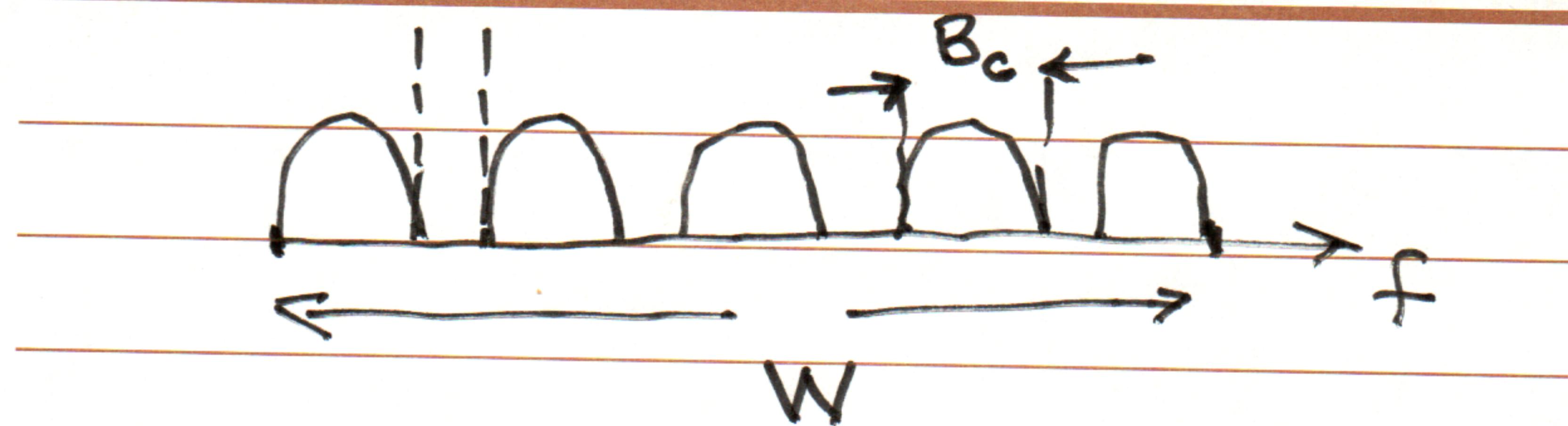


UDP Send to Command

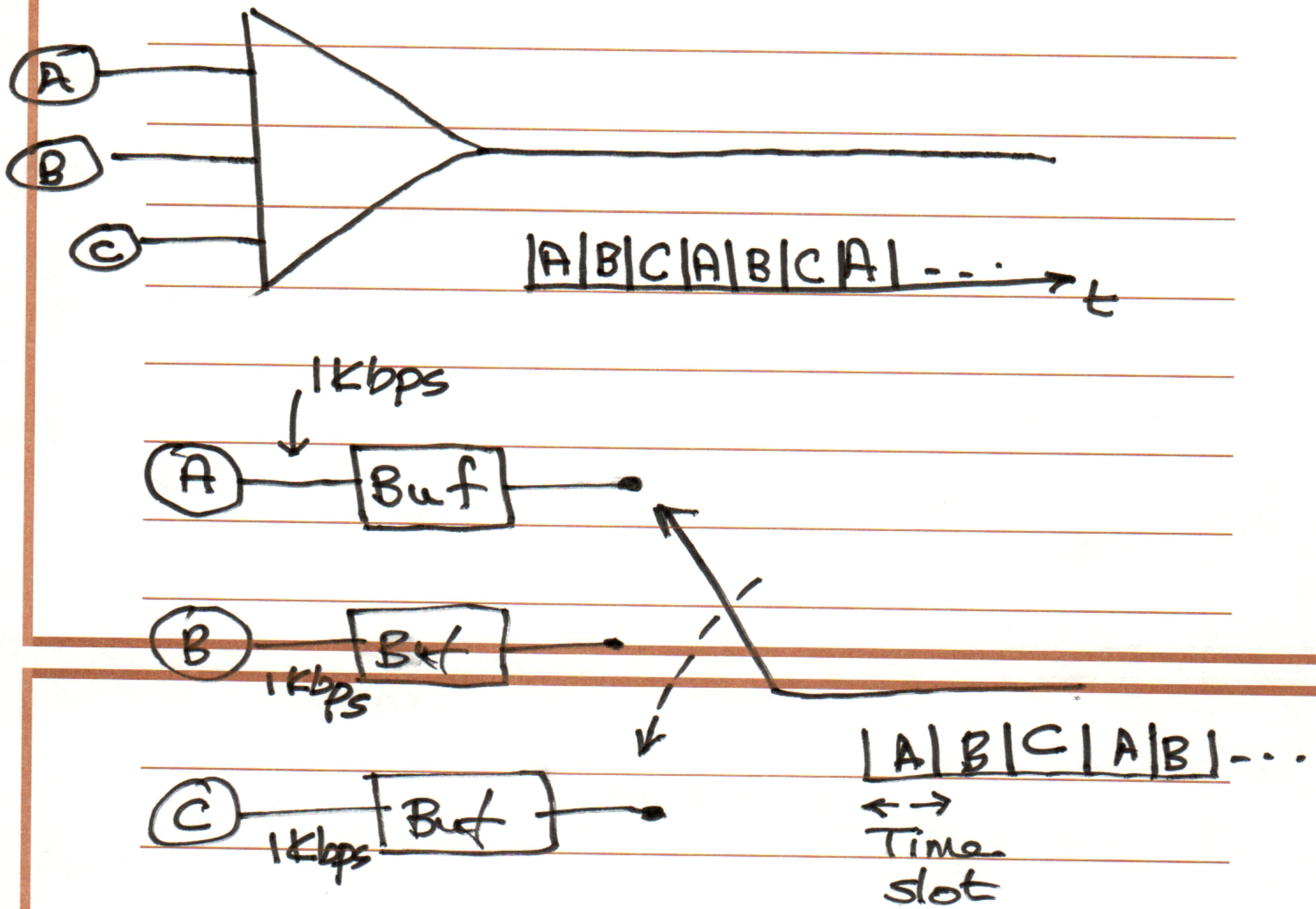
Send to (socket, message, message length, remote socket address, address length)

recv from (socket, Buffer, Buffer length, recv, Source Socket add, address length).

