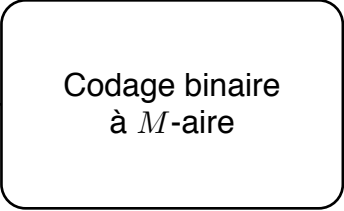
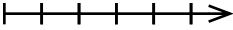


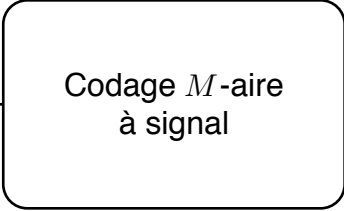
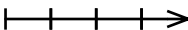
Eléments binaires

Symboles  $M$ -aires -  $M = 2^r$

"0 1 0 0 1 ..."



"3 -1 ... "



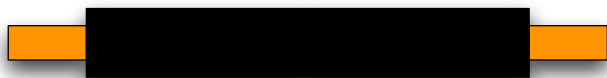
Codage en ligne

$$D_n = \frac{1}{T_b}$$

$$T_s = r \cdot T_b$$

$$R_s = \frac{1}{T_s} = \frac{1}{r} \cdot \frac{1}{T_b} = \frac{D_b}{r} = \frac{D_b}{\log_2(M)}$$

$$\sin(2\pi f_0 t) + \frac{1}{3} \sin(4\pi f_0 t)$$



$$\frac{1}{100} \left( \sin(2\pi f_0 t) + \frac{1}{3} \sin(4\pi f_0 t) \right)$$



Affaiblissement

$$\frac{1}{100} \left( \sin(2\pi f_0 t) + \frac{1}{5} \cdot \frac{1}{3} \sin(4\pi f_0 t) \right)$$

