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ILLUMINATI

e BASTL INSTRUMENTS

DUAL USB LAMP DRIVER

About

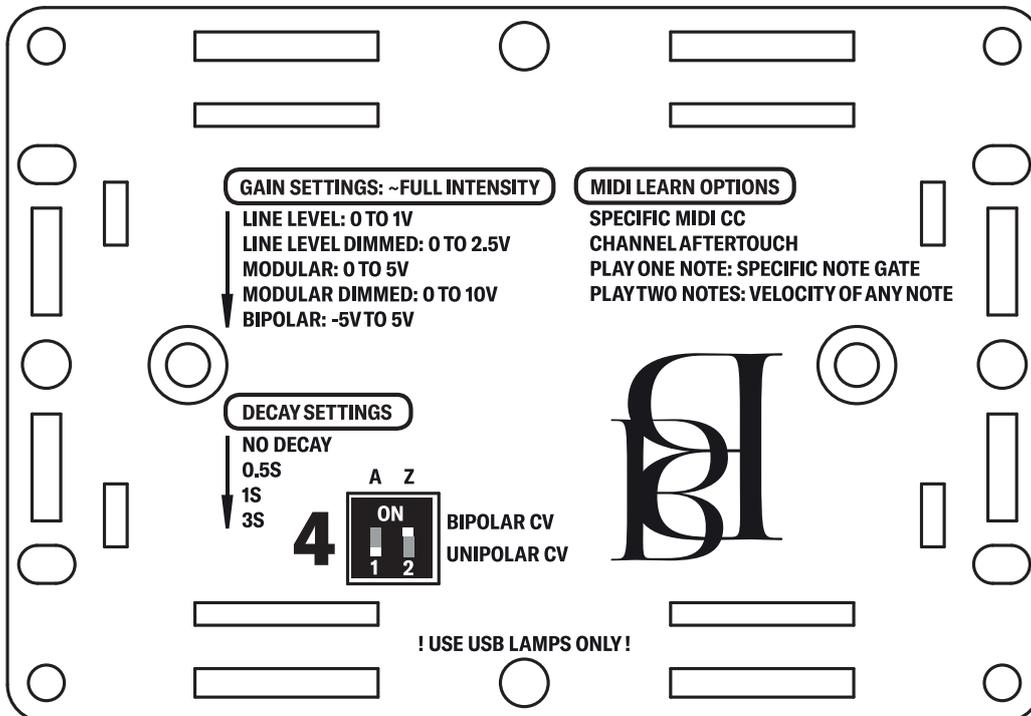
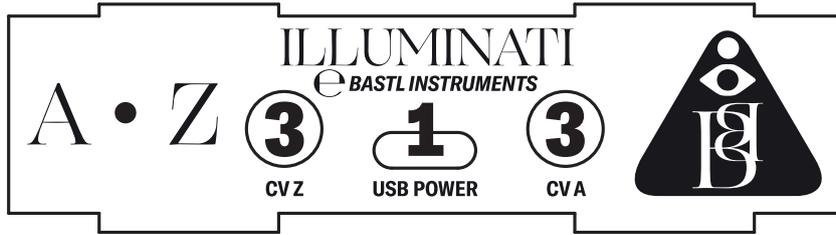
Illuminati is a 2-channel USB lamp driver that takes either audio, CV or MIDI and converts it to light intensity. Mini-jack inputs serve both for CV and audio. Adjusting gain, decay and inversion achieves the desired response to the signal. With a mini switch on the back, you can set whether the inputs also respond to negative voltages. Various MIDI information can be visualized as well (note, CC, aftertouch, velocity).

Illuminati is powered by micro USB, which insures flexibility in power sources, while the optically coupled MIDI input helps avoid creating ground loops. The enclosure is designed to simplify its mounting to any surface either by screws, zip-ties, or a string. It also increases stability when used just as a USB lamp stand on a flat surface.

