

Space Algorithms

Space's basic algorithms are designed to simulate the sound of real-world enclosures and devices – halls, rooms, plates, springs. Other algorithms are designed to creatively combine reverb effects with other signal processing functions such as tremolo, modulation, distortion, pitch change, resonance and reversal to create unique effects well beyond the confines of simple reverb.

Performance Switch/HOTSWITCH

Each algorithm supports a Performance Switch function which gives you the ability to instantly change the sound of the effect using a MIDI CC, Auxiliary Switch or using H9 Control. For Space algorithms the Performance Switch can be programmed to instantly switch between two sets of parameters. This HOTSWITCH allows you to switch between the normal Preset parameter values and a programmed, alternate set of parameter values. It's like having two Presets in one!

The HOTSWITCH is programmed using H9 Control. Press and hold the GUI's middle 'footswitch' until the ring flashes. With the ring flashing, adjust any combination of parameters to their 'alternate' value. When you find a setting that you like remember to save the preset or you will lose your new HOTSWITCH setting.

Some reverb parameters, typically decay parameters, can have values of Infinity or Freeze. Infinity is infinite sustain/reverb, which builds up over time, it continues to layer your input through the reverb. Freeze is like Infinity, but it doesn't build up. Freeze takes whatever is currently in the buffer, and holds it (no new input). You can latch or unlatch the Infinity and Freeze features with an Aux switch, HotSwitch, expression pedal or over MIDI.

Hall - [HALL]

Hall simulates the sound of large enclosed spaces. Hall offers flexible control of a 3-band crossover reverb network. There are independent decay controls for the low and high band, as well as independent level controls for low, mid, and high band. This is the go-to algorithm for beautiful realistic spaces or for reverb sounds just beyond the boundary of realism.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	master decay in seconds or note-based in Tempo Mode
Size	[SIZE]	hall size
Pre Delay	[PREDLY]	pre-delay in milliseconds or note-based in Tempo Mode

Low Band Reverb Level	[LO-LVL]	boost/cut of LOW reverb with cut-off at 300 Hz, -100 effectively cuts all of the low band reverb
High Band Reverb Level	[HI-LVL]	boost/cut of HIGH reverb with cut-off at 1500 Hz, -100 effectively cuts all of the high band reverb
Low Band Decay	[LO-DCY]	decay of LOW reverb, scales the [DECAY] time
High Band Decay	[HI-DCY]	decay of HIGH reverb, scales the [DECAY] time
Modulation Level	[MODLVL]	increases random modulation of reverb tails
Mid Band Reverb Level	[MIDLVL]	boost/cut of MID reverb (between 300 and 1500 Hz), -100 effectively cuts all of the mid band reverb

Room - [ROOM]

Room is designed to dial in realistic room sounds from vocal booths to small halls. The controls allow for precision tweaking of early reflections, late reverb, and EQ. Room is the workhorse algorithm for placing a sound in a realistic space or adding that subtle fattening that isn't immediately noticed but is always immediately missed.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	decay in seconds or note-based in Tempo Mode
Size	[SIZE]	room size
PreDelay	[PREDLY]	pre-delay in milliseconds or note-based in Tempo Mode
Low Band Shelving	[LO-LVL]	post reverb shelving boost/cut of low frequencies with cut-off at 350 Hz
High Band Shelving	[HI-LVL]	post reverb shelving boost/cut of high frequencies with cutoff at [HIFREQ]
Early/Late Reflection Levels	[REFLEX]	Control the levels of the early and late reflections.

Diffusion	[DFSION]	adjusts diffusion amount which affects reverb build up and tail density
Modulation Level	[MODLVL]	adds random modulation of both diffusors and late reverb tail
High Band Cutoff Frequency	[HIFREQ]	Control the corner frequency of [HI-LVL]. No affect if [HI-LVL] is set to 0.

Plate - [PLATE]

Plate simulates the sound of early analog-mechanical reverbs. This algorithm allows for long reverb times that won't take over your sound. Be sure to play with the [LO-DAMP] and [HI-DAMP] knobs to explore the full palette of tonal variations.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	decay in seconds or note-based in Tempo Mode
Size	[SIZE]	plate size
PreDelay	[PREDLY]	pre-delay in milliseconds or note-based in Tempo Mode
Low Band Damping	[LO-DMP]	Sets the damping frequency for the low end
High Band Damping	[HI-DMP]	Sets the damping frequency for the high end
Transducer Distance/ Spread	[DSTNCE]	sets room/transducer distance from source/plate driver
Diffusion	[DFSION]	adjusts diffusion amount which affects reverb build up and tail density
Modulation Level	[MODLVL]	mixes in random modulation in reverb tail
Tone Control	[TONE]	a pre-reverberator tone control, left is darker, right is brighter

Spring - [SPRING]

Spring models the sound and character of the popular artificial reverbs found in guitar amplifiers. It also goes a step further by allowing access to physical parameter controls not readily available in a real spring tank.

