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Acoustitron V1.2 Max For Live Device User Manual

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Acoustitron V1.2 Max For Live Device

Product Information

The Acoustitron is a Max for Live device designed to use live audio to trigger clips in Ableton Live. It allows musicians to play their instruments into the device, which detects the notes being played. Users can then map a range of notes to an Ableton clip, so that when a note within that range is detected, the corresponding clip will be triggered. The device offers parameters for fine-tuning the note detection algorithm and options for transposing the triggered clip based on the played note.

Usage Instruction

- **Installation**

  To use the Acoustitron on any audio track, simply drag and drop the Acoustitron.amxd file onto that track. If you want Ableton to remember the device's location, add it to your User Library by dragging the Acoustitron.amxd file into the user library. It is recommended to create a folder to store your Max for Live devices by right-clicking and choosing "New Folder". You can organize this space according to your preference.

- **Uninstall**

  If you added the Acoustitron to your User Library, you can simply right-click on it and choose "Delete" to remove it.

- **Setup**

  To use the Acoustitron:

  1. Place the Acoustitron on an Ableton Live Audio Track.
  2. If you want to play your instrument live on the device:
     - Set the track input to the input you are playing into.
     - Set the track Monitor to Auto.
     - You should be able to hear yourself playing and see notes being detected in the Acoustitron.

- **Detect Panel**

  The Detect Panel is used to fine-tune Acoustitron's note-detection algorithm.

- **Thresh**

  Short for Threshold, this control sets the minimum strength required for a note to activate the detection system. A higher threshold value makes the Acoustitron less sensitive to incoming notes, requiring the musician to play harder to trigger the system. The default value of 1.5 is usually sensitive enough to accurately capture all notes without mistriggers.

- **Example Usage:**

  Setting the threshold high will cause quiet notes to be ignored, allowing the user to only trigger the device when they choose to play a note loudly. This allows for organic triggering through expressive playing on your instrument.

- **Detect**

  This section is informational and cannot be controlled by the user. It displays the last detected note. To the right of the detected note, there is a blue LED that flashes when a note passes the detection threshold.

- **Filter High and Filter Low**

  These controls set an overall range for the pitch detection algorithm. Only notes within the range specified by Filter High and Filter Low will be detected. Notes above or equal to Filter Low and below or equal to Filter High will be detected.

- Filter Low
- This control sets the lowest note that will be detected. Any notes lower than this will be ignored.

- **Filter High**

This control sets the highest note that will be detected. Any notes higher than this will be ignored.

- **Example Usage:**

  This feature can be useful for globally ignoring notes outside of a certain range. For example, if you only want to use the first octave of your guitar's low E string to trigger clips, you can set Filter Low to E2 and Filter High to E3. All notes outside of that range will be ignored by the system.

- **Trigger Panels**

  This section is used to map the detected notes to Ableton Live clips. Each row in the list represents one discrete mapping. Users can make up to fourteen mappings per device, seven per each trigger panel.

Overview

Acoustitron is a Max for Live device that uses live audio to trigger clips in Ableton Live. A musician is able to play their instrument into the device, which will detect the notes they are playing. The musician may then map a range of notes to an Ableton clip. When a note within that range is detected, that clip will be triggered. There are parameters for fine-tuning the note detection algorithm, as well as options for transposing the triggered clip based on the note played.

Installation

- The M4L Device can be used on any audio track simply by dragging the Acoustitron. amxd file onto that track.
- However, if you want Ableton to remember where the device is located, you must add it to your User Library, located in the leftmost panel.
- Simply drag the Acoustitron.amxd file into the user library.
- I recommend making a folder to store your M4L devices in by right-clicking and choosing New Folder.
- You can organize this space how you like!

Uninstall

- If you added Acoustitron to your User Library, simply right-click on it, and choose Delete.

Setup

Place Acoustitron on an Ableton Live Audio Track.

If you would like to play your instrument live on the device:

1. Set the track input to the input you are playing into.
2. Set the track Monitor to Auto.
3. You should hear yourself playing, and see notes being detected in Acoustitron.

