Equalization

Our Simple Protocol

data block → **add start/ stop bits** → **encode at SPB samples per bit** → **add training sequence** → **transmit** → channel → **receive** → **estimate threshold** → **skip past training** → **find start bit** → **decode bits** → data block
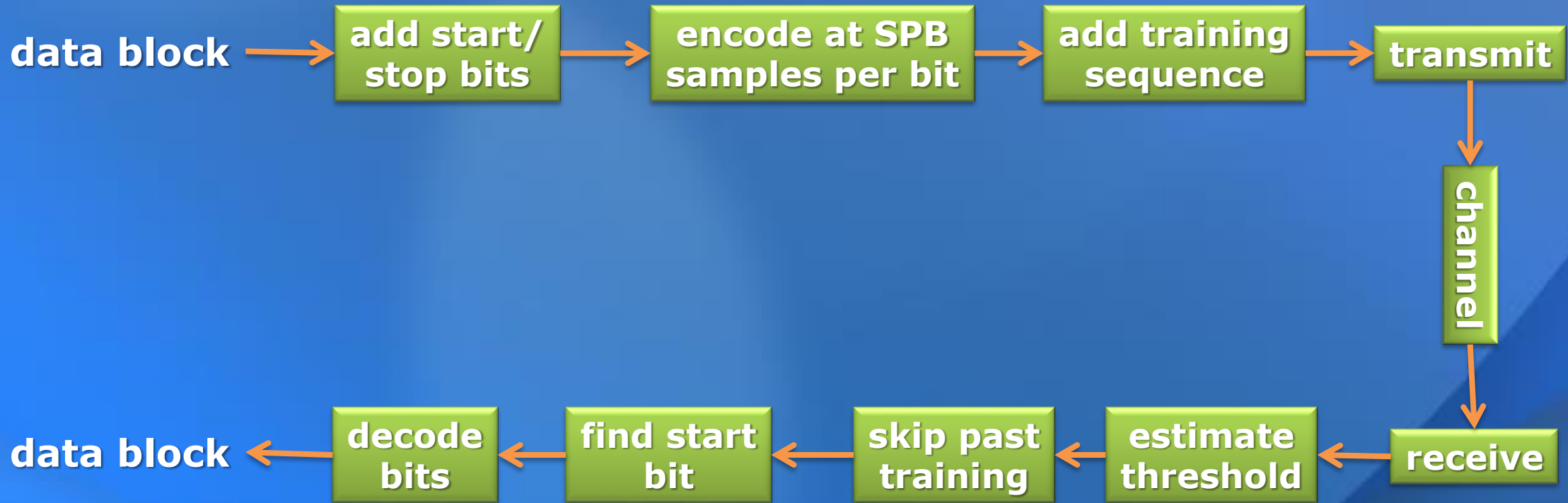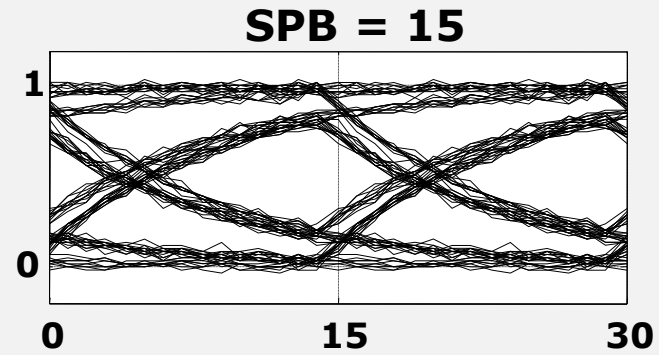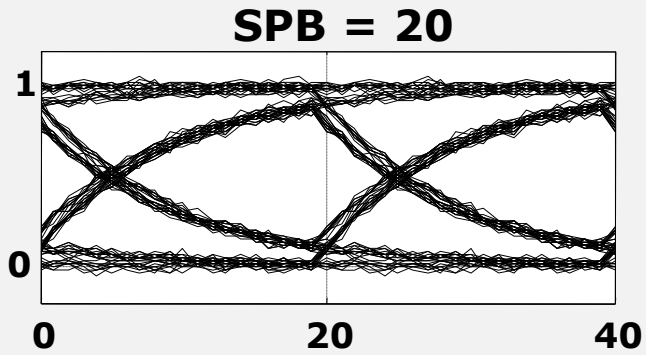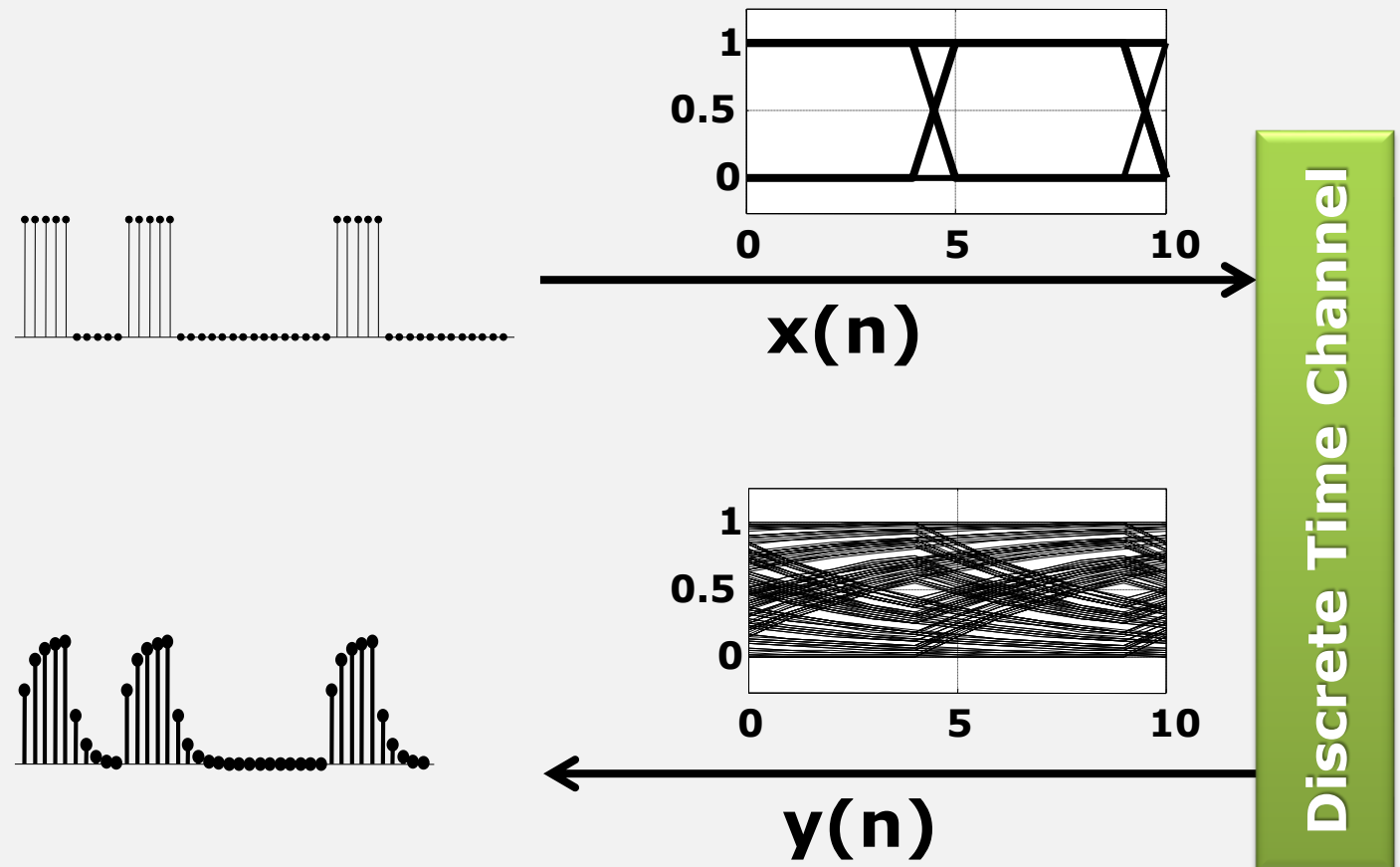
Trade-off between Bit Rate and BER
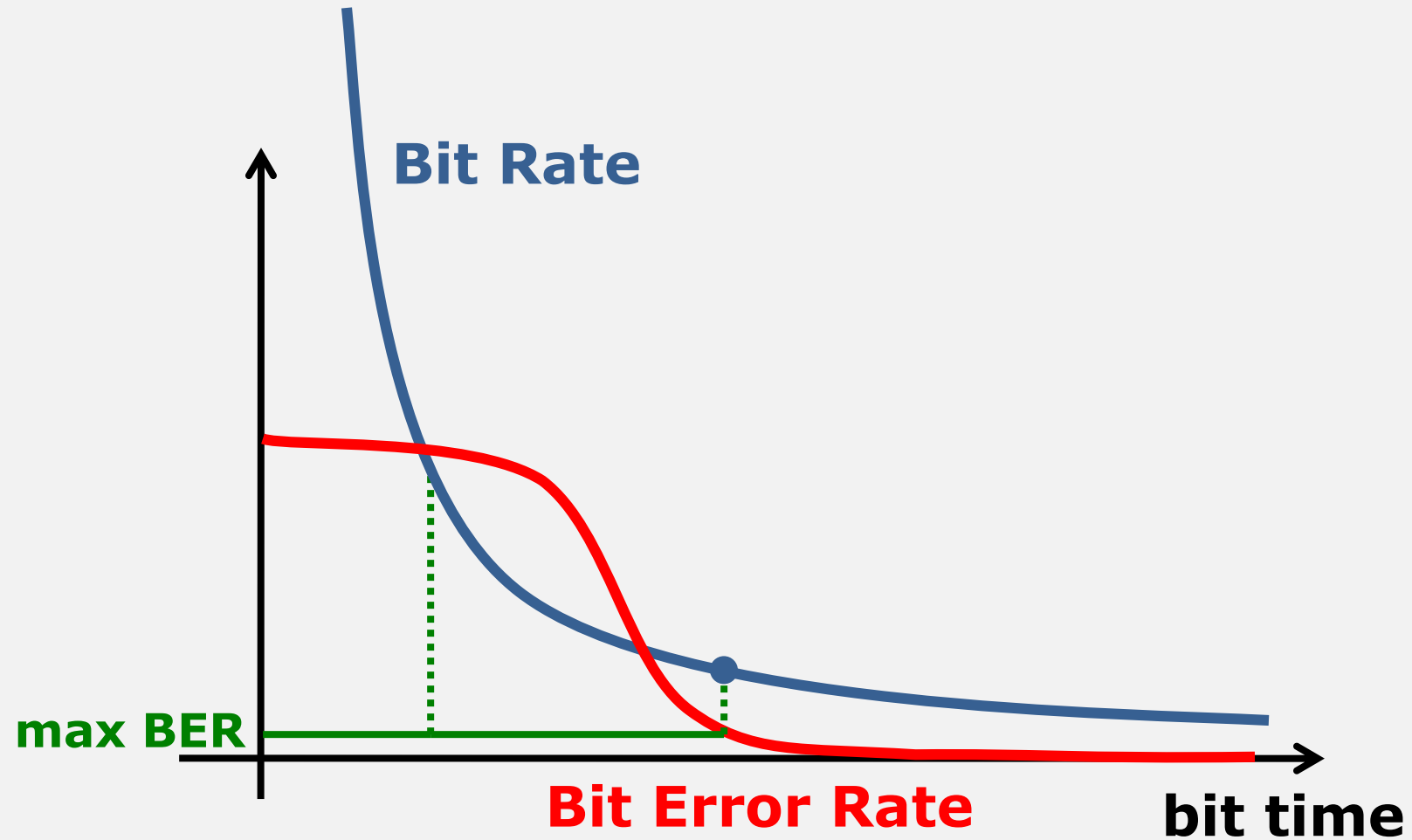
Eye Diagrams
