How to Prepare a Performance: DIY Electronic Music Show

By Landon Brown

Foreword

The following is a step-by-step guide on how to prepare to play an electronic music performance using Ableton Live software. It follows the preparation of my own show, *the Wizard, the King, and the Fool,* and the steps I took from compiling individual songs into a final set, to gathering equipment, booking a venue, and promoting the show. The point of this guide is to provide a general outline and overview of how a performance may be prepared, not to go into hyper-specificity due to the nuance across musicians, their styles, and their equipment. Nonetheless, it provides an example for how each step may be applied.

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Equipment

Before playing anything live it is necessary to have the right equipment. Here are some basic hardware requirements in assembling a simple live electronic set (Buehler):

1. Digital Audio Workstation (DAW)
2. Audio Interface
3. Microphone (if singing live)
4. **MIDI** controllers (for playing electronic instruments)
5. Projector/Canvas (for visuals)
6. **PA System** (if venue doesn't have one)

Due to their cost, some of these may need to be rented if there's a budget involved. In my case, I either already had or purchased the equipment myself, with the exception of the PA system. For my show I was able to borrow a PA system from my old music school through inquiry.

Compiling A Live Set Into a Single Project (Using Ableton Software)

To play a live set it is recommended that all the material is consolidated into a single Ableton Live project. This set serves as a central hub where other aspects of the performance may be coordinated. Otherwise, each time a song is switched, individual projects must be open and closed, which puts stress on the computer and takes away fluidity from the performance. Additionally, aspects such as syncing visuals and modulating sounds via MIDI controllers are simplified when everything is consolidated into a single project ("Ableton for Live Bands").

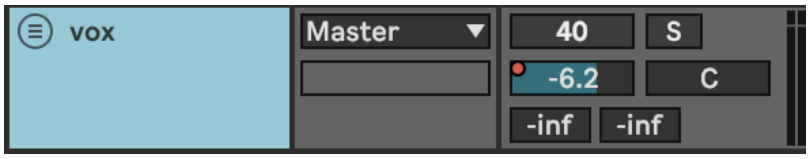
First and foremost, before placing all songs into a live set, it is necessary that all the songs intended to be played are ready to be played. That is, there are no significant changes left to be made. Although the decision may be made to go back and tweak some things, ultimately before a live set may be created everything to be included in the set must be completely done. Simply put, it's impossible to prepare a complete set without prepared material. Once all the material has been prepared, it is then time to move everything into a single set.

The process of moving each song into a collective set has been decomposed below into the following steps:

1. Open up individual song's project

Example of an Ableton Live project for a single song. Each track/instrument is distinguished according to color on the right-hand column.

2. Mute the elements to be played live

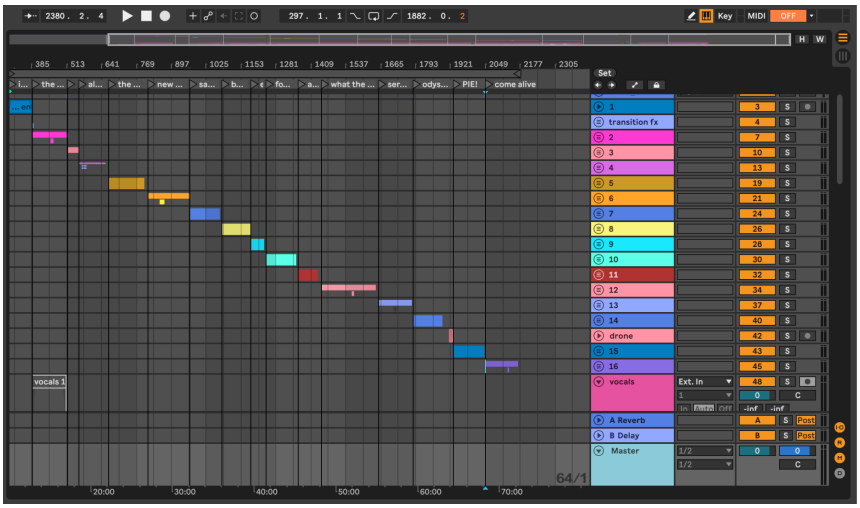


In this case, I have turned the vocals off ('40' button is grayed out) since I am singing over the song live.

3. Export master audio (Ableton).

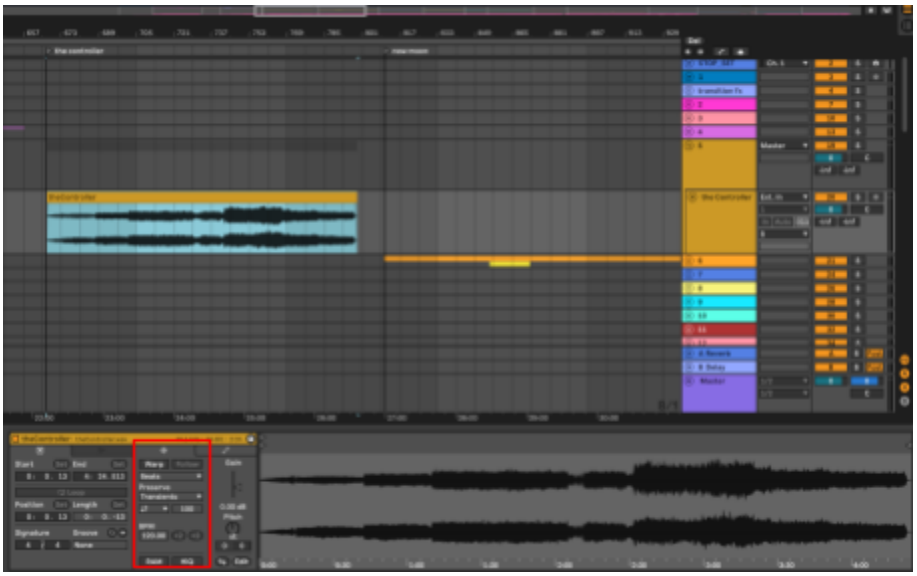
Some example export settings. In this case I am exporting only the Master track (all the tracks put together).

