

Timing

Frequency & Phase

of the clock

Timing recovery

Equalization

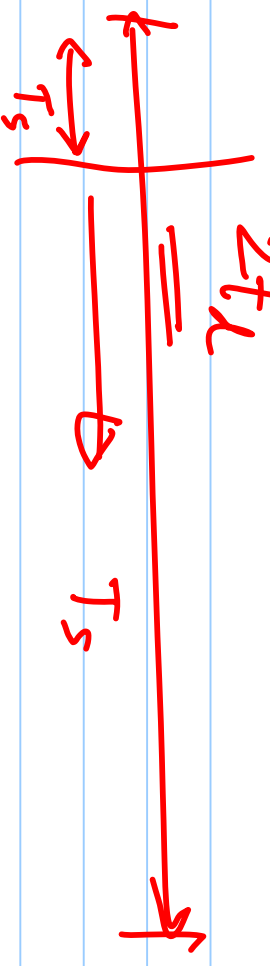
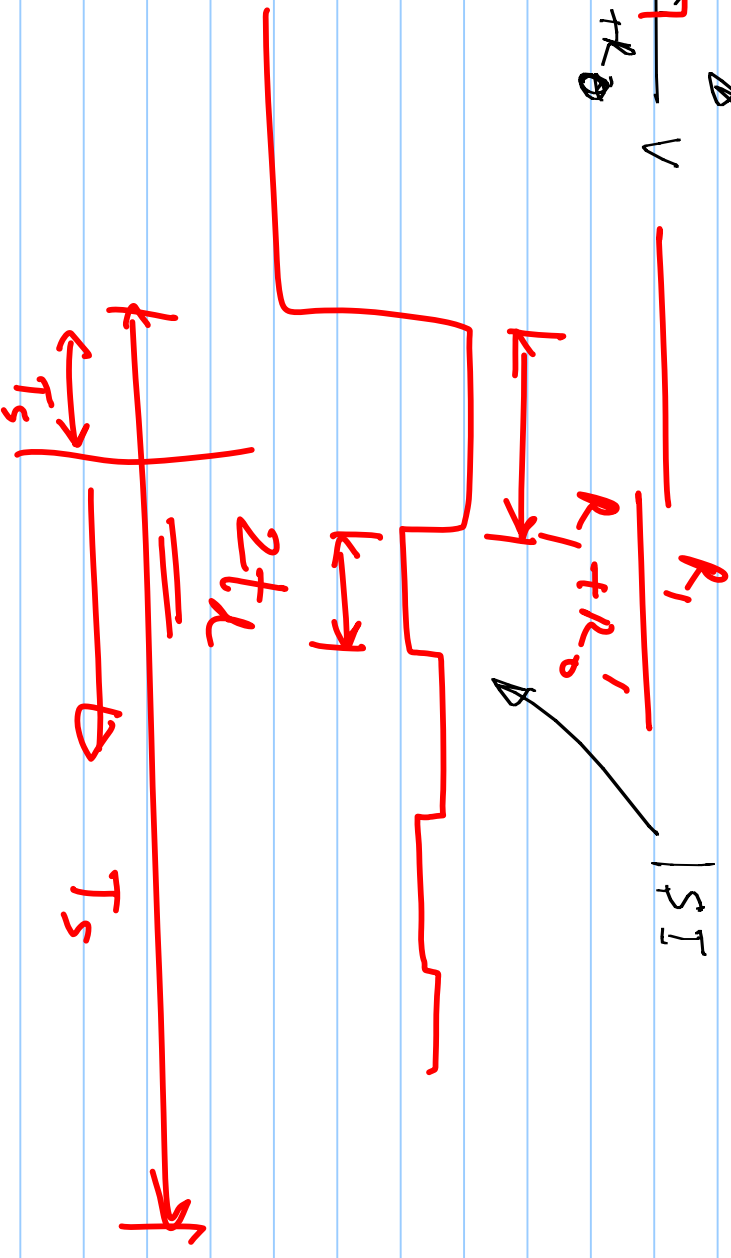
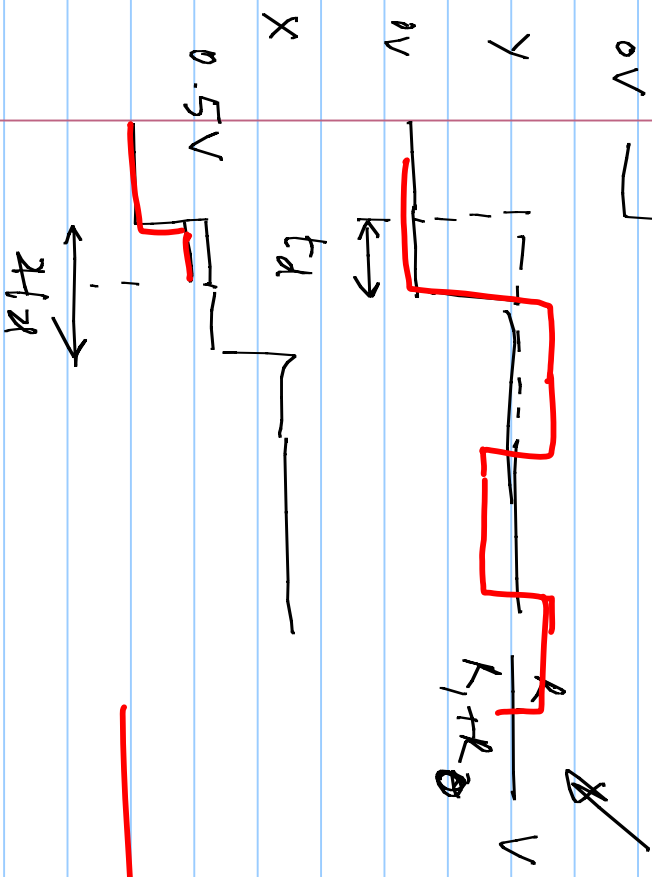
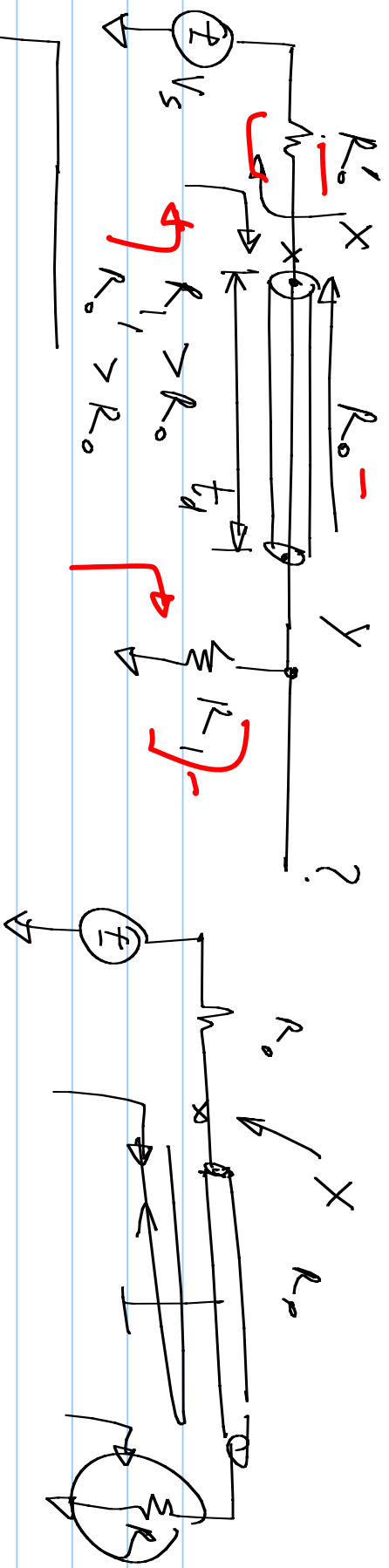
optical fiber
USB
Ethernet

