By courtesy of The Crow Hill Company



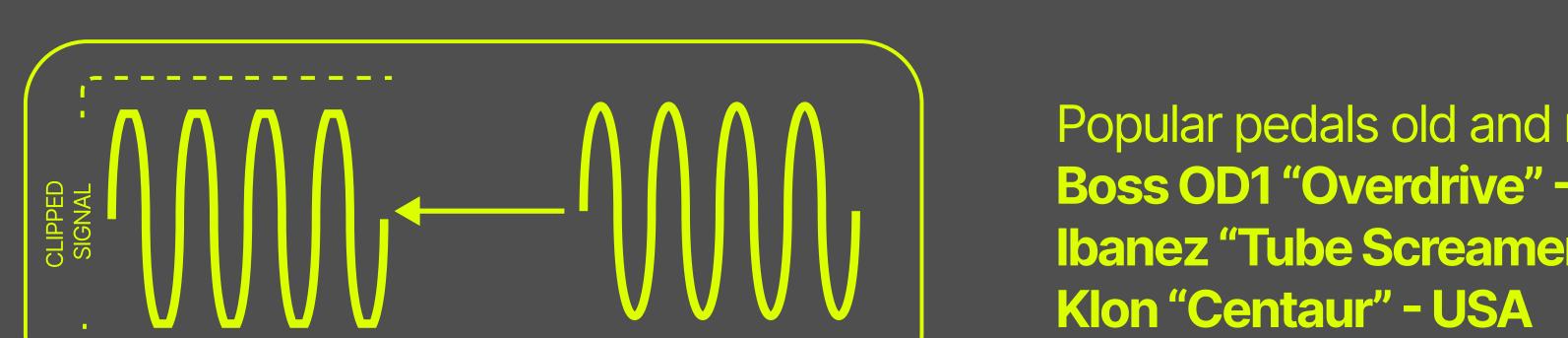
The origins of overdrive lay firmly in the very origins of guitar distortion. Valve struggling not to explode when given too much signal to deal with. The result a gradual "clipping" of the wave forms relative to the amount of signal it receives, whether that be through amplitude or complexity of the harmonic content going through them. The result is a warm sound that breaks up depending on performance. A broken, ragged sound that doesn't quite rip fully. There are many methods these pedals employ this style of saturation, but all pay homage to their origins, valves, being mistreated.

DRIVE - Attenuates the gain of the signal going in to drive the circuit. More drive, more clipping! LEVEL - This attenuates the output. The drive level

further overloading your console or audio interface. **TONE** - As with any distortion, the effect on the signal is of a brightening as upper harmonics are created. The tone dial allows the player to tweak the brightness of the effect with what is usually a high

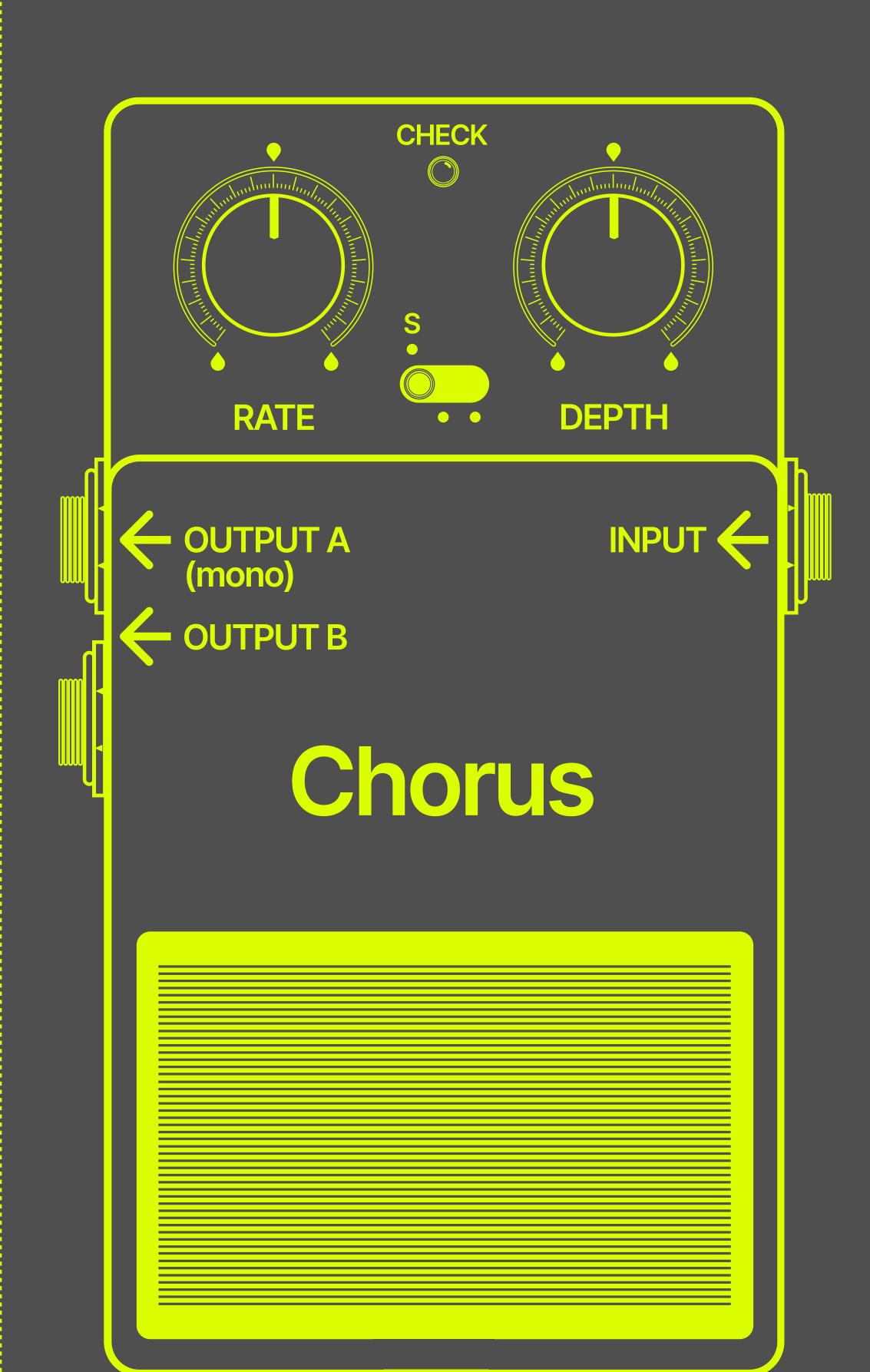
will drive up the mid level signals giving the effect of a