4. Drag instrumental audio into a new live set, creating a new section for each song.



Final Live Set with each individual song. They are distinguished by color and by play markers (top bar) to easily switch between them if needed.

5. Click on the audio clips and make sure ‘Warp’ is set to off. This makes it so that the original speed of the song is kept.



Make sure the ‘Warp’ button, as seen within the red box, is grayed out.

6. Repeat steps 1-5 for all desired songs, until all songs have been added to the set.

After completing this process, there should be a singular project which is able to play each instrumental back-to-back as if they were in their own projects (fromstudiotostage). Note though that this is an oversimplified way of compiling a set. In reality, there may be many elements of each song you wish to isolate from each other instead of consolidating everything

into one Master. The process for this is similar, except instead of muting solely the vocals, you will mute the other instruments you wish to play live as well before exporting the audio, adding them back into the final compiled set later.

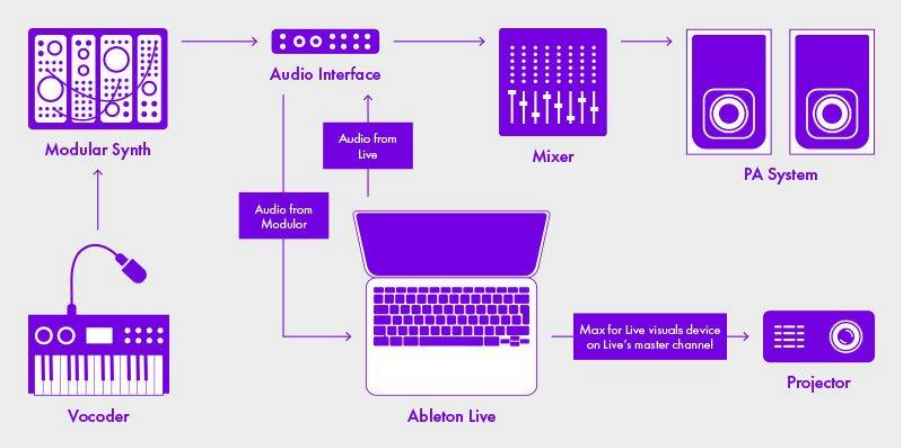
Adding Live Instruments

A key part of any musical performance is the performer's interaction with their sound. When playing electronic music especially, it is important that rather than simply playing tracks back, that a performer finds a way to further engage and entertain their audience. One means of doing so is playing some, albeit not all, instruments live, such as vocals and a synthesizer. This section will discuss how to configure an Ableton live set to play live instruments over **backing tracks**.

Before doing so it is necessary to have the correct equipment. The following is a list of hardware that can be found in nearly every setup:

1. Digital Audio Workstation (Ableton Live)
    a. Where all the music is created and played back from, can also be used to coordinate visuals.
2. Audio Interface
    a. Serves as a hub or broker between DAW, instruments, and PA system
3. Mixer *
    a. Used to adjust levels of certain channels/groups of tracks
4. PA System
    a. Venue speakers, where sound is ultimately emitted
5. MIDI controller/keyboard
    a. Device used to play specific sounds/patches in real time
6. Microphone
    a. Used to record vocals or additional instruments over backing track

** In my show I did not use a mixer, however they are a popular and useful tool to adjust volumes of tracks while playing.*



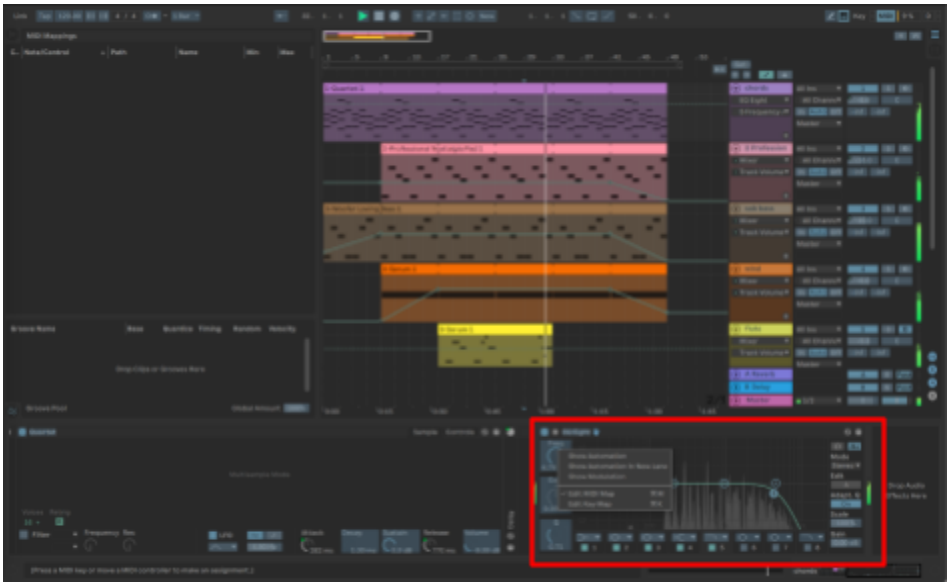
Example of a Live setup (Ableton)

