

MİKS DERSİ

1. HAFTA

TEMEL KAVRAMLAR VE ODA AKUSTİĞİ

MİKS KLİNİĞİ

Her hafta canlı yayının ikinci bölümünde sizden gelen miksleri inceleyeceğiz.

Katılmak isterseniz, mikslerinizi doruksomunkiran@gmail.com adresine gönderebilirsiniz.

Mesajlarınızın konu bölümüne MİKS kelimesini ekleyiniz.

KONU BAŞLIKLARI

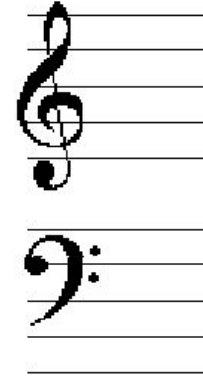
- Genlik (desibel)
- Frekans (Hertz)
- Temel frekans ve harmonikler
- Sample rate, bit rate, clipping
- Oda akustiği
- Monitör çeşitleri ve seçimi
- Kulaklıkla miks yapılır mı?
- Pratik ve ekonomik çözümler

DESİBEL

- %
- Ses basınç seviyesi = Sound pressure level = SPL
- 0 - 194 dB
- Loudness unit full scale = LUFS
- $-\infty$ - 0 dB

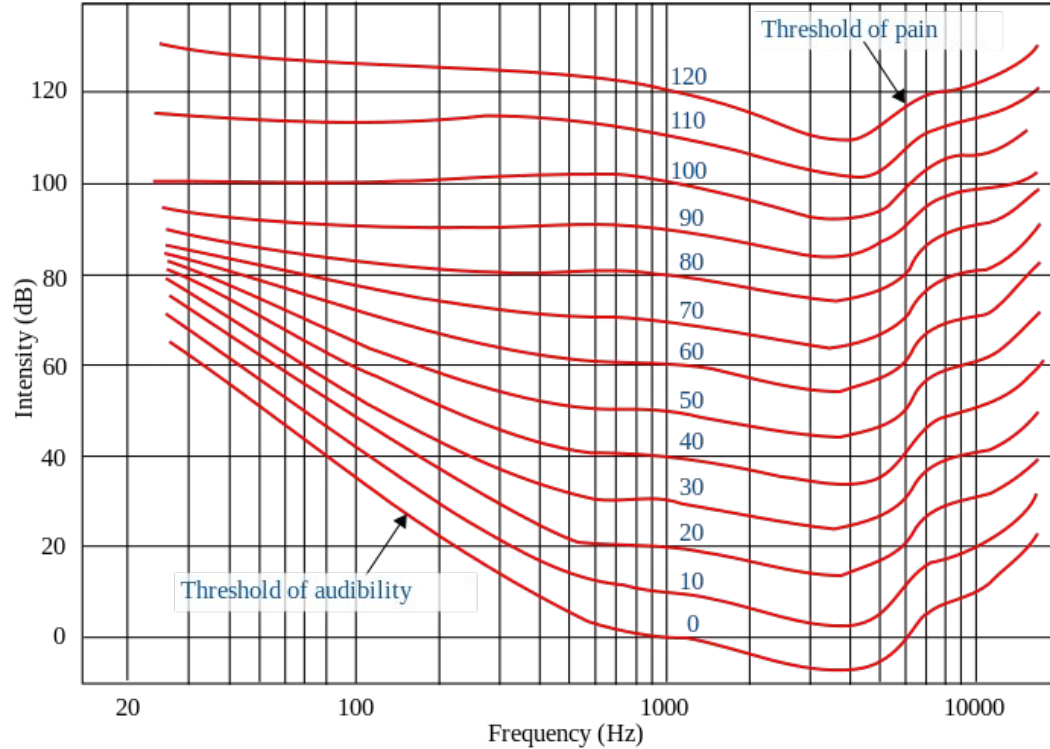
HERTZ

- Saniyedeki titreşim sayısı, frekans
- İnsanın işitme aralığı: 20 Hz - 20.000 Hz
- 20 - 40 Hz Sub bass
- 40 - 250 Hz Bass
- 250 - 500 Hz Low midrange
- 500 - 2000 Hz Midrange
- 2000 - 4000 Hz Upper midrange
- 4000 - 6000 Hz Presence
- 6000 - 20000 Hz Brilliance / Air



