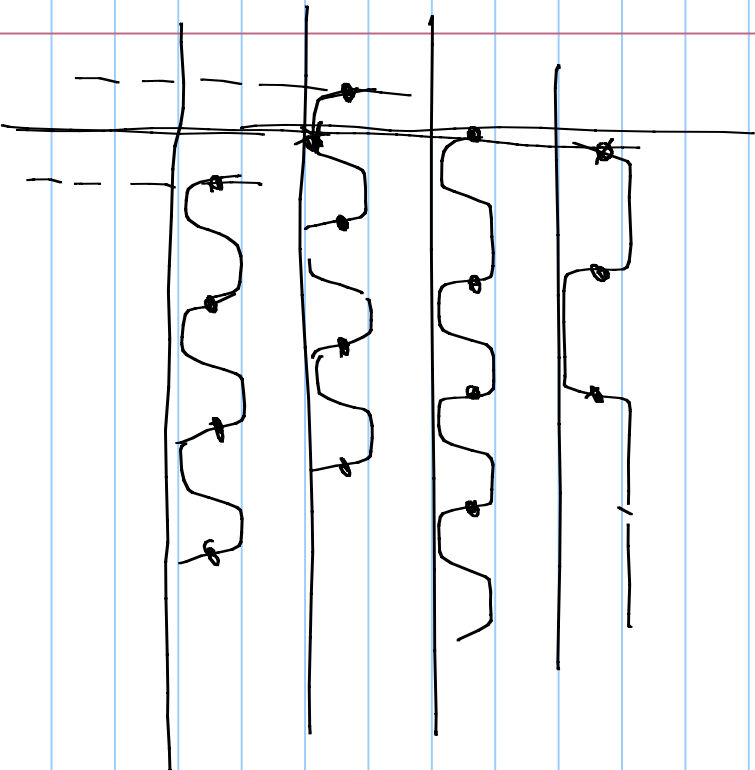


# Digital (Bang-Bang) Phase detector

Note Title

05-11-2007

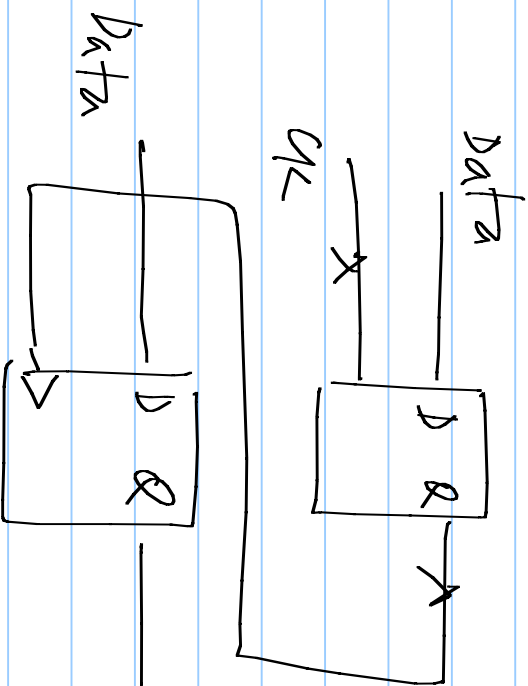
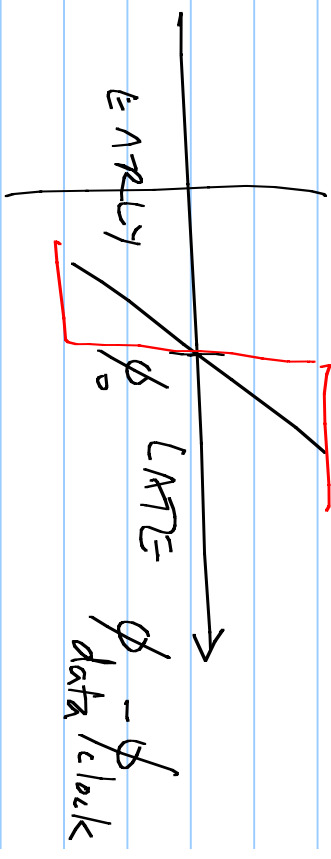
Binary

