

Stomp

Effects Pedal Send/Return w/Expression Control & LFO

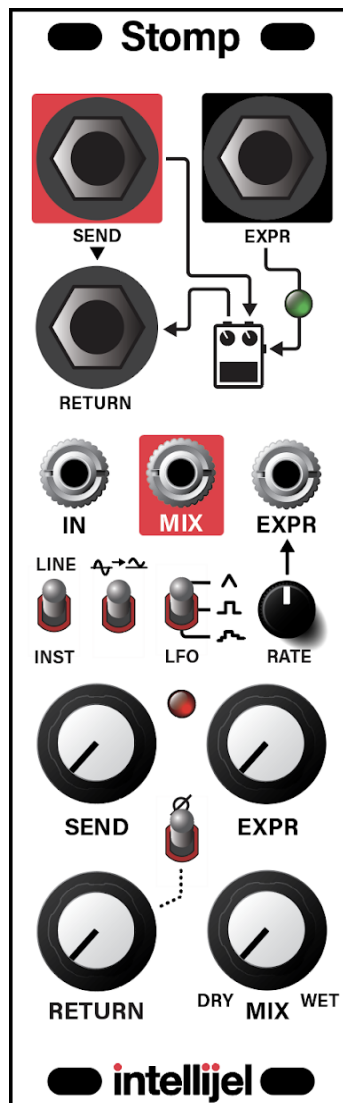


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COMPLIANCE



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Intellijel Designs, Inc. could void the user's authority to operate the equipment.

Any digital equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.



This device meets the requirements of the following standards and directives:

EMC: 2014/30/EU

EN55032:2015 ; EN55103-2:2009 (EN55024) ; EN61000-3-2 ; EN61000-3-3

Low Voltage: 2014/35/EU

EN 60065:2002+A1:2006+A11:2008+A2:2010+A12:2011

RoHS2: 2011/65/EU

WEEE: 2012/19/EU

INSTALLATION

Intellijel Eurorack modules are designed to be used with a Eurorack-compatible case and power supply. We recommend you use Intellijel cases and power supplies.

Before installing a new module in your case, make sure your power supply has a free power header and sufficient available capacity to power the module:

- Sum up the specified +12V current draw for all modules, including the new one. Do the same for the -12 V and +5V current draw. The current draw will be specified in the manufacturer's technical specifications for each module.
- Compare each of the sums to specifications for your case's power supply.
- Only proceed with installation if none of the values exceeds the power supply's specifications. Otherwise you must remove modules to free up capacity or upgrade your power supply.

You will also need to ensure your case has enough free space (hp) to fit the new module. To prevent screws or other debris from falling into the case and shorting any electrical contacts, do not leave gaps between adjacent modules, and cover all unused areas with blank panels. Similarly, do not use open frames or any other enclosure that exposes the backside of any module or the power distribution board.

You can use a tool like [ModularGrid](#) to assist in your planning. Failure to adequately power your modules may result in damage to your modules or power supply. If you are unsure, please [contact us](#) before proceeding.

Installing Your Module

When installing or removing a module, always turn off the power to the case and disconnect the power cable. Failure to do so may result in serious injury or equipment damage.

Ensure the 10-pin connector on the power cable is connected correctly to the module before proceeding. The red stripe on the cable must line up with the -12V pins on the module's power connector. The pins are indicated with the label -12V, a white stripe next to the connector, the words "red stripe", or some combination of those indicators. Some modules have shrouded headers to prevent accidental reversal.

