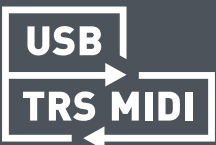


EC1

single head dTape echo

USER MANUAL



strymon®

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Knobs and Switches

Front Panel Controls

REC LEVEL

The 3-way toggle switch selects the gain of the signal fed into the virtual “record head,” allowing you to optionally push the echo machine harder for more saturation on the repeats:

low: (left position) unity gain with optimized bias for the cleanest repeats

med: (middle position) 6dB input signal boost, with increased bias for slightly saturated repeats

high: (right position) 12dB input signal boost with further increased bias for heavily saturated repeats

TIME

Controls the delay time (the virtual equivalent of sliding the record head closer to or farther away from the playback head), from 50 ms to 1 second. All the intricacies of a sliding record head tape echo are faithfully reproduced so that adjusting the control while repeats are happening can produce interesting, authentic audio effects.

TAPE AGE

Controls the bandwidth of the tape, just as it would change over time in a physical tape delay machine. As regular tapes wear out, their bandwidth becomes limited. The **TAPE AGE** control recreates this wear effect. Set to minimum for a fresh, full-bandwidth tape. As the knob is turned clockwise, higher frequencies are reduced.

REPEATS

Varies the number of delay repeats from one to runaway, saturated oscillation.* Set to 3 o’clock for sustained, infinite repeats without runaway.



***NOTE:** Runaway oscillation can get loud very quickly! Avoid using short delay **TIME** with high **REPEATS** settings that can create runaway oscillation.

Knobs and Switches

Front Panel Controls

LED INDICATOR

Blinks at the tempo of the delay **TIME** when the effect is engaged.* Use the **FOOTSWITCH** to engage and disengage the effect. Also lights or flashes additional colors when configuring Live Edit and Power Up Mode features (see [page 9](#)).



MIX

Controls the balance of dry and wet signals from 100% dry at minimum to 100% wet at maximum. 50/50 mix is at the 3 o'clock position when **REC LEVEL** is set to low. (See [page 13](#) for Dry Signal selection.)

MECHANICS

Controls the amount of mechanically-related speed fluctuations and media irregularities, including friction, creases, splices, and contaminants. Set to minimum for a fresh, clean recording medium. Set to maximum for a recording medium that is in need of service. The left half of the knob increases low-speed fluctuations, while the right half settings bring in high-speed irregularities.

FOOTSWITCH

Engages and disengages the effect. The **RED** LED on at the top of the pedal indicates that the effect is engaged.

Push and hold the **FOOTSWITCH** for *1 second* to enter/exit Tap Mode, as covered on the next page.

Push and hold the **FOOTSWITCH** for *2 seconds* to enter Save Mode (see [page 33](#)), or to configure Expression Pedal parameter assignments (see [page 18](#)).

***NOTE:** This LED behavior applies when the pedal is not in Onboard TAP Mode. See [page 5](#).

Knobs and Switches

Onboard Tap Mode

Press and hold the **FOOTSWITCH** for 1 second to enter/exit Onboard Tap Mode (the LED blinks **BLUE** to indicate Tap Mode) and tap quarter notes to set your delay time.* The LED will flash to indicate the tempo. Maximum tap range is 1 second.

The **TIME** knob sets the **TAP DIVISION** when in Tap Mode. The **TAP DIVISION** options, from minimum to maximum on the **TIME** knob, are: ♪³ **EIGHTH TRIPLET**, ♪ **EIGHTH**, ♪ **DOTTED EIGHTH**, and ♪ **QUARTER** note.



***NOTE:** Optionally configure an external footswitch for **External Tap**, **Favorite**, or **Infinite Mode** functionality. (See [page 22](#).)

When using an External Tap Mode switch, follow the above instructions in Onboard Tap Mode to set your **TAP DIVISION** options—the current **TAP DIVISION** setting is utilized for both Onboard and External Tap Modes.

Rear Panel I/O and Control

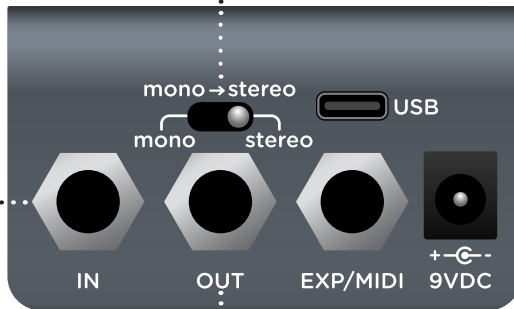
I/O MODE SELECTOR

mono: (left position) use with a mono input signal, such as a guitar. Output is mono. Defaults to True Bypass.

mono → stereo: (middle position) use with a mono input signal. Output is stereo. Bypass mode is Buffered Bypass.

stereo: (right position) use with a stereo input signal. When used with stereo cable connections to the OUT jack, output is true stereo.* Bypass mode is Buffered Bypass.

*Stereo I/O requires a TRS adapter or cable (see the following examples).

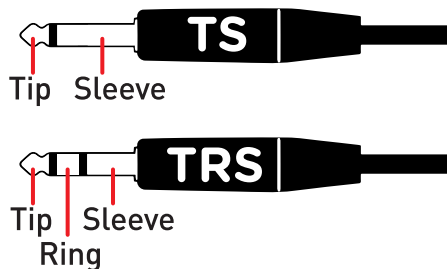


IN
 (TRS jack) High impedance, ultra low-noise, discrete Class A JFET stereo preamp.

.....**OUT**
 (TRS jack) Low impedance stereo output.

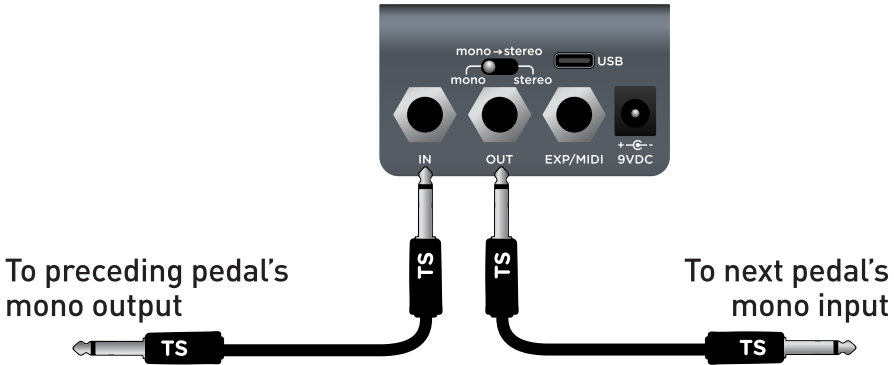
Mono and Stereo I/O Cable Connections

The EC-1 **IN** and **OUT** jacks can accept either TS or TRS type 1/4" cables for mono or stereo connections, respectively:

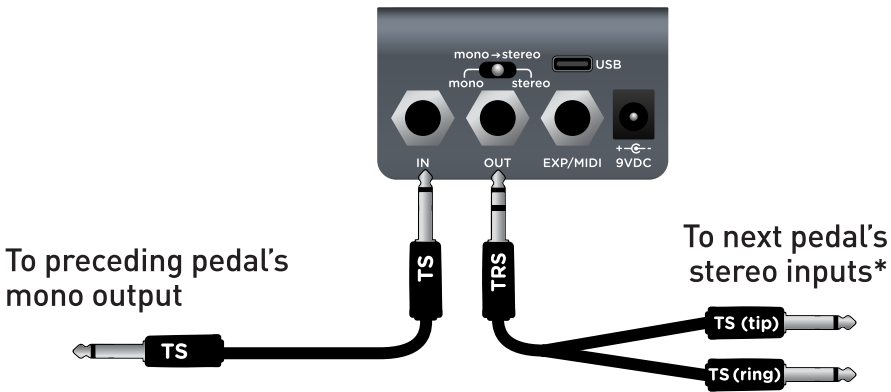


NOTE: With a TRS stereo connection, the **Tip** carries the **left** signal and the **Ring** carries the **right** signal.

