

Voltage-Controlled Pulse Width Modulator (PWM)

This is an easy-to-use voltage to PWM converter. The project occupies very little space. The circuit is built using the versatile silicon timing device LT6992-1 chip. Pulse Width Modulation (PWM) Controlled by Simple 0V to 1V Analog Input, multiturn trimmer potentiometer provided to adjust the duty cycle 0 to 100 %. The circuit also has provision to set the frequency to 2.65Khz, 7.8Khz, 10.7Khz or 15.7Khz using jumper J1 and J2. Circuit operates with a 5V Supply. D1 is a power LED, all connections are made easy using the 3 pin male header connector CN1. This is a very useful tool as test gear or to drive various circuits that require a PWM signal. The output frequency is very accurate and steady has 1.7% Maximum Frequency Error. CMOS Output Driver Sources/Sinks 20mA

Frequency Setting (Jumper J1 and J2)

- J1-Open, J2 Open = 2.65KHz
- J1-Closed, J2-Open=10.4KHz
- J1-Closed, J2-Closed=15.7KHz
- J1-Open, J2 Closed=7.8KHz

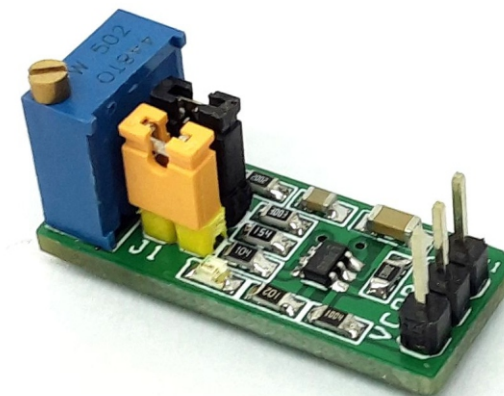
Duty Cycle

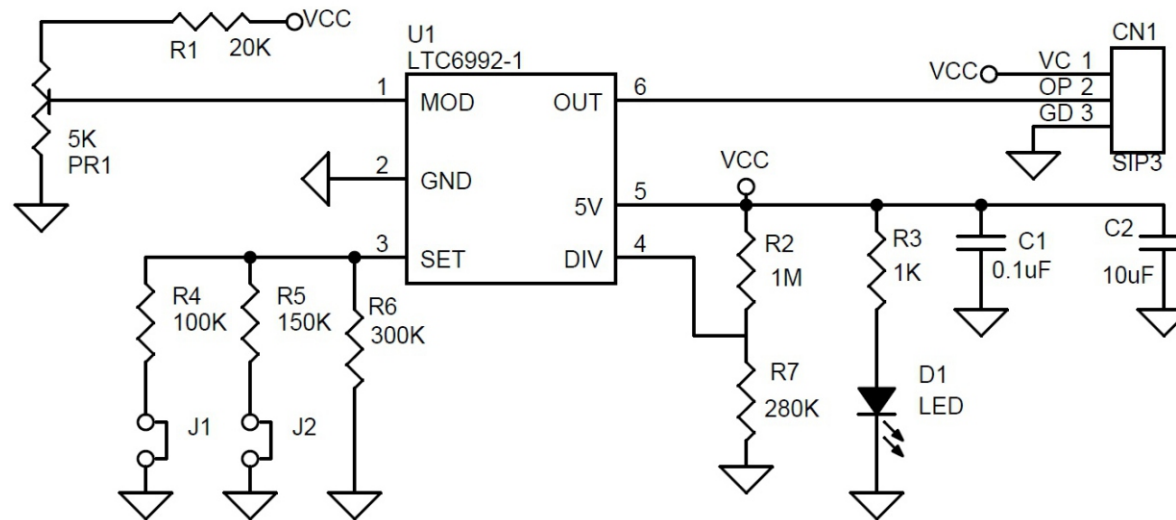
- Duty Cycle is adjustable 0 to 100 % using Multiturn Trimmer Potentiometer PR1. The duty cycle can also be controlled using external analog voltage, remove PR1 and use GND pin and middle pin of trimmer pot, to apply 0 to 1V to output PWM 0 to 100%.

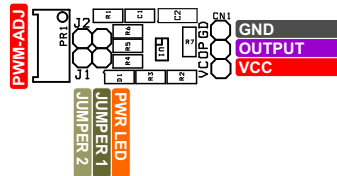
Power Input: Circuit operates with 5V DC power supply and consumes 10mA current

Application

- PWM Servo Loops
- Heater Control
- DC Motor speed control
- LED Dimming Control
- High Vibration, High Acceleration Environments
- Portable and Battery-Powered Equipment







BOM						
NO.	QNTY.	REF.	DESC.	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	CN1	3 PIN MALE HEADER PITHC 2.54MM	WURTH	DIGIKEY	732-5316-ND
2	1	C1	0.1uF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
3	1	C2	10uF/16V SMD SIZE 1206	MURATA/YAGEO	DIGIKEY	
4	1	D1	LED RED SMD SIZE 0805	LITE ON INC	DIGIKEY	160-1427-1-ND
5	2	J1,J2	2 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5315-ND
6	1	PR1	5K TRIMMER POT	BOURNS INC	DIGIKEY	3299W-502LF-ND
7	1	R1	20K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
8	1	R2	1M 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
9	1	R3	1K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
10	1	R4	100K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
11	1	R6	300K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
12	1	R7	280K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
13	1	U1	LTC6992-1	ANALOG	DIGIKEY	161-LTC6992IS6-1#TRPBFCT-ND
14	2	J1,J2	SHUNT	SULLINS CONNECTOR	DIGIKEY	S9001-ND
15	1	R5	150K 1% SMD Size 0805	MURATA/YAGEO	DIGIKEY	