By tweaking these parameters, the Spring algorithm can create faithful representations of real springs or push the physical boundaries to achieve new distinctive sounds. Pay extra attention to the [TNSION] and [NUMSPR] knobs to control the amount of 'springiness'. For good measure, we've also included a tube amp style tremolo at the reverb input.

Mix	[MIX]	wet/dry between reverb and tremolo dry signal
Decay	[DECAY]	decay in seconds or note-based in Tempo Mode
Tension	[TNSION]	Controls spring tension
Number of Springs	[NUMSPR]	number of springs in the 'tank,' mixes in 1 to 3 springs
Low Band Damping	[LO-DMP]	Sets the damping frequency for the low end
High Band Damping	[HI-DMP]	Sets the damping frequency for the high end
Tremolo Intensity	[TRMOLO]	input tremolo intensity or depth (tremolo is pre-reverb)
Tremolo Rate	[TRM-RT]	input tremolo rate in Hz or note-based in Tempo Mode
Modulation Level	[MODLVL]	mixes in modulation for a nice chorusing effect
Resonance	[RESNCE]	metallic resonance at the [HI-DMP] frequency

DualVerb - [DUAL]

DualVerb combines two different high quality studio reverbs (A and B) with independent controls for decay, size, pre-delay, and EQ. Mix between both for rich, dense stereo reverberation, or use this effect to smoothly transition between two entirely different reverb sounds. [INF] and [FREEZE] are available on both decay knobs (Xnob for B-decay). During [FREEZE] the A/B

mixer on [VRBMIX] is post for the frozen reverb – normally it is pre. This allows for a plethora of options to freeze one of the reverbs, or both, and a mix of the two.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Reverb A Decay	[A-DCY]	decay for reverb A in seconds or note-based in Tempo Mode
Size	[SIZE]	adjusts the size of both reverbs A and B to give many different size combos with one knob
Reverb A PreDelay	[A-PDLY]	pre-delay for reverb A in milliseconds or note-based in Tempo Mode
Reverb A Tone Control	[A-TONE]	Tone control for reverb A
Reverb B Tone Control	[B-TONE]	Tone for reverb B
Reverb B Decay	[B-DCY]	decay for reverb B in seconds or note-based in Tempo Mode
Reverb B PreDelay	[B-PDLY]	pre-delay for reverb B in milliseconds or note-based in Tempo Mode
Reverb A/ Reverb B Mix	[VRBMIX]	mixer for A and B reverbs, in stereo this mixes stereo channels, set at extreme results in dual mono reverbs (A on left, B on right)
Resonance	[RESNCE]	Resonance mixer for A and B Tone controls. Affects the sound unless [A-TONE] and [B-TONE] are both set to 0.

Reverse Reverb - [REVRVB]

A true reverse reverb followed by a forward reverb with delay and feedback. Turn [SIZE] and [FEEDBACK] all the way down for a straightforward tempo-sync-able rush-up reverse reverb, use [SIZE] to dial in a second reverb for increased wetness, and add [FEEDBACK] around the whole thing for other-worldly ambiance. [INF] and [FREEZE] are available on the [SIZE] knob and affects the forward reverb only.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
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Decay	[DECAY]	reverse decay in milliseconds or note-based in Tempo Mode (also the delay amount for [LATE])
Size	[SIZE]	mixes in a standard reverb that is post reverse section for bigger sounds
Feedback	[FEEDBK]	amount of delay feedback around reverse reverb (delay amount is DECAY amount)
Low Band Shelving Level	[LO-LVL]	shelving boost/cut of low frequencies
High Band Shelving Level	[HI-LVL]	shelving boost/cut of high frequencies
Late Dry Signal Level	[LATE]	adjusts amount of dry signal that occurs directly after the reverse build up
Diffusion	[DIFFUS]	diffusion in the reverse build-up: set to zero for a mechanical stutter
Modulation Level	[MODLVL]	MicroPitch detuning modulation at the input
Contour	[CONTUR]	increase the span between low and high crossover frequencies for the [LO-LVL] and [HI-LVL]. Affects the sound unless [LO-LVL] and [HI-LVL] are both set to 0.

