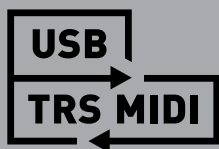


DECO

— tape saturation & doubletracker

USER MANUAL



strymon[®]

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Knobs and Switches

Front Panel Controls - Tape Saturation

VOICE

Selects between two tape machine styles:

classic: produces the response and saturation characteristics of 2-track mastering reel-to-reel machines.

cassette: employs an auto level control (ALC) process, common to many high-end cassette recorders, resulting in a compressed, fat tone.

SATURATION

Sets the amount of tape drive by adjusting the preamp gain. At low levels, a subtle harmonic enhancement occurs. As the knob is turned up, the dynamic compression and distortion increases. See [page 6](#) for details.

TONE

Adjusts the overall tone of the Tape Saturation, from dark to bright.

VOLUME

Controls the output volume of the Saturation.

TAPE SATURATION ON

Toggles the Tape Saturation effect On (engaged) and Off (bypassed). **RED** LED on indicates that the effect is engaged. Bypass mode is true bypass by default. See [page 18](#) for details.



Knobs and Switches

Front Panel Controls - Doubletracker

TYPE

Selects phase and internal routing to tailor tonality and low-end:

sum: the Reference and Lag Decks are summed in phase.

invert: the Reference and Lag Decks are summed out of phase.

bounce: the right channel of the Lag Deck is phase-inverted and bounced to the left channel input. With mono output or Wide Stereo on, you get a double-repeat effect. With Wide Stereo mode off, there is a ping-pong-like stereo effect.

LAG TIME

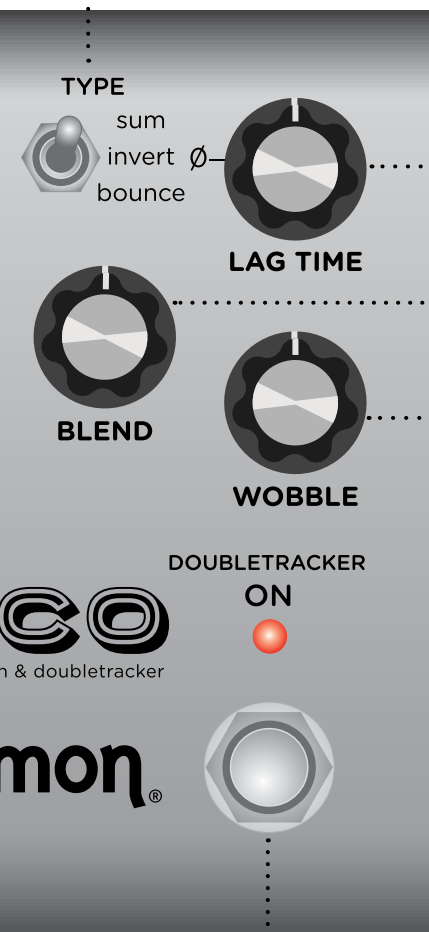
Sets the delay offset between the Reference Deck and the Lag Deck, creating a full range of doubletracking tape effects. Transition from flange on the first half of the knob, to chorus, slapback, and then echo with a maximum 500ms delay. See [page 7](#) for details.

BLEND

Sets the relative mix level of the two tape decks using the **TYPE** switch's current mode. Turn counter-clockwise to add more of the Reference Deck, which can serve to tame your doubletracking effect. Turn clockwise to blend in more of the Lag Deck. At 12 o'clock, both decks are equally mixed.

WOBBLE

Adds a random modulation to the Lag Deck. At lower settings, the variations are mild and create time-varying flange effects. At higher settings, the variations become more extreme.



DOUBLETRACKER ON

Toggles the Doubletracker effect On (engaged) and Off (bypassed).

RED LED on indicates that the effect is engaged. Bypass mode is true bypass by default. (See [page 18](#) for details.)

NOTE: Hold **DOUBLETRACKER ON** footswitch to engage the instant Auto-Flange feature. (See [page 5](#) for details.)

Knobs and Switches

Front Panel Controls - Auto-Flange On/Off

Press and hold the **DOUBLETRACKER ON (AUTO-FLANGE ON)** footswitch to achieve a recording studio-inspired, Auto-Flange effect. This engages a “virtual audio engineer” manning the faders and tape reels to create a smooth and predictable through-zero flange experience on the fly.



NOTE: Also, see [page 11](#) for setting the Auto-Flange effect's time.

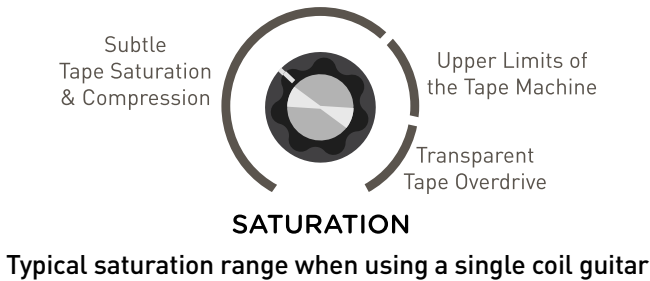
Knobs and Switches

In Depth - Input Level & Saturation Ranges

The **SATURATION** knob allows for a wide range of level options to provide a nicely saturated tape effect. The overall range of tape saturation is rig dependant. Depending on your application, input signal level, and specific rig setup, the effect of the tape saturation will vary. The following are some general guidelines.

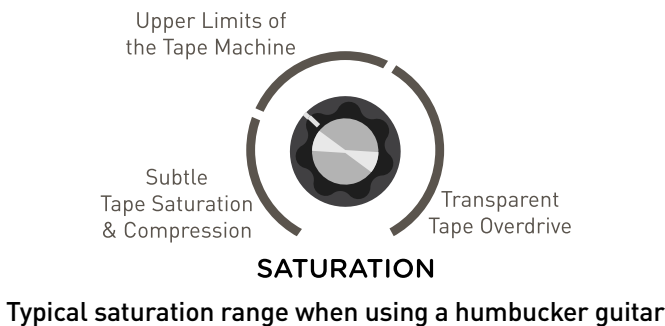
INSTRUMENT LEVELS - LOWER OUTPUT

When using Deco in front of an amp, lower output single coil guitar pickups will experience a rich harmonic enhancement and a lighter overdrive effect.



