The Headphase Looper

Ableton Retrospective Live Looping Performance Template

Thank you for purchasing The Headphase Looper!

***A word about performance**: On older and lower powered computers the defaults in this set may cause high CPU usage. If you are experiencing this please read through the **performance tuning** section for details and instructions to correct this.*

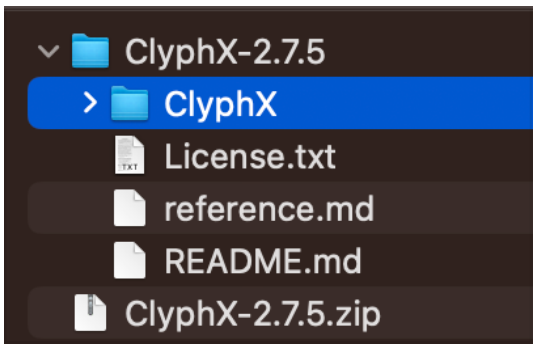
Note: On older versions of Ableton Live the template may warn about missing audio files. The file in question comes from a factory pack. Click why? And then click search. Ableton should then find the file automatically.

Installation & Setup:

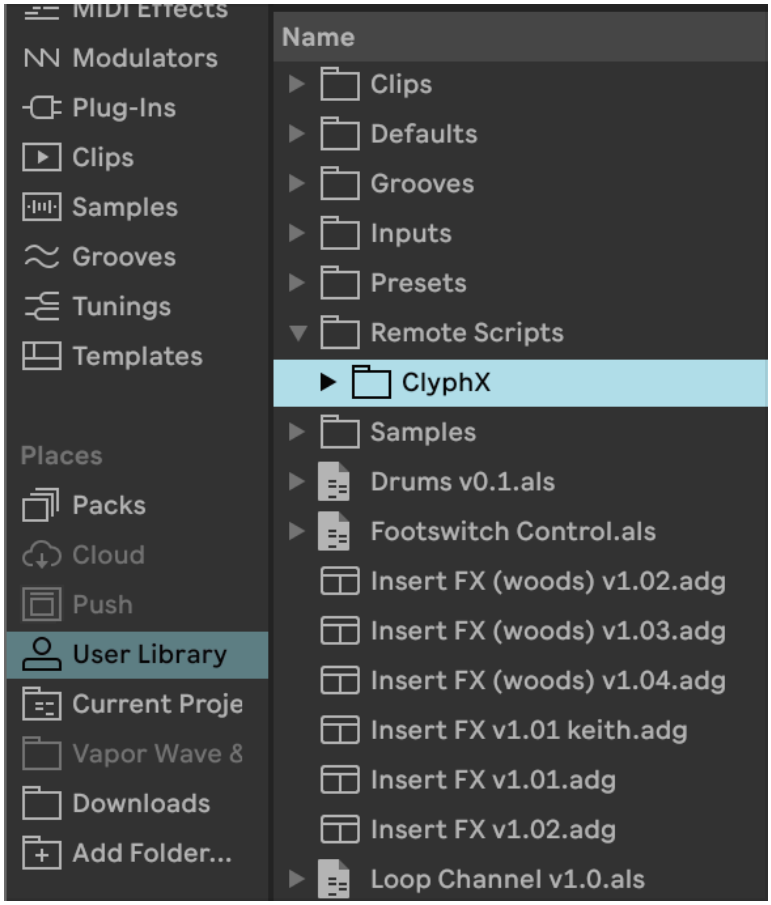
ClyphX:

This template uses the ClyphX scripting for a number of the automations that make its features possible. ClyphX is available for free, and the install process is a simple folder drag & drop as described below.

- Install latest ClyphX release zip file from https://github.com/ldrolez/clyphx-live11/releases/download/v2.7.5/ClyphX-2.7.5.zip
  - Download the ClyphX release zip file from the link above
  - Unzip the zip file
  - Find the innermost ClyphX folder (it will have several script files inside it)



