

H9 Algorithms

UltraTap - [ULTRA.T]

UltraTap is a versatile multi-tap delay-line effect capable of a myriad of sounds from rhythmic delays, to wacky comb filtering, to huge pad-like volume swells, to unique reverbs, and everything in between.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal.
Length	[LENGTH]	Total time over which the taps are spaced in, up to 4 secs of tap time.
#ofTaps	[TAPS]	The number of taps, from 1 to 64.
Predelay	[PREDLY]	The amount of time before the taps start, up to 1 sec.
Spread	[SPREAD]	The rhythmic spacing of the taps. More negative values will group taps towards the beginning, for a “slowing-down” feeling. More positive values will group more taps towards the end for a “speeding-up” delay sound. A zero value will result in constant spacing.
Taper	[TAPER]	Controls the fade of the taps. More negative values will increasingly give a fade-up over the taps, and more positive values will give a fade-down over the taps. A zero value will result in equal gain across all taps.
Tone	[TONE]	A tone control. Negative values will make darker sounding taps, while positive values will make brighter sounding taps.
Slurm	[SLURM]	Juicy tap slurring/smearing and modulation.
Chop	[CHOP]	A pre-tap-machine “chopping” tremolo OR auto-volume processor. The tremolo has several LFO waveform choices: off [OFF], triangle [TRIANG], sawtooth [SAW], ramp [RAMP], square [SQUARE], or sample/hold [SMPHLD]. The auto-volume processor will either do volume swells [SWELL (0-9 input sensitivity control)], or a gating effect, called Trigger, that chops off the end of sounds [TRIG (0-9 input sensitivity control)]. There is also a setting for expression pedal control of the pre-tap-machine volume [EXPDL].

Speed, Rise, or Release	[SPEED], [RISE], [RELEASE]	This knob acts as a multi-function parameter control for the [CHOP] knob. For the LFO waveforms, [SPEED] will change the LFO speed. For [SWELL], [RISE] will adjust the swell rise time, and for [TRIGGR], [RELEASE] sets the amount of time after triggering before the gate kicks in and chokes off the sound.
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Resonator - [RESNTR]

Resonator staggers 4 resonant comb filters to create ambient, arpeggiated, or reverberant sounds. Each comb filter can be tuned to ring out when you play the note selected by the respective 'NOTE' knob. This creates dynamic effects that react with more or less intensity based on the harmonic content of the input audio.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal.
Length	[LENGTH]	Total length of the delay line. This length is split into 8 subdivisions on which the comb filters can be staggered.
Rhythm	[RHYTHM]	Represents the rhythm pattern of the comb filters. Each digit indicates the subdivision on which a comb filter is positioned. "1.3.5.7" will sound like even quarter notes since the four comb filters are evenly spaced on the 1st, 3rd, 5th, and 7th subdivisions.
Feedback	[FDBCK]	The feedback level of each of the comb filters. Feedback type 1 [FB1] maintains the pattern set by the rhythm knob, whereas feedback type 2 [FB2] degrades the pattern as it repeats.
Resonance	[RESNCE]	Affects how intensely the comb filters resonate. The comb filters will ring out more intensely as the resonance increases in either the positive or negative direction. Resonance set to 0 will act as multi-tap delay without any additional resonant tones.
Reverb	[REVERB]	Controls the amount of reverb in the comb filter path.
Note1	[NOTE1]	Tunes the note values that trigger each respective comb filter. When resonance is positive, all integer multiples of this frequency will resonate. When the resonance is negative, only odd multiples of this frequency will resonate. These note values

		also affect the high and low pass filters surrounding each comb filter. When resonance is set to 0, these knobs can still be used to filter the delays.
Note2	[NOTE2]	Same as Note1.
Note3	[NOTE3]	Same as Note1.
Note4	[NOTE4]	Same as Note1.

EQ Compressor - [EQCOMP]

The EQ Compressor algorithm is a multi-featured parametric equalizer coupled with a dynamic, intuitive compressor, offering a premium tone shaping tool for a variety of instrumentation. The EQ section includes two completely parametric bands along with low shelf and high shelf filters for easy manipulation of your tone (be sure to check out the graphical EQ curve in H9 Control). The unique compressor section can be placed before or after the EQ for maximum flexibility with a single control, enabling you to emphasise, harness, and control the parts of your sound you want to shine through a mix. EQ Compressor also features up to 12 dB of boost at the output to push an amp to awesomeness for your soul tearing solos.