Each hardware configuration may differ from artist to artist depending on their style, however pictured above is an example of an electronic music setup. Technically, if all an artist wanted to do was playback their songs without any further interaction, they would simply need to connect and play an audio file through the PA system. However, if the artist wants more interaction, at least some additional hardware is necessary. For example, if singing and playing a synthesizer, then a microphone, MIDI controller, and audio interface at the very least are required.

Once all the necessary hardware is acquired, it is then time to link it all together. This process is likely to be more complicated than simply connecting things via cables and may differ depending on the hardware that is being used. Therefore, it is up to the artist to research and make sure their devices will function with the others in their setup ("How To Play Electronic Music Live").

Modifying Sounds While Playing

Another means of interacting with music is modifying its effects while playing. A common example is the use of filters, where the higher frequencies of a sound are cut off, making it sound as though it were underwater or coming from another room. Then, as the song progresses, the filter slowly opens back up, giving the sound more energy and engaging the audience. To accomplish this, it's necessary to use a MIDI controller to link specific dials and knobs to the effects that are to be modulated ("How to Play Electronic Music Live").



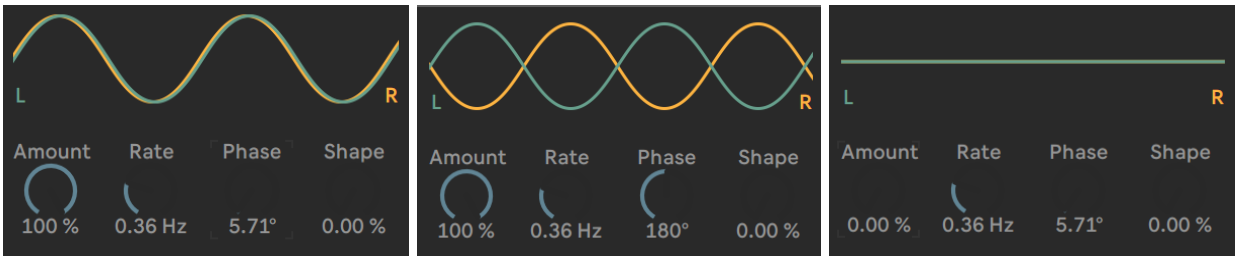
In Ableton Live this can be done by typing “Cmd + M”, clicking on the effect to be modulated, and moving the knob on the controller which will modulate that effect. In this case I am using the knob pictured below to modulate the filter frequency (red box).

Now the filter effect may be modified during playback by turning the knob above.

Depending on the MIDI controller being used, there is a certain limitation in the number of knobs that may be used to assign effects. Multiple effects may be assigned to one knob, however there is only a certain amount of knobs, depending on the hardware, that may be assigned towards modulating effects. Thus, it is important to choose what effects are modulated wisely. Modulating too many effects may make it confusing and hard to remember which knob does what. Once knobs have been assigned to their desired effects, however, all that’s left to do is playback the song and use the knobs as desired.

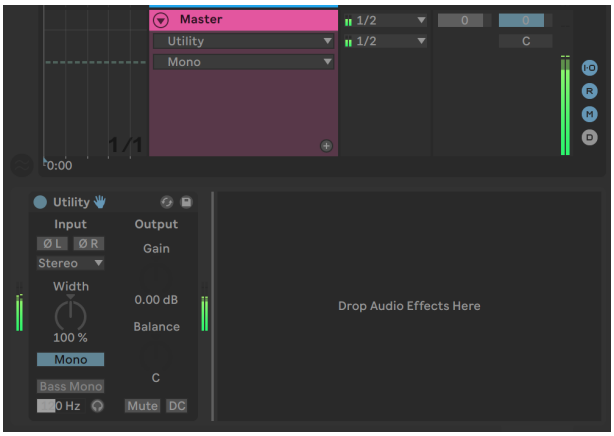
Mixing Music for Concert Speakers

Although most songs utilize a **stereo** speaker system, meaning different audio is played out of each speaker, many PA systems only support a '**mono**' configuration, meaning the sound coming out from both speakers is the same. This is problematic for sounds which contain wide frequencies, as when put in mono, many of their frequencies may cancel out and not be heard. Thus, it is important that each song is properly 'mixed' and ready to be played live (You Suck at Producing).



Audio waves that are "in phase" (left) versus "out of phase" (middle). When audio waves are out of phase and are added together in a mono PA system, they will cancel out and not be heard (right).

