

# VOLTA

VOLTA TUTORIALS v0.11

## CONTENTS

### PART 1 - INTRODUCTION TO VOLTA

- [What is Volta?](#)
- [How does Volta work?](#)
- [Base Worlds](#)
- [Navigation pane and Inspector pane](#)
- [Add Elements and Behaviours](#)
- [Navigation](#)
- [Create, Perform, Settings](#)
- [Directors Cut Mode](#)
- [Streaming to 2D platforms and very soon, to VR!](#)
- [Recording Video](#)
- [Save / Load Worlds](#)

### PART 2 - CONNECTING TO ABLETON

- [Choose parameters in master channel](#)
- [Audio and MIDI control, MIDI listener to MIDI track](#)
- [Connect parameters in Volta](#)
- [Trigger button = MIDI note](#)
- [Audio routing](#)

### PART 3 - CONNECT TO TRAKTOR

- [Download Traktor mapping file](#)
- [Open Volta - Choose Traktor from the midi mapping list](#)
- [Audio Routing](#)

### PART 4 - CONNECT VOLTA TO GENERIC MIDI/DAW/CDJs

- [Set up midi mapping in Volta](#)
- [Audio Routing with a DAW](#)

### PART 5 - CREATIVE BASICS

- [How to wrap any 2D media into world](#)
- [Image Generator](#)

### PART 6 - SPECIAL ELEMENTS

- [ChromaKey Billboard](#)
- [Rcam](#)

# VOLTA

VOLTA TUTORIALS v0.11

## PART 1 - INTRODUCTION TO VOLTA

You can also watch this tutorial video here:

[https://www.youtube.com/watch?v=1Umm8GihjnM&list=PL6Xq2IJQSQBljm0YnAXdn\\_ppS5r3bdiqA](https://www.youtube.com/watch?v=1Umm8GihjnM&list=PL6Xq2IJQSQBljm0YnAXdn_ppS5r3bdiqA)

### 1) What is Volta?

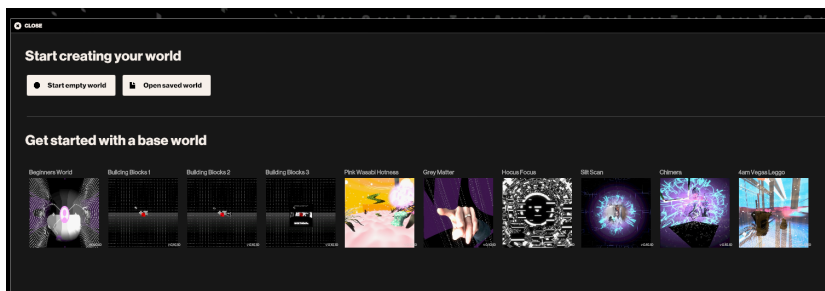
Volta is a self-serve XR creation platform that gives artists & creators the ability to design and broadcast experiential content. Volta integrates seamlessly into artists and creators existing workflows, allowing you to quickly and easily build new immersive worlds.

### 2) How does Volta work?

You can think of Volta as Legos for mixed reality environments and build worlds from the ground up by using our growing library of 3D assets, we call elements.

### 3) Base Worlds

We've created a number of base worlds that you can also start with. All of the worlds and elements in them can react in real time to any audio or midi source and allows you to integrate any 2D media (such as photos, videos, and camera feeds) into the 3D environment. Then broadcast them to 2D platforms like Youtube and Twitch, onto LED screens live at concerts and very soon to our VR app on the Oculus Quest store.



### 4) Navigation pane and Inspector pane

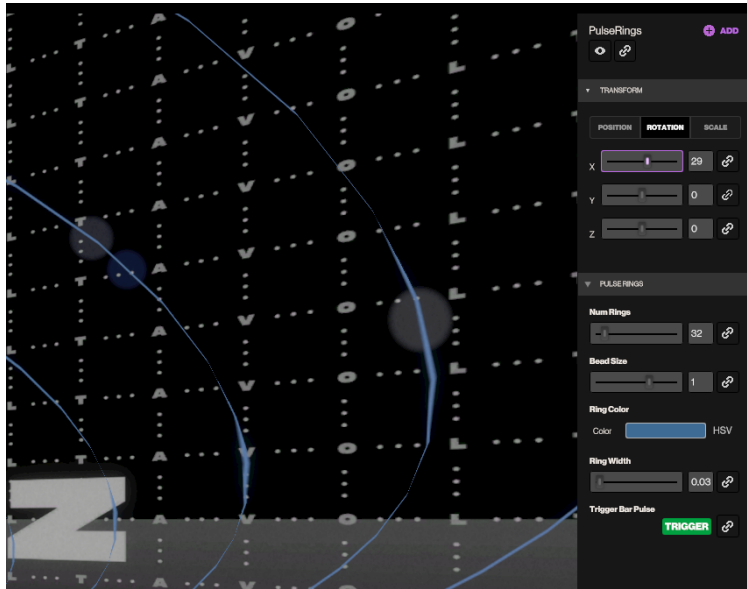
On the left you have the navigation pane, which is where you will find your world elements and visual sources. If you click on an element or visual source the inspector pane will pop up on the right, which is how you change the settings, set behaviors to be reactive to audio and MIDI and choose which visual sources

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# VOLTA

VOLTA TUTORIALS v0.11



## 6) Navigation

You can navigate around the environment by clicking and dragging, shift click and drag to pan, pinch or 2 finger scroll to zoom as well as by using the WSAD keys

