

Spektro CV Devices - Manual

About:

Spektro CV Devices is a bundle of 5 devices that you can use to control your modular synthesizer in many different ways.

In order to use these devices, you'll need a way to send analog signal from Ableton to your synth. You can do this via modules such as the Expert Sleepers ES-3 and ES-4 or using an audio interface with DC-Coupled analog outputs.

This devices contained in this bundle are:

- CV Toolkit Pro:



This is the Pro version of the already available (and free) [Spektro CV Toolkit](http://spektroaudio.com).

You can send different kinds of CV signals from the Spektro CV Toolkit Pro such as: LFOs, S&H, AD envelopes, triggers, gates and offsets.

The cool thing about the Spektro CV Toolkit Pro is that you can add or multiply 2 sources: you can add AD1 to LFO1, multiply LFO2 by S&H and so on. This is great for experimentation.

The Pro version features different operations (with different sources) for the 2 channels (left / right) and advanced options that allow you to reset the LFOs via Midi / Ext Gate, set the AD2 Delay to the total time of AD1, gate the output, and send and receive EXT Gate to and from the other Spektro CV devices.

- Voltage Pads:



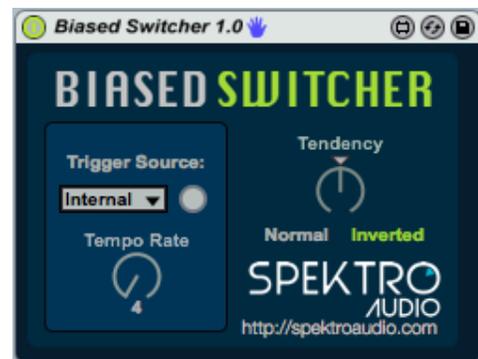
This device, inspired by the [MakeNoise Pressure Points](#) module, uses 4 Pads (A, B, C and D) to send a pair of bipolar CV offsets (1 and 2) to your modular. In other words: Pad A sends A1 (left channel) and A2 (right channel), Pad B sends B1 (left channel) and B2 (right channel) and so on. This device comes with a Lemur template that you can use to control the device from your iPad.

The pads can be triggered manually (by clicking on them), via MIDI or via OSC (using the Lemur template).

You also have the options send EXT gate to other Spektro CV Devices, trim the output and set different modes for the pads (momentary or toggle).

- Biased Switcher:

The Biased Switcher is a Max Audio Effect device that works similarly to the [Mutable Instruments Branches](#) module. When triggered, the device flips a virtual coin to decide if the incoming stereo signal will be outputted normally (left input to left output, right input to right output) or inverted (left input to right output, right input to left output). You can also bias the coin, increasing the chances of outputting the signal normally or inverted.



The device can be triggered using an internal clock synced to Ableton's tempo or using an EXT gate coming from the CV Toolkit Pro or the Voltage Pads devices.

- CV Splitter

CV Splitter allows you to split a channel into 2 outputs based on polarity (negative signals go to output ch. 1 and positive signals go to output ch. 2).

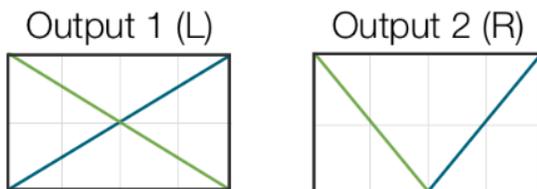
The device lets you select the input channel (L or R) and the mode. The 3 modes are: Neg - Pos (normal), Inv Neg - Pos (inverts negative signals so both outputs are positive), Neg - Inv Pos (inverts positive signals so both outputs are negative).

Remember that, when using CV Splitter, one of your input channels (L or R) won't be outputted since the device uses both outputs for splitting the other input channel.



- CV Crossfader

This simple device let's you crossfade between the 2 input channels (L and R). The device outputs a linear crossover through channel 1 (L) and a zero crossing crossover through channel 2 (R).



