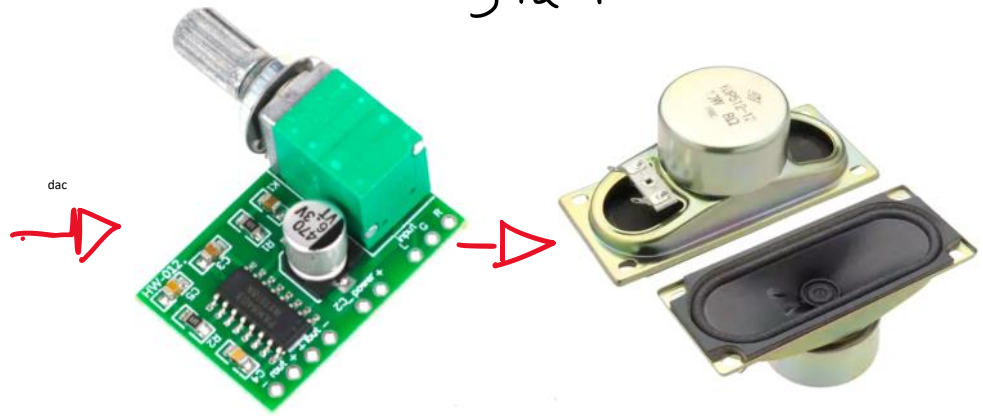
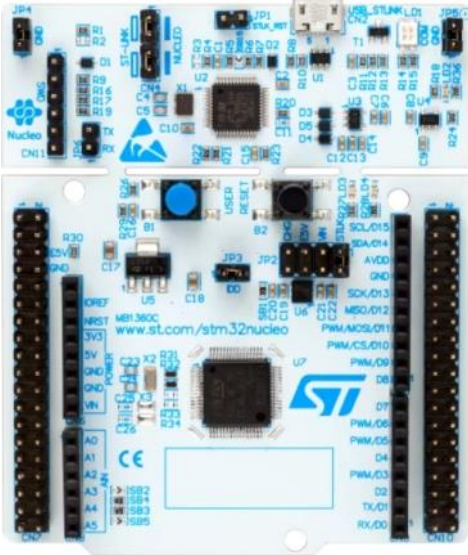
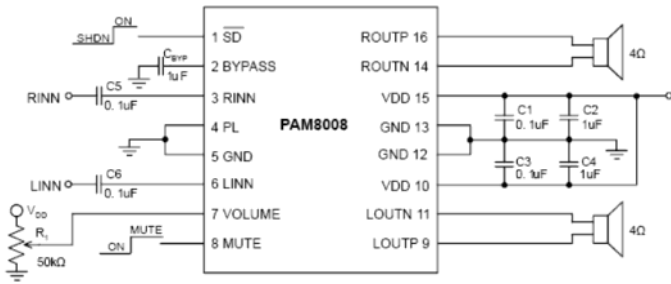


STM3260B3RE
512K

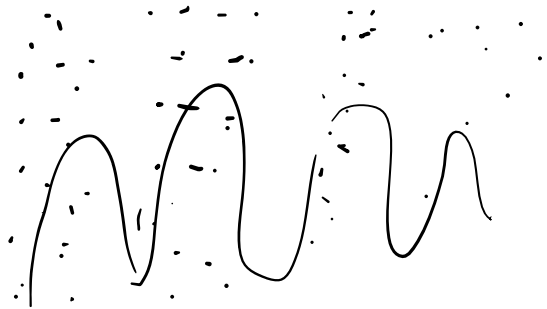
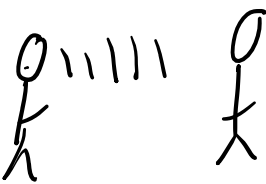