ModEchoVerb - [MODEKO]

ModEchoVerb is based on a popular reverb structure from the Eventide H8000 that brought about such presets as "Echo Space of God" and "Glorious Flange Canyon." It feeds the output of an infinite reverb into an infinite feedback delay and slathers on an extra helping of modulation. The modulation choices are H3000-type swept verb, flanging, or chorusing. ModEchoVerb is incredibly versatile and can be used as a standalone reverb, delay, chorus/flanger, or any combination of the three. [INF] and [FREEZE] are available on the [DECAY] knob. During [FREEZE] the signal is rerouted to allow for parallel modulation/delay over the frozen section. Have fun.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
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Decay	[DECAY]	decay in seconds or note based in tempo mode. All the way right [INF] gives an infinite reverb/sustain
Size	[SIZE]	from normal Hall type room sizes to huge canyon sounds with echoes
Echo	[ECHO]	post reverb delay time in milliseconds or note-based in tempo mode
Low Band Shelving Level	[LO-LVL]	post reverb shelving boost/cut of low frequencies with cut-off at 350 Hz
High Band Shelving Level	[HI-LVL]	post reverb shelving boost/cut of high frequencies with cutoff at 2000 Hz
Echo Feedback	[E-FDBK]	feedback amount around the post reverb echo
Modulation Rate	[M-RATE]	the modulation rate
Modulation Type and Depth	[FX-MIX]	select modulation type and depth: swept reverb [SWEEP], flanging [FLNGMX] or chorus [CHORMX].
Echo Tone	[E-TONE]	Tone control in the feedback loop of the echoes

BlackHole - [BKHOLE]

Larger than the Hall or Room, BlackHole is an Eventide H8000 classic capable of cathedral-type spaces to out-of-this-world soundscapes. This H9 edition of BlackHole has two decay modes (forward and inverse) and feedback around the entire reverb structure that extends the Blackhole sound from huge to infinite. The standard [SIZE] and [GRVITY] sounds are epic, but try [PREDLY] and [FEEDBK] to take the algorithm to the next level. Try not to get sucked in.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
'Gravity' Mode Select	[INVGRV]/[GRVITY]	[INVGRV]: Inverse decay mode of a really big reverb. [GRVITY]: regular decay mode of a really big reverb
Size	[SIZE]	size of the reverb

Delay	[PREDLY]	pre-delay time in milliseconds or note-based in tempo mode
Low Band Shelving Level	[LO-LVL]	post reverb shelving boost/cut of low frequencies with cut-off at 350 Hz
High Band Shelving Level	[HI-LVL]	post reverb shelving boost/cut of high frequencies with cutoff at 2000 Hz
Modulation Depth	[M-DPTH]	the modulation depth
Modulation Rate	[M-RATE]	the modulation rate
Feedback	[FEEDBK]	feedback around the entire reverb structure for even larger sounds
Resonance	[RESNCE]	resonance of the two shelving filters. Affects sound unless [LO-LVL] and [HI-LVL] are both set to 0

MangledVerb - [MANGLD]

While the H9 can produce many beautiful sounds, we recognize the universe is a chaotic and often violent place, so in the spirit of the yin and yang of it all, we included MangledVerb from the Eventide Eclipse. Technically, MangledVerb feeds a non-standard stereo reverb into distortion, but sonically it can range from the light friction of a bow scraping a cello string to the mayhem of a caged beast being poked with a red hot flounder. Judicious use of the [WOBBLE] and [ODRIVE] is approved, and try small [SIZE] and short [DECAY] for some surprising sounds.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	arbitrary 1-100 decay (less decay will also take away reverb attack)
Size	[SIZE]	size of the reverb (try less than 15 for some great distortion sounds)
Pre Delay	[PREDLY]	pre-delay time in milliseconds or note-based in tempo mode
Low Band Level	[LO-LVL]	pre-distortion boost/cut of low frequencies

High Band Level	[HI-LVL]	pre-distortion boost/cut of high frequencies
Softclip/Overdrive Type	[ODRIVE]	the input level to one of two different types of distortions
Distortion Output Level	[OUTPUT]	the output level of the distortion
Wobble	[WOBBLE]	a modulation rate that does some spooky detuning
Mid Band Level	[MIDLVL]	pre-distortion boost/cut of mid frequencies

TremoloVerb - [TREMLO]

