

MAGNETO

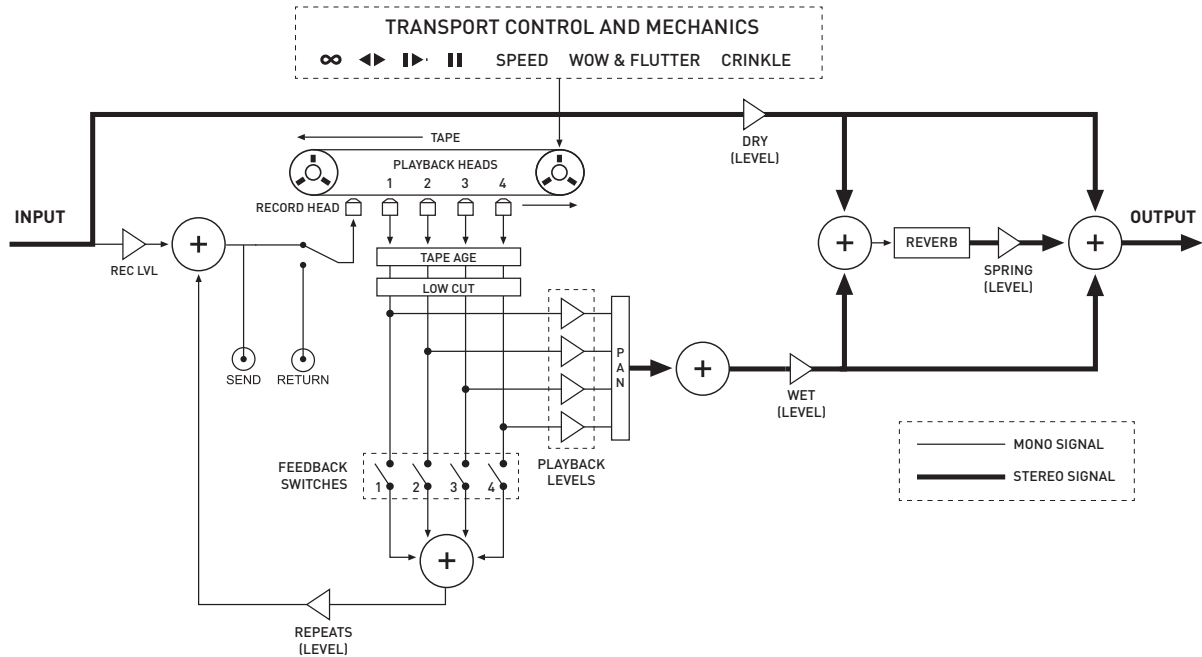
—Four Head dTape Echo & Looper—

strymon[®]



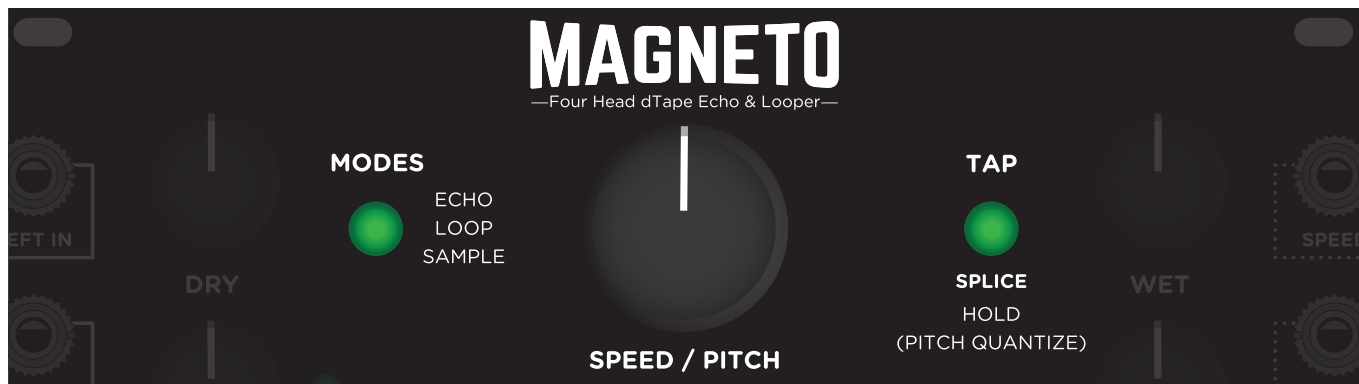
QUICK START GUIDE

Magneto is a tape-voiced multi-head delay designed for maximum musicality and flexibility. Please download the complete user manual for a full description of features and in-depth operating tips.



