A-envelope

Associative quadruple envelope

QUICK REFERENCE GUIDE

v 2.0

VELECTRONIC


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ASSOCIATIVE ENVELOPE

QUICK REFERENCE GUIDE

HOW TO ASSOCIATE OR ISOLATE CHANNELS

1. Select the channel that is going to be the group head, with a long press to enter the group mode.
2. Select or unselect channels by toggling the corresponding buttons associated.
3. Push the group head channel button to exit the group mode.

HOW TO SELECT LOOP MODE

1. Select the desired channel to activate or deactivate its loop mode.
2. Toggle the loop button to select the desired behaviour.

- Off: Deactivated.
- Orange: Loops over the envelope while the input remains active. This mode only make sense if the input is in gate mode.
- Red: Loops over the envelope regardless of the input. The envelope behaves as a sort of complex LFO. In this mode, at every rising edge of the activation input, the envelope gets restarted behaving as a hard sync.

HOW TO CHANGE ACTIVATION MODE

1. Select the desired channel to change its input activation mode.
2. Toggle the activation button to select the desired behaviour.

- Off: The input will behave as a gate input.
- Orange: The input will behave as a trigger input.
- Red: The input will behave as a trigger input, with re-triggering capability.
- Blinking Red: The input will behave as a trigger input, with re-triggering capability. Every trigger forces a start of the envelope from zero.

By doing a long press, it is possible to select directly the re-trigger from zero (Blinking Red LED).

HOW TO MODIFY A STAGE PARAMETER (TIME / SHAPE / LEVEL) OF A SPECIFIC CHANNEL / GROUP

1. Select the desired channel.
2. Toggle the knob button of the desired stage to select the parameter to modify **Time**, **Shape** or **Level** depending on the selected knob.
3. Tweak the knob to achieve the desired value.

When the time for a stage is set to zero, all LEDs turns off for the stage, and the stage is ignored.

When set to zero, if the stage gets subscribed to a time modulation source, the modulation source will control the whole range: 0V to +10V -> 0 to 20 Seconds with max gain (x2).

HOW TO MODIFY THE AMPLITUDE OF THE ENVELOPE FOR A SPECIFIC CHANNEL / GROUP

1. Select the desired channel / group.
2. Toggle sustain's knob button to select the level parameter (green LED).
3. Do a long press on the knob to enter the modulation gain parameter. (blinking green LED)
4. Do a second long press on the knob to enter the envelope amplitude parameter. (fast blinking green LED)
5. Tweak the knob to achieve the desired value. (0-10 volts)

HOW TO ADJUST THE MODULATION INPUT GAIN FOR A GIVEN STAGE PARAMETER ON A SPECIFIC CHANNEL / GROUP

1. Select the desired channel.

2. Toggle the knob's button of the desired stage to select the para meter to modify **Time**, **Shape** or **Level** depending on the selected knob.

3. Do a long press on the knob to enter the gain control mode.

Long and Short press on the knob buttons, alternates **time / shape / level** to input **attenuation / gain**. Once in the gain control mode, the current parameter LED blinks.

4. Tweak the knob to achieve the desired gain / attenuation value.

Left side to attenuate up to 5 times the input signal.
Right side to amplify up to 5 times the input signal.

HOW TO ASSIGN A MODULATION INPUT TO A STAGE PARAMETER ON A SPECIFIC CHANNEL / GROUP

1. Select the desired channel.
2. Push the button related to the stage we want to associate. Toggling the button, you can associate the input to the desired parameter of the stage.

- Orange: Time
- Red: Shape
- Green: Level
- Blinking Green: Amplitude

THE TIME MODULATION OF A STAGE

- Absolute modulation:

Allows to modulate the stage duration from 0 to 20 seconds, through a CV input from 0 to 10 volts.

Since the time range to modulate is very wide, might happen that the embedded attenuverter is not enough and an additional external attenuation might be needed.

1. Set to zero the duration time of the stage to modulate. (The LED ring is completely off).
2. Subscribe the stage to the time modulation input source. (The orange LED).
3. By using the time modulation attenuverter, is possible to adjust the modulation amount.

- Relative modulation:

Allows to set a modulation range relative to the actual duration time defined for the stage. The defined time value settles on one side the center of the modulation and, on the other side, the time range to modulate through a CV input from -10 to +10 volts.

1. Define the stage duration time that will settle the center and range of the modulation.
2. Subscribe the stage to the time modulation input source. (The orange LED)
3. By using the time modulation attenuverter, is possible to adjust the modulation amount.

Example:
If we set time duration to 1 second for a given stage, the modulation input that goes from -10 to +10 volts, will corresponds to a time range from -1 to +1 seconds relative to the configured time duration. So finally it will be possible to modulate the stage time from 0 to 2 seconds.

HOW TO ASSIGN A BEOS OUTPUT TO A STAGE

1. Set the desired channel to edit mode with a long press on the corresponding channel.

2. Toggle the knob of the desired stage to select the corresponding BEOS output behaviour. The BEOS LED will show witch stages are already assigned.