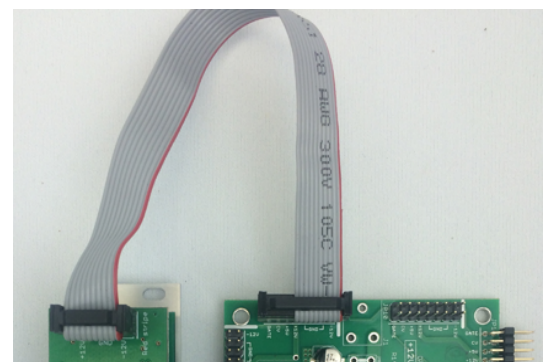
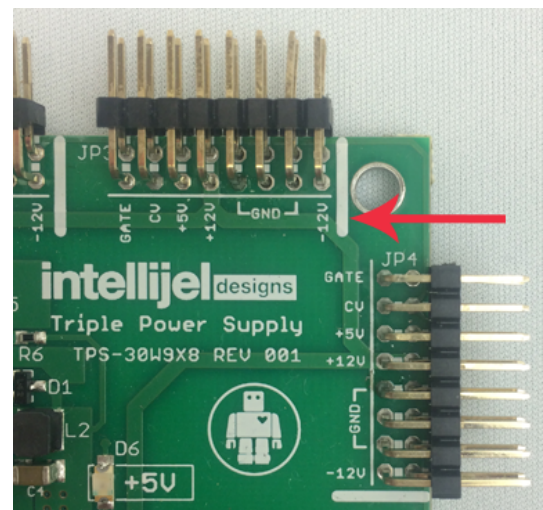
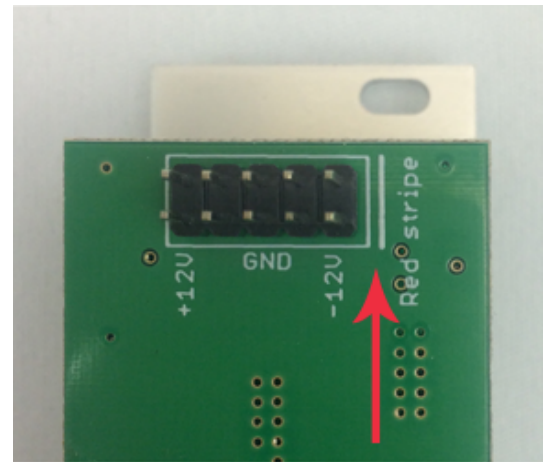
Most modules will come with the cable already connected, but it's good to double check the orientation. Be aware that some modules may have headers that serve other purposes, so ensure the cable is connected to the correct one.

The other end of the cable, with a 16-pin connector, connects to the power bus board of your Eurorack case. Ensure the red stripe on the cable lines up with the -12V pins on the bus board. On Intellijel power supplies the pins are labeled with "-12V" and/or a thick white stripe, while others have shrouded headers to prevent accidental reversal.

If you're using another manufacturer's power supply, check their documentation for instructions.

Before reconnecting power and turning on your modular system, double check that the ribbon cable is fully seated on both ends and that all the pins are correctly aligned. If the pins are misaligned in any direction or the ribbon is backwards you can cause damage to your module, power supply, or other modules.

After you have confirmed all the connections, you can reconnect the power cable and turn on your modular system. You should immediately check that all your modules have powered on and are functioning correctly. If you notice any anomalies, turn your system off right away and check your cabling again for mistakes.



OVERVIEW

Eurorack is a synthesist's toy chest. Stompboxes are a guitarist's toy chest. Each industry offers a seemingly infinite variety of products that enable musicians to build systems unique to their needs, and to create a signature sound. Each is also somewhat addictive. Rare is the musician who doesn't eventually need a larger toy chest to house the accumulated toys.

Fortunately for the budget conscious musician, Eurorack modules and stompboxes have always existed in separate worlds — someone whose eurorack system consumes an entire wall in their home is usually not the same person whose pedalboard now requires a dedicated roadie just to transport it to the gig.

Intellijel's Stomp removes the barrier between eurorack and stompbox. It provides the modular synthesist with a portal to stompbox nirvana, and the guitarist with a wormhole to the sonic manipulations of eurorack modules.

