

AUTODUB



AUTODUB is a DC coupled stereo VCA tailored for interactive dub style effects and event generation via a live performance friendly effect send activation button.

The SEND VCA is activated by the selectable momentary or toggle behavior of the large button on the bottom of the module. A normalized voltage controlling the VCA exhibits a click-less un-mute/mute whenever this button is respectively activated/deactivated. An external CV may be used to control the SEND VCA. The button will then activate or deactivate this control voltage signal.

A convenient GATE output jack provides a gated high signal whenever the button is active. This feature allows for timed control of external modules such as envelopes, VC switches, bursts, or advancing sequences and other control signals when the button is in the ON state. Timed CVs can then be routed to external modulate-able parameters or patched into the SEND VCA CV input, allowing for more dynamic fades and modulations to control the effect SEND level.

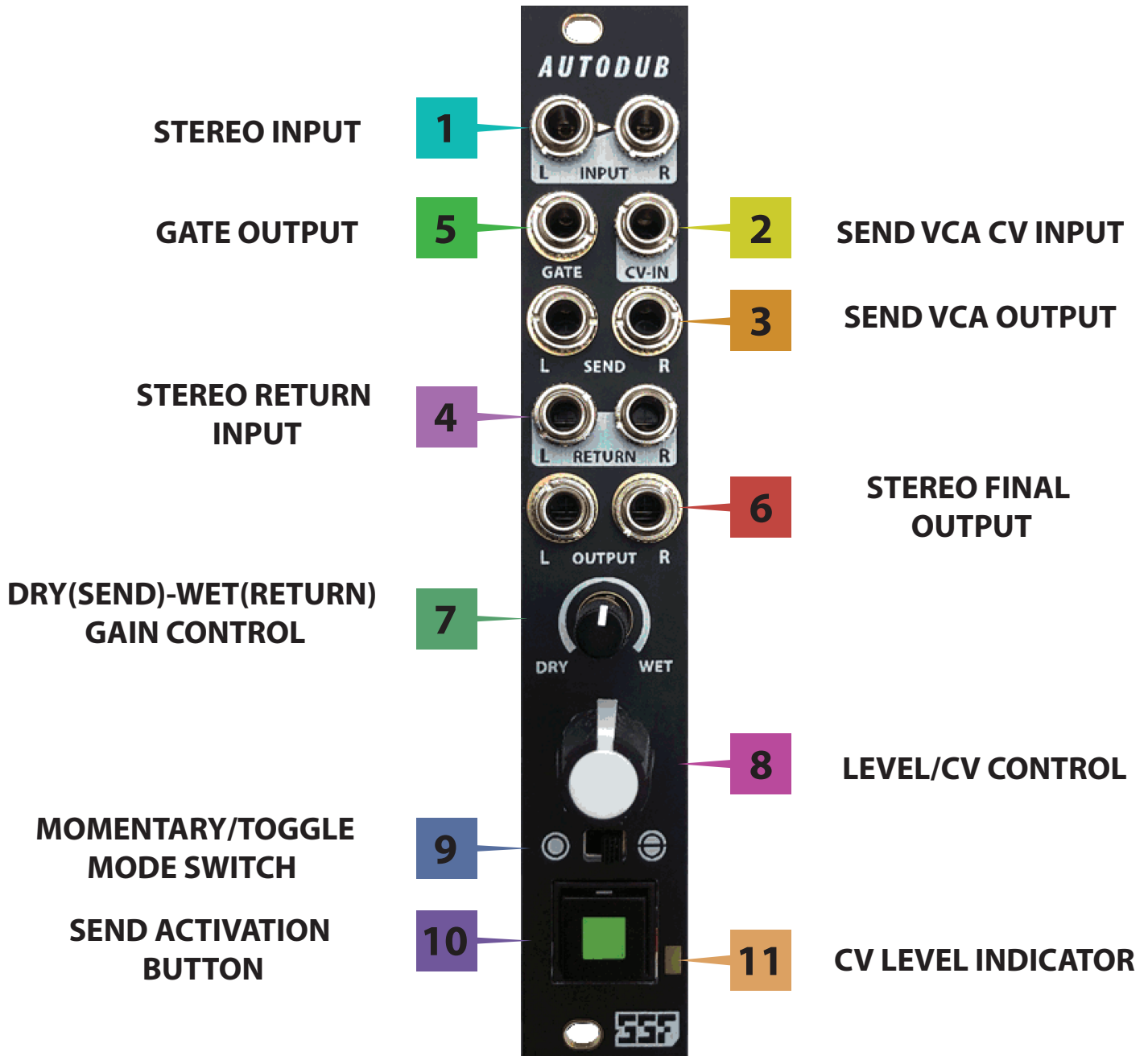
The DRY-WET mixer allows for fine adjustment or up to 2x gain on the original INPUT signal and up to 4x gain on the RETURN signal, granted that the SEND is routed back to return inputs. The LEVEL control will fully attenuate or realize the full potential gain in this instance.