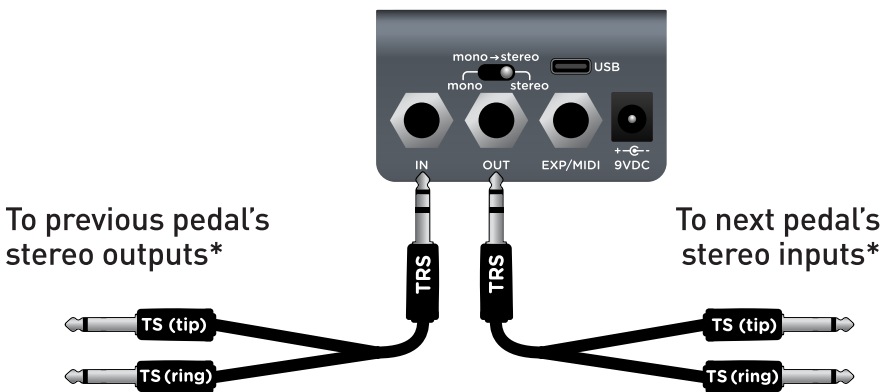
Mono In - Mono Out: To connect EC-1 in a mono signal chain, use TS cables for both EC-1's IN and OUT. Set the I/O Selector switch to **mono**.



Mono In - Stereo Out: To feed a mono signal into EC-1, use a TS cable to EC-1's IN. Connect a TRS + dual TS cable to EC-1's OUT to route EC-1's stereo signal to a stereo pedal. Set the I/O Selector switch to **mono → stereo**.



Stereo In - Stereo Out: To connect EC-1 in a stereo signal chain, use TRS + dual TS cables into both EC-1's IN and OUT. Set the I/O Selector switch to **stereo**.



***NOTE:** Alternatively, you can use a TRS - TRS cable when connecting a pedal with a TRS stereo input or output (such as connecting to the TRS stereo input of a Strymon cloudburst stereo reverb).

Rear Panel I/O and Control (continued)

USB-C®

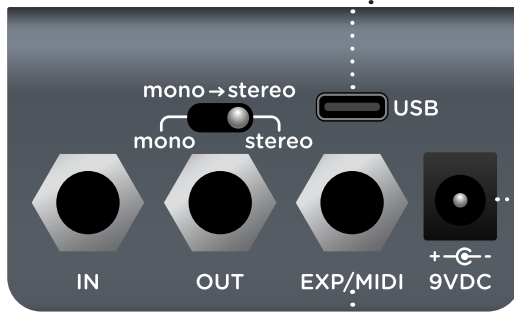
Computer connection for MIDI I/O and firmware updates.

9VDC

Only use an adapter with the following rating:

- 2.1mm, center-negative
- 9VDC
- 250mA minimum

(Adapter sold separately.)



EXP/MIDI

Multifunction communication jack for external control of EC-1’s features and functions. Can be set to operate in one of the following modes. (See [“Configuring the EXP/MIDI Jack” on page 15](#) for details.)

Expression Pedal Mode (see [page 18](#)).

Favorite Mode (see [page 19](#)).

Tap Mode (see [page 21](#)).

Infinite Mode (see [page 21](#)).

MIDI Mode (see [“Configuring EC-1 for MultiSwitch Plus” on page 24](#) or [“Saving Presets in MIDI Mode” on page 33](#)).

Live Edit Functions

Use the following steps to access the EC-1 “Live Edit mode” secondary functions.

Preamp Select

EC-1 includes an optional preamp model, which offers the beloved sonic characteristics of an early tape machine’s tube preamp and is applied to both the dry and the EC-1 processed signals.*

NOTE: This preamp is independent of the EC-1’s **REC LEVEL** feature.

- 1 Press and hold the **ON** footswitch, and *within one second* turn the **REPEATS (PREAMP SELECT)** knob while holding the footswitch to select the preferred Preamp option. (If the switch is held for longer than one second without turning the **REPEATS** knob, the pedal will enter **TAP** mode.)
 - **Preamp Off: RED** - Bypasses the preamp.
 - **Modded Tube Preamp Enabled: AMBER** - (the default) A tube preamp modded for a more balanced frequency response.
 - **Original Tube Preamp Enabled: GREEN** - A tube preamp with its inherent accentuated highs.



- 2 Release the **ON** footswitch once you’ve made your selection to exit and store your Preamp Select setting.

TIP: The Tube Preamp also offers a **Preamp Boost** option—see the next page.

NOTE: The Preamp Select setting is saved per Favorite setting or MIDI preset.

***NOTE:** Applies to dry signal when set to Digital Mode. See [page 13](#).

Live Edit Functions

Preamp Boost

When the Live Edit - **Preamp Select** option is set to Modded Tube Preamp or Original Tube Preamp (see the preceding page), this function allows a preamp volume boost to be configured.

- 1 Press and hold the **ON** footswitch, and *within one second* turn the **MIX (PREAMP BOOST)** knob while holding the footswitch to smoothly adjust the boost level from 0dB at minimum (unity gain, the default setting) to +6dB at maximum. (If the footswitch is held for longer than one second without turning the **MIX** knob, the pedal will enter **TAP** mode.)



- 2 Release the **ON** footswitch once you've made your adjustment to exit and store your Preamp Boost setting.

NOTE: The Preamp Boost setting is saved per Favorite setting or MIDI preset.

Power Up Modes

Bypass Mode for Mono I/O

With the rear **I/O Mode Selector** set to mono, the EC-1 pedal is set for True Bypass as the default.* Setting EC-1 to Buffered Bypass Mode preserves the high frequency response of your instrument's signal through your pedal chain and long cable runs.

***NOTE:** Whenever the rear **I/O Mode Selector** set to **mono** → **stereo** or **stereo**, the bypass mode is automatically set to Buffered Bypass.

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Toggle the **REC LEVEL (BYPASS MODE)** switch to choose between True or Buffered Bypass Modes. The LED will change color to indicate the current status as you toggle the switch.
 - **True Bypass:** set the switch to the **low** (left) or **med** (middle) position. The LED lights **GREEN** (default).
 - **Buffered Bypass:** set the switch to the **high** (right) position. The LED lights **RED**.
- 3 Press the **FOOTSWITCH** to store the Bypass Mode and begin using EC-1.

NOTE: The Bypass Mode setting persists across power cycles.