INSTRUMENT LEVELS - HIGHER OUTPUT

When using Deco in front of an amp, higher output humbucker pickups will experience heavier overdriven harmonics when the Saturation knob is turned to maximum.

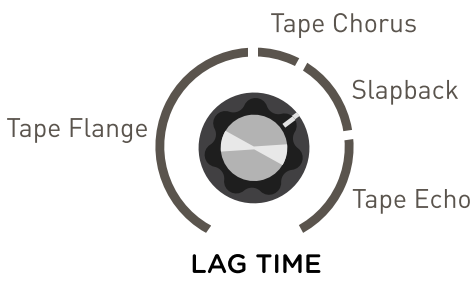


LINE LEVEL

Deco accepts up to +10dBu of input signal. When using Deco in a hot effects loop of a guitar amp, or when driving Deco with a hot output from a synth or mixer insert, it is recommended to set the **Power Up Mode - Input Mode** option to **Studio**. (See [page 17](#).)

Knobs and Switches

In Depth - Lag Time Ranges



TAPE FLANGE.....

-.3 to 3 ms

Very short **LAG TIME** settings produce a moving comb-filter/flange effect—which goes ‘through-zero’ when the **LAG TIME** is set less than zero. A static filter effect is achieved when the **WOBBLE** is turned to minimum.

- Set the **BLEND** to 50/50 (12 o’clock position) for the most pronounced flange effects.
- Through-zero effects are more intense when using distorted guitars or high-bandwidth input signals. Add some **SATURATION** to enhance a clean guitar input. Experiment with the difference between the **sum** and **invert** modes in this area for very different experiences.
- For an inverted flange that doesn’t cancel completely, try setting the **BLEND** lower than 12 o’clock to favor the Reference Deck, or turn the **LAG TIME** to around 10 o’clock so the delayed Lag Deck doesn’t cross through zero.
- Try minimum **LAG TIME** and set **BLEND** to maximum (no Reference Deck mixed in) for a random vibrato when **WOBBLE** is at maximum.

TAPE CHORUS.....

3 to 50 ms

Longer **LAG TIME** settings result in a thicker sound, as if there are two performers playing the same part. Increasing the **WOBBLE** control adds more movement and separation between the two decks.

- For a more subtle effect, reduce the **BLEND** knob to favor the Reference Deck.
- Changing **TYPE** from **sum** mode to the **invert** mode will change the response of the low frequencies for another tonal possibility.
- Increase **LAG TIME** to get a wider chorus sound.

Knobs and Switches

In Depth - Lag Time Ranges (cont.)

SLAPBACK.....

50 to 150 ms

First heard in the rock 'n roll records of the '50s, a slapback echo produces the sound of a performance in a large space where the echo reflects back from an opposing wall.

- With the **BLEND** past 12 o'clock, the slap can be louder than the input. Try this with shorter slap times.
- Try slap echoes with **TYPE** set to the **invert** option. This represents a true physical reflection where the sound waves invert as they bounce off a wall, which can add a "3D" feel. Add some mild modulation to create subtle movement in the echo sound.
- Try the **TYPE** set to the **bounce** option for a thicker slap that has two distinct repeats.

TAPE ECHO.....

150 to 500 ms

Longer **LAG TIME** settings can create delays suitable for soloing, or for adding ambience or rhythmic effects to your playing.

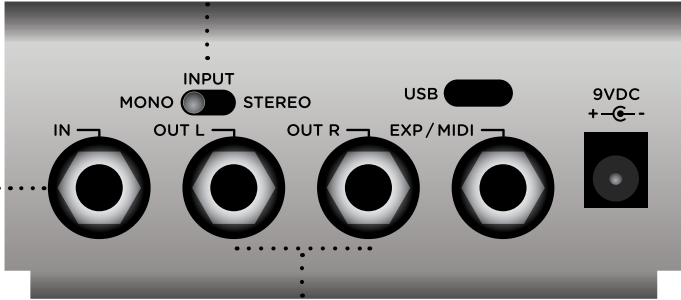
- Try lower **BLEND** knob settings for a distant echo effect. Add some **WOBBLE** for a random modulation-delay effect.
- Switching **TYPE** to the **bounce** option will create two repeats to further fill out the sound field.

Rear Panel I/O and Control

AUDIO INPUT SELECTOR

MONO: Use with a mono input signal, such as a guitar. Output is stereo. Use **OUT L** for mono connection.

STEREO: Use with a stereo input signal. Output is stereo.



IN

High impedance, ultra low-noise, discrete Class A JFET preamp input. Use a TRS stereo adapter/cable for stereo input.

.....OUTPUTS

Low impedance stereo outputs. Use **OUT L** for mono output.

Rear Panel I/O and Control (cont.)

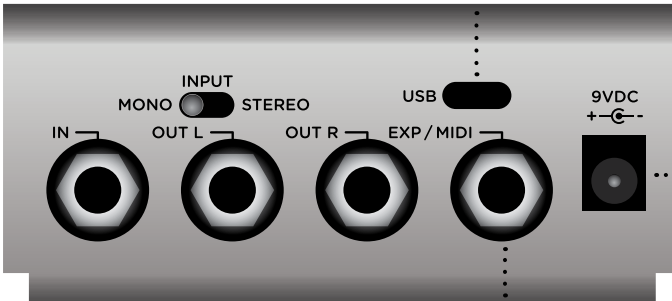
USB

Computer connection for MIDI control as well as for performing firmware updates.

9VDC

Use the included power supply or an adapter with the following rating:

- 9VDC, center negative
- 300mA minimum



EXP / MIDI

Multifunction communication jack for external control of Deco's features and functions. Can be set to operate in one of the following modes. (See ["Configuring the EXP/MIDI Jack" on page 19](#) for details.)