guard band



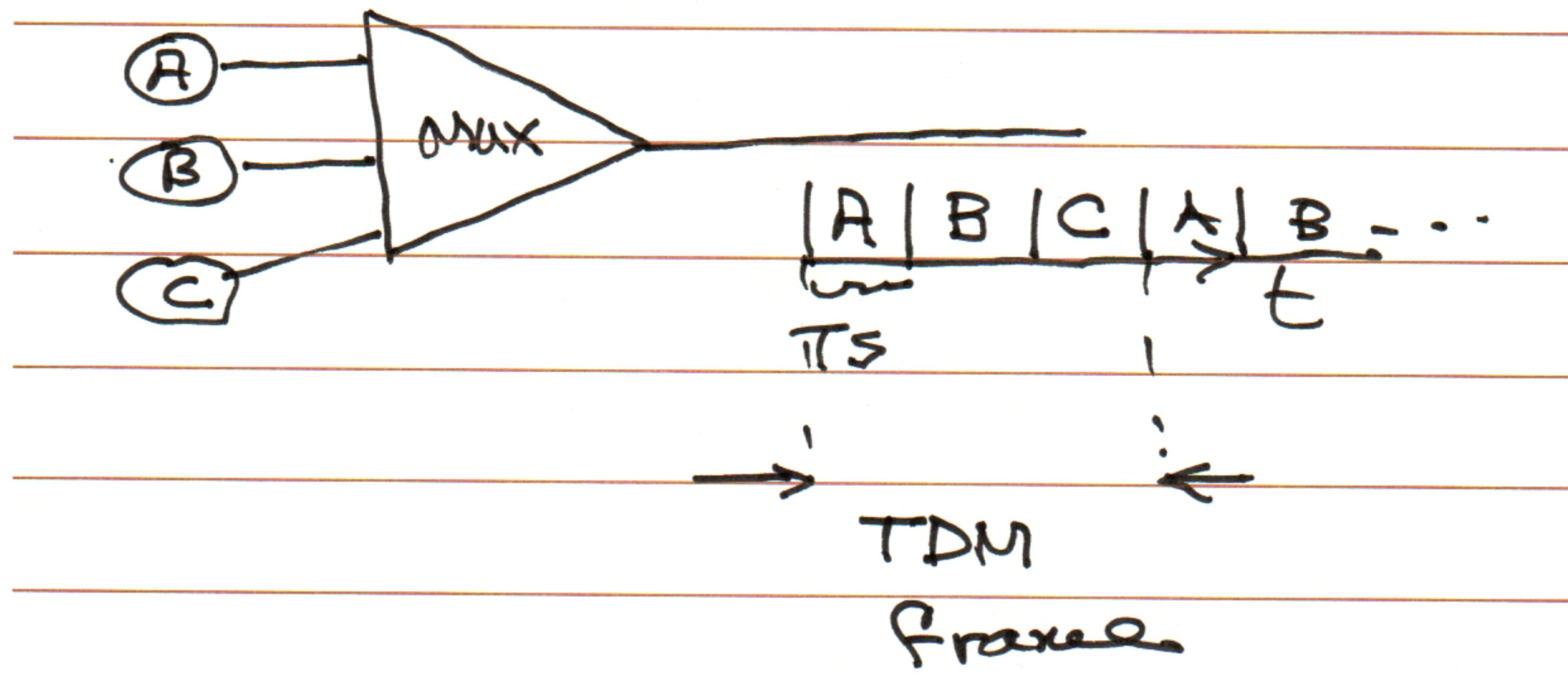
# TDM



$R_M$  = multiplexo rate

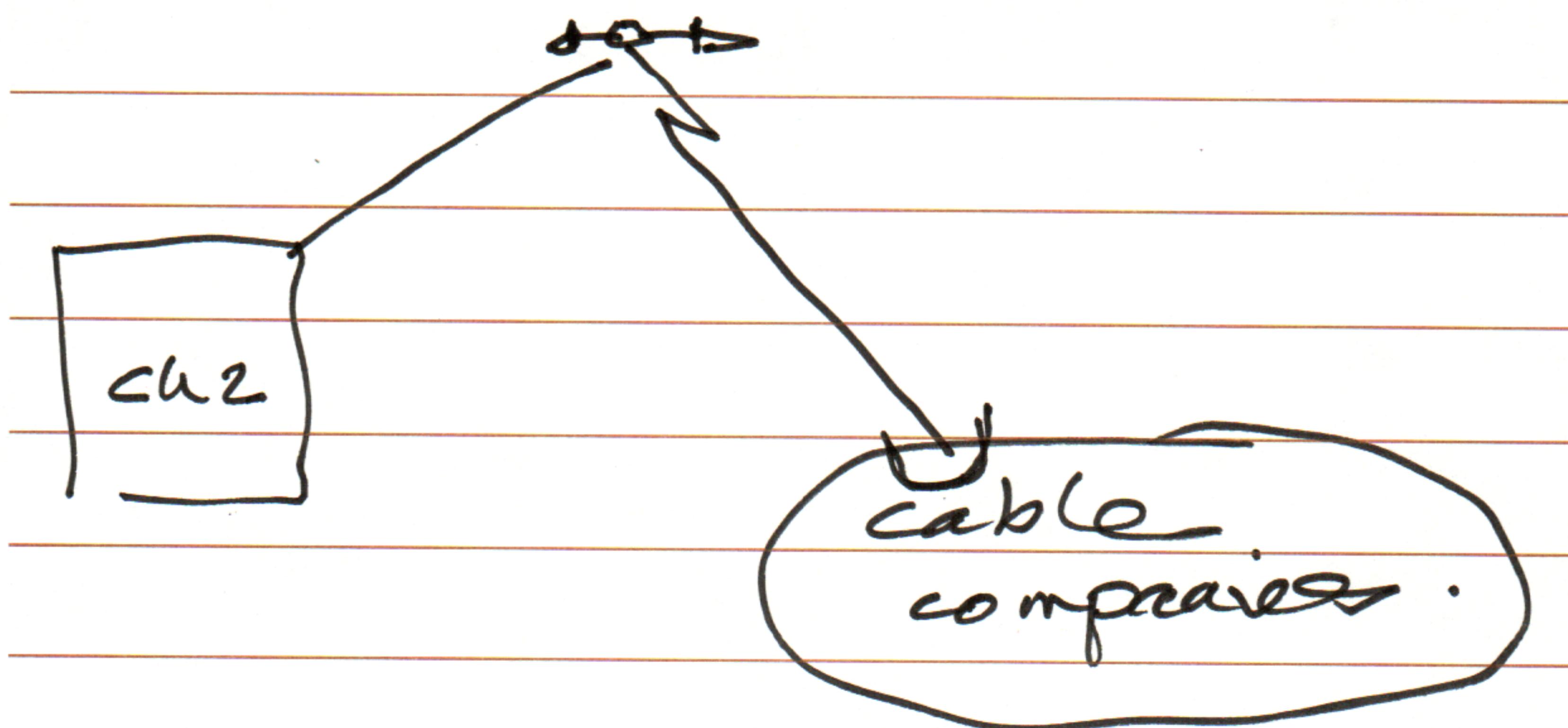
$$\geq \sum_{i=1}^n R_i$$

in our example  $R_M \geq 3 \text{ Kbps}$



