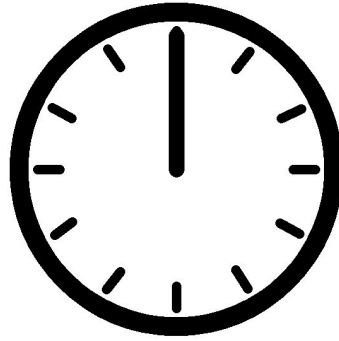


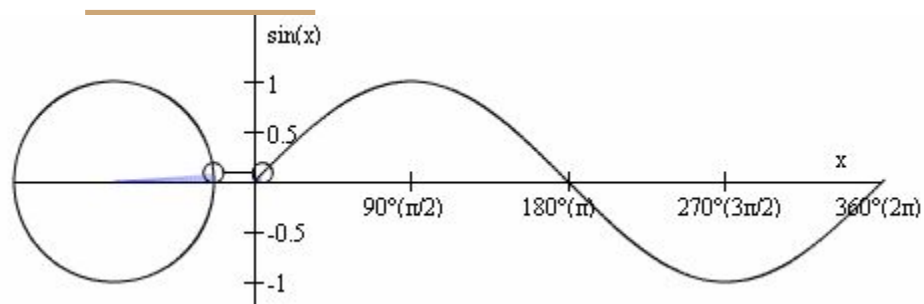
# Frecuencias, entre la ciencia y el arte