much louder signal. This control will prevent you



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Popular pedals old and new: Boss OD1 "Overdrive" - Japan Ibanez "Tube Screamer" - Japan



Chorus pedals modulate the sound by duplicating the signal and altering the pitch of it with a low frequency oscillator. These oscillating pitches imitates a doubling or tracking effect when combined with the original unmodulated signal to create a lush choral sound. Chorus pedals are often used at the end of a signal chain to create a stereo image of a mono source (observe how the pedal pictured has a mono input but stereo output option). When panned hard left and right the differences in tuning is less apparent and the signal simply appears to widen. The more centred the two pitch sources the more obvious the differences in intonation. Extreme use will result in clear microtonal effects making a thick rich but less sonorous sound.

RATE: This controls the speed of the LFO controlling the oscillation of pitch of the modulated signal. **DEPTH:** This alters the amount the modulating signal detunes to at it's maximum point of oscillation. MIX: TSome pedals offer you the ability to control the

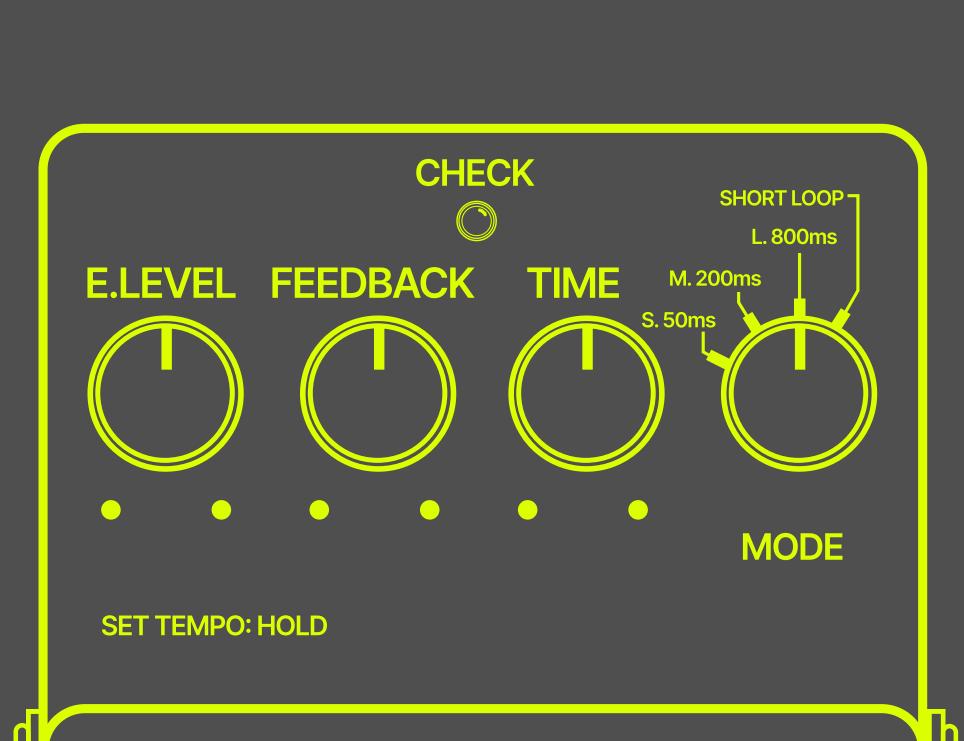
amount of 'dry' (original signal un-affected by the

stompbox) vs 'wet' (modulating). Useful when the

Popular pedals old and new:

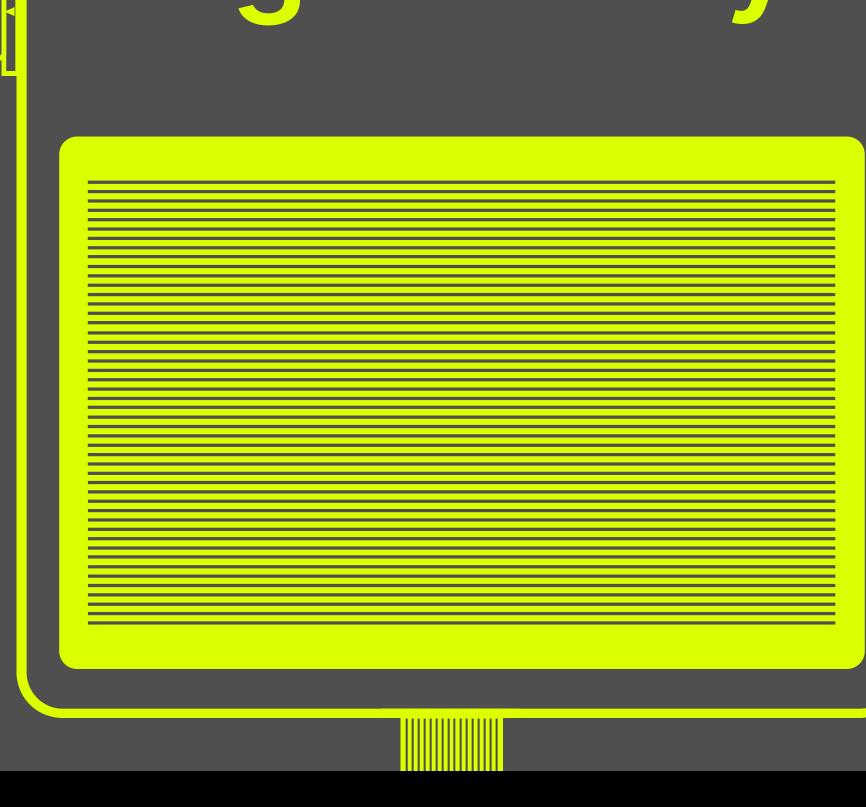
Boss CE1 - Japan Boss CE2 - Japan TC Electronic - Chorus - Denmark

signal is being kept as a mono one.