Expression Pedal mode (see [page 21](#)).

Favorite mode (see [page 22](#)).

Tap mode (see [page 24](#)).

MIDI mode (see ["Configuring MultiSwitch Plus" on page 25](#) or ["Saving Presets in MIDI Mode" on page 32](#)).

Live Edit Functions

Use the following steps to enter Live Edit mode and access the secondary functions of the controls. Any of the following secondary functions can be edited while in Live Edit mode.

Auto-Flange Time

Sets the sweep time for the Auto-Flange effect. The Auto-Flange is triggered as a momentary function by pressing and holding the **DOUBLETRACKER ON** footswitch. (See [page 5](#).)

- 1 Press and hold the **TAPE SATURATION ON** footswitch to enter Live Edit mode. Once both LEDs flash, release the footswitch.



- 2 Turn the **LAG TIME (AUTO-FLANGE TIME)** knob to adjust the speed of the Auto Flange. Both **ON** LEDs indicate your speed selection from **GREEN** (fast) to **AMBER** (slow). The default setting is at 12 o'clock.
- 3 Press either footswitch to exit and store your Auto-Flange Time setting.

NOTE: The Auto-Flange Time setting is saved per Favorite setting or per MIDI preset.

Live Edit Functions

Low Trim

Applies a subtle high pass filter to reduce the low end, which can clean up some rumble and muddiness of your effected tone.

- 1 Press and hold the **TAPE SATURATION ON** footswitch to enter Live Edit mode. Once both LEDs flash, release the footswitch.



- 2 Turn the **TONE (LOW TRIM)** knob to adjust the low end. The **TAPE SATURATION ON** LED indicates your selection from **GREEN** (full bandwidth) to **AMBER** (high pass filtering is applied). The default is the minimum setting for full bandwidth.
- 3 Press either footswitch to exit and store your Low Trim setting.

NOTE: The Low Trim setting is saved per Favorite setting or per MIDI preset.

Live Edit Functions

Doubletracker Boost / Cut

Adjusts the amount of volume increase or decrease, +3dB or -3dB, applied to the Doubletracker, when enabled, to allow for precise level matching.

- 1 Press and hold the **TAPE SATURATION ON** footswitch to enter Live Edit mode. Once both LEDs flash, release the footswitch.



- 2 Turn the **BLEND (DOUBLETRACKER BOOST/CUT)** knob to adjust the Doubletracker level. Both **ON** LEDs indicate your selection from **GREEN** (-3dB cut) to **AMBER** (+3dB boost).

Default is set at the 12 o'clock position for unity gain, where no cut or boost is applied.

- 3 Press either footswitch to exit and store your Doubletracker Boost/Cut setting.

NOTE: The Doubletracker Boost/Cut setting is saved per Favorite setting or per MIDI preset.

Live Edit Functions

Wide Stereo Mode

Generates a wide stereo image by sending the Reference Deck signal to the Left Out and the Lag Deck to the Right Out.

- 1 Press and hold the **TAPE SATURATION ON** footswitch to enter Live Edit mode. Once both LEDs flash, release the footswitch.



- 2 Turn the **WOBBLE (WIDE STEREO MODE)** knob to turn the Wide Stereo Mode On/Off. The **DOUBLETACKER ON** LED indicates the On/Off status:
 - Turn knob to the left position: **GREEN** = Off (default)
 - Turn knob to the right position: **RED** = On.
- 3 Press either footswitch to exit and store your Wide Stereo Mode setting.

NOTE: Wide Stereo Mode is automatically disabled with mono output (when only the **LEFT OUT** is connected). Use the **BLEND** knob as a pan control by adjusting the relative levels of the decks. (See [page 4](#).)

NOTE: The Wide Stereo Mode setting is saved per Favorite setting or per MIDI preset.

Live Edit Functions

MIDI Clock Sync

Selects whether Deco's echo repeats will sync to incoming MIDI Clock messages.

- 1 Press and hold the **TAPE SATURATION ON** footswitch. Once both LEDs flash, release the footswitch.



- 2 Set the position of the **TYPE** (**MIDI CLOCK SYNC**) switch to select whether Deco will sync to incoming MIDI Clock messages. Both LEDs will momentarily change color to indicate the current status as you set the switch.
 - Set the switch down to **bounce** for **Off** (default): both LEDs light **RED** - Deco will not respond to MIDI Clock.
 - Set the switch up to **sum** for **On**: both LEDs light **BLUE** - Deco will respond to MIDI Clock.

NOTE: When synced to MIDI Clock, the **DOUBLETRACKER ON** LED will light **PINK**, and the **LAG TIME** knob will act as a multiplier or divider of the incoming clock tempo. The synced **LAG TIME** mult/div settings from left to right are: x2/3, x1, x2, x3, x4, x6, and x8. Maximum delay time is 500ms.

- 3 Press either footswitch to exit and store your MIDI Clock setting.

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

Live Edit Functions

Respond/Ignore MIDI Expression

When set to MIDI mode, this setting selects whether Deco will respond to MIDI Expression CC# 100, values 0 (heel) to 127 (toe), to control the knob settings in the same manner as a TRS expression pedal.

- 1 Press and hold the **TAPE SATURATION ON** footswitch. Once both LEDs flash, release the footswitch.



- 2 Set the position of the **VOICE (MIDI EXP)** switch to select whether Deco will respond to MIDI Expression CC# 100. Both LEDs will momentarily change color to indicate the current status as you set the switch.
 - Set the switch up to **classic** for **On** (default): both LEDs light **BLUE** - Deco will respond to MIDI Expression.
 - Set the switch down to **cassette** for **Off**: both LEDs light **RED** - Deco will not respond to MIDI Expression.
- 3 Press either footswitch to exit and store your MIDI Expression setting.

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

Power Up Modes

Input Mode

Deco provides two input modes to tailor the range of the Tape Saturation for your input signal.

- 1 Press and hold the **DOUBLETRACKER ON** footswitch while powering up Deco. Once both LEDs flash, release the footswitch.



