

Sampling

• must sample at $f_s = 2 \cdot f_{max}$ to avoid aliasing

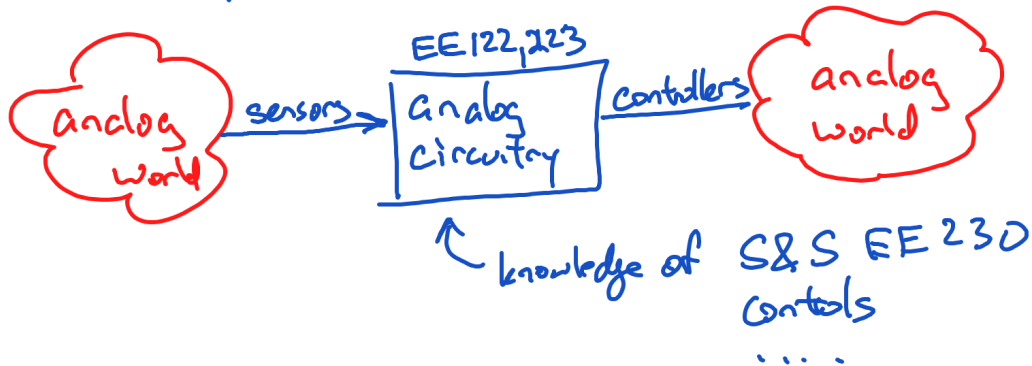


$$f_s = f_{max}$$

• $f = \frac{f_s}{2} \Rightarrow \omega = \pi \text{ rad/sample}$ DTFT DFT

$$f = f_s \Rightarrow \omega = 2\pi \Rightarrow \boxed{\frac{f}{f_s} = \frac{\omega}{2\pi} = \frac{k}{N}}$$

• Prototypic system



- hard to design, build
- hard to modify

Prototypic DSP System