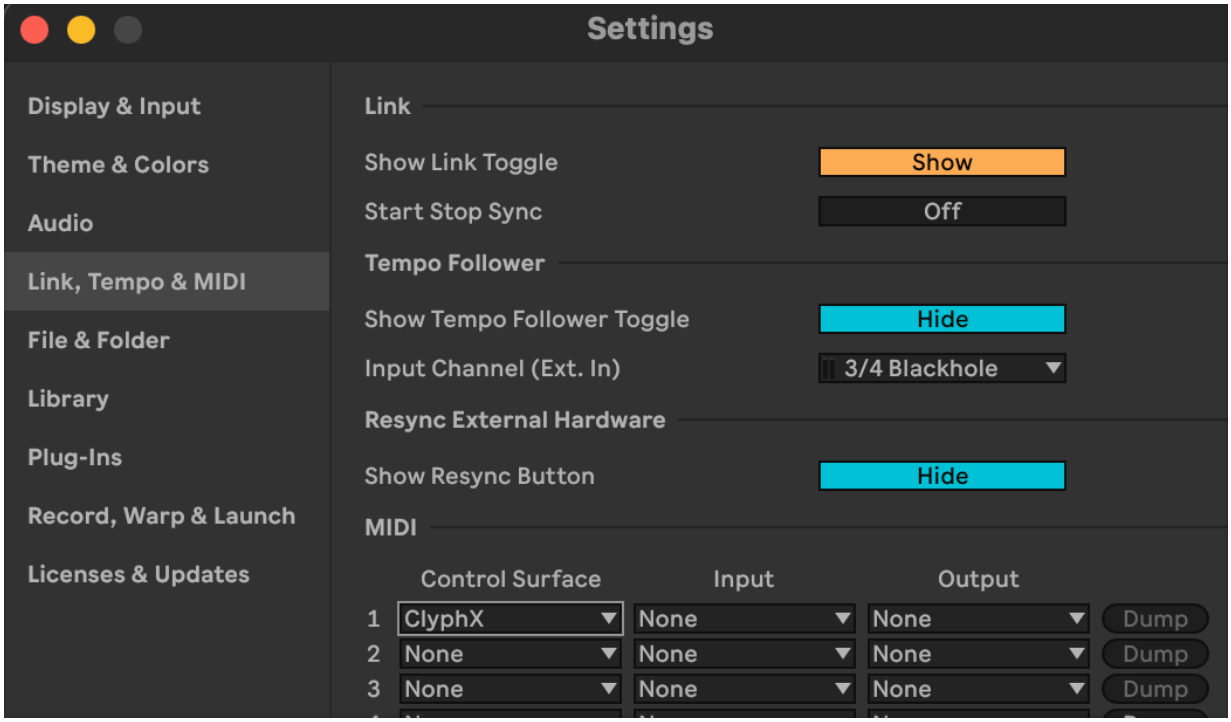
  - Drag this ClyphX folder into the Ableton "Remote Scripts" folder (if “Remote Scripts” does not exist in your User Library, go ahead and create the folder. Your Remote Scripts folder should look like this:



- For a video walkthrough see https://www.youtube.com/watch?v=-8SRwa-nBNs

Note: the link above may not be the latest available version by the time you are reading this, please see https://github.com/ldrolez/clyphx-live11/releases for the most up to date ClyphX release.

- In Ableton Settings/Preferences > MIDI, select ClyphX on an empty controller slot and set input and output to "None". If you have other control surfaces already configure simply choose the next available slot.



Note: if you aren't seeing ClyphX appear in the control surface list, double check that the innermost ClyphX was copied to the Remote Scripts folder and ensure Ableton has been restarted

Ableton Settings:

For several features to operate as designed the Ableton setting **"Select on Launch" must be set to off**

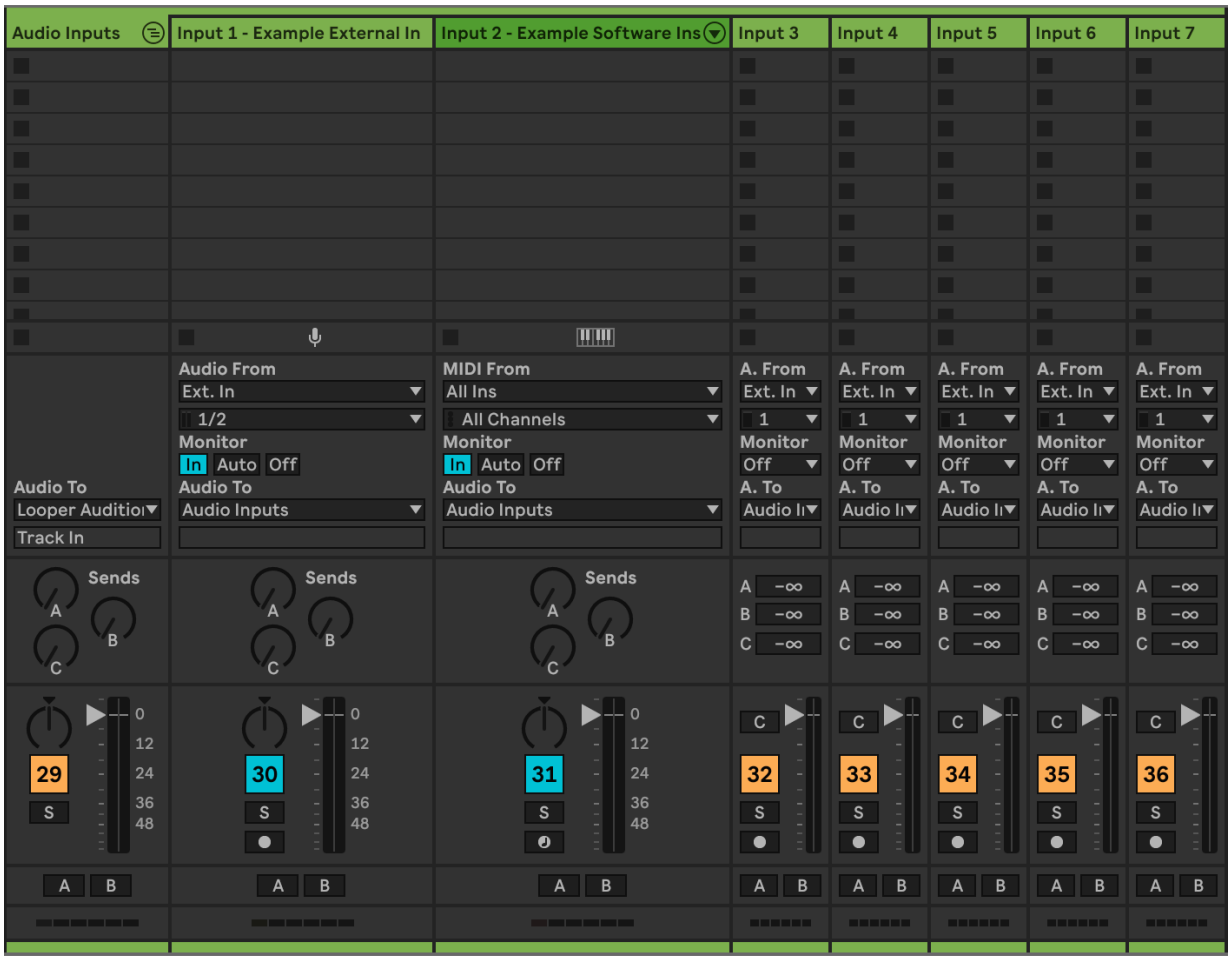
- Open Ableton Preferences/Settings and ensure that "record warp launch" > "select on launch" is set to **off**

