DELAY PEDAL CIRCUIT DESIGN

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Function of the Delay Pedal

- A delay pedal is a stompbox effect that records and plays back any music fed into it.
- Usually this playback happens in milliseconds.
- When playback is rapid, a delay pedal produces a “slapback” effect—an instant, snappy reverberation of what was played.
- With long extended playback times, delay pedals produce cascading walls of sound—great for creating atmospheric landscape.

Three-knob delay pedal

TIME KNOB

REPEATS KNOB

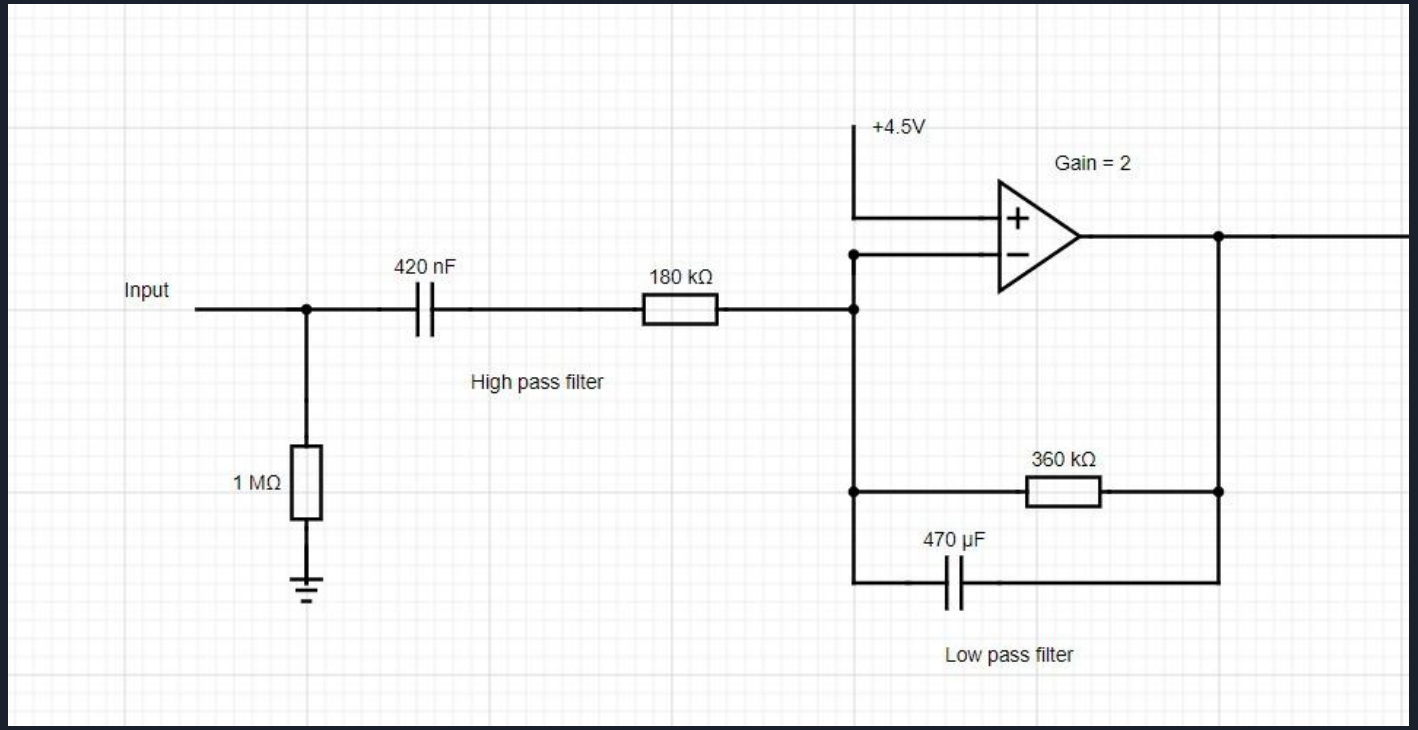
LEVELS KNOB