Stomp enables the modular synthesist to interact with the impressive assortment of delays, choruses, flangers, phasers, fuzz boxes, tremolos, wah-wahs, amp simulators, compressors and pitch shifter pedals available to guitarists. If your effects pedal is adorned with an expression pedal input, Stomp supports that too, and even features a built-in LFO to modulate your pedal's expression input. Need something crazier? No problem. Simply patch any modulation source from your modular system into the expression control jack to override the built-in LFO.

Conversely, guitarists can plug their guitar directly into Stomp's RETURN jack, giving them access to the myriad filters, ring mods, wavefolders and — most importantly — the near infinite CV modulation delights inherent in eurorack.

Features

- Signals arriving at Stomp's RETURN jack pass through a Class A triode emulator, allowing for some tube-like overdrive at high gain setting.
- Stomp is more than just a simple level shifter — it's also an impedance converter, which provides proper drive and loading for any FX pedals or instruments you connect.
- Separate gain controls on both the SEND and RETURN. This enables you to adjust the level of any audio being sent to the FX pedals as well as any audio coming back into the modular. Not only does this allow you to optimize the signal-to-noise ratio, but by significantly boosting the RETURN level, you can achieve some pleasingly overdriven tones.
- The SEND output is normalled to the RETURN input so even without 1/4" cables you can route Eurorack signals through the FET stage for coloring.
- Supports both Instrument and Line levels via a front panel switch.
- Use Stomp's RETURN circuit as a "direct box" for connecting any instrument.
- The high input impedance of the RETURN circuit allows it to be used as a piezo pickup preamp for acoustic instruments.
- Use Stomp in the studio as an active "re-amping" device to play pre-recorded tracks back through guitar amplifiers or pedals.
- All inputs are protected for minimum RF interference.
- Return signal can be phase inverted for use with those pedals or effects types that invert phase.
- Low SEND output impedance for driving long cables, lower noise, and minimum interference from outside sources.

FRONT PANEL

Inputs & Outputs

[1] IN - Connect the audio signal you want processed by the external FX pedal to the **IN** jack. Modular-level audio arriving at this jack is converted to the appropriate signal level (switchable between LINE level and INSTR level with the **LEVEL [F]** switch), and impedance-matched before it's sent out the 1/4" **SEND [4]** jack to the pedal.

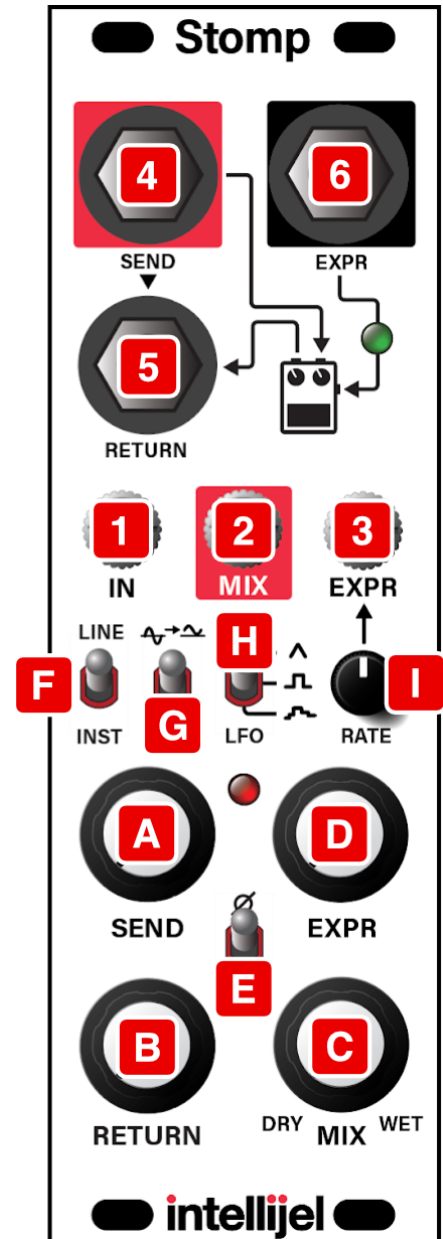
[2] MIX output - This jack contains a mix of the DRY signal patched into the **IN [1]** jack (and sent to an external FX pedal via the 1/4" **SEND [4]** jack), and the WET signal returned from the external pedal via the 1/4" **RETURN [5]** jack. The mix of WET and DRY signal levels is set by the **MIX LEVEL [C]** knob.