INPUT (← DIRECT OUT TEMPO ←

Digital Delay



Originally analogue delays used circuit buffers to duplicate the signal and then delay it's output. This duplicated signal was then fedback into the circuit to reproduce itself.

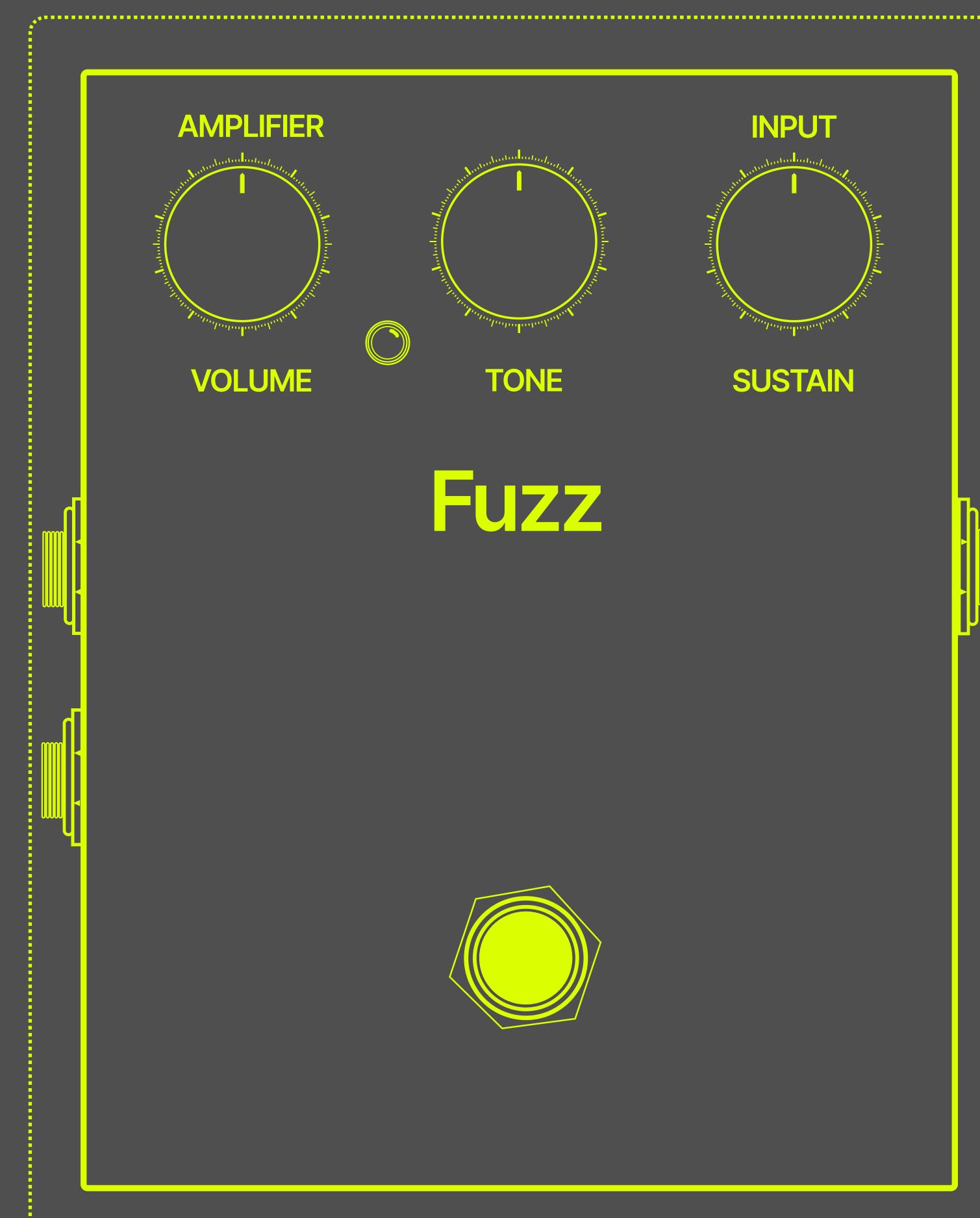
Modern digital delays employ sampling technology to produce what we formerly would have called "echo" with greater power over the delay time and other features. Advancements in digital delay pedals led to the development of looper pedals as sample lengths increased and delays went from fractions of bars to entire verses and chorusses.

ECHO/DELAY LEVEL - Sets the amount of delayed signal compared to the original/dry signal. FEEDBACK - Sets the number of repeats the delay

TIME - Sets the length of each delay. These can be determined by milliseconds or when available to your pedal some form of tempo input, either a Tap delay (where the player sets the speed by tapping in a tempo repeatedly) control voltage or indeed MIDI. Plugin delays will usually sync to the host DAW tempo.

pedal feeds back into the signal chain.

