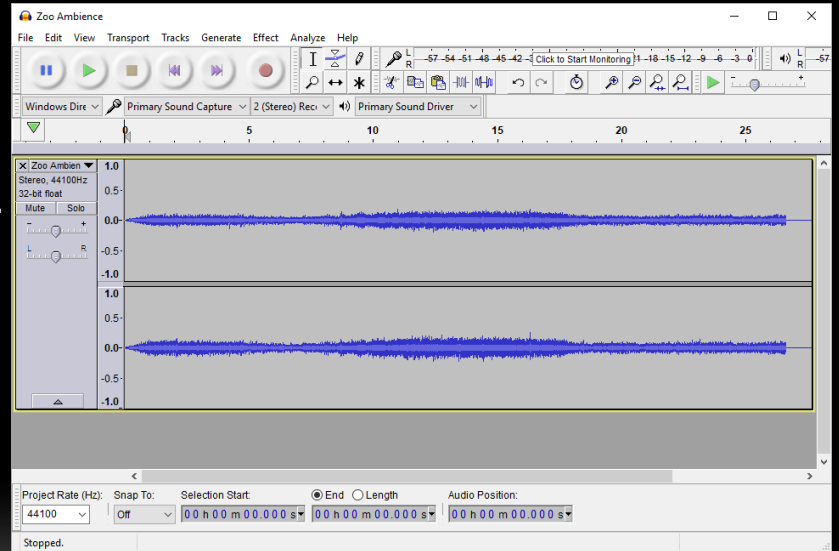
- There are 3 great places to get royalty free music online, but they do require a credit.
- Incompetech: <https://incompetech.filmmusic.io/>
- Bensound: <https://www.bensound.com/>
- Purple-Planet Music: <https://www.purple-planet.com/>
- They all allow you to browse by genre and feel.
- Sometimes you need something without lyrics.

WHERE CAN I GET ROYALTY FREE SOUND EFFECTS?

- Sometime you just need a sound effect, but recording it is too difficult or time consuming.
- These are your best options:
- Freesound (requires an account, but is 100% safe, huge library): <https://freesound.org/>
- Sound Bible (great quality, small library): <http://soundbible.com/>
- FindSounds (searches the internet for sounds, not always royalty free): <http://www.findsounds.com/>

MY SOUND IS TOO QUIET!

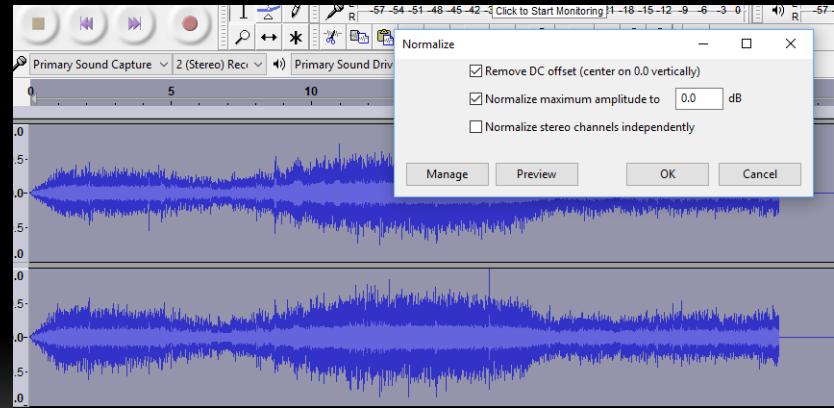
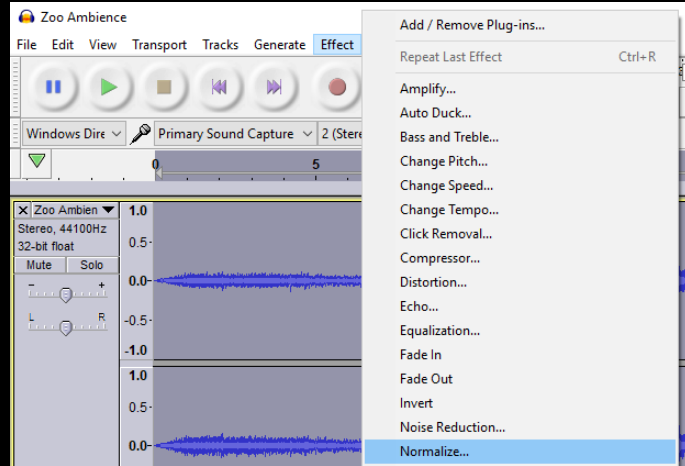
- Sometimes sounds aren't as loud as they can be.
- The simplest solution is Audacity.
- It's free and works on Windows and Mac.
- It has some great audio adjustment effects.