This allows the template to launch automation clips without changing the track that you have selected. It also is necessary for the foot switch controls to work properly.

Using the Template

Inputs:

- A group called "Audio Inputs" contains several example inputs. Replace/Customize/Drag in your own inputs here!



Note: Example tracks are provided to help you get started. Customize this group to your liking using external inputs or software instruments.

- To route a new track to the looper, create a track and route this tracks **Audio To "Looper Audition"**. The loopers are listening for audio sent to the "Looper Audition" channel. The example "Audio Inputs" group provided accomplishes this through the Audio To routing on the "Audio Inputs" group track.

- There is also a "Looper Bus" track, for special cases where you wish to route audio into the retrospective looper tracks without hearing (auditioning) it.

The Retrospective Looper Section

The retrospective looper section is comprised of 8 “Looper” tracks, each with 5 loop length clips(green/blue/turquoise/yellow), 1 initialize clip (red), and 1 target clip (purple)

The loop lengths are stacked from longest (16 bars) at the top to shortest (1 bar) at the bottom.

Note: the text is overlaid in the above image to visualize what each clip does. Today the clips will appear as their colors, as Ableton does not yet support naming grouped scene clips.

Starting the looper

- Turn on the metronome (*optional, but helpful*)

- **Hold down** scene 6 "Initialize (Hold)"
    - This will initialize (erase and start) the retrospective loopers on all channels and get them ready for looping

- Play your instrument.
- When ready to loop, press the desired loop length button on any channel.

- The retrospective looper will instantly begin to **loop the selected number of bars that you just played**

Looping & Loop Lengths

- Each of the 8 looper tracks are set up for retrospective looping at 5 different loop lengths.
    - 1 bar, 2 bars, 4 bars, 8 bars and 16 bars.

Important: the looper must have audio for at least the length of the loop. e.g. you must play 16 bars before creating a 16 bar loop.

Shortening and Extending Loops

- Existing loops may be shortened or extended (provided they have played long enough to fill the desired loop length). Simply press the new loop length

Overdubbing

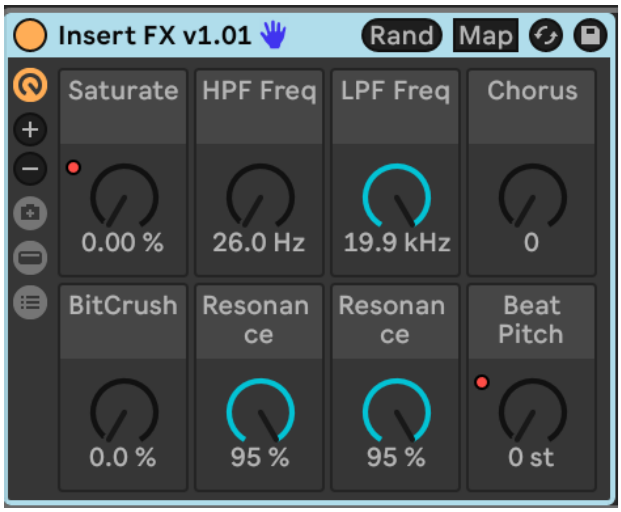
- Overdubbing is as easy as playing the part that you would like to add and selecting an active looper track.

- You may overdub at the same or different loop length provided that the input audio is as long or longer than the desired loop length.

- If a shorter loop length is chosen when overdubbing the existing loop will be shortened

Insert FX

- Standard Ableton insert FX are enabled on all 8 of the Looper tracks, which means that the 8 macros on your control surface will apply effects to the focused track. Below is an example insert FX rack on a Looper track



- The effects that you apply via the insert FX can overdub/replace the loop (within the same track) just press the desired loop length clip.

Note: each time a loop clip is launched the insert FX macros are reset to their default position. This makes the FX automatically "punch out" when re-looping effected sounds, making for smoother application of FX and transitions.

Setting FX Device Defaults

- When customizing Insert FX you'll want to set the default values that will be used when the rack device is reset. To do this, click the save disk icon in the upper right of the audio effect rack, save it using a name of your choosing, and then drag the saved device over itself.