Gain 1	[GAIN1]	The gain of the first parametric filter. Provides 12dB of boost or 18dB of attenuation.
Frequency 1	[FREQ1]	The center frequency of the first parametric filter. The frequency ranges from 30Hz to 1500Hz.
Width 1	[WIDTH1]	Controls the bandwidth of the 1st parametric filter. A value of 10 represents a larger bandwidth while a value of 1 represents a narrower bandwidth.
Gain 2	[GAIN2]	The gain for the 2nd parametric filter. Provides 12dB of boost or 18dB of attenuation.
Frequency 2	[FREQ2]	The center frequency of the second parametric band. The frequency ranges from 1000Hz to 9999Hz.
Width 2	[WIDTH2]	Controls the bandwidth of the 2nd parametric filter. A value of 10 represents a larger bandwidth while a value of 1 represents a narrower bandwidth.

Bass	[BASS]	Controls the gain on the Low Frequency Shelving Filter which is centered around 400Hz with a slope of 8dB/Octave. You can boost the lows by 12 dB or cut by 18dB.
Treble	[TREBLE]	The gain on the High Frequency Shelving Filter which is centered around 1800Hz with a slope of 8dB/Octave. You can boost the highs by 12 dB or cut by 18dB.
Compressor	[COMP]	The amount of compression applied to the signal. The values to the left half of the knob will affect the Pre-EQ compression, increasing the amount of compression as you move it counter clockwise. The values to the right half of the knob will affect the Post-EQ compression, increasing the amount of compression as you move it clockwise. The compressor is specially designed to vary the numerous parameters of a typical compressor such as the ratio, attack, release and the makeup gain to keep the overall loudness consistent.
Trim	[TRIM]	Controls the level at the output of the signal path. Provides 12dB of boost or 12dB of attenuation. The algorithm is designed to “gracefully” clip if there is too much gain inside the EQ. The red overload LED on the H9 Pedal will light up in this case.

CrushStation - [CRUSH]

An overdrive/distortion command center with controls that drive your tone anywhere from a creamy saturation to a brutal sonic assault with everything in between. Use Eventide Harmonizer technology to crush some octaves into the mix, or turn up the Sag to bring the whole sound to its knees. An added bonus, CrushStation is a true stereo distortion.

Mix	[MIX]	The clean/dirty mix, all the way left is clean, all the way right is dirty.
Drive	[DRIVE]	The overdrive amount. Ranges from subtle boost/overdrive to full on distortion with Grit and Sustain controls pushing it into fuzz territory.
Compressor/ Sustainer	[SSTAIN]	Compression/Sustain which is Pre (turn left) distortion, or Post (turn Right) distortion. The sustainer is specially designed to vary the numerous parameters of a typical compressor such

		as the ratio, attack, release, and the makeup gain to keep the overall loudness consistent.
Sag	[SAG]	Turn it up to get increasingly sputtery, crushed, and broken sounds. Inspired by power rail sag of poorly designed tube amps and the dead and dying gear of times past.
Octaves	[OCTAVE]	Mixes in/out lower and higher pitch-shifted octaves before the distortion and compression.
Grit	[GRIT]	Adds more low end before the distortion for a gritty chugging sound.
Bass	[BASS]	Cut and boost of the lower frequencies to hollow out the sound or add some thud.
Mids	[MIDS]	Cut and boost of the mid range frequencies (frequency selectable with [MIDFRQ] control) to scoop some muddiness or punch through a mix.
Mids Frequency	[MIDFRQ]	Tunable center frequency of the [MIDS] cut/boost. Similar to a parked wah when boosted up high. Smoothly changes when connected to an expression pedal.
Treble	[TREBLE]	Cut and Boost of the higher frequencies to mellow out the sound or emphasize higher harmonics.

SpaceTime - [SPCTME]

SpaceTime is a multi-effects algorithm combining Modulation, two Delays, and Reverb into one, easy to use effect. Modulation is most similar to a chorus and is the first effect in the signal path. The Delays are based on Eventide's Vintage Delay Algorithm from the TimeFactor pedal and the Reverb section draws from both the Plate Algorithm in Eventide's SPACE pedal, as well as Eventide's ULTRA REVERB Native Plug-in. Unique to SpaceTime is the ability to route the Delays and Reverb in series or parallel after Modulation, further adding to its versatility and creative applications.