More information and download here: <https://sourceforge.net/projects/audacity/files/latest/download>

MY SOUND IS TOO QUIET!

- Simply go to “Effect” -> “Normalize...” .
- Then set the “maximum amplitude” to 0.0db and press OK.



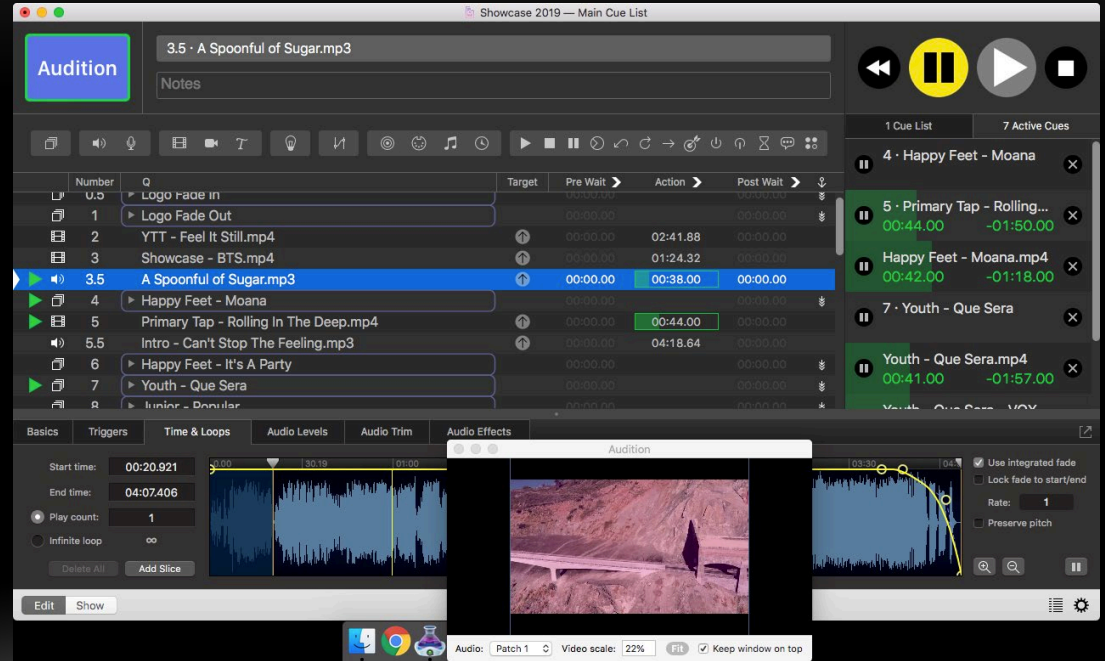
PLAYING YOUR MUSIC & SOUND EFFECTS

- The best answer is QLab.
- It is only on Apple Mac.
- It's free, with further features for a price.
- The full licence can be rented for \$4/day (which pays off the total cost) if the full features are ever needed.
- I will be focusing on this program for this presentation.

