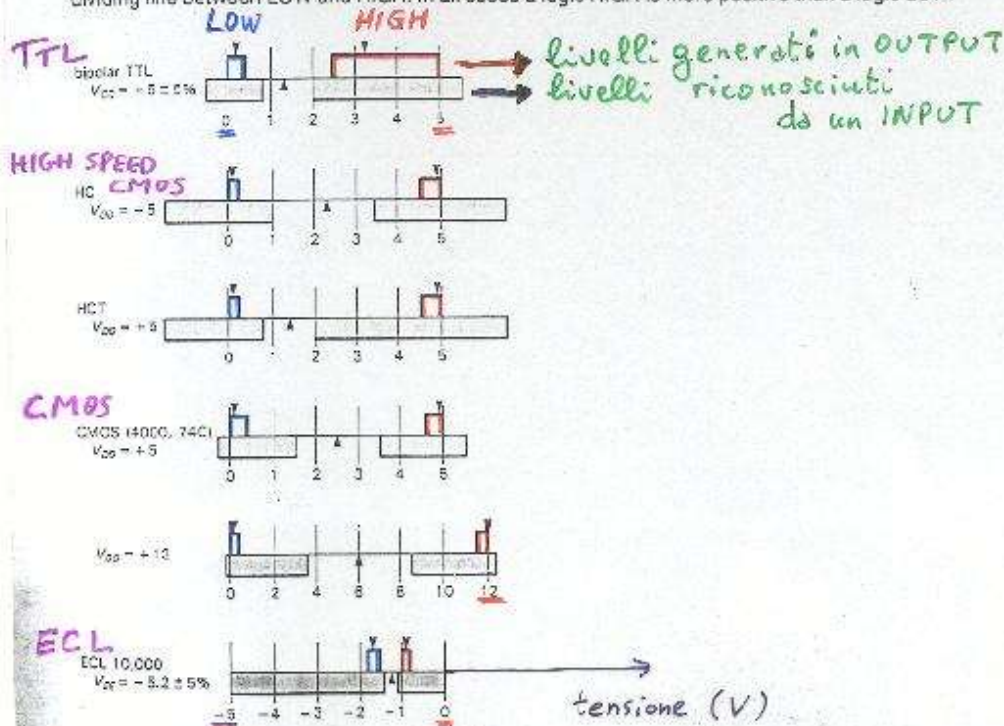


Livelli HIGH e LOW in varie famiglie logiche

LIVELLI LOGICI "HIGH" E "LOW" nelle principali famiglie di logico digitale

LOGIC LEVELS

The diagram shows the ranges of voltages that correspond to the two logic states (HIGH and LOW) for the most popular families of digital logic. For each logic family it is necessary to specify legal values of both output and input voltages corresponding to the two states HIGH and LOW. The shaded areas above the line show the specified range of output voltages that a logic LOW or HIGH is guaranteed to fall within, with the pair of arrows indicating typical output values (LOW, HIGH) encountered in practice. The shaded areas below the line show the range of input voltages guaranteed to be interpreted as LOW or HIGH, with the arrow indicating the typical logic threshold voltage, i.e., the dividing line between LOW and HIGH. In all cases a logic HIGH is more positive than a logic LOW.



The meanings of "minimum," "typical," and "maximum," in electronic specifications are worth a few words of explanation. Most simply, the manufacturer guarantees that the components will fall in the range minimum-maximum, with many close to "typical." What this means is that typical specifications are what you use when designing circuits; however, those circuits must work properly over the whole range of specifications from minimum to maximum (the extremes of manufacturing variability). In particular, a well-designed circuit must function under the worst possible combination of minimum and maximum values. This is known as *worst-case design*, and it is essential for any instrument produced from off-the-shelf (i.e., not specially selected) components.