MIX	[MIX]	Controls overall algorithm wet/dry balance. 100% is all wet signal.
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MOD AMT	[MODAMT]	Adds Modulation to entire signal path. Modulation depth also increases as you go from 0 to 100.
RATE	[RATE]	Adjusts the speed of the LFO controlling the Modulation section of SpaceTime. Continuously adjustable from 0.05Hz to 12.50Hz.
VERB LVL	[VERB]	Adjust the output level of the Reverb and routes the Reverb in Series after the Delays or Parallel with the Delays. The first half of the knob adjusts Series Reverb level from 0 to 100 while the second half of the knob switches to Parallel routing and adjusts Reverb level from 0 to 100. Percussive playing coupled with long Delay times and short Reverb Decay times will showcase parallel routing.
DECAY	[DECAY]	Sets the decay length of the Reverb in seconds or Note Divisions when in Tempo Mode.
COLOR	[COLOR]	Changes the Reverb character from small and dense (set to 0) to large and spacious (set to 100).
DELAY LEVEL	[DLYLVL]	Controls the amount of both Delays in the signal path. Can also be used to set the dry to wet blend of delayed signal sent to the Reverb in the series path. With DLY LVL set less than 50, dry signal and Delayed signal are both sent to the Reverb section. After 50, DLY LVL reduces the dry signal sent to the Reverb allowing only the delay repeats to have Reverb when the control reaches 100.
DELAY A	[DLY-A]	Sets the Delay time for Delay A from 0 to 2500ms when TEMPO is OFF. With TEMPO ON, Delay is sync'ed to the TEMPO BPM and is adjusted in note division increments from No Delay (NO DLY) to a Whole Note (WHOLE) in the most common note divisions.
DELAY B	[DLY-B]	Sets the Delay time for Delay B from 0 to 2500ms when TEMPO is OFF. With TEMPO ON, Delay is sync'ed to the TEMPO BPM and is adjusted in note division increments from No Delay (NO DLY) to a Whole Note (WHOLE) in the most common note divisions.
FEEDBACK	[FDBK]	Adjusts the amount of feedback for both delays and contains two feedback types (F1 and F2). F1 links both delay times to create a rhythmic, repeating pattern where the longer delay

		sets the pattern length. The shorter delay will not repeat again until the longer delay has passed. F2 is a traditional feedback control, where delay times are independent.
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Sculpt - [SCULPT]

Multi-band Distortion w/Envelope Follower Control Filters. Carve out your own sound with a dynamic variable blend of hi and lo band distortion channels. Follows your playing style and compliments you with the perfect expression of tunable peaking filters. Perfect for single or dual amp setups, stereo out mode features unique spectral panning effects that spread the hi and lo bands out into the separate channels.

Mix	[MIX]	The clean/dirty mix, all the way left is clean, all the way right is dirty.
Band Mix	[BANDMX]	The mix between the low and high band.
Crossover Frequency	[XOVER]	The crossover frequency where the low band and high band are split.
Low Drive	[LDRIVE]	Overdrive of the low band signal.
High Drive	[HDRIVE]	Overdrive of the high band signal.
Compressor	[COMP]	Compression which is Pre (turn left) distortion, or Post (turn Right) distortion. Turn left to juice up the harmonics in the distortion, or turn right for some sparkly compressor spank. The Sculpt compressor is specially designed to vary the numerous parameters of a typical compressor such as the ratio, attack, release and the makeup gain to keep the overall loudness consistent.
Low Boost	[LOWBST]	Boosts the low end either Pre (turn left) distortion for chuggier low end, or Post (turn Right) distortion for smoother low end.
Filter-Pre	[FLTPRE]	Peaking filter before the distortion. Turning left sweeps a cutting filter up in frequency. Turning right sweeps a boosting filter up in frequency, similar to having a parked wah before the distortion. Smoothly changes when connected to an expression pedal.

Filter-Post	[FLTPST]	Peaking filter after the distortion. Turning left sweeps a cutting filter up in frequency. Turning right sweeps a boosting filter up in frequency, similar to having a parked wah after the distortion. Smoothly changes when connected to an expression pedal.
Envelope Follower	[ENVFLT]	Envelope follower that modulates both [FLTPRE] and [FLTPST] according to this input sensitivity setting. The values of [FLTPRE] and [FLTPST] become the depths that the envelop glides up to. Interesting dynamic changes are achieved when pre and post and set to opposite sweeps, e.g. Pre boost, and Post cut, etc.