More information and download here: <https://figure53.com/qlab/>

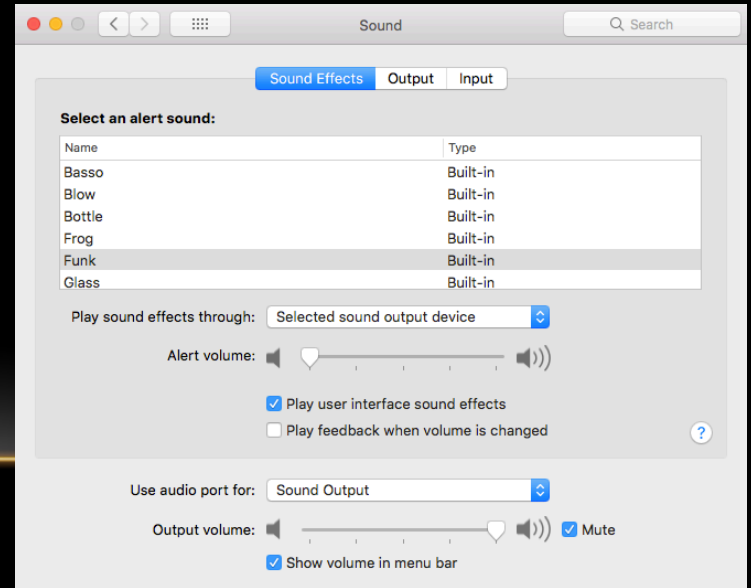
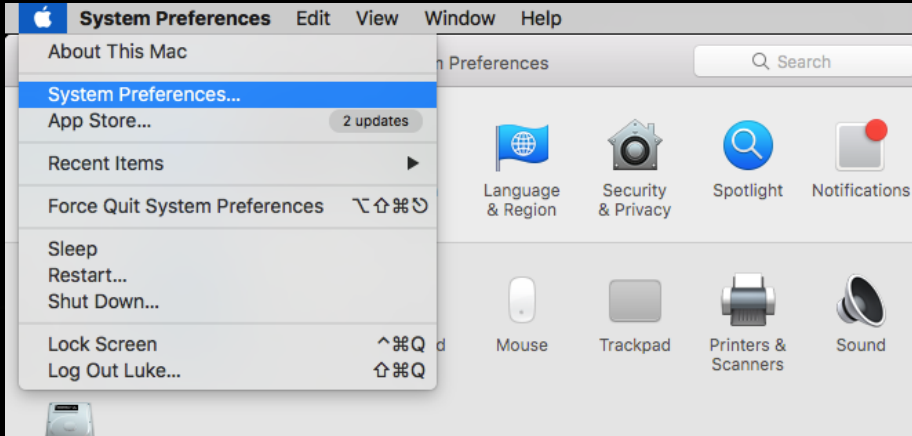
WHAT DOES IT DO?

- Play music, sound effects and video.
- You can play multiple files at once.
- You can edit the length, volume and add fades to sound files.
- All triggered by spacebar.
- Much more.



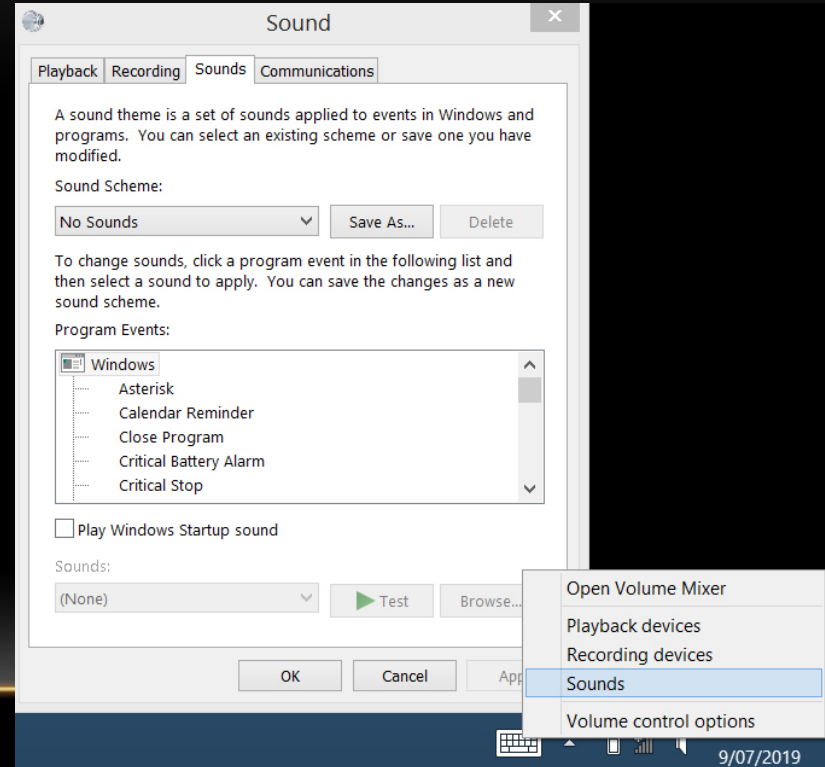
DON'T FORGET TO MUTE OTHER SOUNDS

- When playing sounds from a laptop into a sound system, you're going to want to mute your other sounds.
- Otherwise you'll get notifications from emails and other unwanted sounds through the speakers of the performance.
- To turn these off go to your System "Preferences", then sound and turn the "Alert Volume" to 0.