Pedals Of Note

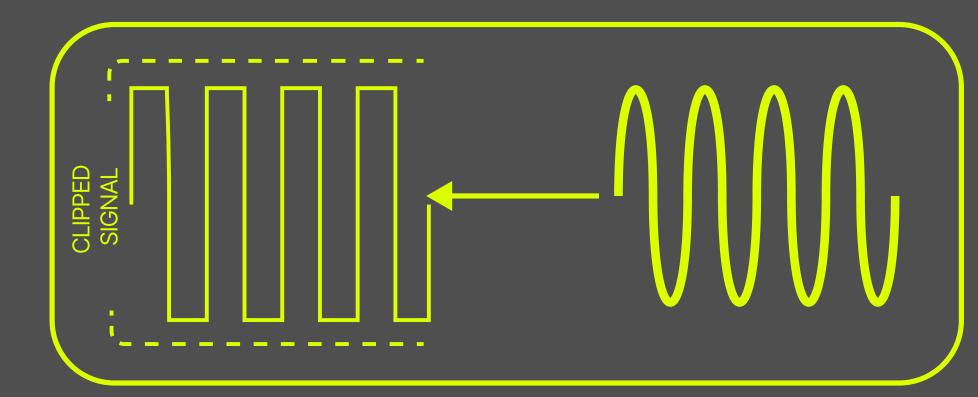


This pedal has the most linear of origins stories. A recording session for the song "XXXX" by "XXXXX" and his band. The bass player Dl'd into a channel on the mixing console which was faulty. The resulting sound a buzzing hypersustained fuzz born of a circuit that was behaving beyond it's optimum operating conditions. This faulty circuit was backward engineered to produce the Maestro Fuzz Tone (pictured above) made famous by Keith Richards' performance on The Rolling Stones' "Satisfaction". It didn't take off until it was repackaged as the Fuzz Face and popularised by Jimi Hendrix. These pedals offer ultimate sustain whilst changing the character of the input tone to something more reminscent of a synthesized square wave. These pedals will demand alterations in your performance to operate successfully more than any other stompbox.

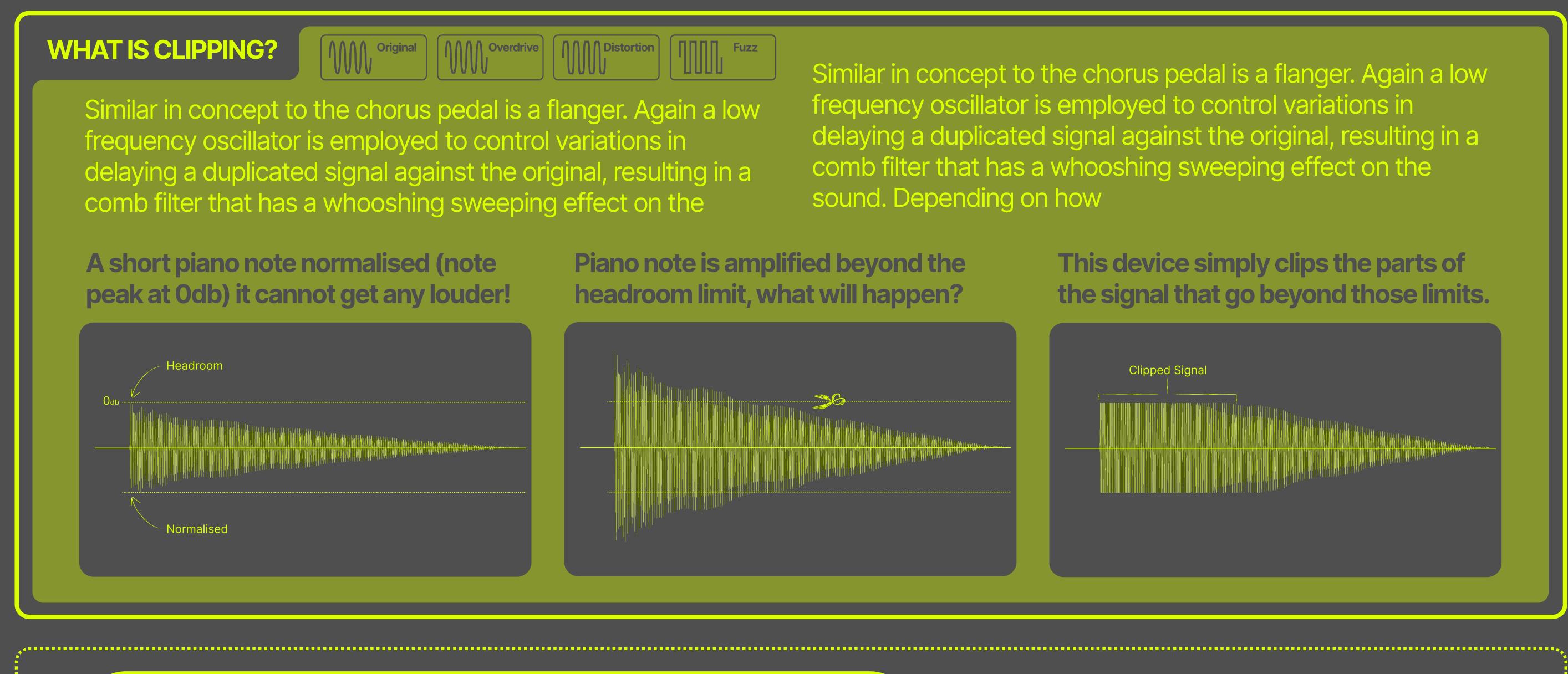
AMPLIFIER/DRIVE- Attenuates the gain of the signal going in to drive the circuit. More drive, more clipping!