## 7) Create, Perform, Settings

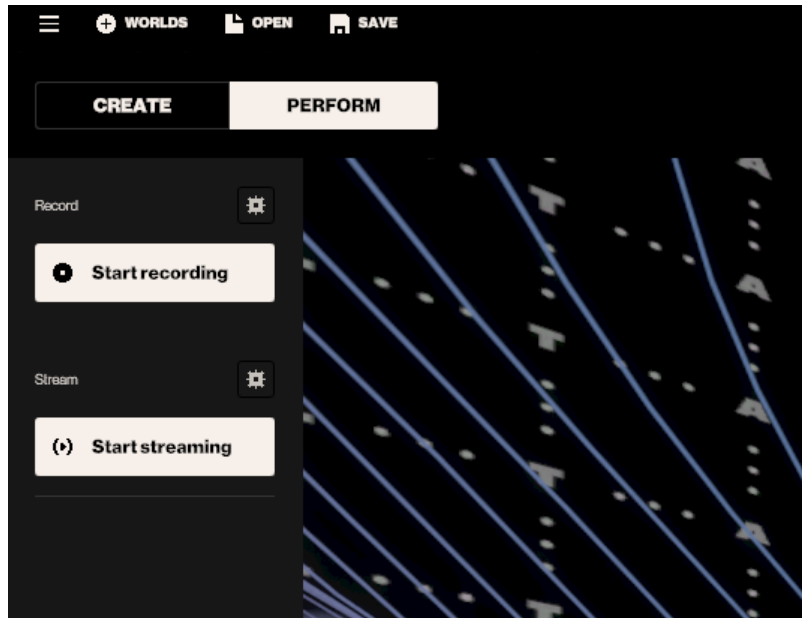
You can choose your audio source in the settings, from using your microphone to other sources like Ableton and traktor by routing audio into Volta (more on that in later videos).

At the top of the screen you have the ability to toggle the user interface between creating/editing the world and performing, which is how you stream or record.



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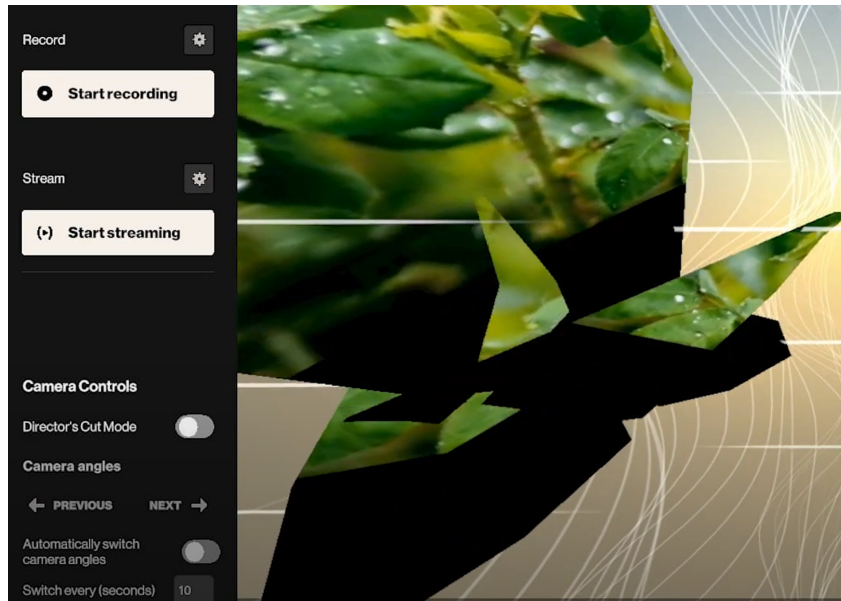


## 8) Directors Cut Mode

We've also built what we call directors cut mode. If you click this icon the rendered view of the world will automatically switch between virtual camera angles every 6-10 seconds. You will get a variety of shots include long sweeping and panning shots to make your world more cinematic wherever it is being viewed.

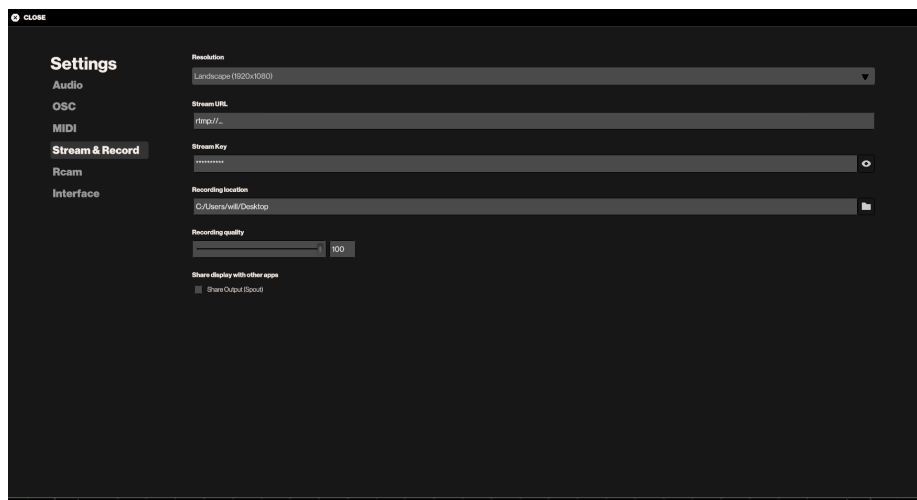
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## 9) Streaming to 2D platforms and very soon, to VR!

We've also built the ability to stream to any platform that takes an RTMP link into Volta. You don't need to use OBS at all to stream to YouTube, Twitch, Mixcloud, Tik Tok, Facebook Live or anywhere else that requires an rtmp stream key to stream.



