



lexicon

MP-100
Reverb & Effects Card
for the Core2 Audio System

User Guide

Unpacking and Inspection

After unpacking the system modules, save all packing materials in case you ever need to ship the units. Thoroughly inspect the modules and packing materials for signs of damage. Report any damage to the carrier at once; report equipment malfunction to your dealer.

Communications Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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1

Using the MP-100

Basic Operation

The MP-100 combines the quality and power of Lexicon reverb and effects on dedicated hardware with the ease and elegance of a software plug-in interface. Unlike software-based plug-ins, the MP-100 provides outstanding sonic quality without burdening your computer's performance.

If you are installing the MP-100 into an existing Core2 system, please refer to the **Read Me** file accompanying your software, the hardware installation instructions and the section of the Core2 User Guide describing the procedure for updating drivers.

Different procedures are used to access the MP-100 interface in ASIO and MMIO applications. These are described separately in the following sections, followed by detailed descriptions of the MP-100 controls and features.

Inserting MP-100 within an ASIO Application

The following procedure details the steps to open a MP-100 plug-in in an ASIO-capable program such as Cubase VST or Opcode Vision DSP. This procedure will vary depending on your application.

Routing an Audio Channel through the MP-100 Using Aux Sends and Returns

1. In the **Audio** menu, select **System**.
2. Set Monitoring to **Tape Type** and press the ASIO Control Panel button.
3. On the Lexicon Control Panel Core2 tab, make sure the **Aux Send** and **Aux Return** are enabled. If they are not, enable them, then restart Cubase.
4. In the Cubase Audio menu, select **Inputs**. Enable the Aux Return input. Make note of the corresponding Cubase input (e.g. **In 3 L&R**), as you will need it later.
5. In the Cubase Audio menu, select **Master** and enable the Aux Send Output bus. Make note of the corresponding Cubase output bus number or name, as you will need it later.
6. On the Lexicon Control Panel, go to the Effects tab and set the routing for MP-100 as follows: From Aux Send L (VST) and Aux Send R (VST) To Aux Return L (VST) and Aux Return R (VST).
7. In the Cubase Audio menu, select **Monitor**.
8. On an unused stereo track, select the Aux Return input corresponding to the input selected in Step 3. Enable that input. (The button should be yellow.)
9. Click on the **FX** button on the audio channel where you want effects. This will open the selected Channel Settings window.
10. Click on the pop-up menu below the Effect Send knob, and select the output bus number or name noted in Step 4.
11. Make sure the **Dry** button is off. (This deactivates all four effect sends for the channel.)
12. Click **On** for each effect send you want to activate, and turn the corresponding Send Level knob to a moderate value.
13. If you want the signal to be sent to the effects before the faders, click on the **Pre** button for the send.

14. With Pre-fader effect sends, the amount of effect for the channel is not affected by the volume fader. With Post-fader effect sends (Pre button not pressed), the amount of effect is proportional to the channel volume, and will change with the volume fader movements.

The next step is to select programs and set the parameters for the effect processors. As you will probably need to adjust the send levels while doing this, leave the FX window open.

Selecting MP-100 and Making Settings

Effect types and programs are selected in the **Effects** window:

1. Pull down the **Audio** menu and select **Effects**. This window resembles an effects rack, with stacked processors.
2. Pull down the pop-up menu in the processor's upper right corner and select MP-100 to activate an MP-100 Rack within VST. Click on the Power button.
3. Use the Send Level knob in the FX window to control the amount of effect for the audio channel.
4. Click the **Edit** button to activate the MP-100 interface. See *The Interface* later in this chapter for details on the MP-100 controls.
5. Use the Aux Send knob assigned to the MP-100 to set the input level to the MP-100. High values may cause clipping (distortion) in the MP-100.

NOTE: As the Cubase VST Rack Xpander was designed specifically for software plug-ins, some of its controls are not designed to work with the MP-100 – most notably, the Input Level and Bus Select Buttons. MP-100 Input Level is controlled by the Aux Send knob in the channels monitor section. MP-100 bus selection is performed on the Reverb page of the Lexicon Studio Control Panel.

Naming Effects

1. Click on the Program name in the top center of the effect processor display to open a name dialog.
2. Type in a new name.
3. On the keyboard, press **Return**.

Saving Effects

Save your edited effects in the File pop-up menu to the right, under the Effect Type pop-up.

1. To save the current Program, select **Save Effect**.
2. To save all Programs of the same Effect Type, select **Save Bank**.
3. In the file dialog that appears, select a name and location for the file. (You might want to create a special folder for your MP-100 effects.)
4. Click **Save**.

Loading Effects

Load effects from disk into the MP-100 as follows:

1. Pull down the **File** menu.
2. To load a single Program, select **Load Effect**.
3. To load a complete Program Bank, select **Load Bank**.
4. In the file dialog that appears, find and click on the file you want to load.

Effect settings are saved with your Song. If you want to use your edited effects in other Songs, you can save and load them separately.

Editing Effects

You can create your own programs or edit any of the programs with the editor. To open the MP-100 interface, click the **Edit** button on the MP-100 Rack Xpander. Skip the following section on MMIO applications, and read about the MP-100 features and controls under *The Interface*.

Using MP-100 within an MMIO Application

Routing an Audio Channel through the MP-100

Like traditional effects devices, the MP-100 can be used in two ways: as auxiliary effects or as line effects.

Most effects processors are used as *auxiliary effects*. On a typical console, this is achieved by using the aux send and returns to send specific channels to the effects devices, then back to the board where the end result is mixed with the dry outputs of the board. Typically, the Mix ratio is kept at 100% wet, since the signal is mixed with the board outputs. Most of the multi-channel applications available today (such as Cubase VST, Logic Audio, Cakewalk Pro Audio) simulate this functionality with virtual aux sends and returns.

Effects devices can also be used as line effects by placing them in series with the signal chain. Steinberg WaveLab is capable of doing this through its VST plug-in architecture, which does not require additional routing. MMIO programs that do not support VST plug-ins must route audio to the MP-100, where it is mixed into the entire signal. Typically, the Mix ratio for reverb in this situation should be set at 50%, to have a mixture of direct and reverberated signal.

Routing MMIO audio to and from the MP-100 is done in the Effects tab of LexPanel.exe.

To route audio:

1. Boot LexPanel.exe by double-clicking on the Lexicon Studio icon at the bottom right corner of your task bar.
2. Click the Effects tab to view all MMIO routing and control options for the MP-100.
3. Click **Monitor** to make all routing selections available.
4. Using the **To** and **From** pulldown menu for the MP-100, route your audio according to which MMIO channel and interface outputs you would like to use.



