



**MAX**

SysBas 1B

Les 3

# Suzanne Ciani



SUZANNE CIANI'S  
BUCHLA

<https://youtu.be/QRx-YdqHLus>

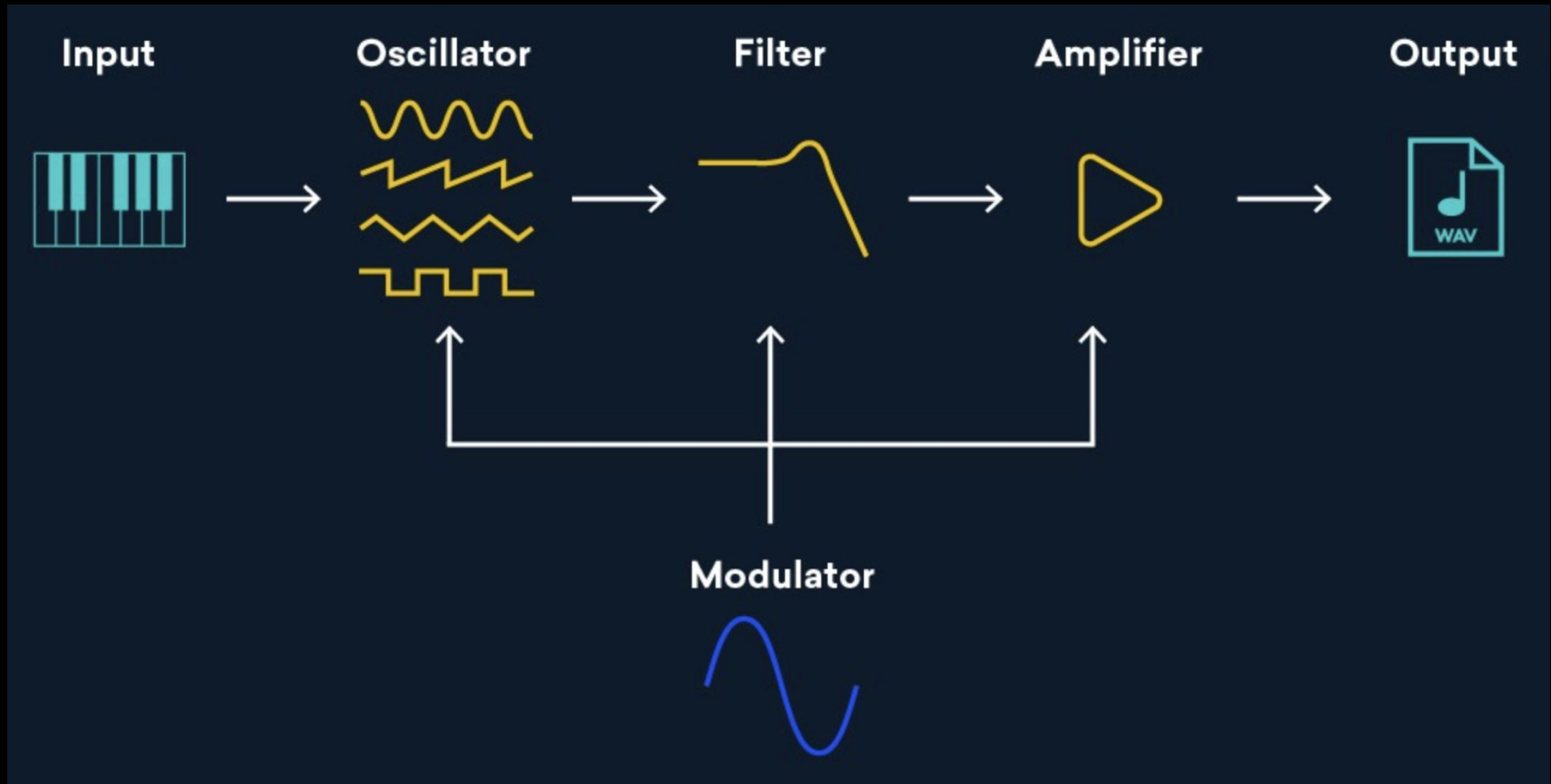
# Subtractive Synthesis



# Subtractive Synthesis

Het creëren van timbres  
door spectraal rijke klanken  
(dynamisch) te filteren

# Subtractive Synthesis



# Korg Minilogue XD



# Korg Minilogue