



The Perception of ONSET

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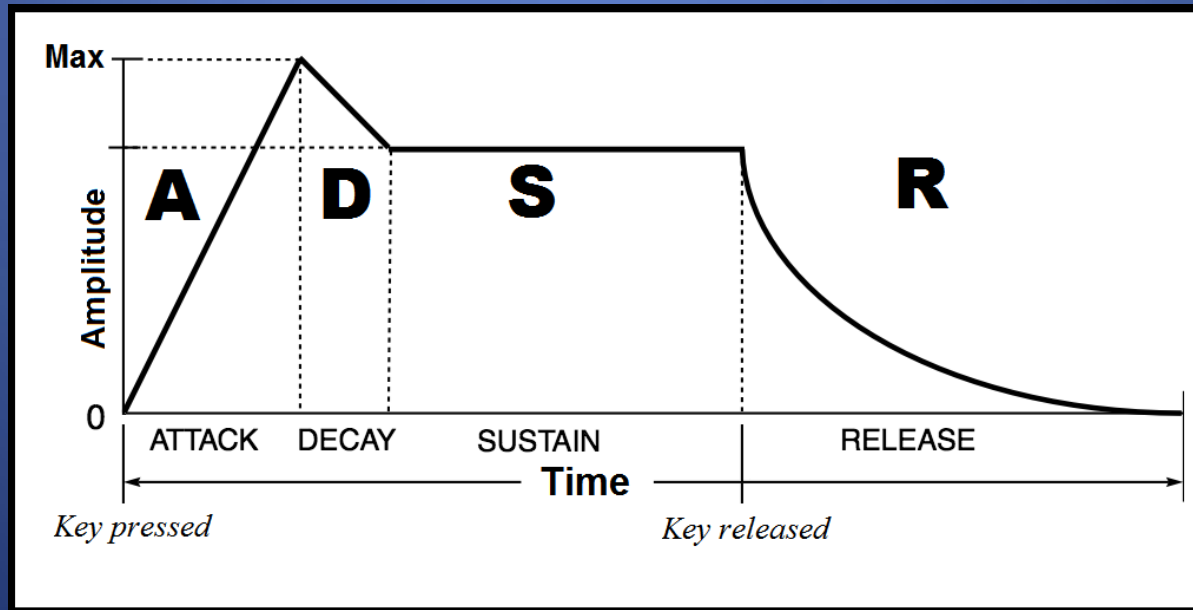
What is ADSR ?

- 👂 The components of a synthesizer
 - 👂 VCO – VCF – VCA – ADSR (EG) – (LFO)
- 👂 ADSR envelopes
 - 👂 provide envelope modulation to "**shape**" the volume or harmonic content of the produced note in the time domain with the principle parameters being attack, decay, sustain and release. These are used in most forms of synthesis. ADSR control is provided by **Envelope Generators**.



What is ADSR ?

When an acoustic musical instrument produces sound, the loudness and spectral content of the sound change over time in ways that vary from instrument to instrument. The "attack" and "decay" of a sound have a great effect on the instrument's sonic character. **Sound synthesis techniques often employ an envelope generator that controls a sound's parameters at any point in its duration.** Most often this is an "ADSR" (Attack Decay Sustain Release) envelope, which may be applied to overall **amplitude control, filter frequency**, etc. The envelope may be a discrete circuit or module, or implemented in software.





What is ADSR ?

- 👂 The contour of an ADSR envelope is specified using four parameters:
 - 👂 **Attack time** is the time taken for initial run-up of level from nil to peak, beginning when the key is first pressed.
 - 👂 **Decay time** is the time taken for the subsequent run down from the attack level to the designated sustain level.
 - 👂 **Sustain level** is the level during the main sequence of the sound's duration, until the key is released.
 - 👂 **Release time** is the time taken for the level to decay from the sustain level to zero after the key is released.