Matías Serrano  
Lic. en Artes mención Sonido  
Universidad de Chile

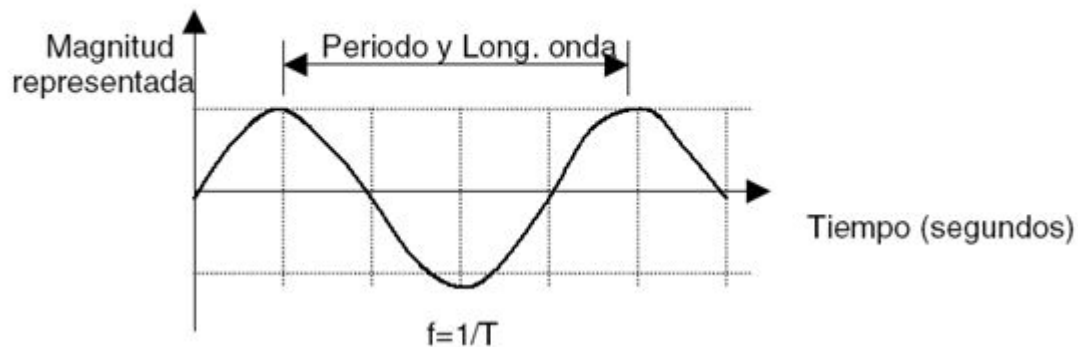


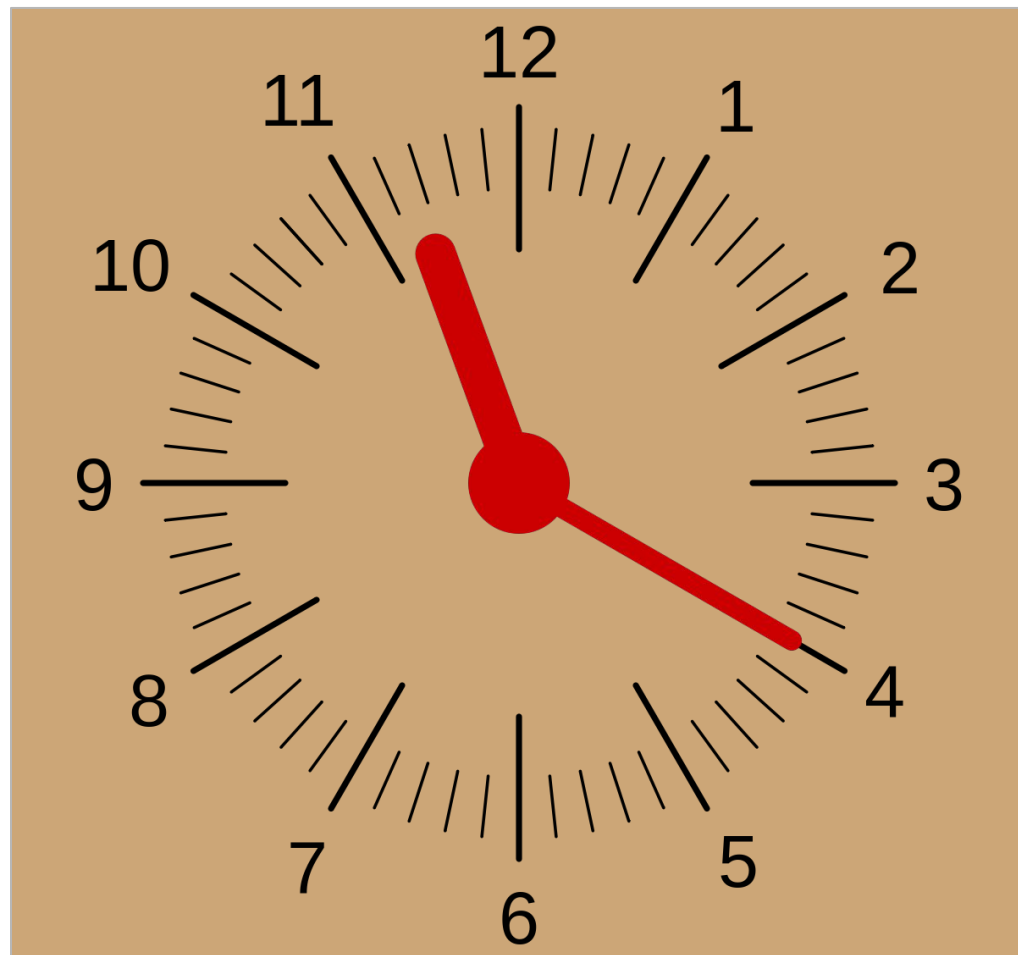


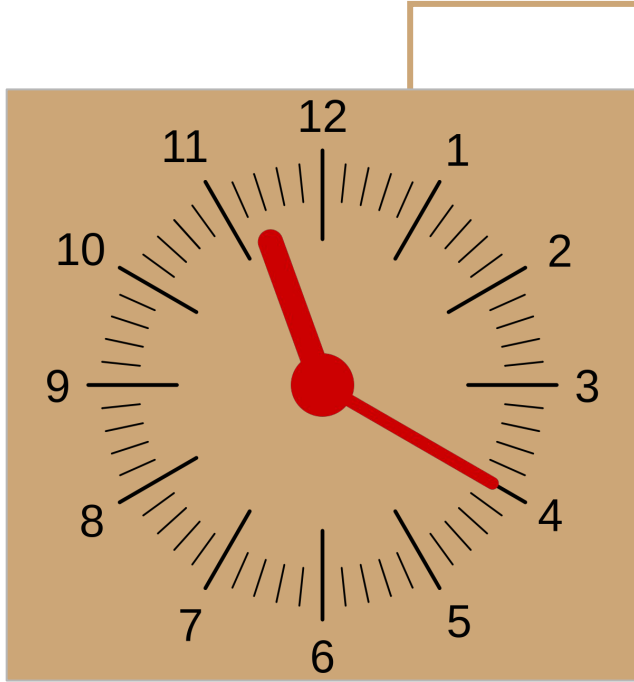
Frecuencias son  
repeticiones en el tiempo



$$T = \text{periodo} = \frac{1}{f} (\text{segundos}) \quad f = \text{frecuencia} = \frac{1}{T} (\text{Hz})$$



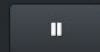




¿Cuántas veces al día...?

Me alimento  
Tomo Agua  
Juego con mi mascota  
Veo videos  
Escucho música

# E-909 ELEMENTS EUCLIDEAN RHYTHM COMPOSER



Reset



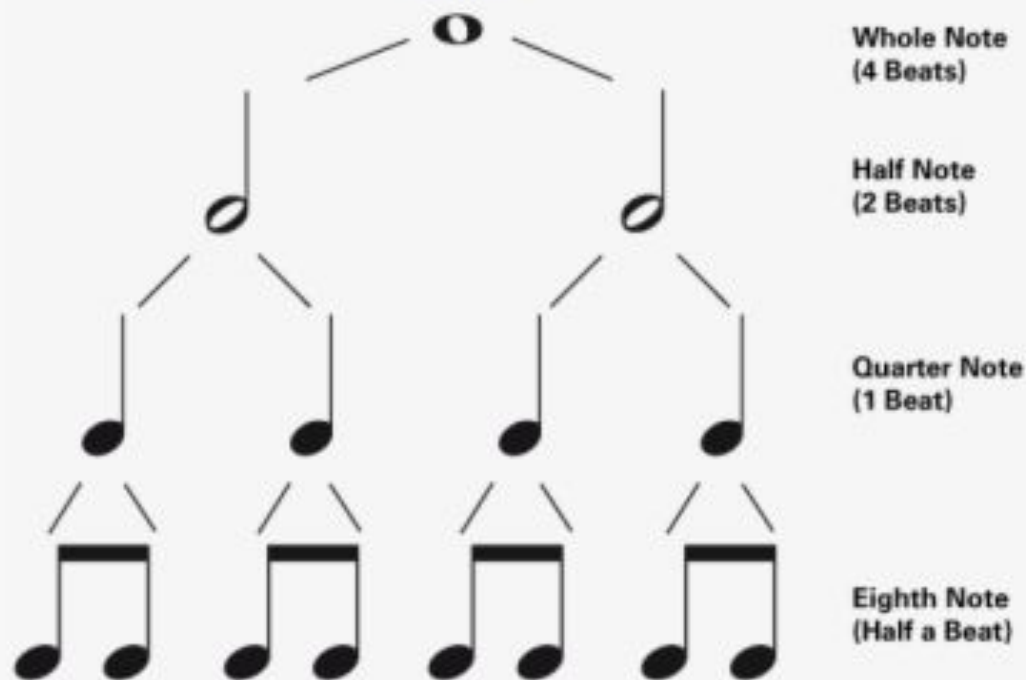
Tempo

