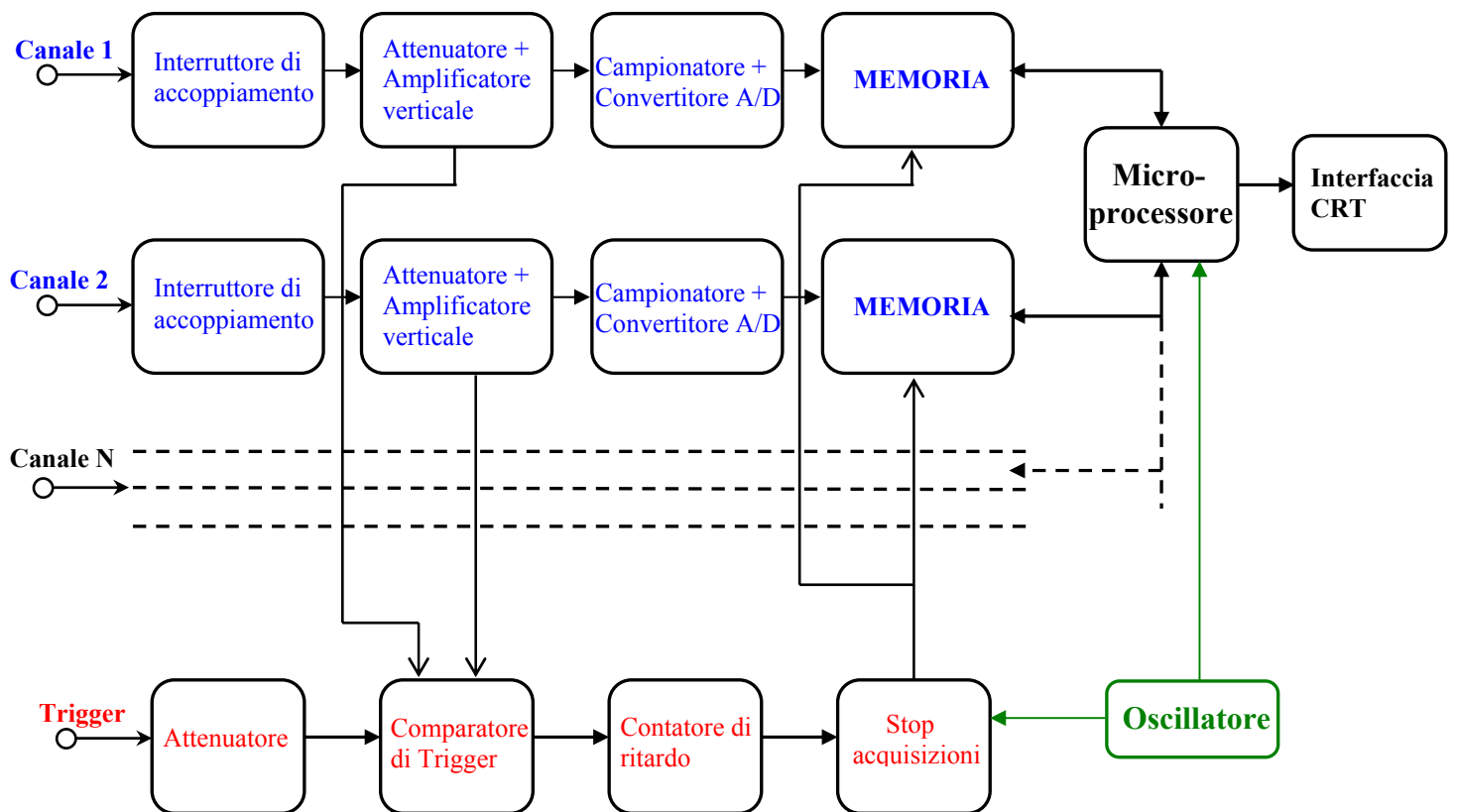


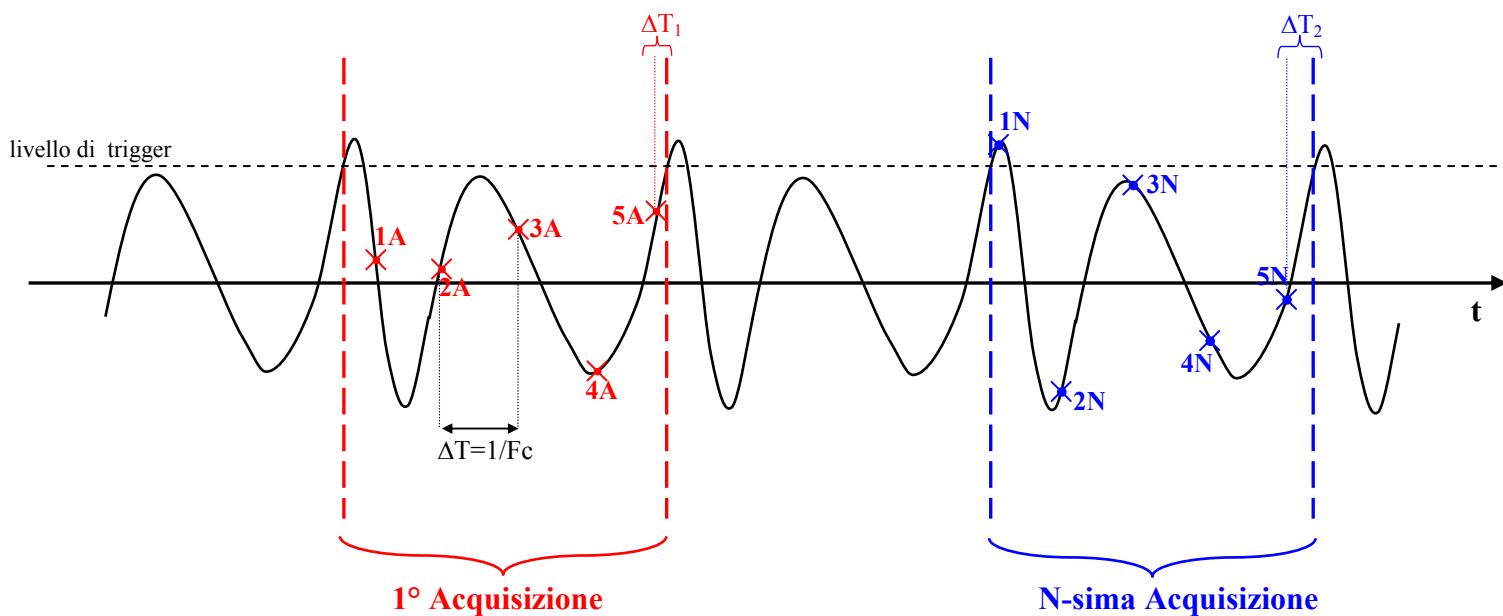
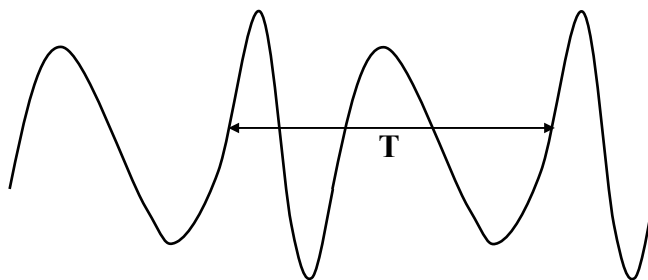
## SCHEMA A BLOCCHI DI UN OSCILLOSCOPIO DIGITALE



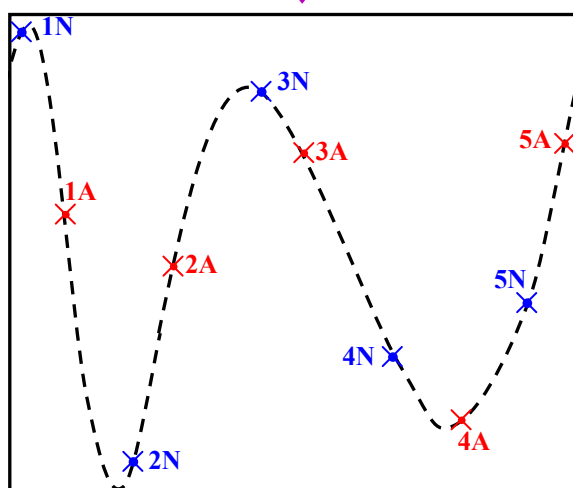
# Campionamento Tempo Equivalente

Hp:

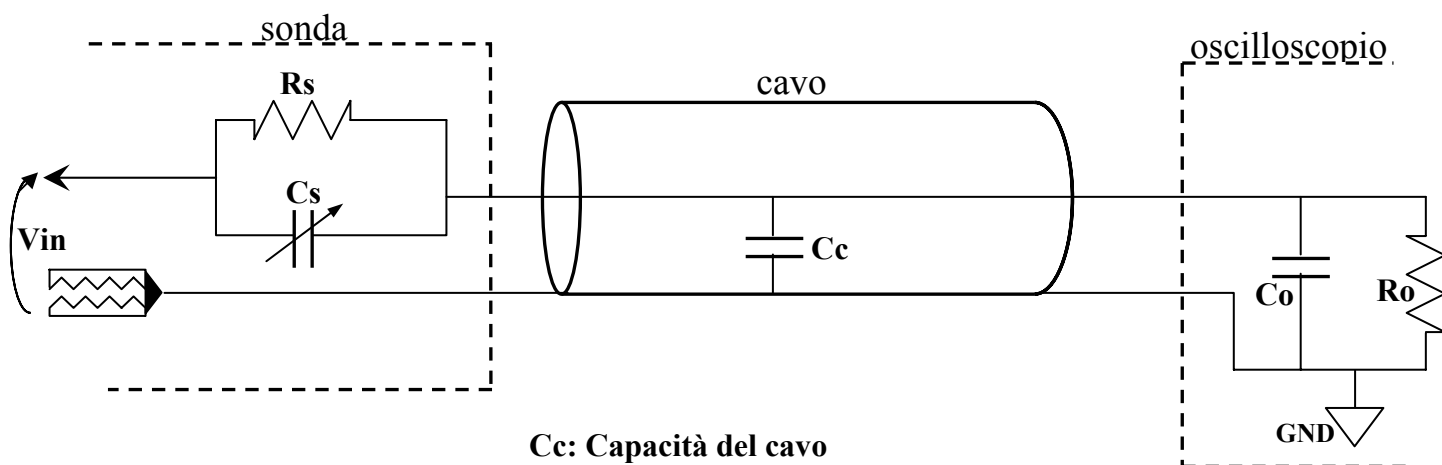
- 1- Segnale di ingresso periodico
- 2- Ritardo di Trigger = 0



$$\Delta T_1 \neq \Delta T_2$$



# Sonda compensata



**$C_c$ :** Capacità del cavo

**$R_s$ :** Resistenza della sonda

**$C_s$ :** Capacità di compensazione della sonda

**$C_o$ :** Capacità di ingresso dell'oscilloscopio

**$R_o$ :** Resistenza di ingresso dell'oscilloscopio

## Compensazione



Perfetta compensazione



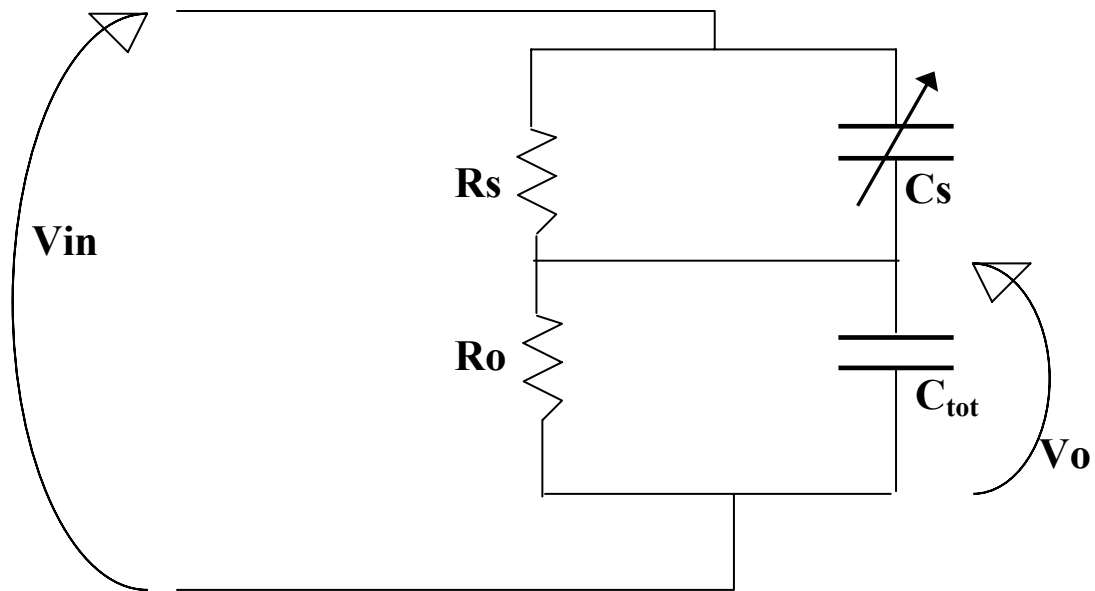
Sovra-compensazione



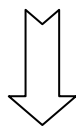
Sotto-compensazione

# CALCOLO DEL PARTITORE COMPENSATO

$$C_{tot} = C_C + C_O$$



$$V_o = V_{in} \frac{\frac{R_o}{1 + j\omega R_o C_{tot}}}{\frac{R_o}{1 + j\omega R_o C_{tot}} + \frac{R_s}{1 + j\omega R_s C_s}}$$



$$\frac{V_o}{V_{in}} = \frac{R_o}{R_o + R_s \left( \frac{1 + j\omega R_o C_{tot}}{1 + j\omega R_s C_s} \right)}$$

se  $R_s C_s = R_o C_{tot}$

A large downward-pointing arrow indicating the condition for a compensated voltage divider.

$$\frac{V_o}{V_{in}} = \frac{R_o}{R_s + R_o} \quad \forall \omega$$