

Structured Electronic Design

EE3C11

Shannon (1948): channel capacity

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The amount of information that can be handled by a system

Shannon (1948)

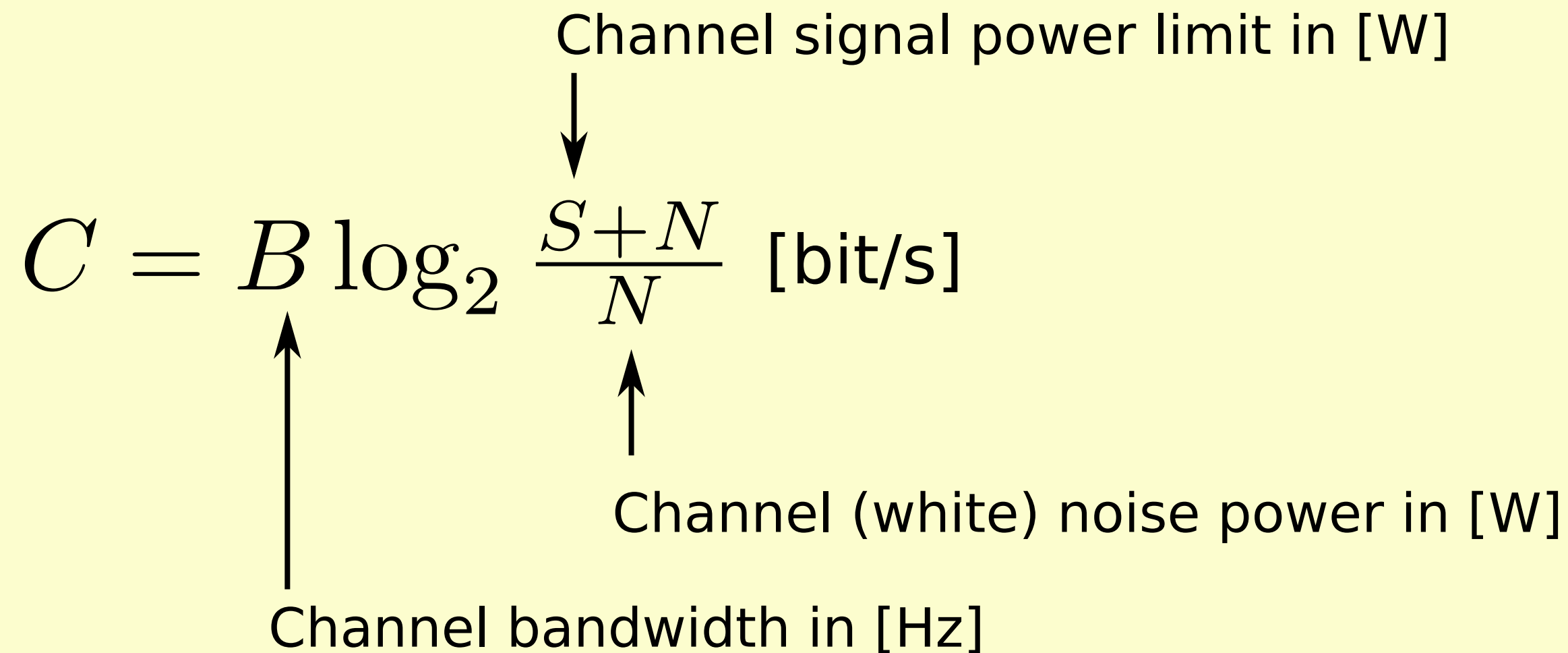
The number of information processing errors can be kept arbitrarily low if the amount of information transported over a channel is equal or less than the channel capacity C :

$$C = B \log_2 \frac{S+N}{N} \text{ [bit/s]}$$

Channel signal power limit in [W]

Channel (white) noise power in [W]

Channel bandwidth in [Hz]



Spectrum analyser
Area => dB/s

