DENEY PROTOKOL KAĞIDI

Deney No	Deney Tarihi	Deney Adı
05	15.03.2024	Non-linear Applications of Operational Amplifiers

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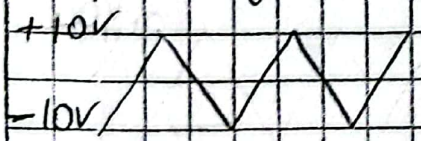
Exp 1:

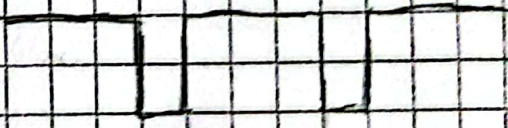
Input Voltage (CH1)



Output Voltages (CH2)

For 0V:

For Min:



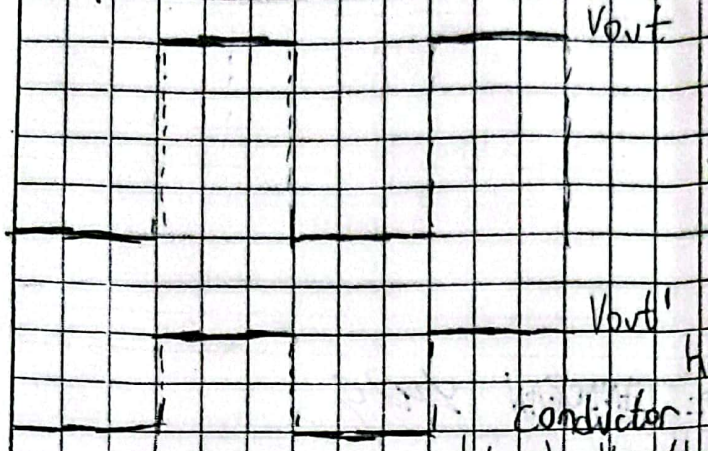
For Max:

This is a voltage comparator circuit that compares two voltages and determines which of them is the largest in magnitude.

It has two input terminals;
1- Non inverting input + (Vref)
2- Inverting input - (Vi)

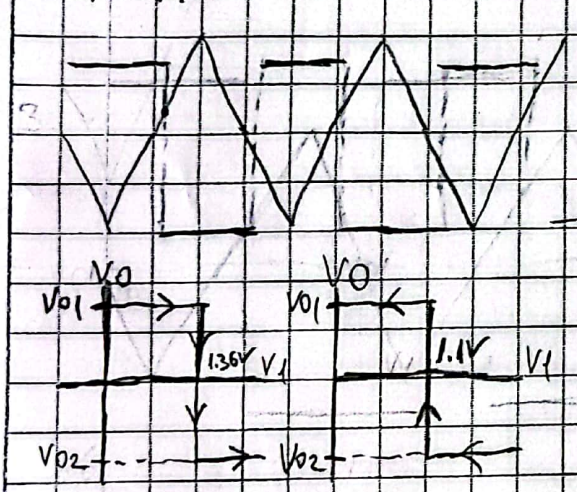
If the voltage at the non inverting input (Vref) is higher than the voltage at the inverting (Vi) the difference voltage is positive and the Output voltage goes to its maximum positive value. On the other hand, if Vref is less than Vi, the difference voltage is negative and the output voltage reaches to its maximum negative value.

Exp 2:



This is a voltage limited comparator circuit that restricts the voltage at a particular point in a circuit to a specific level, continuously regulating it to prevent it from exceeding a predetermined threshold. Zener diodes, which are semiconductor devices that conducts in reverse biased direction once a certain voltage (zener voltage) is reached, are used to regulate the voltage. Vo, the voltage has not been yet regulated, and Vo' the voltage after regulation, can be observed on the oscilloscope.

Exp 3,4:



This is a Schmitt trigger circuit that is a comparator circuit with a positive feedback to the noninverting input of an amplifier.

Exp 5: