

MEE ELECTRICAL MACHINES – Experiment #6

LABORATORY CONTENT: Power amplifiers

EQUIPMENT REQUIRED: (students should bring electronic components)

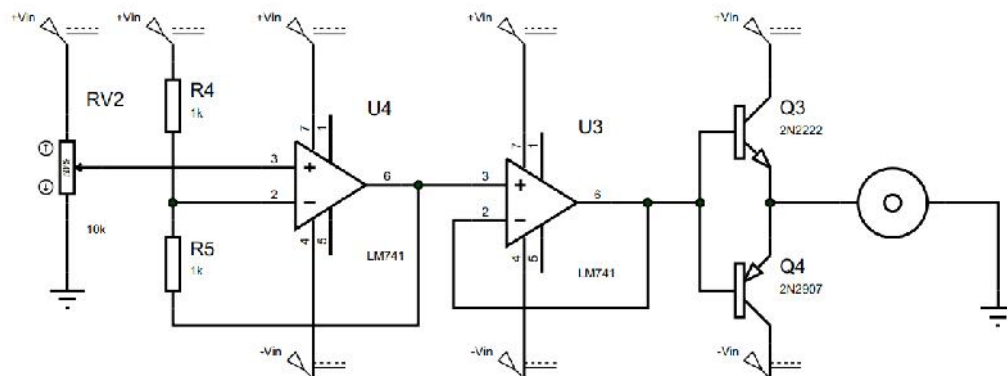
Qty	Description
1	Voltage supply (will be ready at lab.)
1	DC motor (5-6V or 12V, 1A nominal current at max)
1	2N2222
1	2N2907
2	LM741
2	1k resistor
1	10k potentiometer
-	Wiring equipments (jumper cables, crocodiles, etc.)

PRELIMINARY QUESTIONS:

- 1) Search about the power amplifier classes (A, B, AB, C and D). Draw the circuits basically. Briefly describe the field of application, advantages and disadvantages (two sentences and matters at max. for each).
- 2) Simulate a B class and an AB class amplifier. Print the results of input and output voltage for input voltage 5 V_{p-p} at 50Hz, 100Hz and 500Hz. Comment about the crossover distortions.

EXERCISE STEPS:

- 1) Apply the B class amplifier circuit below. Change the potentiometer to have two-directional motion with the DC motor.



IMPORTANT NOTE: For the next experiment, you need to build up some contents. So, the ones who are not prepared for the experiment will not be allowed to participate.