Power Up Modes

Spillover Mode

Setting EC-1 to Spillover Mode allows the wet delay signal of the currently selected preset to “spill” into bypass—or into the next loaded preset if you’re using a Multiswitch Plus or MIDI for preset switching.

NOTE: Because of the buffer architecture, the current preset must be active for at least 5 seconds before Spillover between presets will be operational. Spillover is available immediately when bypassing the effect.

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Turn the **MECHANICS (SPILLOVER MODE)** knob to set Spillover Mode on or off. The LED will change color to indicate the current status as you turn the knob.

- Spillover Mode Off: **AMBER** (default, minimum)
- Spillover Mode On: **PURPLE** (maximum)

NOTE: When Spillover is set to On, Bypass Mode is set to Buffered Bypass.

- 3 Press the **FOOTSWITCH** to store the Spillover Mode setting and begin using EC-1.

NOTE: The Spillover Mode setting persists across power cycles and is not saved per preset.

Power Up Modes

Dry Signal

The Dry Signal can be set in one of three different modes.

- **Digital Mode** uses the converted dry signal and allows the **MIX** knob to dial out the dry signal when turned past the 3 o'clock position.
- **Analog Mode** keeps the dry signal in analog.*
- **Kill Dry Mode** mutes the analog dry path signal, allowing the **MIX** knob to strictly control the “wet” effect output level. This is often preferable if using EC-1 within an amp’s parallel effects loop or a mixer’s aux or effects send.

***NOTE:** The optional Live Edit - Preamp Select feature (see [page 9](#)), when enabled, is not applied to dry signal in Analog Mode.

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Turn the **REPEATS (DRY SIGNAL)** knob to select one of the three Dry Signal options. The LED will change color to indicate the current status as you turn the knob.
 - **Digital Mode:** **GREEN** (default, minimum knob position)
 - **Analog Mode:** **RED** (50% knob position)
 - **Kill Dry Mode:** **BLUE** (maximum knob position)
- 3 Press the **FOOTSWITCH** to store the Dry Signal setting and begin using EC-1.

NOTE: The Dry Signal setting persists across power cycles and is not saved per preset.

LED Brightness

You can adjust the brightness of EC-1's LED to optimize visibility in any environment or lighting conditions.

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Press and hold the **FOOTSWITCH** again and turn the **MECHANICS (LED BRIGHTNESS)** knob to adjust the brightness of the LED from low to high (the default). Release the **FOOTSWITCH** when your adjustment is complete.
- 3 Press and release the **FOOTSWITCH** to store the LED Brightness setting and begin using EC-1.

NOTE: The LED Brightness setting persists across power cycles and is not saved per preset.

Power Up Modes

Configuring the EXP/MIDI Jack

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



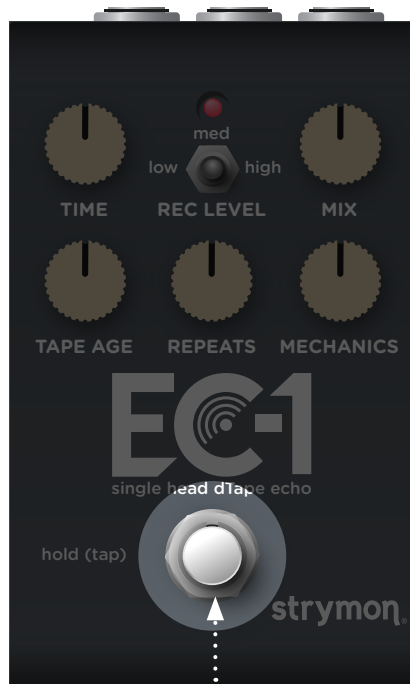
- 2 Turn the **MIX (EXP/MIDI JACK)** knob to select the function of the rear panel's **EXP/MIDI** jack. The LED will change color to indicate the current status as you turn the knob.

- **Expression Pedal Mode: GREEN** (default, minimum) - Using a standard TRS expression pedal, allows continuous control over any of the knobs. (See [page 18](#) for details.)
- **Favorite Mode: AMBER** (11 o'clock) - Using a Strymon MiniSwitch, allows you to recall a Favorite setting. (See [page 19](#) for details.)
- **Tap Mode: RED** (12 o'clock) - Using a Strymon MiniSwitch, allows you to tap in a tempo in quarter notes for your delay repeats to follow. (Also, see the **FOOTSWITCH** description on [page 4](#) for note division options.) Additionally, when configured for Tap Mode, pressing and holding the external switch will perform infinite delay repeats.
- **Infinite Mode: PURPLE** (2 o'clock) - Using a Strymon MiniSwitch allows for infinite delay repeats of the input signal when the switch is held—essentially the same as turning the **REPEATS** knob to maximum. (See [page 21](#) for configuration details.)



Configuring the EXP/MIDI Jack (continued)

- **MIDI Mode: BLUE** - Allows for the use of a Strymon MultiSwitch Plus or an external MIDI controller:
 - **MultiSwitch Plus** - A MultiSwitch Plus device can be set to PRESET Mode to access three presets or to CUSTOM Mode, where its switches control TAP, FAVORITE, and INFINITE. (Also, see [“Configuring EC-1 for MultiSwitch Plus” on page 24.](#))
 - **MIDI** - Full MIDI functionality is available by sending MIDI Program Change messages via 1/4” TRS MIDI connection using a [Strymon Conduit](#) or MIDI EXP cable. Up to 300 presets are available via MIDI. (See [“Saving Presets in MIDI Mode” on page 33.](#))



- 3 Press the **FOOTSWITCH** to store the selected EXP/MIDI Jack Mode and begin using EC-1.

NOTE: The EXP/MIDI jack setting persists across power cycles and is not saved per preset.

External Control

Syncing to MIDI Clock for Delay Time

Once configured for MIDI Mode, EC-1 will automatically respond to MIDI Clock when received via the EXP/MIDI jack, allowing EC-1's delay time to be synced to the incoming MIDI Clock BPM.

NOTE: The MIDI Clock tap divisions follow the settings configured for the **Onboard Tap Mode: EIGHTH TRIPLET, EIGHTH, DOTTED EIGHTH, and QUARTER** note—see [“Onboard Tap Mode” on page 5](#).

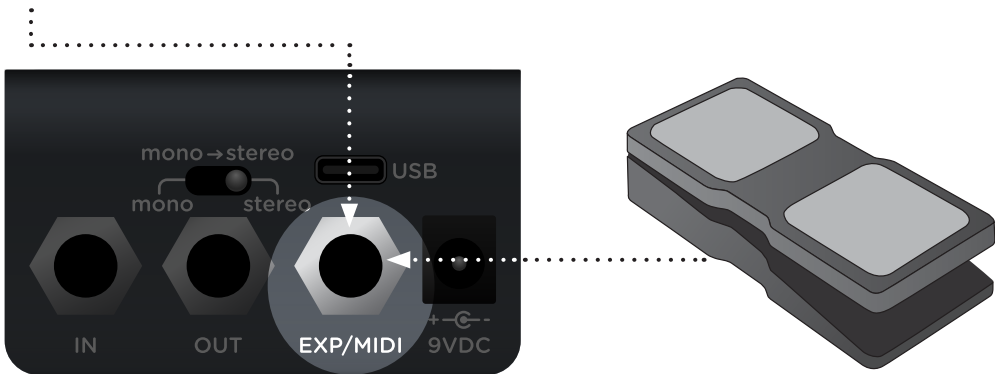
NOTE: Incoming MIDI Clock will also be sent to EC-1's MIDI Out when the MIDI Out is set to THRU. See [page 32](#).