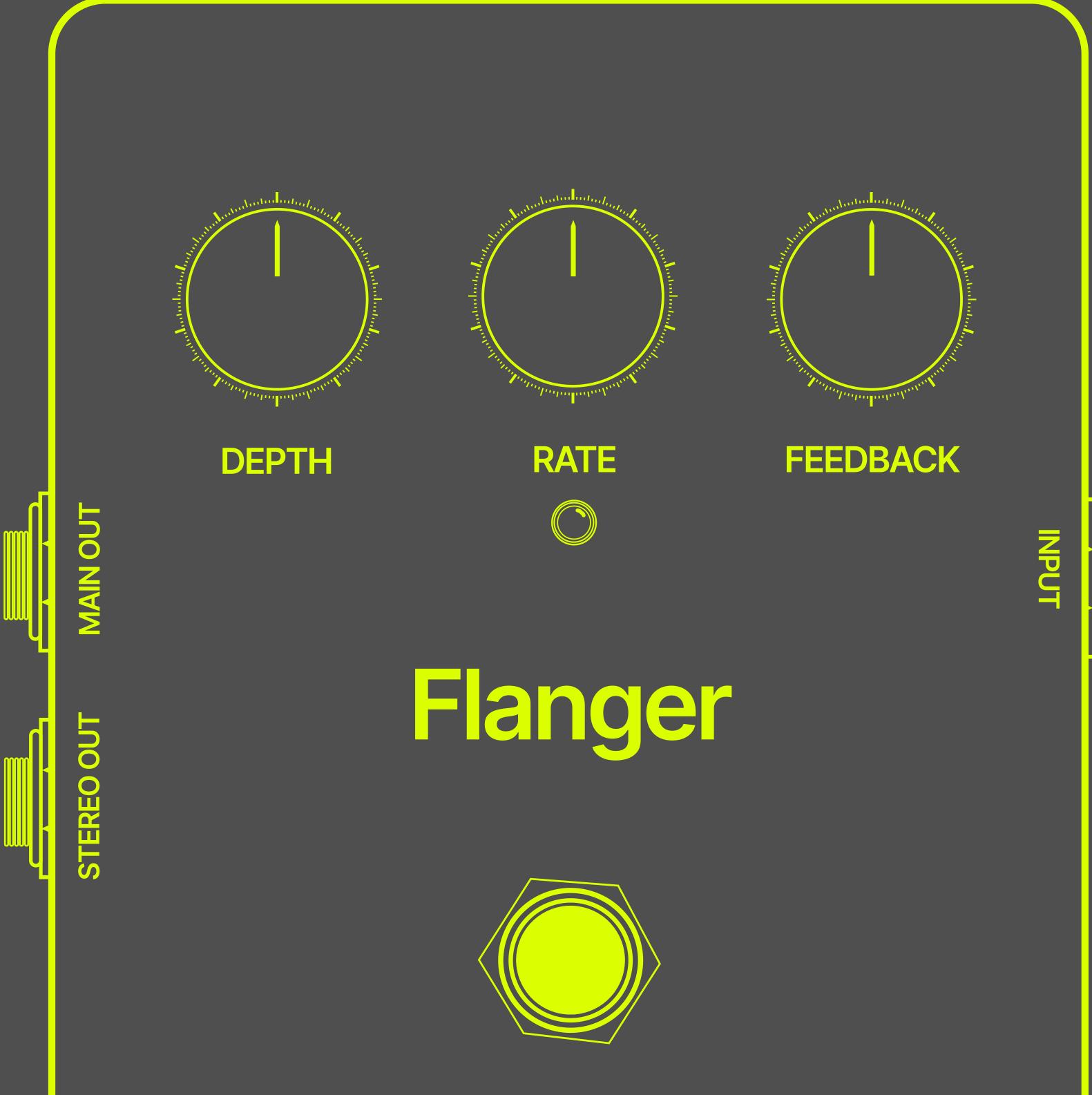
TONE - as with any saturation, the effect on the signal is of a brightening as upper harmonics are created. The tone dial allows the player to tweak the brightness of the effect with what is usually a high

SUSTAIN - A feature developed with the Electro Harmonix "Big Muff" that increases the amount of distortion to the signal thus increasing the amount of percieved "sustain" audible from the instrument input.



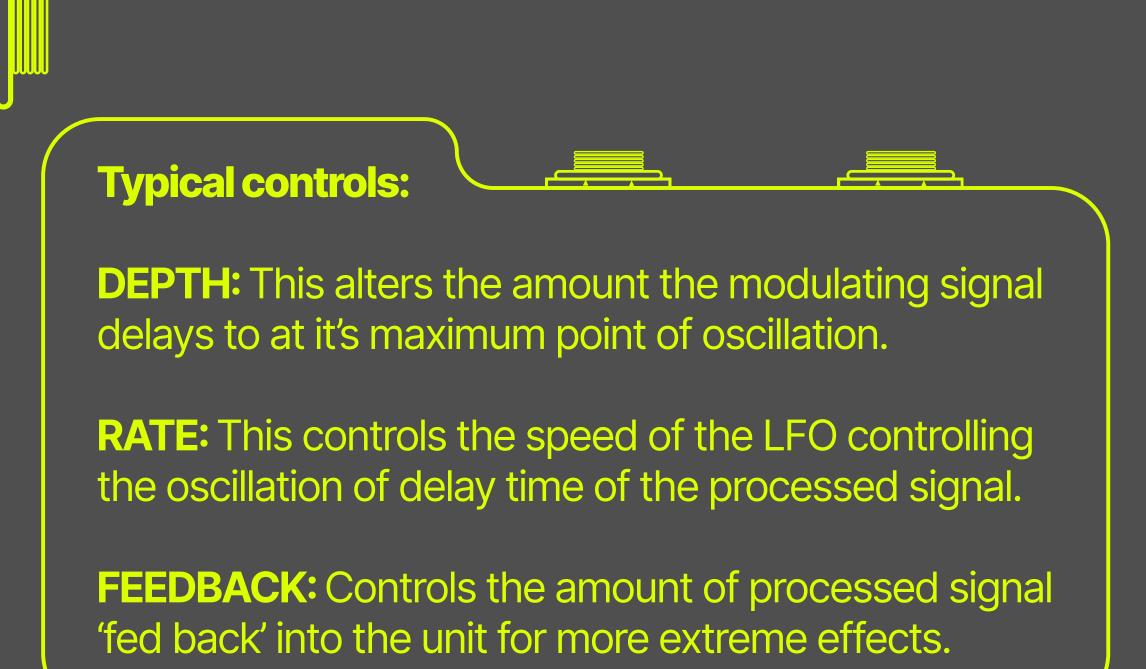
Maestro Fuzztone FZ1 - USA Arbiter Fuzz Face - USA Electro Harmonix "Big Muff" - USA/Russia