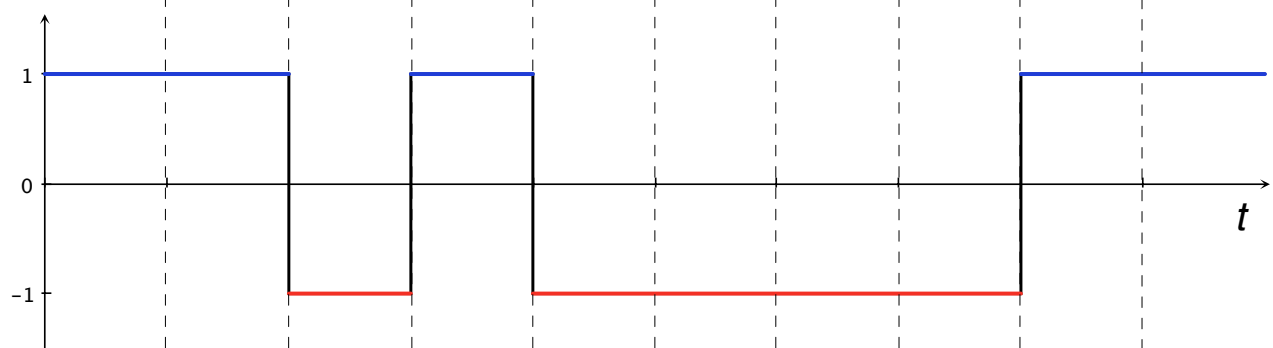
Distorsion



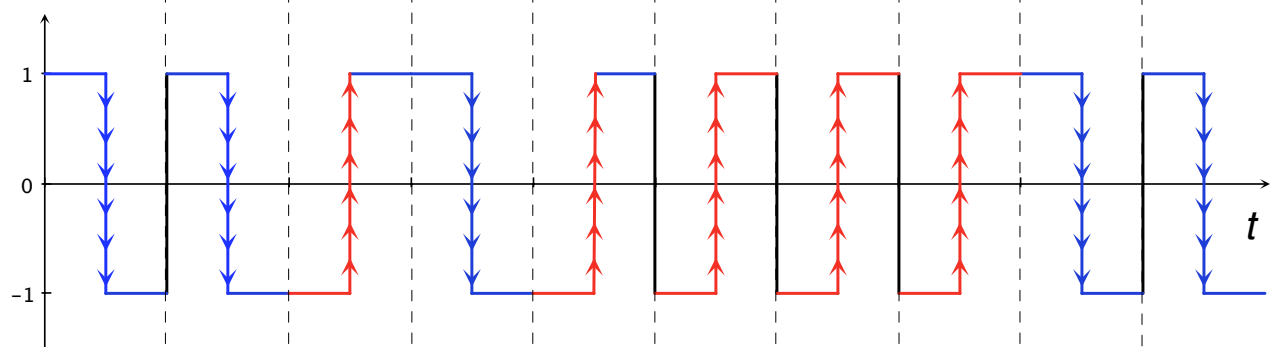
Message numérique à coder



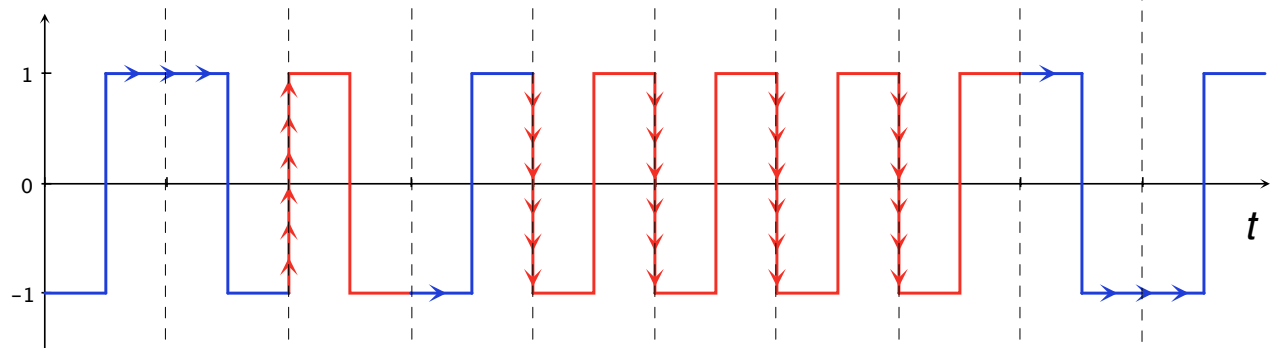
Signal codé NRZ (Non Return to Zero)



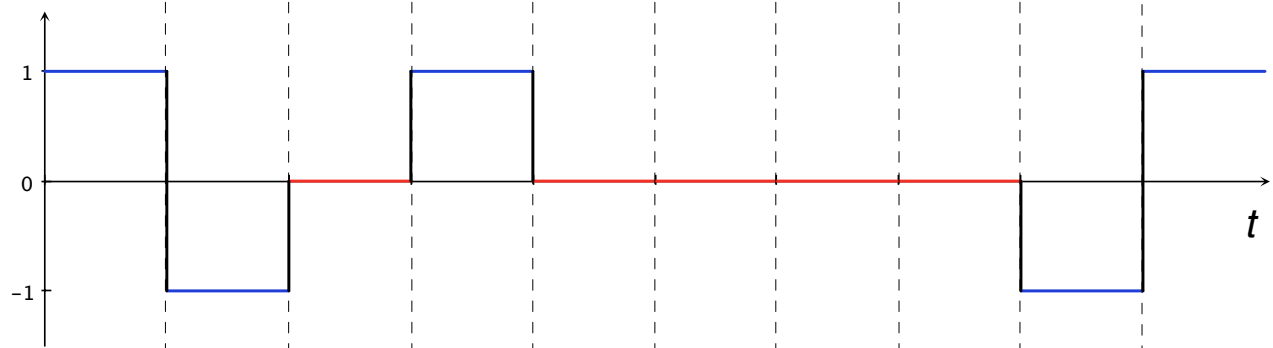
Signal codé Manchester

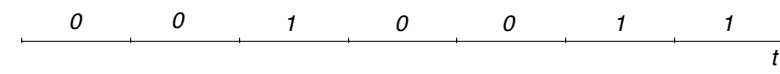


Signal codé Manchester différentiel

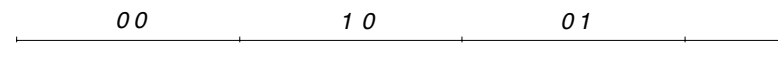
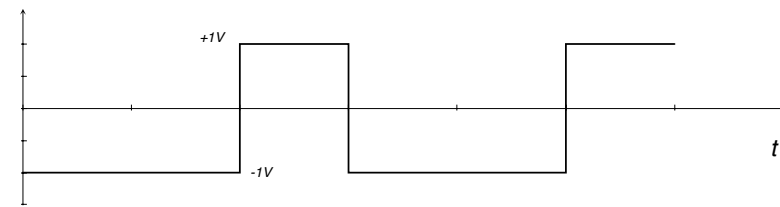


