Electronic Instrumentation
ENGR-4300 Fall 2000

Project 2: Optical Communications Link

Supplementary Information

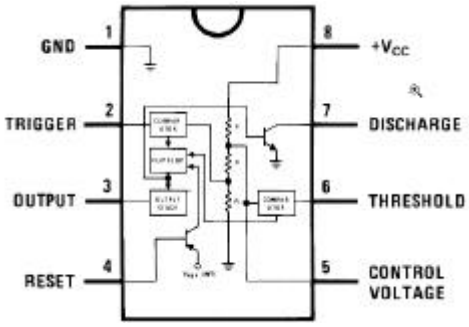

Figure SM-1: 555 Timer Pinouts

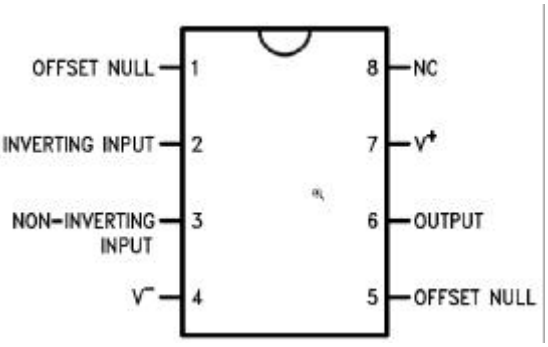

Figure SM-2: 741 Op-Amp Pinouts

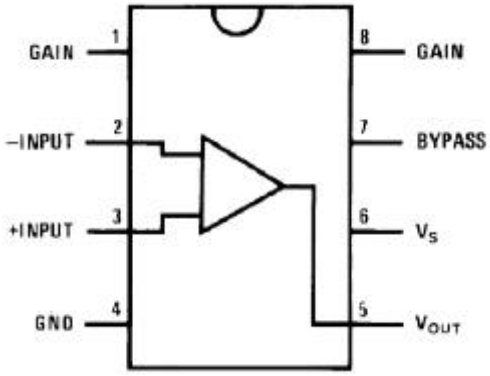

Figure SM-3: 386 Audio Amp Pinouts

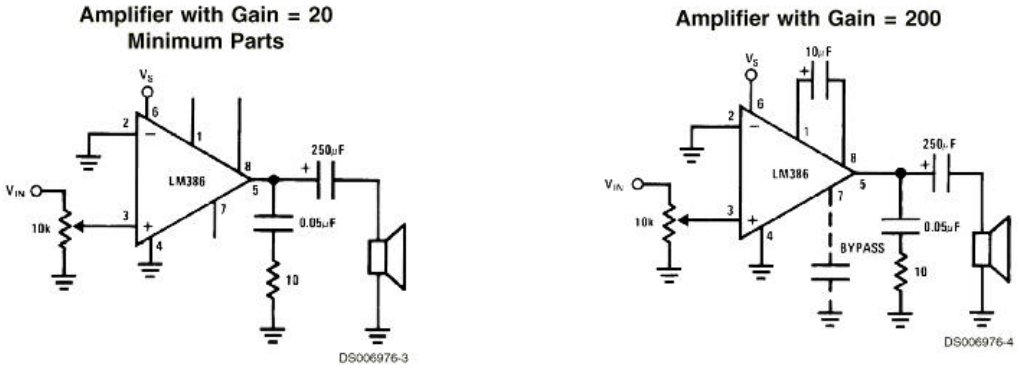

Figure SM-4: Standard audio amplifier configurations using the 386. Note that the capacitor between pins 1 and 8 control the gain. For this project, it has usually not been necessary to include this capacitor, since the gain is generally large enough without it. However, there has been a good deal of variability in the performance of the 396 chips, so you should test the circuit with and without the capacitor to see what works better..

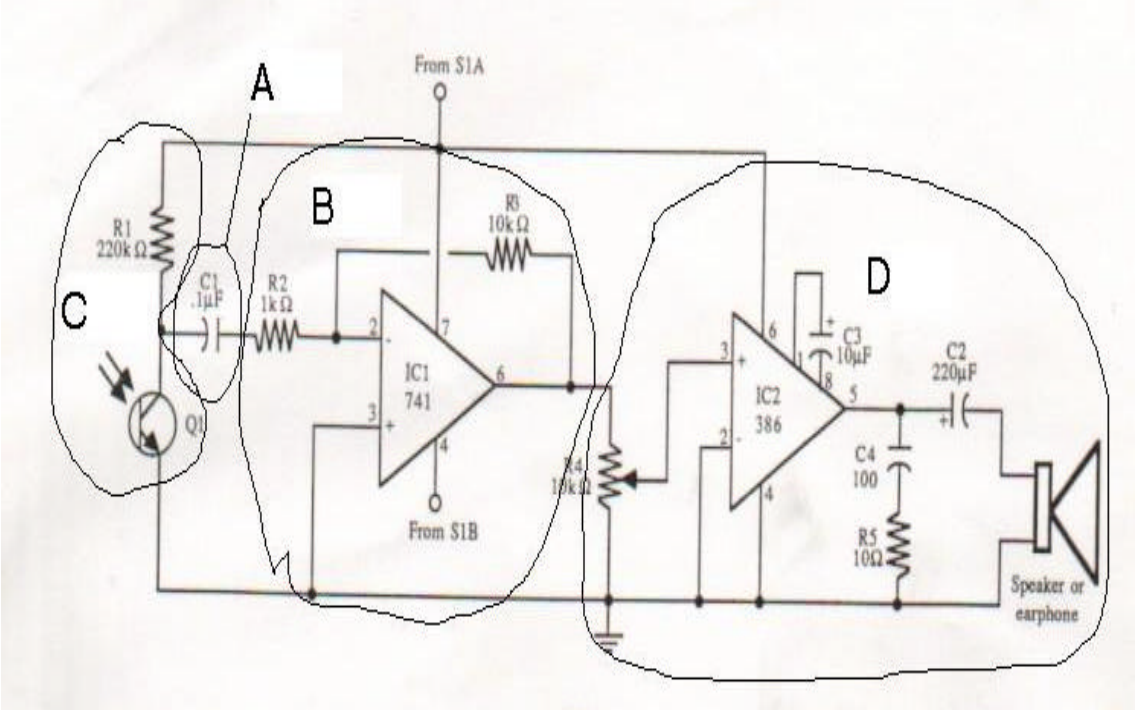

Figure SM-5: Receiver circuit showing four functional sub-circuits.
A. DC blocking capacitor, B. Inverting op-amp (pre-amplifier)
C. Photo-transistor circuit with bias resistor, D. Audio amplifier with speaker