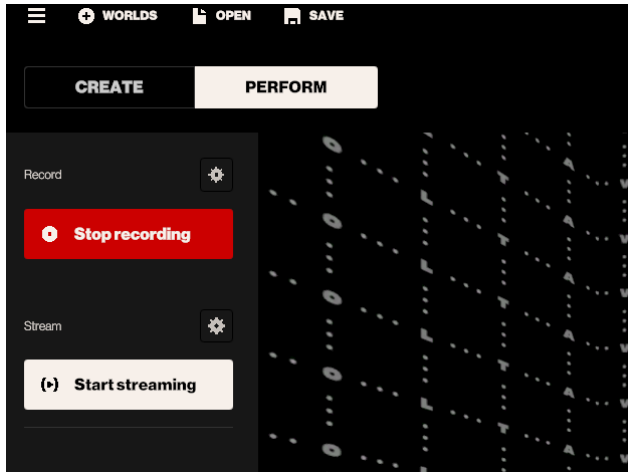
We are currently working on letting anyone stream to our VR app on the Quest store just as easily. We have a few experiences in our quest app at the moment. If you want to download it and check them out here [https://www.oculus.com/experiences/quest/3027464900690223/?locale=en\\_GB](https://www.oculus.com/experiences/quest/3027464900690223/?locale=en_GB)

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## 10) Recording Video

We've made it super easy to record really compelling video for social media. Just click the record button. When you are done just click the record button again to end. The video will be on your desktop (or to the folder you specify in the settings).



## 11) Save / Load Worlds

You can of course save and load the worlds you've built. Just click save or load. If you navigate to a different base world without saving you will lose your progress.

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## PART 2 - CONNECTING TO ABLETON

You can also watch the tutorial video here:

[https://www.youtube.com/watch?v=nFLenu0SMbA&list=PL6Xq2IJQSQBjlm0YnAXdn\\_ppS5r3bdiqA&index=2](https://www.youtube.com/watch?v=nFLenu0SMbA&list=PL6Xq2IJQSQBjlm0YnAXdn_ppS5r3bdiqA&index=2)

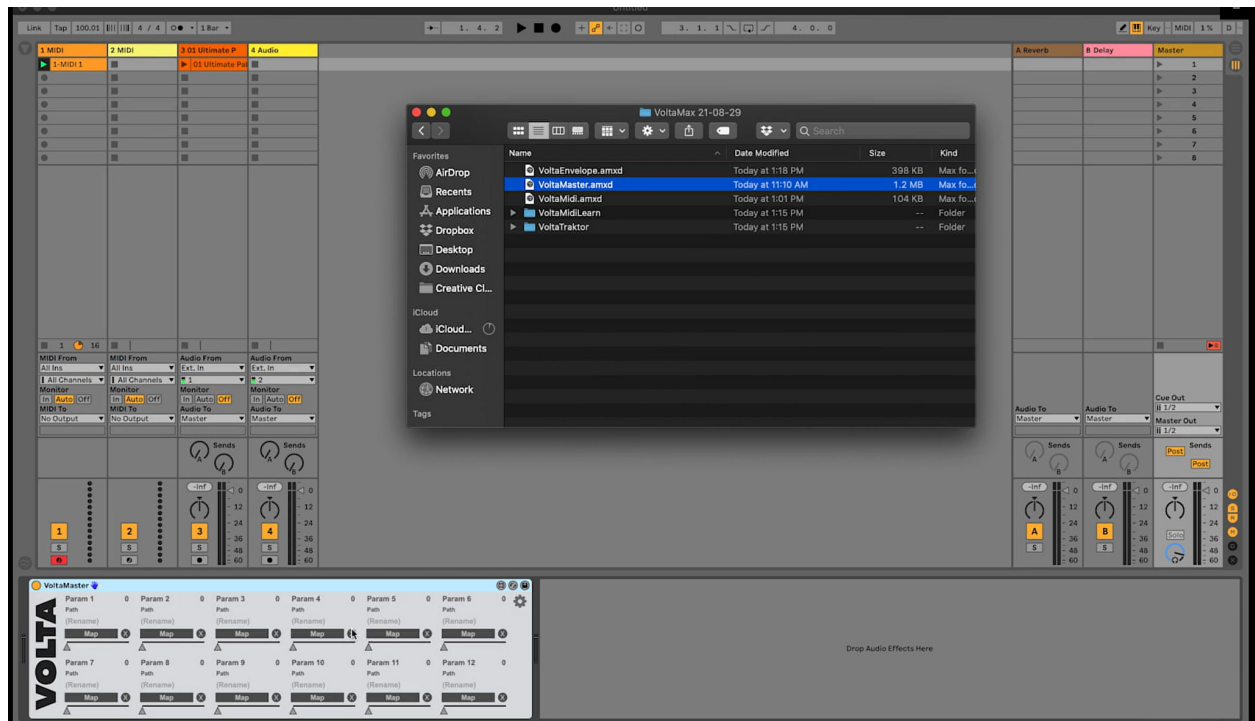
This section will show you how to connect Ableton to Volta Create.

### 1) Download Max Devices

If you haven't already, you need to download the Max for live devices that pull data from ableton and send it to Volta. Download here: <https://volta-xr.link/maxpatch>

### 2) Add Volta Master Device to master channel

The first step is to add the Volta master device to your master channel in Ableton.

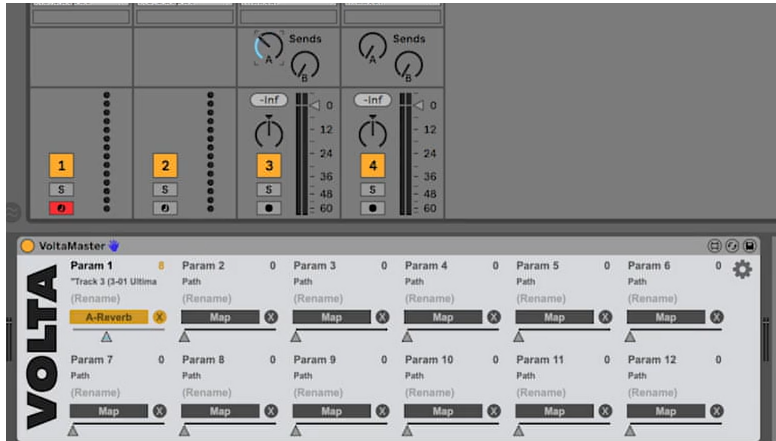


### 3) Choose parameters in master channel

Choose which parameters in your set you want to control parameters in Volta simply by clicking map, click on your parameter and you can see when you move that parameter it will move right here showing that it will be sending that value to Volta.

