Thank you for purchasing the Dwarf Star Stereo Delay module. First let's make sure you have the right module. Here is a picture of the module:



The module contains two identical circuits for you to create stereo delay effects. Operation is straight forward. You patch an audio source into one of the 'INPUT' jacks. For you to use both channels A and B you need to patch audio signals into both. There is no internal switching jack connection for the 'INPUT' jacks. You can use an active multiple to help with repeating the same audio signal or use a 3.5mm y-adapter cable to split the signal into both. Use the 'Out' jacks to hear the FX in action.

This is a PT2399 based delay module. Setup for BBD emulation, but without the internal noise artifacts.

## Notes on CV patching

-Each parameter has it's own cv input and cv level attenuator.

-**Channel A** CV jacks are internally switch-jack connected to **Channel B** CV jacks. The internally connection is broken when you patch into Channel B CV jacks. This allow for easy modulation of both channels at the same time.



Here is a diagram to help visualize the signal path.

From looking at the diagram we see that the FXCV or 'FX Level' knob is parallel from the original input signal. What that means is that it is not a dry and wet knob like commonly found on other fx processors. You are simply mixing in a wet fx signal. The module contains a kill switch for each channel. This allows you to 'kill' the delay fx. The Switch is not muting the wet signal path output, but rather muting the input signal from echo. This allows you to keep the last 'time trails' flowing until they are gone. This configuration I feel is better to help aid live manipulation.

Here is a quick rundown on the controls:



Since the module is mirrored for channel B, I will describe channel A only. The red line in the center will help you visualize where the mirror happens.

- 1. Input Level Knob. Use this to adjust the input signal.
- 2. RCV LVL. 'Repeat CV Level' attenuator. Use this to adjust the 'RCV' Jack patch source. This is used to modulate parameter 'REPEAT'.
- 3. REPEAT parameter knob. This adjusts the feedback for the echo effect. Fully clockwise is maximum feedback.
- 4. TCV LVL. 'Time CV Level' attenuator. Use this to adjust the 'TCV' Jack patch source. This is used to modulate parameter 'TIME'.
- 5. TIME parameter knob. This adjusts the echo timing. Fully clockwise is shortest delay timing. This will sound like a reverb room fully clockwise.
- 6. FXCV LVL. 'Effect CV Level' attenuator. Use this to adjust the 'FXCV' Jack patch source. This is used to modulate parameter 'FX MIX'.

2016

- FX Mix parameter. This is used to mix in the wet effects signal with the original dry signal. Remember the effects signal is parallel.
- 8. Input jack. This is where you patch in a signal source. It is best to use a VCA or filter (right before this module) for example and have the Dwarf Star Stereo Delay module last in the chain. But you know how modular goes...There are really no rules.
- 9. Output jack. This is where you will hear the dry signal and the wet fx signal both mixed. In other words use this to hear the delay.
- 10. Kill Switch. Use this per channel to kill the input going into the fx. In other words KILL the FX.

There are no line levels inputs or outputs on the Dwarf Star Stereo Delay. This module is fully synth level. You will need amplification and attenuation to use line level gear.

RCV, TCV, FXCV patch inputs work best with CV signals. But you can use audio rate signals; it will just sound 'trashy' or crazy.