The LexPanel with the MP-100 Interface

Making Settings for the MP-100

The MMIO programs for the MP-100 are virtually identical to those available when using MP-100 with ASIO applications such as Cubase VST. The only differences are in the Mix values. As most MMIO applications will use the MP-100 as a line effect, the Mix values have been saved at 50% wet. If you are using an MMIO program that supports VST plug-ins (such as Steinberg WaveLab or Emagic Logic Audio), remember to change the Mix values in the programs you are using to 100% wet.

The Interface

The MP-100 interface provides a straightforward control surface for access to all programs and parameters. Each of the controls is briefly described in the following illustration.

The screenshot shows the MP-100 interface for Lexicon Studio. At the top, it says "MP100 for Lexicon Studio". Below that, there are two dropdown menus: "Bank: Plate" and "Program: Larger Plate". To the right of these are a save icon and a delete icon (an 'X' in a red square). Further right is the "lexicon MP-100" logo. Below the logo are three buttons: "BYP" (with a red LED indicator), "TAP" (with a green LED indicator), "INC" (with an up arrow), and "DEC" (with a down arrow). The main display area shows a table of parameters: "Mix" (100%), "Effects Level" (100%), "Decay Time" (50%), and "Predelay (1/32 Note)" (120 bpm). A yellow highlight is under the "Mix" parameter. Below the display is a "DUAL CHANNEL PROCESSOR" label. A central knob is used for adjustments. A question mark icon is in the bottom left corner.

Bank Press the arrowed button to scroll to another program Bank. Click in the display area to display a list of all of the MP-100 Banks.

Program Press the arrowed button to scroll to another Program. Click in the display area to display a list of all of the MP-100 Programs.

Store Press to name and store User programs.

X Deletes displayed User program.

BYP Engages Bypass. (LED on).

? Press to activate on-screen help messages for all controls.

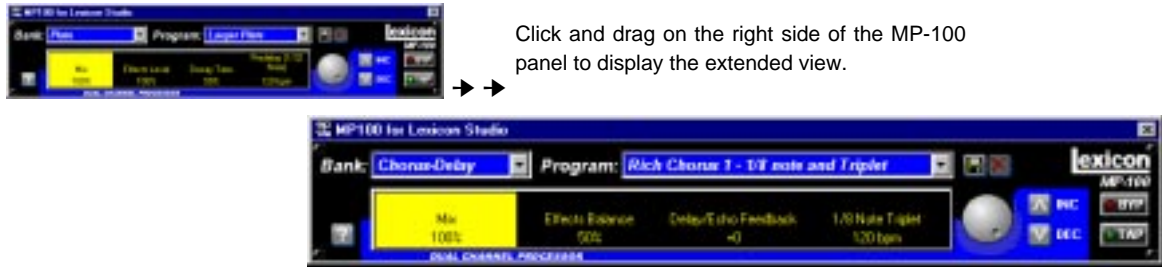
Parameters Click on any displayed parameter to highlight it. Adjustments to the selected parameter can be made by scrolling in the display area, by turning the front panel knob, or with the **INC** and **DEC** controls.

Adjust Knob Turn this knob to change the high-lighted parameter value.

INC/DEC Allows fine tuning of the selected parameter by incrementing/decrementing the value by single units.

TAP LED will light when the selected program has tempo controlled parameters. Tap twice in rhythm to set the tempo.

If you have a large monitor, note you can expand the interface to a larger size by clicking and dragging on the right side of the panel.

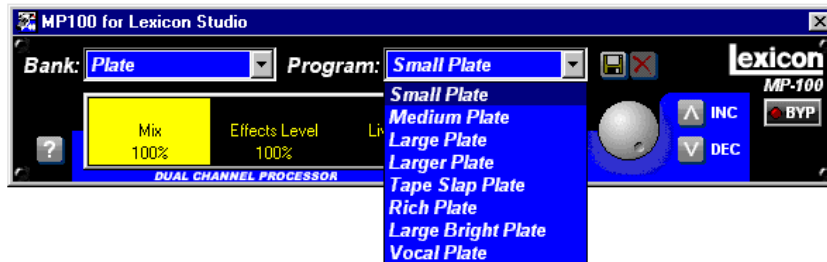


Loading Effects

The MP-100 comes with 240 factory programs organized into Banks, and a User Bank where you can store edited versions of the factory programs. Click on the Bank display to view a list of all of the available Banks. Use the scroll bar to view more of the list.



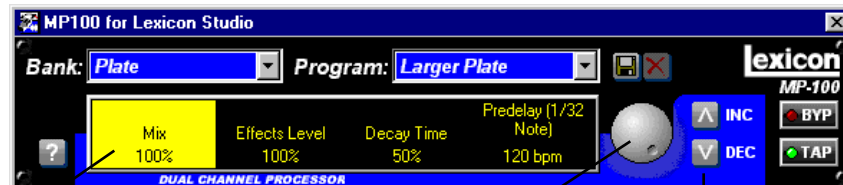
Click on the Program display to view all of the programs available within the selected Bank. Programs are automatically loaded when selected.



Editing Effects

Whenever a new program is loaded, three or four edit parameters will appear in the main display area of the interface: Mix, Effects Level (Effects Balance in the Dual programs) and a parameter unique to the selected program (Decay Time in our illustration). These parameters will always appear in the same order for any selected program. Click on any displayed parameter to highlight it and select it for editing. Select another parameter by clicking on it or by using the left and right keyboard arrowed keys to select it.

Change the value of the selected parameter with the displayed knob, with the **INC** and **DEC** buttons, by clicking and dragging the cursor to the desired value, or by using the keyboard up and down arrowed keys.



Click on a parameter to select it for editing.

Use the knob to quickly change the value of the selected parameter over its entire range.

Use the Increment/Decrement buttons to fine tune parameter settings.

Tempo Functions

The MP-100 Tap Tempo feature allows you to set the delay times and modulation rates of tempo-based programs to the beat of the music. Whenever a tempo-based program is selected, a TAP button will appear on the interface, and the adjustable parameter will appear in the rightmost position on the main edit display. A light on the displayed TAP button will flash at the selected tempo rate.

To change the tempo, you can adjust the displayed parameter in BPM, or tap in a tempo by clicking twice on the **Tap** button in time with the music — the MP-100 will figure out the time for you.



When a tempo-based program is selected, tap in a tempo, or select the tempo parameter and set it in BPM with the knob.