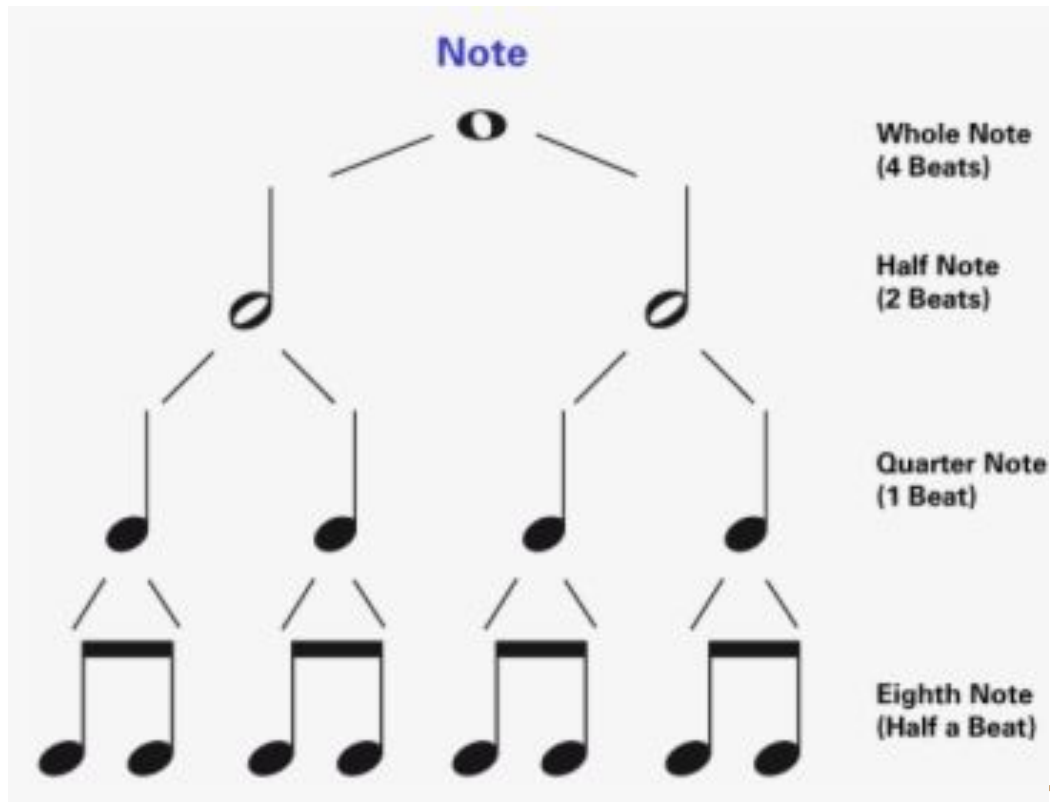


Volume



## Note





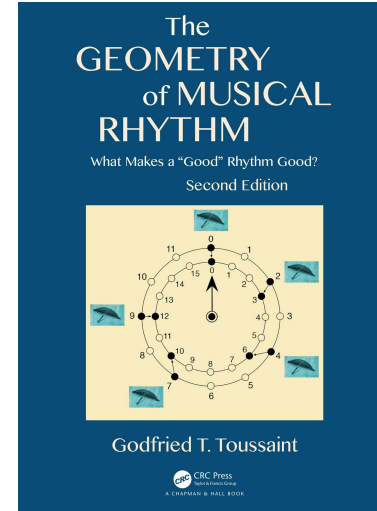
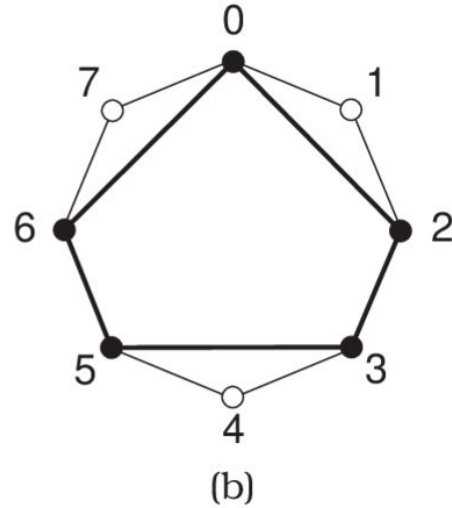
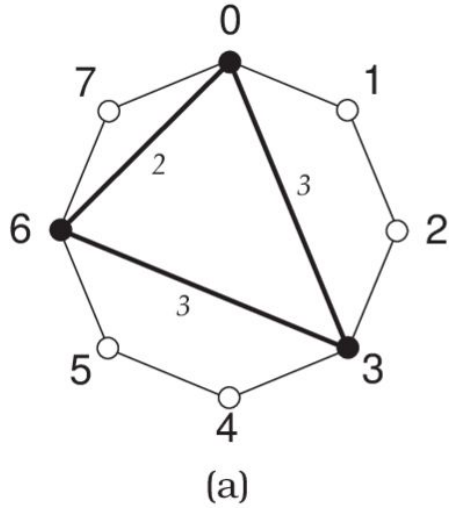
Nota Completa