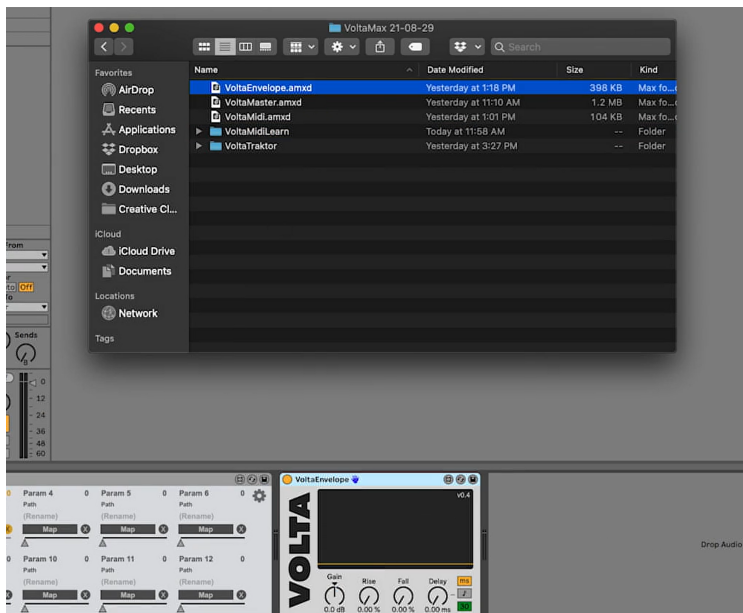
# VOLTA

VOLTA TUTORIALS v0.11



## 4) Audio and MIDI control, MIDI listener to MIDI track

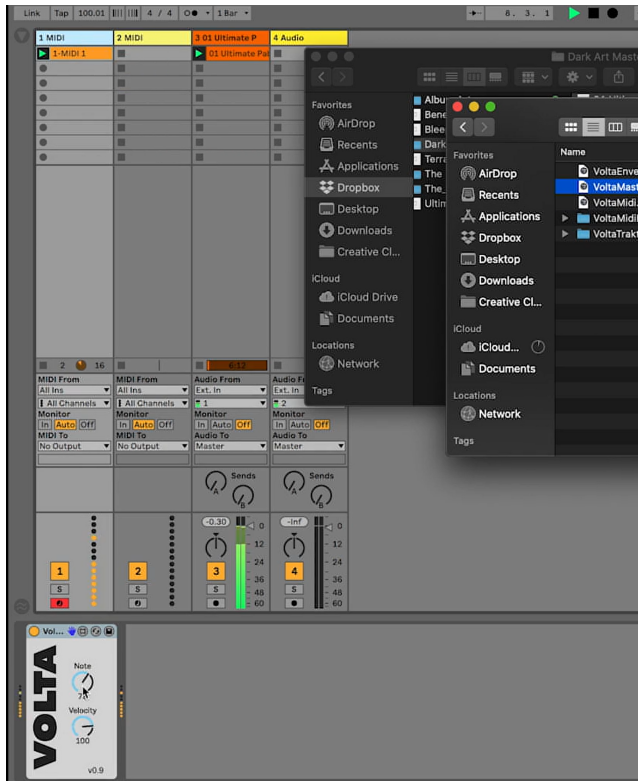
You can also add audio and MIDI to control Volta, so drop an envelope follower on any track that you want to use to send the waveform data to Volta.



Do the same for our MIDI listener. You can see when different notes are triggered it will identify them and use them in Volta to trigger different effects - unlike the parameters in the master channel in which you had to explicitly choose to map them, envelope followers and midi listeners will automatically populate in Volta

# VOLTA

VOLTA TUTORIALS v0.11

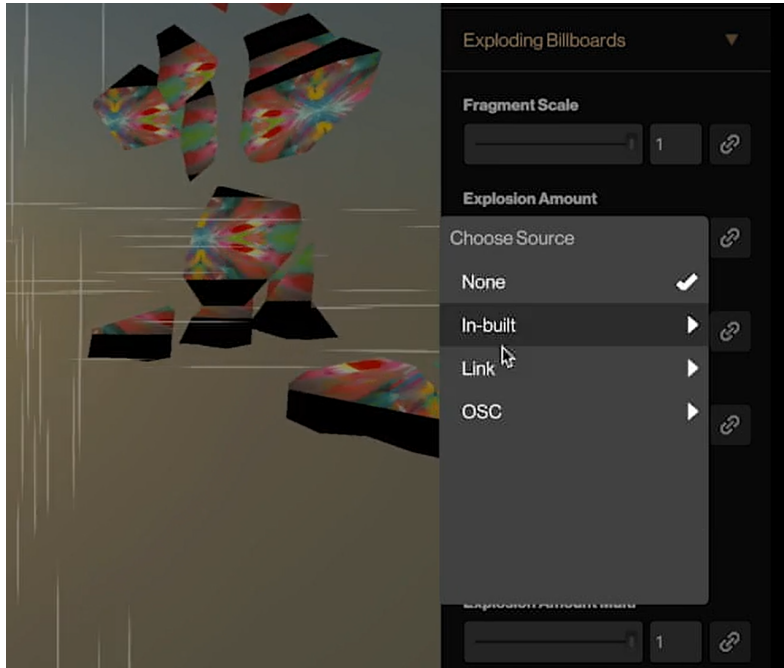


## 5) Connect parameters in Volta

Now over to Volta. Click on the Create tab. Click on an element, go over to the inspector tab on the right and click on a link icon. You will see a list of sources in the list, go to Ableton and choose the parameter from ableton you want to control the behavior in Volta.