XD



# Subtractive Synthesis

**OSCILLATOR**

**ADSR**

**FILTER**

**LFO**



# OSCILLATOR - Harmonics (partials)

cycle~

tri~

rect~

saw~

noise~

pink~

SINE WAVE



TRIANGLE WAVE



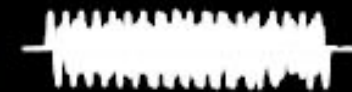
SQUARE WAVE



SAW TOOTH WAVE

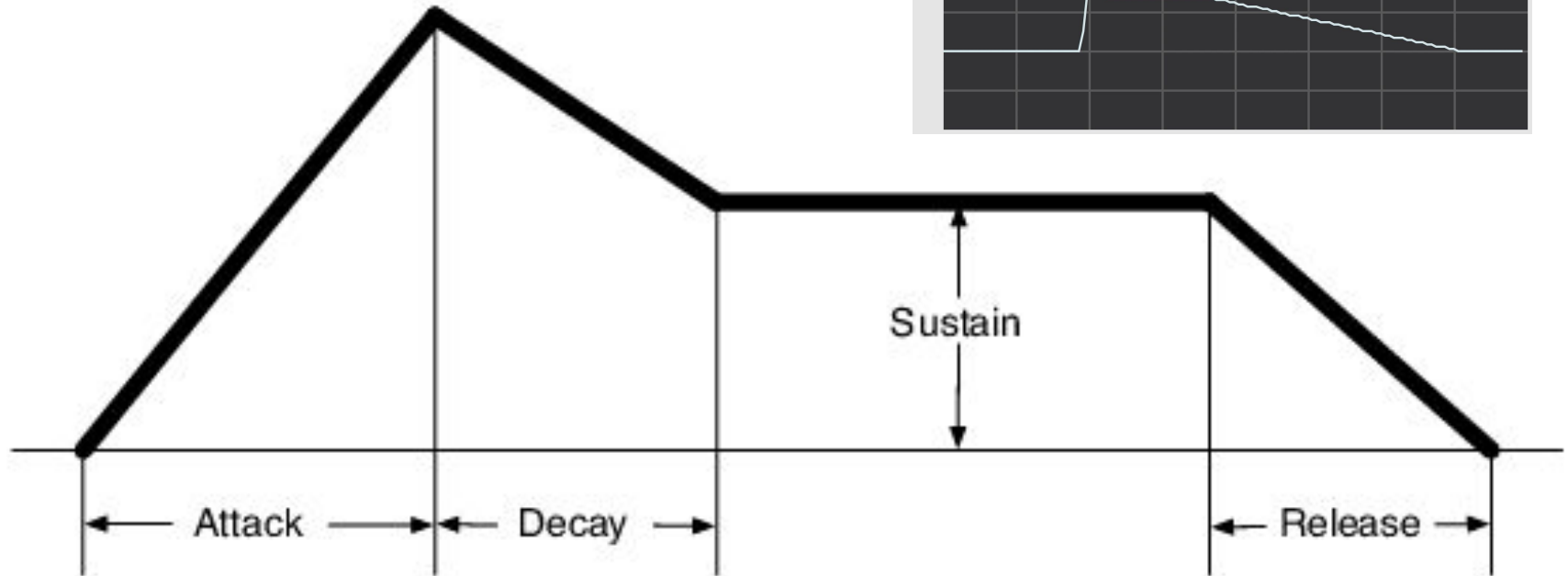
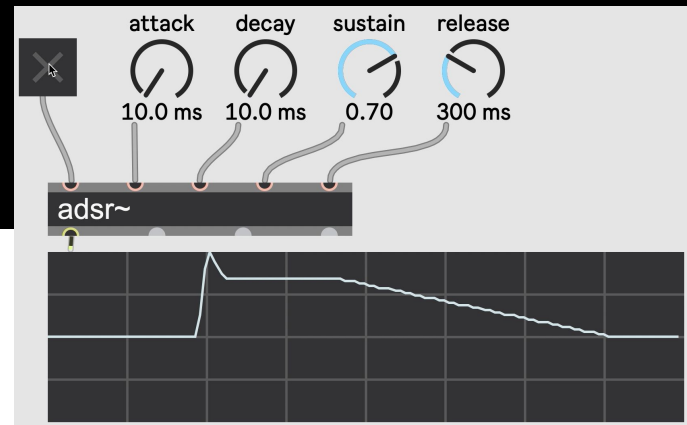