Signal codé bipolaire simple

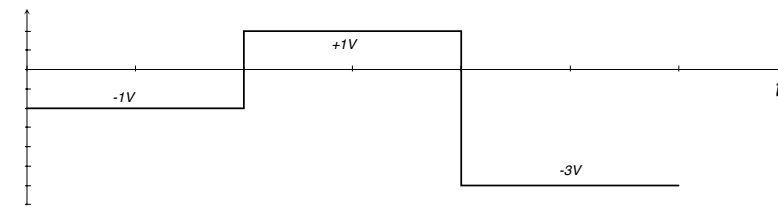




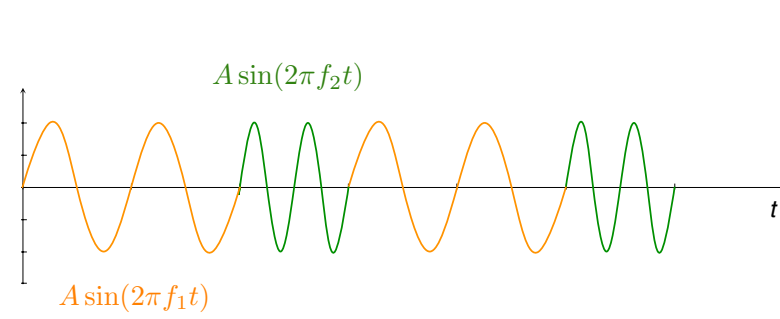
Signal NRZ-2



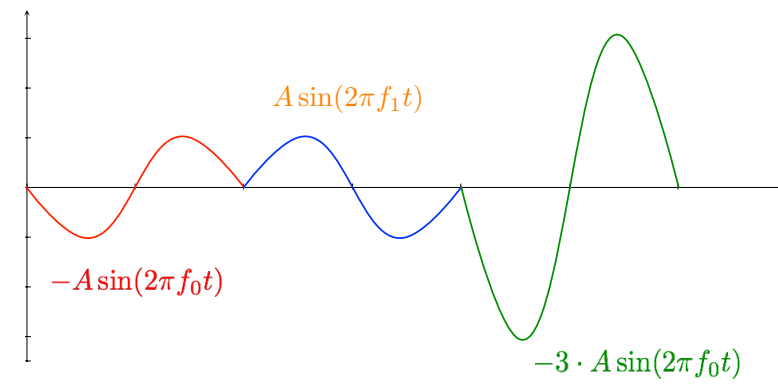
Signal NRZ-4

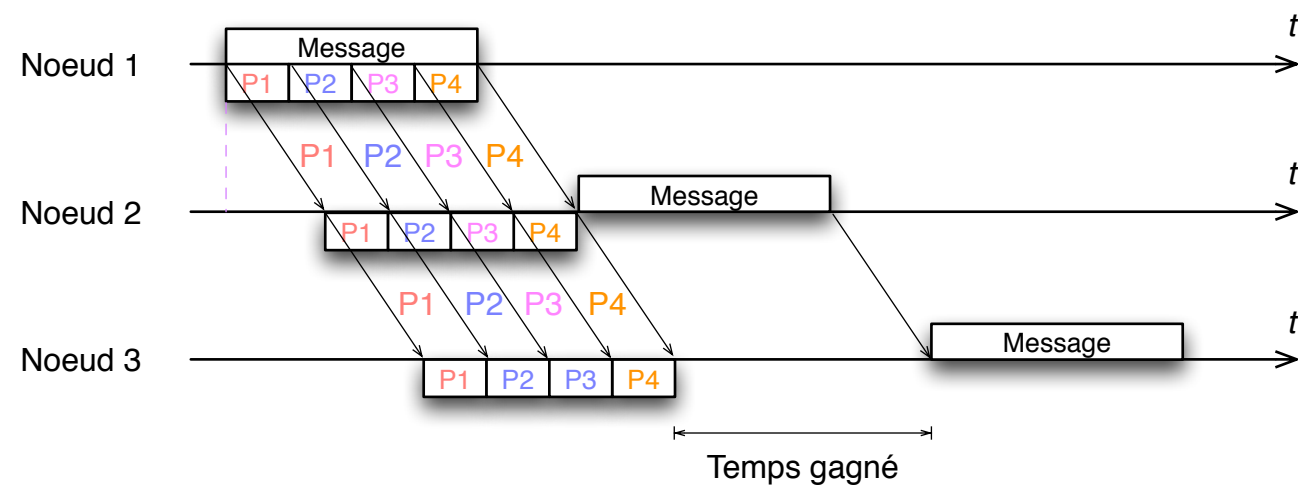


Signal MDF-2



Signal MDA-4





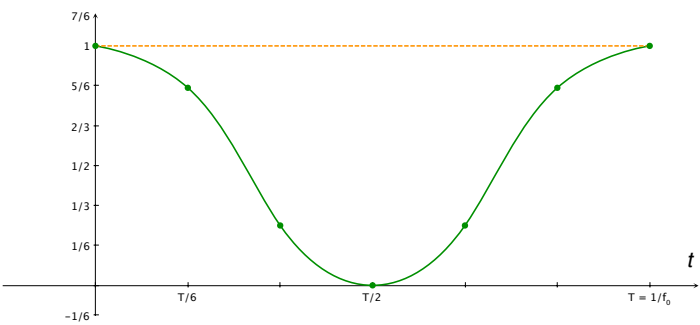
Code

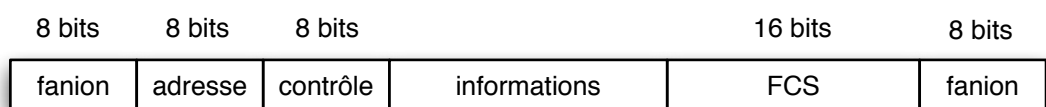
"11"

