

ŞEKİL 4.6 - VCO DENEY DEVRESİ

The diagram illustrates a VCO (Voltage-Controlled Oscillator) experiment circuit. The circuit is powered by a 5.0V supply (VDD) and a -5.0V supply (VCC). The input signal, Input1 (1V), is applied to the base of the BC238BP transistor (Q1). The emitter of Q1 is connected to ground, and the collector is connected to the non-inverting input of the first op-amp (U1A, TL072ACD) through a 10kΩ resistor (R7). The non-inverting input of U1A is also connected to ground through a 47kΩ resistor (R3). The inverting input of U1A is connected to the output of U1A through a 47kΩ resistor (R2) and to the -5.0V supply through a 100kΩ resistor (R1). The output of U1A is connected to the non-inverting input of the second op-amp (U1B, TL072ACD) through a 10kΩ resistor (R5). The inverting input of U1B is connected to the output of U1B through a 47kΩ resistor (R4) and to the -5.0V supply through a 10kΩ resistor (R6). The output of U1B is connected to the base of the BC307AP transistor (Q2) through a 470Ω resistor (R9). The emitter of Q2 is connected to ground, and the collector is connected to the output of the circuit through a 470Ω resistor (R8). The output of the circuit is measured at three points: Output1 (the output of U1A), Output2 (the output of U1B), and Output3 (the output of Q2). A 1nF capacitor (C1) is connected between the output of U1A and the output of U1B. A 1V reference voltage (Ref1) is applied to the base of Q1, and a 5.0V reference voltage (Ref2) is applied to the base of Q2.