Using Effects Targeting

Effects Targeting & Re-looping

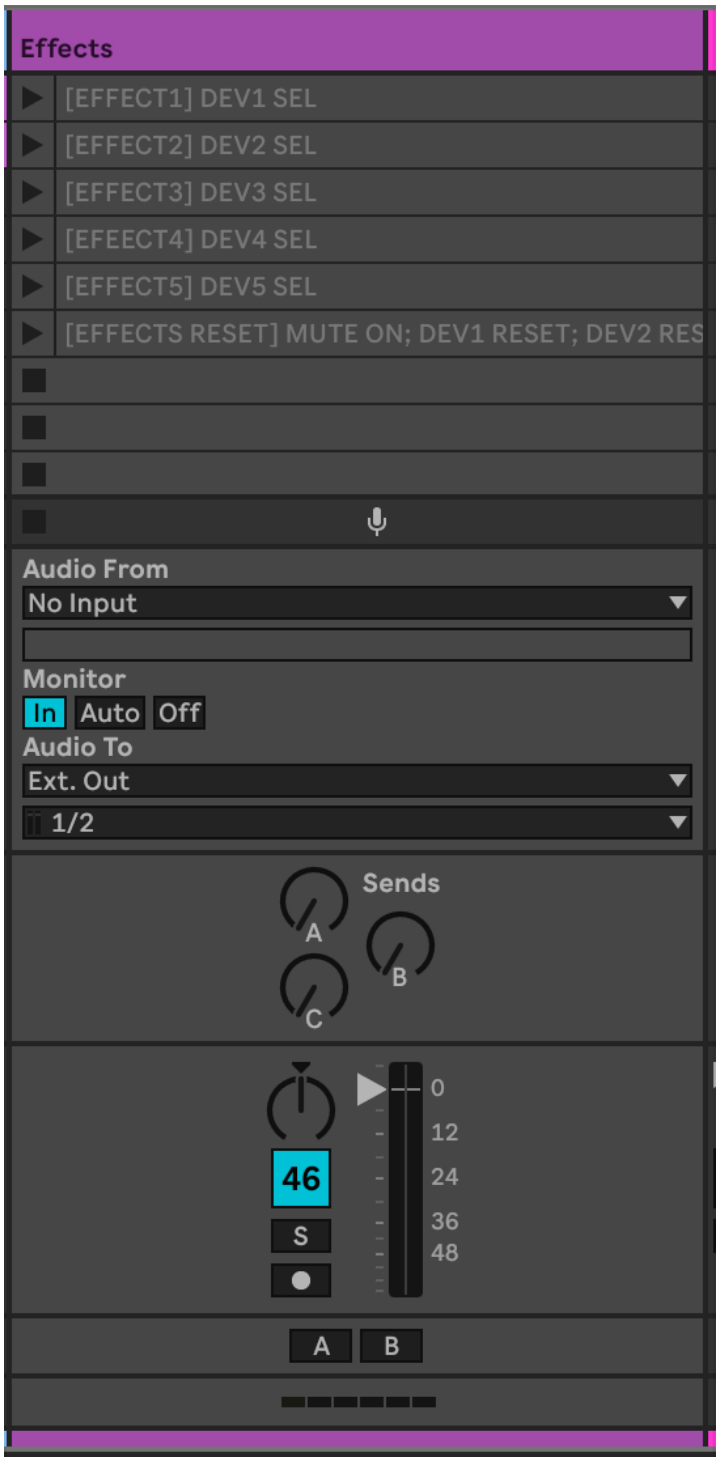
Any "Looper" track(s) can be instantly rerouted through the Effects track and re-looped after FX are applied. This is referred to in the template as "FX Targeting".

Using FX Targeting:

- On the desired "Looper" track(s) launch the **purple** “[FX TARGET BUTTON]” clip. This instantly reroutes a tracks audio through the Effects track. Launch again to un-target a track.

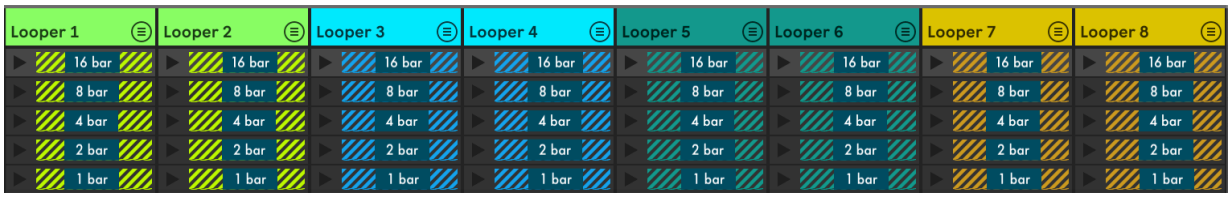
  Note: You may prefer manually mapping these target clips to buttons on your control surface. Please see the MIDI mapping section above for details.

- When an FX TARGET BUTTON is activated **the "Effects" track is instantly selected**. This gives immediate control over the 8 device macros, i.e. **the 8 device knobs on your controller are now controlling the audio effect racks on the "Effects" track**



- You may target multiple tracks to apply FX to multiple tracks at the same time. Simple launch the FX Target clips on each track you wish to apply FX to.

- After applying Effects, press a new or existing loop slot.



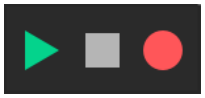
Note: The targeted tracks will all be combined (bounced) into the new location. Old loops will be cleared automatically and active FX targets will be reset.

Bouncing (combining tracks/loops):

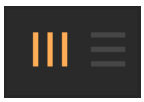
- To bounce, simply target the tracks you wish to combine together, allow them to play for the desired duration of the new loop, then select the new loop location.
- The process is effectively the same as using effects above, without applying any effects.
- Old loops will be cleared automatically.