AUTODUB is not limited to processing audio signals (DC coupled) and therefore can be used to interactively mix control voltage signals and/or boost these signals when higher levels are required.

Whether used simply as a handy stereo VCA, utility trigger button or as intended for dub-style effects on single stereo channels and sub-mixes, I hope you find AUTODUB to be a worthy addition to your modular system.

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OVERVIEW



ABBREVIATIONS USED IN THIS MANUAL:

CV = Control Voltage

CW = Clockwise as pertaining to potentiometer rotation

CCW = Counter-Clockwise as pertaining to potentiometer rotation

dB = Decibels as pertaining to relative gain. +6dB is equivalent to 2x gain.

VCA = Voltage Controlled Amplifier

LFO = Low Frequency Oscillator

ENV = Envelope

1**STEREO (dual mono) MAIN INPUT**

This is the input to the SEND VCA. Inputs are L-R normalized, therefore a mono signal patched into the LEFT input will also appear on the RIGHT input. Either an associated stereo L/R pair of signals or up to two separate mono signals may be used exclusively as inputs.

2**SEND VCA CV INPUT**

Use this input if you would like to utilize an external CV source to open the send VCA.

The LEVEL/CV potentiometer determines the gain and depends on the level of the incoming CV and is designed to accommodate standard CV levels while allowing for additional gain. The minimum voltage level to attain unity gain is approximately 3.75V. Therefore, anything from a 5V LFO to a 10V ENV may be used with gain to spare.

A DC voltage of ~10V is normalized to this jack in order to use the module without an external CV. Unity gain is attained on the SEND output when the LEVEL/CV control is set to roughly center position. Unity gain for a 5V signal is attained when this control is set to about 3 O'clock. Additional gain may be realized when setting the LEVEL/CV control beyond those knob positions - up to +6dB for a 10V control voltage.

3**SEND VCA OUTPUT**

This is the output of the SEND VCA. If you would like to simply use the AUTODUB as a stereo VCA, patch from these outputs.

Either as a direct VCA or in an effect send patch, the large square button is used to activate the normalized or externally patched VCA control voltage. The button exhibits a fast slewing action during on and off transitions in order to avoid clicks and pops and can there be used as a convenient mute.

To set up an effects loop, patch from here to an effect that you would like to overdub and patch the output of that effect to the RETURN input(s).

4**STEREO (dual mono) RETURN INPUT**

This is the RETURN input to the DRY-WET Mixer. These inputs are also L-R normalized, therefore a mono signal patched into the LEFT input will also appear on the RIGHT input. Either an associated stereo L/R pair of signals or up to two separate mono signals may be used exclusively as RETURN inputs.

The SEND VCA and the RETURN into the DRY-WET Mixer are used to close an effects loop. However, the SEND VCA and RETURN input need not be associated with such a loop. For instance, you may want to set up an audio or CV patch into the send VCA for external processing and also use the RETURN input to mix or boost an additional external audio or CV source with the original input signal.

RETURN signal level is governed by the DRY-WET control, described on the following page.

5**BUTTON ACTIVATED GATE OUTPUT**

This output provides a 10V gate whenever the SEND ACTIVATION button is in the ON state. This may be used as a general gate or trigger for exciting external modules such as an envelope generator or advancing sequencers and other trigger-able CV event generators. These functions will be timed to activate whenever the SEND button is ON, hence these timed CV events can be used to modulate the SEND VCA or FX module's parameters as well as other functions you would like to synchronize to with AUTODUB.