External Control

Expression Pedal Setup

Use a TRS expression pedal to remotely control the knobs of EC-1. By default, EC-1 is configured so that an expression pedal controls the **MIX** knob.

- 1 Configure the **EXP/MIDI** jack for Expression Mode. (See [page 15](#) for configuration instructions.)
- 2 Connect an expression pedal to the **EXP/MIDI** jack of EC-1 using a TRS cable.



- 3 Press and hold the **FOOTSWITCH** for at least 3 seconds, until the LED blinks **GREEN**.
- 4 Rock your expression pedal to the **HEEL** position. The **GREEN** LED will stop blinking and remain lit.
- 5 Set the knob(s) you would like to control to the desired settings for the **HEEL** position of the expression pedal.
- 6 Rock the expression pedal to the **TOE** position. The LED will turn **RED**.
- 7 Set the knob(s) you would like to control to the desired settings for the **TOE** position of the expression pedal.
- 8 Press and release the EC-1 **FOOTSWITCH** to exit and store your expression pedal setup.

NOTE: Your expression pedal assignment is saved per Favorite setting or MIDI preset.

NOTE: If EC-1 is set to respond to MIDI EXPRESSION and the EXP/MIDI jack is set to MIDI Mode, you can send MIDI CC# 100 with values 0 (heel) to 127 (toe) to perform the expression pedal setup.

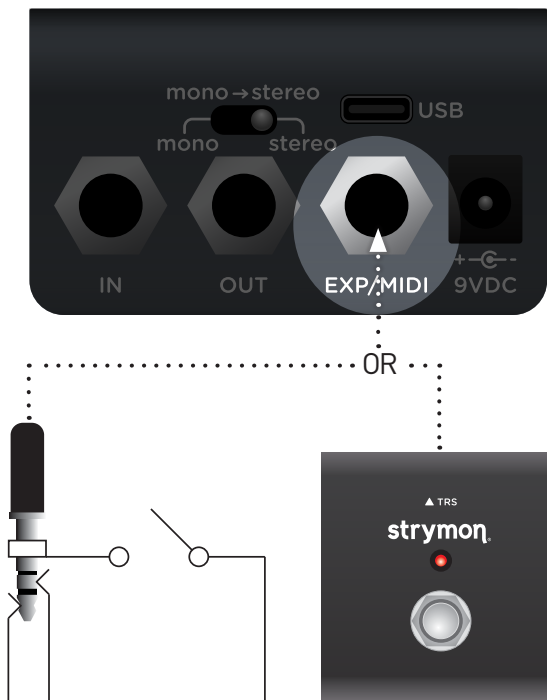
External Control

Favorite Switch Setup and Compare Mode

Connect MiniSwitch or other external latching footswitch to store and recall your Favorite setting.

NOTE: Your Strymon MiniSwitch's internal jumper switch must be set to the factory-default **FAV/BOOST Mode** setting for Favorite Switch functionality. If you've changed the setting of this jumper switch, you'll need to change it back to **FAV/BOOST Mode**—see [page 21](#).

- 1 Configure the **EXP/MIDI** jack for Favorite Mode. (See [page 15](#) for more info.)
- 2 Connect your MiniSwitch (or, optionally, an external latching switch with a TRS cable) to the **EXP/MIDI** jack.



- 3 Dial in your desired sound.
- 4 To save your sound as the new Favorite setting, press and hold the EC-1 footswitch for at least 3 seconds, until the LED blinks **GREEN**. Then, press and hold the EC-1 footswitch until the LED lights **BLUE** to save the Favorite setting.

Step on the external footswitch to toggle between your current and Favorite settings on EC-1.

Favorite Switch Setup and Compare Mode (continued)

Compare Mode

With the Favorite or MIDI preset recalled, as a knob or switch is adjusted, the LED flashes **GREEN** when the current knob or toggle switch position matches the setting of the preset.

NOTE: Power Up Mode settings are applied globally and not stored individually per preset.

NOTE: Saving presets works differently when using MIDI. (See [page 33](#) for details.)

NOTE: The Favorite setting is stored at MIDI Program Change location 0.

External Control

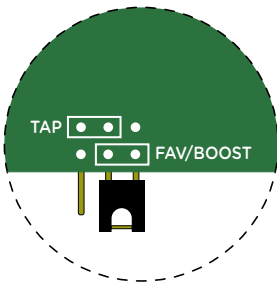
Tap and Infinite Mode Jumper Switch Configuration

You can use your Strymon MiniSwitch (sold separately) or an external, non-latching (momentary) type switch to access EC-1's Tap Tempo and Infinite Mode features.

The Strymon MiniSwitch includes an internal jumper switch that must be changed from its factory **FAV/BOOST Mode** setting to work for EC-1's Tap and Infinite switching. Follow these steps to configure the MiniSwitch's jumper switch.

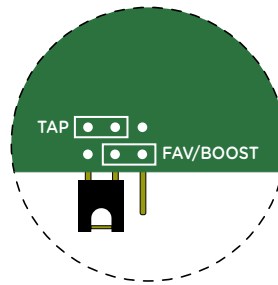
- 1 Unscrew the four screws on the bottom of the MiniSwitch chassis.
- 2 Once opened, locate the small jumper underneath the circuit board and change it from the center and right pins (**FAV/BOOST**) to the center and left pins (**TAP**).

Close-up view of the MiniSwitch circuit board jumper switch



FAV/BOOST Mode

For EC-1's Favorite Switch mode—place the jumper on the two **RIGHT** pins. (This is how MiniSwitch is configured from the factory.)



TAP Mode

For EC-1's Tap and Infinite Switch functionality—place the jumper on the two **LEFT** pins.

- 3 Once the jumper configuration is complete, secure the cover back on your MiniSwitch. See the following External Tap and Infinite Mode setups to configure your external footswitch.

External Control

External Tap Mode Switch Setup

Connect a MiniSwitch or other external momentary footswitch with a TRS cable to tap in a delay time. (As covered on [page 5](#), you can also use EC-1's **FOOTSWITCH** for Onboard Tap Mode.) Additionally, when configured for Tap Mode, pressing and holding the external switch will perform Infinite Repeats.

NOTE: Your Strymon MiniSwitch's internal jumper switch must be changed from the factory-default **FAV/BOOST** to the **TAP** setting for External Tap Mode functionality—see [page 21](#).

- 1 Configure the **EXP/MIDI** jack for External Tap Mode. (See [page 15](#) or more info.)
- 2 Connect an external switch with a TRS cable to the **EXP/MIDI** jack.



- 3 Tap in a tempo in quarter notes to set the delay time. The EC-1 pedal's LED will flash to indicate the tempo. Maximum tap range is 1 second. Or, press and hold the external switch for infinite delay repeats.

NOTE: External Tap Mode utilizes the current **TAP DIVISION** setting. To change the **TAP DIVISION** setting, you must use the EC-1 pedal's **FOOTSWITCH** to enter Onboard Tap Mode. See [page 5](#).