Your new tempo will be saved and recalled as part of the program when you store it.

Bypass

Pressing the **Bypass** button (at the right edge of the interface) will cause the MP-100 to pass only dry, unprocessed audio.

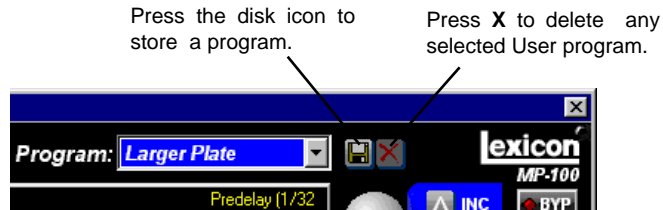
Saving Effects

To save any program, click on the disk symbol next to the Program display. A dialog naming box will appear with a default name consisting of the Bank and Program (separated by a comma). You can use this name, or type in a name of your own choosing.

When you have finished entering the name, click **OK**. The new program will be stored in the first available space in the User Bank.

NOTE: Programs in the User Bank can be overwritten. If you try to save a program with a name which has already been assigned to a User program, an alert dialog will appear to make sure that you want to replace the older program with the one you are saving.

Press the **X** button, next to the Store button to delete any currently selected User program.



Beyond the Basics

Routing a Plug-In

A default routing is set in your Lexicon Studio system, to allow you to use your MP-100 as an auxiliary effect, monitoring the audio through the analog outputs on your audio interface as soon as it is installed. This default routing configuration can be easily changed for your particular studio setup with the following procedure.

The **Effects** tab on the **LexPanel** allows you to route a stereo pair through any of the connectors of your audio interface.

To assign a source to any of the input channels in your MP-100:

1. Make sure the Monitor button is enabled.
2. Click the left mouse button on the down-arrow of an input selector to open a menu displaying all Sources available for routing to the MP-100.
3. Use the scrollbar to view additional Source selections.
4. Click on a source to route it as an input source. The input selector will display your selection.

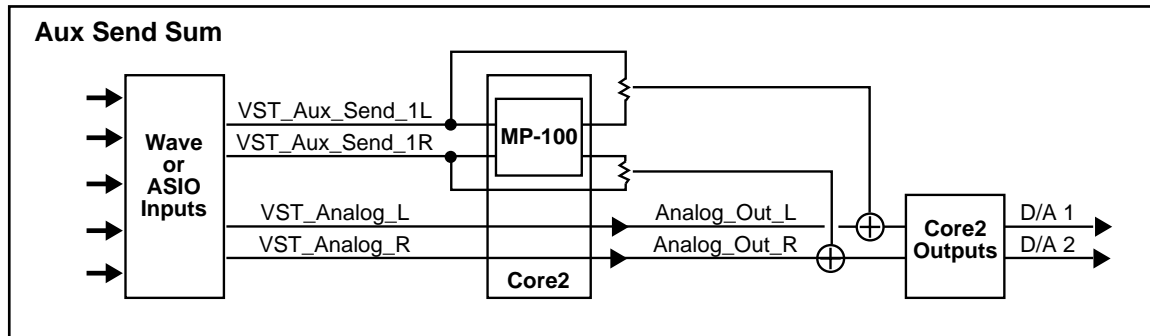
NOTE: Input sources can only be be routed one at a time.

To assign a destination to any of the output channels in your MP-100:

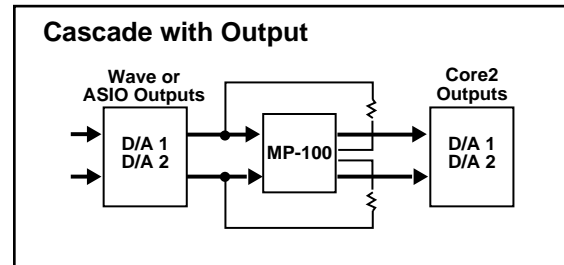
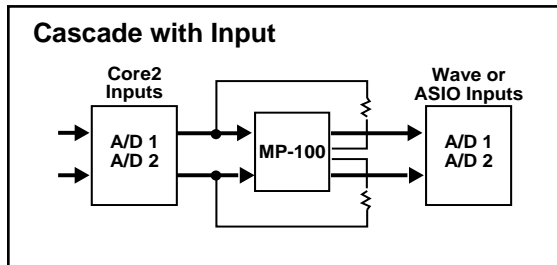
1. Click the left mouse button on the down-arrow of an output selector to open a menu of available destinations.
2. Use the scrollbar to view additional destination selections.
3. Click on an output to designate it as an output destination. The output selector will display your selection.

NOTE: Only resources that have been enabled in the Core2 tab are available as sources/destinations.

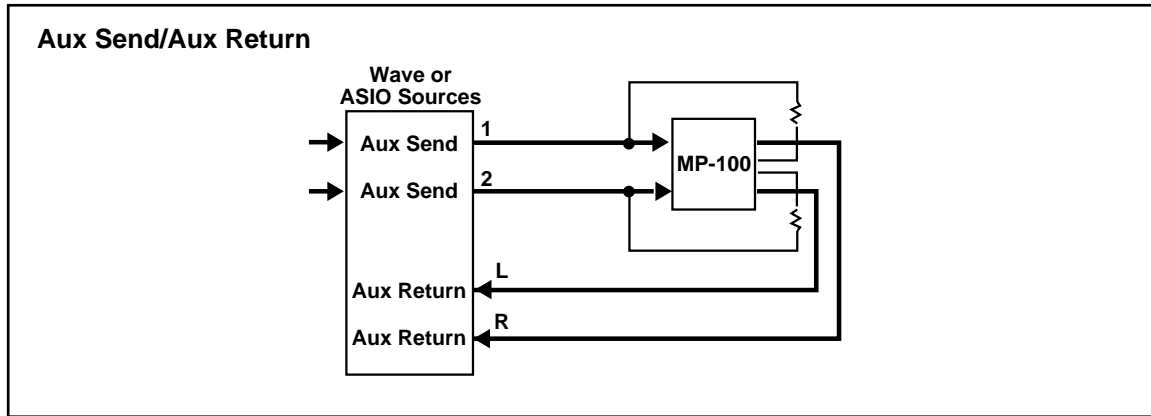
The diagram below is a flow chart of a routing example. Notice that PC-90 receives its input from Cubase VST via the **VST_Aux_Send_1L** and **VST_Aux_Send_1R** sources. These sources route any audio assigned to that bus into the MP-100.



