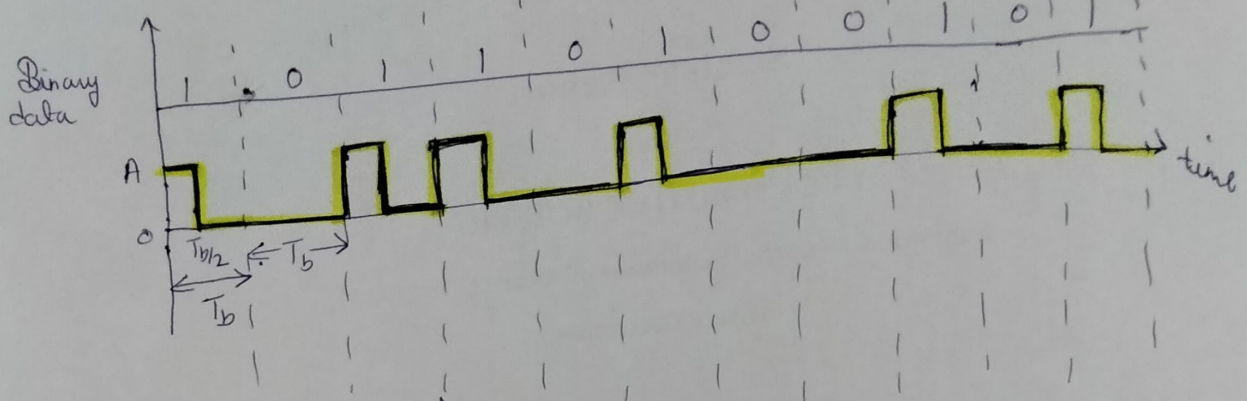
Ex → Data → 1 0 1 1 0 1 0 0 1 0 1

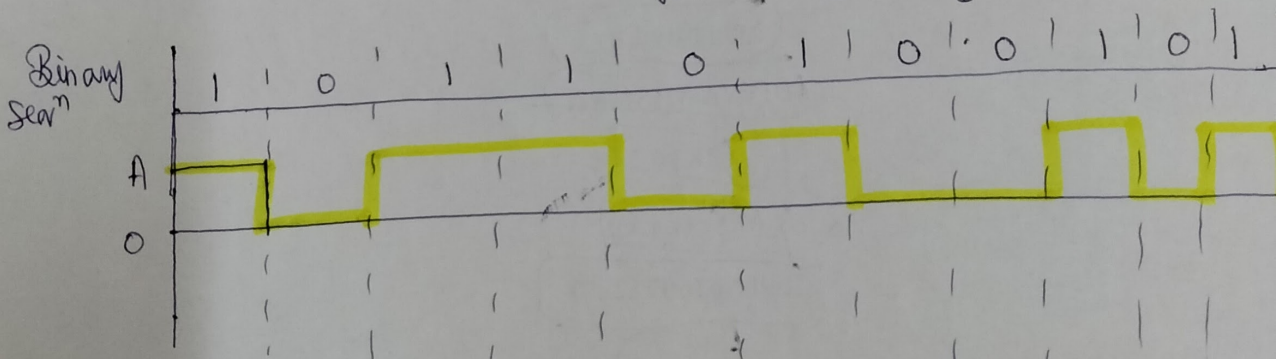


unipolar – RZ

Unipolar NRZ →

'1' → $x(t) = A$ for $0 \leq t < T_b$

'0' → $x(t) = 0$ for $0 \leq t < T_b$



unipolar → NRZ

Polar RZ →

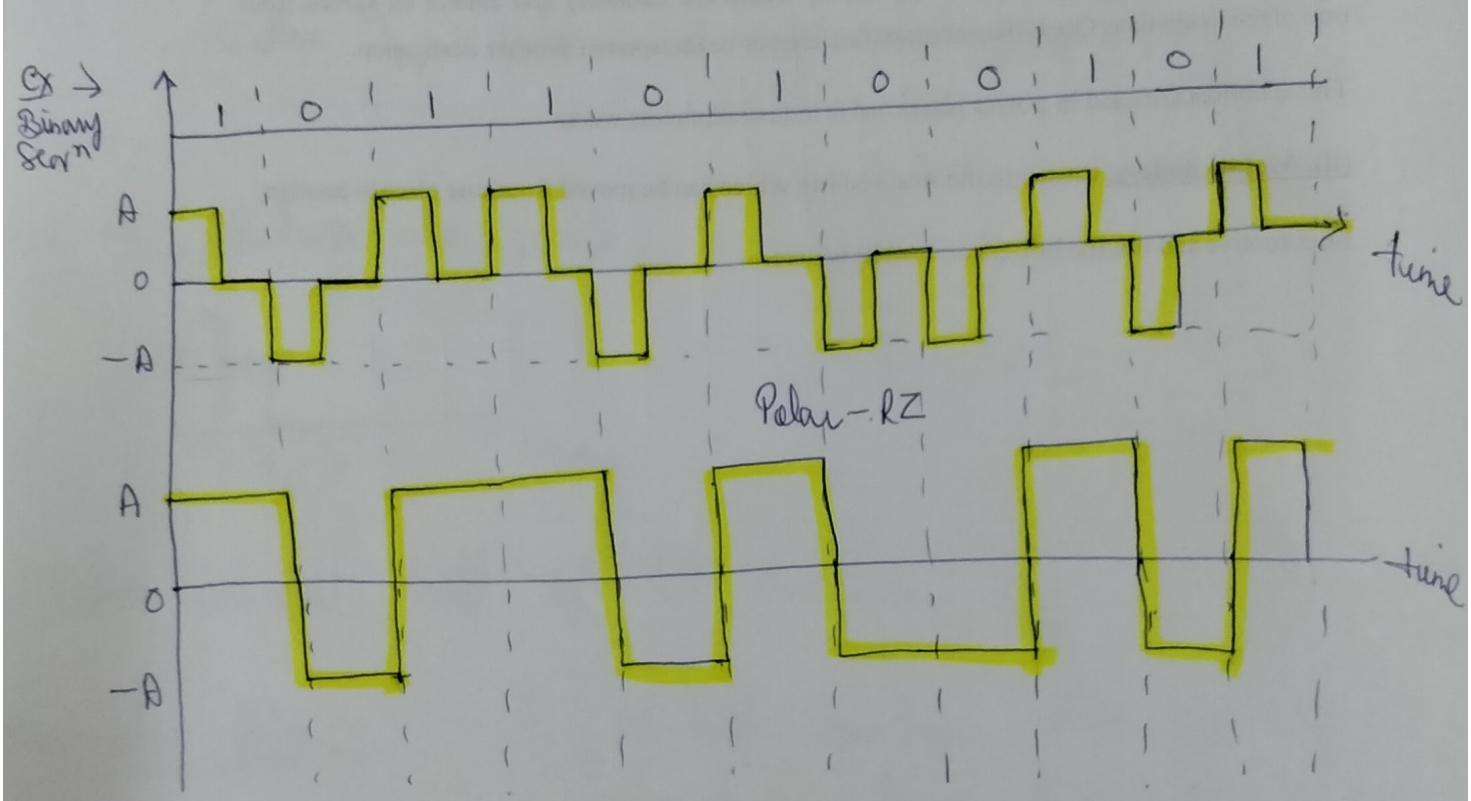
'1' → $x(t) = \begin{cases} A/2 & \text{for } 0 \leq t < T_b/2 \\ 0 & \text{for } T_b/2 \leq t < T_b \end{cases}$

'0' → $x(t) = \begin{cases} -A/2 & \text{for } 0 \leq t < T_b/2 \\ 0 & \text{for } T_b/2 \leq t < T_b \end{cases}$