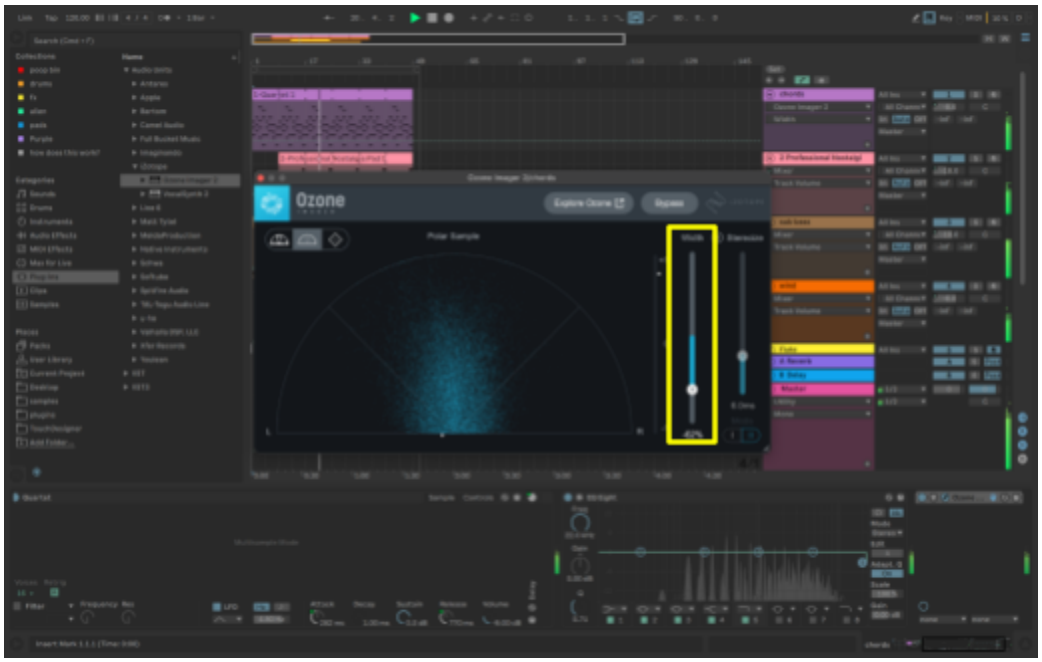
To test if a song is compatible in mono, place a 'Utility' audio effect on the master track and click on 'mono'. If the song changes drastically, or any sounds are no longer heard, it is because their stereo information is not compatible in mono; the left and right channels are out of phase and thus canceling out when they are added together.



Here, a 'Utility' is shown placed on a track in 'Mono' mode (light-blue box).

To fix this, first select the track that is being canceled out when placed in mono. Then, add an audio effect that will make the sound less wide, such as "Ozone Imager 2", a free plugin from Izotope (not sponsored). Place the effect on the track and observe the stereo image.

As seen here, all the frequencies outside of the middle quarter (to the left and right of cyan ‘V’) are out of phase and thus being canceled out when the song is placed in mono, which is essentially 50% of the sound.

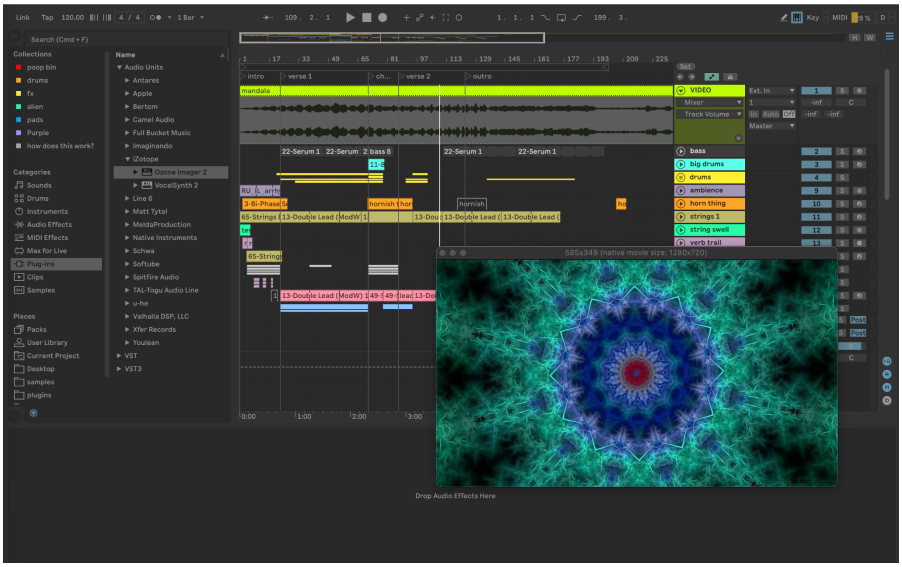


To convert this track into one that is able to be played through a mono PA system without losing its fullness, simply lower the width (yellow box) so that the majority of the sound is within the middle quarter of the stereo field, minimizing out of phase frequencies.