As **Analog_Out_L** and **Analog_Out_R** are selected as destinations, MP-100 audio is summed with the outputs of Cubase VST, which are also routed to the analog outputs. This allows monitoring of MP-100 reverb and all audio from VST through the same outputs of the interface.



The reverb routing matrix is flexible, and can provide a wide array of configurations. The previous configuration would not be ideal if, for example, you were mixing audio simultaneously from a digital tape deck and your computer to a digital mixer, and wanted to send your reverb into your digital mixer on independent channels. In this case, you can easily reroute your destinations to other channels, such as TOSLINKs 1 & 2 simply by changing the output destinations on the Control Panel.



Automating the MP-100

The MP-100 Digital Reverberator can be completely automated within any control software that supports automation. Refer to the user guide for your particular software package for support offered for this functionality. The following section describes MP-100 automation within Cubase VST.

To write enable the channel that the MP-100 is assigned to, open the Cubase VST Mixer window and click the **Write** button.

Changes made to MP-100 parameters will be recorded to an Audio Mix Part. Any changes (even those made while the transport is in Stop) are recorded, as long as the **Write** button is enabled.

If you check the Arrange window when playback is stopped, you will note that a special Mixer Track called Audiomix has been created. This Track contains one long Part named Audiomix, in which all your Monitor mixer actions are stored. Don't worry about the length of this Part — it will automatically be lengthened if you record past its end.

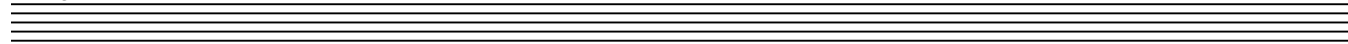
Please note that there is only one Audiomix Part/Track, created the first time you use the Write function in your Arrangement. The next time you use the Write function, information is added to the existing Part.

To stop writing automation events, click the **Write** button a second time, or close the Mixer window. All changes to this track and its plug-ins will cease to record.

To play back automation in your mix:

1. Check that the Audiomix Track or Part is not muted.
2. Activate automated playback by clicking on the **Read** button in the upper left corner of the Monitor window. If you want to watch and listen to your recorded mixer actions, for example, while you're recording fader movements for another mixer channel, you can activate **Read** and **Write** simultaneously.

Begin playback as usual. The monitor faders and controls will move automatically, following your recorded actions. You will also hear your plug-in automation events playing back with your audio.





2

MP-100 Programs and Parameters

About the MP-100 Programs

The 240 programs in the MP-100 are designed to provide a full palette of high caliber ambience, reverb, delay, pitch shift and other effects. Each program gives you control over Mix Level, Effect Level (or Effect Balance in the Dual programs) as well as a special parameter customized for each individual program. In many cases this parameter controls several effect parameters simultaneously to provide simple control of a complicated editing process. In many Chamber and Room programs, for example, a "liveness" parameter alters the character of the space by changing decay, EQ and early reflections all at the same time.

The following section provides a general description of each MP-100 Bank along with tables that detail all of the programs available in each Bank. These details include the function of the custom parameter and the **Tap** button (for variations that use tempo-controlled rate or delay times).

Bank: Plate

The Plate programs synthesize the sound of metal plates with high initial diffusion and a relatively bright, colored sound. These programs are designed to be heard as part of the music, mellowing and thickening the initial sound. Plates are a popular choice for enhancing popular music, particularly percussion.

Plate Programs	Effect Parameter	Tap
Small Plate	Liveness	–
Medium Plate	Liveness	–
Large Plate	Liveness	Predelay (1/32 Note)
Larger Plate	Decay Time	Predelay (1/32 Note)
Tape Slap Plate	± Decay/15ips or 7.5ips	–
Rich Plate	Decay Time	Predelay (1/32 Note)
Large Bright Plate	Decay Time	Predelay (1/32 Note)
Vocal Plate	Low Cut, Decay Time	Echo

Plate reverb was originally generated by a large, thin sheet of metal suspended upright under tension on springs. Transducers attached to the plate transmitted a signal that made the plate vibrate — making sounds broadcast through the plate seem to be occurring in a large open space.

Bank: Gate

The Gate programs provide a fairly constant sound with no decay until the reverb is cut off abruptly. These programs work well on percussion — particularly on snare and toms, but be sure to experiment with other sound sources as well.

* Note that audio is muted briefly when Duration is altered.

Gate Programs	Effect Parameter	Tap
Straight Gate	Duration*	–
Drum Gate	Duration*	–
Slope Down	Duration*	–
140 ms Gate	High Cut	Predelay (1/32 Note)
240 ms Gate	High Cut	Predelay (1/32 Note)
340 ms Gate	High Cut	Predelay (1/32 Note)
440 ms Gate	High Cut	Predelay (1/32 Note)
540 ms Gate	High Cut	Predelay (1/32 Note)

Gated reverbs were originally created by feeding a reverb, such as a metal plate, through an analog gate device. The decay time was set to instant, and the hold time varied the duration of the sound.

Bank: Hall

The clean reverberation of the Hall programs is designed to add spaciousness, while leaving the source material unchanged. In addition to general instrumental and vocal applications, the Hall programs are good choices for giving separately recorded tracks the sense of belonging to the same performance.

Hall Programs	Effect Parameter	Tap
Recital Hall	Decay	–
Small Church	Decay	–
Jazz Hall	Decay	–
Dance Hall	Decay	–
Synth Hall	Decay	–
Medium Hall	Decay	–
Large Hall	Decay	–
Large Church	Decay	–

Lexicon's Hall programs recreate the acoustics of actual places, from grand reverberant enclosures to small concert halls.

Chamber

The stereo Chamber programs produce an even, relatively dimensionless reverberation, with little change in color as the sound decays. The initial diffusion is similar to the Hall programs, but the sense of space and size is much less obvious. This characteristic, along with the low color of the decay tail makes the Chamber programs useful on a wide range of material — especially on spoken voice, giving a noticeable increase in loudness with very low color.

Chamber Programs	Effect Parameter	Tap
Brick Wall	Liveness	–
Basement	Liveness	–
Live Concert	Liveness	Eko Delay
Percussion 1	Liveness	–
Percussion 2	Liveness	–
Live Chamber	Liveness	–
Vocal 1	Liveness	Eko Delay
Vocal 2	Liveness	Eko Delay

Historically, recording studio chambers were often oddly shaped rooms with a loudspeaker and set of microphones to pick up the ambience in various parts of the room.

Bank: Ambience

The Ambience programs simulate reflections from room surfaces with random reflections, a gradual decay of overall level, and a gradual narrowing of the bandwidth.