Frequency	Keyboard	Note name	MIDI number
4186.0		C8	108
3951.1		B7	107
3729.3		A7	106
3322.4		G7	104
2960.0		F7	102
2637.0		E7	100
2489.0		D7	99
2217.5		C7	97
1975.5		B6	95
1864.7		A6	94
1661.2		G6	92
1480.0		F6	90
1318.5		E6	88
1244.5		D6	87
1108.7		C6	85
987.77		B5	83
932.33		A5	82
830.61		G5	80
739.99		F5	78
622.25		E5	76
554.37		D5	75
493.88		C5	73
466.16		B4	71
415.30		A4	69
369.99		G4	68
329.63		F4	66
311.13		E4	64
277.18		D4	63
261.6		C4	60
246.94		B3	59
233.08		A3	58
207.65		G3	56
185.00		F3	54
164.81		E3	52
155.56		D3	51
138.59		C3	49
123.47		B2	47
116.54		A2	46
103.83		G2	44
92.499		F2	42
82.407		E2	40
77.782		D2	39
69.296		C2	37
61.735		B1	35
58.270		A1	34
51.913		G1	32
46.249		F1	30
41.203		E1	28
38.891		D1	27
34.648		C1	25
30.868		B0	23
29.135		A0	22

FLETCHER-MUNSON EĞRİSİ

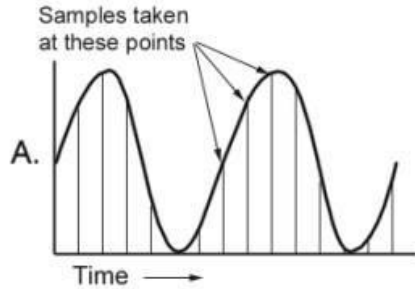


TEMEL FREKANS VE HARMONİKLER

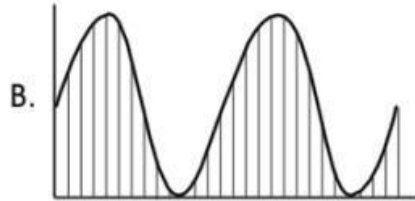
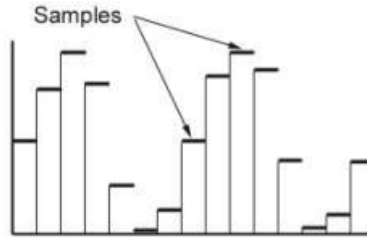
ÖRNEKLEME ORANI = SAMPLE RATE

Analog Wave

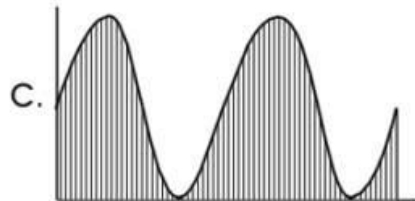
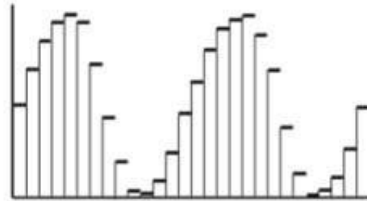
Digital Result



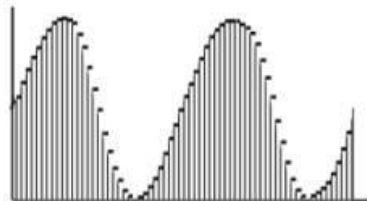
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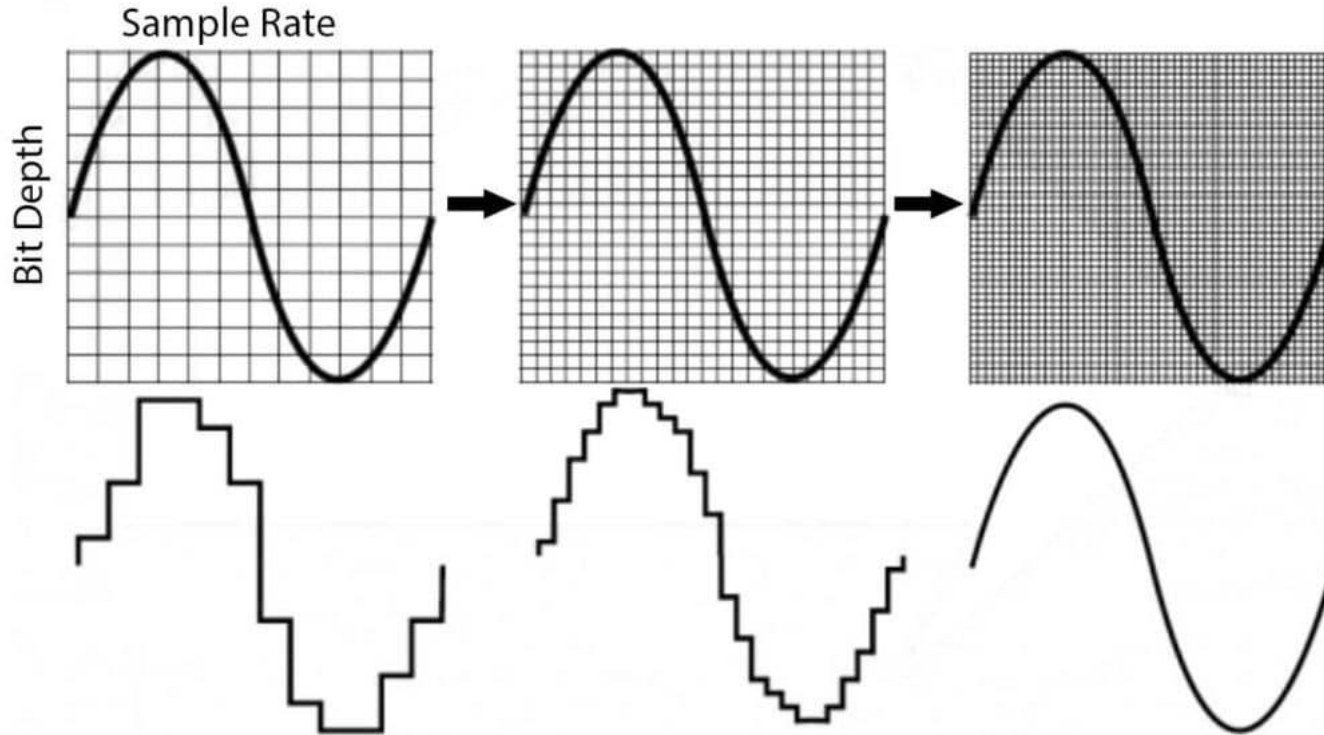