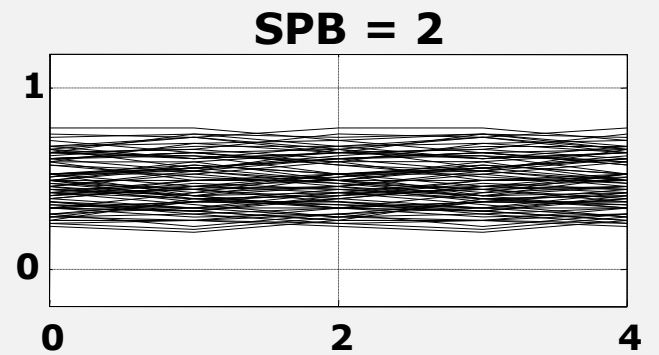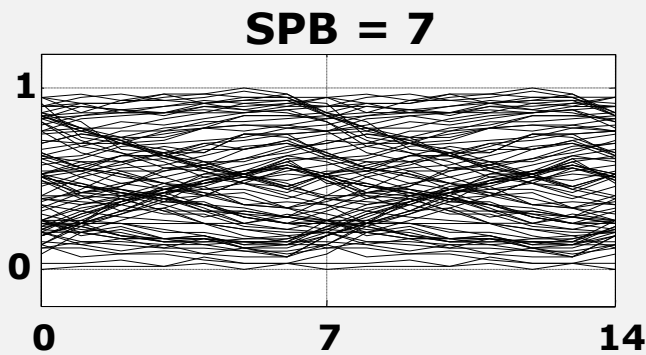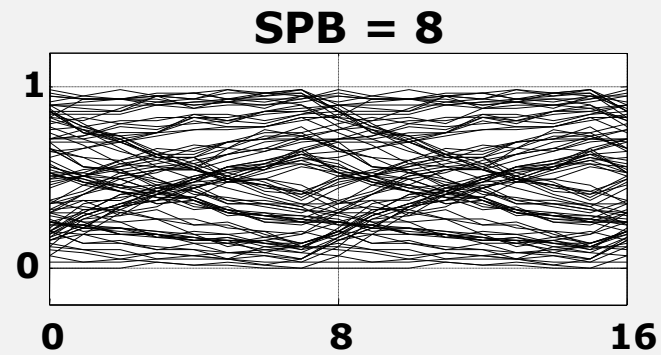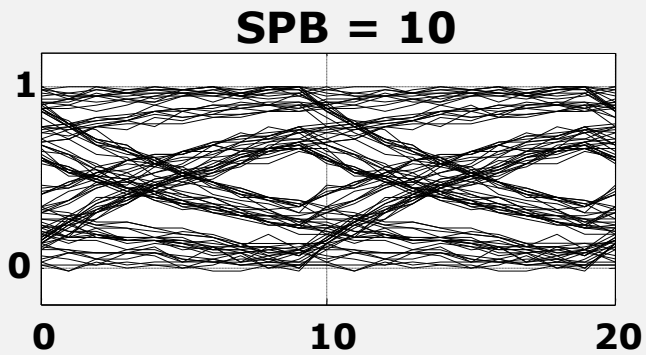
Channel parameters:
a = 0.9, k = 1
noise added

Equalization

- The channel introduces intersymbol interference, which causes the eye to close.

Equalization

- **The channel introduces intersymbol interference, which causes the eye to close.**
- **The goal of a channel equalizer is to "undo" the effect of the channel.**
- **This will cause the eye to open.**