This Bank provides a series of rooms in increasing sizes.

Ambience Programs	Effect Parameter	Tap
Voice Over	High Cut	–
Very Small Ambience	High Cut	–
Small Ambience	High Cut	–
Medium Ambience	High Cut	–
Studio D	High Cut	–
Bright Ambience	Decay Level	–
Dark Ambience	Decay Level	–
Marble Foyer	Liveness	–

Ambience gives warmth, spaciousness and depth to a performance without coloring the direct sound, and is commonly used to add a room sound to recorded music or speech.

Bank: Room

The Room programs are very useful on drums and percussion and can also be applied to electric guitar tracks.

This Bank provides a series of rooms in increasing sizes.

Room Programs	Effect Parameter	Tap
Bedroom	Wall Reflections	–
Tiled Room	Low Frequency Cut	–
Studio C	Liveness	–
Small Room	Liveness	–
Studio B	Decay Time	–
Rehearsal Room	High/Low Equalizer	–
Studio A	Decay Time	–
Large Room	High/Low Equalizer	–

The Room programs emulate actual rooms where there is a more apparent sense of being in a small live place.

Bank: Tremolo

The Tremolo programs offer a variety of tremolo shapes (square, sawtooth, triangle, sine and rectified sine). The synchronization of the left and right sides can be adjusted to produce mono and stereo effects. As the tremolo rates of several variations are set with Tap, it's easy to match the tempo of the music. Other variations let you set left and right channel waveforms out-of-phase, resulting in a panning motion.

All of the Tremolo programs should be used with **Mix** set to fully Wet. By adding more dry to the wet/dry mix, **Mix** effectively sets the depth of the Tremolo.

As tremolo is essentially a rhythmic effect, care should be taken to make the rate work with the tempo of the music.

Tremolo Programs	Effect Parameter	Tap
Rectified Sine Wave	Rate: 0.4-15Hz	–
Square Wave	Rate: 0.4-15Hz	–
Sawtooth Wave	Rate: 0.4-15Hz	–
Rectified Sine Wave	Sweep: 0, 90, 180, 270	Rate (1/8 Note)
Square Wave	Sweep: 0, 90, 180, 270	Rate (1/8 Note)
Sawtooth Wave	Sweep: 0, 90, 180, 270	Rate (1/8 Note)
Triangle Wave	Sweep: 0, 90, 180, 270	Rate (1/8 Note)
Sine Wave	Sweep: 0, 90, 180, 270	Rate (1/8 Note)

Tremolo is a rhythmic change in loudness, commonly employed as an expressive technique by vocalists and wind instrument players. It is also one of the oldest electronic effects — frequently used with electric guitar, electric piano and, sometimes, vocals. Different tremolo effects are largely determined by the rate and waveform shape of the loudness change (fast or slow, smooth or sharp). If the effect is used in a stereo mix, the left and right can be synchronized in a variety of ways to produce dramatic side-to-side motion.

Bank: Rotary

The Rotary programs are detailed simulations of a Leslie-style cabinet. The input signal is split into high and low frequency bands. The rotation effect is created by a synchronized combination of pitch shifting, tremolo and panning. Like the physical model, the high (horn) and low (drum) frequencies are “spun” in opposite directions. Horn and drum speeds are independent, and are designed with acceleration and deceleration characteristics to simulate the inertia of the original mechanical elements.

A virtual requirement for any organ sound, the rotary effect also sounds great with guitar and electric piano rhythm parts. In fact, it’s a great alternative to chorus and tremolo effects for any sound source.

All of the programs in this Bank should be used with **Mix** set to fully Wet for the full effect.

Rotary Programs	Effect Parameter	Tap
Rotary	Slow/Fast	–
Rotary	Slow/Fast, Width	–
Rotary	Slow/Fast, Balance	–
Slow Rotary	± Resonance	–
Varispeed Rotary	Speed	–
Tap Rotary	Balance	Rate (Quarter-Note)
Tap Rotary	Width	Rate (Quarter-Note)
Tap Rotary	± Resonance	Rate (Quarter-Note)

Rotary speaker cabinets were originally designed to provide a majestic vibrato/choir effect for electronic theater and church organs. The most well known rotary speaker is the Leslie™ Model 122, which has two counter-rotating elements — a high frequency horn and a low frequency rotor with slow and fast speeds. The sound generated as the spinning elements change speed is truly magical. The swirling, spacious effect is hard to describe, but is instantly recognizable.

Bank: Chorus

The stereo Chorus programs use six independently randomized delay voices panned across the stereo field. These programs, inherited from Lexicon's PCM 80, generate a rich, airy effect that can simulate the sound of multiple sound sources from a single source.

These programs are stunning on acoustic or clean electric guitar.

All of the programs in this Bank should be used with **Mix** set to fully Wet to achieve the full richness of the 6-voice chorus.

Chorus Programs	Effect Parameter	Tap
Rich Chorus	± Resonance	–
Rich Chorus	± Depth	–
Rich Chorus	Rate	–
Rich Chorus	High Cut	–
Diffuse Chorus	Diffusion	–
Slap Chorus	Diffusion	–
Slap Chorus	± Resonance	–
Slap Chorus	± Depth	–

Chorus effects multiply the original audio source to create a lush, full sound. Traditionally used to fatten up tracks and to add body to guitar without coloring the original tone, chorus effects are also often used in combination with echoes, plates and other reverb effects.

Bank: Flange

The stereo Flange programs have two 2-tap delays —one per channel. The first tap is fixed, and the second sweeps past it. Mixing the two delay taps together creates the flanging effect.

All of these programs should be used with **Mix** set to fully Wet to achieve the full flange effect.

Flange Programs	Effect Parameter	Tap
Light Flange: in phase sweep	± Resonance	—
Light Flange: out of phase sweep	± Resonance	—
Light Flange: in phase sweep	Rate	—
Light Flange: out of phase sweep	Rate	—
Deep Flange: in phase sweep	± Resonance	—
Deep Flange: out of phase sweep	± Resonance	—
Light Flange	Sweep: 0, 90, 180, 270	—
Deep Flange	Sweep: 0, 90, 180, 270	—

Flanging effects were originally created by simultaneously recording and playing back two identical programs on two tape recorders, then using hand pressure against the flange of the tape reels to slow down first one machine, then the other. The result was a series of changing phase cancellations and reinforcements, with a characteristic swishing, tunnelling and fading sound.