- Blinking: A pulse of 2ms at the beginning of the selected stage will be generated.
- Fast Blinking: A pulse of 2ms at the end of the selected stage will be generated.
- On: The output will go high at the beginning of the stage and will go low at the end.
- Off: No signal will be generated on the corresponding stage.

CHARACTERISTICS

TIME RANGES

Attack:
- The minimum amount of time is 400 microseconds, under this value the stage gets omitted.
- The maximum amount of time is 20 seconds.

Decay:
- The minimum amount of time is 400 microseconds, under this value the stage gets omitted and therefore, the maximum voltage for the attack becomes the one defined by the sustain.
- The maximum amount of time is 20 seconds.

Sustain:
- The minimum amount of time is 400 microseconds, under this value the stage gets omitted but the voltage level remains as a reference for the other stages.
- The maximum amount of time is 20 seconds.

Release:
- The minimum amount of time is 400 microseconds, under this value the stage gets omitted.
- The maximum amount of time is 20 seconds.

INPUTS

The ADSR modulation inputs

The ADSR modulation inputs accepts signals from -10 to 10 volts and a bandwidth from DC up to 20kHz.

The attenuverters associated to the inputs can amplify / attenuate the input signal from 0 to x2.

Trigger / Gate inputs

The trigger / gate inputs react to pulses of at least 2.5Volts and 50us.

OUTPUTS

The ADSR envelope outputs

The ADSR envelope outputs have a voltage range of 0-10 volts, and a minimum period time of 0.8 microseconds (A+R). The ADSR envelope outputs are doubled to offer both direct and inverted outputs. Both sets have the same characteristics.

The BEOS outputs

The BEOS (Begin-End Of Stage) outputs have a voltage range of 0 volts when inactive and 10 volts when active.

POWER CONSUMPTION

The power consumption it is been measured with all LEDs on.

The +5V jumper selected (Recommended)

+5v = 170 mA
+12v = 35 mA
-12v = 23 mA

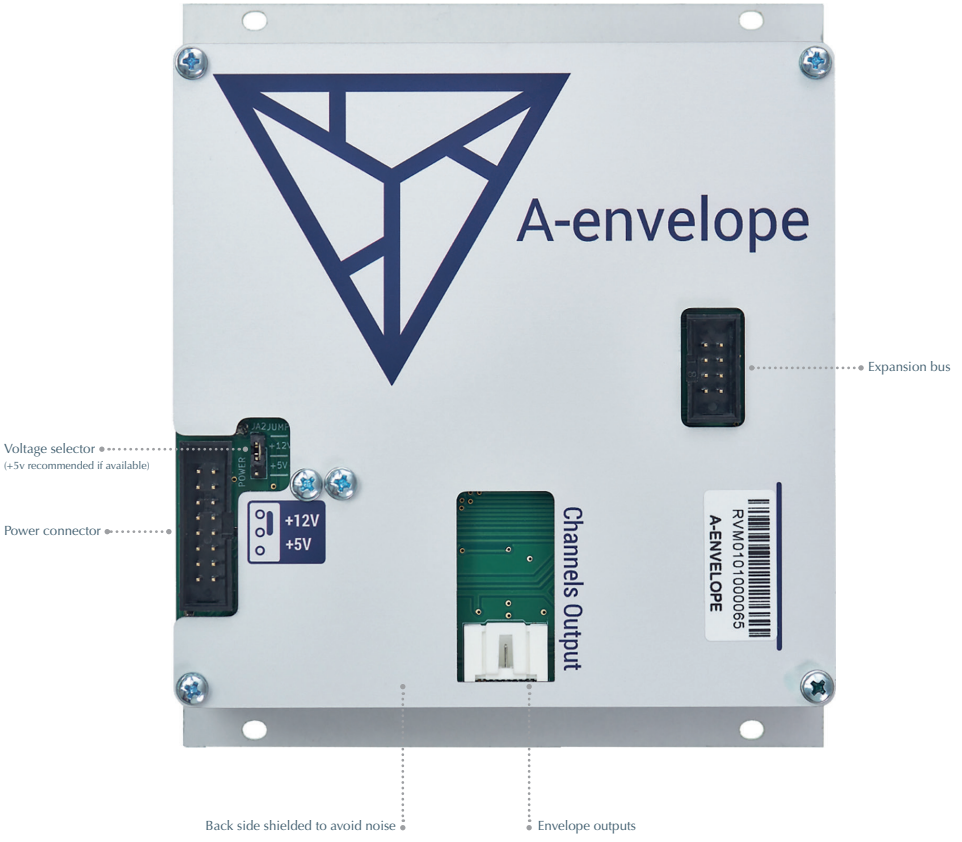
The +12V jumper selected

+5v = 0 mA
+12v = 245 mA
-12v = 23 mA

DIMENSIONS

Width: 22HP
Height: 3U
Depth: 38mm from the back of the panel to the power connector, including the connector.

This guide is suitable for firmware version 3.2.1 or later.


A-envelope
Expansion bus
Voltage selector
(+5v recommended if available)
Power connector
+12V
+5V
Channels Output
RVM01010000065
A-ENVELOPE
Back side shielded to avoid noise
Envelope outputs

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