ECE 5/418 Memory Circuit Design

4-19-10

Lecture 20

\[ x(t) \] - Input

\[ x(t) \]

Channel

\[ y(t) = K \cdot x(t-t_d) \]

\[ \frac{y(f)}{x(f)} = K \angle -2\pi t_d f \]

\[ K \]

\[ f \]

\[ \text{slope} = -2\pi t_d \]
Coding NRZ

Problem: long 1s and 0s string

BW = 500mHz + benefit - data = 2BW

90 m/s

edge

3)
data in

PLL w/o
÷ 2 in f. b.
path

clock

data in

clock

declock

3)
Return to 0

Bi-phase-level

Bi-phase-mark
Example: Show 11001100... net results in a waveform back to $V_0/2$.
Hoge PD (self-correcting PD)
Charge sharing?

dead zone

Static phase error?