MPX 500 Parameter Descriptions

Reverb Parameters	
Adjust	Adjust is a "magic" control whose function is different from preset to preset. It usually controls several parameters but may also provide a set of special values for a single control, for example "Fast" and "Slow" for a parameter that is also adjustable to any value via another control. Adjust has a range of 0 to 127 so as to provide a convenient attachment point for a MIDI controller.
Decay	Decay controls reverb time for mid frequency signals. In Ambience, Decay controls the length of the ambience "tail".
HF Rlloff	Sets the high frequency cutoff of a post-effect low-pass filter.
MIX	MIX controls the ratio of direct ("Dry") vs. effect ("Wet") signal in the output. When the MPX500 is patched into a console, this control should almost always be set to "Wet" (i.e. 100%).
PreDelay	Controls the time delay between the input of signal and the onset of reverberation.
BassMult	BassMult (called "Bass Multiply") controls the reverb time for low-frequency signals; it works as a multiplier of the Decay (a.k.a. MidRT) parameter. For example, if BassMult is set to 2x, and Decay is set to two seconds, the low frequency reverb time will be four seconds. For a natural-sounding hall ambience, BassMult should usually be between 1x and 2x.
BassXvr	BassXvr (called "Bass CrossOver") sets the frequency below which BassMult applies.
Rt HC	Rt HC (usually called "Reverb Time Hi Cut") sets the frequency above which high frequencies are rolled off in the reverberated signal. This causes reverberated signals to grow progressively darker and results in more natural-sound because it simulates the effect of air absorption in a real hall. Setting a low frequency for this parameter can actually shorten the reverb time because it dampens the audio as it re-circulates.
Diffusion	Diffusion controls the degree to which initial echo density increases over time. High settings of Diffusion result in high initial buildup of echo density. (Echo density is also affected by Size, with smaller spaces sounding denser.)
Size	Size sets the rate of buildup of echo density after the initial period (which is controlled by Diffusion). It also acts as a master control for Decay. Size changes a reverb sound from very small to very large. Generally, you should set the Size control to approximate the size of the acoustic space you are trying to create before you adjust anything else. The size in meters is roughly equal to the longest dimension of the space. (Adjusting Size causes the program to re-load.)
Attack	Attack controls the sharpness of the initial response to an input signal. High settings cause an explosive sound, while low settings cause the sound to build up more slowly with time. Attack affects the level of sound within only the first 50 milliseconds or so.
Level	Level determines the amount of wet signal present in the output. It functions similarly to Mix control except that it affects the Wet component only. It is generally used to balance the overall output of two

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	or more programs when Mix is set to Wet.
EkoDly L, EkoDly R	In the reverb (Plate, Hall, Chamber, etc.) programs, these parameters, called Delay Level Left and Delay Level Right, control the timing of single reflections that occur early in the decay. These reflections simulate the sound you might hear off of the back wall of a stage or other reflective surface.
EkoFbk L, EkoFbk R	In the reverb programs, these parameters, called Echo Feedback Left and Echo Feedback Right, control the amount of repeating echo that simulates a flutter echo between parallel walls. The range of these parameters is from -100% to 100%, with negative values producing a polarity reversal. High values can cause signal overload.
Inverse Parameters	
Duration	This determines the length of time, in milliseconds, which passes before the cutoff of output occurs.
LowSlope, HighSlope	These parameters are found only in the Inverse programs. LowSlope determines the shape of the reverb envelope for low frequencies. When set to 0, the level of low reverb remains unchanged over its Duration, then cuts off abruptly. Setting Low Slope above 0 causes the level of low frequency reverb to rise smoothly from soft to loud until the sound is cut off. The greater the slope, the softer the initial reverberation and the more pronounced its rise. With negative values, the low frequency reverb drops from its initial level to a quieter one before cutoff. HighSlope is similar to LowSlope, but applies to middle and high frequencies.
Shape	Similar to Attack in the reverbs, it controls the buildup of those early reflections, which most audibly create the sound of a real room.
Spread	Along with Size, this controls the timing between the initial reflections, which most audibly create the sound of a real room. Shape and Spread work together; if either is set to 0, the other has no effect.
Ambience Parameters	
Rvb Lvl	In Ambience, short-decay early reflections create a real-room sound. Rvb Lvl controls the amount of "extra" longer-decay reverb added to this effect.
Tremolo Parameters	
Phase	Phase determines the relative timing between the L and R channels.
Rate	Rate controls the speed of volume modulation.
Depth	Depth controls how much the volume is modulated.
Waveform	Waveform determines how the volume is modulated with time. Values are Sine (smooth modulation with polarity reversal), Rectified Sine (smooth modulation with no polarity reversal), Triangle (linear ramp up and down), Sawtooth (linear ramp up with sudden reduction), and Square (level switches between maximum and minimum).
Rotary Parameters	

