

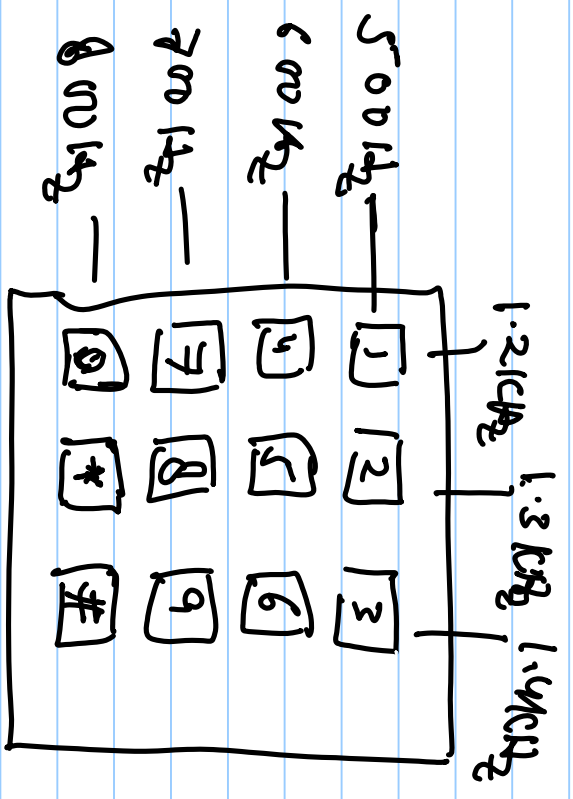
## Analog Filters

Filters are used to remove unwanted signals (frequencies).

### Applications

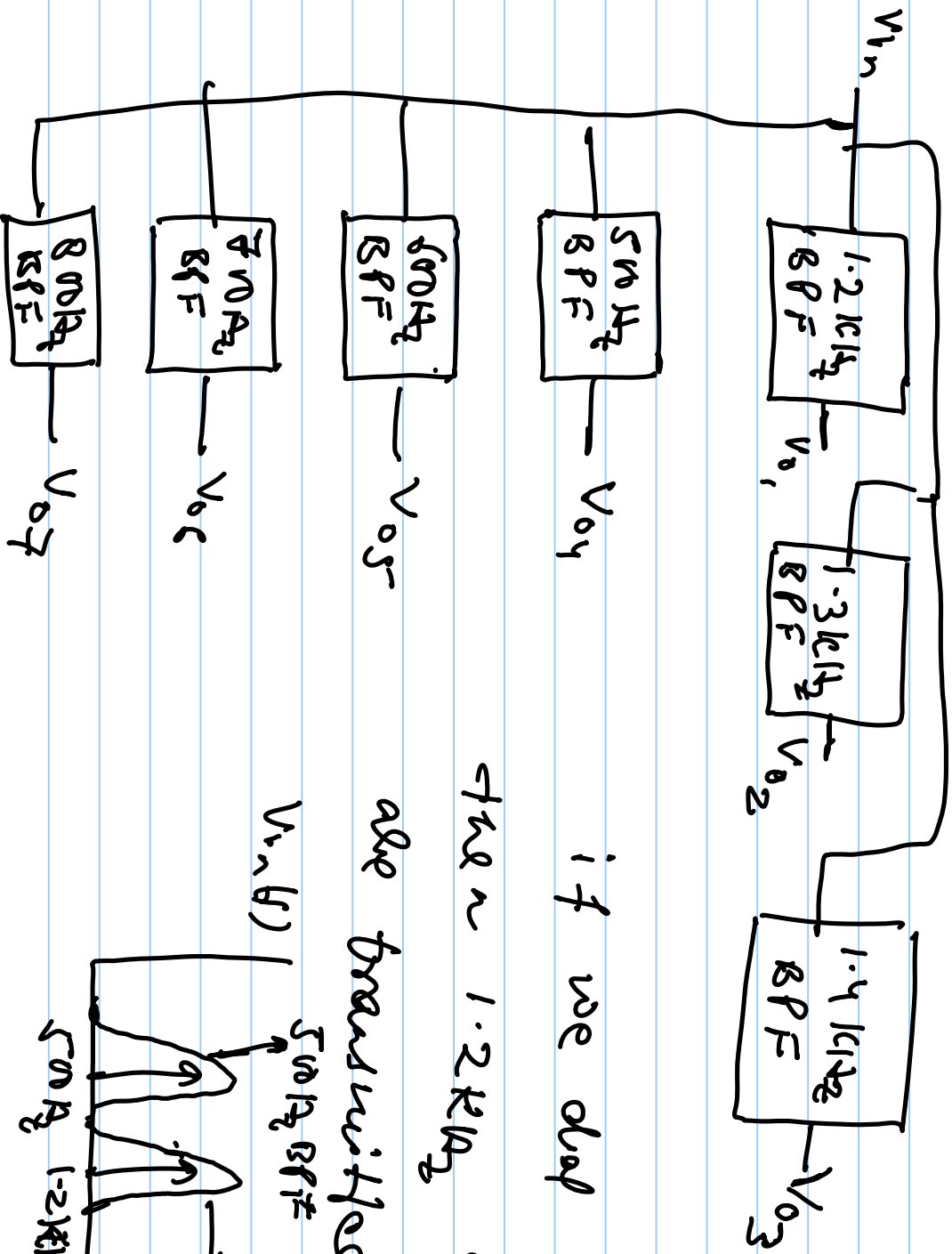
1. Communication
2. Sensors → biomedical or any other sensors.
3. AD converters
4. Signal decoding