# VOLTA

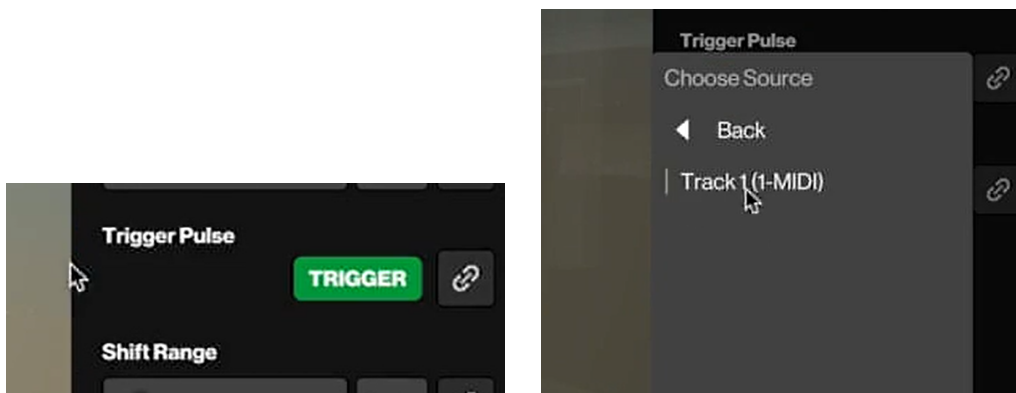
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You can either choose the parameter or you can just press shift and click while moving the fader or sending parameter data or audio

## 6) Trigger button = MIDI note

MIDI notes work a little differently than other parameters or amplitude. Wherever you see a green trigger button you can link that to midi channels and then choose individual notes from your set.



## 7) Audio routing

Unfortunately, there isn't a direct way to route audio in computers. You need to download third party software. Blackhole or Soundflower are pretty typical for mac, Voicemeeter is what we use for windows.

# VOLTA

VOLTA TUTORIALS v0.11

<https://existential.audio/blackhole/>

<https://vb-audio.com/Voicemeeter/>

In Mac you need to go to Applications > Utilities > Audio MIDI set-up. Make a new multi output device. Choose the audio routing software you just downloaded and choose built in output. Go back to Ableton, choose Built In + your audio routing software as the output. Then go to Volta settings and under audio choose the audio routing software.

On Windows open Ableton, choose voicemeeter as the output. Open voicemeeter, this needs to be open and running. Go to Volta, go to settings, audio and choose voicemeeter.

Now you will be streaming the visual output as well as the audio output



# VOLTA

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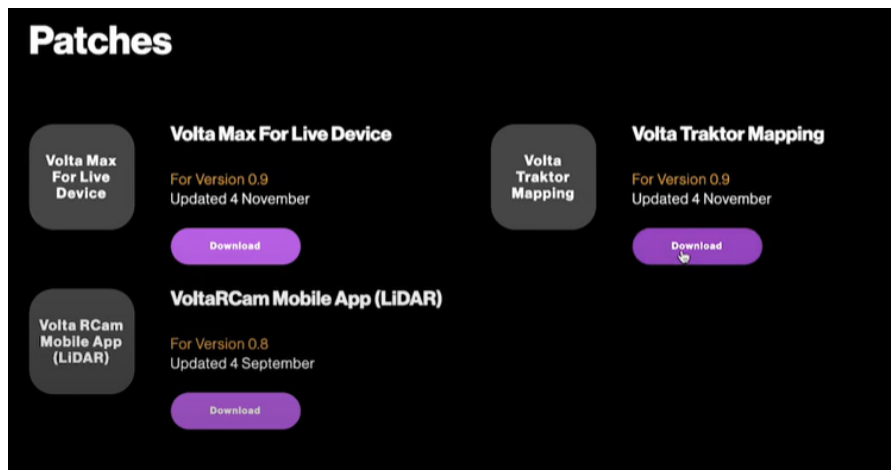
## PART 3 - CONNECT TO TRAKTOR

You can also watch the tutorial video here: <https://www.youtube.com/watch?v=zUxiOJsXfA>

This section will show you how to set up and control Volta Create from Traktor.

### 1) Download Traktor mapping file

First make sure you've not only downloaded Volta create but the Traktor mapping file from <https://volta-xr.com/downloads/>



### 2) Open Traktor - add TSI file

First we are going to add a TSI mapping file to traktor so we can pull audio data and midi data from traktor. So, unzip the file, open Traktor, go to preferences, controller manager. At the top under device, click add, import TSI, Import other.

# VOLTA

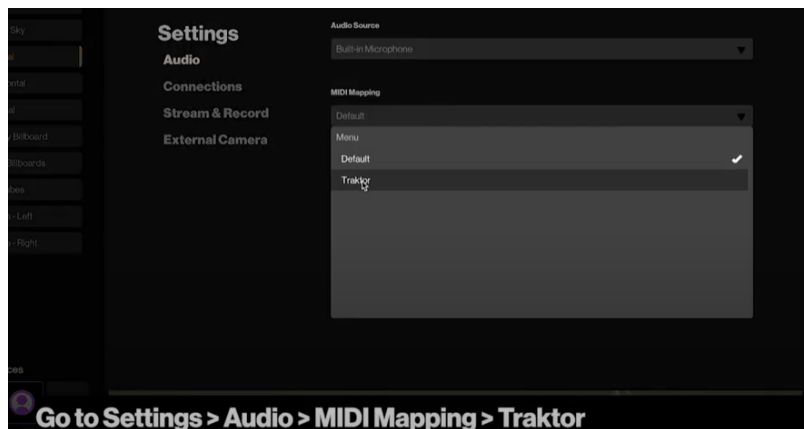
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Now navigate to the folder with the TSI file.