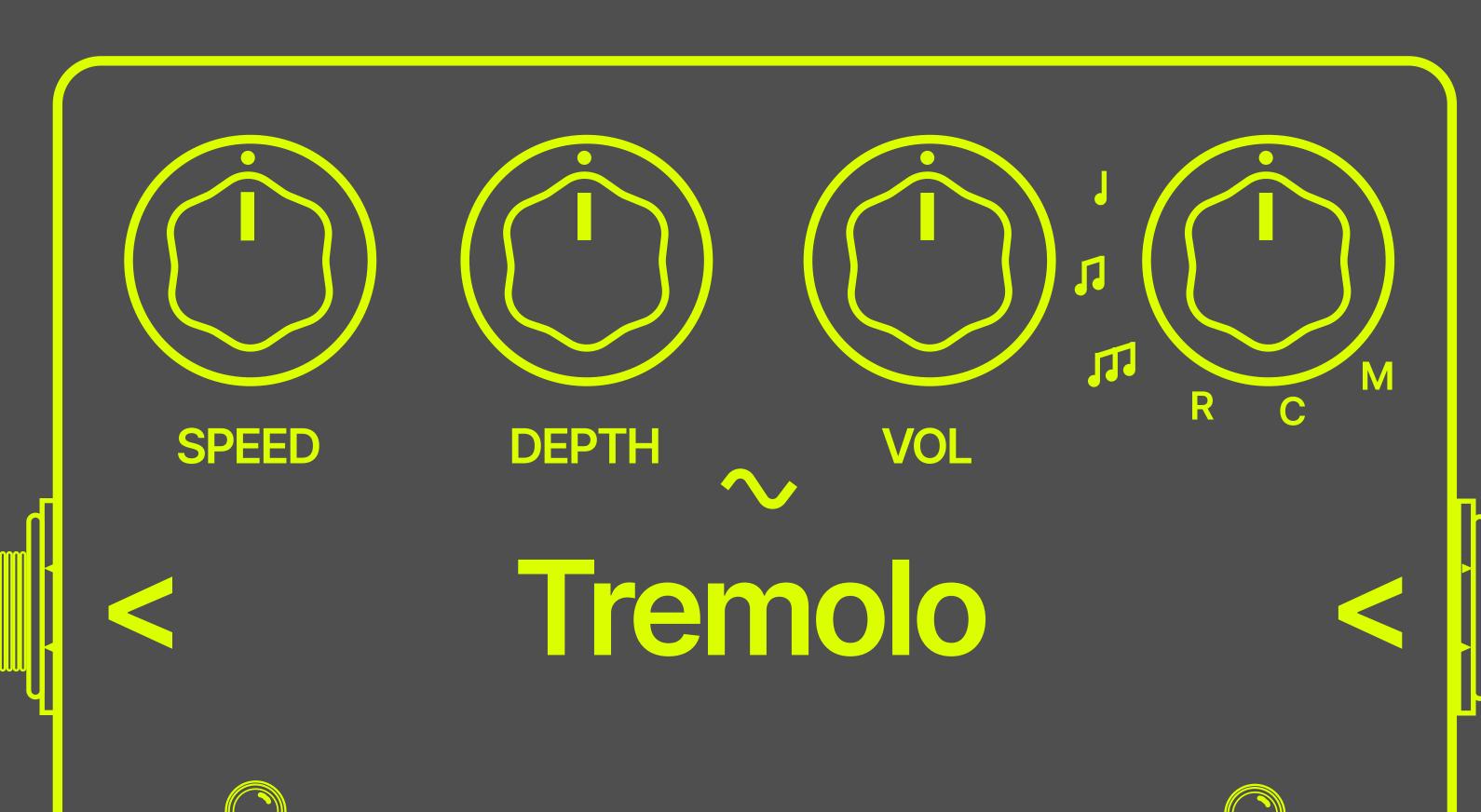


Similar in concept to the chorus pedal is a flanger. Again a low frequency oscillator is employed to control variations in delaying a duplicated signal against the original, resulting in a comb filter that has a whooshing sweeping effect on the sound. Depending on how it is operated the pedal can add a metallic electronic quality to your sounds to something more extreme and warp like.

On some flangers the processed signal is fe-back into the unit for more extreme effects created by more comb filters sweeping against each other.