PitchFuzz - [PTCFUZ]

PitchFuzz is a multi-effects algorithm combining Fuzz, three Pitch Shifters, and two Delays into one, easy to use effect. Fuzz is the first effect in the signal path. The Fuzz gets its inspiration from classic analog fuzz pedals as well as Eventide's own CrushStation and Sculpt algorithms. The Pitch Shifters come second in the signal path and are based on Eventide's PitchFlex Algorithm from the PitchFactor pedal. The Delay section is last in the signal path and its lineage can be traced back to the Vintage Delay algorithm in TimeFactor. The two Delays can be added to the entire output signal following the Pitch Shifters or added individually to two of the pitched voices only, creating arpeggiated type effects.

Fuzz	[FUZZ]	Controls the amount of Fuzz/Distortion generated after the input signal. A setting of 0 completely bypasses the Fuzz effect. Use 1 - 50 for a distortion type effect and 51 - 100 for more of a Fuzz type effect.
Fuzz Tone	[FZTONE]	Tone shaper for the fuzz effect.
Pitch Amount	[PEACH]	Controls the level of the three Pitch Shifters. From 0 to 3 Voices. Pitch A: 0 - 1.0, Pitch A + B: 1.0 - 2.0, Pitch A + B + C: 2.0 - 3.0.
Pitch A	[PTCH-A]	Adjust the pitch shift amount of the A voice. Range is +/- 2 octaves with micro pitch shift ability at unison (+/- 25c).
Pitch B	[PTCH-B]	Same as Pitch A.
Pitch C	[PTCH-C]	Same as Pitch A.

Delay Level	[DLYLVL]	Controls the amount of both Delays in the signal path as well as two types of Delay routings (Group Delay and Arp Delay). Starting fully counter-clockwise, Group Delay sends the whole signal including all of the Pitched Voices to both delays. Turning past center activates Arpeggiated Delay Mode. In this mode, only voices B and C are fed to the delays (separately and respectively) allowing the creation of arpeggiated type effects. Try this with PITCH AMT set to 3.0.
Delay A	[DLY-A]	Sets the Delay time for Delay A from 0 to 2500ms when TEMPO is OFF. With TEMPO ON, Delay is sync'ed to the TEMPO BPM and is adjusted in note division increments from No Delay (NO DLY) to a Whole Note (WHOLE) in the most common note divisions.
Delay B	[DLY-B]	Same as Delay A.
Feedback	[FDBK]	Adjusts the amount of feedback for both delays and contains two feedback types (F1 and F2). F1 links both delay times to create a rhythmic, repeating pattern where the longer delay sets the pattern length. The shorter delay will not repeat again until the longer delay has passed. F2 is a traditional feedback control, where delay times are independent.

HotSawz - [HOTSAW]

Just like a synth, HotSawz is a musical palette for creating interesting sounds. HotSawz is based around classic subtractive synthesis using saw waves for all oscillators. We're using 6 oscillators that follow a mono pitch tracker. The filter type is low pass.

HotSawz has three modulation sources: LFO, Envelope Follower, and a Gate, as well as four assignable modulation destinations: Filter Cutoff, Volume, Pitch, and Oscillator Depth. Each source can be assigned to any destination at a given time, so multiple sources can modulate the same destination. There are 64 combinations of source to destination assignments.

Mix	[SUBMIX], [S+RMIX], [ALLMIX], [R+UMIX]	Knob has four ranges each 0 - 100. Each range mixes dry and various oscillator combinations. <ul style="list-style-type: none"> [SUBMIX] - Mixes in lower octave OSCs only. [S+RMIX] - Mixes in lower octave and current register OSCs together.
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		<ul style="list-style-type: none"> • [ALLMIX] - Mixes in lower octave, current register, and octave above OSCs together. • [R+UMIX] - Removes sub octave OSCs. Mixes in current register and upper OSCs together.
Osc Depth	[OSCDEP]	Mixes in 2nd OSCs for each register and adds detuning. Also spreads the OSCs across the stereo field. Modulation sources assigned to Oscillator Depth are additive.
Cutoff	[CUTOFF]	Controls the cutoff frequency of the low pass filter. Filter is in series with wet signal. Modulation sources assigned to CUTOFF are additive.
Resonance	[RESNCE]	Controls the low pass filter Q.
LFO Speed and Wave Shape	[TRI], [SQUARE], [RAMPDN], [RAMPUP]	<p>Controls LFO's wave shape and speed. Knob has four ranges each 0.1 Hz to 20 Hz or Whole note to 1/16 note divisions. Each range switches the LFO wave shape.</p> <ul style="list-style-type: none"> • [TRI] - Triangle. • [SQUARE] - Square. • [RAMPDN] - Decaying Ramp. • [RAMPUP] - Rising Ramp.
LFO Amount and Destination	[LFOAMT]	<p>Assigns LFO destination and controls amount of modulation. Knob has four ranges. Each range assigns the LFO to a different destination for modulation.</p> <ul style="list-style-type: none"> • [CUT] - Assigns LFO to modulate Cutoff frequency. • [VOL] - Assigns LFO to modulate wet output level. • [P] - Assigns LFO to modulate pitch +/-3600 cents. • [DEP] - Assigns LFO to modulate Oscillator Depth.
Gate Attack	[ATTACK]	Gate Attack speed from 0 to 3000ms. When the GATE Sustain/Range knob is set to OFF, ATTACK knob has no effect.
Gate Decay	[DECAY]	Gate Decay speed from 0 to 3000ms. When the GATE Sustain/Range knob is set to OFF, DECAY knob has no effect.
Gate Amount and Destination	[SSTAIN], [RANGE]	Assigns GATE destination and controls amount of either Sustain or Range of the GATE. Knob has four ranges. GATE