Synchronizing and Displaying Visuals

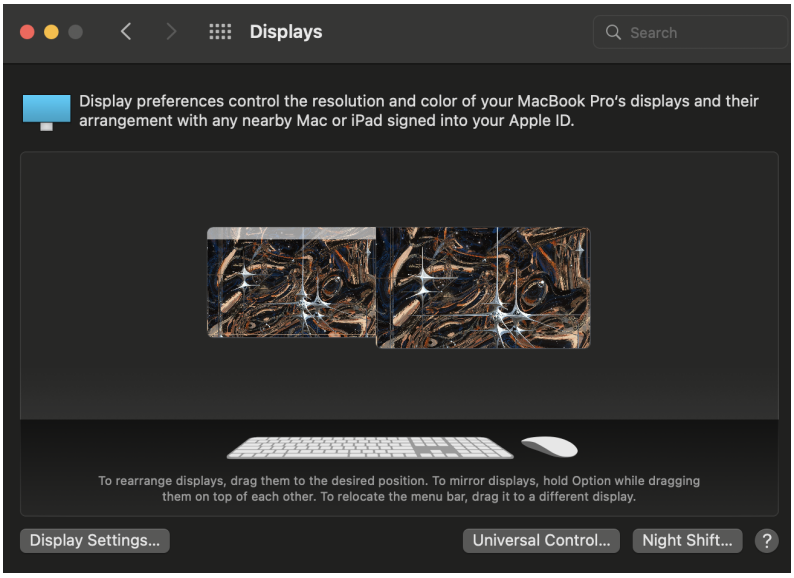
Visuals are an especially important part of electronic music sets that add more activity to the performance and draw the audience in. However, it is necessary that they are properly synced and coordinated with the music. To do this it is necessary to have the proper software and hardware, which include Ableton Live and a projector ("Extending Live: How Three Different Artists Approach Visuals for Live Performance"). Here are the steps for adding visual material to your live set (Practical Worship):

1. Create visual material (This step is outside of the scope of this guide)
2. Import visual material into Ableton live



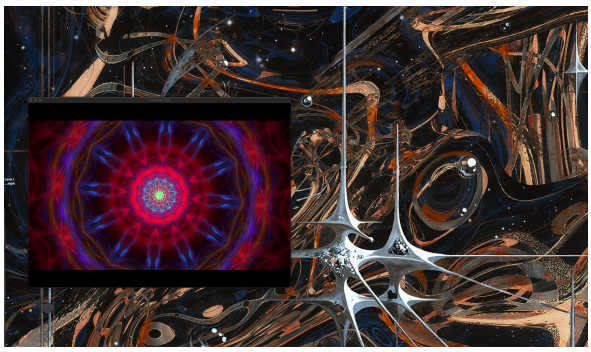
To add visual material to Ableton, simply drag it into the project. Ableton will treat it as an audio file while pulling up a window where the visuals are displayed. If you don't see the video window, either right-click on the video track and then 'Video Window', or click on 'Video Window' in the 'View' toolbar up top.

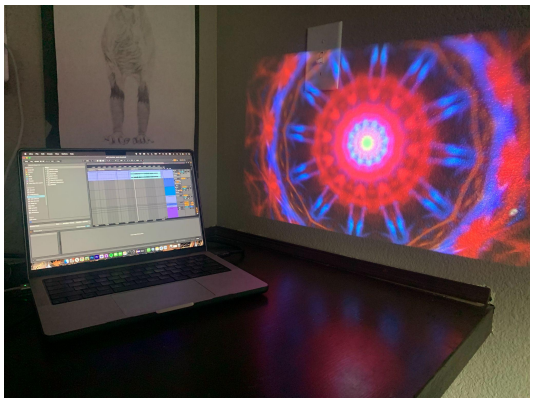
3. Synchronize visuals with music
    a. Drag the video clip as if it were audio to align with the backing tracks.
4. Connect computer to projector, usually via HDMI cable
5. Configure projector as a second display (varies from device to device).



On a Macbook, this can be done in the 'Display' settings under System Preferences.

6. Drag video window from ableton over to second display (projector)



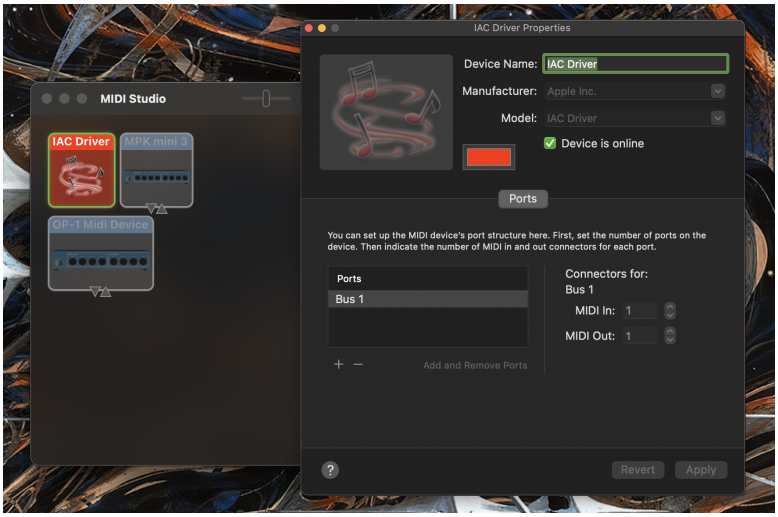


a. The top left pictures how the video window should appear on the projector screen when it's dragged over to the extended display.
b. To make the visual full screen, double click on the video window
c. The bottom picture shows the Ableton set open on the left, with the video window outputted through the projector display on the right.

