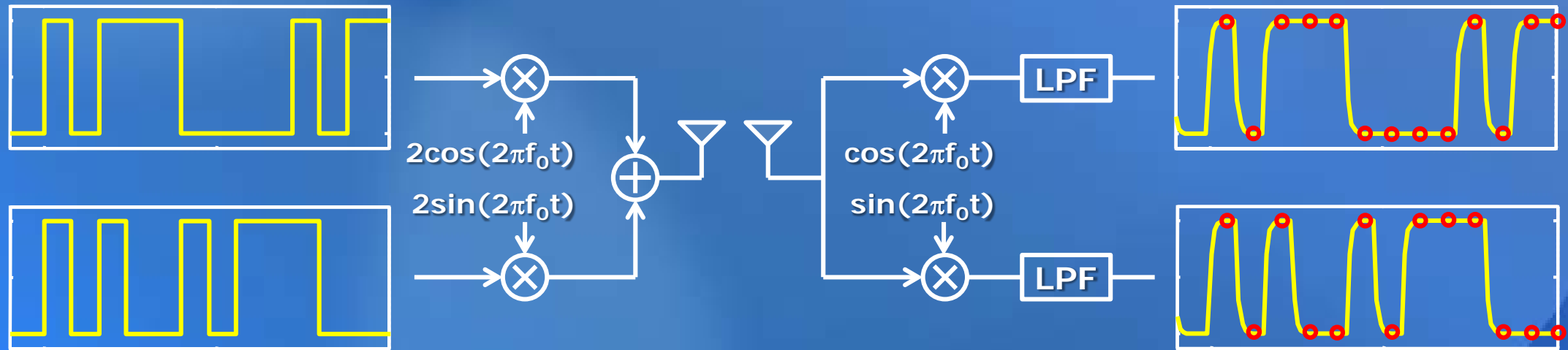
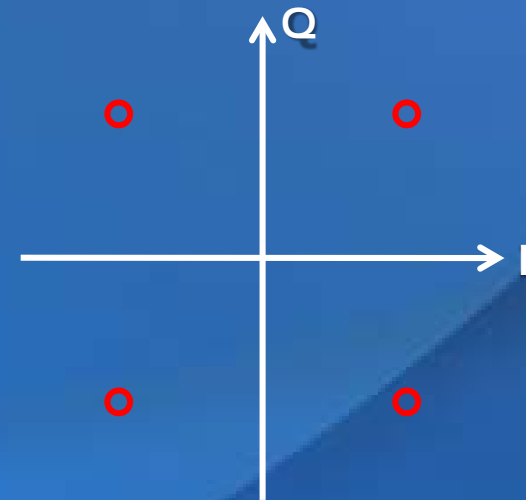


# Constellation Diagrams

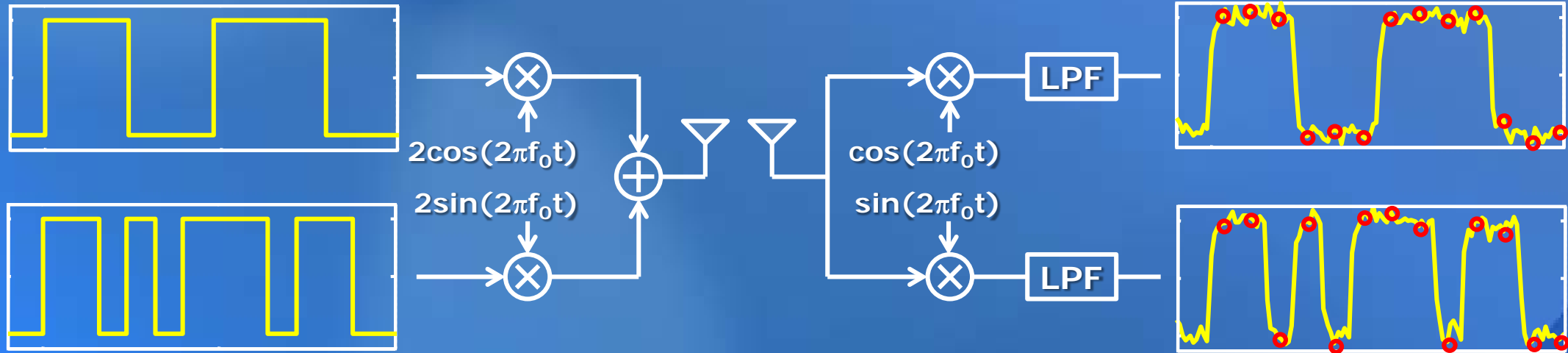
# Constellation Diagrams



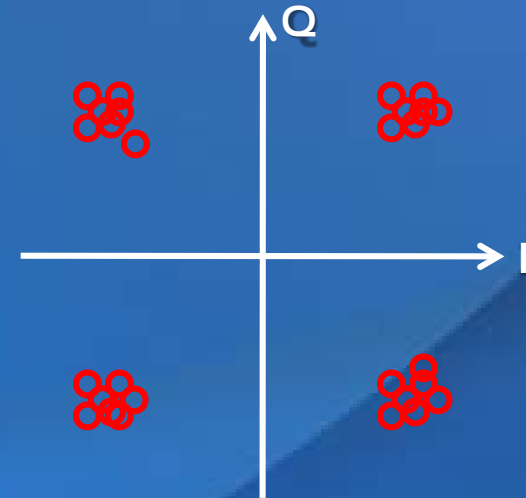
- Plot I/Q sampled values on I-Q axis
- As more samples are plotted, constellation diagram eventually displays all possible symbol values
- Constellation diagrams provide a sense of how easy it is to distinguish between different symbols