PAM800X



spl

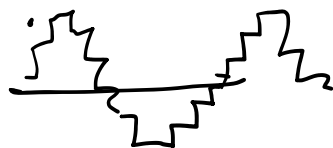
f 151800



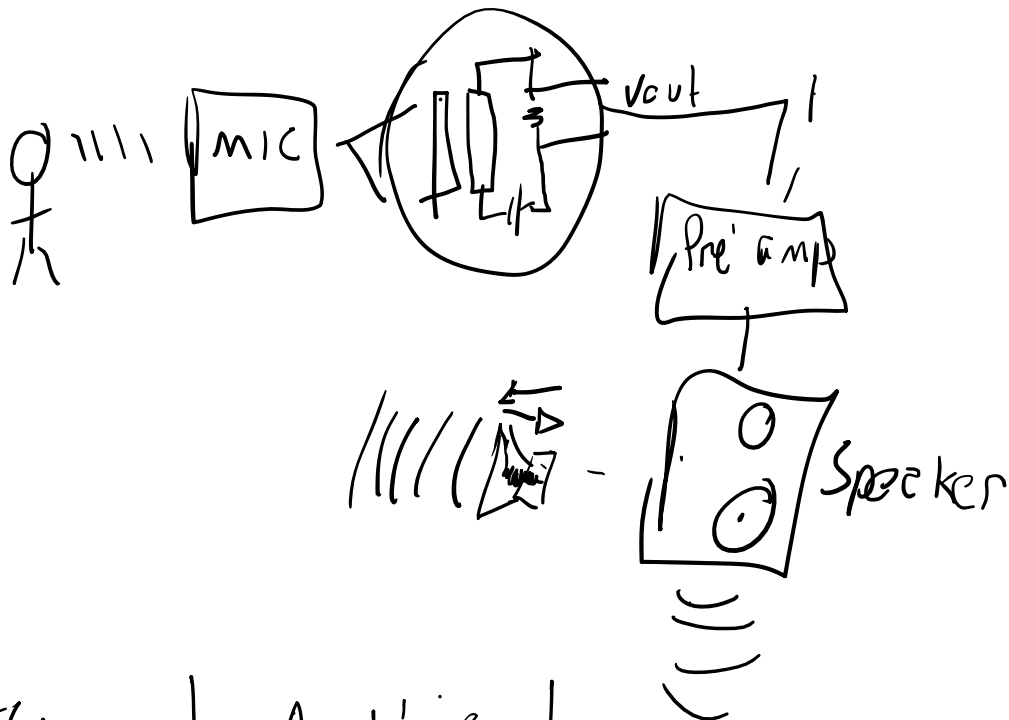
ondas
acustica



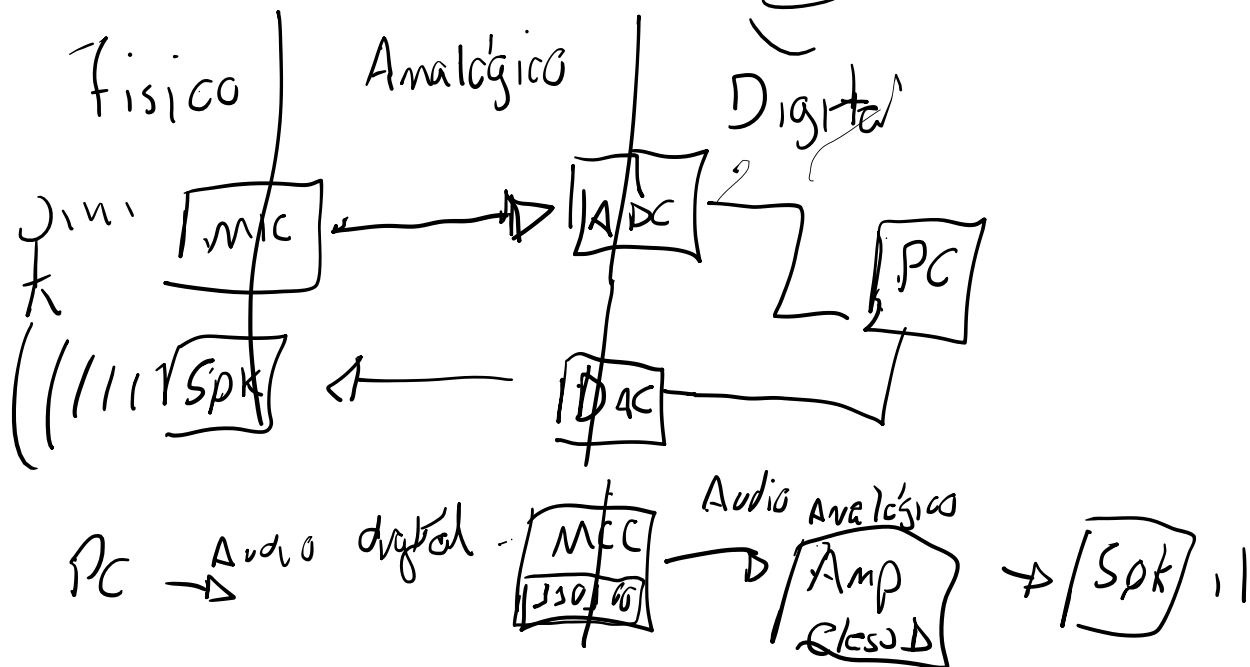
μ lógico



1



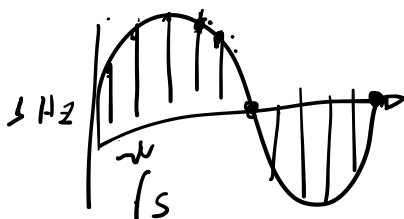
2



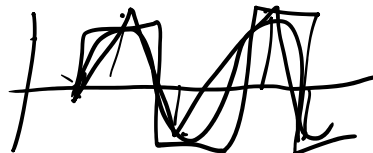
Amplitude

$$y = A \sin(2\pi f t + \phi) \quad \text{case}$$

DAMP
↓
freq



Nyquist - Shannon
2x



8 kHz → NoIP → Skp → digital - VPP

16 kHz

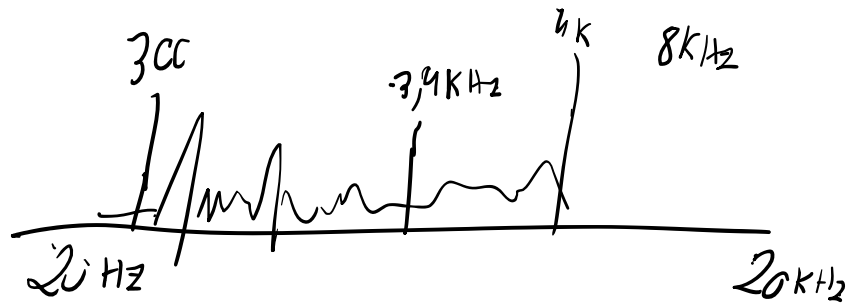
24 " "