MUTING SOUNDS ON WINDOWS

- To mute notification sounds on Windows:
- Right click the speaker icon in the bottom right of the taskbar.
- Click “Sounds”.
- Under “Sound Scheme” choose “No Sounds”.
- Click “Apply” and “OK”.
- You’re done!



PROJECTING IMAGES & VIDEO

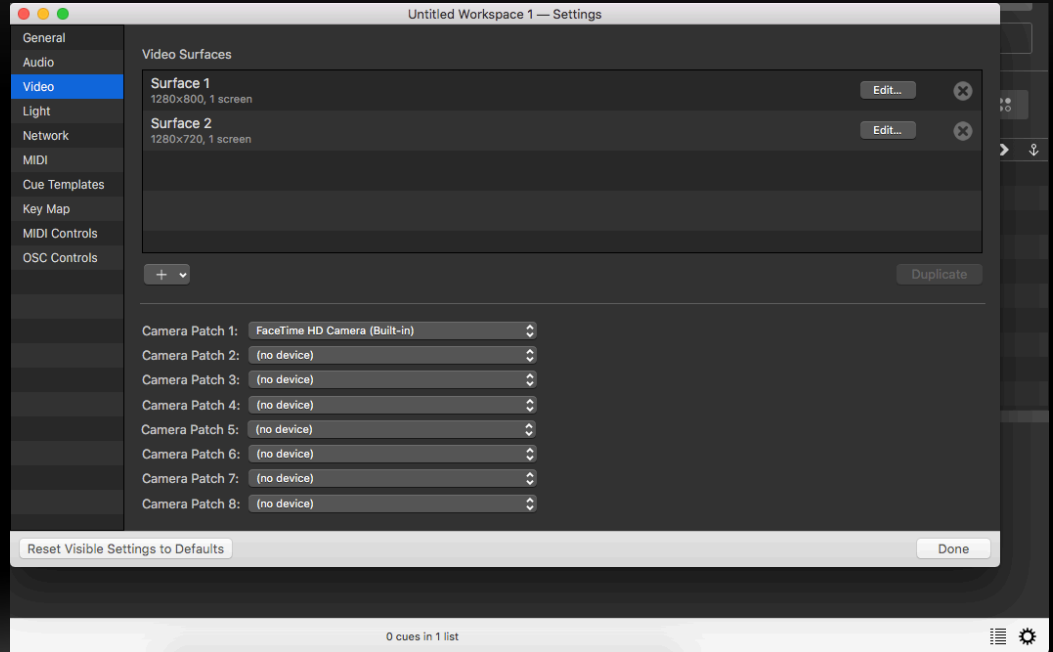
Moving and static images

QLAB IS ALSO GREAT FOR VIDEO

- A licences is used for most of the video features, such as:
 - Fading video.
 - Projecting to multiple screens.
 - These can be overcome by putting fades in your videos prior.
 - Setting your primary surface to be your projector. This is a little tricky, so I've made a quick guide.
-