### 3) Open Volta - Choose Traktor from the midi mapping list

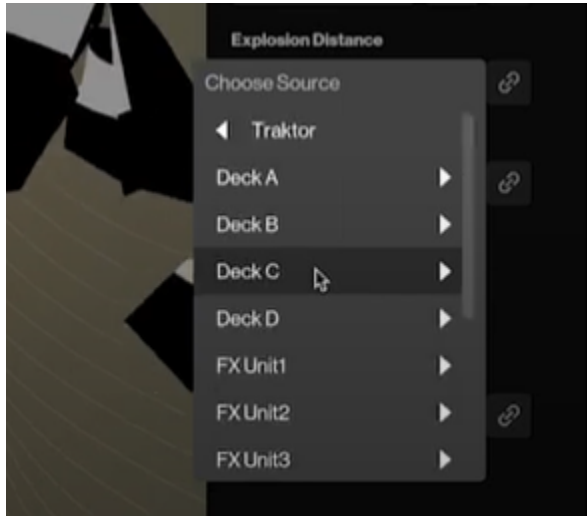
Now open Volta, go to settings and under audio go to midi mapping and choose traktor



Ok now go to the create panel, click on an element and click the link icon on a behavior in the spector panel on the right and you should see your list of parameters. You can either choose the parameter or you can just press shift and click while moving the fader or sending parameter data or audio

# VOLTA

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## 4) Audio Routing

This will get you building worlds but it won't pull the audio in directly from Traktor. Unfortunately, there isn't a direct way to route audio in computers. You need to download third party software. Blackhole or Soundflower are pretty typical for mac, Voicemeeter is what we use for windows.

<https://existential.audio/blackhole/>

<https://vb-audio.com/Voicemeeter/>

In Mac you need to go to Applications > Utilities > Audio MIDI set-up. Make a new multi output device. Choose the audio routing software you just downloaded and choose built in output. Go back to Traktor, choose Built In + your audio routing software as the output. Then go to Volta settings and under audio choose the audio routing software.

On Windows open Traktor, choose voicemeeter as the output. Open voicemeeter, this needs to be open and running. Go to Volta, go to settings, audio and choose voicemeeter.

Now you will be streaming the visual output as well as the audio output

# VOLTA

VOLTA TUTORIALS v0.11

## PART 4 - CONNECT VOLTA TO GENERIC MIDI/DAW/CDJs

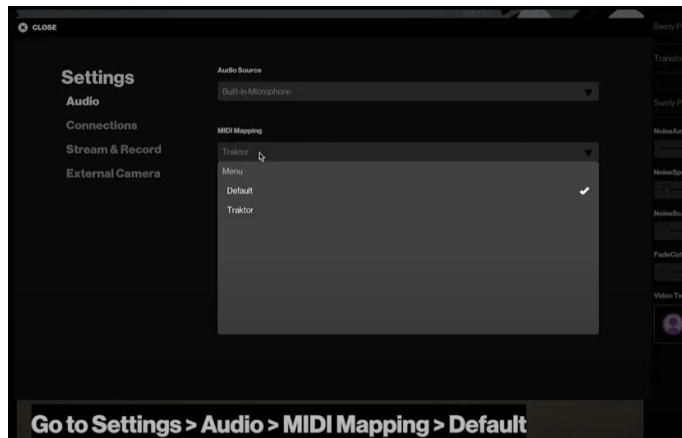
You can also watch the tutorial video here:

<https://www.youtube.com/watch?v=PRCdIzdXbHY&t=1s>

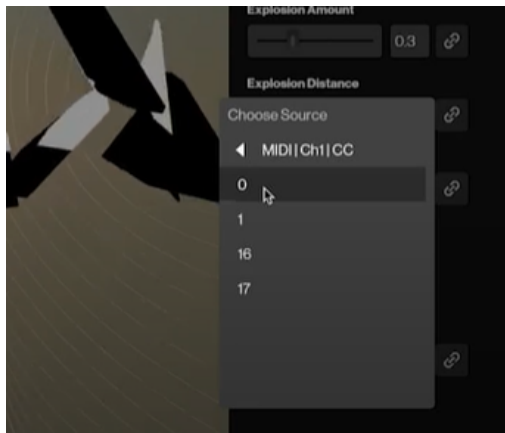
This section will show you how to set up and control Volta Create from any MIDI device, DAW or just from your desktop audio.

### 1) Set up midi mapping in Volta

Go to settings > audio > midi mapping > and choose default



If you are using a midi controller, just plug it in, move some sliders or hit some buttons and they will appear in the drop down lists.

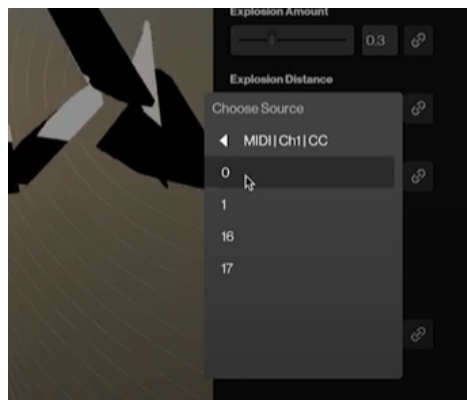
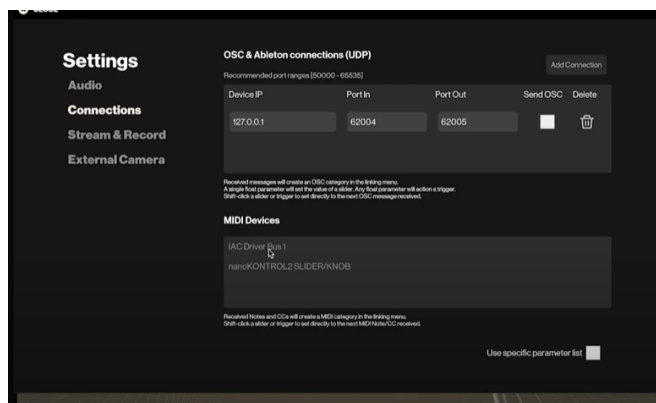


# VOLTA

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If you are using Ableton we have a separate tutorial but for other DAWs you need to route the midi signals from it to Volta - in Mac you do this by choosing the IAC driver as your MIDI output in your DAWs settings. On Windows you need a 3rd party program like LoopMIDI.