Creating an Auto-Stop

Throughout the performance there may be certain points you want the set to stop in between songs without any interaction such as to switch instruments or talk with the audience. This may be done with an ‘Auto-Stop’ track which utilizes the IAC (Inter-Application) driver.

Firstly, the IAC driver must be enabled. On a Macbook, the IAC driver may be activated and configured within “Audio MIDI Setup”:

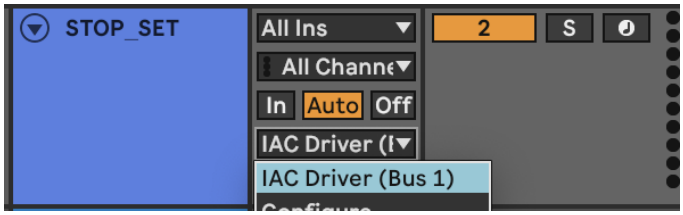


Within the system’s IAC driver settings, “Device is online” must be checked.

Secondly, the IAC driver must be configured within Ableton. Two things must be made sure of: 1) Ableton tracks can send output to the IAC driver. 2) The IAC driver is able to remotely control Ableton (cause the set to stop automatically).

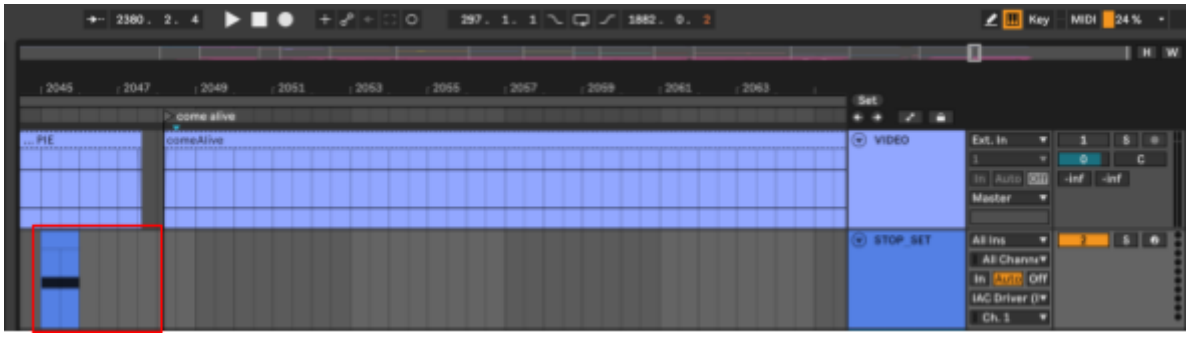
Here, the IAC driver is set as a remote input, and the track output is enabled so that the IAC driver may receive information from the tracks.

Third, create a MIDI track that will be used to stop the set when desired. Set the output of the MIDI track to the IAC driver.



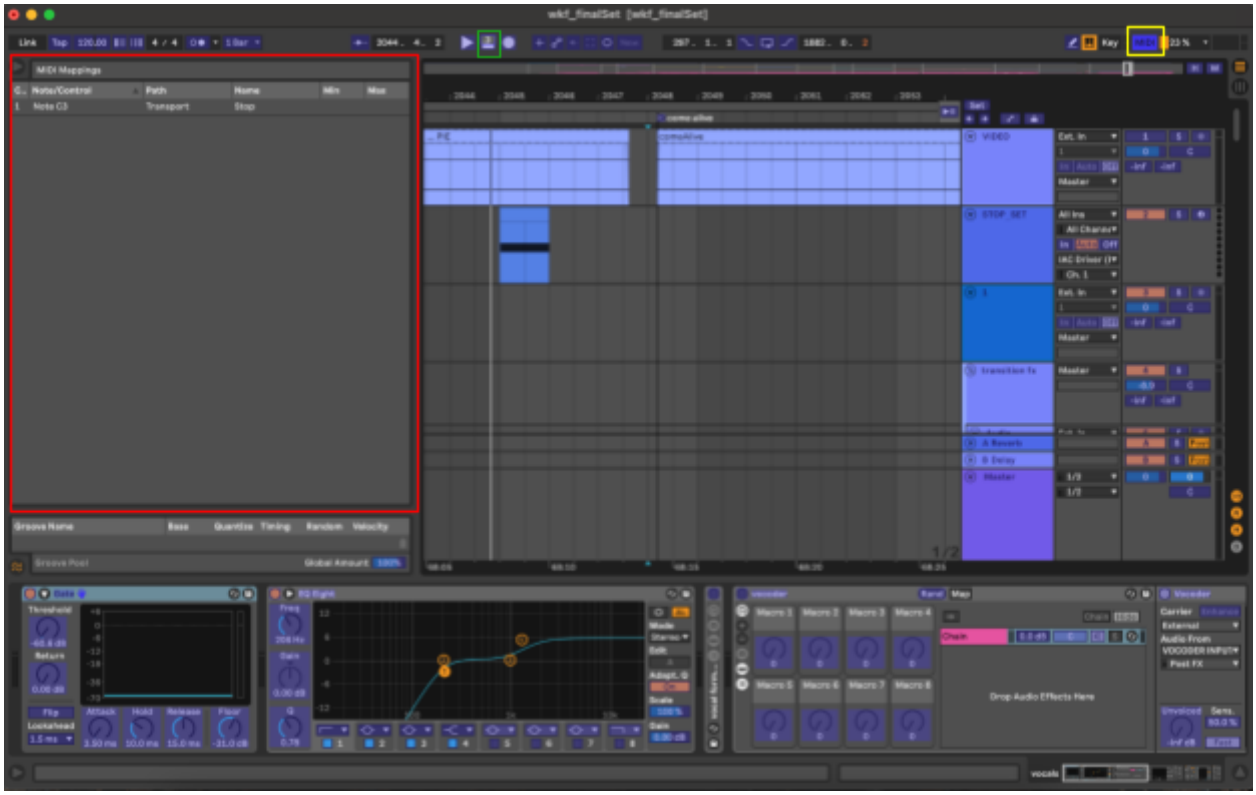
My MIDI track was called “STOP_SET”. The output is set to the IAC driver.

