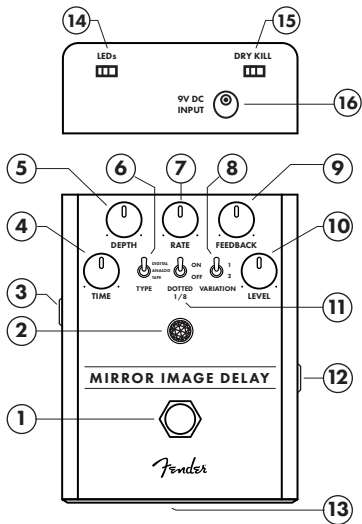


Fender

MIRROR IMAGE DELAY



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Fender®

MIRROR IMAGE DELAY

Thank you for purchasing the Mirror Image Delay—a versatile, easy-to-use and richly featured digital delay. It delivers six high-quality delay models—including tape, analog and digital—plus three additional variations. It has advanced features such as a Dry Kill switch for use with amplifiers with parallel effects loops, and a dotted-eighth function in which an additional dotted-eighth-note delay can be added to the main delay. The Mirror Image also offers buffered bypass operation, in which the footswitch allows delay tails to fade out naturally when the pedal is turned off.

DESIGNED IN CALIFORNIA, U.S.A.

Time

This control adjusts delay time within the limits of the Delay Type selected (each selection may vary—see “Algorithm Descriptions” section). Lower settings produce short, metallic sounds akin to room reverb, slapback delay and other small-dimension effects. Longer echo settings are great for volume swells, ambient playing and sound-on-sound experiments. Most fundamental sounds for lead and rhythm playing—and for adding interesting rhythmic and spatial effects—are toward the middle.

Note that there’s a delay “smear” as the Delay Time control knob is turned. This is normal and is due to the delay time changing.

Level

This control adjusts how much delay is mixed with the dry signal. No delay is present in the fully counterclockwise position. In the fully clockwise position, the wet-dry mix is about 50/50. When Dry Kill is active and this control is fully counterclockwise, no output is produced. This is normal.

Feedback

This control adjusts the amount of delay fed back to the input from the output, and it affects the number of repeats (this has sometimes been called “regeneration” or “feedback”). The fully counterclockwise position provides a single delay repeat (or two if the Dotted Eighth switch is on); turning it up provides additional repeats.

Depth

This control works with the Rate control and provides pitch modulation. Turning the Depth control fully counterclockwise turns the modulation off, leaving an unaffected delay signal. Turning it fully clockwise maxes out the pitch change. Note that the Rate and Depth are coupled such that when Rate is set to maximum, Depth is reduced to compensate; otherwise, there could be too much pitch shifting. To add modulation, start with this control set at noon and adjust up or down to preference. *The “Doubler” (Digital Type, Variation 2) has a different function for this knob—Delay Randomness*

Rate

For most of the Delay Types, this control affects modulation speed. Varying the delay time in this way can yield chorus, flange or detuning effects that impart a wider spatial sound.

Dotted 1/8 Switch

The dotted-eighth note switch adds an additional delay signal in which the new delay time is set to roughly 75 percent that of the main delay. For example, if the Delay Time is set to half a second (500 milliseconds), one delay tap will sound after a half second while the additional delay will sound at three-eighths of a second ($0.75 * 500 = 375$ milliseconds). This provides a dotted-eighth-plus-quarter note rhythm, which is great for playing against quarter notes. This setting is also useful for adding more dimension to short echoes, and it adds an additional voice to the “Doubler” setting (Digital Type, Variation 2).

Type Switch

This switch selects Digital, Analog and Tape algorithms (see “Algorithm Descriptions” section).

Variation Switch

This switch toggles between two variations for each reverb type selection (see “Algorithm Descriptions” section).

Jewel Indicator

The Jewel Indicator shows when the delay is active.

Footswitch

The footswitch mutes the input to the delay engine. When turned off, it lets delay tails fade out naturally.

Input Jack

This is a high-impedance input suitable for electric guitar, bass, acoustic guitar with a pickup system, keyboards and other instruments.

Output Jack

This is a low-impedance output jack that connects to the amp or to the next effect pedal in the signal chain.

DC Power Connector

This is a standard center-negative 9VDC jack for use with appropriate power supplies.

Dry Kill Switch

The Dry Kill switch removes the original dry guitar signal from the output, leaving only the wet delayed signal. With parallel effects loops in a guitar amplifier, the idea is to always keep the original guitar signal in the amp and use the effects loop only for the wet signal. For normal use on a pedalboard, leave this switch off.