Audio returned from the FX pedal (and made available at this jack) is converted back to modular-level and impedance-matched for further routing in your modular system. If you plug a guitar or other instrument into the 1/4" **RETURN [5]** jack, then the modular-level and impedance-matched signal from that instrument appears at the **MIX** output.

[3] EXPR input - A control voltage patched into this jack is attenuated by the **EXPR LEVEL [D]** knob, and passed through to the 1/4" TRS **EXPR [6]** output jack for controlling the expression input on your external FX pedal. This lets you modulate the expression parameter on an external stomp box exactly as you would modulate a parameter within your eurorack system.

If you patch a bipolar signal into this jack, you should set the **UNIPOLAR COMPRESSION [G]** switch to the UP position, since expression inputs on FX pedals generally respond only to positive voltages.

NOTE: Stomp's internal LFO is normalled to the EXPR in jack, allowing basic modulation of an FX pedal without any additional input or modulation sources. Patching CV into this jack disables routing of Stomp's internal LFO to the EXPR input jack, and uses the patched-in CV to control the FX pedal's expression parameter.



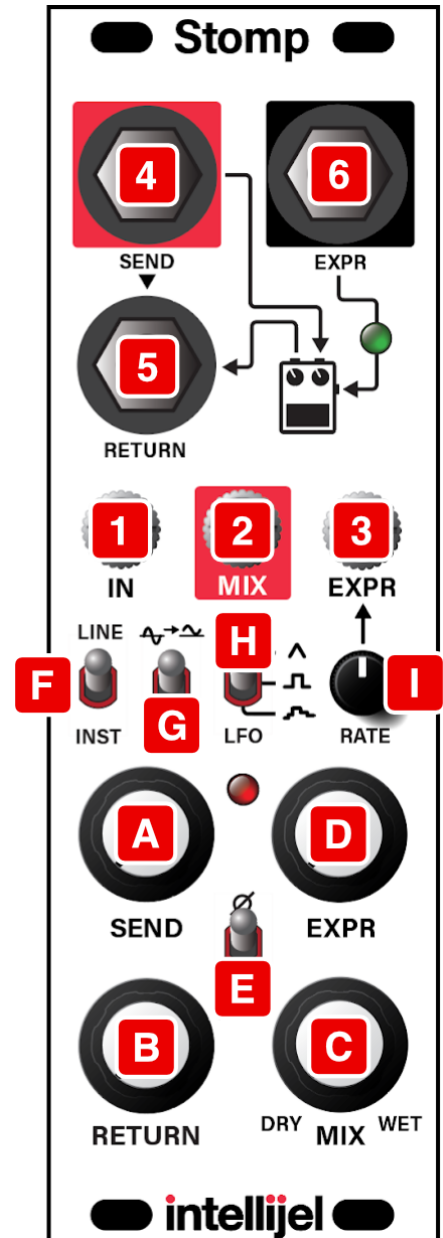
- [4] ¼" **SEND** output - Connect a ¼" instrument cable from the SEND jack to the input of your external FX pedal. The signal level can be either LINE or INSTR level depending on the position of the **LEVEL [F]** switch. It is an impedance-matched version of the modular-level audio signal patched into the **IN [1]** jack (and which is attenuated by the corresponding **SEND LEVEL [A]** knob).

NOTE: This is an unbalanced TS cable (standard for guitars and FX pedals), though you can use TRS cables — you just won't get any benefit from doing so.