Recording Arrangement

- There is a track group called “Arrangement Record” that contains 9 tracks. It is preconfigured to record all 8 of the loopers, and the audition track when arrangement record (the record button) is active. Simply press the record button in Ableton and what you are hearing will be recorded into the arrangement view.



- In order to playback from this group you’ll need to switch to arrangement view by pressing TAB or clicking the toggle in the top right corner



- To listen back to a recording, expand the “Arrangement Record”

group.

Note: The group track (track 69) is muted to avoid doubling during session use

- You may also need to click "Back to Arrangement" or press F10

Re-Sampling

An example group called “Clip Sampling" is provided for resampling the Main output into clips.

Uses for resampling into clips vary. This group is provided as an example with routings in place to create resampled audio clips with audio that is fed back into the retrospective loopers.

Sends

Sends work within Ableton as normal. An example delay and reverb are included. You are encouraged to customize with your favorite plugins!

Note: Sends operate outside the loop, overdub and Effects audio routings. Effects applied via sends will not be applied to loops.

Saving the set

If saving the Headphone Looper set seems slow, it is most likely because the looper buffers are still holding audio data.

- **To clear the loopers press the stop button, and then press ~**

This will significantly reduce the size of the set, which will speed up

saves and loads as well. Of course this will clear any audio currently stored in the loopers.

Note: Initialize does not fully clear the loopers (as it creates empty recordings) they must be cleared using the steps above

MIDI Mapping:

This template is designed to be highly customizable. To customize this template to your physical control surfaces, manual MIDI mappings are recommended.

You should see several informational tracks inside the template that highlighting where mappable clips are located.

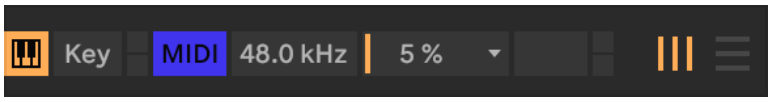
The most common manually mapped features are:

Target buttons:

- Within each "Looper" group track there is an “Out Select” track that contains a clip named [FX TARGET BUTTON]. These clips act as on/off buttons that instantly route the looper audio through the Effects track.

- You may optionally MIDI map these clips to the buttons on your controller that will be used to quickly target looper track(s) for FX and bounce.

- To MIDI map, activate the MIDI mapping mode in Ableton by clicking the MIDI button in the upper right



- Then find the “Looper” group tracks and expand them. Inside these groups is a track called “Out Select #” containing a clip called “[FX TARGET BUTTON]

- With the mouse select the FX TARGET BUTTON clip, and then press the desired button on your midi controller to map it.

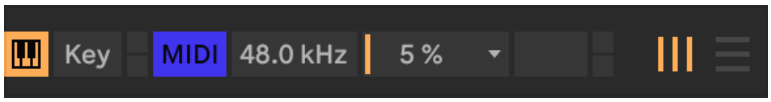
- Repeat this process for all 8 of the “Looper” group tracks. Then fold the group tracks back up to their default minimized/folded view.

- When finished click the MIDI button again to exit MIDI mapping mode.

Effects:

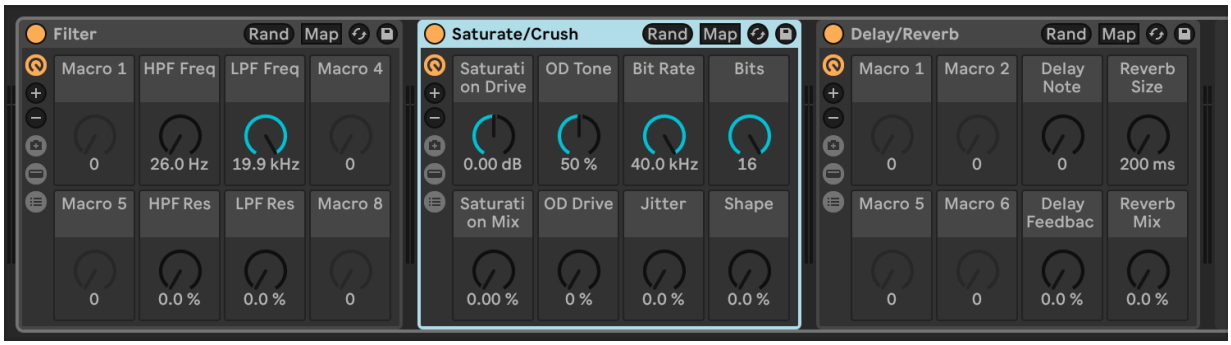
- There are several clips in the “Effects” track which function as effect selection buttons. Map these clips to the buttons on your midi controllers that you will use to select effects

- Enter MIDI mapping mode



- Then click each of the desired EFFECT# clips, mapping them to your desired “preset” buttons.

- These clips will Select (SEL) between devices in the insert FX on the Effects track, allowing your control surface to quickly jump between effects



Note: the “Effects” track is meant to be customized! Create your you audio effect racks containing your favorite plug in effects!

Foot Switches:

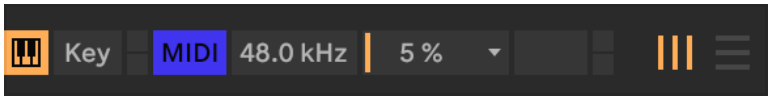
- There are several clips in the “Footswitch Control” track which function as foot switch buttons. Optionally map these clips to

your midi foot switch(es). In my case I only have one foot switch, and I've mapped it to the 8bar loop. You can use none, some or all of these clips.