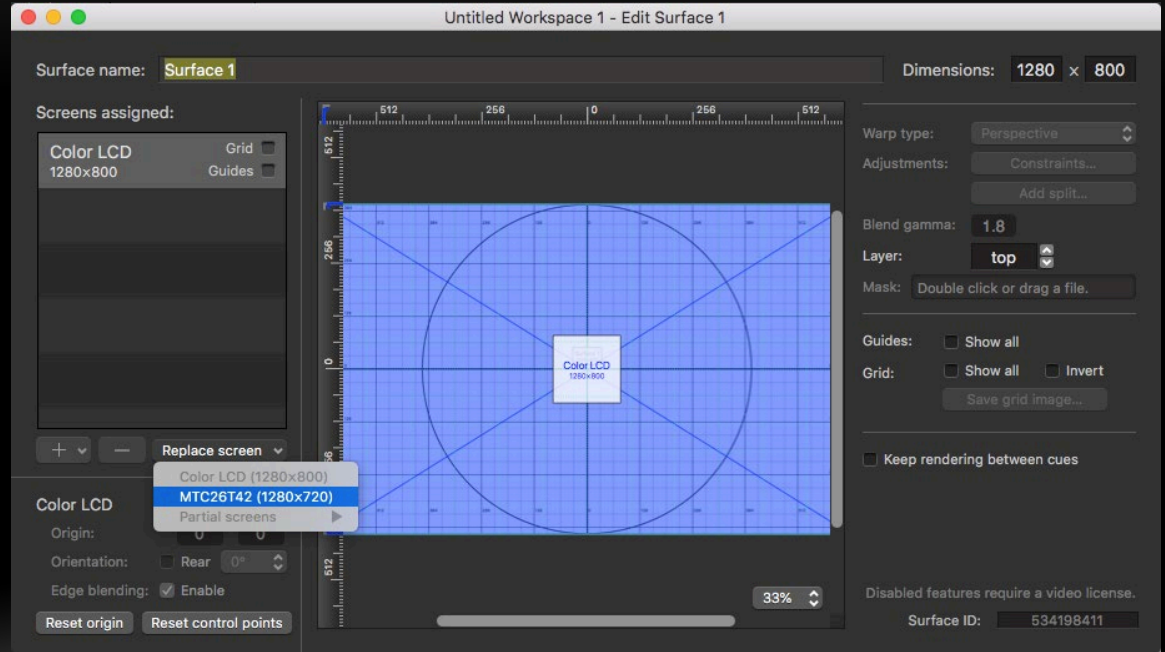
SETTING UP QLAB FOR EXTERNAL VIDEO

- Make sure your projector is connected to your computer.
- Go to the “cog” in the lower right hand corner.
- This opens the settings windows.
- Go to the “Video” tab.
- Across from “Surface 1” click edit.
- This opens the “Surface Editor” window.



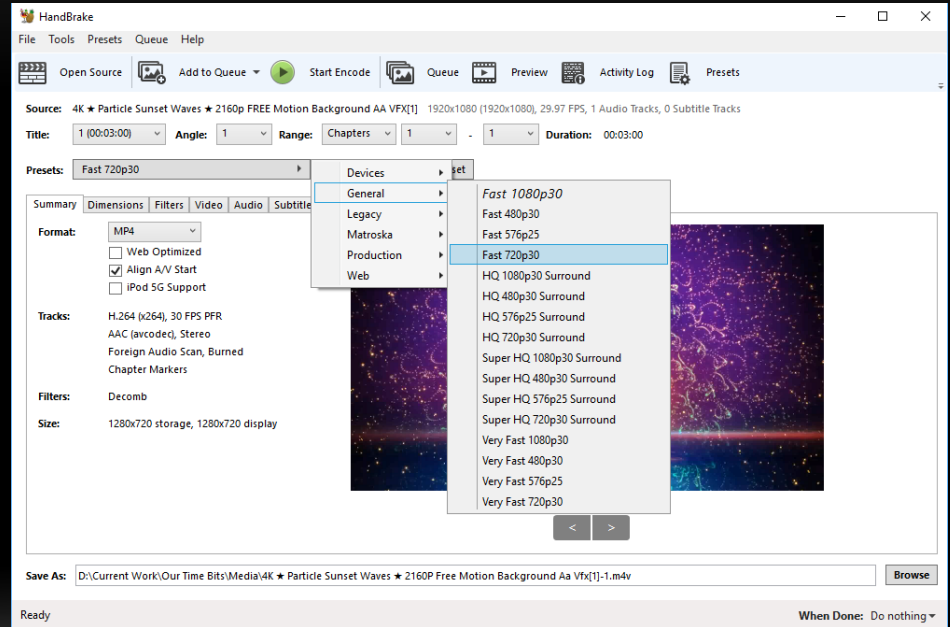
SETTING UP QLAB FOR EXTERNAL VIDEO

- In the middle left click “Replace screen” and choose your projector.
- Make sure the “Dimensions” in the top right match the dimensions under the “Assigned Screen” on the left.
- Once your dimensions are set, click “Reset Origin” and “Reset Control Points” in the bottom left of the window.
- You’re done!



