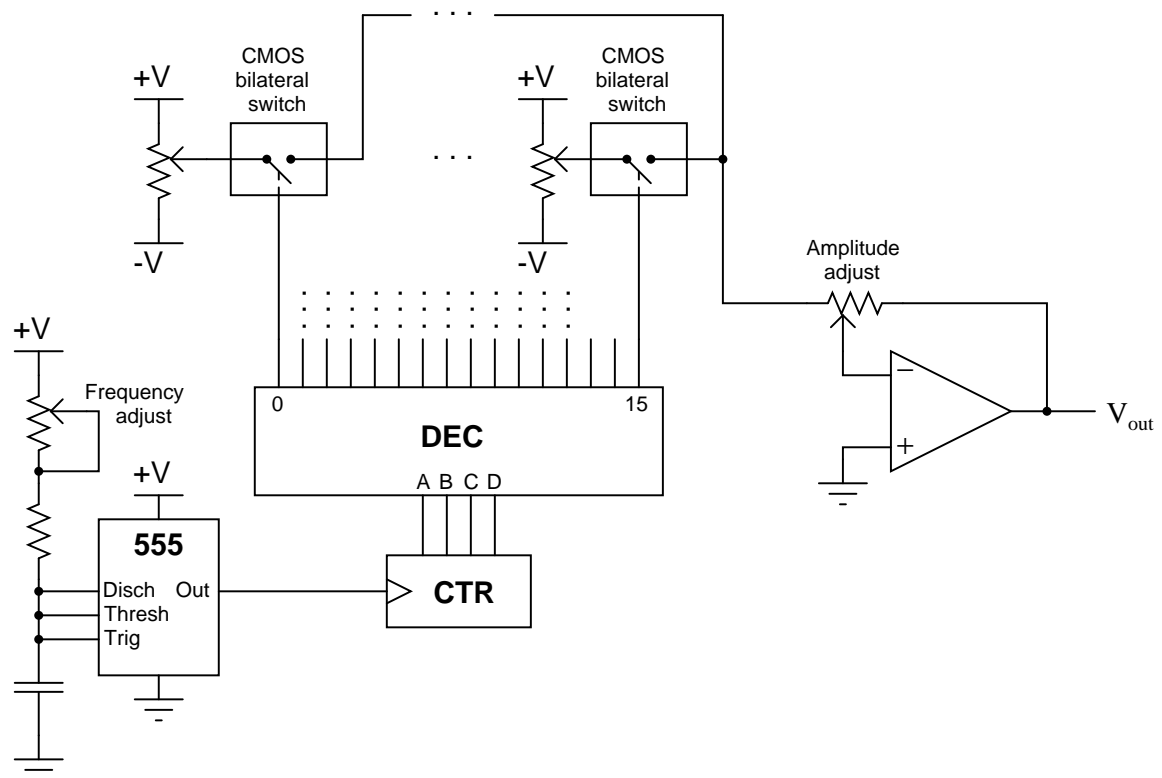


## Design Project: Arbitrary waveform generator

This worksheet and all related files are licensed under the Creative Commons Attribution License, version 1.0. To view a copy of this license, visit <http://creativecommons.org/licenses/by/1.0/>, or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA. The terms and conditions of this license allow for free copying, distribution, and/or modification of all licensed works by the general public.

Your project is to build a circuit that produces any arbitrary waveform desired, made of 16 discrete steps, all set by potentiometers. The following schematic diagram is very general and does not contain enough specific information to guide you completely in the construction of this circuit. In other words, you will have to figure out some of the details yourself!



Deadlines (set by instructor):

- Project design completed:
- Components purchased:
- Working prototype:
- Finished system:
- Full documentation:

---

Question 1

What, exactly, is an *arbitrary waveform generator*, and for what purposes might one be used?  
file 04020

---

Answer 1

I'll let you research the answer to this question! Most arbitrary waveform generators are far more sophisticated (and expensive!) than this, and they are worth every penny in the right testing circumstance.

---

Notes 1

Although this circuit is not nearly advanced enough to replace the functionality of a real arbitrary waveform generator, it makes for an interesting student project, combining analog and digital circuitry in one circuit.