$$R_M \geq \sum_{i=1}^n R_i \quad \text{Sync TDM}$$

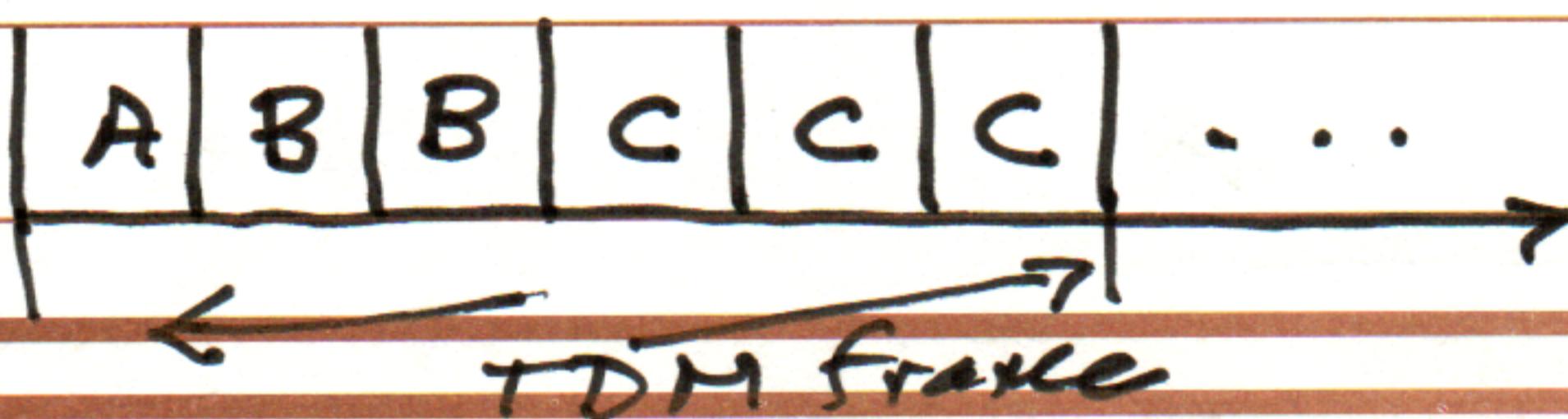
$$R_M \leq \sum_{i=1}^n R_i \quad \text{STDM}$$



Three sources 2K, 4K & 6Kbps are to be multiplexed using TDM.