Fourth, draw in ‘notes’ where you want the set to stop. These notes will not actually be played, but will rather trigger the IAC driver to stop Ableton.



For example, here I drew a note right before the last song so that I would have a moment to talk and thank everyone for coming.

Lastly, assign the MIDI note to the desired Ableton control (in this case, the stop button).



a. Enter MIDI assignment mode by pressing “Ctrl + M” on a Macbook. Alternatively, you can click the “MIDI” button in the top right (yellow box)

b. Press play on the set and then click on the control/button you wish to be triggered by the stop track to complete the assignment. In my case, I was using it to control the stop button (green box)

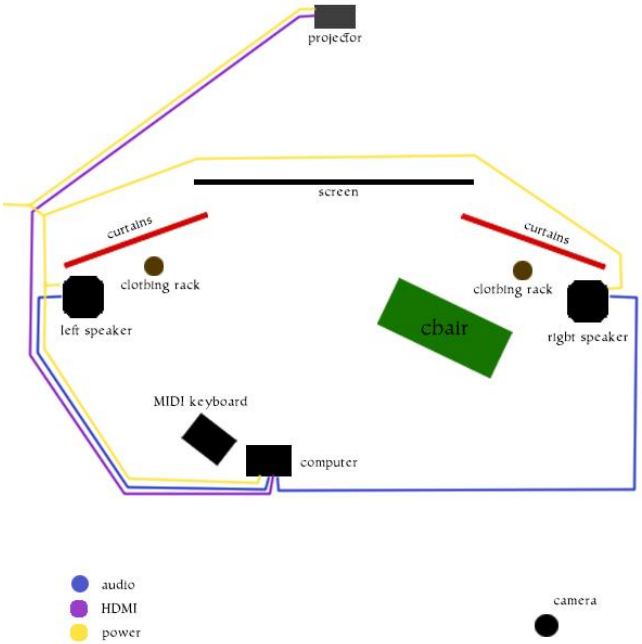
c. You can view all your assignments in the “MIDI Mappings” window (red box)

Tada! Now you have an automatic controller that may be used to not only stop the set but modify whatever your heart desires using the IAC driver and Ableton’s MIDI assignment feature (fromstudiotostage).

Final Stage Setup/Rehearsal

Before booking a performance it's necessary to set up everything and make sure that all the equipment is in order and working as expected. During this phase it's important to get as clear as possible on how everything is coordinated and what the expectations are for the final performance. Practicing the full set with everything put together and even recording the rehearsals during this stage is a good idea as it will expose any hiccups and ensure that the final delivery is as close to what’s intended.

A practice stage setup I did in my backyard. During this practice I discovered that the wind may be an issue as it was blowing over the curtains and projection screen. Because of that, I was able to readjust by staking everything to the ground.



A diagram I created for my entire stage setup. This helped me conceptualize the way everything would fit together, as well as communicate to the people helping me set up what I was planning.

Finding a Venue

After all the material is performance ready, it's time to find a venue. This process may vary in difficulty depending on personal connections, location, stage setup, etc. However, a good place to start is by creating a 'demo' video which demonstrates the performance to a concert promoter or whomever may be responsible for booking the performance. Additionally, asking other artists how they booked their gigs may result in personal connections which lead to a booking. Furthermore, attending concerts and places where your music is being played, talking to the organizers, and asking around in general is a great way to start. Ultimately, finding a venue is both a matter of talent and social game. Not only is it necessary to have prepared material that is worthy of playing in front of an audience, it's necessary to make the social connections that will take you there (Robley).

For my show I knew beforehand that I wanted to play on the common area of my college campus. Fortunately, I was able to book the space by talking to one of my professors, who was able to do the booking for me. The area I played at didn't require me to show any demos or music beforehand, so I kind of lucked out. However, knowing exactly where I wanted to play beforehand and choosing somewhere where I would have the freedom I needed helped me.

FINAL SETUP!!!