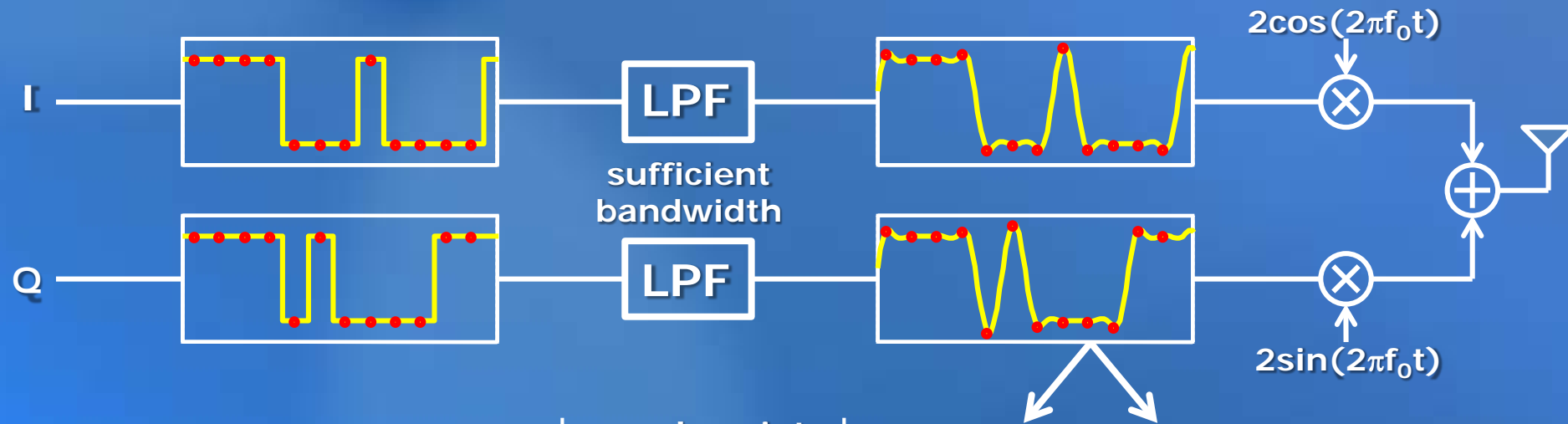
# Impact of Noise



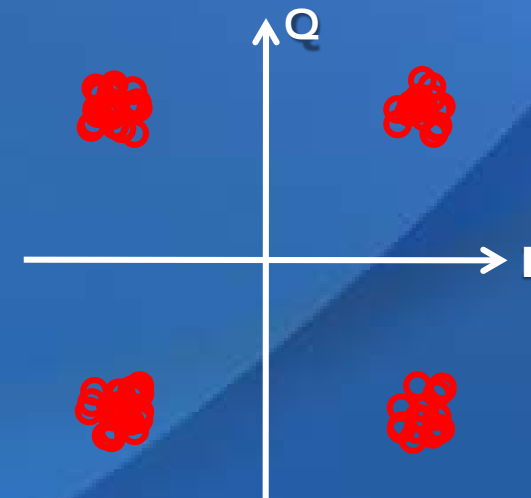
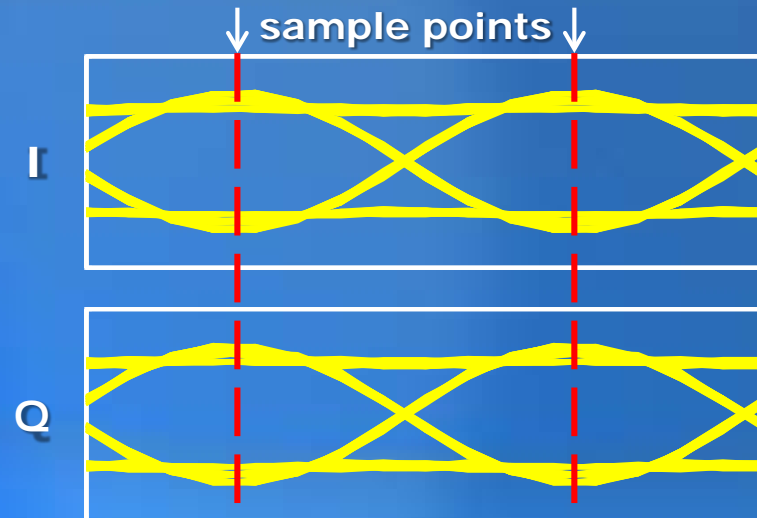
- Noise perturbs sampled I/Q values
- Constellation points no longer consist of single dots for each symbol
- If noise is big enough, this can cause bit errors!



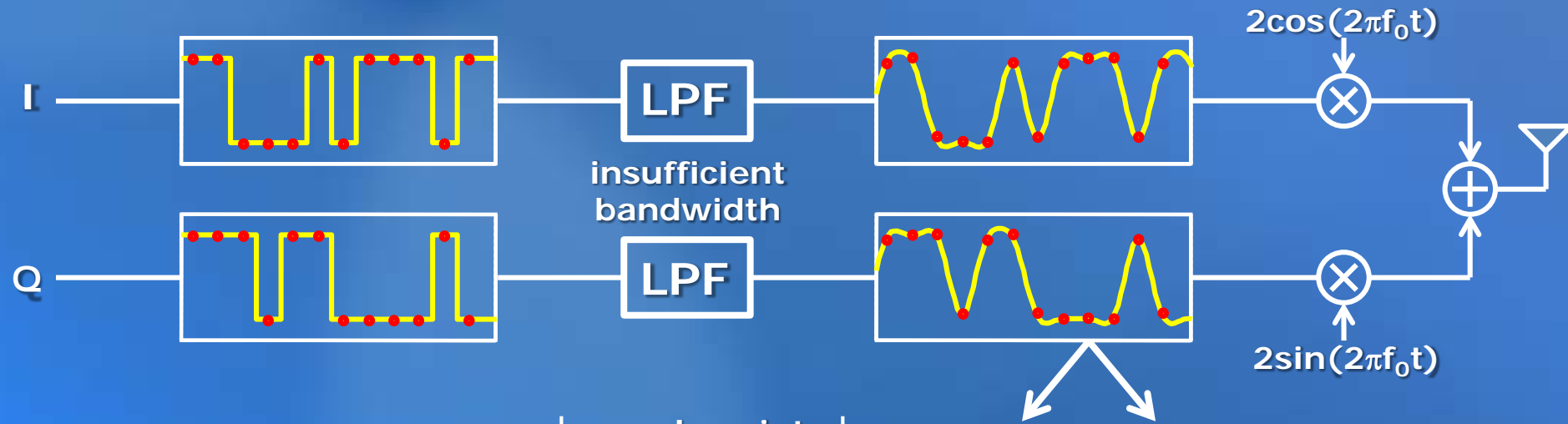
# High Tx Filter Bandwidth



Open eye diagrams lead to tight symbol groupings in constellation



# Low Tx Filter Bandwidth



Eye diagrams show increased ISI and sensitivity to sample time placement.