- 2 Turn the **SATURATION (INPUT MODE)** knob to select the Input Mode. The **TAPE SATURATION ON** LED will change color to indicate the current status as you turn the knob.
 - **Normal: GREEN** (default) - Input headroom is set for an instrument level source, such as a guitar or a bass. Normal mode is recommended when using Deco on your pedalboard in front of an amp.
 - **Studio: RED** - Tailors the Saturation range to be best suited for hotter input signals. Studio Mode is recommended when using Deco with DAWs, mixer inserts, line level synths, or hot effects loops in guitar rigs. 10dB of headroom is added.
- 3 Press either footswitch to store the Input Mode and begin using Deco.

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

Power Up Modes

Bypass Mode

Setting Deco to Buffered Bypass mode preserves the high frequency response of your instrument's signal through your pedal chain and long cable runs.

- 1 Press and hold the **DOUBLETRACKER ON** footswitch while powering up Deco. Once both LEDs flash, release the footswitch.



- 2 Turn the **LAG TIME (BYPASS MODE)** knob to choose between True Bypass or Buffered Bypass modes. The **DOUBLETRACKER ON** LED will change color to indicate the current status as you turn the knob.
 - True Bypass: **GREEN** (default).
 - Buffered Bypass: **RED**
- 3 Press either footswitch to store the Bypass Mode and begin using Deco.

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

Power Up Modes

Configuring the EXP/MIDI Jack

- 1 Press and hold the **TAPE SATURATION ON** footswitch while powering up Deco. Once both LEDs flash, release the footswitch.



- 2 Turn the **LAG TIME (EXP/MIDI JACK)** knob to select the function of the rear panel's **EXP/MIDI** jack. The **DOUBLETRACKER ON** LED will change color to indicate the current status as you turn the knob.
 - **Expression Pedal mode: GREEN** (default) - Allows continuous control over any of the knobs in any direction with a standard TRS expression pedal. (See [page 21](#) for details.)
 - **Favorite mode: AMBER** - Allows you to recall a Favorite setting using a Strymon MiniSwitch. (See [page 22](#) for details.)
 - **Tap mode: RED** - Allows you to set the **LAG TIME** via tap tempo using a Strymon MiniSwitch. (See [page 24](#) for details.)
 - **MIDI mode: BLUE** - Allows for the selection of three presets using a Strymon MultiSwitch Plus. Full MIDI functionality is also 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 [“Configuring MultiSwitch Plus” on page 25](#) or [“Saving Presets in MIDI Mode” on page 32.](#))

Configuring the EXP/MIDI Jack (cont.)



- 3 Press **either** footswitch to store the EXP/MIDI jack mode and begin using Deco.

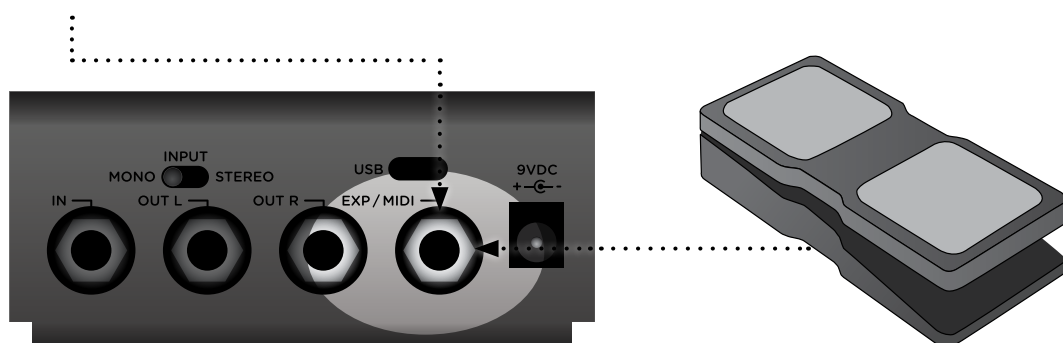
NOTE: The EXP/MIDI jack mode setting persists across power cycles and is not saved per preset.

External Control

Expression Pedal Setup

Use a TRS expression pedal to control the knobs of Deco .

- 1 Configure the **EXP/MIDI** jack for Expression mode. (See [page 19](#) for configuration instructions.)
- 2 Connect an expression pedal to the **EXP/MIDI** jack of Deco using a TRS cable.



- 3 Press and hold both footswitches until both LEDs blink **GREEN**.
- 4 Rock the expression pedal to the **HEEL** position. Only the **TAPE SATURATION ON** LED will blink **GREEN**.
- 5 Set the knob(s) you would like to control to the desired settings for the **HEEL** position of the expression pedal. Only the **TAPE SATURATION ON** LED will turn **RED**.
- 6 Rock the expression pedal to the **TOE** position. Only the **DOUBLETRACKER ON** LED will blink **GREEN**.
- 7 Set the knob(s) you would like to control to the desired settings for the **TOE** position of the expression pedal. Only the **DOUBLETRACKER ON** LED will turn **RED**.
- 8 Press either footswitch to exit and store your expression pedal setup.

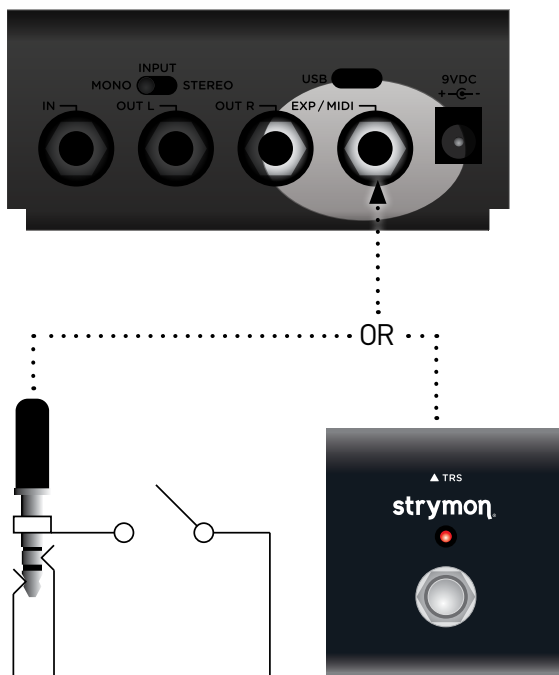
NOTE: Your expression pedal assignment is saved per Favorite setting or MIDI preset.