MY VIDEO WON'T WORK!

- QLab accepts most files, but sometimes you have an odd one, or it's too large and the Mac your running on can't handle it.
- The free video converter HandBrake will solve your problem.
- Fast 720p30 MP4 should work fine with most Mac computers.
- If not, smaller numbers = smaller files, and the preface from smaller to larger is: Very Fast -> Fast -> HQ -> Super HQ



More information and download here: <https://handbrake.fr/>

POWERPOINT

- Microsoft PowerPoint is still the best at what it does: displaying static images or slides.
- If you want projected background, but you don't need them moving, this is a great option.
- It's on Windows & Mac, and most schools have a license.
- Video can be done, but the video can lag and jitter, particularly with longer clips.

MAKING BACKGROUND

- The first thing you need to know is if you have a 4x3 or 16x9 projector (a square or rectangle).
 - Once you know this it doesn't really matter how big your resolution is, just as long as it's the correct shape.
 - For 16x9 I recommend 1280x720 pixel images and videos.
 - For 4x3 I recommend 1024x720 pixel images and videos.
 - The lower than HD resolution will keep files loading quickly and reduce problems while the show is running.
-

WHAT IF I DON'T HAVE A MAC

Apple = \$\$\$

ALTERNATES TO QLAB ON WINDOWS

FREE

- MultiPlay: <http://www.da-share.com/software/multiplay/>

PAID

- Show Cue System: <https://www.showcuesystems.com/cms/>

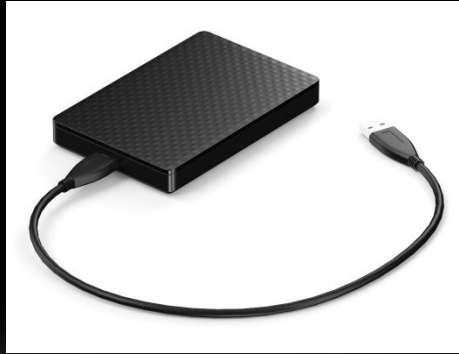
Neither is as good as QLab, but they work in the same way.

TRANSPORTING YOUR MEDIA

Why doesn't my USB work!?

MOVING FILES AROUND

- USBs and external hard drives can be formatted in different ways.
- Some work on Windows and some work on Apple Mac.
- Only one works on both (with no file size limit): exFAT.



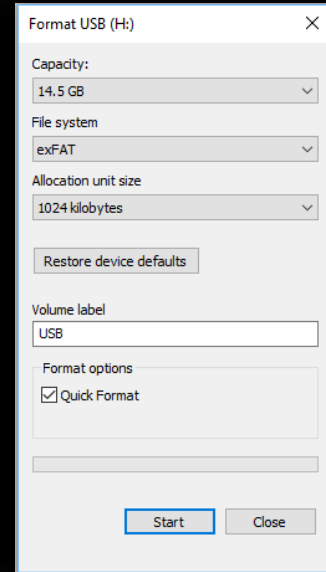
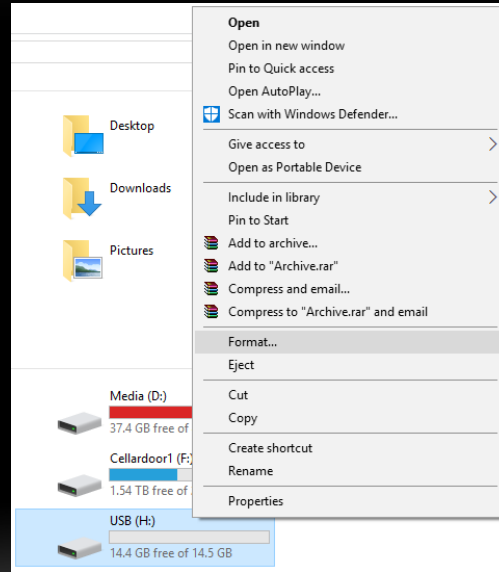
FORMATTING YOUR STORAGE CORRECTLY

- Have you ever had an issue of a large file not fitting on a USB or hard drive?
- Or has your USB not been recognised in an Apple Mac or Windows computer?
- That's because there are different formatting options for these operating systems.
- Why? Because big companies don't always play nice with each other.
- So what can you do?
- The answer is format to exFat, which no one seems to know about.
- Please be aware that **formatting erases all your data**, and needs to be done before you put files on your storage device.