CD, Spotify: 44.100 Hz

DVD, YouTube: 48.000 Hz

* Nyquist teorisi

BİT DERİNLİĞİ = BIT DEPTH



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4 bit → nnnn

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0001

0011

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1111

Toplam 16

olasılık

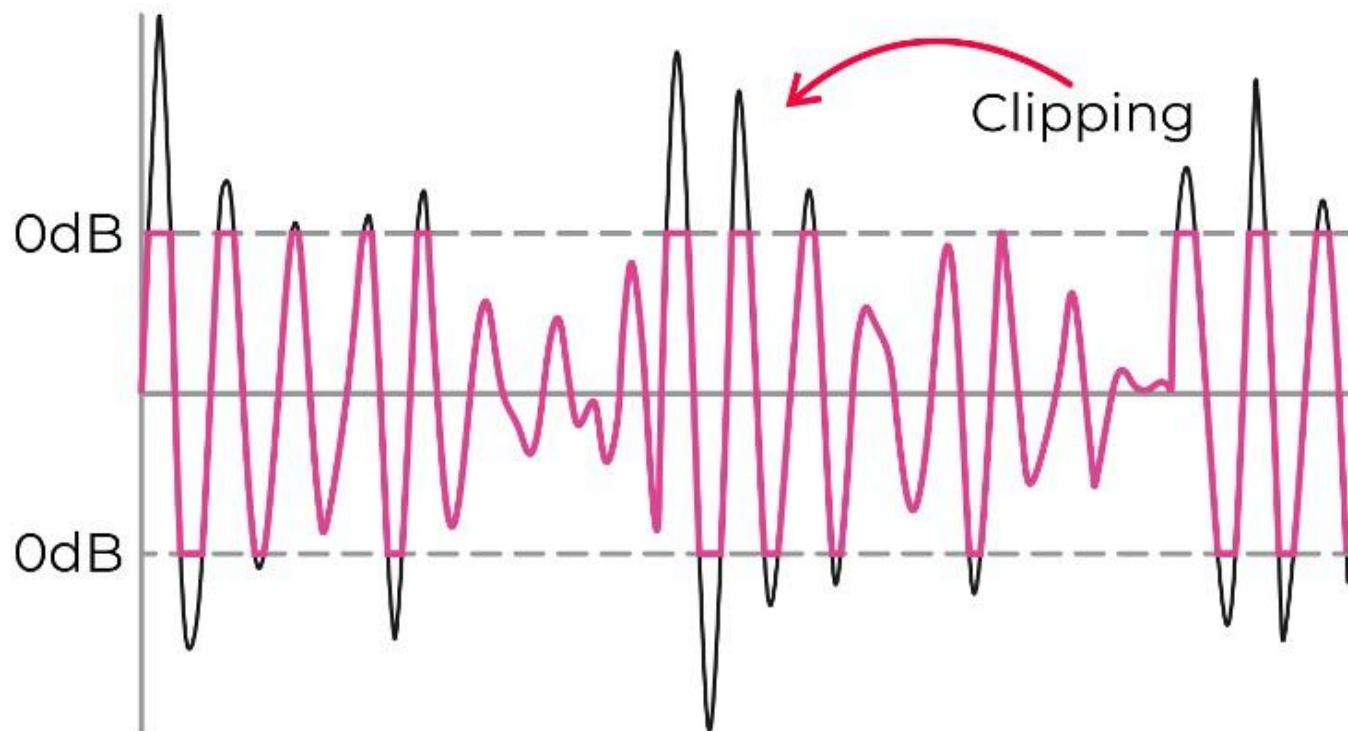
$2^4 = 16$