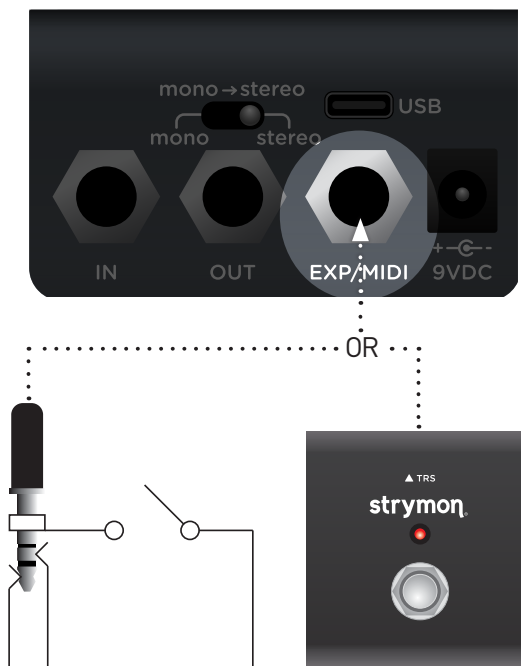
External Control

Infinite Mode Switch Setup

Connect a MiniSwitch or other external momentary footswitch with a TRS cable to provide infinite delay repeats on demand, whenever the switch is held.

NOTE: Your Strymon MiniSwitch's internal jumper switch must be changed from the factory-default **FAV/BOOST Mode** to the **TAP Mode** setting for Infinite Mode Switch functionality—see [page 21](#).

- 1 Configure the **EXP/MIDI** jack for Infinite Mode. (See [page 15](#) or more info.)
- 2 Connect an external switch with a TRS cable to the **EXP/MIDI** jack.



- 3 **To Engage Infinite Mode:** Press and hold MiniSwitch to engage infinite repeats. Release the external footswitch to disengage Infinite mode.

External Control

Configuring EC-1 for MultiSwitch Plus

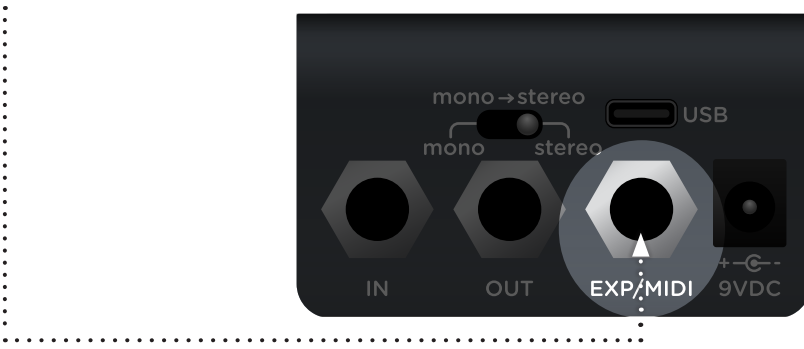
Configure EC-1 and a Strymon MultiSwitch Plus (sold separately) for additional external control.

- 1 Press and hold the EC-1 **FOOTSWITCH** while connecting power to the pedal. Hold for at least 2 seconds, until the LED blinks **RED**.
- 2 Turn the **TIME** knob all the way counter-clockwise to set the **MIDI CHANNEL** to Channel 1. The LED should be **GREEN**.
- 3 Turn the **TAPE AGE** knob to select either one of the following **MIDI OUT** options:
 - Send MIDI CC and Other Data: **GREEN**
 - Send Other Data: **AMBER**
- 4 Turn the **MIX** knob all the way clockwise to set the **EXP/MIDI** jack to MIDI Mode. The LED should be **BLUE**.
- 5 Press the EC-1 **FOOTSWITCH** to exit and store these settings.

Configuring MultiSwitch Plus for EC-1

Configure MultiSwitch Plus for use with EC-1 for either **PRESET Mode** for preset selection or **CUSTOM Mode** for TAP - FAVORITE - INFINITE control.

- 1 Connect a TRS cable to EC-1's **EXP/MIDI** jack. Power on EC-1.



- 2 For **PRESET Mode** - Press and hold the **A** footswitch on MultiSwitch Plus while connecting the other end of the TRS cable to any one of the three jacks. The three LEDs on MultiSwitch Plus will blink **GREEN** when you release the **A** footswitch. See [page 26](#).



⋮
OR
⋮

For **CUSTOM Mode** - Press and hold the **C** footswitch on MultiSwitch Plus while connecting the other end of the TRS cable into any one of the three jacks. The three LEDs on MultiSwitch Plus will blink **GREEN** when you release the C footswitch. See [page 27](#).

External Control

Using MultiSwitch Plus in Preset Mode

When using EC-1 with MultiSwitch Plus in Preset Mode, the three footswitches provide access to Presets 1, 2, and 3.



NOTE: Footswitches **A**, **B**, and **C** on MultiSwitch Plus correspond to MIDI Program Changes 1, 2, and 3.

- 1 Step on a switch that is not illuminated to recall the corresponding preset.
- 2 Step on an illuminated switch to bypass EC-1.

Saving EC-1 Presets with MultiSwitch Plus:

- 1 Dial in the sound that you would like to save as your preset on EC-1.
- 2 Press and hold the EC-1 **FOOTSWITCH** for at least 3 seconds, until its LED blinks **GREEN**.
- 3 Press the **A**, **B**, or **C** MultiSwitch Plus footswitch to save the current state of the pedal to the desired location.

Using MultiSwitch Plus in Custom Mode

When using EC-1 with MultiSwitch Plus in Custom Mode, the three footswitches provide access to Tap Tempo, Favorite Preset selection, and Infinite Repeats.



- Tap on footswitch **A** to set the TAP TEMPO rate for your EC-1 repeats to follow.
- Press and release footswitch **B** to load your designated FAVORITE preset (see below).
- Press and hold footswitch **C** for INFINITE delay repeats while the footswitch is held.

Saving an EC-1 Favorite Preset with MultiSwitch Plus:

