Product Description

This NE555 square wave pulse generator module can be used to produce square wave signals for experimental development or in applications such as driving stepper motors, and as an adjustable pulse generator for microcontroller (MCU) applications.

Features an NE555 timer chip configured in four frequency ranges, 1Hz to 50Hz, 50Hz to 1kHz, 1kHz to 10kHz and 10kHz to 200kHz all adjustable with onboard jumpers and two trim-pots to adjust the output frequency and the duty cycle.

Input voltage to the module (VCC) is variable from 5V to 15V DC and draws approximately 15mA at 5v (35mA at 12v) with an output amplitude of 4.2V peak-to-peak to 11.4V peak-to-peak based on the supply voltage.

An indicator LED illuminates on a low-level output and flashes relative to the output frequency. At higher frequencies, the LED will appear to be on solid and without a visible flash.

Features & Specifications:

- Size: 31mm * 22mm
- Main chip: NE555
- Input Voltage (VCC): 5V-15VDC
- Input current:~100MA
- Output amplitude: 4.2V V-PP to 11.4V V-PP. (Varries with VCC voltage)
- Maximum output current: 15MA (VCC=5V, V-PP greater than 50%), 35MA (VCC=12V, V-PP greater than 50%)
- Output LED indicator (low level, LED is on, high level, LED is off; LED flashes with frequency

The output frequency is continuously adjustable using the onboard jumpers and potentiometers. Jumper settings are:

1Hz ~ 50Hz
50Hz ~ 1kHz
1KHz ~ 10kHz
10kHz ~ 200kHz

The output duty cycle can fine-tuned using the onboard potentiometers. Duty cycle and frequency are not separately adjustable; adjusting the duty cycle will change the frequency.

Package Includes:

- 1X NE555 Duty Cycle Adjustable Pulse Frequency Square Wave Signal Generator Module
- Printed schematic, installation and operation instructions

Question: I just bought this product but there is no instruction or user's manual came with it. Where can I find the instruction to use it?

Answer: Look at the three pins -- pins for ground and positive power are labeled. The middle pin is the output pin with respect to the ground. There are no other apparent active components except for the NE555 chip. Gogle for NE555 data sheet or go directly to the manufacturer document at ti-dot.com at http://www.ti.com/lit/ds/symlink/na555.pdf . The circuit implemented in this module is shown in the figure on page 11. You can look up the power supply voltage ranges and maximum output current etc. there. The output is a voltage output. Tuning - one potentiometer controls mostly frequency while the other controls mostly duty cycle. I needed to set up an infrared LED beacon at 1200 Hz and duty cycle of 50% and had to use an oscilloscope and tweak both potentiometers iteratively until I got the required output. Small correction - there are other active components in the module - there is a red LED that indicates the state of the output. If you dial the frequency low you will be able to see it flicker with a naked eye. And none more thing. Depending on the module version you may have a jumper to switch among two or three capacitors. The higher capacitance means the lower frequency. Changing the duty cycle will change its apparent brightness at higher frequencies. I hope that this will be enough for you to get your project going. You can always play with reverse-engineering the printed circuit board. It is a simple circuit so that is doable. Good luck! see less

By Aleksander Malinowski on May 17, 2017

Aleksander Malinowski

★★★★★ **Easy to tune, provides wide range of frequencies and PWM coefficient.**

Reviewed in the United States on March 30, 2016

Verified Purchase

The module is easy to tune and provides wide range of frequencies when the jumper is used. Mine came tuned to about 0.5Hz on the first setting and 1200Hz on the second setting of the jumper with PWM at about 50%. Tuning one potentiometer (pot) changes both the frequency and duty cycle while the second pot changes somewhat the frequency while altering the PWM coefficient. Multiple iterations may be needed to tune it. However, it is very easy to do with a help of a scope.

I have noticed that the potentiometers warm up in close to the end of their range. But the temperature does not raise above about 100F/40C. I only wonder whether the circuit still could have been battery operated in such case. Anyway, my application allows for use of wall wart.

I use these circuits to trigger infrared (IR) LEDs (that already have ar have internal oscillator at 38kHz) at 1200Hz and 600Hz so that they could be used as postion beasonc with Tetrix IR sensor for their robotic system.

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