NOTE: If Deco 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 a MiniSwitch or other external latching footswitch with a TRS cable to store and recall your favorite setting.



- 1 Configure the **EXP/MIDI** jack for Favorite mode. (See [page 19](#) for more info.)
- 2 Connect an external 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 both footswitches until they blink **GREEN**. Then, press and hold the **TAPE SATURATION ON** footswitch until the **TAPE SATURATION ON** LED momentarily flashes **BLUE** to save the Favorite setting.

Step on the external footswitch to toggle between your Favorite setting and the current setting on Deco.

Favorite Switch Setup and Compare Mode (cont.)

COMPARE MODE

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

NOTE: Along with the knobs and toggle switches on the face of the pedal, all Live Edit settings and the bypass states of Tape Saturation and Doubletracker are stored with the Favorite and MIDI presets. Power Up modes are not stored with the presets.

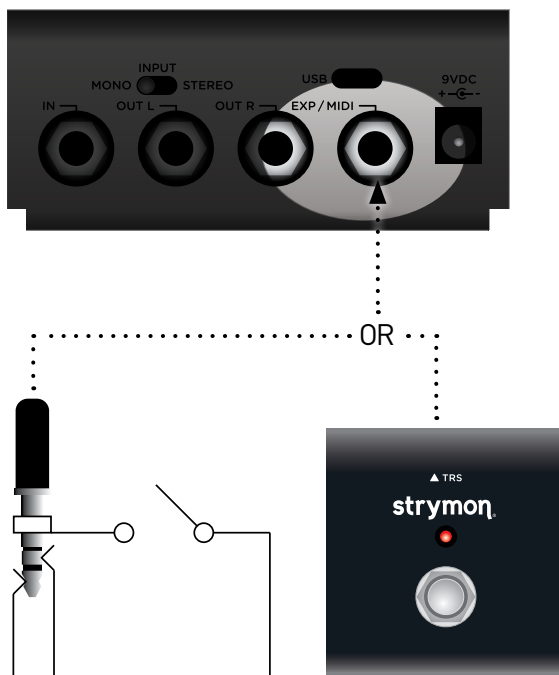
NOTE: Saving presets works differently when using MIDI. See [page 27](#) for details.

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

External Control

Tap Mode

Connect a MiniSwitch or other external momentary footswitch with a TRS cable to tap in a Lag Time.



- 1 Configure the **EXP/MIDI** jack for Tap mode. (See [page 19](#) for more info.)
- 2 Connect an external switch with a TRS cable to the **EXP/MIDI** jack.
- 3 Tap in a tempo in 1/4 notes to set the Lag Time in 1/8th notes of the tempo.

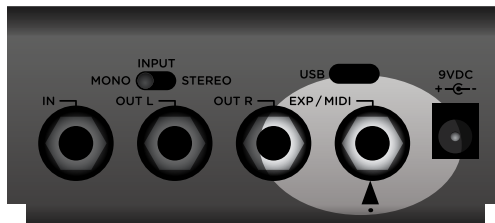
NOTE: When in Tap mode, press and hold the external switch to engage the instant Auto-Flange effect. Release to return the controls to their previous settings. (See [page 5](#) for details.)

External Control

Configuring MultiSwitch Plus

Configure Deco and MultiSwitch Plus for remote access to three additional presets.

- 1 Press and hold the **TAPE SATURATION ON** footswitch while connecting power to the pedal. Hold until both LEDs stop blinking.
- 2 Turn the **SATURATION** knob all the way counter-clockwise to set the MIDI channel to Channel 1. The **TAPE SATURATION ON** LED should be **GREEN**.
- 3 Turn the **TONE** knob to select any of the following **MIDI OUT** options. Both **ON** LEDs light to indicate your selection:
 - Send MIDI CC, PC, and Other Data: **WHITE**
 - Send MIDI CC and Other Data: **GREEN**
 - Send MIDI PC and Other Data: **PURPLE**
 - Send Other Data: **AMBER**
- 4 Turn the **LAG TIME** knob all the way clockwise to set the **EXP/MIDI** jack to MIDI mode. The **DOUBLETRACKER ON** LED should be **BLUE**.
- 5 Press either footswitch to exit and store the **MIDI channel**, the **MIDI OUT** setting, and the **EXP/MIDI** jack mode.
- 6 Connect a TRS cable to the **EXP/MIDI** jack on Deco.



- 7 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 to set it to Preset mode.



External Control

Using MultiSwitch Plus

Selecting and saving Deco presets using MultiSwitch Plus.



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 its corresponding preset.
- 2 Step on an illuminated switch to bypass Deco.

Saving Deco Presets with MultiSwitch Plus:

- 1 Dial in the sound that you would like to save as your preset on Deco.
- 2 Press and hold both footswitches on Deco until both the LEDs blink **GREEN**.
- 3 Press the **A**, **B**, or **C** footswitch on MultiSwitch Plus to save the current state of the pedal to the desired location.