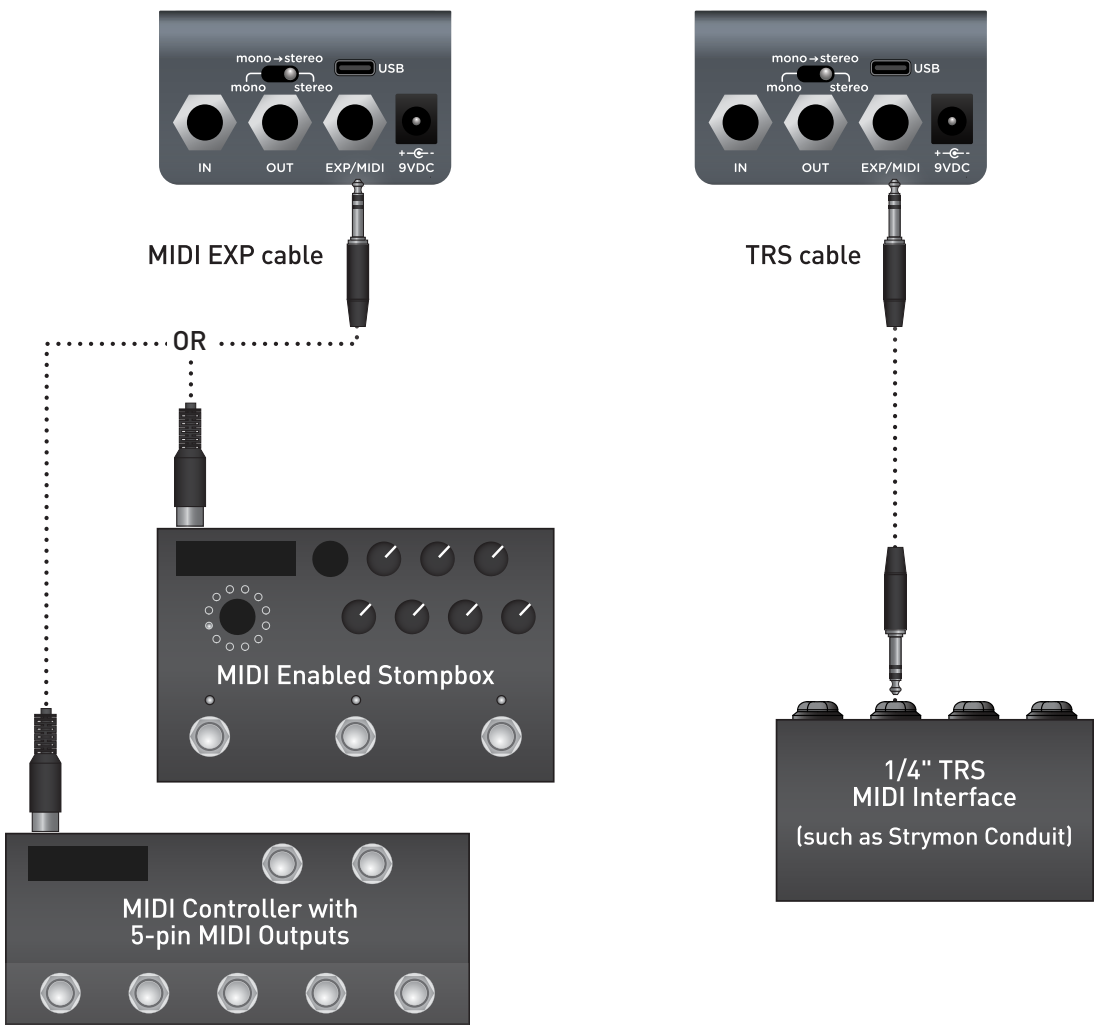
- 1 Dial in the sound that you would like to save as your Favorite on EC-1.
- 2 Press and hold the EC-1 footswitch for 3 seconds until its LED blinks **GREEN**, then release the footswitch.
- 3 Press and release the **B** MultiSwitch Plus footswitch to save the current state of the pedal as your Favorite preset to this location.

MIDI Functionality

Configuring EC-1 to Use MIDI

Using MIDI unlocks a set of tools that can be used to load any of EC-1's 300 preset locations using a suitable MIDI controller or interface connected to the EC-1 **EXP/MIDI** jack. This requires a Strymon MIDI EXP cable or a MIDI controller/interface, such as [Strymon Conduit](#), with at least one quarter-inch output.

NOTE: When using a Strymon MIDI EXP Cable, the MIDI OUT Mode must be set to Off. (See [page 32](#) for details.)



Configuring EC-1 to Use MIDI (continued)

STEP 1 – SET EXP/MIDI JACK TO MIDI MODE

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Turn the **MIX (EXP/MIDI JACK)** knob clockwise until the LED is **BLUE** (maximum) to select MIDI Mode.

NOTE: MIDI data is received on the **TIP** of the TRS connection of the **EXP/MIDI** jack.

Configuring EC-1 to Use MIDI (continued)

STEP 2 – SET MIDI CHANNEL



3 Turn the **TIME (MIDI CHANNEL)** knob to set the MIDI communication channel. The LED indicates status. Your knob selections are as follows:

- Channel 1: **GREEN** (default, minimum)
- Channel 2: **AMBER** (10 o'clock)
- Channel 3: **RED** (12 o'clock)
- Channel 4-16: **BLUE** (maximum) - set by next received MIDI Program Change message, requires 1/4" MIDI connection

Once the LED turns **BLUE**, it will blink until the pedal receives a MIDI Program Change message. Once a message is received, the pedal will be set to the MIDI channel that carried the message and exits the Power Up Mode to allow you to begin using EC-1. (If you've successfully configured MIDI Channel 4-16, you can skip item **4** on the next page.)

STEP 2 – SET MIDI CHANNEL (CONTINUED)



- 4 Press the footswitch to exit and store your MIDI Channel setting and begin using EC-1.

NOTE: A simple way to check that communication is working is to send CC #102 with a value of 127 when the footswitch is bypassed. This will enable the footswitch (and the LED will light **RED**) if MIDI is properly connected and configured.

NOTE: If you are only sending data to EC-1 using the Strymon MIDI EXP cable, the MIDI OUT Mode must be set to **OFF**. (See [page 32](#) for details on configuring the MIDI OUT Mode.)

NOTE: MIDI Channel assignment is not saved per Favorite setting or MIDI preset.

Configuring EC-1 to Use MIDI (continued)

STEP 3 – SET MIDI OUT MODE

- 1 Press and hold the footswitch for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Turn the **TAPE AGE (MIDI OUT)** knob to select what kind of MIDI data is sent from EC-1 to other MIDI devices. The LED will flash momentarily to indicate your selection.
 - **OFF: RED** (default, minimum) - No MIDI messages are sent out of EC-1.
 - **THRU: BLUE** (11 o'clock) - Incoming MIDI messages are sent to the MIDI Out without any additional MIDI messages generated by EC-1.
 - **SEND CC, OTHER: GREEN** (1 o'clock) - MIDI CC and Sysex messages generated by EC-1 are sent to the MIDI Out.
 - **SEND OTHER: AMBER** (maximum) - Sysex messages generated by EC-1 are sent to the MIDI Out.
- 3 Press the **FOOTSWITCH** to store the MIDI Out Mode and exit.

NOTE: MIDI data is sent from the **RING** of the TRS connection of the **EXP/MIDI** jack.

MIDI Functionality (continued)

Saving Presets in MIDI Mode

When in MIDI Mode, the currently loaded settings can be saved to any of EC-1's 300 preset locations at any time.

- 1 To enter Save Mode, press and hold the **FOOTSWITCH** for at least 3 seconds, until the LED blinks **GREEN** to indicate that EC-1 is waiting to receive a MIDI Program Change message.



- 2 To save the current state of the pedal to the currently loaded preset location, press and hold the footswitch for at least 3 seconds until the LED lights **BLUE**.



To save the current state of the pedal to any preset location, send the unit a MIDI Program Change on EC-1's currently selected MIDI channel. For example:

- Send MIDI Program Change #10 to save the preset to the corresponding memory location on the pedal.
- To recall this preset, send MIDI Program Change #10 from your MIDI controller or sequencer.

MIDI Specifications

MIDI Program Changes

Your EC-1 pedal contains 300 preset locations, numbered sequentially from 0-299. Because MIDI Program Change messages have a maximum number of 128 (0-127), the presets are grouped into three MIDI patch banks.

