

Lab 2 Extra

IN3170 - Microelectronics

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1 Task 1

1.1 Objective

The objective of this task is to build two CMOS inverter chains of different length and probing before the first and after the last inverter. The purpose of this is to measure and calculate the propagation delay a single inverter without knowing the added capacitance of the scope probe or directly measuring the input capacitance of just one inverter.

1.2 Equipment

Component	Model	Quantity
Hex Schmitt-Trigger Inverters	SN74HC1	1
Oscilloscope	HP54622	1
Waveform generator	HP33120	1
Voltage source	HPE3631	1
Breadboard		1

Table 1: List of components used in task 1.

1.3 Method

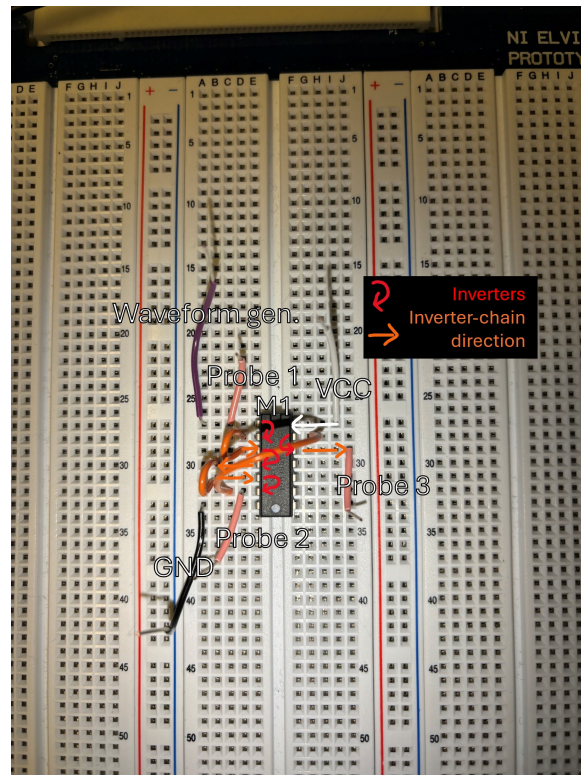


Figure 1: Picture of the setup for task 1.

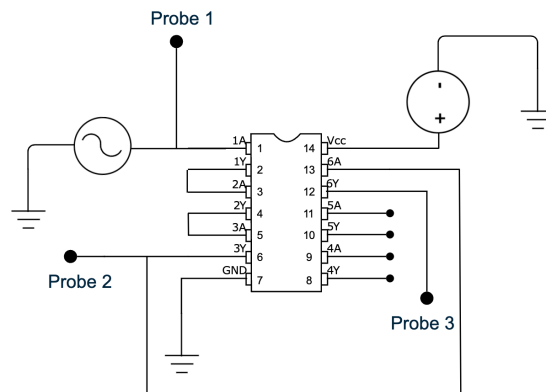


Figure 2: Schematic of the setup for task 1.