Detect Panel
This section is used to fine-tune Acoustitron's note-detection algorithm.
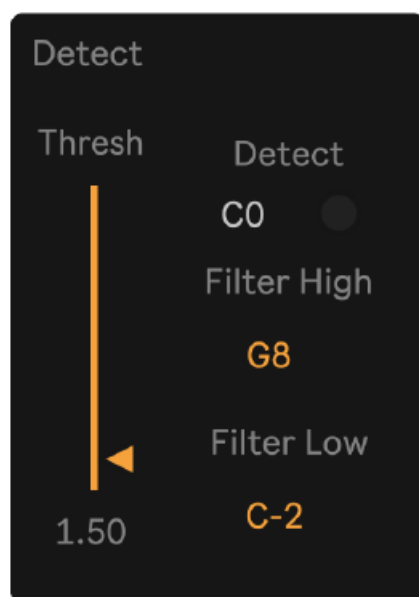
Thresh

- Short for "Threshold", this control sets the minimum "strength" required for a note to activate the detection system.
- A higher threshold value means Acoustitron will be less sensitive to incoming notes, and the musician will have to play harder to trigger the system.
- The default value of 1.5 is usually sensitive enough to accurately capture all notes without mistriggers.


Example Usage
Setting the threshold high will cause quiet notes to be ignored, allowing the user to only trigger the device when

they choose to play a note loudly. This allows you to trigger the device organically through expressive playing on your instrument.
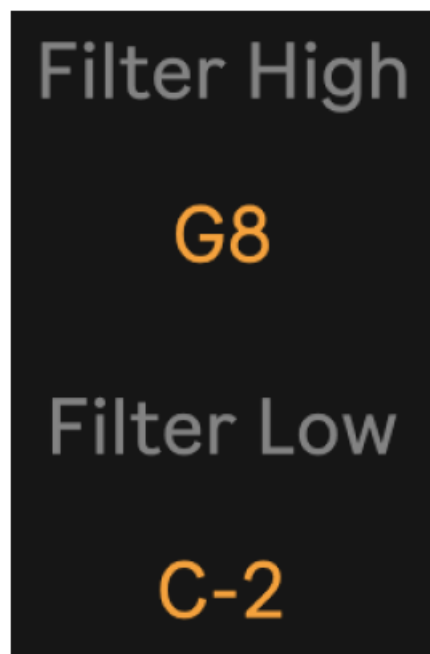
Detect

This section is informational, meaning that the user cannot click or otherwise control it. The note displayed is the last detected note. To the right of the detected note, there is a blue led, which will flash when a note passes the detection threshold.
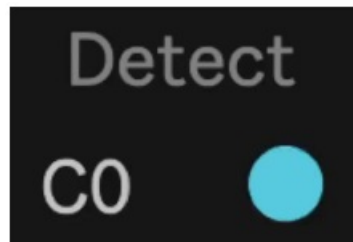
Filter High and Filter Low

Sets an overall range for the pitch detection algorithm. Only notes *in between* Filter High and Filter Low will be detected. That is, notes above or including Filter Low, and under and including Filter High.

- **Filter Low**

  The lowest note that will be detected. Any notes lower than this will be ignored.

- **Filter High**

  The Highest note that will be detected. Any notes higher than this will be ignored.

- **Example Usage**

  This can be useful to globally ignore notes outside of a certain range. For example, say you only wanted to use the first octave of your guitar's low E string to trigger clips. If you set Filter Low to E2 and Filter High to E3, all notes outside of that range will be ignored by the system.

Trigger Panels

This section is used to map the detected notes to Ableton Live clips. Each row in the list is one discrete mapping.

The user can make fourteen mappings per device, seven per each trigger panel.

Map

1. To map a note range to a clip, first click the Map button in a row of your choice.
2. The map button will begin blinking, indicating it is ready to be mapped.
3. Click an unselected clip in the Ableton window.
4. Returning back to Acoustitron, we see the previously blinking Map button has lit up solid yellow, indicating the mapping is complete.