- [5] ¼" **RETURN** input - Connect a ¼" instrument cable from the output of your external FX pedal to this jack. The arriving audio is then impedance-matched and converted to modular-level, where it can then be phase inverted (using the **PHASE [E]** switch), attenuated (using the **RETURN LEVEL [B]** knob), and mixed with the dry, pre-FX audio signal (using the **MIX LEVEL [C]** knob) before being made available at the **MIX [2]** output jack.

NOTE 1: This is an unbalanced TS cable (standard for guitars and FX pedals), though you can use TRS cables — you just won't get any benefit from doing so.

NOTE 2: You can also plug a guitar or other instrument directly into the RETURN jack and process it with Stomp. This is a high impedance input, allowing the module to act as a piezo pickup preamp for acoustic instruments. Audio arriving at the RETURN input passes through a Class A triode emulator (enabling anything from clean to tube-like distortion) and an impedance converter and level shifter to ensure full integration within Cascadia's signal flow environment.



- [6] ¼" TRS **EXPR** output - Connect a ¼" TRS cable between this jack and the EXPRESSION input on your FX Pedal. Anything patched into the **EXPR [3]** input is attenuated and sent to this jack, enabling either Stomp's internal LFO or any CV from your modular gear to control an FX pedal.

Controls

[A] SEND LEVEL knob - Adjusts the signal level arriving at the **IN [1]** jack before sending it to the ¼” **SEND [4]** out jack and into your FX pedal.

[B] RETURN LEVEL knob - Adjusts the signal level coming back into the modular from your external FX pedal, or from an instrument plugged directly into either the ¼” **RETURN [5]** input.

[C] MIX LEVEL knob - Determines the wet/dry balance of the signal sent to the **MIX [2]** jack for routing into your modular gear. Fully counterclockwise, only the DRY (unprocessed) signal is heard in the MIX. Fully clockwise, only the WET (processed by the external FX pedal) signal is heard in the **MIX**. At the noon position, equal amounts of WET and DRY appear in the **MIX**.

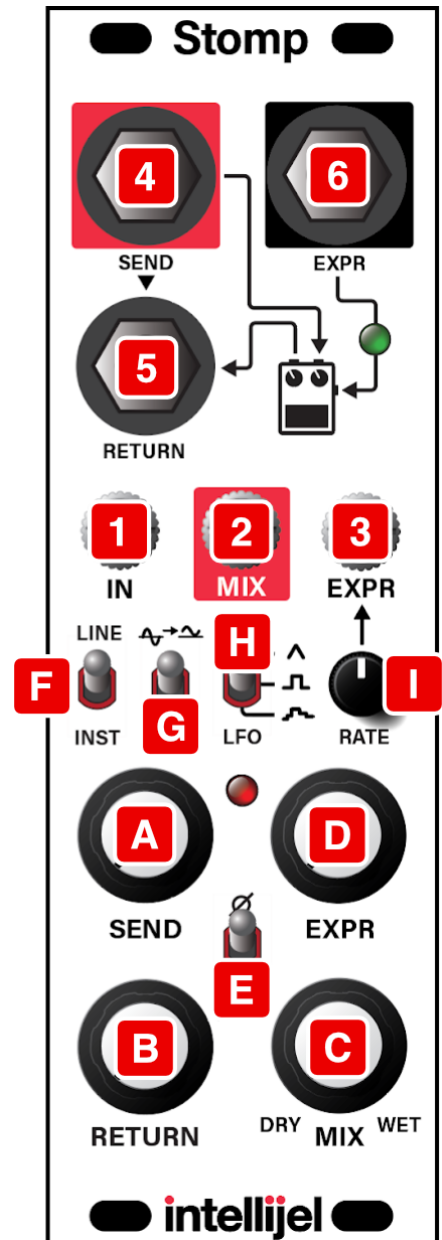
NOTE: Some FX pedals have their own built-in wet/dry mix control — so if you choose to set wet/dry mix on your pedal, you’ll probably want to set Stomp’s MIX LEVEL knob fully clockwise.