MIDI BANK 0 = PRESETS 0-127

MIDI BANK 1 = PRESETS 128-255

MIDI BANK 2 = PRESETS 256-299

MIDI PROGRAM Favorite setting (accessible via MiniSwitch)

CHANGE 0 See [page 19](#) for details.

MIDI PROGRAM MultiSwitch Plus - footswitch 1

CHANGE 1

MIDI PROGRAM MultiSwitch Plus - footswitch 2

CHANGE 2

MIDI PROGRAM MultiSwitch Plus - footswitch 3

CHANGE 3

MIDI PROGRAM Manual Mode (“knobs”)

CHANGE 127

NOTE: Some MIDI applications and controllers start with MIDI Program Change 1 instead of 0. In these setups, increment the MIDI Program Change locations above by one.

The EC-1 pedal always powers up in MIDI Patch Bank 0, so if you plan to stay within the first 127 presets, simply send a standard MIDI Program Change message to load a preset.

If you will be using MIDI Banks 1 and/or 2, it is advisable to send a standard MIDI Bank Change message (MIDI CC# 0 with a value equal to the MIDI Bank#) before each MIDI Program Change.

Selecting Program Change 127 within **any** MIDI Bank 0, 1, or 2 will put EC-1 into Manual Mode. In this mode, EC-1 will be set to the current knob and switch settings. No preset data can be stored at this preset location.

MIDI Specifications (continued)

MIDI CCs

CC#	PARAMETER	RANGE	ENUMERATION
0	Bank Select	0-2	(0=Bank 1, 1=Bank 2, 3=Bank 3)
11	Rec Level	1-3	(1=low, 2=med, 3=high)
12	Time	0-127	
13	Tape Age	0-127	
14	Repeats	0-127	
15	Mechanics	0-127	
16	Mix	0-127	
17	Preamplifier Select	0-3	(1=off, 2=modded EP, 3=original EP)
18	Tap Division	0-3	(0=eighth triplet, 1=eighth, 2=dotted eighth, 3=quarter)
19	Preamplifier Boost	0-127	
27	Footswitch	0, 127	(0=release, 1-127=press)
60	MIDI Expression Off/On	0, 127	(0=off, 1-127=on)
63	MIDI Clock Off/On	0-127	(0=off, 1-127=on)
93	Tap	0, 127	(any value)
97	Infinite	0, 127	(0=release, 1-127=hold)
100	Expression Pedal	0-127	(0=heel, 127=toe)
102	Bypass/Engage	0, 127	(0=bypass, 1-127=engage)

NOTE: All on/off parameters are implemented with 0=off and any other value (1-127)=on. They are documented as “0” and “127” because many MIDI controllers send out 0 and 127 for on/off switches.

NOTE: Some MIDI applications and controllers start their MIDI enumeration with 1 instead of 0. In these setups, increment the numbers above by one.

Factory Reset

Performing a Factory Reset restores the pedal to its factory default Power Up functions, and replaces all stored presets with their factory default settings.

- 1 Press and hold the **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the footswitch.



- 2 Press and hold the **FOOTSWITCH** again, and while still holding it down, sweep the **TAPE AGE (FACTORY RESET)** knob from minimum to maximum and back twice. The LED will change colors at the extremes of the knob range and flash **RED** to indicate when the reset is taking place.

- **TURN 1**, from minimum to maximum: **AMBER**
- **TURN 2**, from maximum to minimum: **RED**
- **TURN 3**, from minimum to maximum: **AMBER**
- **TURN 4**, from maximum to minimum and release the **FOOTSWITCH** immediately: The LED flashes **RED**, EC-1 resets and restarts

Factory Reset (continued)

Factory Default Settings

FEATURE	FACTORY DEFAULT SETTING
Bypass Mode:	True Bypass
Spillover Mode:	Off
Dry Signal Mode:	Digital
LED Brightness:	Maximum
EXP/MIDI Jack:	Assigned to Expression Mode and configured to control the MIX knob
MIDI Channel:	1
MIDI OUT Mode:	Off
MIDI Expression:	On

Features

- Handcrafted dTape algorithm for meticulous and nuanced recreation of a single sliding record head tape echo system
- Tape Age control to emulate the sonic consequences of worn tape, where the bandwidth becomes more limited as it ages
- Adjustable Mechanics to provide everything from pristine tape repeats to worn and wobbly artifacts
- Low, Medium, and High selectable Record Level modes allow for the selection of clean to saturated delay repeats
- Four selectable Tap Tempo note divisions (triplet, eighth, dotted eighth, and quarter)
- Preamp options provide vintage tape machine tube preamp emulation for the dry signal—with an adjustable boost level
- Analog dry path option for a zero-latency dry signal that is never converted to digital
- Kill Dry mode to optionally mute the dry signal, providing control for the wet signal only
- Stereo input & stereo output with true stereo throughput (if interfacing with non-TRS gear, requires “TRS to dual TS” adapter or cable for each jack, sold separately)
- True Bypass (electromechanical relay switching)
- Expression pedal input allows the connection of a TRS expression pedal, Strymon MiniSwitch or MultiSwitch Plus, or TRS MIDI connection
- High impedance and ultra-low noise discrete Class A JFET, TRS stereo preamp input
- Full-featured MIDI capability (bi-directional Continuous Controller & Program Change messages and 300 presets)
- USB-C jack for performing firmware updates
- +10dBu maximum input level easily handles instrument and line level signals
- High performance 520MHz ARM Superscalar processor
- 32-bit floating point processing
- Super low noise, high performance A/D and D/A converters
- Strong and lightweight anodized aluminum chassis
- Designed and built in the USA

Specifications

FEATURE	SPECIFICATION VALUE
Input Impedance:	1 Meg Ohm
Output Impedance:	100 Ohm
A/D & D/A:	24-bit 96kHz
Max Input Level:	+10 dBu
Signal/Noise:	116 dB typical
Bypass Switching:	True Bypass (electromechanical relay switching)
Dimensions:	4.5" deep x 2.7" wide x 2.2" tall

Power Adapter Requirements

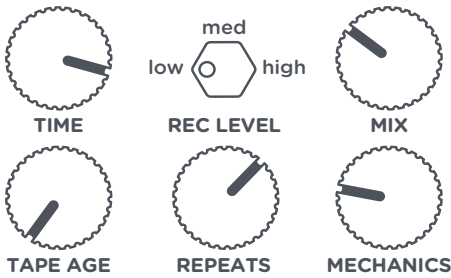
Use an adapter with the following rating: 9VDC, center negative, 250mA minimum. (Adapter sold separately.)

Appendix 1: Sample Settings

Sample Settings

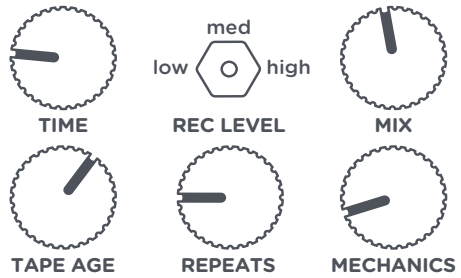
To follow are sample settings to get you started. These are also saved as factory presets, accessible via MIDI Program Change or MultiSwitch Plus, as indicated.