Breakdown of the Circuit

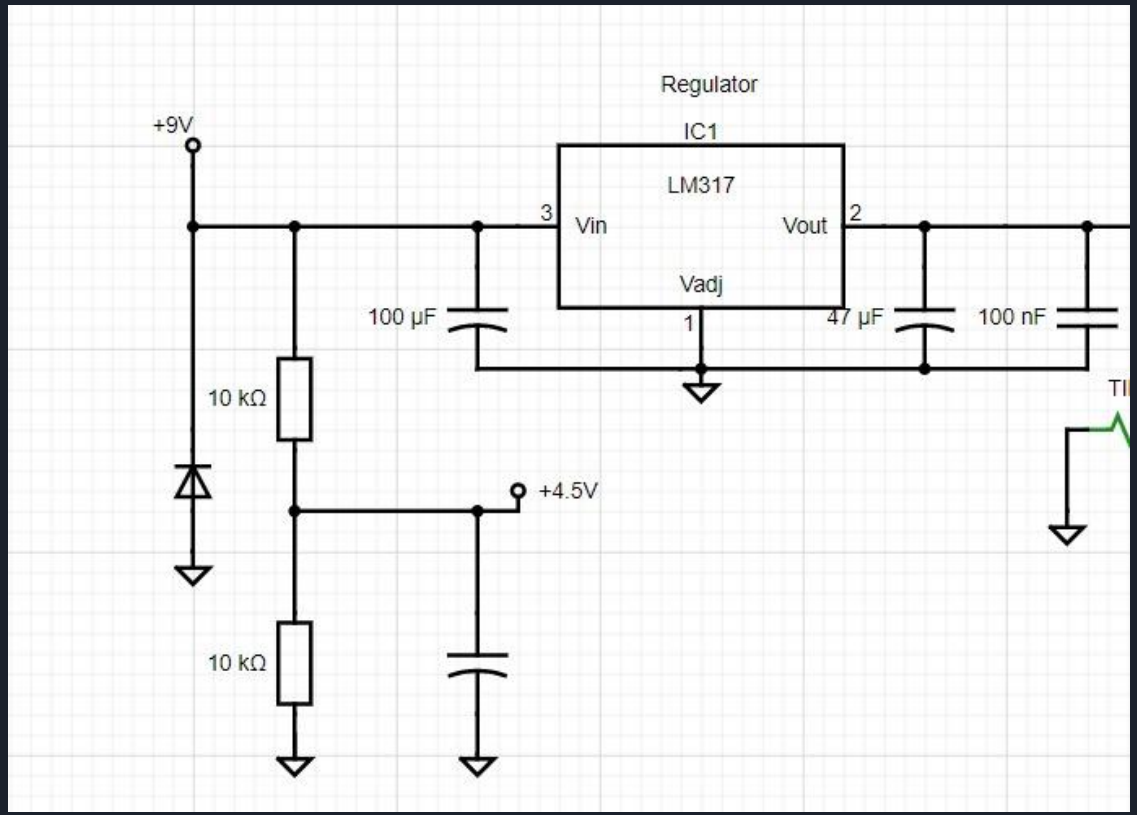
The circuit has been divided into 4 parts for simplicity of explanation-

1. Input buffer and gain stage
2. Power Supply
3. Output Buffer
4. PT2399 digital delay IC

INPUT BUFFER AND GAIN STAGE



POWER SUPPLY

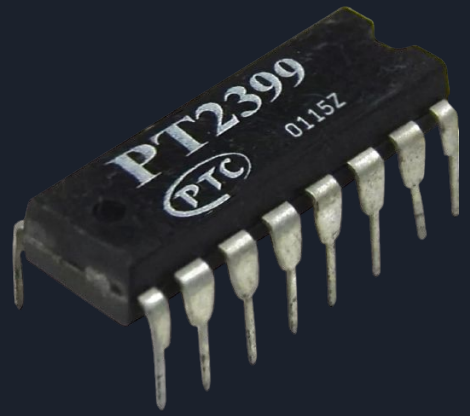


PT2399 DIGITAL DELAY IC

- The **PT2399** is an **Echo Processor IC** that is commonly used to provide digital delay in audio circuits.

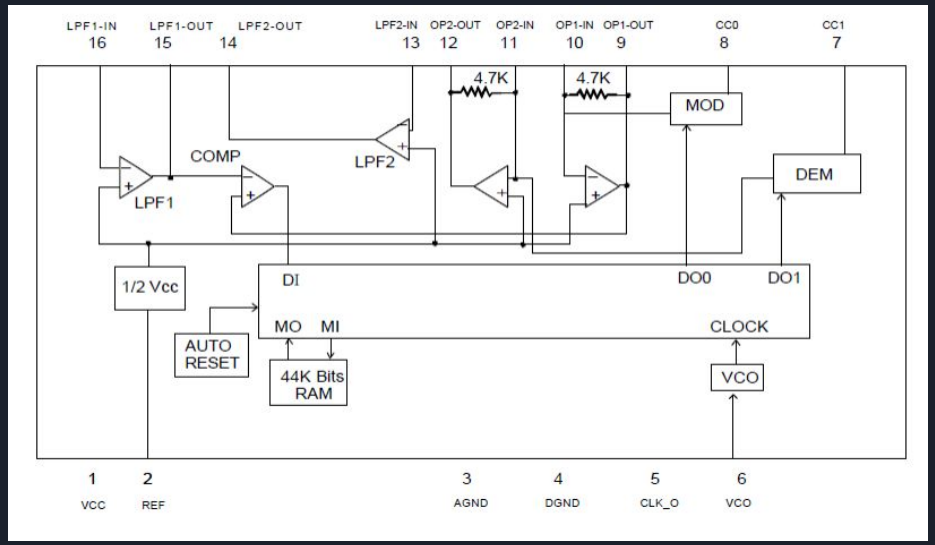
- The IC takes in analog audio input and converts it into digital stream of bits to add a digital delay to it.