Bank: Pitch

The stereo polyphonic Pitch programs allow complete program material or monophonic sources to be shifted down two octaves or up one octave.

For pitch correction, use these programs with **Mix** set to fully Wet. For harmonization, use the desired amount of wet/dry **Mix**.

Pitch Programs	Effect Parameter	Tap
Semi-tone Shift	-2 to +1 octaves	—
Glide Shifter	± 1 octave	—
+/-100 cents	± 100 cents	—
Minor 3rd to 4th Harmony	Flat 3rd to 4th Up	—
4th/5th Harmony	4th to 5th Up	—
5th/6th Harmony	5th to 6th Up	—
2nd Inversion Triad	Minor/Major 3rd	—
Power Chords	Inversion	—

Altering the pitch of a sound allows a variety of effects from subtle detuning to the creation of harmonies and chords.

Bank: Detune

The 4-voice stereo Detune programs have one pair of voices per channel. As more detune amount is applied (with **Adjust**), the pair grow more out of tune, providing a lush sound without the need for a dry signal to be mixed in.

All of these programs should be used with **Mix** set to fully Wet to achieve the full effect.

Detune Programs	Effect Parameter	Tap
Mild	Detuning	–
Moderate	Detuning	–
Heavy	Detuning	–
FullRange	Detuning	–
Warm & Mild	Detuning	–
Warm & Moderate	Detuning	–
Warm & Heavy	Detuning	–
Slap Detuner	Detuning	–

Detune effects add a delayed/pitch shifted version of the original source—thickening up the sound. They can be particularly effective when used to simulate double-tracking. They are also great alternatives to chorus effects, adding the richness of a chorus without the audible sweep caused by the chorus rate.

Bank: Delay, Echo

The Delay, Echo programs include mono (5.5 seconds), stereo (2.7 seconds) and 6-voice multitap effects. Each of the programs can be used for digital delay *or* tape echo effects. When **the Delay parameter** value is increased, tape echo effects are produced. (Each repeat is darker and softer.) When **the Delay parameter** value is decreased, digital delay effects are produced. (Each repeat is the same timbre, but softer.)

In the first eight programs, **Delay Echo Feedback** also sets the amount of feedback — with an increasing number of repeats as the parameter value is increased. Delay time is set with **Tap**. Each variation is preset with a different useful rhythm.

In the second eight programs, the amount of feedback is preset and **Delay Echo Time controls** Delay time.

Delays and echoes are effects that repeat a sound a short time after it first occurs. The simplest (and oldest) delay effect is tape slap — a single repeat about 100ms after the original sound. (It was often used on Elvis’s voice and rockabilly guitar tracks.) Tape slap becomes tape echo when the output of the tape is fed back into the input (feedback), turning a single repeat into a series of repeats — each a little softer and a little darker than the last. This darkening of each repeat is characteristic of the analog tape recording process. Digital delays don’t have this characteristic — each repeat has the same exact timbre and the only difference from repeat to repeat is in loudness. Digital delay and tape echo are both useful, but they are different. Tape echo is warmer and allows the original sound to stand out more, while digital delay can present a “perfect” copy of the original sound.

When using any type of delay or echo effects with music, always pay attention to the way the repeats fall rhythmically to the beat. The most effective delay and echo patterns are those that lock in with the tempo of the tune.

Delay, Echo Programs	Effect Parameter	Tap
Mono Quarter-Note	Delay/Echo Feedback	Delay Time
Stereo Quarter-Note	Delay/Echo Feedback	Delay Time
Triplet Shuffle	Delay/Echo Feedback	Delay Time
Dotted Eighth-Note	Delay/Echo Feedback	Delay Time
Eighth-Note and Triplet	Delay/Echo Feedback	Delay Time
Ping Pong Quarter-Note	Delay/Echo Feedback	Delay Time
Triplet Rhythm 1	Delay/Echo Feedback	Delay Time
Triplet Rhythm 2	Delay/Echo Feedback	Delay Time
Mono	Delay/Echo Time: 0-5.5sec	
Stereo	Delay/Echo Time: 0-2.7sec	
Tape Slap	Delay/Echo Time: 3 3/4 to 30ips	
Multi Bounce	Delay/Echo Time: 0-100ms	
Multi Linear	Delay/Echo Time: 0-400ms	
Multi Inverse	Delay/Echo Time: 0-400ms	
Multi Repeat	Delay/Echo Time: 0-150ms + Fbk	
Multi Pong	Delay/Echo Time: 0-200ms + Fbk	

About the Dual Programs

The MPX 100 Dual programs combine either a Delay or Reverb algorithm with a Flange, a Pitch or a Chorus. **Effects Lv/Bal** controls the relative balance of each effect in the combination.

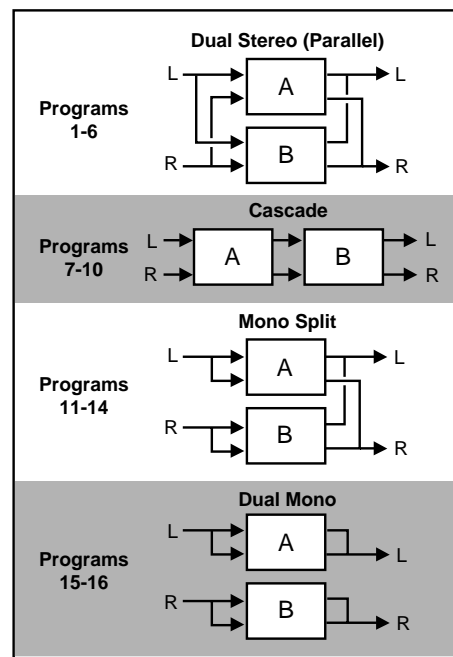
Four routing configurations are used in the variations of each Dual program: Dual Stereo (Parallel), Cascade, Mono Split and Dual Mono.

Programs 1-6 are set up in the Parallel configuration - two stereo effects placed side by side so that they receive and output stereo audio from both left and right channels.