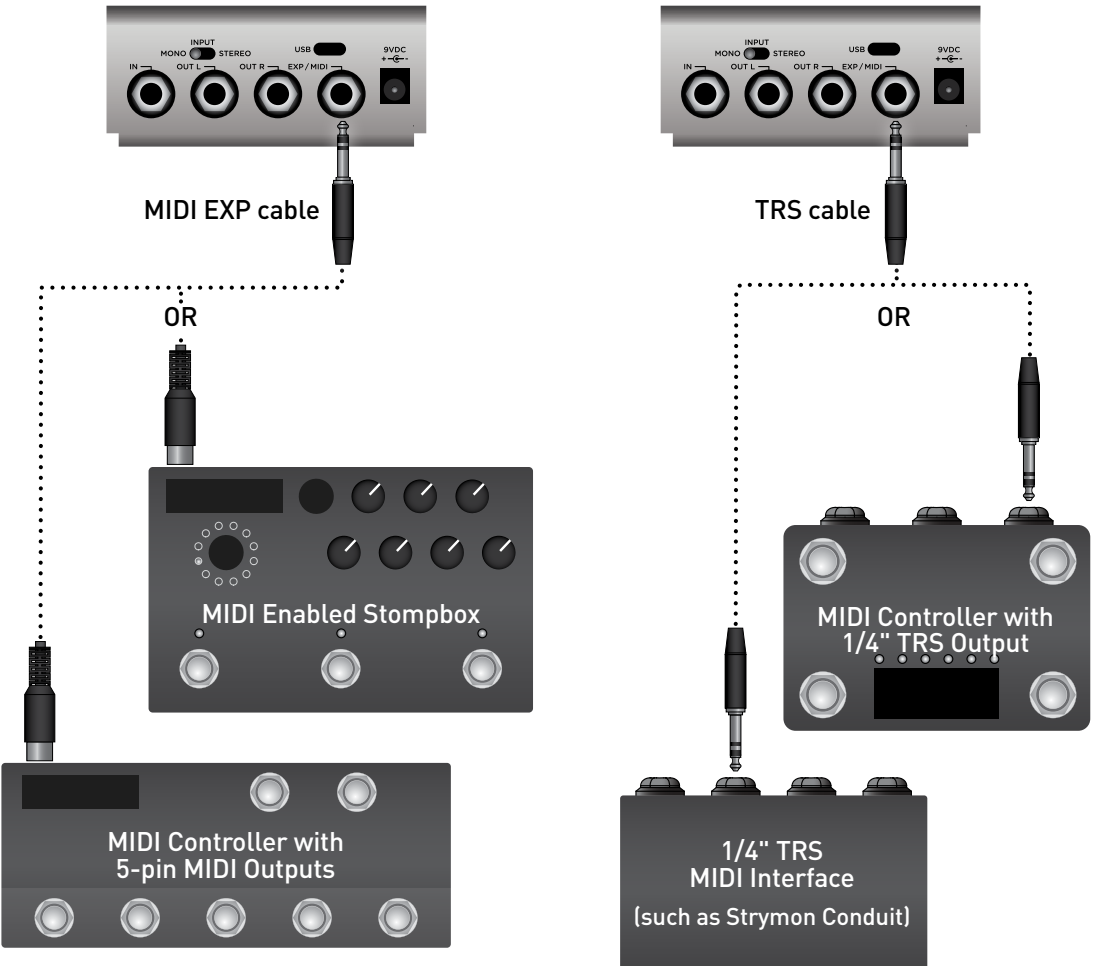
MIDI Functionality

Configuring Deco to Use MIDI

Using MIDI unlocks a set of tools that can be used to load any of Deco's 300 preset locations using a suitable MIDI controller or interface connected to the Deco 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 31](#) for more info.)

Please see strymon.net/support/deco-v2 for a list of compatible devices.



Configuring Deco to Use MIDI (cont.)

STEP 1 – SET EXP/MIDI JACK TO MIDI MODE

- 1 Press and hold the **TAPE SATURATION** footswitch while connecting power to the pedal. Once both LEDs flash, release the footswitch.



- 2 Turn the **LAG TIME** knob clockwise until the **DOUBLETRACKER ON** LED is **BLUE** to select MIDI mode.

Configuring Deco to Use MIDI (cont.)

STEP 2 – SET MIDI CHANNEL



3 Turn the **SATURATION** knob to set the MIDI communication channel. The **TAPE SATURATION ON** LED indicates status. Your **SATURATION** knob selections are as follows:

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

Once the **TAPE SATURATION ON** 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 exit the power-up mode to allow you to begin using Deco. (If you've successfully configured MIDI Channel 4-16, you can skip step **4** on the next page.)

STEP 2 – SET MIDI CHANNEL (CONT.)



- 4** Press **either** footswitch to exit and store your MIDI Channel setting and begin using Deco.

NOTE: A simple way to check that communication is working is to send CC #10 with a value of 127 when the **TAPE SATURATION** footswitch is off. This will turn the **TAPE SATURATION** footswitch LED on if MIDI is properly connected and configured.

NOTE: If you are only sending data to Deco using the Strymon MIDI EXP Cable, the MIDI OUT mode must be set to **OFF**. (See [page 31](#) for details on configuring the MIDI OUT Mode.)

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

Configuring Deco to Use MIDI (cont.)

STEP 3 – SET MIDI OUT MODE

- 1 Press and hold the **TAPE SATURATION ON** footswitch while connecting power to the pedal. Once both LEDs flash, release the footswitch.



- 2 Turn the **TONE** knob to select what kind of MIDI data is sent from Deco to other MIDI devices. Both LEDs will flash momentarily to indicate status.
 - **OFF: RED** (default) - No MIDI messages are sent out of Deco.
 - **THRU: BLUE** - Incoming MIDI messages are sent to the MIDI Out without any additional MIDI messages generated by Deco.
 - **SEND CC PC OTHER: WHITE** - MIDI CC, PC, and SysEx messages generated by Deco are all sent to the MIDI Out.
 - **SEND CC OTHER: GREEN** - MIDI CC and SysEx messages generated by Deco are sent to the MIDI Out.
 - **SEND PC OTHER: PURPLE** - MIDI PC and SysEx messages generated by Deco are sent to the MIDI Out.
 - **SEND OTHER: AMBER** - SysEx messages generated by Deco are sent to the MIDI Out.
- 3 Press either footswitch to store the MIDI OUT mode and exit.

MIDI Functionality (cont.)

Saving Presets in MIDI Mode

When in MIDI mode, the currently loaded settings can be saved to any of Deco's 300 preset locations at any time.

- 1 To enter Save mode, press and hold **BOTH** footswitches. Both LEDs will blink **GREEN** to indicate that Deco 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 **TAPE SATURATION ON** footswitch 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 Deco'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.

