summary

$$x(t) \longrightarrow A/D \longrightarrow y[n]$$

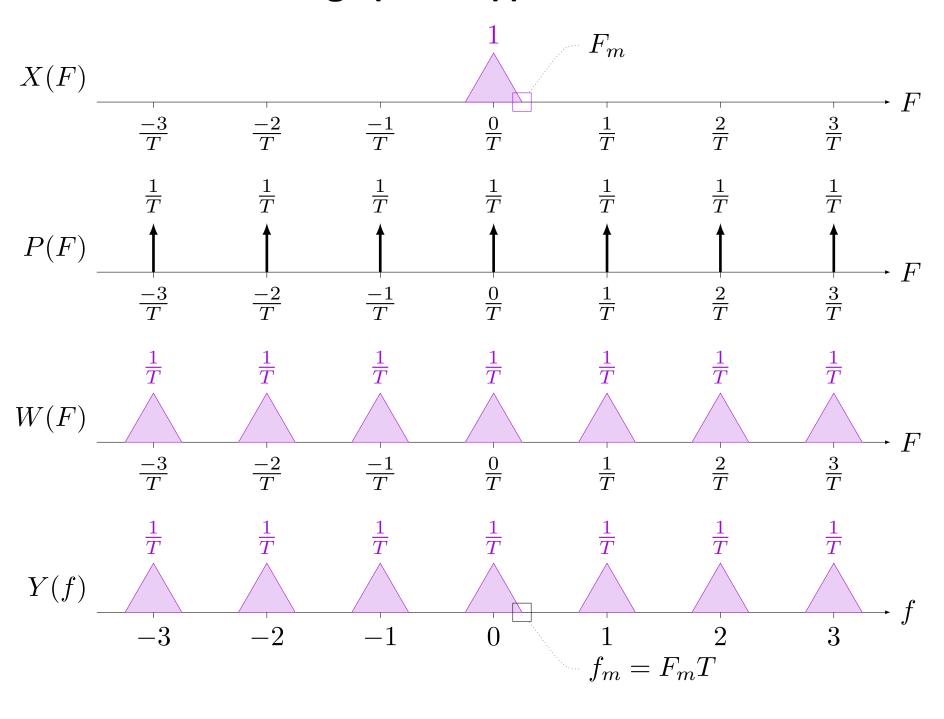
$$\begin{array}{c|c} x(t) & & & w(t) \\ X(F) & & & & \\ \hline \end{array} \quad \begin{array}{c} w(t) & & \\ \hline W(F) & & \\ \hline \end{array} \quad \begin{array}{c} y[n] \\ \text{to sequence} \end{array}$$

$$p(t) = \sum_{n = -\infty}^{\infty} \delta(t - nT) \quad \longleftrightarrow \quad P(F) = \frac{1}{T} \sum_{k = -\infty}^{\infty} \delta\left(F - \frac{k}{T}\right)$$

aliasing formula:
$$W(F) = \frac{1}{T} \sum_{k=-\infty}^{\infty} X\left(F - \frac{k}{T}\right)$$

sampling formula:
$$Y(f) = \frac{1}{T} \sum_{k=-\infty}^{\infty} X\left(\frac{f-k}{T}\right)$$

graphical approach



graphical approach