RANDOM WAVE

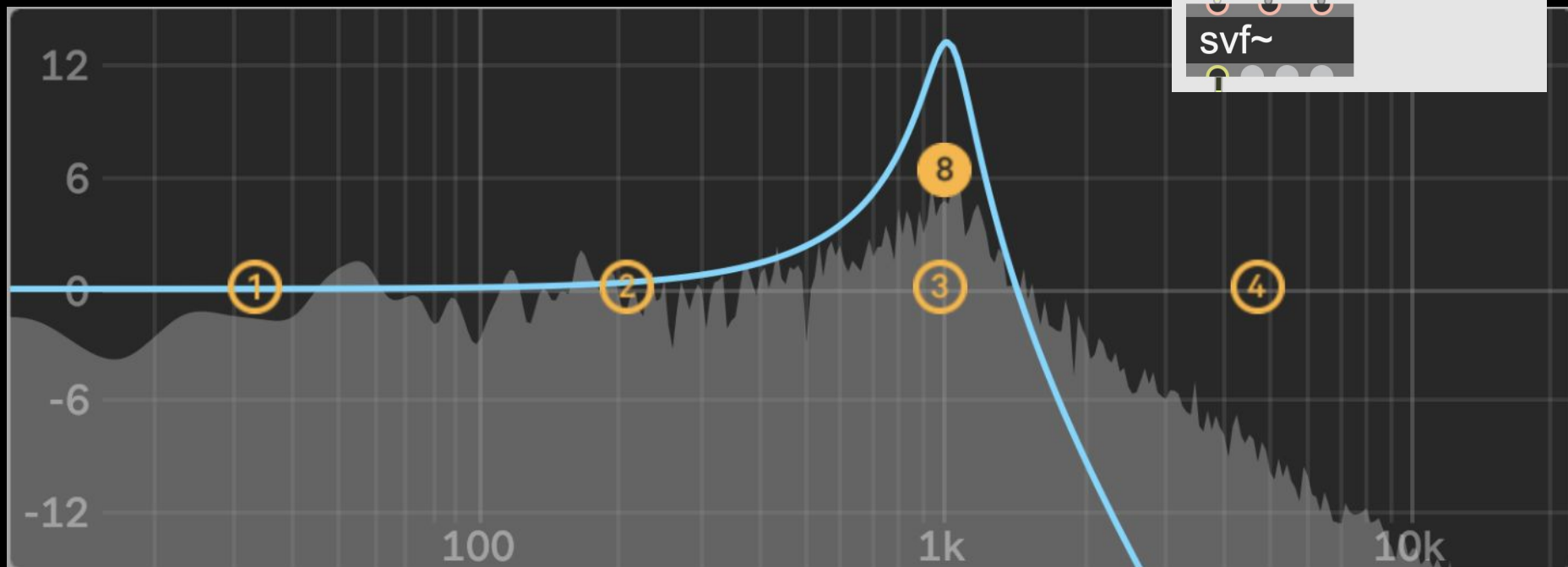


**Correctie** : Zowel de Triangle als de Square wave hebben allebei **alleen oneven** harmonischen. Het verschil is dat die van de Square allemaal even hard zijn, terwijl ze van de Triangle sneller aflopen in amplitude

