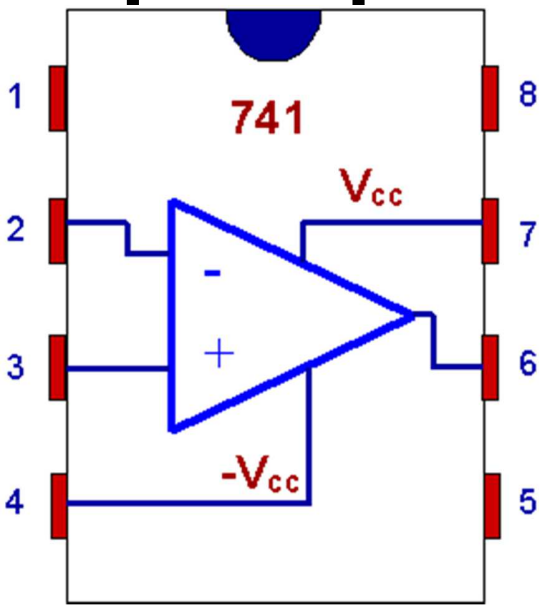
RCC INSTITUTE OF TECHNOLOGY
DIVISION OF YORKVILLE UNIVERSITY, NB

Advanced Electronic Circuits

EAC215

Basic Op-Amp Circuits



Name _____, _____ **Class** _____
(Please print) Last Name First Name

Objectives

- To construct and test basic op-amp circuits

Materials Required

- LM741
- Discrete components as required

Note

Unless instructed otherwise, always assume a dual supply op-amp should be powered with ±12V.

Procedure

1. Design and sketch the circuit for an **inverting** op-amp with Av = -100.

2. Construct the circuit on your breadboard and apply power.
3. Apply a signal of be 500mV @ 1kHz.
4. Ensuring your oscilloscope is AC coupled, sketch the input and output waveforms on oscilloscope graph paper. Clearly indicate the magnitudes of the input and output waveforms and their phase relationship.
5. Keeping Vin constant, increase the frequency to measure f_C. f_C = _____
6. Sketch the frequency response graph on semi-log paper.
7. Demonstrate this circuit to the Instructor.

Instructor Demo: _____

8. Design and sketch the circuit for a ***non-inverting*** op-amp Av = 101.

9. Construct the circuit on your breadboard and apply power.
10. Apply a signal of be 500mV @ 1kHz.
11. Ensuring your oscilloscope is AC coupled, sketch the input and output waveforms on oscilloscope graph paper. Clearly indicate the magnitudes of the input and output waveforms and their phase relationship.
12. Keeping Vin constant, increase the frequency to measure f_C. f_C = _____
13. Demonstrate this circuit to the Instructor.

Instructor Demo: _____

14. What is the gain of a voltage follower _____
15. What is the difference between a voltage follower and a buffer?

_____

_____

16. Design and sketch the circuit for a **voltage follower** op-amp.

17. Construct the circuit on your breadboard and apply power.
18. Apply a signal of be 1V @ 1kHz.
19. Ensuring your oscilloscope is AC coupled, sketch the input and output waveforms on oscilloscope graph paper. Clearly indicate the magnitudes of the input and output waveforms and their phase relationship.
20. Keeping Vin constant, increase the frequency to measure f_C. f_C = _____
21. Sketch frequency response graph on semi-log paper.
22. Demonstrate this circuit to the Instructor.

Instructor Demo: _____