



OWNER'S MANUAL

Congratulations on purchasing **Delaytion™**,
the Analog Delay Controller by *Molten Voltage*

Delaytion is a programmable Analog Delay Controller, designed to control the *MXR Carbon Copy*, *Malekko Ekko 616*, and any other delay that uses the classic Bucket Brigade Delay (BBD) analog chips.

Note: your analog delay must be modified to accept Delaytion's clock signal. You can buy pre-modified delays from Molten Voltage, or send in yours for modification. See MoltenVoltage.com for more information.

Key Features

- Precision Tap Tempo
- 3 Delay Ratios (dotted eighth, quarter note, and triplets)
- Modulation Rate and Depth controls
- Four Preset Storage
- Simple to program - just toggle a switch!
- Expanded Modulation Rate and Depth
- Solid, Professional-Grade construction
- Simple, intuitive user interface



Connections

Plug in a 9 volt, 2.1mm, 100mA minimum, **tip negative** DC Power supply into the DC9V Power Jack (E).



- (A) WRITE Switch
- (B) RATE Knob
- (C) CLOCK OUT Jack
- (D) DEPTH Knob
- (E) Power Jack
- (F) DELAY Knob
- (G) Delay Ratio Switch
- (H) Status LED
- (I) Program LED
- (J) Delay Tempo LED
- (K) Program Select Button
- (L) TAP TEMPO Button

Connect a standard RCA cable to the CLOCK OUT Jack (C). Connect the other end to the Modified Analog Delay.



Program Recall and Storage

Delaytion is designed to make switching and storing programs as simple as possible so you can concentrate on being creative.

Pressing the PGM Program Select Button (K) cycles Delaytion through the four (4) programs. The current program is indicated by the Program LED (I):

- Program 1 = off
- Program 2 = green
- Program 3 = red
- Program 4 = orange

*Note: **On startup, Delaytion reads the position of the knobs and switches.** Although the Program LED is orange on startup, no program is loaded yet. Program 1 is loaded the first time the PGM button is pressed.*

Once you have Delaytion set the way you like, simply toggle the WRITE Switch (A) down then up, and the program is stored at the current program location.

Delaytion stores the modulation rate and depth, as well as the delay time and current delay ratio. This means that **when a program is recalled, the knobs and switches will usually be in different positions than what is actually being used by the controller.**

Note: *Programs remain in Delaytion's memory after the power is removed.*

The Status LED (H) is normally on. When a program is written, the Status LED will flash to indicate success. Whenever the knobs have recently moved, the Status LED will turn off until they become stable again. Each knob will stabilize after approximately three (3) seconds of no motion.

Modulation Controls

Delaytion can modulate the delayed signal, making it faster then slower in a sine-wave pattern.

Turn the RATE Knob (B) to control the speed of the modulation.

The RATE Knob adjusts the modulation rate between 0.0625 and 5.0 seconds.

Turn the DEPTH Knob (D) to control how far up and down the signal is detuned.

The DEPTH Knob adjusts depth of the modulation waveform between zero and 50% of the current delay time.

Note: **The modulation depth is limited by the Delay Time Max. As such, at the minimum and maximum delay times, no modulation will occur. As you move away from those limits, the available modulation depth increases.**

Delay Time Controls

DELAY Knob

Delaytion's delay time can be set by adjusting the DELAY Knob (F). This range can be further adjusted using the Delay Ratio Switch (G), discussed *below*.

Note: *Turning the Delay Pot will override any tapped tempo. Conversely, if two or more taps are received, the tapped tempo will override the DELAY Knob.*

TAP Button

Pressing the TAP Button twice within 600 mS will adjust the tempo to the interval between the taps. The new tempo starts right after the second, or most recent tap. The time between the two most recent taps generally corresponds to the length of a quarter note.

Delay Time Minimum: ~ 100 mS
Delay Time Maximum: 600 mS (*MXR Carbon Copy and Malekko Ekko 616*)

Note: An altered tempo is only temporary and will not be saved unless the Program is stored.

Note: Tapping two or more times overrides any pot-based Delay Time. If the DELAY Knob is moved after a delay time has been tapped in, the DELAY Knob will override the tapped time. Delaytion switches from Pot to Tap mode, at the moment of the second tap.

Delay Tempo LED

The Delay Tempo LED (G) always flashes in time with the current delay time, as adjusted by the Delay Time Ratio switch.

Delay Ratio Switch

Use the Delay Ratio Switch (G) to select between three different delay ratios:
Following are the ratios:

Left = dotted eighth (75% of delay time)
Center = quarter note (100% of delay time)
Right = eighth note triplet (33% of delay time)

Note: The Delay Ratio Switch affects both tapped and knob-based delay times.

Operation

Delaytion reads the four input pots, Clock or Pot/Tap mode switch, and Ratio Select switches on startup, and sets the output accordingly.

Although the Program LED is orange on startup, no program is loaded yet. Program 1 is loaded the first time the PGM button is pressed.

Support

questions@MoltenVoltage.com

Warranty

Molten Voltage is proud of its products and warrants this unit for a period of two (2) years from the date of purchase to be free from defects in materials and workmanship under normal use and service, as long as the unit is used with an approved power supply, and consistent with these instructions.

Contact Service@MoltenVoltage.com regarding repairs. Any user repair attempts void the warranty. **PROOF OF PURCHASE IS REQUIRED FOR WARRANTY REPAIRS.**



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