- This audio - delayed audio signal is then provided as output.

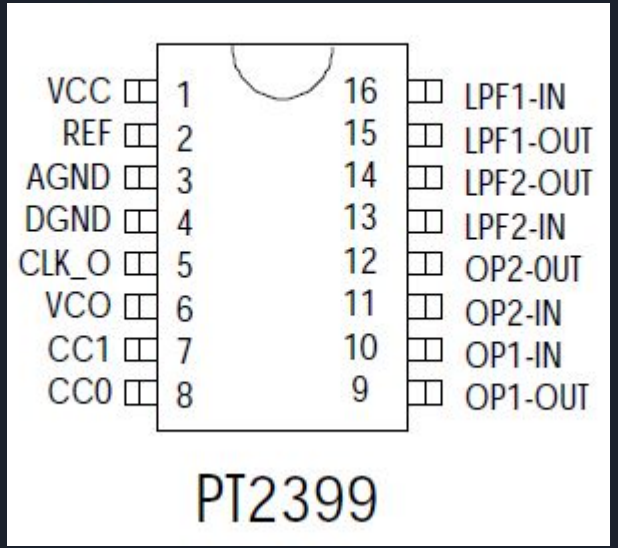


PT2399 DIGITAL DELAY IC

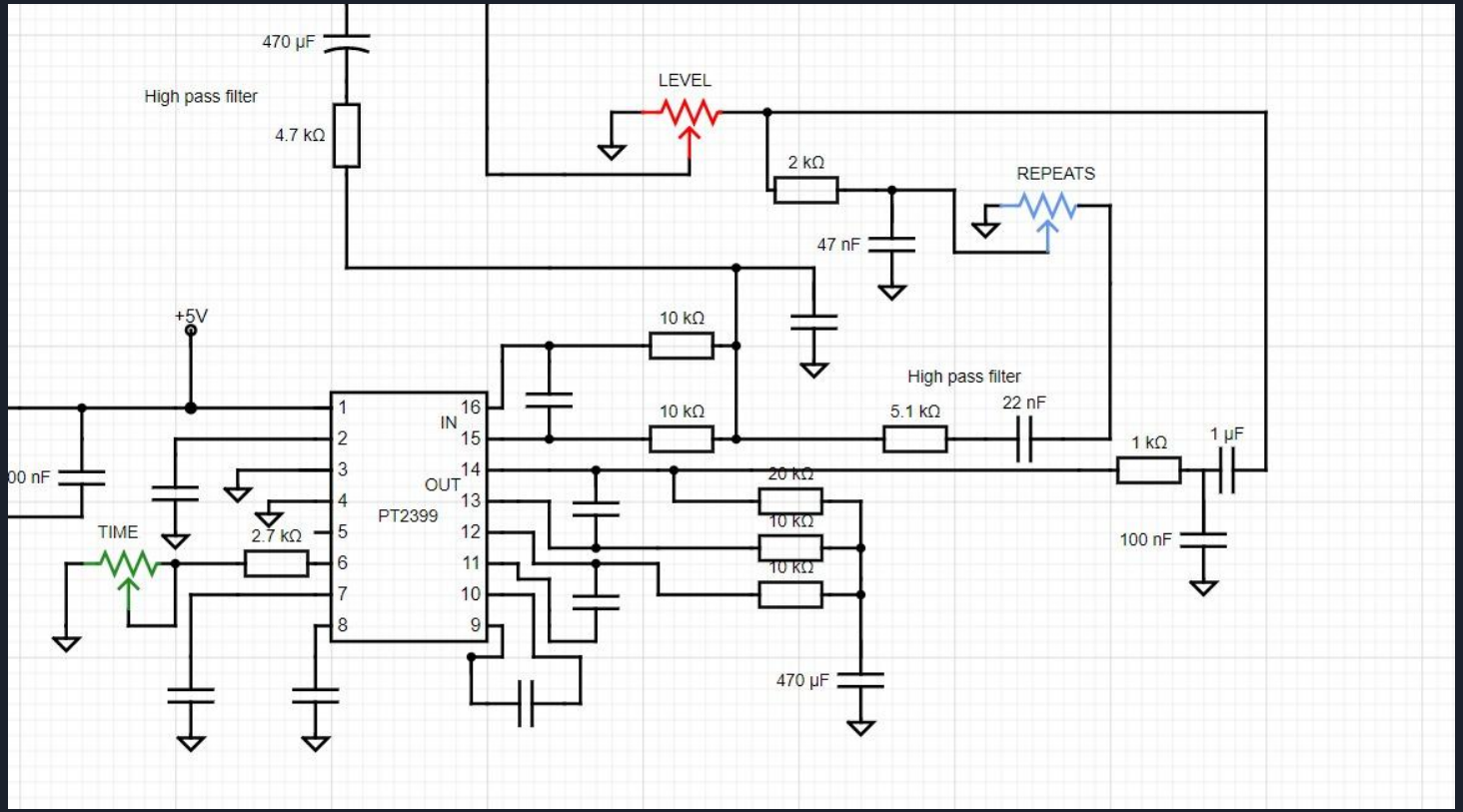
Block Diagram



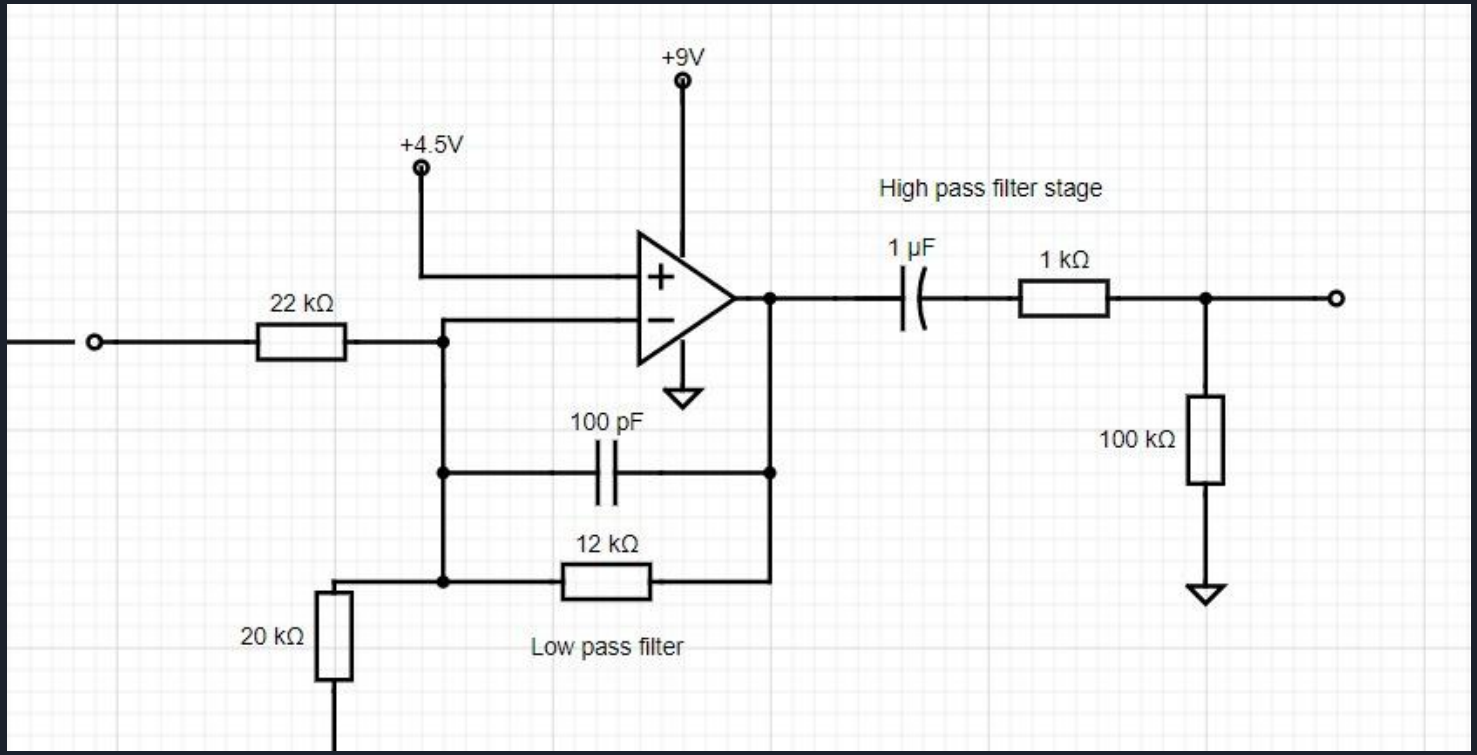
Pin Configuration



PT2399 STAGE



OUTPUT BUFFER



Complete Circuit Diagram