Altering a Mapping

To alter a mapping, simply click the Map button again. The Map button will begin blinking, and you may click a new clip to replace the old mapping. Clicking the Map button again while it is blinking will cancel this operation and leave the old mapping in place.

Clearing a Mapping

Once a row has been mapped, a circular X button will appear next to the Map button. Clicking this will clear the Mapping, restoring it to the default state.

Low and High

Similar to Filter Low and Filter High from the Detect panel, these controls set the range of notes that will trigger the mapped clip.
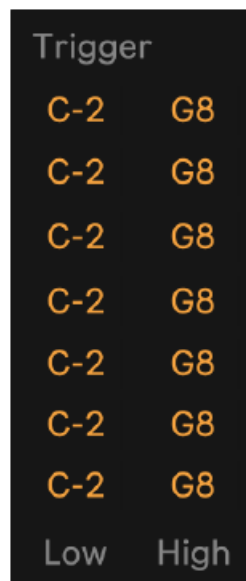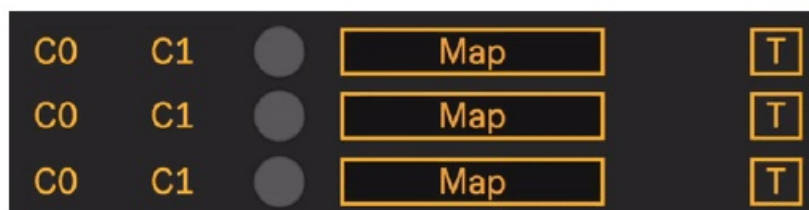

Single Note Mappings

If you would like to map a single note to a clip, simply set both High and Low to that note.

Detect

This will flash every time this mapping is triggered. This is affected by the Low and High controls for this mapping.


Clip/Scene

Toggles the mapping between triggering the clip and the scene. When set to Clip, the button will display the letter C. In that mode, the single mapped clip will be triggered. When set to Scene, the button will display the letter S. In this mode, the whole scene will be triggered. If the row was previously mapped to a clip, the scene the clip is a part of will be triggered.

Fire/Stop

In Fire mode, any note inside the High/Low filter range will cause the mapped clip or scene to start playing. In Stop mode, any note inside that range will cause the mapped clip or scene to stop playing. The current mode is denoted with the letter F for Fire, or S for Stop.

Transpose and Semitone

Mappings can also transpose Audio Clips and Midi Clips on the fly based on the detected note.
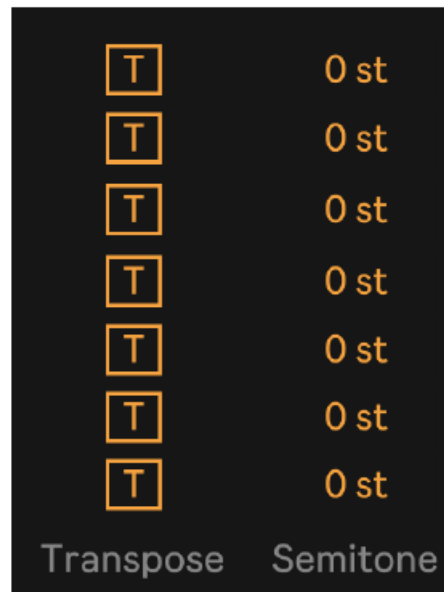
- **Transpose Control**

  Turn this toggle on to enable transposition for this mapping. The notes you play into Acoustitron will cause the clip to be transposed up and down on the fly!

- **Semitone**

  Adjust the transposition up and down in semitones. The "root" transposition is C3, so if you play a C3 and the Semitone is set to 0, the clip will not be transposed at all. Say for example you set Semitone to +12 instead. Now, when you play a C3, the clip will be transposed up 12 semitones.