What is the minimum # of time slots allocated to each device?

Ans:  $1T_S, 2T_S, 3T_S = 6T_S$  per TDM frame



Multiplexor Data Rate  $\geq 12 \text{ Kbps}$

If every slot can support 1 bit,

$$\# \text{ of bits/frame} = 6$$

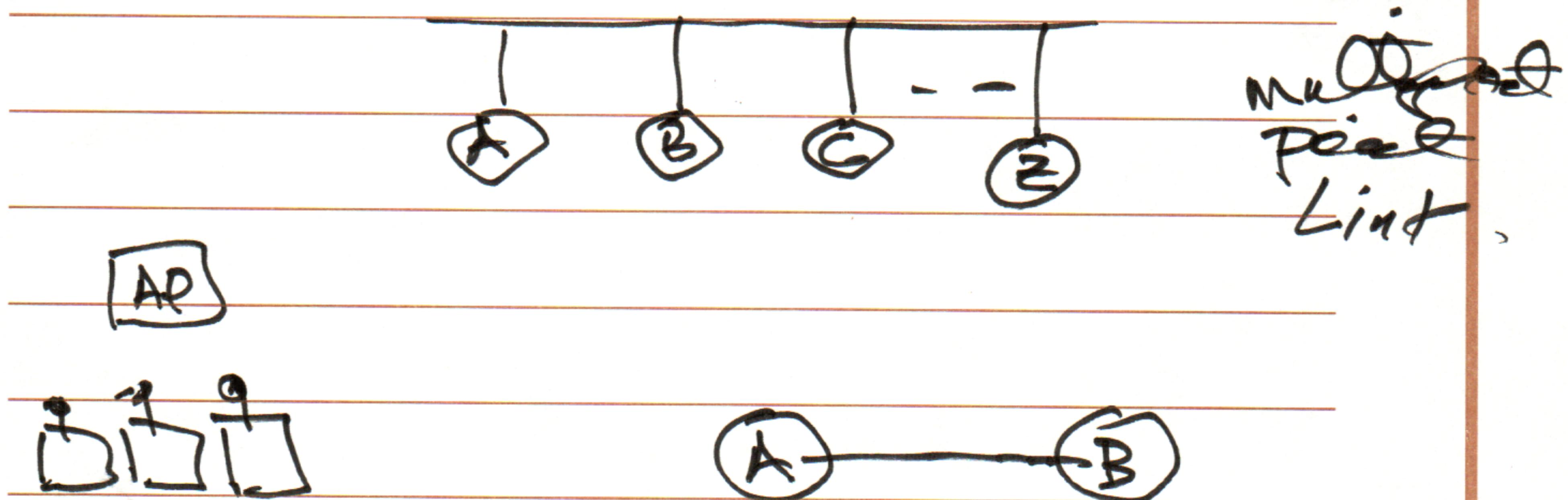
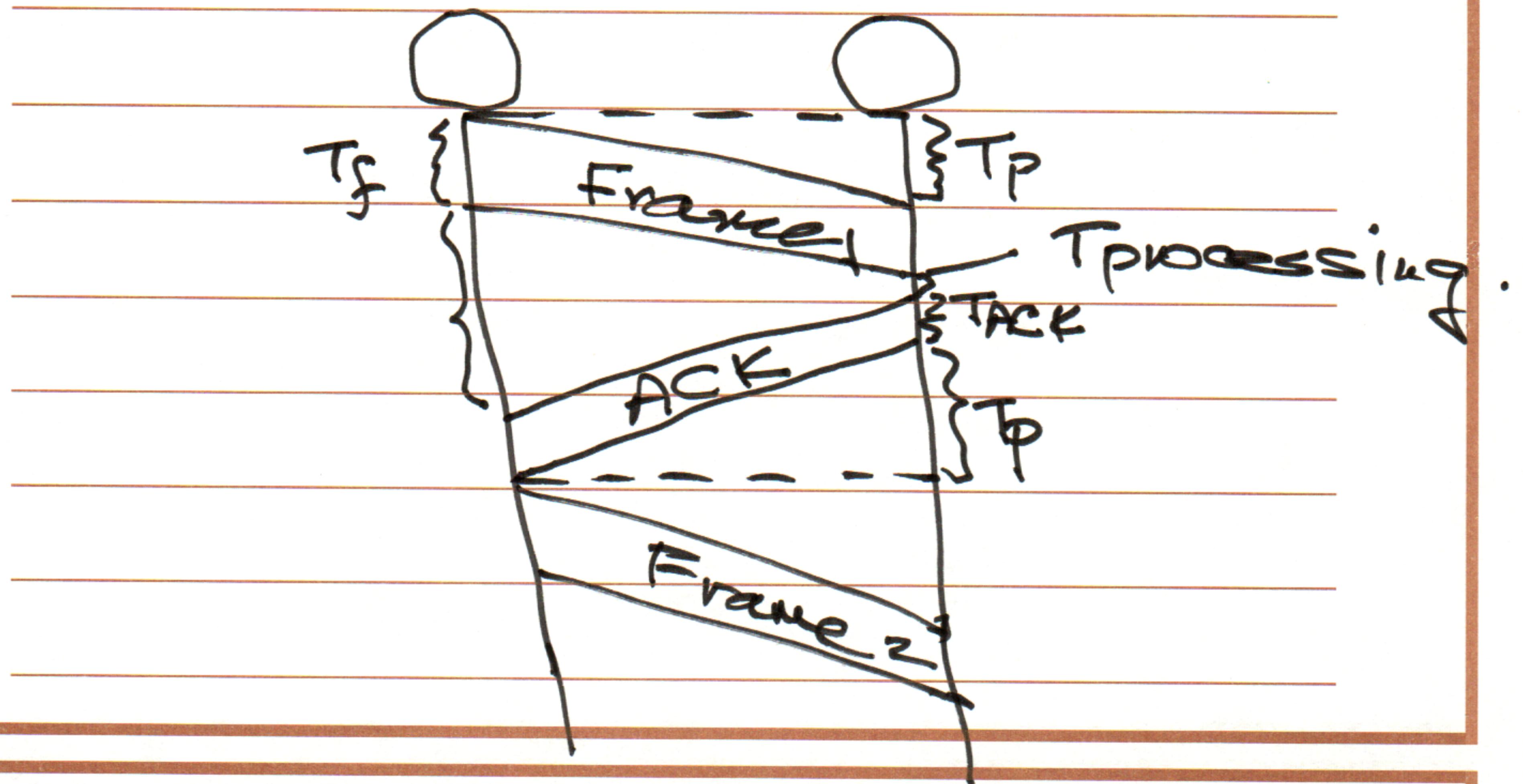
# of frames/sec (frame rate)

$$= \frac{12 \text{ Kbps}}{6 \text{ bits/frame}} = 2 \text{ frames/sec.}$$

$$\text{Frame duration} = \frac{1}{2 \text{ K}} = 0.5 \text{ msec.}$$

$$\text{slot duration} = 0.5/6 \approx 0.083 \text{ msec.}$$

ARQ = Automatic Repeat Request



10011111101111000110111111  
↓      ↓      ↑  
0      0      0