NOTE: Press the **DOUBLETRACKER ON** footswitch to cancel the save operation.

MIDI Specifications

MIDI Program Changes

Deco 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

- 0 Favorite setting (accessible via MiniSwitch)
See [page 22](#) for details.
- 1 MultiSwitch Plus - footswitch 1
- 2 MultiSwitch Plus - footswitch 2
- 3 MultiSwitch Plus - footswitch 3
- 127 Manual mode ("knobs")

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.

Deco 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, you must send a standard MIDI Bank Change message (MIDI CC# 0 with a value equal to the MIDI Bank#) before each MIDI Program Change.

Selecting bank 0, patch 127 will put Deco into Manual mode. In this mode, the pedal will be set to the current knob and switch settings. No preset data can be stored at this preset location.

MIDI Specifications (cont.)

MIDI CCs

DECO - MIDI CC NUMBERS			
CC#	PARAMETER	RANGE	VALUE
0	Bank Select	0-2	{0=Bank 1, 1=Bank 2, 2=Bank 3}
10	Tape Saturation Off/On	0, 127	{0=off, 1-127=on}
11	Voice	1-2	{1=classic, 2=cassette}
12	Saturation	0-127	
13	Volume	0-127	
14	Tone	0-127	
15	Low Trim	0-127	
16	Doubletracker Off/On	0, 127	{0=off, 1-127=on}
17	Type	1-3	{1=sum, 2=invert, 3=bounce}
18	Lag Time	0-127	
19	Wobble	0-127	
20	Blend	0-127	
21	Doubletracker Boost/Cut	0-127	
22	Auto-Flange Time	0-127	
23	Wide Stereo Mode Off/On	0, 127	{0=off, 1-127=on}
25	MIDI Clock Tempo Mult/ Div	0-6	{0=x2/3, 1=x1, 2=x2, 3=x3, 4=x4, 5=x6, 6=x8}
33	Bypass/On A and B	0, 127	{0=bypass, 1-127=on}
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	Remote Tap	Any	
97	Auto-Flange	0, 127	{0=off, 1-127=on}
100	Expression Pedal	0-127	{0=heel, 127 toe}

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 modes and secondary functions, and replaces all stored pre-sets with their factory default settings.

- 1 Press and hold the **DOUBLETRACKER ON** footswitch while connecting power to the pedal. Once both LEDs flash, release the footswitch.

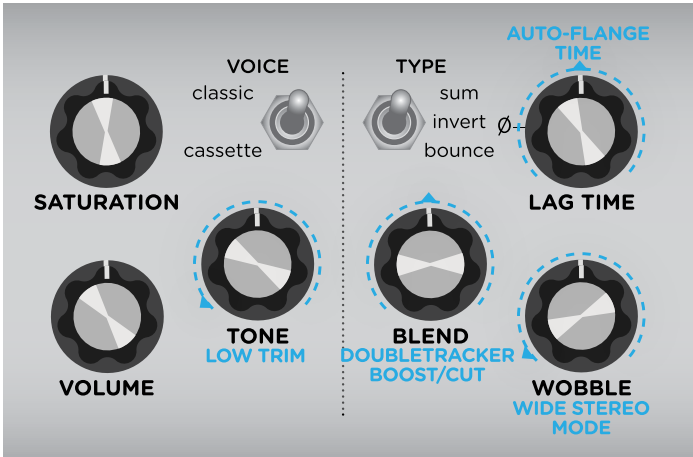


- 2 Sweep the **VOLUME** knob from 0-100% and back two times. Both LEDs will change colors at the extremes of the knob range and blink **RED** to indicate when the reset is taking place.
 - TURN 1: **AMBER**
 - TURN 2: **RED**
 - TURN 3: **AMBER**
 - TURN 4: Both LEDs flash **RED**, Deco resets and restarts

Factory Reset (cont.)

Factory Default Settings

SETTING	DEFAULT VALUE
EXP/MIDI Jack:	Assigned to Expression mode and configured to control the SATURATION knob
Input Mode:	Normal (Instrument level)
Bypass Mode:	True Bypass
MIDI Channel:	1
MIDI OUT Mode:	Off
MIDI Clock Sync:	Off
MIDI Expression:	On
Live Edit, Secondary Functions:	LOW TRIM = 0% (full bandwidth) DOUBLETRACKER BOOST/CUT = 12 o'clock, (no boost/cut) AUTO-FLANGE TIME = 12 o'clock WIDE STEREO MODE = 0% (off)



Default Live Edit Settings

Features

- Detailed recreation of the mechanics of two vintage studio reel-to-reel tape decks and their interactions
- Nuanced sonic delivery of the classic saturation effects of the tape record/playback process
- Simple and intuitive Lag Time knob allows for slapback delays, tape echoes, tape flanging, and tape chorusing
- Three Tape Saturation adjustment and tone shaping knobs: Saturation, Volume, and Tone
- Two Tape Saturation voicings: Classic and Cassette
- Tape Saturation controls provide 40dB of volume compensated gain
- Three Doubletracker adjustment and tone shaping knobs: Lag Time, Blend, and Wobble
- Three Doubletracker types to tailor the doubletracked sound: Sum, Invert, and Bounce
- Four Live Edit, secondary parameters: Low Trim, Auto-Flange Time, Wide Stereo Mode, and +/- 3dB Doubletracker Boost/Cut
- Press and hold studio-inspired Auto-Flange effect
- Individual Tape Saturation and Doubletracker On/Off footswitches
- +10dBu maximum input level easily handles instrument and line signals
- Switchable Input Mode (Normal and Studio) to tailor the range of the Tape Saturation for your input signals
- Expression pedal input allows the connection of a TRS expression pedal, Strymon MiniSwitch, MultiSwitch Plus, or TRS MIDI connection
- Full featured MIDI, accessible via TRS, supporting MIDI CCs, MIDI clock sync, access to 300 preset locations (requires Strymon MIDI EXP cable or MIDI > TRS interface such as Strymon Conduit)
- USB-C jack for controlling via MIDI from a computer or for performing potential future firmware updates
- High performance 520MHz ARM Superscalar processor
- 32-bit floating point processing
- Stereo input (requires TRS adapter cable) and stereo output
- High impedance ultra-low noise discrete Class A JFET preamp inputs
- Low impedance stereo outputs
- Strong and lightweight aluminum chassis
- Designed and built in the USA

Specifications

Input Impedance:	1 Meg Ohm
Output Impedance:	100 Ohm
A/D & D/A:	24-bit 96 kHz
Max Input Level	+10 dBu
Signal/Noise	109 dB typical
Bypass Switching	True Bypass (electromechanical relay switching)
Dimensions	4.5" deep x 4" wide x 1.75" tall

Power Adapter Requirements

Use an adapter with the following rating: 9VDC, center negative, 300mA minimum.