Features

- 2x 5V USB outputs
- power draw limited to 0,5 A
 - 2x CV input
- CVs are either 0 to 5V or -5 to +5V, set by a switch on the back
 - MIDI input
 - 2x button for settings
- 5V micro USB input (power only)
- enclosure with expanded base for better stability and mounting
 - firmware updates via MIDI

Description



1

USB power input

Power the Illuminati by a standard micro USB cable plugged into a 5V USB DC power supply. The power supply should be able to deliver 500mA (0.5A). This USB socket is for power only (no data communication).

2

USB outputs

Illuminati USB outputs are designed to power USB lamps or USB-rated LED strips. The maximum current provided for both outputs in total is 500mA. The USB outputs provide a variable positive supply via PWM switching frequency of 32 kHz – this is ideal for brightness control.

!WARNING!

DO NOT USE other devices than recommended.

It is **NOT** suitable for charging any equipment!

!WARNING!

Choosing a USB lamp

USB lamps used with Illuminati should be simple lamps with no controls on them or LED strips without a control unit. These are guaranteed to work. We highly recommend IKEA JANSJÖ LED USB lamp, for example.

3

Mini-jack CV inputs

These inputs are monophonic (left channel) and accept audio signals, CV signals, triggers, etc.

4

CV switch

To make the CV inputs react to negative voltages, move the switch to the Bipolar CV position (-5V to +5V). This is especially useful for bipolar LFOs or random voltage generators.

For most other applications, the Unipolar CV mode is better (audio, triggers, unipolar LFOs, sequencers, etc.)

5

Buttons and parameters

The buttons are used to set 3 parameters for each channel.

Single press = Inversion

Inversion is set by pressing the button once (with no signals feeding in, the button acts as a simple ON/OFF switch).

Double press = Decay

Double click the button to cycle through 4 options of decay time (no decay, 0.5s, 1s, 3s). This is especially useful for visualizing trigger

signals or drum hits. The natural fade-out curve is generated, emulating the classic light bulb effect. It is also particularly useful for visualizing the loudness of audio signals – with a decay setting, it becomes a sort of envelope follower.

Hold & press the other button = Gain

Gain is the amplification of the input signal, and therefore the intensity setting for the lamps. Holding button A and pressing button Z will cycle through 4 options of gain level for channel A (and vice versa for channel Z).

Hold for more than 1s = indicate settings (see LED eyes)

Hold for more than 5s = MIDI Learn (see MIDI)

6

LED eyes indication

The LED eyes show the current state of the output; however, they can help you to find out the setting of each channel.

Hold down one of the buttons for more than 1 second, and the eye closer to the button will render the decay curve with the specified decay time while the eye further from the button will show 4 different intensities for the gain.

MIDI

MIDI information can also be visualized with the Illuminati, and it might be a very easy way to get your computer to control lights. To set which MIDI message gets visualized, use the MIDI Learn feature.

Hold down a button for more than 5s to enter the MIDI Learn mode, and keep holding the button. The LED eyes will start pulsating. Send the MIDI message to which you want the Illuminati to respond to, and the LED eyes will blink several times to indicate successful learning.

There are various messages the Illuminati can “MIDI learn” to respond to.

MIDI CC

send a specific MIDI CC message to make Illuminati respond to it.

MIDI Note

send only one note to Illuminati. Illuminati will visualize Note On and Note Off for this specific note.

MIDI Velocity

send two notes at the same time to make the Illuminati respond to the Velocity of any note on the specified MIDI channel.

Channel Aftertouch

send channel aftertouch message to assign the intensity to it.

B

Firmware update

Hold both buttons while plugging in the USB power. The Illuminati will boot into the MIDI update mode, and the LED eyes will pulsate once, and then it will wait for incoming MIDI SysEx messages from the firmware uploader app. See the product website for more info: bastl-instruments.com

(this is going to be written on the website)

1

download and install the uploader app: <https://github.com/bastl-instruments/sysex-playback/releases/tag/v1.0.0>

2

download the .mid file <https://www.dropbox.com/s/wra15zs9p26diyv/illuminati.mid?dl=0>

3

connect a MIDI cable from the MIDI OUT of your MIDI interface to the Illuminati MIDI input

4

connect your MIDI interface to your computer

5

start the Illuminati (connect to power) while holding both buttons

6

start the app, select the illuminati.mid file in the app and hit upload, wait to complete