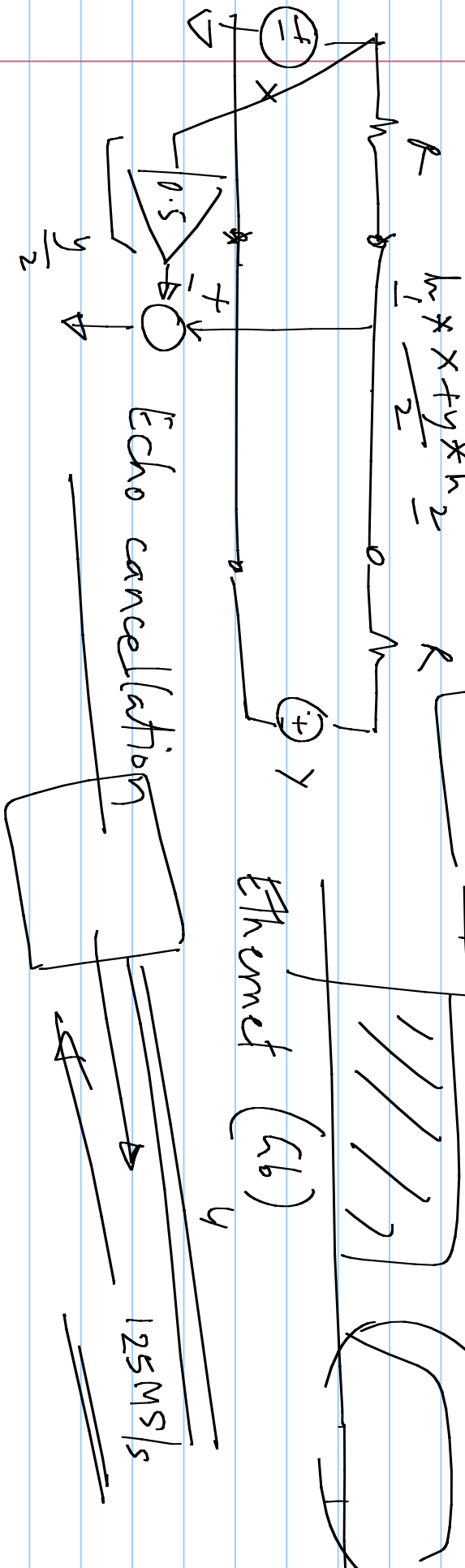
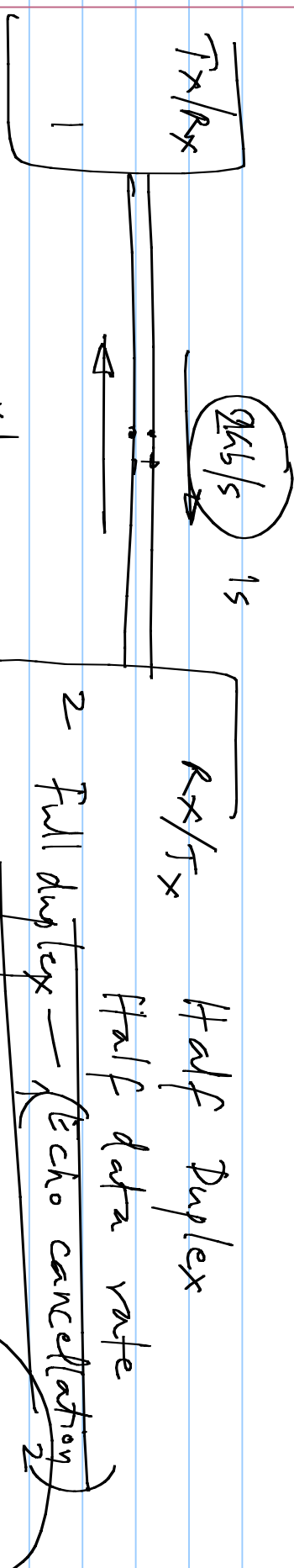
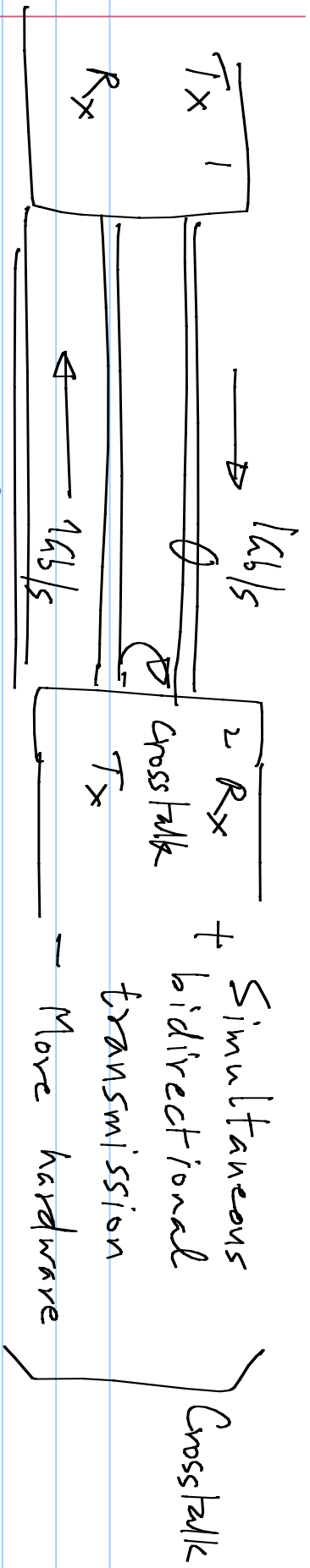
① High frequency attenuation of the medium

Intersymbol interference (ISI)

② Impedance discontinuity → ISI

③ Crosstalk / Echo





1. Digital data transmission — Tx Rx
2. Serialization & Deserialization
3. High freq. char of Transmission lines
4. Equalization techniques
 - Linear equalizers
 - Decision feedback equalizer
5. Timing recovery schemes
6. Example systems.