LED Kill Switch

This switch extinguishes the LEDs that illuminate the knobs—useful in maximizing battery life when running the pedal from batteries.

Low Battery Indicator

This red LED on the front of the battery door illuminates when battery voltage drops below a set threshold, indicating that the battery should be replaced soon.

Algorithm Descriptions

Digital, Variation 1.

A straightforward digital delay with triangle wave modulation and no filtering. The triangle wave produces a very smooth modulation that almost sounds like detuning instead of chorus. Delay time range: 20 milliseconds to about 0.9 seconds.

Digital, Variation 2.

This is a “Doublers” algorithm—an automatic double-tracking effect. It uses random timing and pitch variations to mimic the sound of multiple guitar tracks. It also tracks playing and makes larger adjustments to the timing and pitch between notes.

Use the Dotted Eighth switch to get one extra track (doubling when combined with dry signal) or two extra tracks (tripling). Adjust the Mix knob for the amount of doubling effect preferred; at 100 percent it approximates the “tracks” being equal volume. Note that as Mix is increased, sound may lose some focus.

Analog, Variation 1.

Emulates an old-school “bucket brigade” analog delay in all its lo-fi glory—a little grit, a little noise and a lack of high end that all help this effect sit back in the mix behind a dry guitar sound. The modulation LFO is a sine wave.

Analog, Variation 2.

Like Variation 1, but worse (and by worse we mean better). There are fewer highs and lows, there’s more grit, and the feedback is inverted so the modulation can achieve credible flange sounds. Set Delay Time low, set Feedback around 2 o’clock, and adjust Rate and Depth to preference.

Tape, Variation 1.

A loving tribute to vintage tape echo units. Their quirks—like bad drive motors, dirty tape heads, crinkled tape and rollers that are no longer round—can give tape a slight pitch warble, a bit of hiss and noise, and other kinds of distortion that can sound really good (like amp distortion). There's also tape-saturation emulation. To simulate tape-like wow and flutter, this variation incorporates random modulation. While random, its "speed" and depth can still be adjusted with the Rate and Depth knobs.

Tape, Variation 2.

Like Tape, Variation 1, but with more warble, more saturation and more bass and treble loss to mimic the sound of old tape.

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CORONA, CALIFORNIA, USA

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P/N 7713290000 - REV A

Important Safety Instructions

- **WARNING:** To prevent damage, fire or shock hazard, do not expose the unit or its AC power to rain or moisture.
- Do not alter the AC plug of the connected power adapter
- Do not drip or splash liquids on the unit.
- No user serviceable parts inside, refer servicing to qualified personnel only.
- **WARNING:** The unit must only be connected to a safety agency certified, regulated, power source (adapter), approved for use and compliant with applicable local and national regulatory safety requirements.
 - Unplug the AC power adapter before cleaning the unit exterior. Use only a damp cloth for cleaning and then wait until the unit is completely dry before reconnecting it to power.
 - Amplifiers and loudspeaker systems, and ear/headphones (if equipped) are capable of producing very high sound pressure levels which may cause temporary or permanent hearing damage. Use care when setting and adjusting volume levels during use.

THIS DEVICE COMPLIES WITH PART 15 OF 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 UNDESIRE OPERATION.

Languages

Manual available in **Espanol, francais, Italiano, Deutch, Portugues, (Chinese)**
www.fender.com/support

Expanded Owner's Manual

Expanded Owner's Manual available at:
www.fender.com/support

Specifications

IMPEDANCES:	INPUT: 1 MΩ	OUTPUT LOAD: >10kΩ
POWER SUPPLY:	One 9V battery or 9VDC regulated adapter, 5.5 x 2.1 mm barrel connector, center negative	
POWER REQUIREMENTS:	72mA @ 9VDC +—⊖— 138mA, Total Current Consumption	
DIMENSIONS:	3.75" x 4.9" x 2.5" (95.25mm x 124.5mm x 63.5mm)	
WEIGHT:	1.2lbs (.54kg)	



Product specifications subject to change without notice



Fender®

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产品中有害物质的名称及含量

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
箱体	O	O	O	O	O	O
喇叭单元*	O	O	O	O	O	O
电子部分	X	O	X	O	O	O
接线端子	X	O	O	O	O	O
电线	X	O	O	O	O	O
附件	O	O	O	O	O	O

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*产品含有喇叭单元时有效。