- Tape-Voiced Delay machine with four playback heads, one record head
- Three operational modes: **Echo**, Sound-on-Sound **Looper**, Phrase **Sampler**
- Varispeed algorithm with dynamic machine mechanics, 8:1 speed range
- Input record level (**REC LVL**) for clean reproduction to warm, fat saturation
- Maximum Delay/Loop Time: 15 seconds at max Speed, two minutes at min Speed
- Self-oscillating for tone generation
- Transport controls (buttons and CV inputs) for real-time performance options
- Independent Spring Reverb
- Individual Playback Head Level controls
- Individual Head feedback assignment independent of playback level
- Phase aligned clock out (**CLK OUT**) CVs sync with clock in (**CLK IN**) CV
- Delay **TAP** Range: 50ms-15s
- Clock Period CV Input Range: 50ms-15s


BASIC CONTROLS



MODES

ECHO: (GREEN LED) Four head tape delay, with four playback heads and one record head.

LOOP: (AMBER LED) Sound-on-Sound looper. Tape head 4 is the looper playback head while tape heads 1-3 provide delay repeats for the incoming signal.

SAMPLE: (RED LED) Phrase sampler records an audio phrase between two taps of the **TAP** button. Transport **RESTART** () triggers phrase playback.

SELF-OSCILLATION

Magneto will self-oscillate with Repeats set to maximum, allowing for chaotic melodies when played with the Speed knob in Pitch Quantize, or controlled externally through the Speed CV input.

TAP

Function depends on **MODE** selection.

ECHO: Tap a delay time with two successive presses.

LOOP: Tap to splice in, tap again to splice out, tap a third time to clear loop.

SAMPLE: Tap to start sample record, tap again to stop recording, tap a third time to clear the sample memory. Once sample has been recorded, use **RESTART** in the Transport to playback the sample.

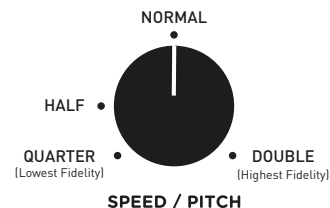
PITCH QUANTIZE MODE

Press and hold the **TAP** button at any time to enter **PITCH QUANTIZE** mode (AMBER TAP LED), which restricts the **SPEED/PITCH** knob values to relative speeds corresponding to the pitch intervals of user selectable scales. A list of available scales and instructions for selecting them can be found in the complete manual.

SPEED / PITCH

Sets the speed of the tape machine. The tape speed also affects the fidelity of the delay repeats. Set high (faster tape speed) for cleaner delay repeats or low for a warmer tape sound. **WOW & FLUTTER** and **CRINKLE** have a more dramatic impact at lower speeds.

TAP and **SPEED** are independent functions. The **TAP** button changes the head spacing to achieve the desired delay time at the current machine speed. Any changes to the **SPEED** knob will result in a proportional change to the delay time of all the heads. Any audio in the delay line will shift in pitch proportional to the change in speed. See complete manual for in-depth detail.



TONE CHARACTERISTICS

KNOBBS

DRY: Sets the level of **DRY** (input) signal sent to the output.

REC LVL: Controls the level of the incoming unprocessed signal fed to the Delay Line Record head. When turned up, the delay signal becomes fatter and more saturated. Turn knob down to get cleaner delay signals.

PLAYBACK LEVEL 1-4: Sets the playback level for each tape head.

LOW CUT: Controls the low frequency shaping of the echo repeats. Set to minimum for extended low frequency bandwidth. Set to maximum for extremely high-passed, magnetic drum style repeats.

TAPE AGE: Controls the bandwidth of the tape. Set to minimum for a fresh, full bandwidth tape. Turn clockwise for warmer repeats. At maximum setting, a mildly peaking filter response creates atmospheric repeats at high feedback settings.

SWITCHES

HEADS: Selects between three different modes for the tape heads. Even spacing, triplet spacing, and rhythmic shifted pitches.

PAN: Selects between three different stereo panning modes for the tape heads. When only one output jack is connected, all head signals will appear at that output summed to mono. With two jacks connected and **PAN** switch in center, custom panning is achieved by holding down the feedback button and turning the Level knob for each head. See complete manual for in-depth detail.