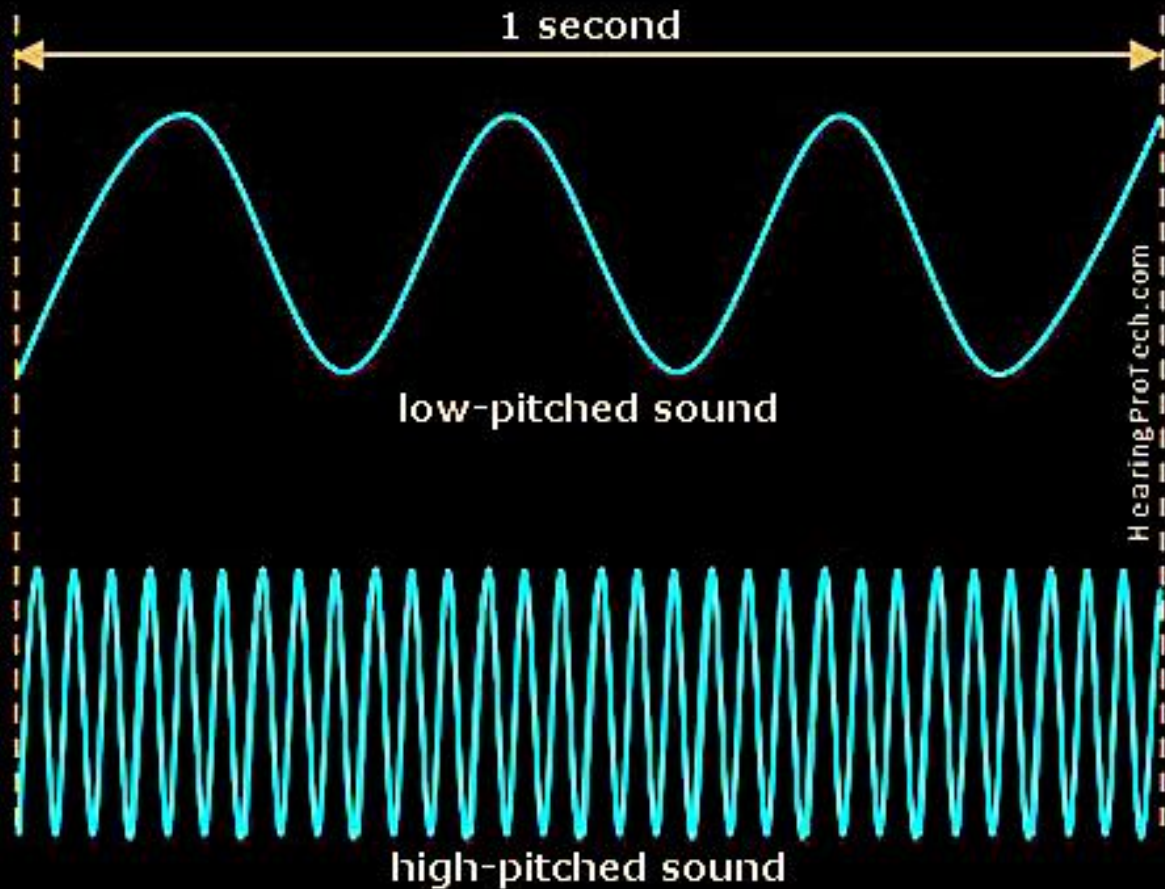
# ADSR



# LOW-PASS FILTER



# LFO - Low Frequency Oscillator



cycle~

tri~

rect~

saw~

rand~

