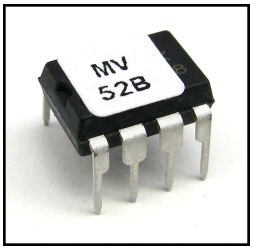
PEdAL SYnC™

AUDIO CONTROL CHIPS

the future just showed up

PedalSync™

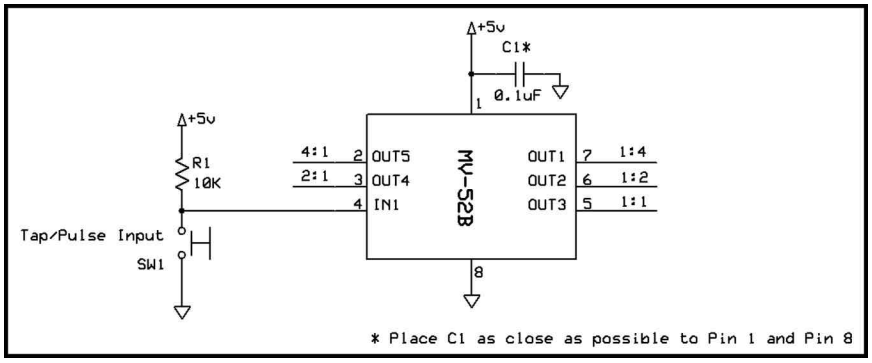
Tap/Pulse Converter
MV-52B



Key Features

- Five (5) simultaneous outputs
- Tap Tempo or Pulse input
- Wide input interval range
- Simple user interface
- 3.3 or 5 volt operation
- Efficiently Designed to ensure Low part count
- Use PedalSync™ trademark on your devices and in advertising
- Very accurate timing
- Thru-Hole or SMT

Tap/Pulse Converter chip MV-52B by Molten Voltage allows you to connect a sophisticated, compact, and highly accurate Tap Tempo controller to your circuit with a minimum of external components, as shown in the following schematic:



The Tap/Pulse Converter chip MV-52B was designed primarily to provide precision tap input timing control for chips and circuits that incorporate pulse-activated triggers or external clock inputs such as sequencers and timers.

MV-52B may just as easily be used as a pulse converter, as it provides five (5) simultaneous, synchronized pulse outputs.

Input

After powering on, MV-52B outputs a 120 beats per minute (bpm) tempo in Real Time (1:1 ratio).

There are two ways to control the tempo:

1) Connect a normally open momentary switch between Pin 4 and ground, as shown in the schematic, above.

Users change the output tempos by pressing a normally open switch at least two times. The time between presses determines the Real Time output tempo.

2) Connect the Pin 4 input to the pulse output of another chip.

When the tempo input is connected in this manner, the pin detects a pulse when it is sent LOW.

The 10K holdup resistor (R1) is not necessary when connecting Pin 4 directly to the pulse output of another chip.

The Tap or Pulse input interval range is .125 to 4 seconds.

A single tap will reset the pulse outputs to the beginning of the pulse cycle. This allows users sync up the outputs with a single tap or when a pulse stream begins.

Pulse Streams

The output tempos are instantly synchronized and scaled based on the Tap or Pulse input interval.

The five (5) simultaneous pulse outputs each run at a 50% duty cycle and begin high.

The pulse output ratios are as follows:

a) 1:1, real time, Pin 5

b) 1:2, twice as fast, Pin 6

c) 1:4, four times as fast, Pin 7

d) 2:1, twice as slow, Pin 3

e) 4:1, four times as slow, Pin 2

The outputs can be simultaneously connected to separate circuits, and can sink or source 25mA each.

Specifications

Supply Voltage ~ 2.0-5.5 Volts DC

Accuracy greater than 1/100th of a second.

Maximum Input Voltage to Tap/Pulse pin (Pin 4) = -0.3v to Vdd +0.3v

Maximum Output Current sunk or sourced by each output pin = 25mA

Maximum Output Current sunk or sourced by all output pins = 125mA

Maximum Input Tempo > 240 bpm (0.125 seconds)

Minimum Input Tempo < 15 bpm (4 seconds)

Follow this link to find the datasheet for the underlying Microchip 12F629 chip.
http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en010113

Support

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