Polar NRZ →

'1' → $x(t) = \begin{cases} A & \text{for } 0 \leq t < T_b \end{cases}$

'0' → $x(t) = \begin{cases} -A & \text{for } 0 \leq t < T_b \end{cases}$

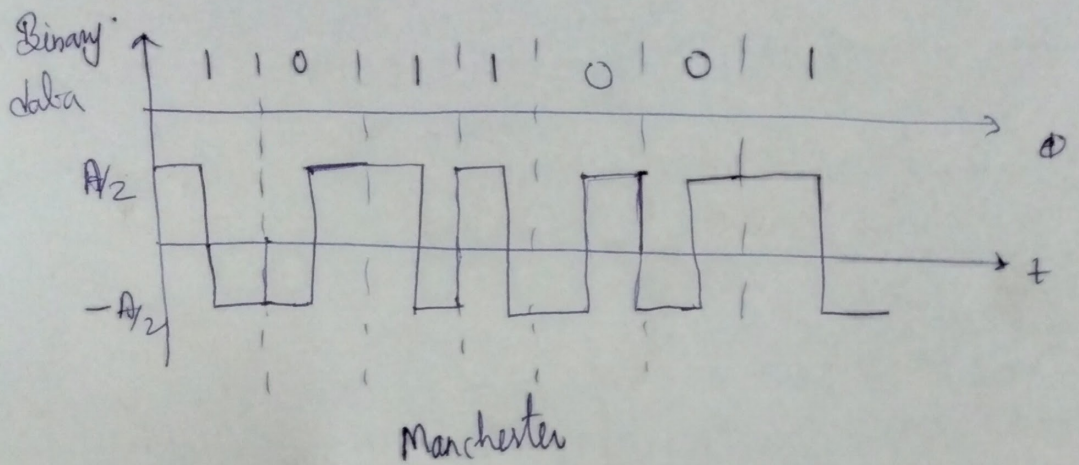


Polar – NRZ

Manchester →

0 → ⎍ Low to high

1 → ⎍ High to low



Manchester

(1) $x(t) = \begin{cases} A/2 & \text{for } 0 \le t < T_b/2 \\ -A/2 & \text{for } T_b/2 \le t < T_b \end{cases}$

(0) $x(t) = \begin{cases} -A/2 & \text{for } 0 \le t < T_b/2 \\ A/2 & \text{for } T_b/2 \le t < T_b \end{cases}$