[D] EXPR LEVEL knob - Attenuates the control voltage present at **EXPR [3]** input jack, prior to passing it through to the ¼” TRS **EXPR [6]** output jack. This gives you control over how extensively you want the control voltage to affect the expression level on your external FX pedal.

[E] PHASE switch - Inverts the phase of the signal arriving at the ¼” **RETURN [5]** input. Some pedals invert phase, so this switch is useful when balancing the dry (send) and wet (return) signals with the **MIX LEVEL [C]** knob.

- DOWN position: the return (wet) signal is in phase with the dry signal.
- UP position: the return (wet) signal is 180 degrees out of phase with the dry signal.

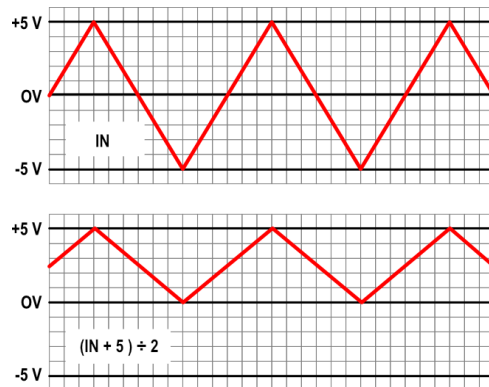
[F] LEVEL switch - Sets whether the signal level sent out the ¼” **SEND [4]** jack, and into an external FX pedal, is operating at INSTRument (guitar) levels, or LINE (pro audio) levels.



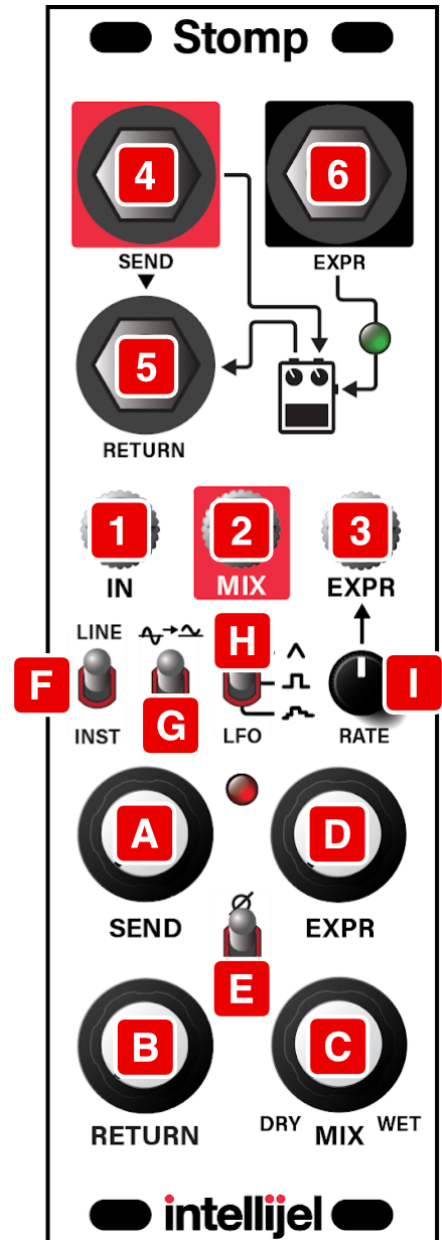
[G] UNIPOLAR COMPRESSION switch - Toggles Stomp's Unipolar Compression circuit on and off. Specifically:

- ON : When on (UP position), Stomp converts a bidirectional **EXPR [3]** input voltage into a unidirectional voltage before it's sent out the 1/4" TRS **EXPR [6]** jack. This enables a bidirectional voltage source (such as an LFO) to control the entire range of expression supported by an FX pedal's EXPRESSION input jack (which typically only responds to positive voltages).