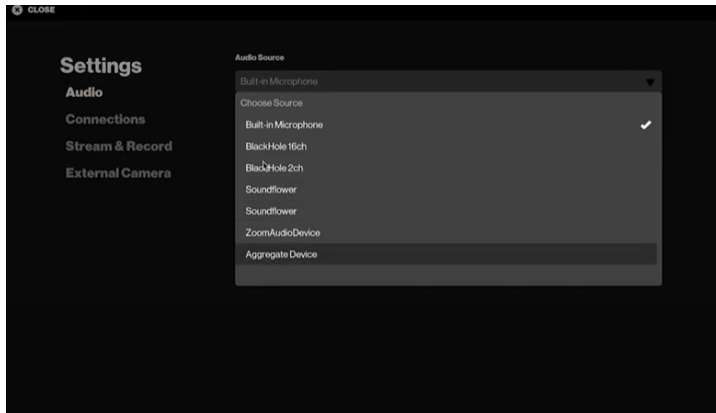
If you go to connections, you should see your internal MIDI routing options listed here. Just play some midi notes from your DAW and you should see them start to populate in the drop downs.



You should immediately see certain aspects of Volta responding to your in-built microphone when you launch Volta but if you might want to route audio from a soundcard or a DAW. If you are using a soundcard you can go to settings, audio and it should appear in this list.

# VOLTA

VOLTA TUTORIALS v0.11



## 2) Audio Routing with a DAW

If you are using a DAW it is a bit trickier. Unfortunately, there isn't a direct way to route audio in computers. You need to download third party software. Blackhole or Soundflower are pretty typical for mac, Voicemeeter is what we use for windows.

<https://existential.audio/blackhole/>  
<https://vb-audio.com/Voicemeeter/>

In Mac you need to go to Applications > Utilities > Audio MIDI set-up. Make a new multi output device. Choose the audio routing software you just downloaded and choose built in output. Go back to your DAW, choose Built In + your audio routing software as the output. Then go to Volta settings and under audio choose the audio routing software.

On Windows open Traktor, choose voicemeeter as the output. Open voicemeeter, this needs to be open and running. Go to Volta, go to settings, audio and choose voicemeeter.

Now you will be streaming the visual output as well as the audio output

# VOLTA

VOLTA TUTORIALS v0.11

## PART 5 - CREATIVE BASICS

You can watch the tutorial video here:

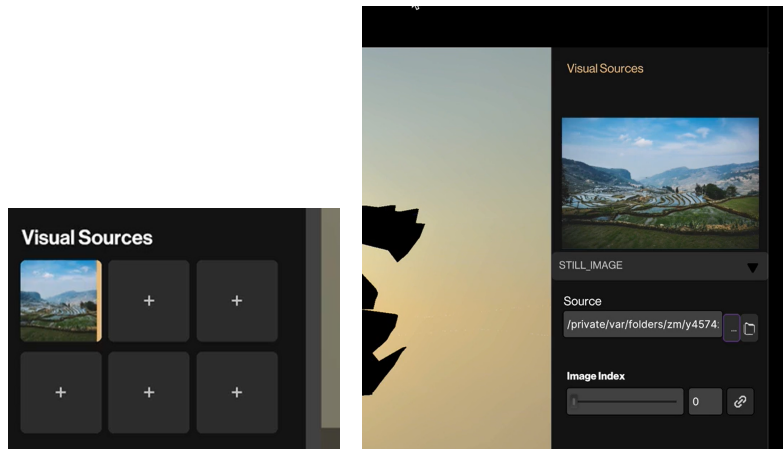
[https://www.youtube.com/watch?v=r1mzxX53nCM&list=PL6Xq2IJQSQBljm0YnAXdn\\_ppS5r3bdiqA&index=5](https://www.youtube.com/watch?v=r1mzxX53nCM&list=PL6Xq2IJQSQBljm0YnAXdn_ppS5r3bdiqA&index=5)

This section will show you how to wrap any sort of 2D media around our library of 3D elements in Volta create.

You can map photos, videos, camera feeds, we also have native support for syphon spout and NDI so you can use VJ software like Resolume and Touch Designer as well as LiDAR for volumetric effects if you have one of the new iPhones or iPads with a lidar sensor.

### 1) How to wrap any 2D media into world

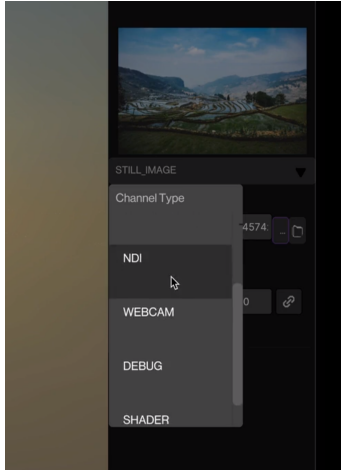
Under the Create panel you have elements at the top and visual sources at the bottom. Click on a blank visual sources tab and the inspector panel on the right will open giving you options for the type of media you can pull in and how to change or manipulate it manually, with a midi controller, or DAW.



Under the preview window you can choose the type of media you want to pull in. One of the first things you can try is add a webcam as a visual source. Volta will detect any video feeds on your computer, this second drop down will let you select which one you want. You can even have multiple video feeds as separate visual sources.