Backup Plans

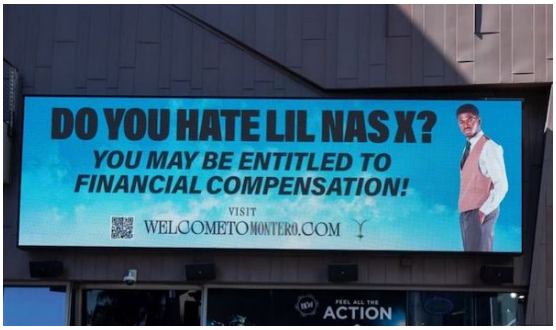
Unfortunately, despite our best efforts, things may, and often do, go wrong. Thus, it is important to have a backup plan in case your performance must be canceled, moved, or rescheduled, such as a way to alert your audience of a change in plans or finding another venue to play at. Taking this into consideration, I created a text alert system using mobile-text-alerts.com (not sponsored) which each person may have subscribed to by texting a keyword to a provided phone number. This way, I was able to alert everyone who subscribed to the text system in case there was any change in plans. Thankfully, everything went according to plan and this was not needed, however it was good to have the assurance that I'd have a way to inform everyone as soon as possible if needed.

Additionally, when I performed I was uncertain of whether the wireless microphone I had rehearsed with would function like I hoped it would (in fact, it didn't), so I brought a backup wired microphone with me as well just in case. However, there were also issues that occurred that I did not anticipate. For example, performing with the speakers at full volume was very different from when I was rehearsing in my room. The loudness drowned out my vocals making it very difficult for me to hear and correct my singing. At the time I had no way to fix this except to keep going, which taught me an essential lesson: the show must go on!

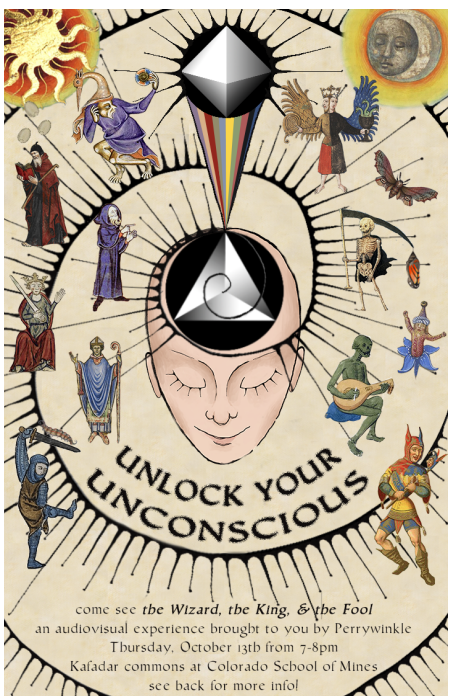
Promotion

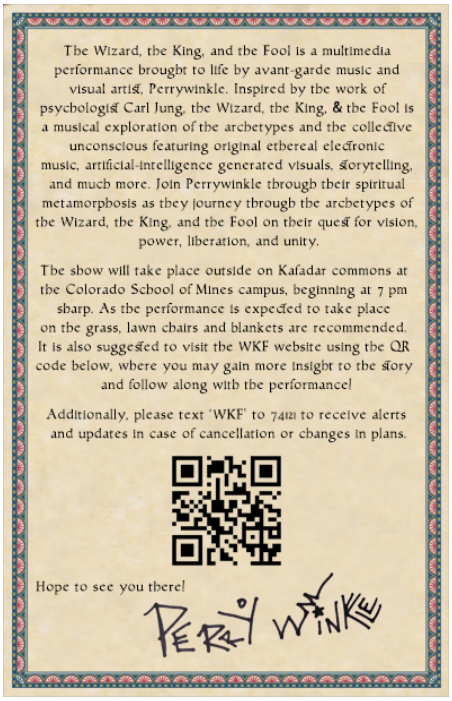
Once everything else has been prepared, the last step is to promote the concert. Promoting is in part a "balance between over-promoting and annoying people that *want* to support you, and under-promoting for fear of looking uncool or desperate" (Duncan). There are many ways to promote a performance, such as social media announcements, flyers/posters, word of mouth, etc. depending on who and how many people are expected to come.

Aside from including the basic information, like the date, time, and place, it is also important that the promotion sets the tone and gets people excited for the content. Some artists, for example, may get away with using memes to promote their content, which may or not be effective depending on the target audience. In short, there is no right or wrong way to promote, as it all depends on the style of the artist and what the audience is receptive to, which may require experimentation and trial & error. While it's important that the promotion is informative, it's also important to take risks and be creative, which may draw more people in .



Billboards used to promote Lil Nas X's album "Montero"





Promo material I created for my show. I wanted something that was eye-catching and gripping, so I designed this flier inspired by medieval manuscripts. This flier also served as a 'map' to the performance: the QR code links to a website where there was a more in-depth explanation of the impetus and ideas behind the performance.

Glossary

MIDI instrument:

- Musical Instrument Digital Interface, an instrument that can connect and record electronic sounds in real time

Backing track:

- Song or instrumental that is premade and only played back rather than played live.

Stereo:

- A dual speaker system in which the audio coming out of each is different, there is a left and a right channel.

Mono:

- Speaker system in which the audio coming out of each speaker is the exact same, the left and right channels are combined.

PA System:

- Public Address system, speakers that music is played through in a venue setting

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