FORMATTING FOR WINDOWS & MAC

- HOW TO ON WINDOWS

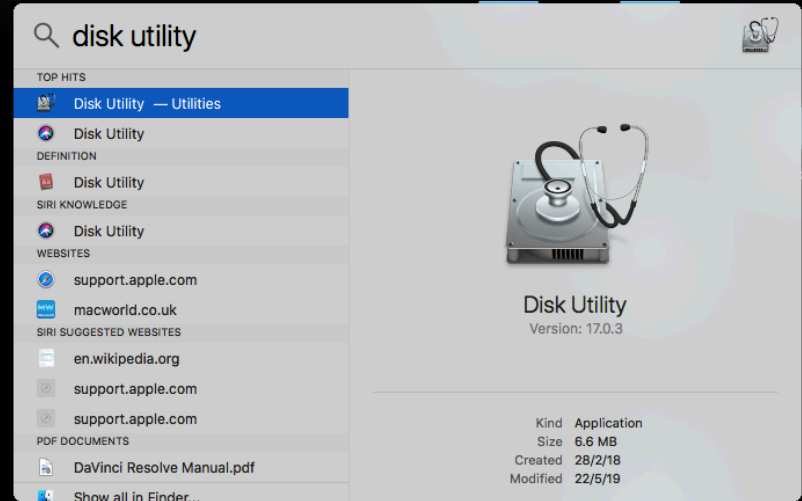
- Go to “My Computer”.
- Right click your USB drive.
- Left click “Format...”
- Choose the options:
 - File system: exFAT
 - Allocation unit size: 1024 kilobytes
 - The others do no matter.
 - Click “Start” to format your device.



FORMATTING FOR WINDOWS & MAC

- HOW TO APPLE MAC: PT1

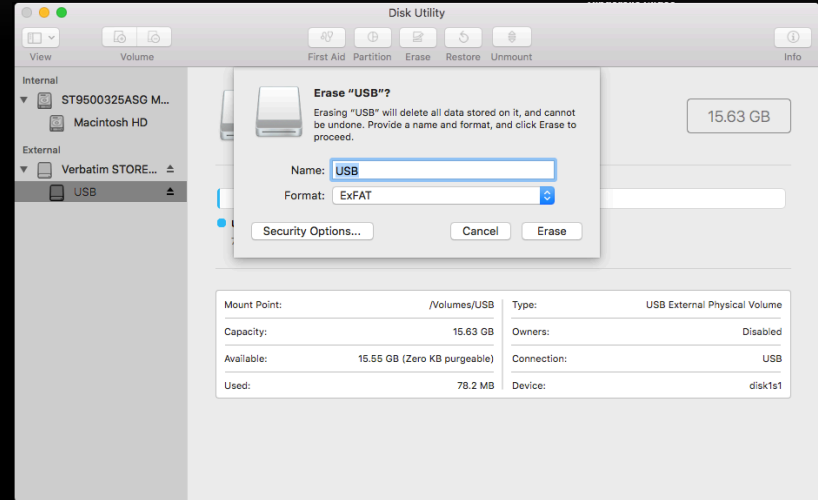
- Press “Command Space” to open Spotlight.
- Type in “Disk Utility”.
- Select “Disk Utility — Utilities” from the results.
- Disk Utility will then open.



FORMATTING FOR WINDOWS & MAC

- HOW TO APPLE MAC: PT2

- Left click your USB under the “External” options on the left.
- Choose the options:
 - Name your USB.
 - Make sure the Format is exFAT.
 - Click “Erase” to format your device.



TUTORIAL & DEMONSTRATION

Building a show in QLab

QUESTION TIME

Go on, don't be shy!