Appendix 1: Sample Settings

Sample Settings

WIDE WOBBLE



MIDI Program Change 0
MiniSwitch Favorite

WET SLAPBACK CASSETTE



MIDI Program Change 1
MultiSwitch Plus A

ON THE EDGE



MIDI Program Change 2
MultiSwitch Plus B

WORN OUT DECK



MIDI Program Change 3
MultiSwitch Plus C

PRETTY TAPE FLANGE



MIDI Program Change 4

LIVE EDIT FUNCTIONS

Deco provides a way to adjust several parameters that do not have a dedicated knob or switch. These are called **LIVE EDIT** functions and each are described in detail starting on [page 11](#). The sample settings on this page use the factory default values for these functions.

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.

General Options

- 1 Press and hold the **DOUBLETRACKER ON** footswitch while powering up Deco. Once both LEDs flash, release the footswitch.
- 2 Adjust the desired functions with the knobs and buttons noted below.
- 3 Press either footswitch to store your changes and exit power up mode.

INPUT MODE See page 17 for an illustrated description.	Turn SATURATION knob - status shown on TAPE SATURATION ON LED <ul style="list-style-type: none">• Normal: GREEN (default)• Studio: RED
BYPASS MODE See page 18 for an illustrated description.	Turn LAG TIME knob - status shown on DOUBLETRACKER ON LED <ul style="list-style-type: none">• True Bypass: GREEN (default)• Buffered Bypass: RED
FACTORY RESET See page 35 for an illustrated description.	Turn VOLUME knob from 0% to 100% and back two times - status shown on both LEDs

Power Up Modes Quick Reference (cont.)

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

MIDI & Jack Options

- 1 Press and hold the **TAPE SATURATION ON** footswitch while powering up Deco. Once both LEDs flash, release the footswitch.
- 2 Adjust the desired functions with the knobs and buttons noted below.
- 3 Press either footswitch to store your changes and exit power up mode.

EXP/MIDI JACK MODE See page 19 for an illustrated description.	Turn LAG TIME knob - status shown on DOUBLETRACKER ON LED <ul style="list-style-type: none">• Expression: GREEN (default)• Favorite: AMBER• Tap: RED• MIDI: BLUE
MIDI CHANNEL See page 29 for an illustrated description.	Turn SATURATION knob - status shown on TAPE SATURATION ON LED <ul style="list-style-type: none">• 1: GREEN (default)• 2: AMBER• 3: RED• 4-16: BLUE (channel set by next received MIDI PC message)
MIDI OUT MODE See page 31 for an illustrated description.	Turn TONE knob - status shown momentarily on both LEDs <ul style="list-style-type: none">• OFF: RED (default)• THROUGH: BLUE• ON CC PC OTHER: WHITE• ON CC OTHER: GREEN• ON PC OTHER: PURPLE• ON OTHER: AMBER

Appendix 3: Live Edit Controls Quick Reference

Live Edit Controls Quick Reference

Deco provides a way to adjust several secondary functions that are available on the controls (see [“Live Edit Functions” on page 11](#)). Live Edit Functions are saved per preset.

- 1 Press and hold the **TAPE SATURATION ON** footswitch until both LEDs blink to enter Live Edit mode.
- 2 Release the footswitch and use the knobs as described below.
- 3 Press **TAPE SATURATION ON** footswitch to store your setting and exit Live Edit mode.

AUTO-FLANGE TIME See page 11 for an illustrated description.	Turn the LAG TIME knob—both LEDs change color from GREEN (fast) to AMBER (slow) as the control is adjusted. Default is 12 o'clock
LOW TRIM See page 12 for an illustrated description.	Turn the TONE knob—the TAPE SATURATION ON LED changes color from GREEN (full bandwidth, default) to AMBER (more high passed) as the control is adjusted. Default is 0%.
DOUBLETRACKER BOOST/CUT See page 13 for an illustrated description.	Turn the BLEND knob—both LEDs change color from GREEN (-3dB to unity) to AMBER (unity to +3dB) as the control is adjusted (unity is at 12 o'clock, the default)
WIDE STEREO MODE See page 14 for an illustrated description.	Turn the WOBBLE knob—the DOUBLETRACKER ON LED changes color from GREEN (off, default) to RED (on) as the control is adjusted
MIDI CLOCK SYNC See page 15 for an illustrated description.	Set the TYPE switch to the bounce (down) or sum (up) position—status is momentarily shown on both LEDs <ul style="list-style-type: none">• bounce position: OFF, RED (default)• sum position: ON, BLUE
MIDI EXPRESSION See page 16 for an illustrated description.	Set the VOICE switch to the cassette (down) or classic (up) position—status is momentarily shown on both LEDs <ul style="list-style-type: none">• cassette position: OFF, RED• classic position: ON, BLUE (default)

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.

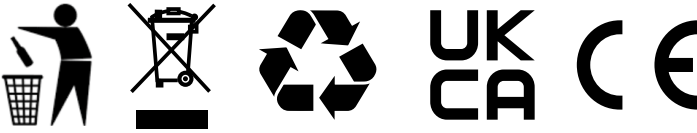
For International Customers: Contact the Strymon dealer from which the product was purchased from in order to arrange warranty repair service.

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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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