All the devices work independently however they can also be used in conjunction. For example, you can use the Voltage Pads to send EXT Gate to the CV Toolkit Pro ADs.

The Spektro CV Toolkit bundle is great for synth owners that are looking for ways to digitally control their analog instruments. The devices can also be used together with already existing solutions such as the [Expert Sleepers Silent Way](#) and the [MOTU Volta](#).

How to Use:

In this example, I'll be using an ES-3 module connected via a light-pipe cable coming from the ADAT output #1 of my audio interface (channels 11 through 18).

1 - Add CV Toolkit Pro or Voltage Pads to a MIDI track

2 - Open the I/O section, set the Audio Out of the track to Ext Out and then choose an available output to send the CV signals to. In this example, we'll choose 11/12.

3 - Done!

If you'd like to control the Voltage Pads device using the **Voltage Pads Control** (Lemur template for iPad / iPhone):

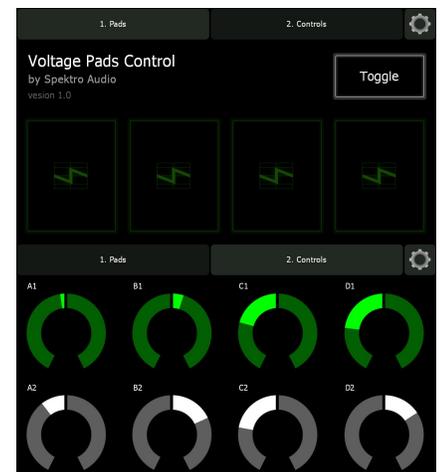
1 - Copy the Lemur template to your device. (If you don't know how to do this, check out [this video tutorial](#))

2 - Open the Lemur app, tap the gear icon on the top-right corner, load the template/project and click on More settings. Scroll down to OSC Target and set OSC 0 Host to your computer's IP address (local) and Port to 10000. While you're there, make sure you write down the Lemur IP address (something like Lemur IP - 192.168.0.104:8000).

3 - Go to your computer, open up the Voltage Pads device and click on the Options button to open up the option window.

4 - Check out the OSC Settings and make sure everything looks good: Host should be set to the Lemur IP address (192.168.0.104), Receive on Port should be set to the Lemur's OSC 0 port (in this example, we've set it to 10000), and Send on Port should be set to the Lemur's own port (in this example, it's 8000).

5 - Save it and you're done!



Tips & Tricks

- Spektro CV Devices can interact with each other by sending and receiving a virtual gate. Try this:
 1. Create a new project and add an instance of the Voltage Pads device and an instance of the CV Toolkit Pro device.
 2. Open up the Voltage Pads option and set it to send EXT Gate to Spektro devices.
 3. Go to the CV Toolkit Pro device, open up it's option and set it to Receive EXT Gate.
 4. Now, every time you click on any of the pads, the Voltage Pads device will send a gate to the CV Toolkit Pro, which will then use the gate to trigger the AD envelope generators and (if the option is enabled) reset the LFOs.
- Now remember: even tho the devices use the term EXT Gate, they can only receive these gates from other Spektro devices.

- You can use the Voltage Pads as a sequencer. Open up the Options window and make sure the MIDI Trigger toggle is enabled. All you need to do then is to record a MIDI clip using those midi notes to activate the pads.

- Open up Ableton's Info view and hover your mouse through the different knobs and buttons of any of the Spektro CV Devices in order to read about their function.

Patch Ideas

- **2 Envelopes, 1 Trigger:** You can use the CV Toolkit Pro and a Biased Switcher device to trigger 2 different envelopes randomly . Just send a trigger from CV Toolkit Pro CH 1, add a Biased Switcher and set it's trigger source to External. Since the CV Toolkit Pro sends EXT gates by default, it'll trigger the Biased Switcher every time it receives a MIDI note, causing the trigger to be outputted to either Out 1 (L) or Out 2 (R).

More coming soon...

For further information,
visit <http://spektroaudio.com/>

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