- These clips will activate loops on the focused track, so **select the desired "Looper" track first, then press the foot switch**

To map the footswitch clips:

- Enter MIDI mapping mode



- Then select the loop length clip(s) wish to map, and map this to your foot control button(s)

Note: The "Foot init" initialize clip must be held down

Performance Tuning

Ableton is designed to run all tracks that route audio into each other as a single CPU thread. Since this template uses a lot of track routings, the CPU usage can become quite high on older and lower powered computers as only one CPU core ends up doing a majority of the work. While the ideal solution is the fastest CPU available, this is not always possible.

Luckily, **we can work around this** limitation by setting an alternate track routing for the Effects channel.

Alternate Effects routing for lower CPU usage

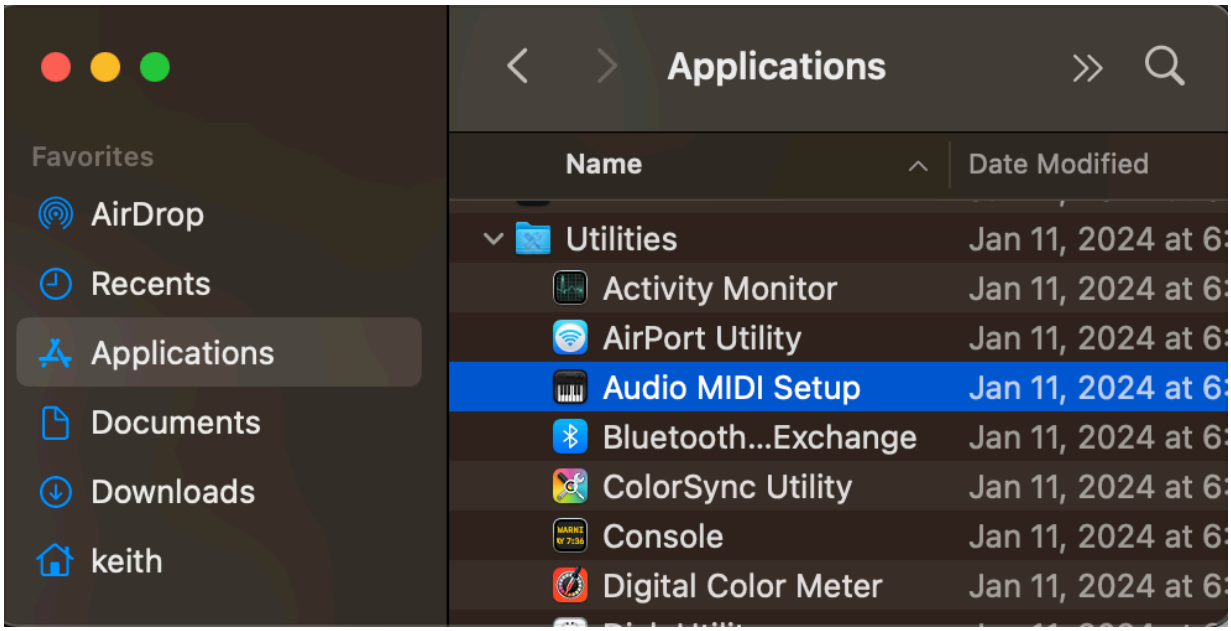
You will first need to install a loopback audio driver.

MacOS: Blackhole 2ch https://existential.audio/blackhole/download/ - available for free after email signup (donation optional)
Windows: VoiceMeeter (instructions forthcoming, please ask on discord for support)

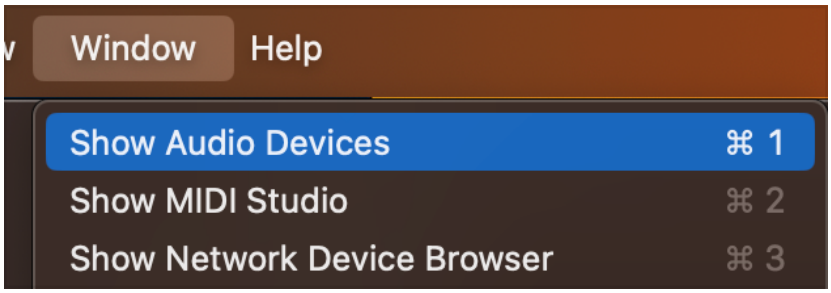
MacOS instructions:

- Download blackhole 2ch from https://existential.audio/blackhole/download/

- After you have downloaded installed Blackhole 2ch, open Audio & MIDI settings



- It may be necessary to click “Window” > Show Audio Devices (if the Audio Devices window did not open automatically)