6**STEREO FINAL OUTPUT**

This is the final OUTPUT from the DRY-WET mixer containing a mix of the original MAIN INPUT signal and the RETURN signal. The DRY-WET mini-pot controls the levels of this mixed output and is described below.

7**DRY-WET MIX CONTROL**

This mini-pot controls the DRY-WET balance between the original MAIN INPUT signal and the RETURN signal and also features the ability to add up to +6dB of gain to either input.

Setting this control to center position results in a unity gain original MAIN INPUT signal as would be typical when overdubbing effects. The RETURN signal will also be set at unity gain in this position but it is important to note that The SEND LEVEL/CV control will also play a role in the pre-gain of the return signal when completing an effects loop. As mentioned in section 2 (SEND VCA CV), setting the LEVEL control to center position will result in a unity gain SEND level for an approximately 10V control voltage, and about 3 O'clock for a 5V control voltage.

Minor deviations from center position CCW or CW will balance the DRY and WET levels for fine adjustments, within the range of 11 to 1 O'clock offers a few dB as may be necessary.

Setting the DRY-WET control beyond the above range results in a more drastic imbalance between the DRY-WET ratio and will provide up to +6dB of respective gain in the fully CCW (DRY) and CW(WET) positions while fully attenuating the channel opposite to the applied gain.

In an over-dub effect application, you typically would want this control set to center position while making only minor adjustments where needed. Extra gain is provided where you would want to either make a copy of the original MAIN INPUT with adjusted gain for boosting audio and CV or when you would like a fully wet RETURN with the ability to add additional gain on low level signals or overdriving other modules. It's always nice to have extra gain.

8**LEVEL/CV CONTROL**

The LEVEL/CV potentiometer controls the attenuation and gain of the SEND VCA. As mentioned in some of the previous sections, this control can add up to +6dB of SEND gain, dependent on the maximum control voltage level in use. With the default jack normalized voltage of 10V, center position exhibits a unity gain SEND OUTPUT level and roughly +6dB of gain when set fully CW.

A 5V control voltage offers unity gain with the control set to 3 O'clock and about +4dB when fully CW. A control voltage as low as 3.75V may be used to realize a unity gain SEND level when this control is set fully CW.

All levels of control voltage will be completely attenuated when this control is set fully CCW, resulting in no signal appearing at the SEND outputs.

9**MOMENTARY/TOGGLE MODE SWITCH**

This slide switch determines the behavior of the SEND ACTIVATION BUTTON. The closed circle denotes momentary mode and the broken circle denotes toggle mode.

In momentary mode, SEND is activated as long as the button is held down (GREEN LED is on). This action is instantaneous upon depressing the button.

In toggle mode, the active SEND state (GREEN LED on) alternates on and off between button pushes. This action is instantaneous upon release of the button (similar to Mutton). This pre-loading behavior is helpful when timing of the SEND action is critical.

When switching between modes, the last state of the toggle mode is retained.

10**SEND ACTIVATION BUTTON**

Press this button to activate the SEND VCA and fire a 10V gate signal via the GATE output jack. Button behavior is determined by the MODE slide switch and can function as either a momentary or toggle button.

Please see 9 (MOMENTARY/TOGGLE MODE SWITCH) for details about the behavior of the button modes.

The green square in the center of the button will illuminate whenever this button is in the active state and indicates that the SEND VCA is open and a gate high signal is being sent from the GATE jack.

11**CV LEVEL INDICATOR**

This LED indicates the voltage level controlling the SEND VCA. Higher voltage levels result in the LED becoming brighter. The LEVEL/CV control will affect the CV level and therefore brightness of this indicator.

The LED will give you an idea of the current CV levels and CV behavior (for dynamic CVs), whether or not the SEND VCA is activated via the SEND ACTIVATION BUTTON.

INSTALLATION and TECHNICAL SPECIFICATIONS

To power AUTODUB, locate the power header on the back of the module. You will see a small white dot next to the lower side of the header. Align the RED STRIPE of the 10pin side of the power cable on the same side of the white dot. Confirm that the cable is connected to the header and the RED STRIP is facing down when the module is in the upright position. Connect the other side of the cable to your power bus and mount the module in your case.

Width: 4hp

Depth: 23mm

Max Power Consumption: +/- 42mA

Reverse Power Protected.