- **Transposing Midi Clips**

  To transpose a midi clip, simply place the Ableton Pitch Midi Effect as the first midi effect on that track. Acoustitron will automatically detect the device and use it for transposition. Note that Acoustitron will actively "turn the knob" on the Pitch object, so any user settings made to this control be overridden if the mapping is triggered.
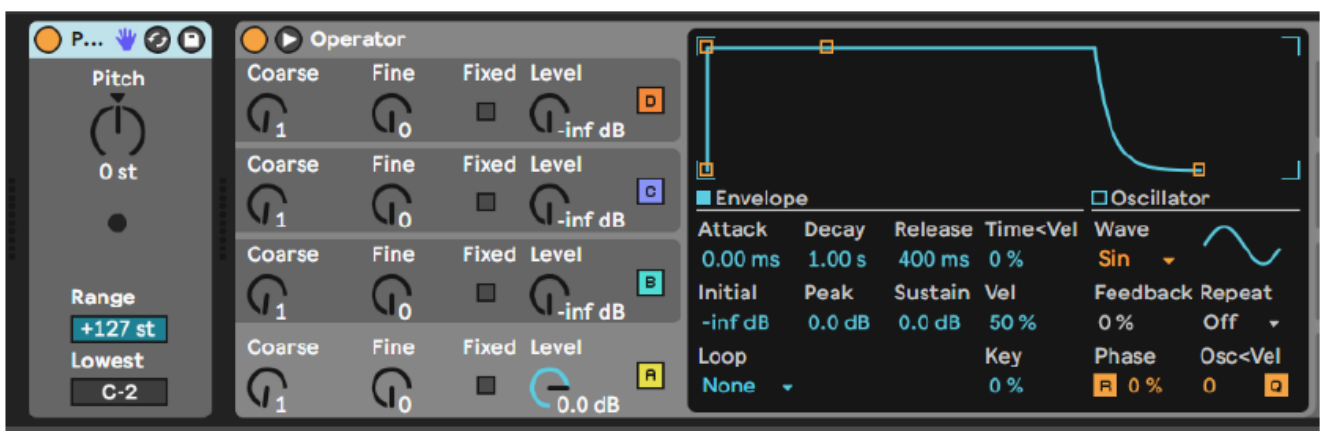
Transposing Audio Clips
Acoustitron uses Ableton's built-in Pitch control for audio clips to transpose them on the fly. Note that Acoustitron will actively "turn the knob" on the Pitch control, so any user settings made to this control be overridden if the mapping is triggered.
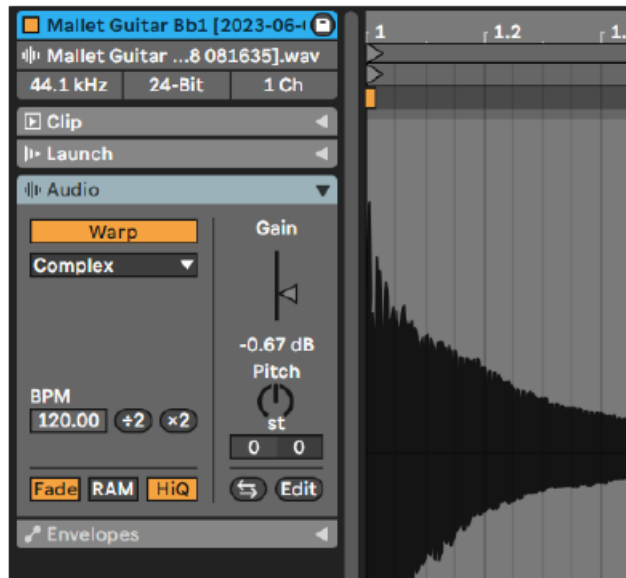
Example Usage

- If you want your clip to play in unison with your instrument, repeatedly trigger the clip with a single note while adjusting the Semitone control until the notes are the same.
- You can also use this control to generate harmonies. First, using the method above, set the Semitone so the clip sounds the same note as your instrument. Then, adjust the Semitone control to 7 semitones above the current setting. The clip will now be transposed a perfect fifth above what you play, generating parallel harmonies!

Useful Ableton Settings

There are some settings in Ableton that are very helpful to know about in order to use Acoustitron to its highest potential.

- **Launching Clips**
- **Session View** (in particular 7.4.2 Removing Clip Stop Buttons).

Manual for Acoustitron V1.2 Developed by Small World Electronics © Acoustitron 2023

Documents / Resources

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