		<p>Sustain level occurs after both Attack and Decay of the GATE (There is no release in the GATE). GATE Range (for Pitch as destination) is how far from 0 pitch modulation is allowed to go at the end of GATE attack.</p> <ul style="list-style-type: none"> • [OFF] - Disconnects the GATE. Attack and Decay control will have no affect on signal. • [CUT] - Assigns the GATE to modulate Cutoff frequency. • [VOL] - Assigns GATE to modulate wet output level. • [P] - Assigns GATE to modulate pitch Range +/-3600 cents. Returns to 0 modulation after GATE Decay. • [DEP] - Assigns GATE to modulate Oscillator Depth.
Envelop Follower and Destination	[ENVLOP]	<p>This Envelop is triggered and drawn by dynamics of input level. This parameter assigns Envelope destination and controls amount of modulation. It has four ranges each 0 - 100. Each range assigns the Envelope to a different destination for modulation.</p> <ul style="list-style-type: none"> • [CUT] - Assigns the Envelope to modulate Cutoff frequency. • [VOL] - Assigns the Envelope to modulate wet output level. • [P] - Assigns the Envelope to modulate pitch. • [DEP] - Assigns Envelope to modulate Oscillator Depth.

Harmadillo - [HRMDLO]

Harmadillo is a flexible harmonic tremolo, offering everything from soulful lush tremolos to psychedelic mind-bending weirdness.

An ordinary tremolo automatically fades your signal up and down using a low frequency oscillator (LFO). Because your sound is faded down for part of the waveform, the overall sound seems quieter. Many tremolo pedals provide a gain or volume control to help offset this volume loss.

A harmonic tremolo takes a different approach. It splits the signal into low and high frequency bands and then applies the LFO to the low band and an inverted copy of the LFO to the high band. When the low band becomes louder, the high band becomes quieter, and vice versa. This way, the overall volume doesn't drop as much because one part of the sound spectrum is always audible. This also means that the upper harmonics receive a different tremolo than the fundamental, hence the name "harmonic tremolo."

Harmadillo features three ENV (envelope follower) controls that use your picking and playing dynamics to affect the tremolo's rate, depth, and crossover frequency. These controls can make subtle or drastic changes to your sound and add flexibility to the effect. When first getting to know Harmadillo, we recommend setting the ENV controls to 0 so that you can get a feel for the basic controls first. Once you are familiar with those, it will be easier to see how the ENV controls can be used to add expression to your playing.

DEPTH	[DEPTH]	<p>This is the depth of the low and high bands of the tremolo.</p> <ul style="list-style-type: none"> At 0, the tremolo will have no effect on the volume of the bands. At 100, the bands will be completely faded in and out.
RATE	[RATE]	<p>This is the base rate of the tremolo. When Tempo mode is ON, this becomes a multiplier on the tapped BPM value. The ENV RATE control can change the apparent rate, so if the rate that you are hearing is different from the value of the RATE control, try setting the value of ENV RATE to 0.</p>
SHAPE	[SHAPE]	<p>The shape of the tremolo waveform. The same shape is used for both high and low bands. The shapes describe what happens to the low band, since it's usually the main part of your sound; the high band will change in the opposite direction. Options are:</p> <ul style="list-style-type: none"> SINE - Sine wave. This shape works well for producing a smooth, subtle tremolo. FAT SINE - "Fat" sine wave that spends more time near its minimum and maximum values. This waveform sounds similar to SINE, but with slightly more throb. PHAT SINE - An even "fatter" sine wave that spends even more time at its minimum and maximum values. TRIANGLE - A linear up/down ramp. Like sine, this is a good shape for smooth, subtle tremolo. RAMP DN - A downward ramp for the low band, and an upward ramp for the high band. The low band will have a plucked attack while the high band will fade in. RAMP UP - An upward ramp for the low band, and a downward ramp for the high band. The low band will fade in, while the high band will have a plucked attack. PULSE X - A pulse wave with selectable duty cycle (X). The low band will stay at its maximum amplitude for X% of the cycle, then jump to its minimum amplitude, set by DEPTH and ENV DEPTH. X values are 25%, 33%, 50%, 66%, and 75%. This shape can be especially interesting

