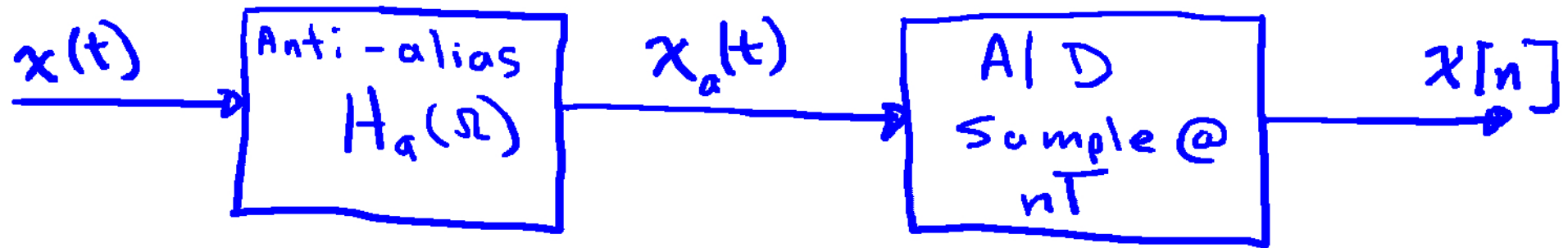
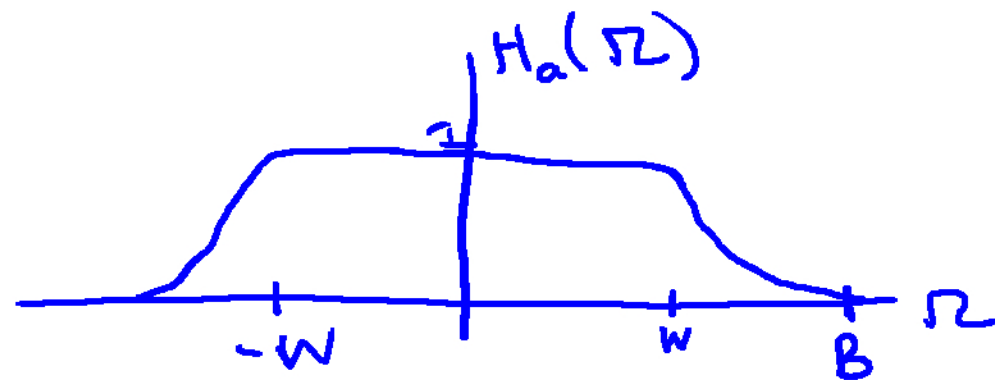
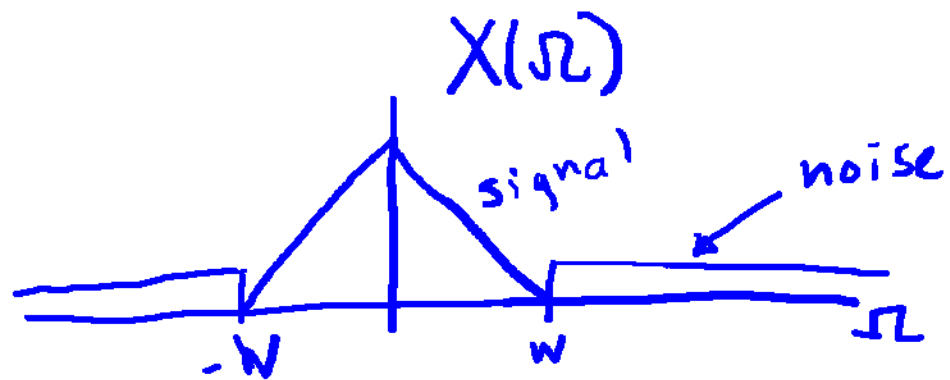


Practical Sampling.

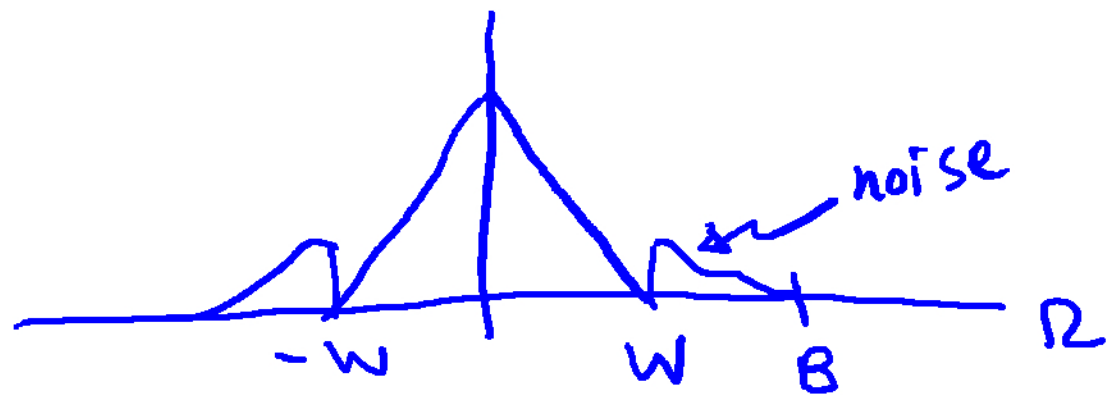
- 1) Many signals are not bandlimited
- 2) Noise is usually present

⇒ Use analog lowpass filter before sampling to guarantee the signal is bandlimited





$$X_a(\Omega) = X(\Omega) H_a(\Omega)$$



$$\Omega_s = \frac{2\pi}{T} > 2B$$

no aliasing

For no aliasing of noise into signal band

$$\Omega_s - B > W \Rightarrow \Omega_s > B + W$$