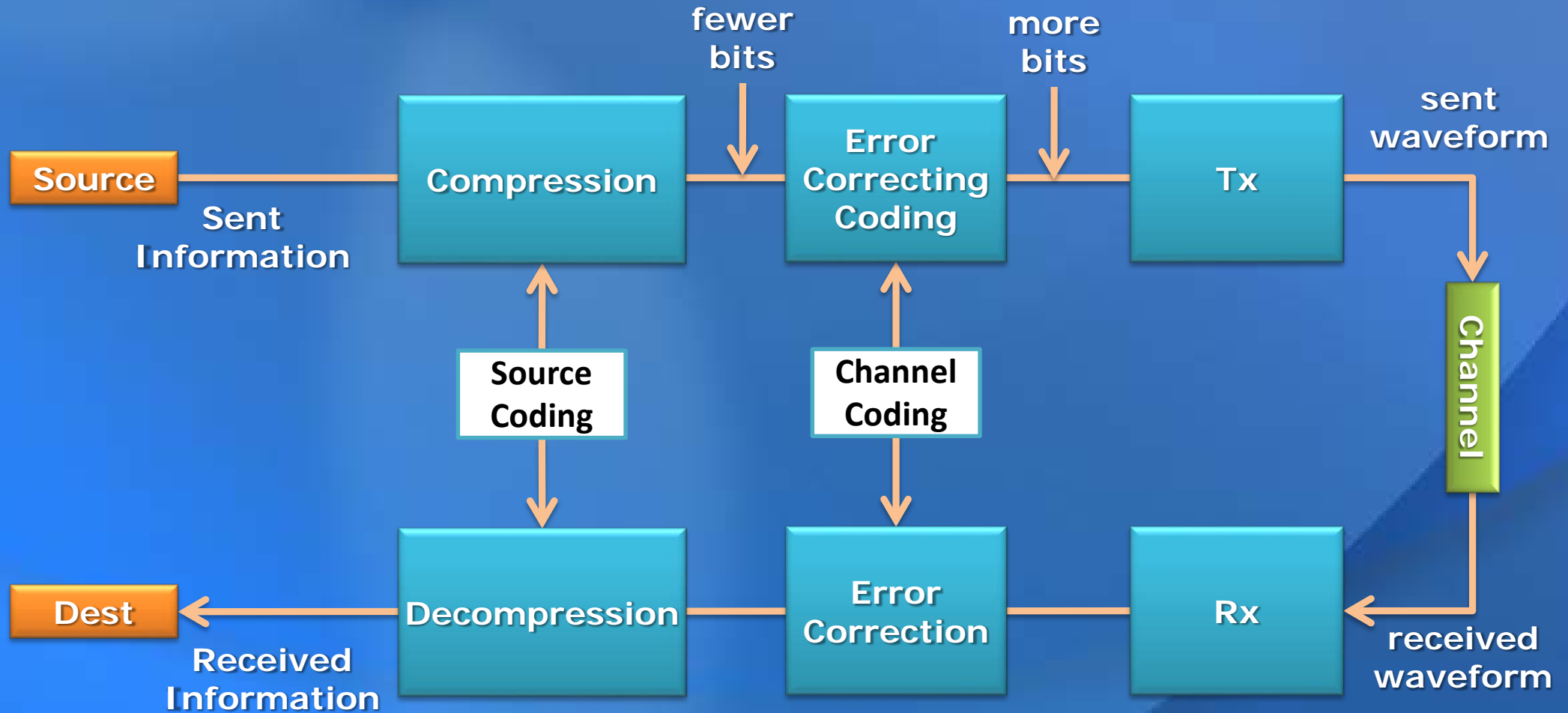


# Source Coding

# Communication System



# Source Coding



## Encoding (compression)

- INPUT information is converted to a bit stream with as few bits as possible
- Example inputs: text, music, images, video

## Decoding (decompression)

- bit stream is converted to OUT, which is similar/identical to INPUT

# Lossless vs. Lossy



## Lossless data compression

- OUT exactly same as INPUT.
- Usually used for "naturally digital" bit streams, e.g. documents, messages, datasets, ...
- Examples: Huffman encoding, LZW, zip files, rar files

## Lossy data compression

- OUTPUT "close" or "similar" to INPUT
- Appropriate for data streams (audio, video) intended for human consumption via imperfect sensors (ears, eyes)
- Examples: MP3, MPEG, WMV