Media Nota

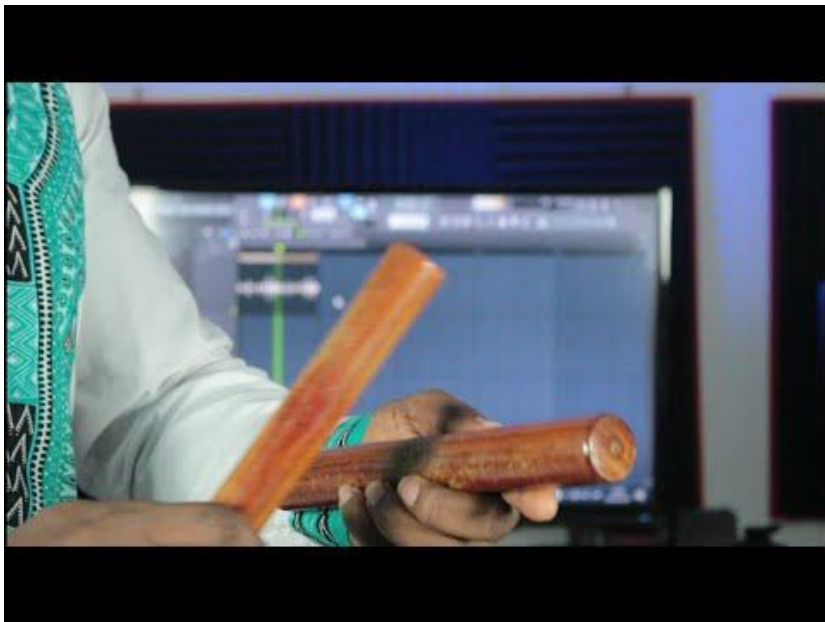
Cuarto de nota

Octavo de nota





# Ritmos Euclidianos: Geometrías musicales

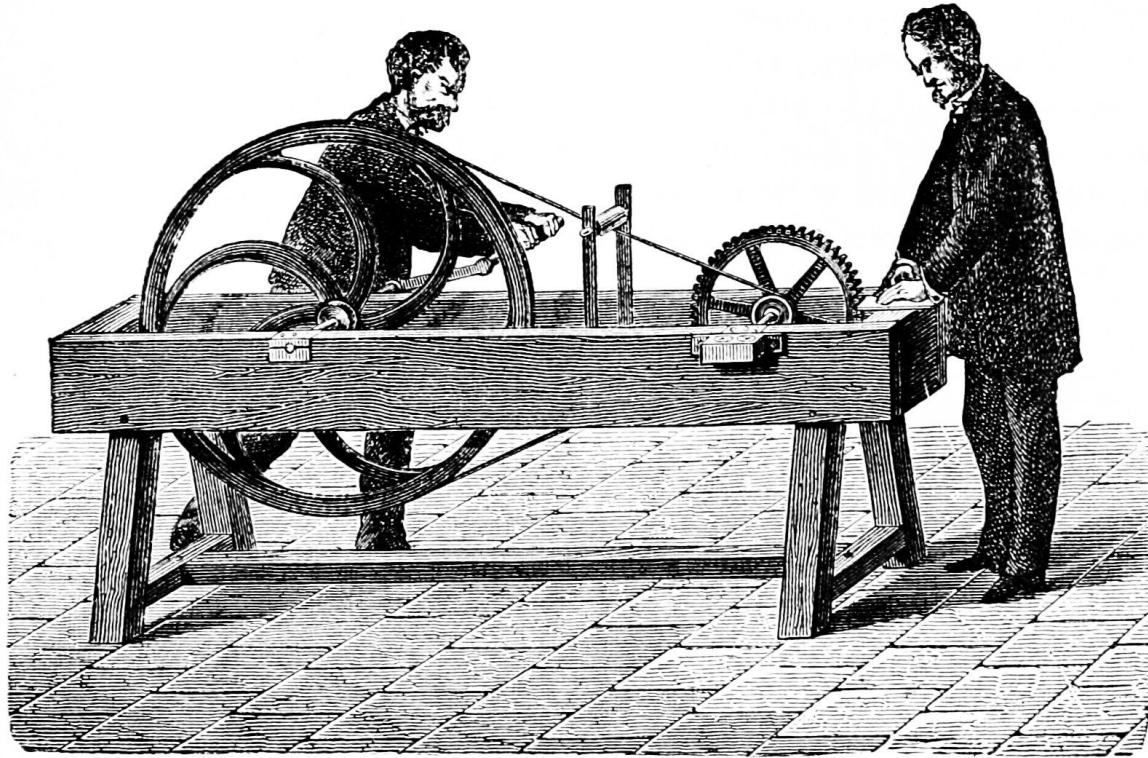


Clave Salsa (0:20)