# Telephone dial pad



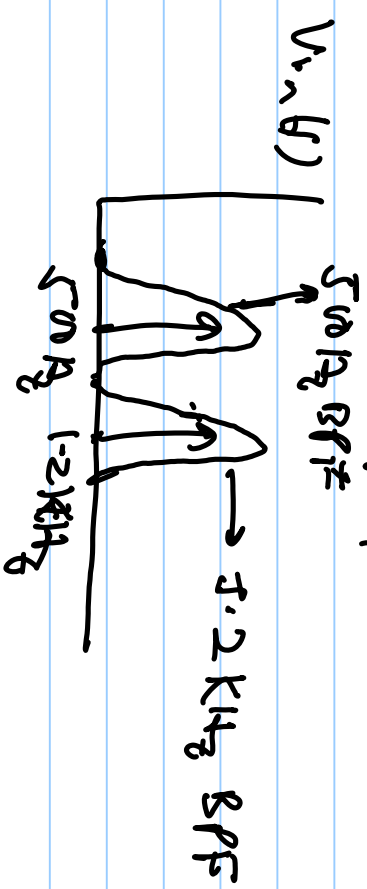
DTMF

dual Tone Multiple Frequencies

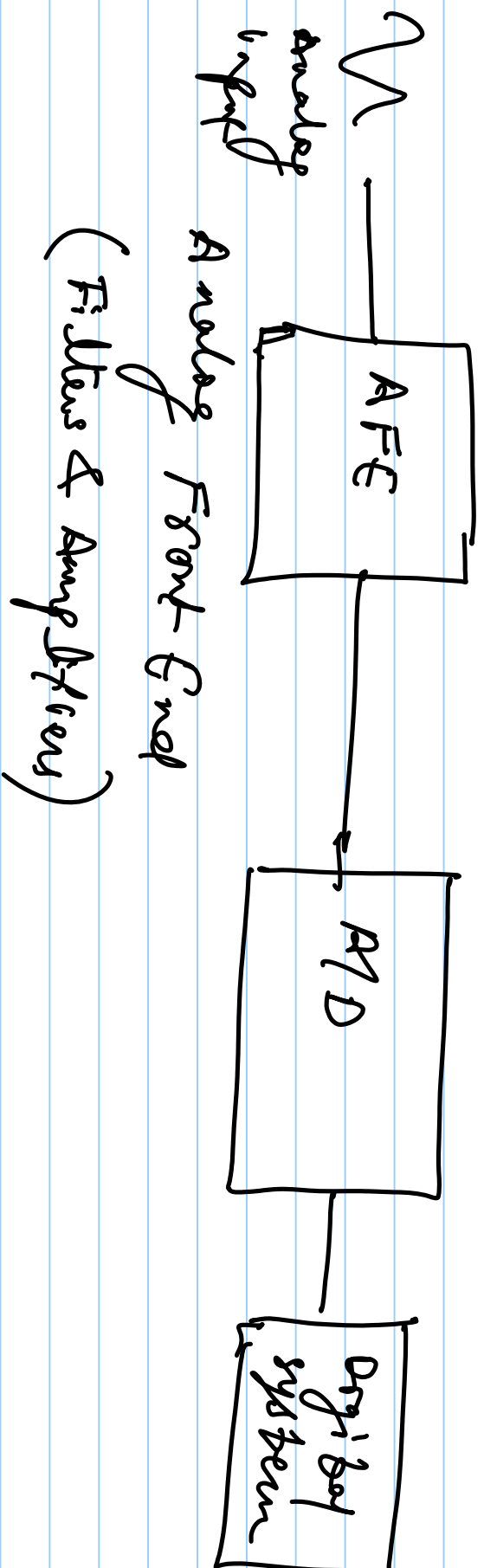


if we add [1]

then 1.2 kHz & 500 Hz tones are transmitted.