Mathematically, it works by taking the signal present at the **EXPR [3]** jack, adding +5V to it, then dividing it by 2. For example, assume you send a $\pm 5V$ bidirectional LFO into the **EXPR [3]** input. With the switch in the UP position, the circuit adds +5V to the signal (making it a 0 - 10V) signal, then divides it by 2 (making it a 0 - 5V signal), which is then sent out the 1/4" TRS **EXPR [6]** jack.



- OFF : When off (DOWN position), the voltage present at the **EXPR [3]** input is not converted to a unipolar voltage prior to sending the signal out the 1/4" TRS **EXPR [6]** jack. In general, you'll set the switch to the down position when patching a unipolar voltage (such as the output of an envelope generator) into the **EXPR [3]** input (since the voltage is already unipolar in nature).



[H] LFO SHAPE switch - This switch sets the shape of the internally generated LFO that's sent to the **EXPR [3]** input (if nothing is patched into it). Specifically:

- TRI : Triangle wave LFO.
- SQUARE : Square wave LFO.
- RANDOM : Random LFO (similar to the output of a sample & hold circuit).

*NOTE: Patching a cable into the **EXPR [3]** jack disables the internal LFO, and this switch no longer affects the signal sent to the ¼" TRS **EXPR [6]** jack.*

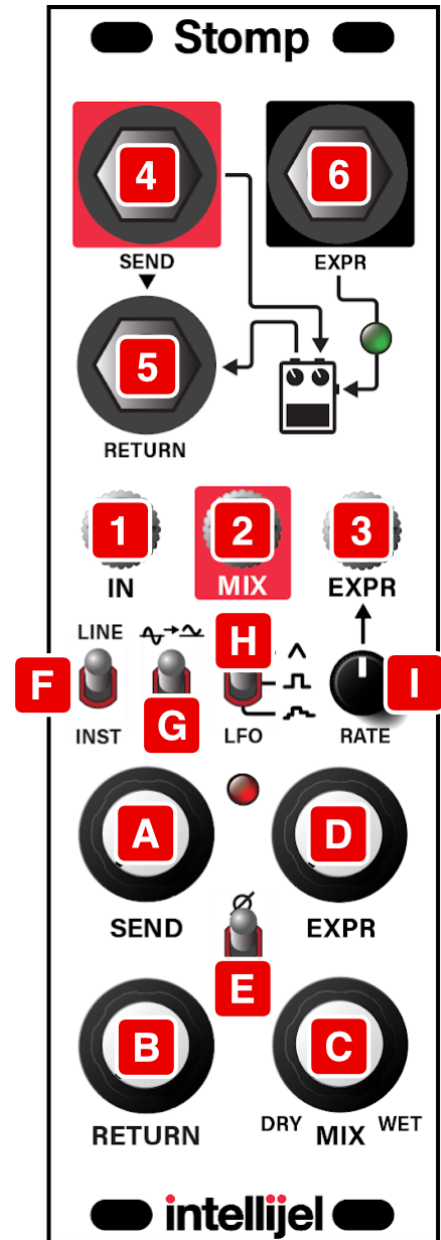
[I] RATE knob - This knob sets the rate at which the internally generated LFO oscillates. This LFO is normalled to the **EXPR [3]** input, and is used as the modulation source that's sent out the ¼" TRS **EXPR [6]** jack for controlling the EXPRESSION parameter on an external FX pedal.

The **RATE** knob sets an LFO rate from 0Hz (fully counterclockwise) to 40Hz to OFF (fully clockwise).

When the **RATE** knob is fully clockwise, the LFO turned off and the **EXPR Level [D]** knob is used to manually control the voltage sent out the **EXPR [6]** jack. In this situation, the **EXPR Level [6]** knob controls the full voltage range.

When the **RATE** knob fully counterclockwise, the LFO is stalled at 0Hz, and the maximum voltage sent out the **EXPR [6]** jack is frozen at its current level. The **EXPR LEVEL [D]** knob will then manually set an output voltage between 0V and the frozen voltage.