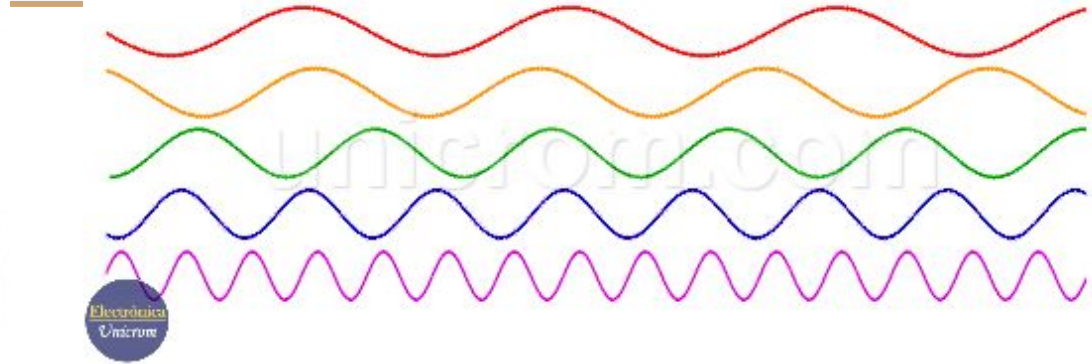
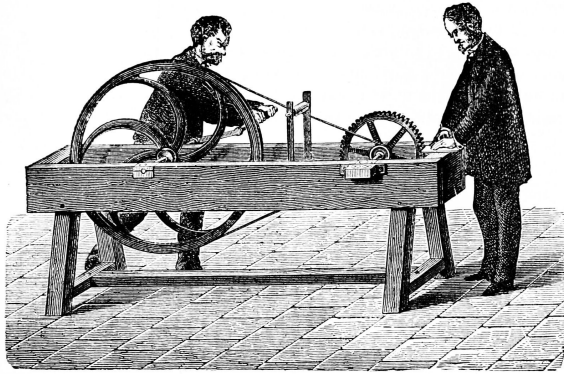


Salsa en contexto





Rueda de Hook (1666) | Rueda de Savart (1830)



Rango de audición humana (20 Hz a 20.000 Hz)

Rueda de Hook (1666) | Rueda de Savart (1830)



Rueda de Hook (1666) | Rueda de Savart (1830)

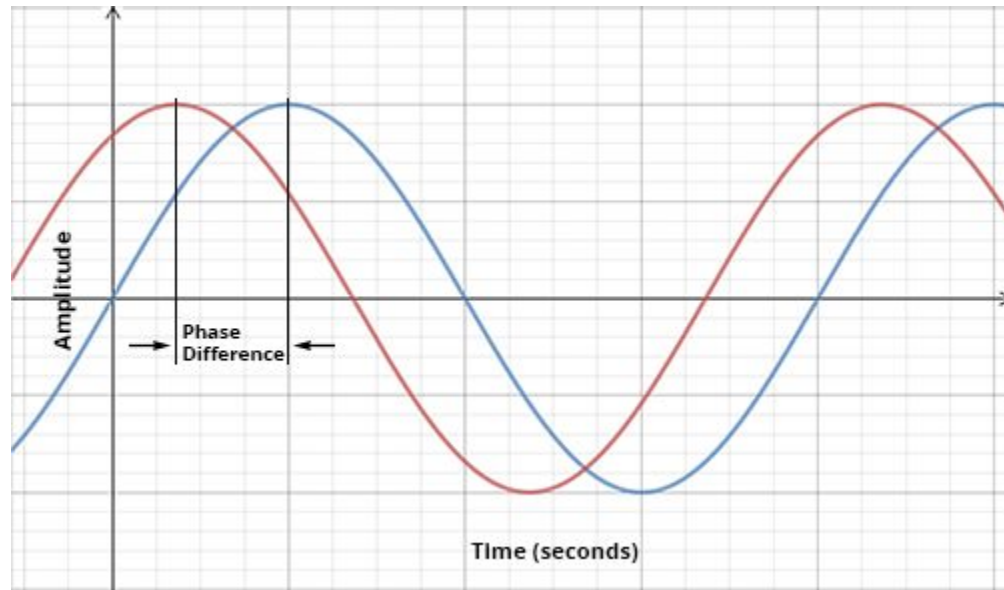


Stepper motor organ (1:40)



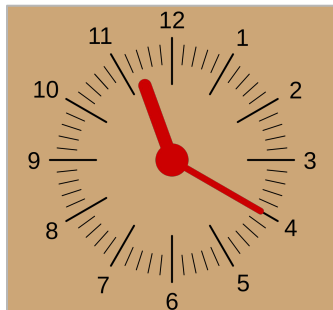


Ejemplo de secuenciador  
(Rubycon style sequencer riffs using 960 sequencer)