TremoloVerb is a celestially large reverb cut back down to Earth size by an aggressive tremolo. Use the Sine, Triangle, Peak, Ramp, or Square waves to create a rhythmic ambience; Random and Sample/Hold to create a convulsing cloud; Envelope or ADSR to control the reverb with your playing; or the Expression Pedal to control it with your foot.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	decay in seconds or note-based in Tempo Mode
Size	[SIZE]	room size of reverb
PreDelay	[PREDLY]	pre-delay time in milliseconds or note-based in tempo mode
Low Band Shelving Level	[LO-LVL]	post reverb shelving boost/cut of low frequencies with cut-off at 350 Hz
High Band Shelving Level	[HI-LVL]	post reverb shelving boost/cut of high frequencies with cutoff at [HIFREQ]
Tremolo Shape	[SHAPE]	tremolo shape: [SINE], [TRIANG], [PEAK], [RANDOM], [RAMP], [SQUARE], [SMPHLD] (sample/hold), [ENVLOP], [ADSR], or [EXPDL] (Expression Pedal)
Tremolo Speed	[SPEED]	tremolo speed in Hz, sensitivity, or note-based in tempo mode

Tremolo Depth/Mono or Stereo	[MNDPTH], [STDPTH]	tremolo depth, in stereo mode you have the option to have mono depth (same on both channels) or stereo depth (tremolo is 90 degrees out of phase)
High Band Cutoff Frequency	[HIFREQ]	the high corner frequency of [HI-LVL]. Affects the sound unless [HI-LVL] is set to 0

DynaVerb - [DYNAVB]

DynaVerb couples an Eventide Eclipse reverb with a model of the Eventide Omnipressor® to create an adaptable dynamics reverb. The Omnipressor is capable of all types of dynamics processing from gating, expansion, compression, limiting, and even its signature "dynamic reversal," where loud signals are squashed, but quiet signals are amplified. In DynaVerb, the Omnipressor can dynamically control the output of a reverberator based on, either the input signal for maximum control, the reverb output for incredible chaos, or any mixture of the two. As an added bonus DynaVerb can also be used as a standalone Omnipressor by setting [DECAY] to zero.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	decay in seconds or note-based in Tempo Mode, when decay is 0, this effect can be used as a standalone Omnipressor or gate
Size	[SIZE]	room size of reverb
Attack Time	[ATTACK]	attack time of Omnipressor/gate in seconds
Low Band Shelving Level	[LO-LVL]	post reverb shelving boost/cut of low frequencies with cut-off at 350 Hz
High Band Shelving Level	[HI-LVL]	post reverb shelving boost/cut of high frequencies with cutoff at 2000 Hz
Compression/Expansion Ratio	[ORATIO]	ratio control for the Omnipressor from traditional Gated sound, to expansion, then compression, then limiting and infinite ducking, then to negative ratios which result in dynamic reversal.

Release Time	[RELEASE]	release time for the Omnipressor/gate in seconds
Threshold	[THRESH]	threshold for the Omnipressor/gate
Sidechain	[SCHAIN]	the mixer to sidechain input (gain control signal). When set to minimum, the gain curve is derived from the input only. At maximum, it is a feedback dynamics unit with gain derived from the reverb output. In OMNIMODE, this simply lets you fade between a feedforward (FF) and feedback (FB) compressor/expander/gate/etc.

Shimmer - [SHIMMR]

We don't have proof, but we're pretty sure this is what the guitars sound like in heaven. Set the [A-PCH] and [B-PCH] to just above and below 1200c, turn the [DELAY] all the way down, and everything else all the way up. Oh, and remember to walk toward the light.

Mix	[MIX]	wet/dry mixer, 100% is all wet signal
Decay	[DECAY]	arbitrary 0-100 decay (less decay will also take away reverb attack)
Size	[SIZE]	size of the reverb
Delay	[DELAY]	post reverb and pre pitch-shift delay time in milliseconds or note-based in tempo mode
Low Band Decay	[LO-DCY]	amount of post reverb and pitch-shifter low band signal (this is in the feedback path)
High Band Decay	[HI-DCY]	amount of post reverb and pitch-shifter high band signal (this is in the feedback path)
Pitch Shift A	[PICH-A]	Pitch-shifter A pitch in cents (500c=P4th, 700c=P5th, 1200c=1 Octave, 1900=1 Octave+P5, 2400=2 Octaves)
Pitch Shift B	[PICH-B]	Pitch-shifter B pitch in cents (500c=P4th, 700c=P5th, 1200c=1 Octave, 1900=1 Octave+P5, 2400=2 Octaves)

Pitch Decay	[PITCH]	The PITCH-DECAY knob controls the amount of pitch shifting in the reverb tail. It increases from 0 to 100. Beyond 100 are two FREEZE modes. PITCH FREEZE locks out the pitch shifters, but feeds the reverb, allowing you to freeze the Shimmer pitch climb at opportune times. PITCH+VERB FREEZE freezes everything (pitch and reverb) for dry soloing on top of the frozen reverb.
Mid Band Decay	[MIDDCY]	amount of post reverb and pitch-shifter mid band signal (this is in the feedback path)