

ha contenuto di informazione limitato
ma il rumore aggiunto ad ogni
elaborazione, se non è tale da
invertire lo stato logico, non degrada
l'informazione (effetto rigenerativo)

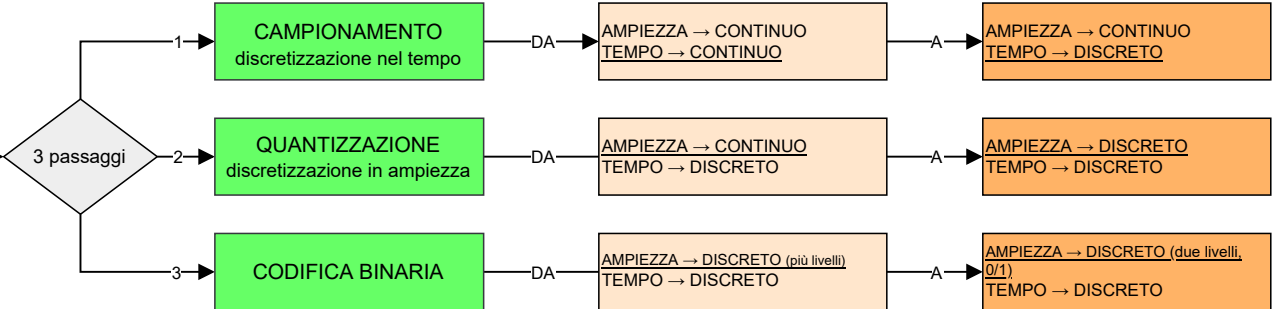
AMPIEZZA → CONTINUO
TEMPO → CONTINUO

AMPIEZZA → DISCRETO
TEMPO → DISCRETO

AMPIEZZA → CONTINUO
TEMPO → DISCRETO

AMPIEZZA → DISCRETO
TEMPO → CONTINUO

CONVERSIONE ANALOGICO → DIGITALE



FUNZIONI SISTEMI ELETTRONICI

DIGITALI

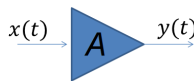
ANALOGICHE

SENZA MEMORIA

CON MEMORIA

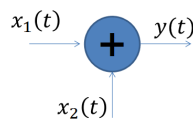
AMPLIFICAZIONE
amplificatore

$$y(t) = Ax(t)$$



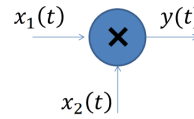
SOMMA
sommatore

$$y(t) = x_1(t) + x_2(t)$$



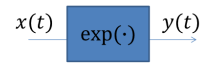
PRODOTTO
moltiplicatore/mixer

$$y(t) = k_p x_1(t) * x_2(t)$$



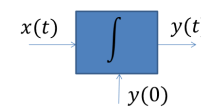
ALTRE
amplificatore non-
lineare (ex.
esponenziale)

$$y(t) = k_1 \exp[k_2 x(t)]$$



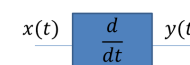
INTEGRALE
integratore

$$y(t) = \int_0^t k_i x(t') dt' + y(0)$$



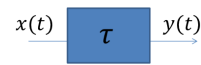
DERIVATA
derivatore

$$y(t) = k_d \frac{dx(t)}{dt}$$



RITARDO
(linea di) ritardo

$$y(t) = x(t - \tau)$$



FILTRAGGIO
filtro (LPF - BPF - HPF)

$$Y(f) = H(f)X(f)$$