Clean Machine



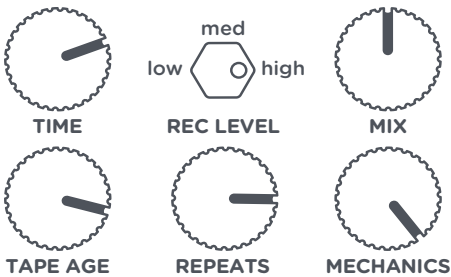
MIDI Program Change 0
MiniSwitch Favorite

Bounce



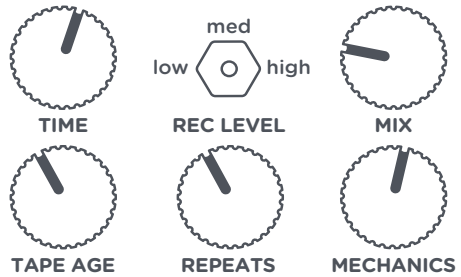
MIDI Program Change 1
MultiSwitch Plus A

Service Required



MIDI Program Change 2
MultiSwitch Plus B

Hands Solo



MIDI Program Change 3
MultiSwitch Plus C

NOTE: These Factory Presets are all saved with the Live Edit Functions at their default settings (see [page 9](#)).

Appendix 2: Power Up Modes Quick Reference

Power Up Modes - Quick Reference

Global parameters and functions can be accessed via a power up procedure. All power up functions persist through power cycles.

- 1 Press and hold the EC-1 **FOOTSWITCH** for at least 2 seconds while powering up EC-1. Once the LED flashes **RED**, release the **FOOTSWITCH**.
- 2 Adjust the desired functions with the controls noted below.
- 3 Press the **FOOTSWITCH** to store your changes and exit Power Up Mode.

POWER UP MODE	OPTIONS
BYPASS MODE FOR MONO I/O See page 11 for an illustrated description.	Set the REC LEVEL switch - status shown on the LED <ul style="list-style-type: none"> • True Bypass: switch in the low (left) or mid (middle) position - LED GREEN (default) • Buffered Bypass: switch in the high (right) position - LED RED
SPILLOVER MODE See page 12 for an illustrated description.	Turn the MECHANICS knob - status shown momentarily on the LED <ul style="list-style-type: none"> • Off: AMBER (default, minimum knob position) • ON: PURPLE (maximum knob position)
DRY SIGNAL See page 13 for an illustrated description.	Turn the REPEATS knob - status shown momentarily on the LED <ul style="list-style-type: none"> • Digital: GREEN (default, minimum knob position) • Analog: RED (50% knob position) • Kill Dry: BLUE (maximum knob position)
LED BRIGHTNESS See page 14 for an illustrated description.	Press and hold the footswitch again and turn the MECHANICS knob to adjust the brightness of the LED.
EXP/MIDI JACK MODE See page 15 for an illustrated description.	Turn the MIX knob - status shown on the LED <ul style="list-style-type: none"> • Expression: GREEN (default, minimum knob position)* • Favorite: AMBER (11 o'clock knob position) • Tap: RED (12 o'clock knob position) • Infinite: PURPLE (2 o'clock knob position) • MIDI: BLUE (maximum knob position)

***NOTE:** Also see [“Expression Pedal Setup” on page 18](#) to configure your pedal functionality per preset.

Power Up Modes - Quick Reference (continued)

POWER UP MODE	OPTIONS
<p>MIDI CHANNEL</p> <p>See page 30 for an illustrated description.</p>	<p>Turn the TIME knob - status shown on the LED</p> <ul style="list-style-type: none"> • 1: GREEN (default, minimum knob position) • 2: AMBER (10 o'clock knob position) • 3: RED (12 o'clock knob position) • 4-16: BLUE (maximum knob position) - channel set by next received MIDI Program Change message
<p>MIDI OUT MODE</p> <p>See page 32 for an illustrated description.</p>	<p>Turn the TAPE AGE knob - status shown momentarily on the LED</p> <ul style="list-style-type: none"> • OFF: RED (default, minimum knob position) • THRU: BLUE (11 o'clock knob position) • ON CC, OTHER: GREEN (1 o'clock knob position) • ON OTHER: AMBER (maximum knob position)
<p>FACTORY RESET</p> <p>See page 36 for an illustrated description.</p>	<p>While holding down the footswitch, turn the TAPE AGE knob from 0% to 100% and back two times - status shown on the LED</p>

Appendix 3: Live Edit Functions Quick Reference

Live Edit Functions - Quick Reference

EC-1 provides a way to adjust two secondary functions (also, see [“Live Edit Functions” on page 9](#)). These settings are saved per Favorite or MIDI preset.

- 1 Press and hold the **ON** footswitch, and *within one second* turn the knob for the desired Live Edit function while holding the footswitch. (If the switch is held for longer than one second without turning a knob, the pedal will enter **TAP** mode.)
- 2 Release the footswitch once you’ve made your selection to return to using EC-1.

FUNCTION	DESCRIPTION
PREAMP SELECT See page 9 for an illustrated description.	Turn the REPEATS knob to select the desired Preamp option - status shown momentarily on the LED: <ul style="list-style-type: none"> • Off: RED preamp is bypassed. • Modded Tube Preamp: AMBER (default) enables the modified tube preamp circuit (the default setting). • Original Tube Preamp: GREEN enables the original tube preamp circuit <p>NOTE: See the following Preamp Boost function to adjustment of the tube preamp’s level.</p>
PREAMP BOOST See page 10 for an illustrated description.	Turn the MIX knob to adjust the amount of Boost applied to the Modded or Original Tube Preamp (when enabled via the preceding Preamp Select function), from 0dB (unity gain, the default setting) to +6dB.

Strymon Non-Transferable Limited Warranty

Warranty

Strymon warrants the product to be free from defects in material and workmanship for a period of two (2) years from the original date of purchase when bought new from an authorized dealer in the United States of America or Canada. If the product fails within the warranty period, Strymon will repair or, at our discretion, replace the product at no cost to the original purchaser. Please contact your dealer for information on warranty and service outside of the USA and Canada.

Exclusions

This warranty covers defects in manufacturing discovered while using this product as recommended by Strymon. This warranty does not cover loss or theft, nor does the coverage extend to damage caused by misuse, abuse, unauthorized modification, improper storage, lightning, or natural disasters.

Limits of Liability

In the case of malfunction, the purchaser's sole recourse shall be repair or replacement, as described in the preceding paragraphs. Strymon will not be held liable to any party for damages that result from the failure of this product. Damages excluded include, but are not limited to, the following: lost profits, lost savings, damage to other equipment, and incidental or consequential damages arising from the use, or inability to use this product. In no event will Strymon be liable for more than the amount of the purchase price, not to exceed the current retail price of the product. Strymon disclaims any other warranties, expressed or implied. By using the product, the user accepts all terms herein.

How to Obtain Service Under this Warranty

For North American customers: Contact Strymon through our website at strymon.net/support for Return Authorization and information. Proof of original ownership may be required in the form of a purchase receipt.

For International Customers: Contact the Strymon dealer from which the product was purchased from in order to arrange warranty repair service.

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Safety and Compliance Information

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.



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