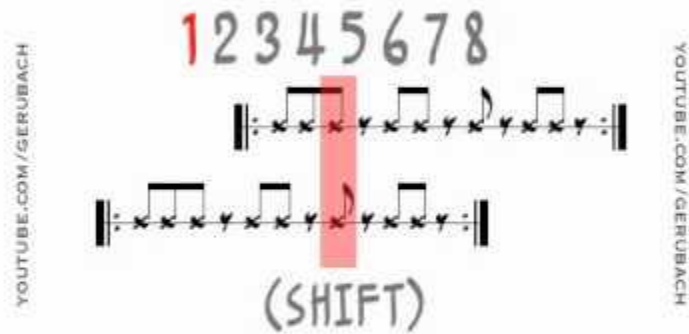


Fase = ¿Dónde empieza mi onda?

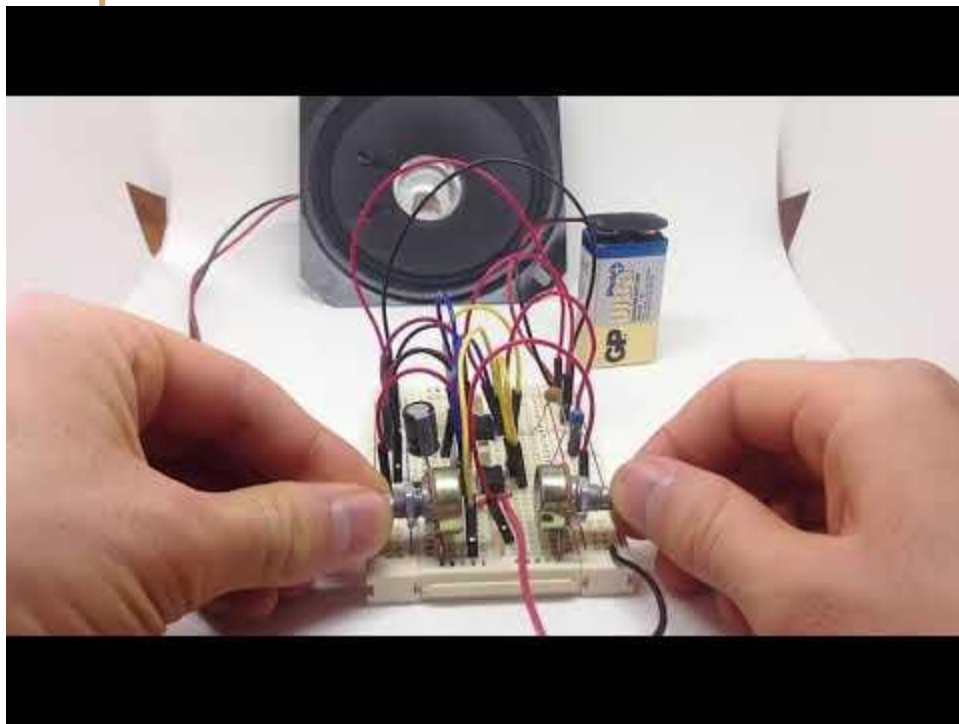




Si me levanto a las 06:00 am, son las 05:00 am en Perú y las 10:00am en España



Steve Reich - Clapping Music (Música de aplausos)