CD + 44.1

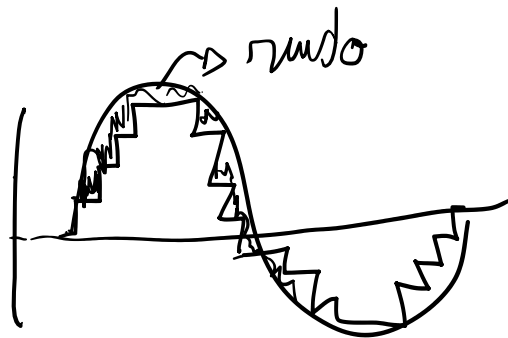
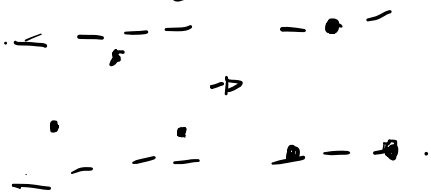
streaming - 48

↓ 96

192 kHz



Quantização



Compact
DISC
sony + philips
16 bit / 44.1 kHz

8 bit
0 - 255
16 bits
0 - 65,535

SNR
Signal quantization Noise Ratio

$$20 \log(2^n)$$

↓
-24 dBFS

$$20 \log(2^n) \cdot \text{bit depth}$$

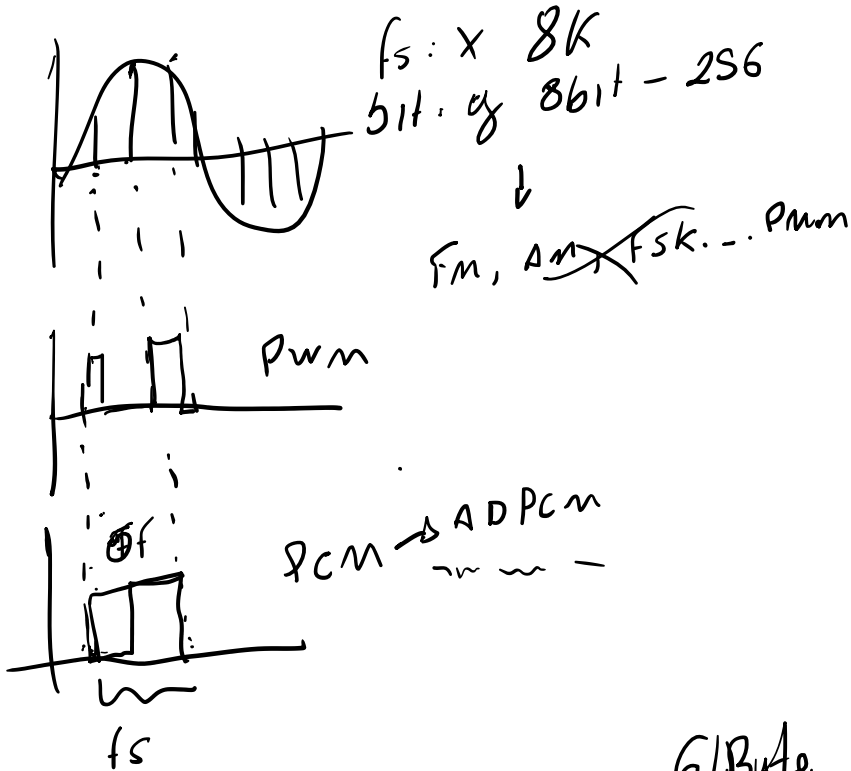
130 dB
spl

Limite da Din

-24 dB
Limite da per

0 dB_{spz}

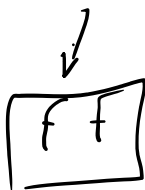
modulação



- Memória → MCU 6/Byte Kbytes

Nº bytes da qtd x fs x tempo x CN

1 byte x 8KHz x tempo x 1 mono:



0 ~ 255
0 ~ 65... - 2 bytes

8 kbytes/segundo

MCU → 16 → 32 - 64...

16 8KHz
8 bits
1 CH
512kbytes

formatos de audio

não comprimidos
↓

BMP, WAV

comprimidos


1500 Perai

PNG ou FLAC

1C/ PERUG

SPeG, mp3

WAV

p f1, 2D, 3B....


cabeculho
dados
WAV

fs:
Q:
param