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MstrRate	This is a master rate control that affects both the Horn and Drum rotation rates.
Width	Determines the effective separation between L and R channels.
Balance	Determines the volume balance between the Horn and Drum.
Drum Dep, Horn Dep	Determines the amount of modulation produced by the Drum and Horn.
Drum Res, Horn Res	Determines the amount of resonance, i.e. signal fed back into the effect.
Chorus Parameters	
Speed 1, Speed 2	Control the rates at which the various voices sweep through frequency.
Sweep 1, Sweep 2	Control the amounts of frequency variation for two different collections of voices. (The Chorus effect simulates six voices with slightly varying pitch. The user has separate controls over two sets of three voices each.)
Spread	Controls the initial time differences between the six moving voices.
Res 1, Res 2	Control the amount of feedback signal.
Diffusion	Creates a time-smoothing effect similar to diffusion in reverb.
Flange Parameters	
Speed	Controls how rapidly the two "flange" voices move.
Depth	Controls how much flange effect is created by adjusting the levels of the two flange voices.
Sweep	Determines the maximum amount of time-delay applied to each voice.
Phase	Determines the relative timing between the speed modulation of the two voices.
De-tune Parameters	
Tune 1, Tune 2	Determines the amount of detuning applied to the signal in each channel.
Pitch Parameters	
Pch, Intrvl	Controls the amount of pitch-shift applied. Intrvl values are in semi-tones, Pch values are in Cents (1/100th of a semi-tone). These values are additive, i.e. a minor third and 100 cents would give the effect of a Major third
PDly	PreDelay, used to control the amount of "look-ahead" required by the pitch-shift algorithm. Good performance requires some amount of pre-delay (typically about 40 milliseconds). In addition the pitch shifter mechanism introduces some delay, so this control cannot actually set the PreDelay to zero.
Pch Fbk	Pitch Feedback, useful to create some interesting effects.
-L-, -R/S-	These designations on the Pitch parameters mean "Left" or "Right/Stereo". Pitch-shifting requires some time-shifting. A true stereo (not merely dual-mono) signal contains components that are common to L and R. A proper stereo image is maintained only if the phase relationship between the L and R signals is maintained, which requires that the *exact* same computations be applied to both channels. However, you will often get better performance with a mono- pitch-shift that with a stereo pitch-shift. Thus the MPX500 contains programs for

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	both. The Edit pages for the mono-mode programs give you both "Left" and "Right" versions of the key parameters. The stereo-mode programs give you only the "Stereo" versions (labeled "R/S"). (Of course, in a mono-mode program you can adjust the L and R parameters to be the same, but it will not maintain the a stereo image.)
Dly/Eko Parameters	
Dly Lvl	Controls the overall level of the signal fed into the Delay/Echo effect.
Dly Fbk	Delay Feedback is a master control that determines the feedback of L into L and R into R.
Dly XFbk	Delay Cross feedback is a master control that determines the feedback of L into R and R into L.
L Dly 1, R Dly 1	A manual control to set the delay time (in msec) of the L voice #1 and R voice #1. The Dly/Eko effect has 3 independent voices on each side. In the non-Tap programs you have independent control over the delay times of each. In the Tap delays, those times controlled by Tap are display but you cannot change them manually.
Dly Lvl 1	Controls the levels of the voice set #1 for both L and R.
L Dly 2, R Dly 2, etc.	Controls the delay time of voice set #2.
Dly Lvl 2, etc.	Controls the levels of voice set #2.
Miscellaneous	
Efx Bal	In the dual-effects programs, this controls the relative amounts of the two effects. In a parallel, mono-split, or dual-mono routing configuration, this simply splits the signal to be fed into the two effects. In a cascade configuration, it also allows some of the signal to bypass either of the two effects.
DlyTapLvl	This is used in dual-effects programs where one of the effects is Dly/Eko and one or more of the delay voices are controlled by Tap. This lets you control the level of that voice mixed into output of the Dly/Eko effect.
Delay, Dly Lvl	These are provided as a bonus in dual-effects programs where one of the effects is Dly/Eko and one or more of the delay voices are controlled by Tap. These give manual control over the delay time and level of non-Tap delay voices, one L and one R. (In the Dual-mono configurations, only one of these voices is heard.) The level is generally set to "off", but by turning it up you create a non-Tap-controlled delay.
Dly HiCut	A high-cut filter similar to HF Rlloff except that it applies only to the Dly/Eko effect. It is provided in the dual-effects programs where one of the effects is Dly/Eko so that you can have independent control over the Dly/Eko high frequency output.