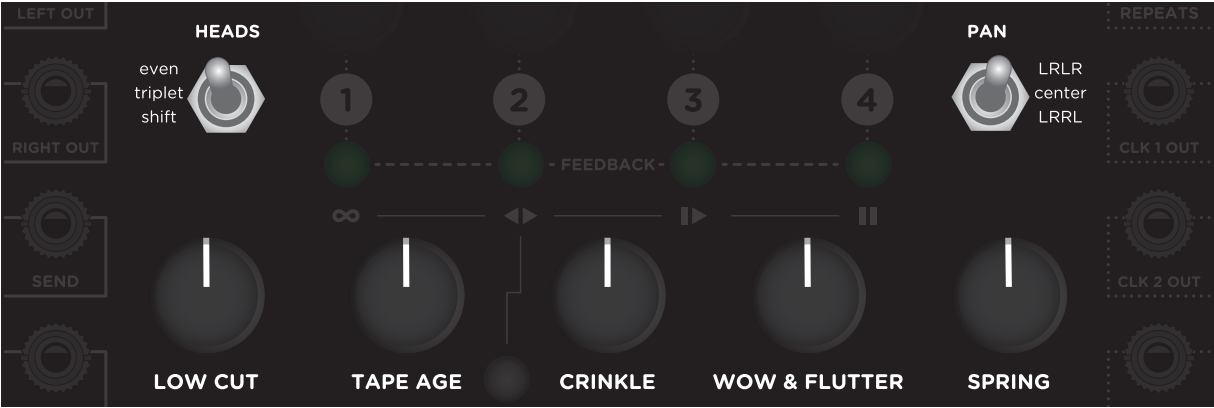
WET: Sets the level of delay signal sent to the output.

REPEATS: Controls the feedback level of the delay repeats for the tape heads that have their **FEEDBACK** toggle set to **ON**.

CRINKLE: Controls the amount and severity of tape irregularities including friction, creases, splices, and contaminants. Set to minimum for a fresh, clean tape. Set to maximum for a tape that has been mangled and chewed.

WOW & FLUTTER: Controls the amount of mechanically related tape speed fluctuations. Turn the knob fully counterclockwise for a perfectly tuned tape machine or fully clockwise for a tape machine in need of service.

SPRING: Controls the output mix of the integrated spring reverb tank. The **DRY** and **WET** knobs control the signals feeding into the spring reverb effect.



CONTROL VOLTAGES



CONTINUOUS CV INPUTS (-5V TO +5V)

The knob corresponding to the continuous CV inputs acts as an offset that is mixed with the CV input.



SPEED: Controls the tape speed. (-3V to +3V, calibrated for 1V/octave).



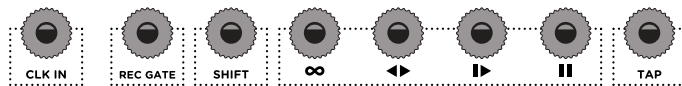
WET: Modifies the **WET** level.

REPEATS: Modifies the **REPEATS** level.



SPRING: Modifies the **SPRING** reverb level.

CV INPUTS (0-5V RISING EDGE TRIGGER)



CLK IN: Sets the delay time in quarter notes. (0 – 5v rising edge trigger) Clock period range – 50ms to 15s.

REC GATE: Toggles the record head **ON** and **OFF**, REC LVL LED lit **BLUE** when input signal to the delay line is muted.

SHIFT: Toggles the **SHIFT** effect for the Playback heads on and off.

INFINITE (∞): Toggles **INFINITE** transport control on and off.

FORWARD/REVERSE (◀ ▶): Toggles the **FORWARD/REVERSE** transport function.

RESTART (▶): Engages the **RESTART** transport function.

PAUSE (||): Toggles the **PAUSE** transport function.

TAP: Controls the function of the physical **TAP** button. Sets delay time in **ECHO** mode. Sets splice in/out/clear in **LOOP** mode. Sets sample record start/stop/clear in **SAMPLE** mode.



CV CLOCK OUTPUTS

CLK 1- 4 OUTs: Send clock outputs of Playback heads 1-4. Dependent on the **HEADS** switch setting and the **ECHO/LOOP/ SAMPLE** mode setting. Output clocks are always at 50% duty cycle and are phase aligned with incoming Clock or Tap signals. Examples are for a clocked or tapped delay time of 1000ms.



ECHO MODE

EVEN:

CLK 1 OUT: 1/16 note clock output (ex. 250ms)

CLK 2 OUT: 1/8 note clock output (ex. 500ms)

CLK 3 OUT: dotted 1/8 note clock output (ex. 750ms)

CLK 4 OUT: 1/4 note clock output (ex. 1000ms)



TRIPLET:

CLK 1 OUT: 1/16 note triplet clock output (ex. 167ms)

CLK 2 OUT: 1/8 note triplet clock output (ex. 333ms)

CLK 3 OUT: 1/4 note triplet clock output (ex. 667ms)

CLK 4 OUT: 1/4 note clock output (ex. 1000ms)

SHIFT:

CLK 1 OUT: 1/8 note triplet clock output (ex. 333ms; 3x speed)

CLK 2 OUT: 1/8 note clock output (ex. 500ms; 2x speed)

CLK 3 OUT: 1/2 note clock output (ex. 2000ms; half speed)

CLK 4 OUT: 1/4 note clock output (ex 1000ms; full speed)

In **LOOP** and **SAMPLE** modes, **CLK1**, **CLK2**, and **CLK3** are the same as in **ECHO** mode, but **CLK4** is the loop or sample length clock output.