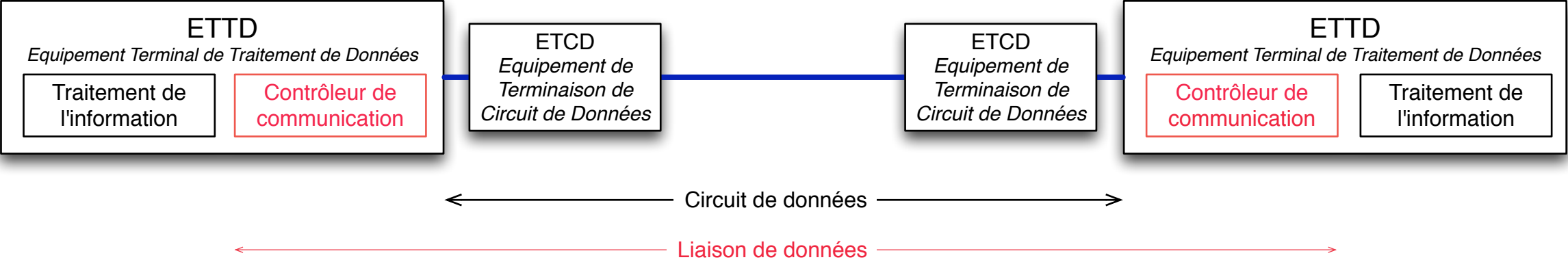
"10"

"01"

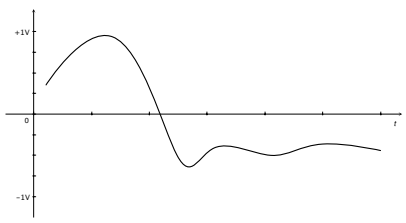
"00"



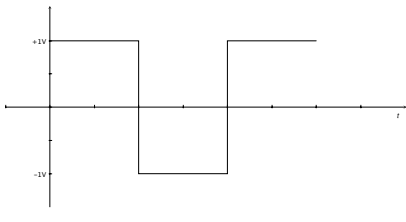
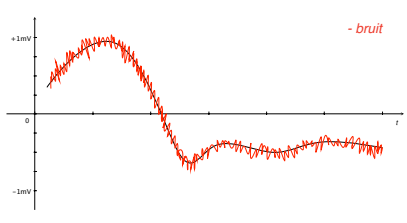




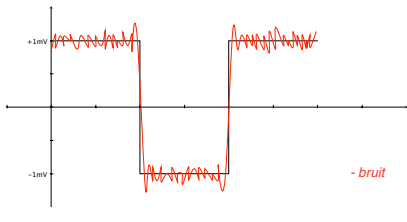


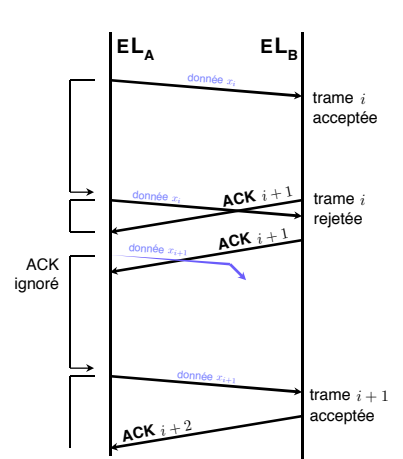
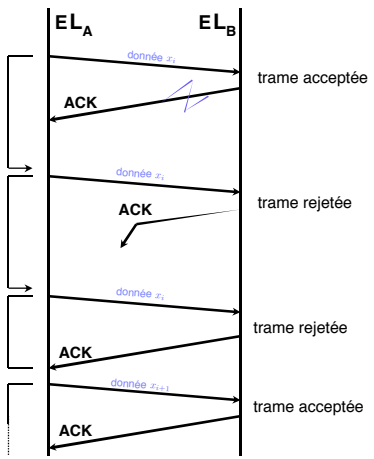


Transmission analogique



Transmission numérique





Trame I  
*Information*

1	2	3	4	5	6	7	8
0	N(S)			P/F	N(R)		

Trame S  
*Supervision*

1	0	S	S	P/F	N(R)		
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Trame U  
*Unnumbered*

1	1	M	M	P/F	M	M	M
---	---	---	---	-----	---	---	---