Atari Punk Console



# Tutupá Drum Machine (2016)

Colectiva 22bits

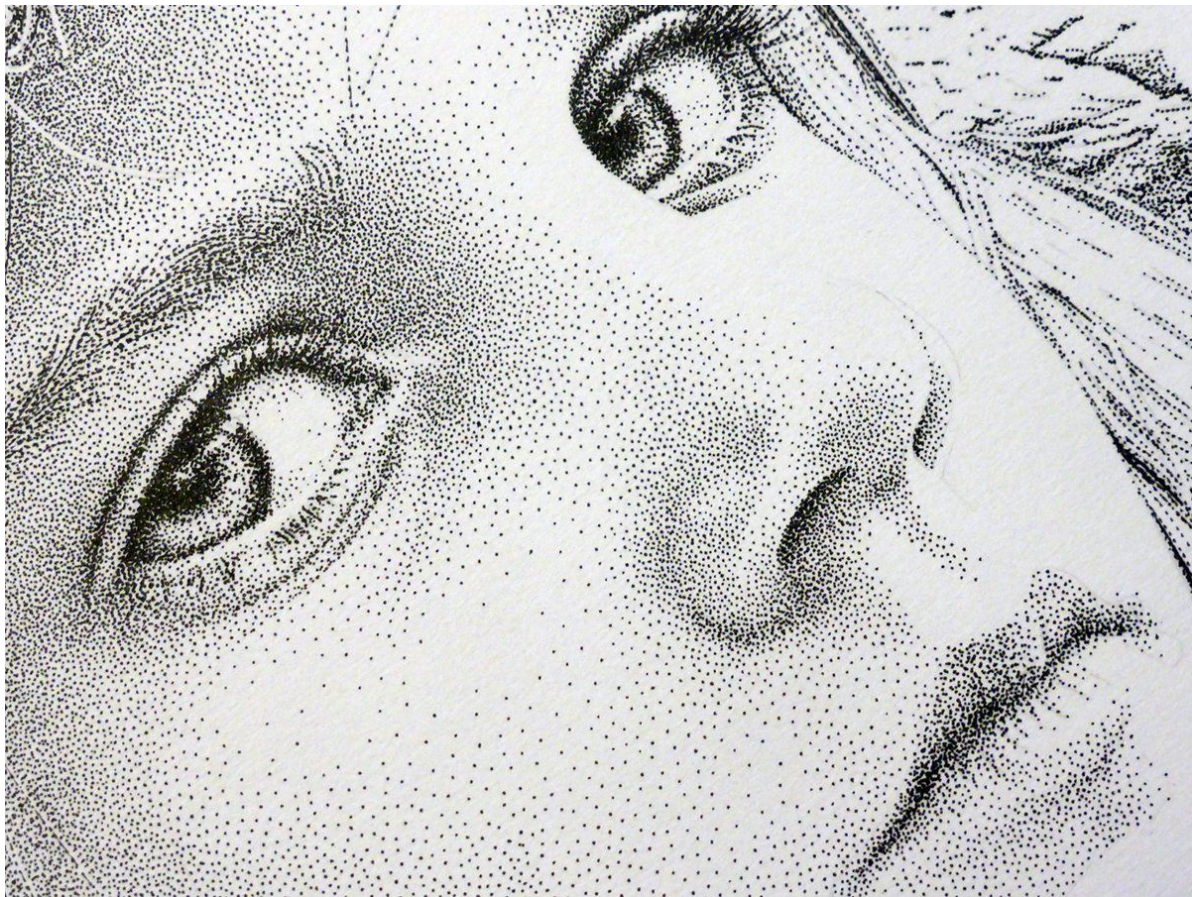


CPU de 3.4 GHZ = 3.400.000 ticks por segundo



FPS = Frames per Second = Cuadros por segundo





Puntillismo





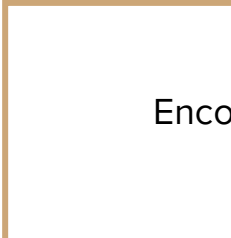








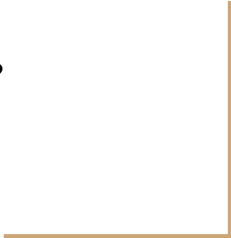
The screenshot shows the 'Music Grid' app interface. At the top, the title 'Music Grid' is displayed in a large, bold, white font. Below the title, there is a subtitle in a smaller white font: 'Turn on sound. Tap on the grid. Hit Play. You'll figure it out ;)'. The interface features three sliders: 'Rows' set to 16, 'Speed' set to 200, and 'Scale' set to 'classic'. Below the sliders, there are five icons: a play button, a square, a trash can, a share icon, and a download icon. At the bottom, there is a grid of 16 columns and 4 rows of dark gray squares, each with a small white play button icon to its left.



Encontramos frecuencias en:

Música  
Videojuegos  
Imágenes  
Computadores/celulares

¿Dónde más?  
¿Se pueden medir?





# ¡Gracias!

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