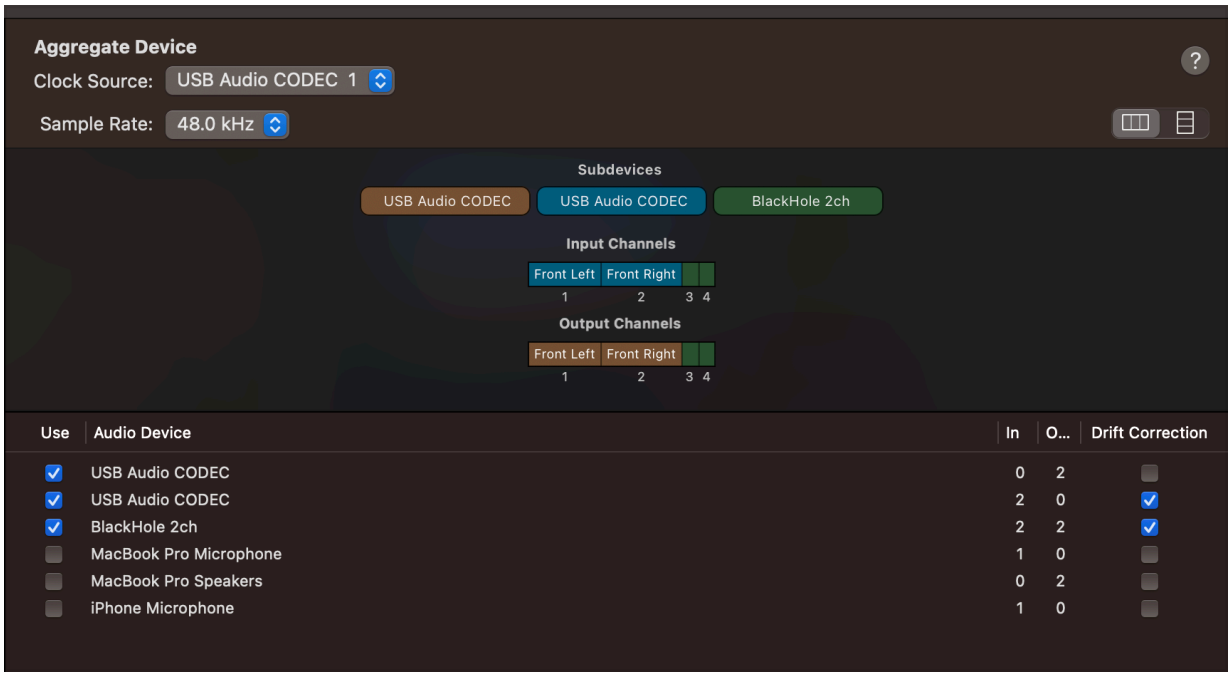


- Now click the + button and click “Create Aggregate Device”

- Now, add your sound card to the aggregate device.

- Check the box next to your sound card first, and then check the Blackhole 2ch device second.

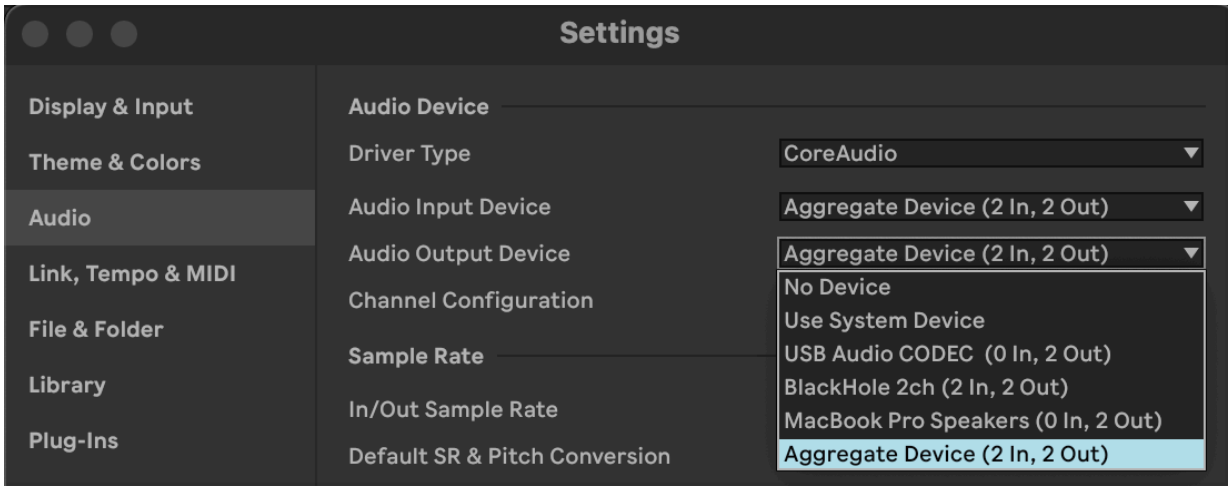
Note: Your sound card may show up as one device with inputs and outputs, or two separate input and output devices. My sound card appears as two separate devices, so I will add both first, then add the Blackhole 2ch device.



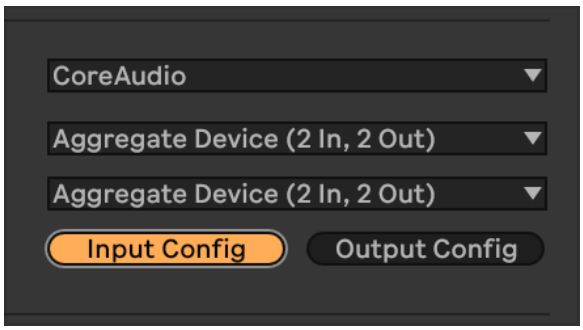
Note: The aggregate device acts as a virtual sound card and will present all of these inputs/outputs to Ableton as a single sound card.

- Now, in Ableton Settings/Preferences select the Aggregate device that was just created.