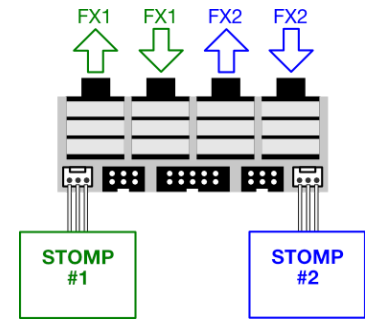
*NOTE: Patching a cable into the **EXPR [3]** jack disables the internal LFO, and this knob no longer affects the signal sent to the ¼" TRS **EXPR [6]** jack.*



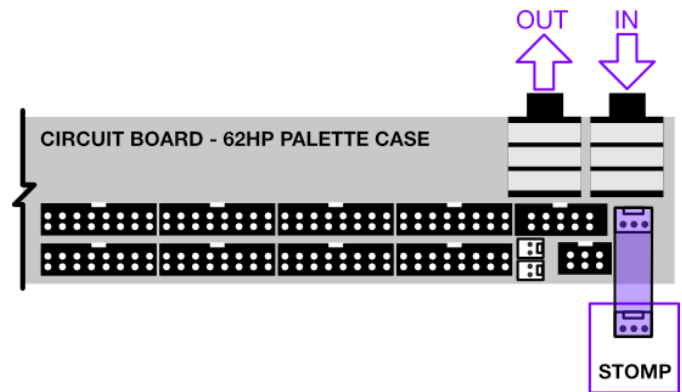
BACK PANEL

The back panel features a 3-pin link connector, which allows you to connect to remote ¼" send/return jacks, such as those on a Palette case, a 7U Performance Case, or even a Pedal IO Jacks 1U module. Although Stomp has its own, built-in SEND [4] and RETURN [5] jacks on the front panel, the 3-pin link connector gives you additional routing flexibility.

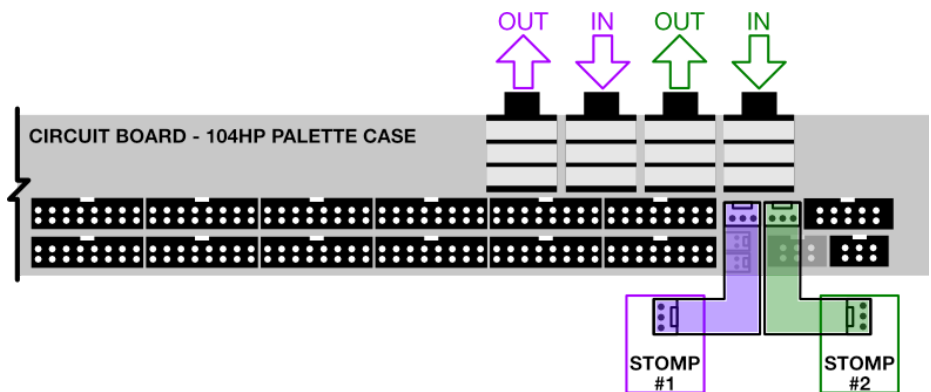
Connecting Stomp to a 7U Performance Case :



Connecting Stomp to a Palette 62HP Case :



Connecting Stomp to a Palette 104HP Case :



FIRMWARE UPDATES

Firmware updates, if available, are contained within the latest *Intellijel Firmware Updater* application, which you can download from the product's page on the Intellijel.com website. The application is available in both Macintosh and Windows formats, and will install firmware into your module over USB. Use the drop-down lists at the top of the application to select the product you wish to update, and the firmware version you want to install. Click the **Instructions** button to read specific instructions for updating your module.

1.0 (July 2023)

- Initial release

TECHNICAL SPECIFICATIONS

Width	8 hp
Maximum Depth	35 mm
Current Draw	47 mA @ +12V 13 mA @ -12V