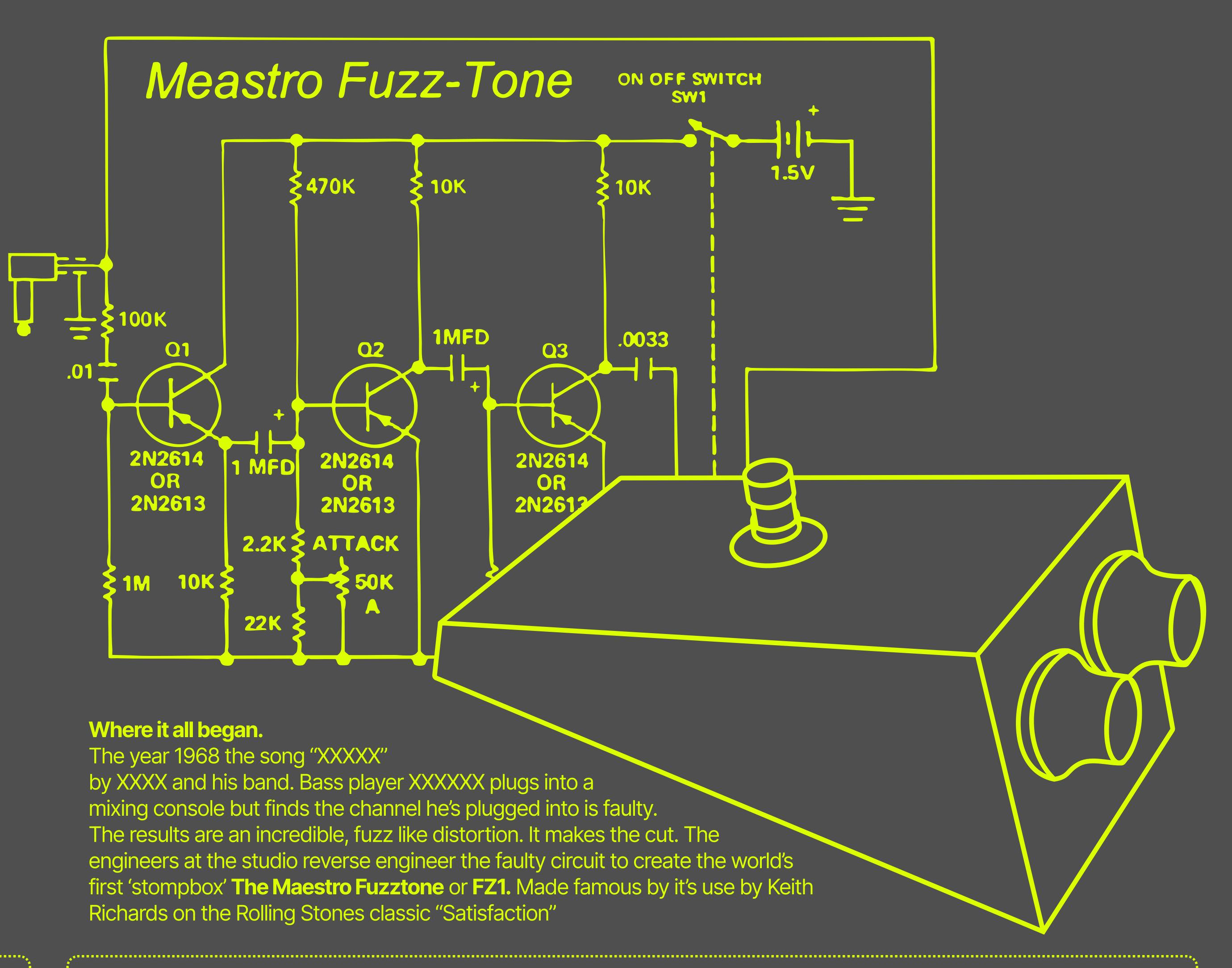


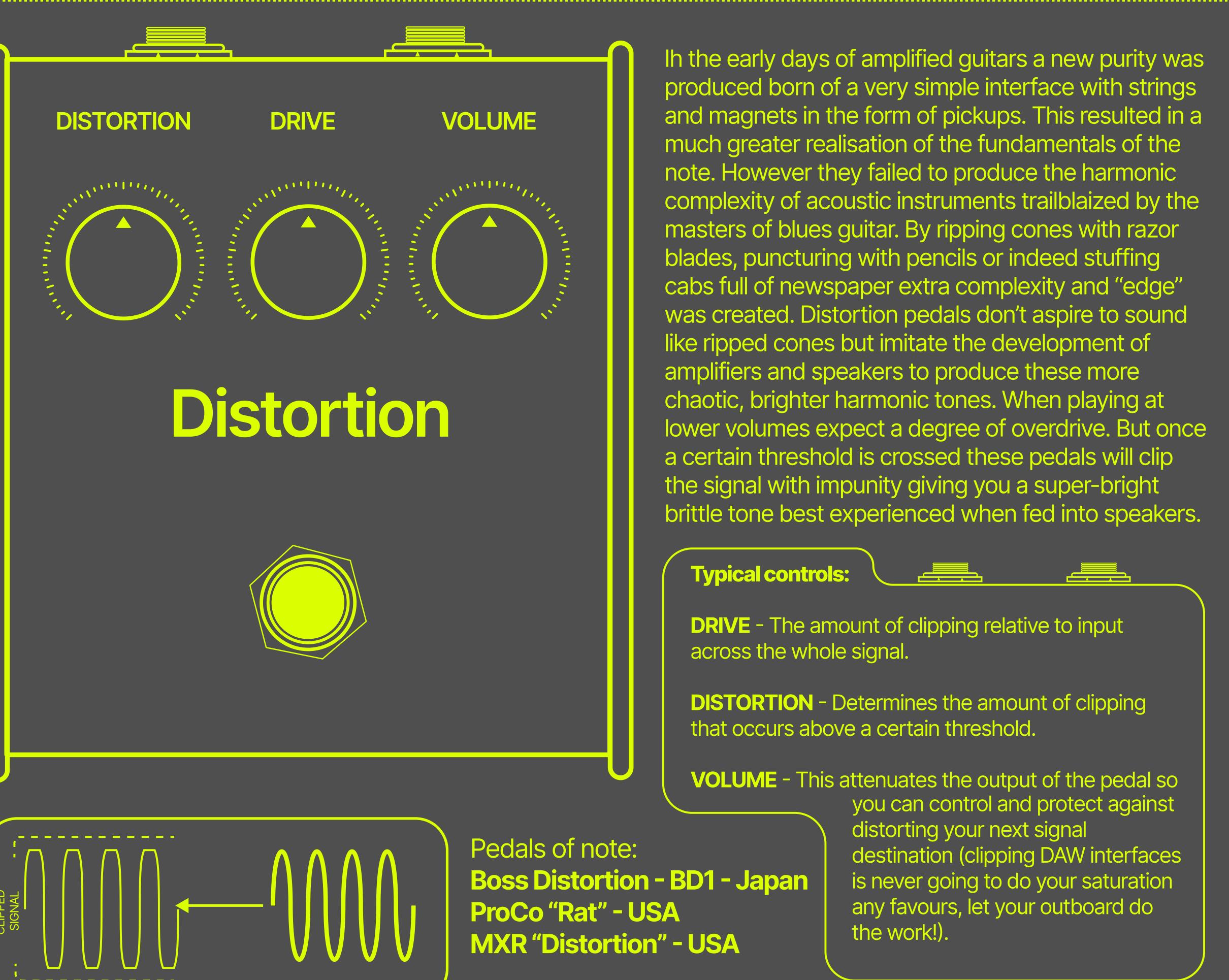
Pedals of note: Electro Harmonix "Electric Mistress" - USA Boss BF2 - "Flanger" - Japan A/DA - "Flanger - USA