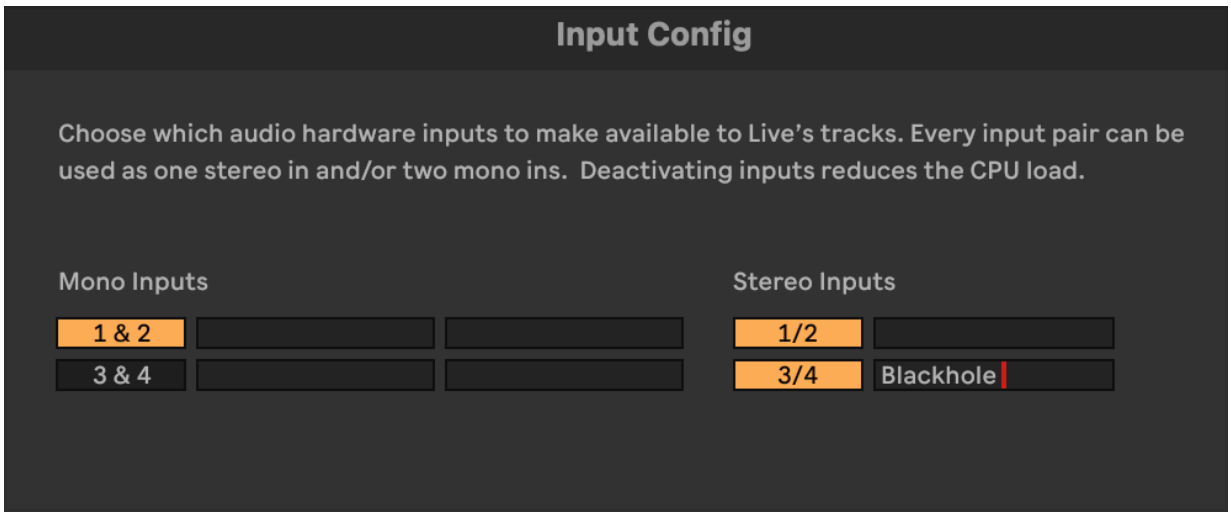
- Select “Aggregate Device” as both the input and output:

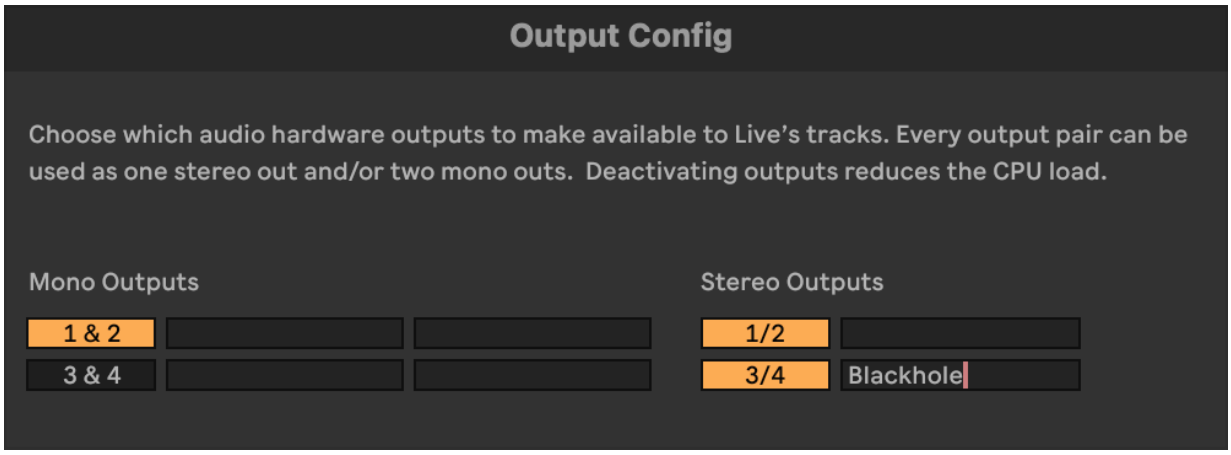


- Now, in both **Input Config and Output Config**:



- Enable the bottom most stereo channel pair and name it “Blackhole"

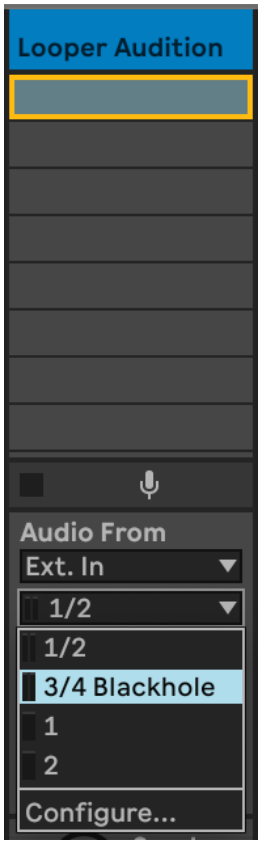




- Click OK to return to the Ableton set. If you haven't loaded the Headphase Looper Template already, load it now.

- Next, in the template find the "Effects" track and set Audio To: "Ext. Out". In the second dropdown choose Blackhole.

- Next, in the template find the "Looper Audition" track and set Audio From: to "ext in". In the second dropdown choose the blackhole inout channels.



You should now see an immediate reduction in CPU utilization using this alternate routing.

Note: If you aren't experiencing clipping/popping/dropouts due to high CPU you are encouraged use the templates default routings.

Questions, comments, suggestions? Join the Discord! https://discord.gg/zAS8FcZUu9

Have fun!