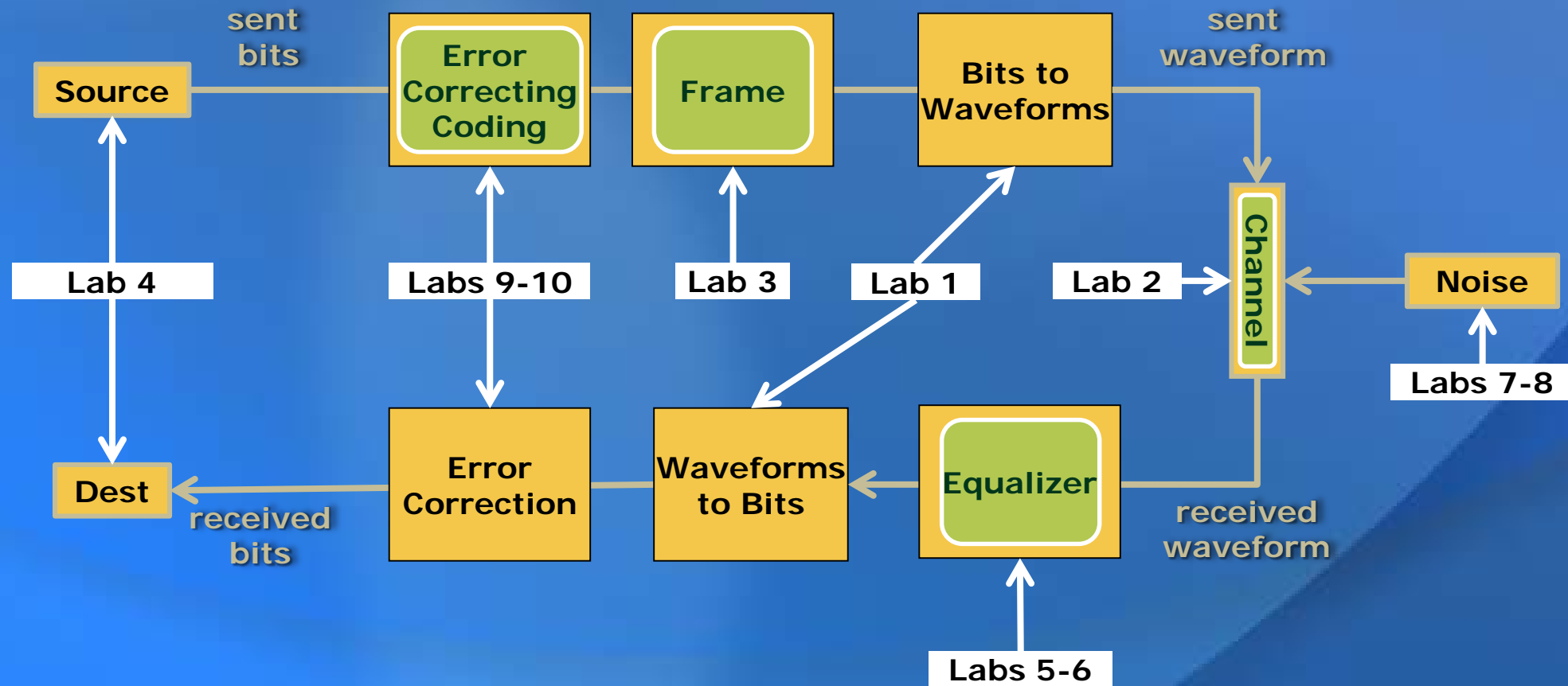


Communications System

Is it necessary to transmit all raw data?



Source Coding: Run Length Encoding

Raw Data



Run Length
Encoding

100 zeros "0,, 0"

Run Length Code: [0, 100]



Run Length Encoding

Raw Data:

[0 1 1 0 0 1 1 1 1 1 1 0,, 0]
[1 zero 2 ones, 2 zeros, 6 ones, 383 zeros]

Run Length Code (8 bit):

[1 2 2 6 255 0 128]
[00000001 00000010 00000010 00000110 11111111 00000000 10000000]

Run-length = 0

Source Coding: Huffman Codes



Dumb Dictionary

Dictionary:

{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, **>=10**}
{[0 0 0 0], [0 0 0 1], [0 0 1 0], [0 0 1 1], [0 1 0 0], [0 1 0 1], [0 1 1 0], [0 1 1 1], [1 0 0 0], [1 0 0 1], **[1 0 1 0]**}

Run-length = 0

Run-length >= 10

Run Length Code:

[1	2	2	6	255	0	128]
[00000001	00000010	00000010	00000110	11111111	00000000	10000000]

Huffman Code:

[0001	0010	0010	0110	1010	11111111	0000	1010	10000000]
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Escape Code

Escape Code