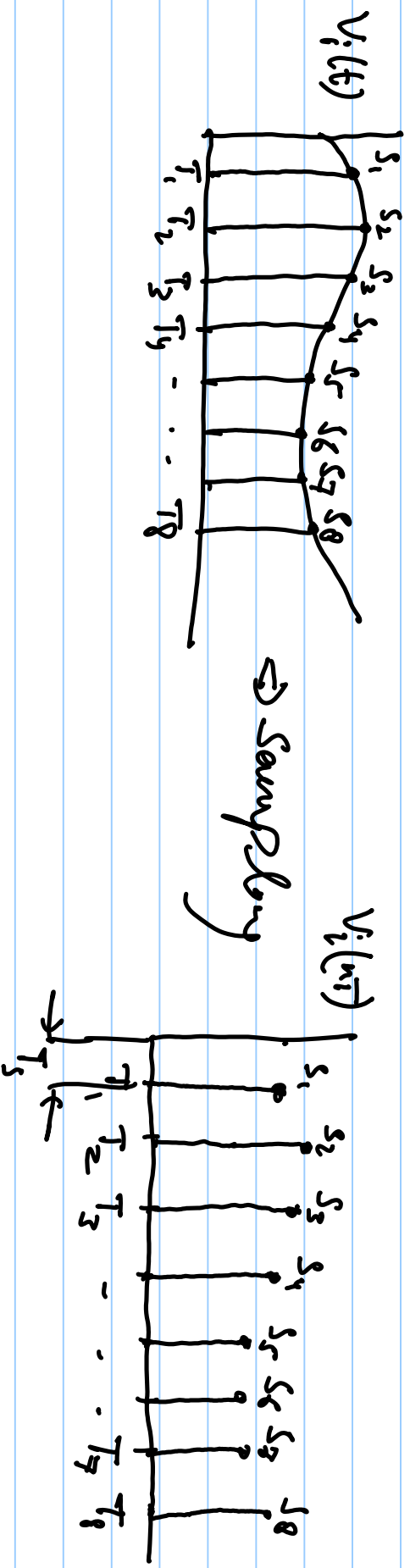


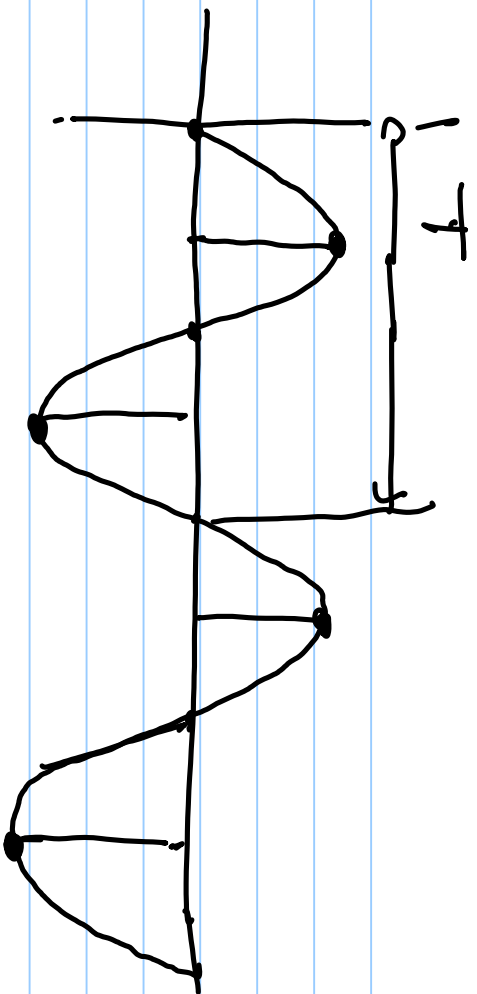
# Sensors



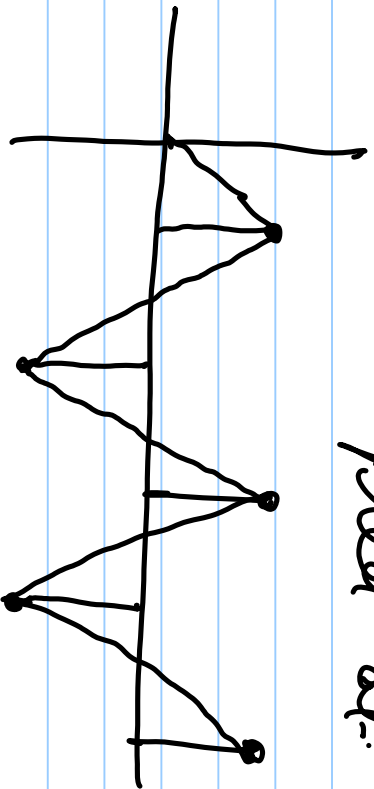
## Anti-Aliasing Filter

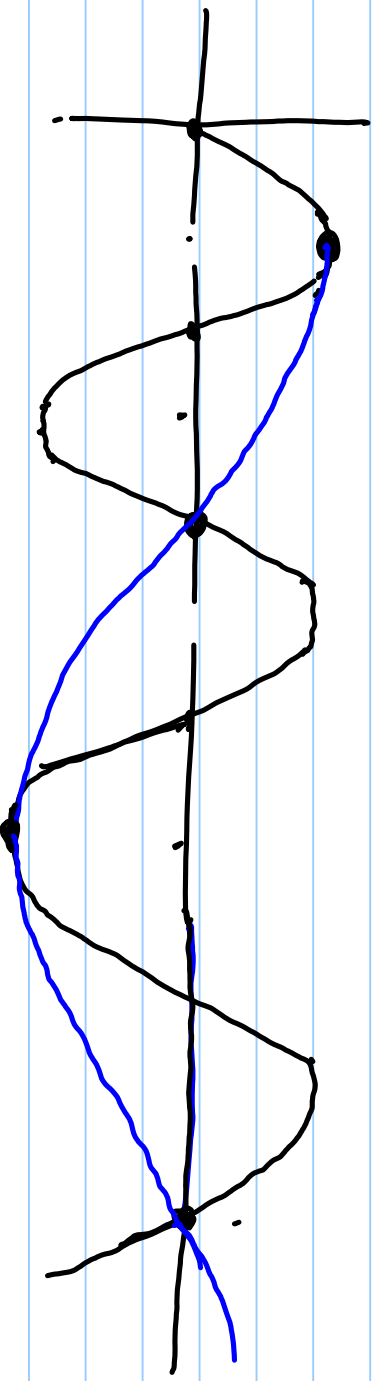
Anti-Aliasing Filter is used before A/D conversion in order to avoid aliasing in sampling.





Sampled at:  $T_s = T/2$





→ Also in range in-band.