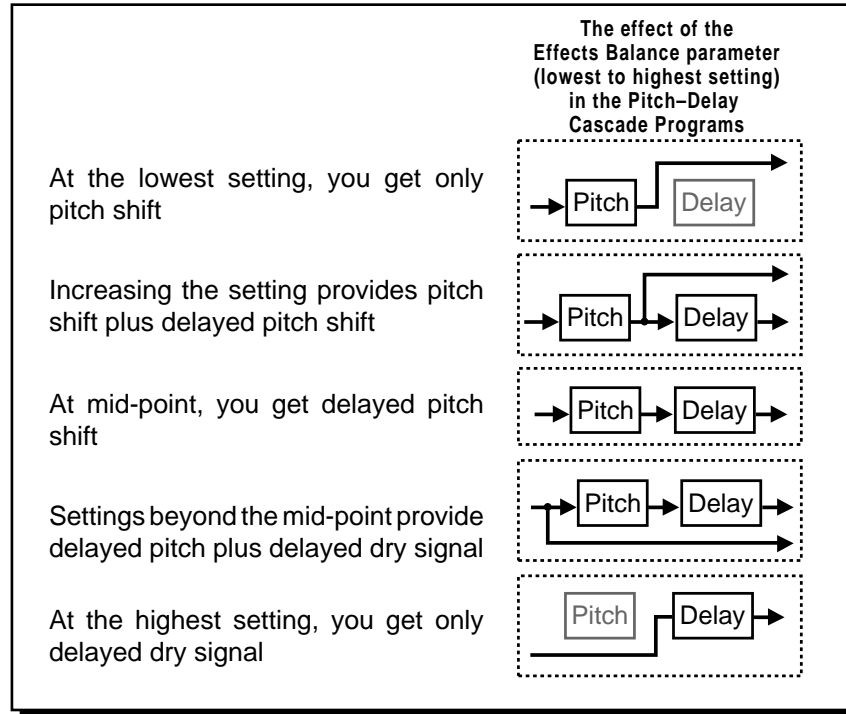
Programs 7-10 are set up in the Cascade configuration - two stereo effects, one placed after the other (for example, Flange-Delay, Flange passes its stereo signal to the Delay).

Programs 11-14 are set up in the Mono Split configuration which is similar to Parallel, however one effect (Flange) receives audio from the left input and the other effect (Delay) receives audio from the right input. Both effects then output stereo audio.

Programs 15 and 16 are set up in the Dual Mono configuration where one effect (Flange) appears on the left channel only and the other effect (Delay) appears on the right channel only.

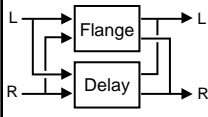

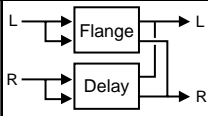
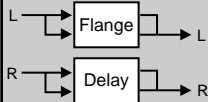


Generally, the **Effects Lvl/Bal** parameter controls the balance of the two effects in each dual program. In the cascade programs, rather than simply controlling balance, the parameter varies the amount of the first effect or dry signal which is fed into the second effect.



Behavior of **Effects Lvl/Bal** in the cascade variations. Several points from the parameter's range are illustrated here, using the Pitch-Delay program as an example.

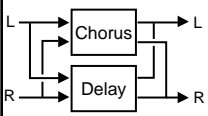
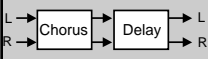
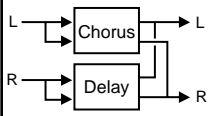
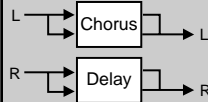
Bank: Flange – Delay

Flange-Delay Programs	Effect Parameter	Tap	Routing
Deep Flange - Stereo Delay Deep Flange - Stereo Delay Deep Flange - Stereo Delay Light Flange - Ping Pong Light Flange - Repeat Light Flange - Bounce	Delay/Echo Fdbk Delay/Echo Fdbk Delay/Echo Fdbk Delay/Echo Fdbk Delay/Echo Time: 0-150ms, Fdbk Delay/Echo Time: 0-200ms, Fdbk	Delay Time (1/4 Note) Dotted 1/8 Note 1/8 Note Triplet Delay Time (1/4 Note) — —	
Deep Flange>Stereo Delay Deep Flange>Repeat Deep Flange>Ping Pong Deep Flange> Bounce	Delay/Echo Fdbk Delay/Echo Time: 0-150ms, Fdbk Delay/Echo Fdbk Delay/Echo Time: 0-200ms, Fdbk	Delay Time (1/4 Note) — Delay Time (1/4 Note) —	
Light Flange+Stereo Delay Light Flange+Ping Pong Light Flange+Repeat Light Flange+Bounce	Delay/Echo Fdbk Delay/Echo Fdbk Delay/Echo Time: 0-150ms, Fdbk Delay/Echo Time: 0-200ms, Fdbk	Delay Time (1/4 Note) Delay Time (1/4 Note) — —	
Deep Flange/Mono Delay Deep Flange/Mono Delay	Delay/Echo Fdbk Delay/Echo Fdbk	Delay Time (1/4 Note) Delay Time (Dotted 1/4 Note)	

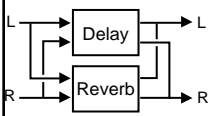
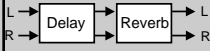
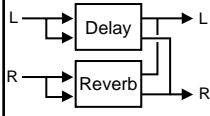
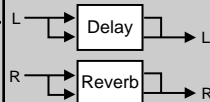
Bank: Pitch – Delay

Pitch-Delay Programs	Effect Parameter	Tap	Routing
5th Up/Down - Stereo Quarter-Note Octave Up/Down - Triplet Shuffle Octave Up/Down - Eighth and Triplet 3rd Up/4th Up - Ping Pong Quarter-Note 4th Up/5th Up - Triplet Rhythm 1 5th Up/6th Up - Triplet Rhythm 2	± 5 th ± 1 octave ± 1 octave Minor 3rd to 4th Up 4th to 5th Up 5th to 6th Up	Delay Time Delay Time Delay Time Delay Time Delay Time Delay Time	
Octave Up/Down > Triplet Rhythm 1 5th Up/Down > Triplet Rhythm 2 Major/Minor Intervals Up	± 1 octave ± 5 th Minor/Major 3rd w/Fdbk Ascending Intervals w/Fdbk	Delay Time Delay Time Delay Time Delay Time	
5th Up/Down + Stereo Quarter-Note Octave Up/Down + Triplet Shuffle 4th Up/5th Up + Triplet Rhythm 1 5th Up/6th Up + Triplet Rhythm 2	± 5 th ± 1 octave 4th to 5th Up 5th to 6th Up	Delay Time Delay Time Delay Time Delay Time	
Octave Up/Down / Mono Quarter-Note Octave Up/Down / Triplet Shuffle	± 1 octave ± 1 octave	Delay Time Delay Time	