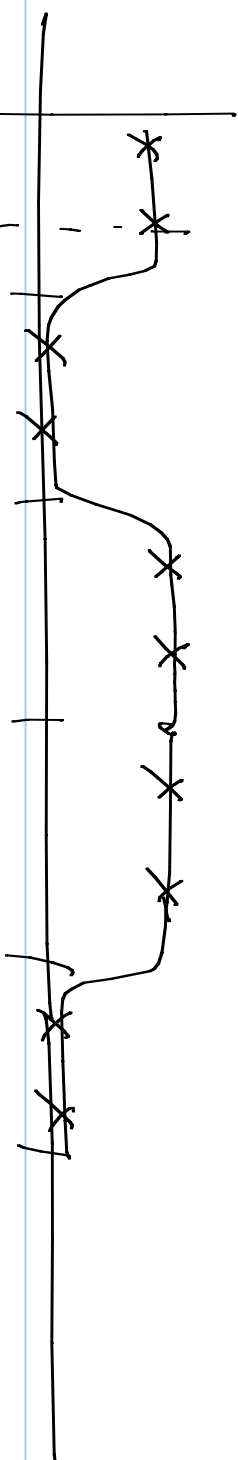


Aligned

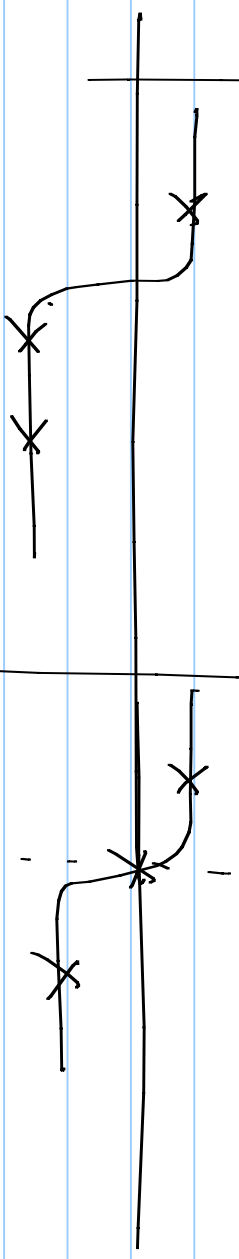
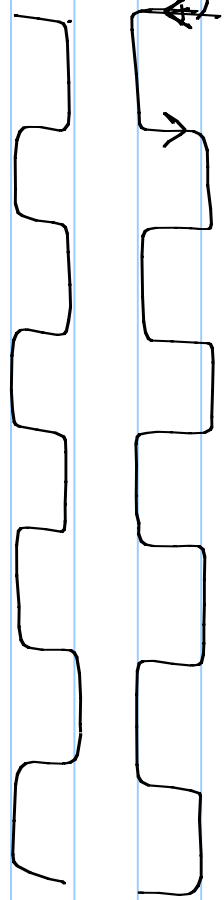
Early -