		<p>when paired with a delay pedal whose time is related to Harmadillo's rate.</p> <ul style="list-style-type: none"> • LUMP - The first half of a sine wave. The low band's waveform is rounded at the maximum and pointed at the minimum. This shape is good for making fast, vibey tremolos. • RUMP - The second half of a sine wave (RUMP is the inverse of LUMP). The low band's waveform is pointed at the maximum and rounded at the minimum. Like rump, this is a good shape for fast, vibey tremolos. • SLOPE X - A curved ramp with continuously adjustable slope from 0 to 100. <ul style="list-style-type: none"> • X = 0: downward curve for the low band, upwards curve for the high band • X = 50: symmetric curves for low and high (similar to the RUMP shape) • X = 100: upward curve for the low band, downwards curve for the high band
X-OVER	[XOVER]	<p>XOVER (crossover) determines where in the frequency spectrum the low band ends and the high frequency band begins. In practice, each band rolls off around the crossover frequency, so they overlap a bit. The X-OVERLAP control allows you to adjust the amount of overlap; see below.</p> <ul style="list-style-type: none"> • To mimic an ordinary tremolo, set X-OVER to its maximum value of 12,000 Hz. Most of an electric guitar's sound spectrum is below 6,000 Hz. Any audio above 12,000 Hz (i.e., hardly any sound) will be heard in the high band, and everything else will be heard in the “low” band. Change X-OVER gradually to morph into and out of an ordinary tremolo sound. • The X-OVER control is especially interesting when the SHAPE control is set to an asymmetric shape such as RAMP UP. This means that for each cycle of the tremolo the portion of the signal below the X-OVER value will be faded in and the portion of the signal above the X-OVER value will be faded out. If you start playing a scale below the X-OVER frequency and continue playing above it, the shape of the tremolo will appear to change as you cross over the X-OVER frequency!
X-OVERLAP	[XOVRLP]	The X-OVERLAP control adjusts the amount of overlap between the high and low bands. Negative values will produce

		<p>a cut at the crossover frequency, and positive values will produce a boost at the crossover frequency.</p> <ul style="list-style-type: none"> • To explore the effect of this control set: <ul style="list-style-type: none"> • [X-OVERLAP] to 100 • [DEPTH] to 0 • [ENV DEPTH] to 0 • [DRIVE] to 0 • [ENV XOVER] to 0 <p>This removes the tremolo effect so you can hear the filtering. Slowly sweep the X-OVER value from 100 to 3,000 Hz as you play a repeated note, and listen for a boost at the crossover frequency.</p> <ul style="list-style-type: none"> • Harmonic tremolo effects often have a scoop in the midrange near their crossover. You can emulate this by using negative values for X-OVERLAP. To dial in classic sounds, set ENV-XOVER to 0, set the X-OVER frequency between 400 and 900 Hz, and adjust X-OVERLAP and DEPTH as needed.
DRIVE	[DRIVE]	The DRIVE control adds warmth to the signal by mimicking the behavior of a tube amplifier's harmonic tremolo.
ENV DEPTH	[EVDPTH]	<p>The ENV DEPTH control uses the amplitude envelope of the input to increase or decrease the tremolo's depth.</p> <ul style="list-style-type: none"> • Positive values increase the depth of the tremolo when you attack a note. The depth will return to the level set by the DEPTH control as the note decays. Additionally, louder notes will have greater depth than softer notes. • Negative values reduce the tremolo when you attack a note, increasing the clarity of your attacks and making sustained notes more expressive over time. Playing louder will reduce the depth of the tremolo, and you can use large negative values to create tremolos that only appear when the input is soft. • The ENV DEPTH control covers a large range, so we recommend starting with values closer to 0, and then adjusting the control as needed.