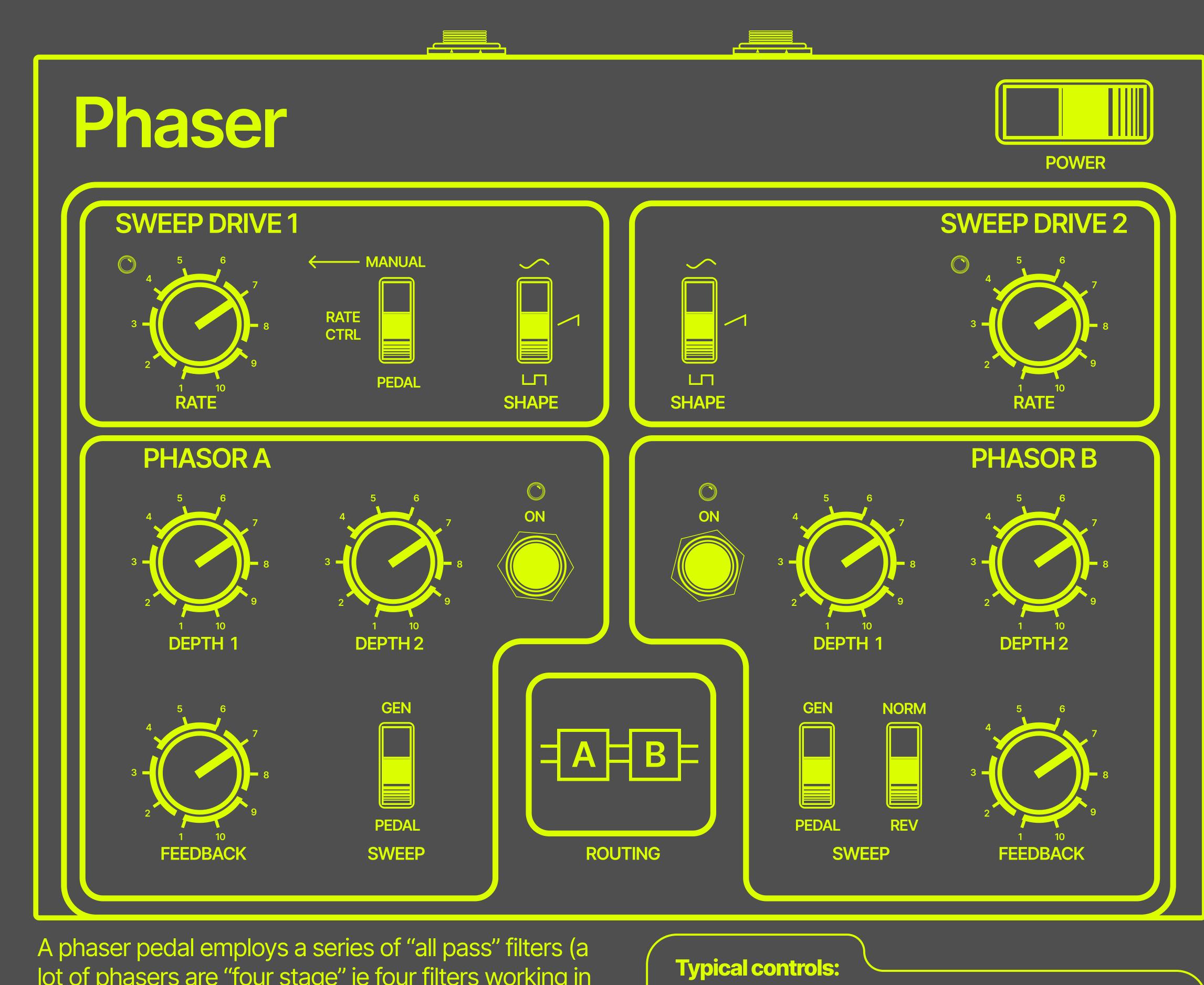


Probably one of the earliest effects to be developed for amplified instruments because that is all it effects, the amount the signal is amplified by. Controlled by an LFO to created a pulsing sound that can be slow and hypnotic to almost a frequency modulation effect when sped up. Many amps have this function along with Electric Pianos which ship with the effect as standard. Being the oldest effect on the block it can give a retro feel to your signal.









lot of phasers are "four stage" ie four filters working in tandem but flipped out). These filters are placed out **DEPTH:** This controls the amount the low pass filter of phase with one and other with an LFO (low adjusts the target frequencies of the all pass filters. frequency oscillator) controlling the target frequency of these filters to producing a whooshing sweep. The RATE: This controls the speed of the LFO controlling advantage of phasers over say a wah wah pedal is the target frequencies of the filters. you don't get so uch frequency peaking and therefore **RESONANCE:** Changes the shape of the all pass the character of the sound remains recognisable save for this sweeping almost liquid style effect over the original signal.



If there's a style of pedal that led the charge from stage floors to