Late -



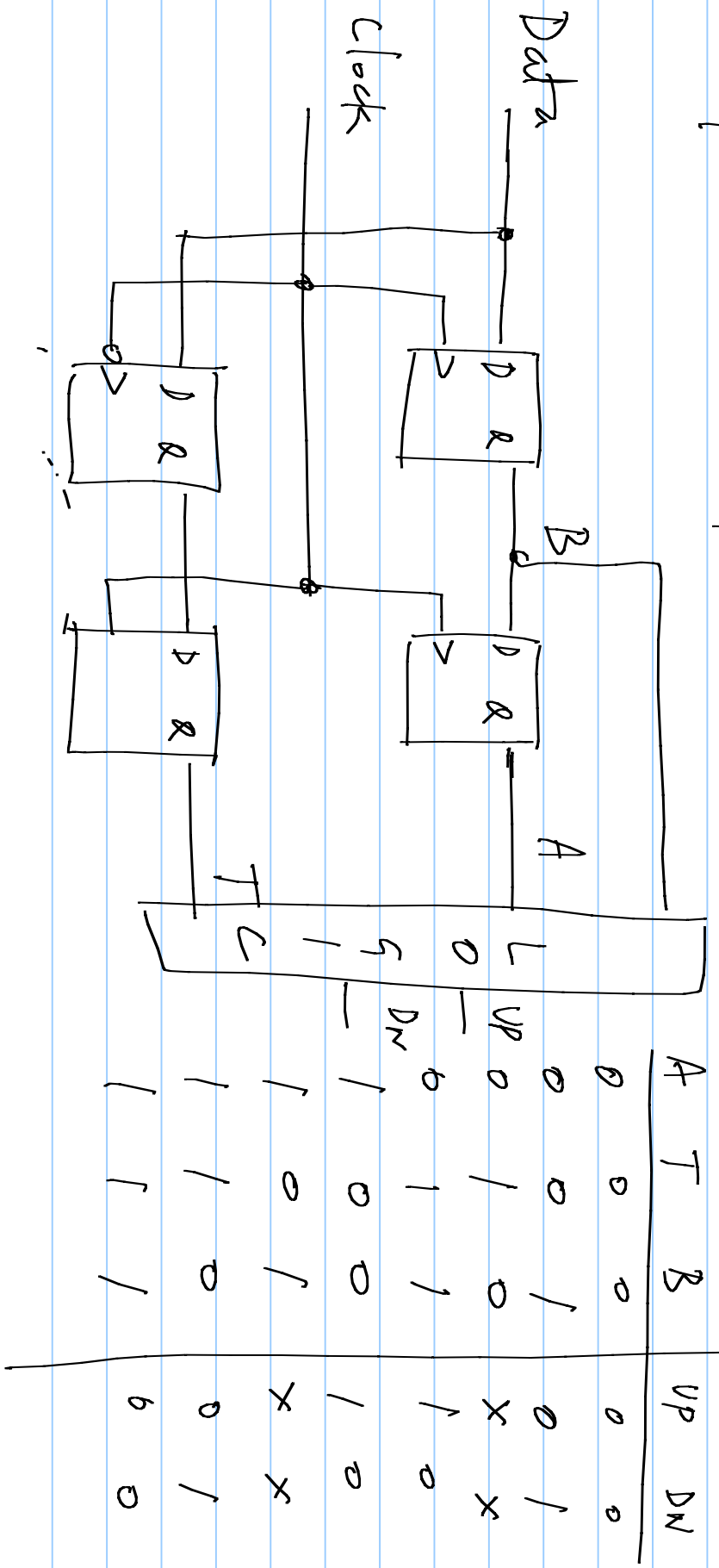


Early

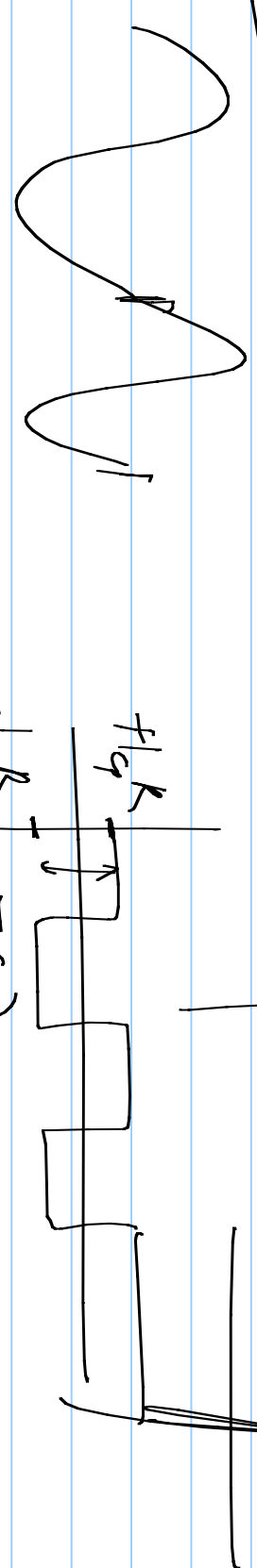
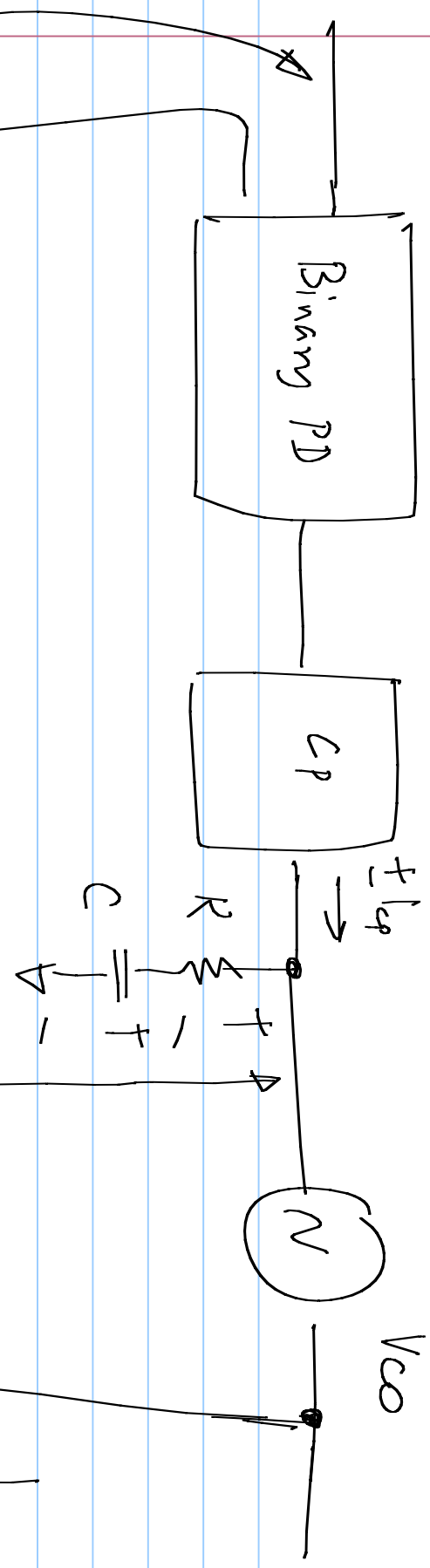


\* Falling edge should be aligned to data

\* Look @ samples ~~the~~ half period before & after  $UP = A \oplus T$   $DN = B \oplus T$



10/00--



Binary Binary jitter

$$\begin{aligned}
 \text{Binary Binary jitter} &= \int_0^T R \cdot k_{V_{cp}}(N)(T) \\
 &= \int_0^T I \cdot (N) \\
 &= 2 \int_0^T R \cdot 2\pi k_{V_{co}} \cdot t
 \end{aligned}$$