ENV RATE	[EVRATE]	<p>The ENV RATE control uses the amplitude envelope of the input signal to affect the rate of the tremolo.</p> <ul style="list-style-type: none"> With positive values, the tremolo jumps up in frequency when you attack a note and gradually returns to the original rate set by the RATE or tap tempo controls. The harder you play, the longer it will take to return. Negative values will temporarily reduce the rate of the tremolo when you attack a note, and the rate will return to the value set by the RATE knob or tap tempo as the note decays. With larger negative values and high RATE values, you can use this control to create bouncing-ball tremolo type effects. This is especially effective with the SHAPE control set to PULSE, RAMP DN, RAMP UP, or SLOPE 0 options. The ENV RATE control covers a large range -- at 100%, it can push the internal LFO rate up to 80 Hz -- so we recommend starting with values closer to 0, and then adjusting the control as needed.
ENV XOVER	[EVXOVR]	<p>The ENV XOVER control uses the amplitude envelope to affect the crossover frequency.</p> <ul style="list-style-type: none"> To create a swept filter effect similar to an autowah, set X-OVERLAP to 100, set the X-OVER frequency to 200 Hz, and then increase the amount of the ENV XOVER control as necessary. The frequency of the crossover filter will now track the loudness of the input signal. You can create a single-notch phaser by turning DEPTH to 0, X-OVERLAP to -100, X-OVER to 3500, and then set ENV XOVER to a medium negative value, adjusting to taste. Once you have a sound you like, try slowly turning up the DEPTH control. Try playing long chords with these settings. In addition to the phasing effect, you will now notice that the tremolo also seems to change as a chord dies out. This is because the crossover frequency returns to the high X-OVER value (3500 Hz) as the chord decays. Try setting SHAPE to an asymmetric waveform (e.g., RAMP DN) to produce waveform morphing effects as the crossover frequency changes.
TONE	[TONE]	A tone control for shaping the high or low end of the output signal. Negative values roll off high frequencies (HICUT), and positive values roll off low frequencies (LOCUT).

TriceraChorus - [TRICER]

TriceraChorus is inspired by the classic tri-choruses and stompbox choruses of the 1970s and early 1980s. These units used bucket brigade delay (BBD) chips to create chorusing. TriceraChorus pairs rich BBD-style trichorusing with another classic effect of the 1980s: Eventide MicroPitch detuning. This effect can be used to thicken the sound, to add static chorusing, and to spread the stereo field by detuning the left and right signals in opposite directions.

TriceraChorus has three chorus voices: Left (L), Center (C), and Right (R). Each voice uses a dedicated LFO to modulate a delay at the frequency set by the RATE knob. The modulated signals for the Left and Right voices are -120 and 120 degrees out of phase relative to the Center modulation signal. The combination of the three modulated delays creates lush chorus sounds.

The DEPTH L / DEPTH C / DEPTH R knobs control the depth of the respective voices. Larger depth values increase the amount of delay modulation, creating greater changes in pitch. When a depth control is set to OFF, that voice is removed from the output, and the volume levels of the other voices will be automatically adjusted to maintain a constant level.

CHORUS MIX	[CHRMIX/ CRLMIX]	<p>Global mix control for chorusing and has two modes, Chorus and Chorale. Chorus and Chorale Mix levels are independent of Detune Mix (see below).</p> <ul style="list-style-type: none">In Chorus Mode (0 - 99 range on left half of the knob), all three chorus channel mixes, Left, Center, and Right are affected together. At 100 (Vibrato), no dry signal is present. In Chorus mode, LFO shapes are triangular from a range of 0 to 75. After 75, the LFO morphs from triangular to sinusoidal at 100.Chorale Mode (99 - 0 range on right half of the knob) adds two fixed rate LFOs, one slow and one fast, to the primary LFOs creating an effect similar to combining the PRESET and MANUAL modes on the DYTRONICS TriChorus. This increases the complexity of the modulation, producing a richer sound. In Chorale mode, all LFO shapes are sinusoidal throughout the range of the control.
RATE	[RATE]	This is the base rate of the chorus modulation, from 0.1 to 20 Hz. When Tempo mode is ON, this becomes a multiplier on the tapped BPM value. The ENV RATE control can change the apparent rate, so if the rate that you are hearing is different