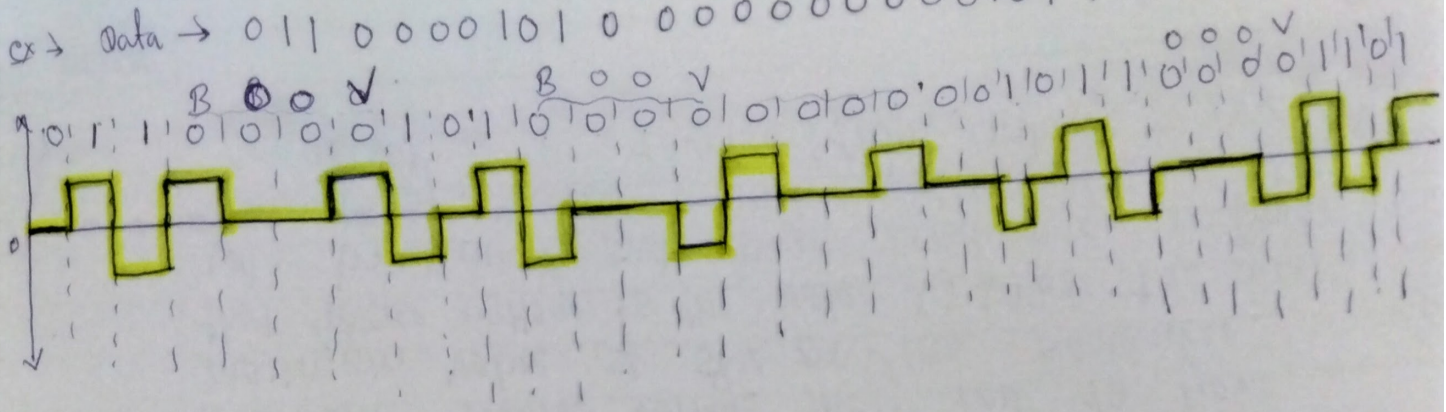
HDB-3 → 000V (odd) — violation

→ B00V (even)

000V → where 'V' is violation

B00V → where 'B' is bipolar

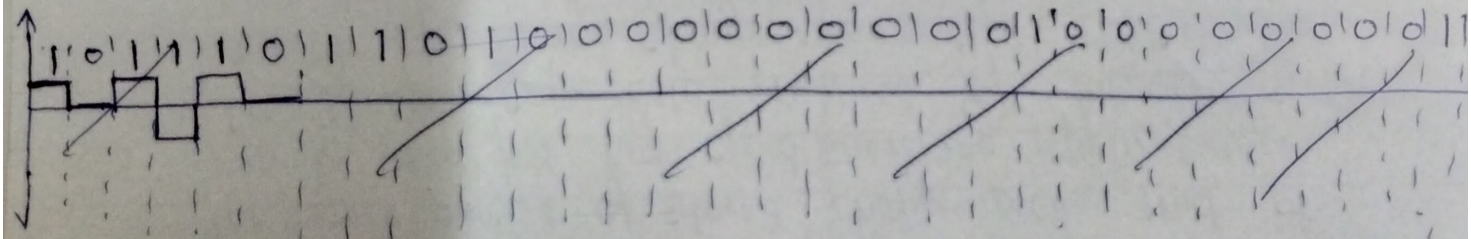
Ex → Data → 0 1 1 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 1 1 0 0 0 0 1 1 0 1

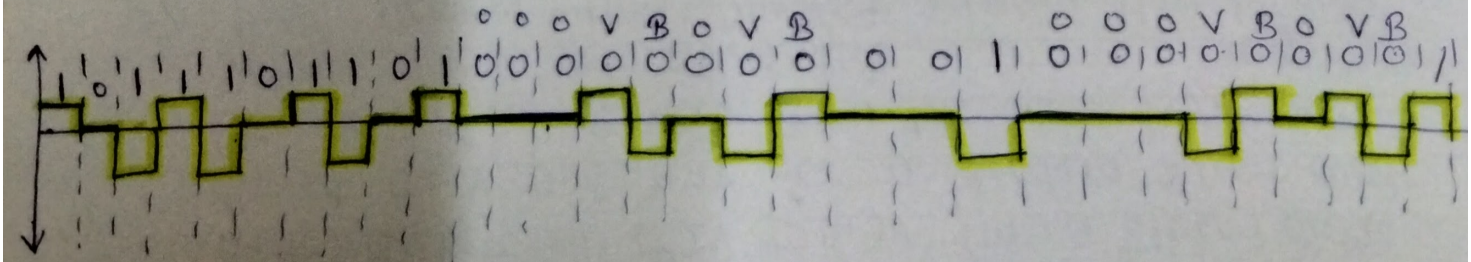


B8ZS → (Bipolar Eight zeros substitution)

B8ZS → 0 0 0 V B 0 V B

Ex → 1 0 1 1 1 0 1 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1





Bipolar AMI (Alternate Mark Inversion)

Ex → Data → 0 1 0 0 1 1 1 0 0 1 1