AUDIO INS AND OUTS

INS AND OUTS



LEFT/RIGHT IN: Left and Right audio inputs. Use **LEFT IN** for mono input.



LEFT/RIGHT OUT: Left and Right audio outputs. If only one output is connected, Delay output sums to mono.



FEEDBACK LOOP

An insert between the summed input signal + delay repeats and the Record Head. Can be used for sending delays and loop playback out to be processed by external effects via the **SEND** jack, and looped back into Magneto via the **RETURN** jack.



SEND: Summed input signal + delay repeats are sent out to be processed by other devices.



RETURN: Externally processed signal is returned and fed to the Record Head.

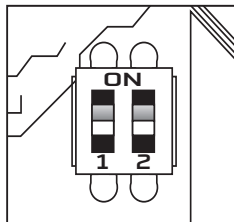
Delay repeats are summed to mono when both **SEND/RETURN** jacks are connected; dry signal retains stereo image.

S1-S2 DIP SWITCHES (REAR PANEL)

S1 - FEEDBACK CV MODE:

ON: Allows CV trigger control of the **FEEDBACK ON/OFF** buttons when transport CV jack is plugged in while Transport LED is **OFF**. Also provides CV control of the Transport controls when a CV jack is plugged in when Transport LED is **RED**. Each transport CV can be assigned to either Transport or Feedback **ON/OFF**.

OFF: Standard CV control of transport whenever transport CV jacks are plugged in. (**DEFAULT** is **OFF**.)



S2 - DUAL SPLIT MODE:

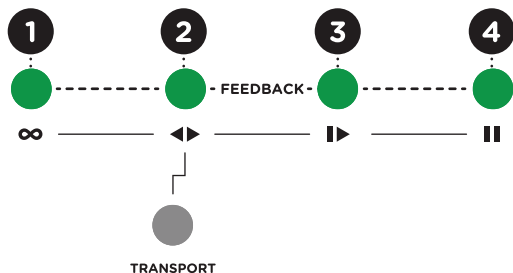
ON: Selects Dual Split mode where **LEFT** audio **IN/OUT** is a mono four head tape delay, and **RIGHT** audio **IN/OUT** is mono spring reverb.

OFF: Standard stereo **IN/OUT** with the delay signal feeding into the Spring reverb. (**DEFAULT** is **OFF**.)

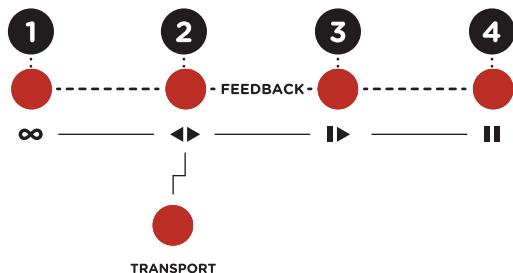
PUSH BUTTON CONTROLS

TRANSPORT: Press to toggle functionality of the four buttons above it. Selected function indicated by LED color.

FEEDBACK ON/OFF: (GREEN LEDs) Enables or disables feedback of the corresponding tape head signal to the record head.



TRANSPORT CONTROLS: (RED LEDs) allows for control of the corresponding transport function.



MOMENTARY MODE:

INFINITE, REVERSE and PAUSE functions can be individually configured to respond to Gate signals instead of rising edge triggers. The TRANSPORT buttons will no longer be latching. Example: Tape playback is reversed only while pressing and holding REVERSE button. See complete manual for in-depth detail.

- ∞ INFINITE:** Disables the Record head and continuously plays the most recent delay cycle or loop length audio.
- ◀▶ FORWARD/REVERSE:** Reverses the playback direction of the tape from the moment the function is engaged.
- ▶ RESTART:** Restarts the playback of the loop or sample from the starting point in **LOOP** or **SAMPLE** mode. Aligns shifted head audio in **ECHO** operation. Restarts deck immediately from **PAUSE**, without mechanical lag.
- || PAUSE:** Stops/Starts the playback of the tape with mechanical slowdown/startup effect. The speed of the slowdown/startup effect can be adjusted by **PLAYBACK LEVEL 4** knob when the **TRANSPORT** and **PAUSE** buttons are **RED** (transport is paused).