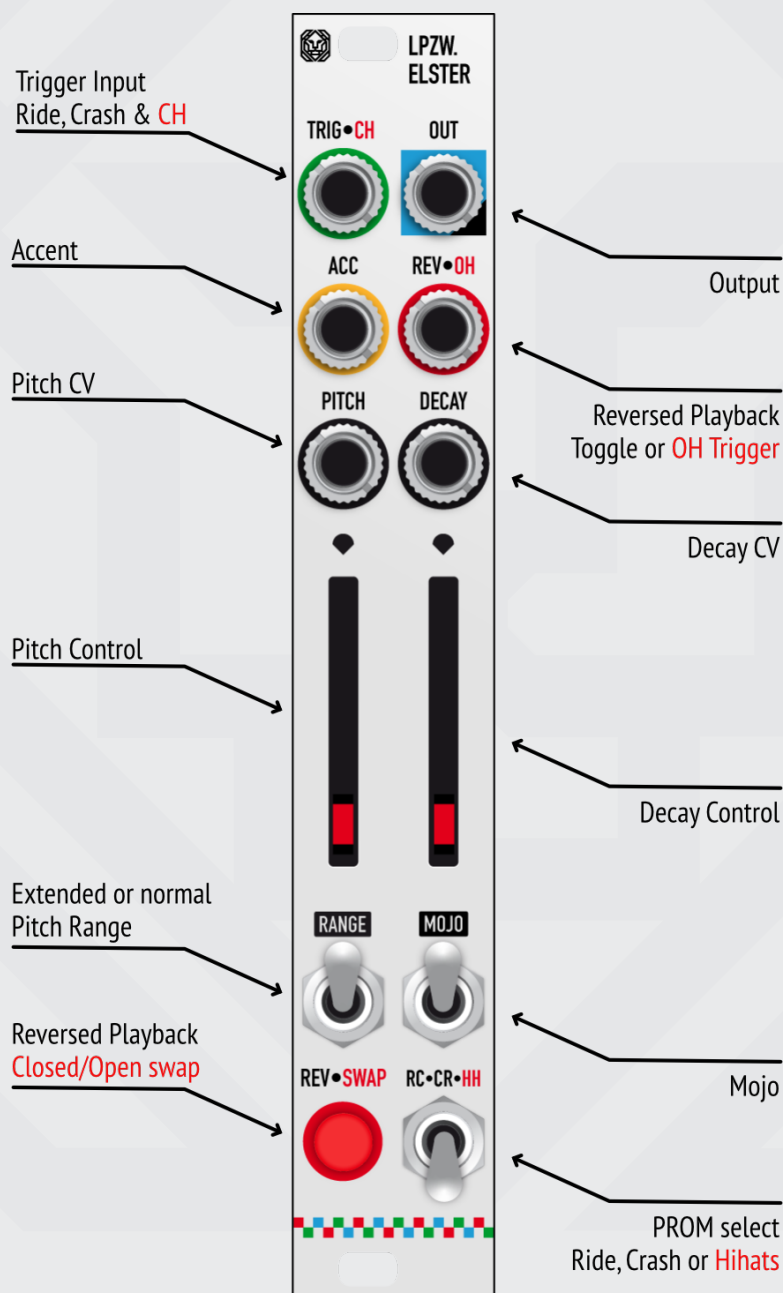


LPZW.MODULES ELSTER

Manual V.1.0

The Elster module is a Eurorack compatible cymbal percussion module based on the sound ROMs and analog circuitry of the classic 909 drum machine. It plays one of those ROMs and you can select which of them: Ride, Crash or Hihats.





Pitch Control

Elster offers a pitch slider controller and a bipolar CV input for the playback speed of the samples. It has a switch for the pitch range so you can stay in a more limited range as the original or extend the range for more experimental sounds.

Decay Control

Elster offers a Decay slider and a bipolar CV input to control the envelope length for the sample playback.

The Decay control has a macro functionality in hihat mode opening the open hihat slightly earlier than the closed hihat.

Reverse Playback

An illuminated button and a toggle trigger input can set the playback to play the cymbal sound reversed. The LED is either green for forward playback or red for reversed playback.

The decay slider controls the starting point and the attack length to that playback simultaneously, so the sample always ends at the initial transient.

⚠ A high trigger rate could cause the sound to be choked early and the output might occur very silent. Adjust the envelope length so that the sample ends before it gets retriggered.

⚠ This button and the corresponding toggle input have a different function in hihat mode!

Hihat Mode

In Hihat mode the red print shows the alternate functions of some UI elements.

When the Hihat ROM is selected the trigger input triggers the closed hihat and the reverse toggle input triggers the open hihat.

Pressing the reverse button doesn't reverse the sample playback but swaps the trigger assignment. This is a very cool performance tool that can alter your hihat pattern drastically with a simple press of a button.

The decay envelope slider works in a sort of macro functionality opening the open hihat slightly earlier than the closed hihat. Which is a compromise of keeping the module small and having separate control. The hihat mode is an add on to this cymbal module, so we chose to do this that way and not increase the module in size.

Mojo

The Mojo switch was added to give the output of the module a colorisation, so that the output sits a better in a mix. This was added because very often Eurorack sound sources are mixed in the case without preamp drive or EQing.

Mojo doesn't replace careful EQing in a production but helps to put the cymbals in their spectral place.

Accent

The Accent input is a gate input. The sound will be played accented while the accent gate is high.



Bootloader

To enter bootloader mode: hold the reverse button while powering up the system. The reverse LED will be lit yellow to indicate you are in bootloader mode.

Connect your computers audio output to the pitch CV input and play the provided audio file at 44100 Hz sample rate. Make sure no sample rate converters are active and no system sounds are playing at the same time.

It is best practice to use a DAW for playback, where you can set to the audio driver to 44.1 kHz sampling rate and maybe even use a separate output if you have a multi channel interface. This way you can make sure your system sounds do not disrupt the firmware upload.

Set the audio level as high as possible but avoid digital clipping inside the DAW.

Make sure that you disable all time stretching / warp / pitch shifting for the firmware file when playing from a DAW

Tech Specs

Module width:	4HP
Module depth:	25mm with provided power cable attached
Current draw:	60mA @ 12V and 15mA at -12V

All inputs are safe to be used within Eurorack voltage range. (+/-12V)

Trigger Inputs:	min 3.6V
Accent Gate:	min. 3.6V
CV Inputs:	usable range +/- 5V

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