

The Jake's Custom Shop Clock and Musical Divider Module seeks to act as a stand-alone rhythmic timekeeper. An internal square-wave LFO operates as a clock source fed directly into an 8-Bit binary divider. Each divider output halves the previous output's frequency. A clock signal can be divided up to 256 times. A Clock-in jack allows for synchronization to an external clock source.

SECTION I - Electrical Characteristics

Attribute	Min	Typ. [mA]	Max
Current Draw [mA] +12V +5V -12V			90 0 0
Internal Clock frequency [Hz] (Clock Through)	2		200
Divider Output Voltage [V]	0		+12

SECTION II – Functionality

- A. Clock
 - 1. Square wave generator circuit with adjustable period by a potentiometer.
 - 2. Standard 555 Oscillator.
- B. Divider
 - 1. The clock divider Version 3.1 is a musical counter. Each output represents 1 digit in a binary number counting from 0 to 511.
 - 3. LED indicator on each output.
 - 4. 8 available divisions plus a CLK THRU output.
 - 5. Musical Divider. Outputs are High on initial state. A Mathematical version 2.1 is available from JCS.
 - 6. Operates on the Rising Edge of the clock signal.

Input	
Attribute	Data
Power	10-Pin shrouded IDC. Meets Doepfer Eurorack standard.
SLOW/ FAST pot	Adjustment of internal clock speed.
CLOCK OVERRIDE	Overrides the internal or bus clock when a patch cable is inserted. Inserting a patch cable that carries no signal will inhibit the divider.
Output	
Attribute	Data
/2	Divides the clock by 2
/4	Divides the clock by 4
/8	“
/16	“
/32	“
/64	“
/128	“
/256	Divides the clock by 256.
Clock through	Clock output from the internal clock or Clock Override jack.

SECTION III – Mechanical Data

Attribute	Data
PCB dimensions	39 x 106.5 mm
Panel dimensions	40.3 x 128.5 mm (8HPX3U)
Mounting holes diameter	3.2 mm
Input/Output connection	3.5 mm female panel mount jacks
Depth of module	15mm

