

1 EXERCISE 5: COMPATIBILITY BETWEEN TTL AND CMOS

Connecting the following circuit in figure 1.1 and 1.2 leaving one of the inputs floating having $V_{cc} = 5V$.

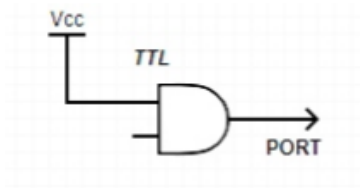


Figure 1.1: **TTL Circuit**

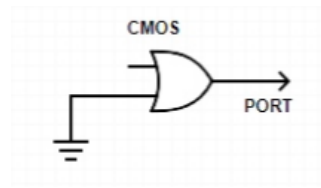


Figure 1.2: **CMOS Circuit**

For the 74LS08, the TTL component, the output port value shown was a logical 1 constantly. On the other hand, the 74HC32, the CMOS component, the results were random at a frequency of 50Hz, having variation from being a quadratic function from 0 to 5V, a

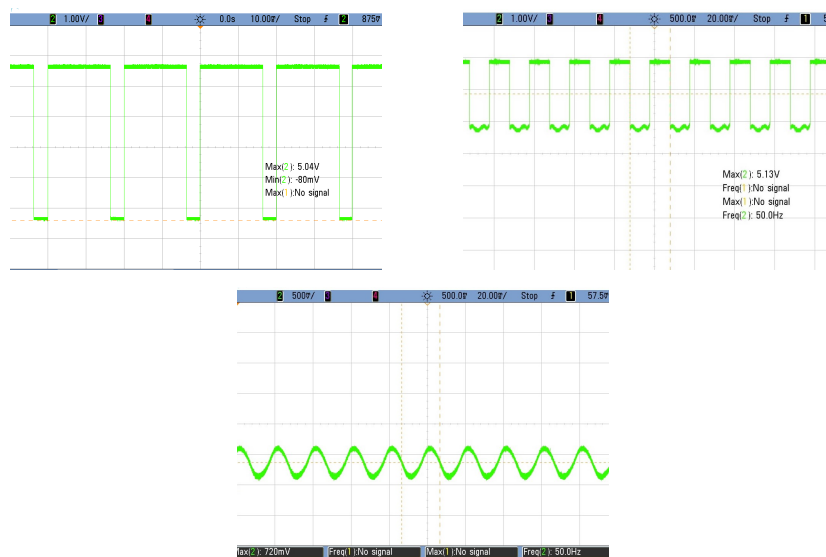


Figure 1.3: **74HC02 load to 74LS02**