		from the value of the RATE control, try setting the value of ENV RATE to 0.
DEPTH L	[DEPTHL]	Chorus modulation depth of the Left voice, with two options: OFF, 1-100. When Depth L is OFF, the voice is removed from the mix, and the levels of the other voices are automatically adjusted to preserve the wet-dry blend. In mono to stereo routing, if DEPTH R is OFF but DEPTH L is active, the chorused signal will be routed to the left and the dry signal will be routed to the right. This is a classic technique for producing a wider stereo image.
DEPTH C	[DEPTHC]	Chorus modulation depth of the Center voice, with two options: OFF, 1-100. When Depth C is OFF, the voice is removed from the mix, and the levels of the other voices are automatically adjusted to preserve the wet-dry blend.
DEPTH R	[DEPTHR]	Chorus modulation depth of the Right voice, with two options: OFF, 1-100. When Depth R is OFF, the voice is removed from the mix, and the levels of the other voices are automatically adjusted to preserve the wet-dry blend. In mono to stereo routing, if DEPTH L is OFF but DEPTH R is active, the chorused signal will be routed to the right and the dry signal will be routed to the left. This is a classic technique for producing a wider stereo image.
DELAY	[DELAY]	<p>DELAY sets the amount of delay for the chorusing effect; use it to thicken your signal, create a flange, or slap-back sound.</p> <ul style="list-style-type: none"> When CHORUS MIX is in Chorus Mode, DELAY sets the minimum delay time for all voices, ranging from 0.39 mS to 200 mS. Short delays can be used to create light flanging. Typical chorus delays range from 1.5-10 mS. You can create a chorused slapback sound by using values between 50 and 100 mS. When CHORUS MIX is in Chorale Mode, the delay amount for each voice becomes a function of the DELAY setting and the DEPTH level of each voice. In this case, the DELAY becomes a range of possible delay amount for each voice. As you increase the DEPTH of a voice, its delay amount decreases.
DETUNE MIX	[DTNMIX]	Mix control for the Detune section of the algorithm. The Detuners are fed from the stereo output of the Chorus voices.

		DETUNE MIX controls the stereo left and right channels at the same time and is independent of the CHORUS MIX control.
DETUNE	[DETUNE]	Controls both detune amounts for the left and right channels. Range is +/- 40 cents. Left and right channels get opposing amounts of detune (for example -30L/+30R). For enhanced versatility, the channels can be set with different opposing amounts. Left channel is the base detune amount and right channel can be adjusted around an 8 cent opposing window (for example -16L/+12R to -16L/+19R).
ENVELOPE	[ENV]	<p>Controls Amplitude Envelope assignment as well as Envelope Depth. There are two assignable Envelope modulation destinations:</p> <ul style="list-style-type: none"> Envelope to Mix [ENVMIX]. Playing dynamics modulate the global Chorus Mix and Detune Mix amounts. Range is -100 to 100. <ul style="list-style-type: none"> Negative values decrease the mix levels when you attack a note, and can be used to increase the clarity of your attacks or make sustained notes more expressive over time. Playing louder will reduce the chorusing effect, and you can use large negative values to only allow chorusing when the input is soft. At zero, the envelope will not affect the chorus or detune mixes. Positive values increase the internal mix levels for chorus and detune from 0 up to the levels set by the mix knobs when you attack a note. For example, with DETUNE MIX set to 50, CHORUS MIX set to 0, and ENVMIX set to 50, when a note is attacked, the internal detune level will increase to 50, then decay towards 0 with the note. The chorus level, however, will not increase because it is at 0. Envelope to Rate [EVRATE]. Playing dynamics modulate the speed of the LFO. Range is -100 to 100. <ul style="list-style-type: none"> With negative values, the rate of the primary LFOs will be slowed down when you attack a note, gradually returning to the value set by the RATE knob. Larger negative values can be used with faster RATE settings to create a fade-in vibrato effect. At zero, the envelope will not affect the rate of the LFOs.

		<ul style="list-style-type: none"> With positive values, the LFOs increase from the minimum rate towards the value set by the RATE knob when you attack a note.
TONE	[TONE]	<p>A tone control for shaping the high or low end of the output signal. Positive values roll off high frequencies (HICUT), 0 is flat, and negative values roll off low frequencies (LOCUT). Use the LOCUT range to reduce muddiness. Use the HICUT range to roll off high frequencies for a softer sound. The tone control only affects the wet signal path. Changes to the CHORUS MIX knob (or usage of ENVMIX) may change the apparent effect of the TONE control. For example, a setting of HICUT 50 will sound brighter when the CHORUS MIX knob is set at 50 versus when CHORUS MIX is at 100 (Vibrato).</p>