# VOLTA

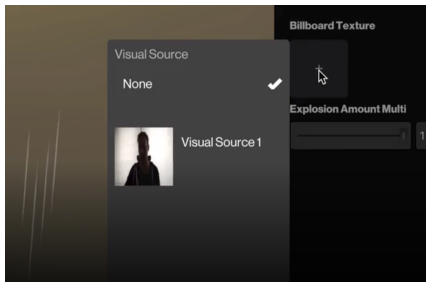
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Now go to an element and map your webcam on to the 3D element. Just click on the Video texture and choose the one you want. You might need to make some adjustments to get it to be visible or how you want it to look. For example, you will need to make sure the blend of the texture is up and sometimes the global visibility of the element.

You can try the same with single or multiple videos. You can manually move through the videos or can link it to a parameter and use a midi controller, DAW etc. to do the same.

And again go to an element and wrap that video around the element by choosing video texture



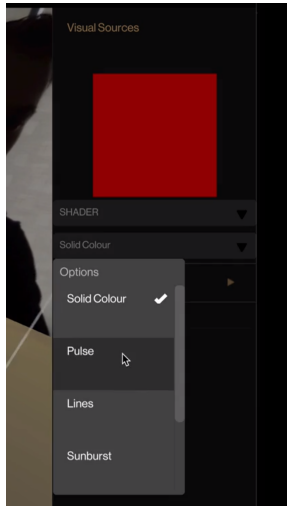
## 2) Image Generator

We've built another way to make visual engaging graphics from within Volta too. Go to Image generator. Choose the type of image you want - we have moving lines, sunburst, solid color. From there you can control the different aspects of it the same way you would any other behavior in Volta. Just click the link icon and connect it to a parameter.



# VOLTA

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There are some special elements that act a little differently like Chromakey elements and Lidar which provides volumetric effects in Volta. These are explored in the next section.

# VOLTA

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## PART 6 - SPECIAL ELEMENTS

You can watch the tutorial video here:

[https://www.youtube.com/watch?v=m4JmNZUWefA&list=PL6Xq2IJQSQBljm0YnAXdn\\_ppS5r3bdiqA&index=6](https://www.youtube.com/watch?v=m4JmNZUWefA&list=PL6Xq2IJQSQBljm0YnAXdn_ppS5r3bdiqA&index=6)

There are a few special elements in Volta that will let you appear more immersed or actually be volumetrically in Volta.

### 1) Chromakey Billboard

First is the chromakey billboard. This gives you the ability to make a certain color or color range transparent. For example if you have a green screen you can choose that color and appear in the volta environment without a border or background.



Go to the chromakey billboard element and choose your input texture. This will most likely be your video camera but I'll show you in a second how you can get creative with this. So to start choose your camera, and adjust the chroma hue to define the median color you want to make transparent, then use the range to narrow it down so you don't cut out too many colors in the range.

Next we've also added the ability to add a layer mask on top of whatever isn't transparent. So for example, I'll add a folder of VJ loops to my visual sources. Go back to the chromakey billboard and choose the VJ loop as the mask texture. Now flip on the use mask color texture option and there is a you shaped VJ loop!

We also have volumetric effects that you can add on top of the billboard to give a 2D you a little more dimension. Play around with these effects here.

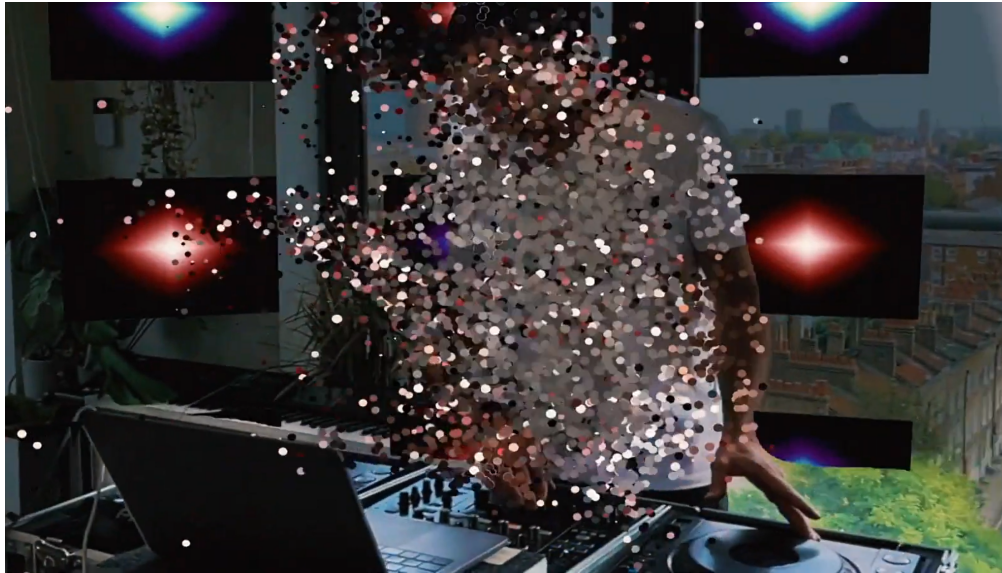
Here is a little creative tip. Try using the same vj loop as the main video texture and play around with the transparency. You can do things like set it far in the distance and have it take up a lot of space.

# VOLTA

VOLTA TUTORIALS v0.11

## 2) Rcam

Ok now if you have one of the newer iPhones or iPads with a LiDAR sensor you can actually put a 3D volumetric you into Volta. We are using a library by an extremely talented developer named Kiejiro Takahashi, so big ups to him for making RCam.



This requires an iOS app that handles the capture and transmitting of LiDAR data to Volta. Please follow this link on your iPhone <https://volta-xr.link/iosrcam>

Your iphone or ipad need to be on the same wifi network as your computer and have Volta already opened, click on a new visual source, choose NDI. Now open the app on your iphone or ipad and select it on this second drop down menu. This part is admittedly a little buggy, so you might need to toggle off of NDI to a different visual source and back to NDI or do a hard restart of the app on your iphone or ipad to get it to appear and start sending data.