Bank: Chorus– Delay

Chorus-Delay Programs	Effect Parameter	Tap	Routing
Rich Chorus 1 - Stereo 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 1 - Dotted 1/8 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 1 - 1/8 Note and Triplet	Delay/Echo Feedback	Delay Time	
Rich Chorus 1 - Ping Pong 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 1 - Multi Repeat	Delay/Echo Time: 0-150ms, Fdbk	—	
Rich Chorus 1 - Multi Pong	Delay/Echo Time: 0-200ms, Fdbk	—	
Rich Chorus 1 - Stereo 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 2 - Multi Repeat	Delay/Echo Time: 0-150ms, Fdbk	—	
Rich Chorus 2 - Ping Pong 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 3 - Multi Pong	Delay/Echo Time: 0-200ms, Fdbk	—	
Rich Chorus 1 - Stereo 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 1 - Ping Pong 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 1 - Crossfeed	Delay/Echo Time: 0-150ms, Fdbk	—	
Rich Chorus 1 - Multi Pong	Delay/Echo Time: 0-200ms, Fdbk	—	
Rich Chorus 4 - Mono 1/4 Note	Delay/Echo Feedback	Delay Time	
Rich Chorus 4 - Dotted 1/8 Note	Delay/Echo Feedback	Delay Time	

Bank: Delay-Reverb

Delay-Reverb Programs	Effect Parameter	Tap	Routing
Stereo 1/4 Note - Small Space Triplet Shuffle - Medium Space 1/8 Note and Triplet - Large Space Ping Pong 1/4 Note - Small Space Triplet Rhythm 1 - Medium Space Triplet Rhythm 2 - Large Space	Decay Time Decay Time Decay Time Decay Time Decay Time Decay Time	Delay Time Delay Time Delay Time Delay Time Delay Time Delay Time	
Stereo 1/4 Note > Room 1/8 Note and Triplet > Large Space Triplet Rhythm 1 > Room Triplet Rhythm 2 > Large Space	Decay Time Decay Time Decay Time Decay Time	Delay Time Delay Time Delay Time Delay Time	
Stereo 1/4 Note + Medium Space Ping Pong 1/4 Note + Large Space Triplet Rhythm 1 + Medium Space Triplet Rhythm 2 + Small Space	Decay Time Decay Time Decay Time Decay Time	Delay Time Delay Time Delay Time Delay Time	
Mono 1/4 Note / Room Triplet Rhythm 2 / Large Space	Decay Time Decay Time	Delay Time Delay Time	

Bank: Flange – Reverb

Flange-Reverb Programs	Effect Parameter	Tap	Routing
Light Flange - Small Space	Decay	Flange Rate (Whole Note)	
Light Flange - Medium Space	Decay	Flange Rate (Whole Note)	
Light Flange - Large Space	Decay	Flange Rate (Whole Note)	
Deep Flange - Small Space	Decay	—	
Deep Flange - Medium Space	Decay	—	
Deep Flange - Large Space	Decay	—	
Light Flange > Large Space	Decay	Flange Rate (Whole Note)	
Deep Flange > Large Space	Decay	—	
Light Flange > Room	Liveness	Flange Rate (Whole Note)	
Deep Flange > Room	Liveness	—	
Light Flange + Medium Space	Decay	Flange Rate (Whole Note)	
Light Flange + Room	Liveness	Flange Rate (Whole Note)	
Deep Flange + Medium Space	Decay	—	
Deep Flange + Room	Liveness	—	
Light Flange / Large Space	Decay	Flange Rate (Whole Note)	
Light Flange / Large Space	Decay	Flange Rate (Whole Note)	

Bank: Pitch– Reverb

Pitch-Reverb Programs	Effect Parameter	Tap	Routing
Minor 3rd to 4th - Room 4th to 5th - Room 5th to 6th - Room ±1 Octave - Medium Space Power Chords - Medium Space Manual Detune - Room	3rd to 4th Up 4th to 5th Up 5th to 6th Up ± 1 octave Decay Time Detuning	PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note)	
±100 > Small Space Power Chords - Large Space 4ths > Medium Space Octaves > Medium Space	± 100 cents Decay Time Decay Time Decay Time	PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note)	
4th to 5th + Room 5th to 6th + Room 4ths + Large Space Octaves + Medium Space	4th to 5th Up 5th to 6th Up Decay Time Decay Time	PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note) PreDelay (1/32 Note)	
Octaves / Medium Space 4ths / Large Space	Decay Time Decay Time	PreDelay (1/32 Note) PreDelay (1/32 Note)	

Bank: Chorus– Reverb

Chorus-Reverb Programs	Effect Parameter	Tap	Routing
Rich Chorus 1 - Small Space	Decay Time	—	
Rich Chorus 1 - Medium Space	Decay Time	—	
Rich Chorus 1 - Large Space	Decay Time	—	
Rich Chorus 2 - Small Space	Decay Time	—	
Rich Chorus 2 - Medium Space	Decay Time	—	
Rich Chorus 2 - Large Space	Decay Time	—	
Rich Chorus 1 > Room	Liveness	—	
Rich Chorus 2 > Room	Liveness	—	
Rich Chorus 3 > Room	Liveness	—	
Rich Chorus 1 > Small Space	Decay Time	—	
Rich Chorus 1 + Small Space	Decay Time	—	
Rich Chorus 2 + Medium Space	Decay Time	—	
Rich Chorus 2 + Large Space	Decay Time	—	
Rich Chorus 1 + Large Space	Decay Time	—	
Rich Chorus 1 / Room	Liveness	—	
Rich Chorus 4 / Room	Liveness	—	

Bank: Special FX

The Special FX programs showcase the flexibility and creative possibilities of the MP-100. **Adjust** is completely different in each of the Variations, so be sure to experiment with all of them.

Special FX Programs	Effect Parameter	Tap
Infinite Reverb	High Cut	Echo
The Abyss	± Pitch Bend	–
Jet Flange	Tone	Rate (Whole Note)
Chorus Verb	High Cut	–
Rotary Delay	Dly/Echo Time: 0-150ms+Fbk	Rate (1/4 Note)
Fader Verb	Input Volume	Echo
PCM 60 - LgSize	Decay Time	–
LowRumble	Decay Time	–
Ducking Reverb	Decay Time	–
Ducking Chorus>Delay	± Resonance	–
Ducking Triplets	Delay/Echo Feedback	–
Subdividing Delay	Beat Value: 1/32-Whole Note	Delay Time
Panning Delays	Delay/Echo Feedback	Dly Time, Pan Rate
Dream Sequence	± Shift Amount	–
Infinite Repeat	Feedback: 0-Infinite	Dly Time (Whole Note)
Diffusor	Diffusion	–