16 bit (CD, Spotify): 65.536

24 bit (DVD, YouTube): 16.777.216

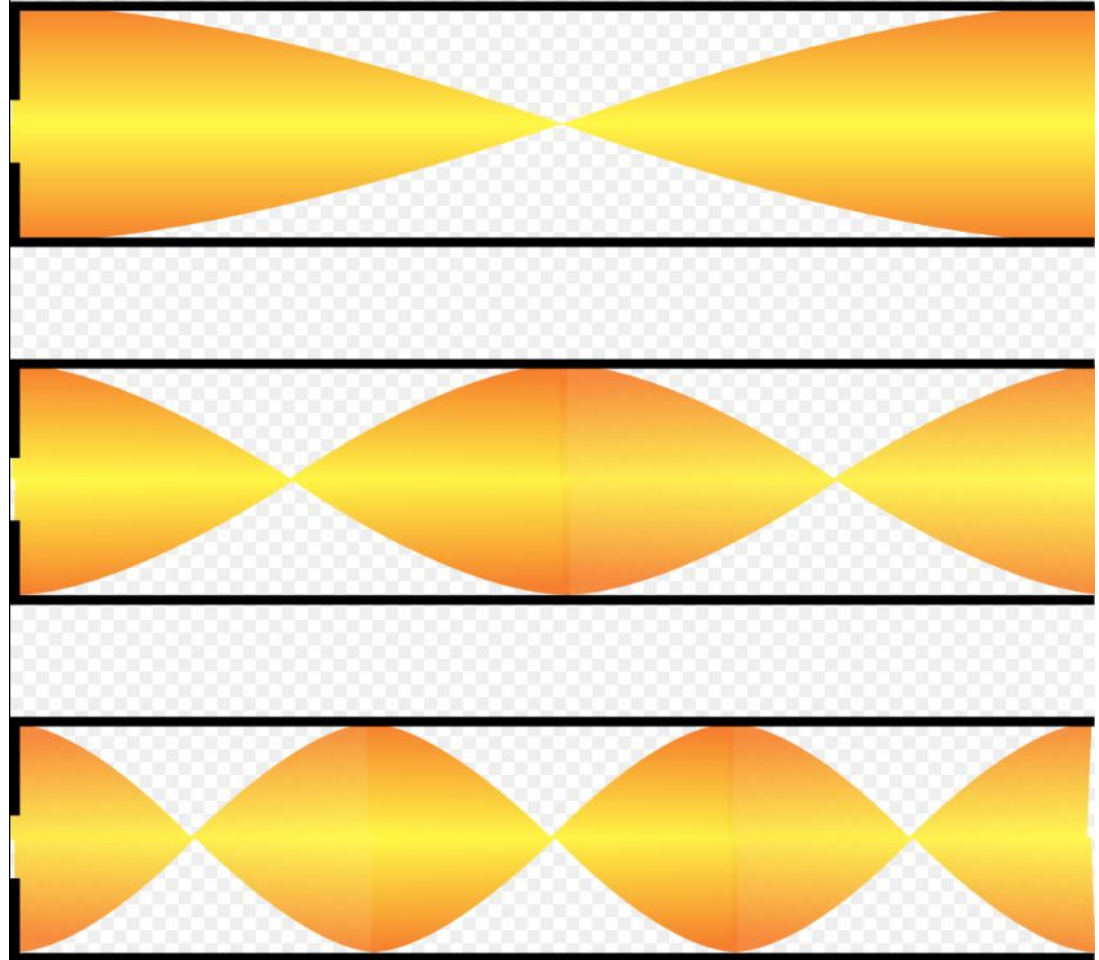
32 bit: 4.294.967.296

CLIPPING



ODA AKUSTİĞİ

- Yansımalar
- Duran dalgalar



MONİTÖR ÇEŞİTLERİ VE SEÇİMİ

- Aktif vs pasif
- Hoparlör adedi (woofer, tweeter, subwoofer)
- Kabin tasarımı
- Near field, mid field, far field
- Woofer çapı

KULAKLIKLA MİKS YAPILIR MI?

PRATİK ÇÖZÜMLER