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Bricasti Design M7 Stereo Reverb Processor User Manual

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M7 Stereo Reverb Processor

M7 V2 User Manual Addendum and Upgrade Instructions
The V2 release brings new functionality to your M7 reverb processor while maintaining the simplicity of control and use of the V1 operations. Your new M7 has these new features installed and ready to use. Here is an overview of the new V2 package:

- A new "larger than life" V2 reverb algorithm with associated new presets.
- New delay and delay modulation parameters that are available in both the original V1 algorithm and presets and the new V2 based algorithm and presets.
- Expanded selection of Early Reverbs, available on both V1 and V2 algorithms.
- New presets for both V1 and V2 algorithms, plus Non Linear presets
- Enhanced Midi functionality with selective system exclusive dumps.
- Mute and Bypass functions

The New Presets and Programs Banks

All of the original V1 presets remain unchanged from the original release. We have added some new presets to these banks that use the original algorithm and some in addition use the new delay parameters that are available on both V1 and V2 based presets.

For the V2 based presets, we added a second tier of banks. They are labeled Halls 2, Rooms 2, Plates 2, and Spaces 2. All these presets use the new V2 algorithm, which have all the same types of parameters as in V1, including the delay. If you want to start with the new stuff, start here by loading a preset from one of these banks.

There is a third algorithm called Non Linear, based on the classic AMS RMX 16. This is a very simple algorithm and only the Rolloff, Size, Early Select, Early Balance and Early Rolloff parameters are used. Increasing the size will spread the taps out, making it longer or shorter. You can roll off the high end with the low pass Rolloff parameters, for a darker or brighter sound.

The smaller size settings, like preset 1 and 2, are great for gated drum sounds. Larger settings, like the #4 preset, create a nice large ambient space for acoustic instruments.

Saving Presets

When saving presets to User Registers or Favorites, V2 has added a new label in the lower section of the display to indicate which preset bank the original sound came from. For example if you started with a preset from the Plates 2 bank, and saved that to a user register, there will be a P2 now in the lower section of the display indicating the program started as a Plates 2 preset, an H1 would indicate a V1 Halls preset, R1 is V1 Rooms, and so on.

The New V2 Algorithm

The new V2 algorithm is based on some of the same building blocks of the original V1, so it maintains the same clarity and sense of space, and natural density, and overall operation. The Early Reverb, with its new selections, and the VLF or very low frequency reverb, are the same as in the V1. What has changed is the late reverb. It is a very different kind of sound, with more coloration, being more effect like than natural sounding, but keeping the kind of clear density found in the original

V1 sounds.

The edit parameters and overall operation are the same for the new V2, so there is no need to learn new user paradigms. In some cases, since the underlying algorithm is different, parameters will have a different affect on the sound than before. Here are the key parameters that have changed in character.

Modulation

Besides being a different algorithm than the V1 based modulation, it is higher in level and more profound than in V1. The V2 modulation is designed to be noticed.

At low settings, from Low to 3, it is a more of a sine wave like effect, with smooth left to right movement, deep and consistent and not randomized.

When the modulation parameter is set to higher settings, say 6 to High, it uses a randomized pattern, with the delay taps moving randomly.

Settings in the mid, (4 or 5), region will blend between the types.

There are many presets made with different settings. Try one of the large spaces from the V2 bank, like the churches that have a long RT and experiment to hear the affect.

Reverb Rolloff Filter

This filter is gentler than the V1 and allows a different balance of high frequency content to pass. This is one factor that gives the V2 presets a brighter sound.

Diffusion

High diffusion settings will yield a very colored high frequency characteristic, with a bright sizzle to the highs. For example, a preset like the Rich Plate in the Plates 2 bank is made to have a bit of exaggerated sizzle. Use a lower setting of diffusion to get a more clear and open sound.

Density

The V2 late reverb algorithm is of a different construction. It is designed for more flexibility in creating a wide range of reverb tails. From very fast tails that "pop", to late blooming tails that build more slowly.

The affect of the Density parameter has changed. In addition to increasing/decreasing echo density, it also changes the rate of reverb build up over the entire length of the reverb tail.

Higher Density settings will have high values of echo density and very fast build up of the reverb. Low settings will have lower echo density and slower reverb build up for a late bloom. This is another factor that gives the V2 presets a different character than the V1.

New settings for both V1 and V2 presets

Early Reverb selections

The V2 uses the same early reverb as the V1, but we have added some larger sized ones to the original 20. The new ones (20-31) are spread out more, and can be used to achieve a slower early reverb build up. You will find some of the Halls and Spaces using larger settings for a softer wider and less dense early sound. These are available on all presets, V1 or V2 based and some new V1 based presets use these larger settings as well.

The New Delay Parameters

There are 3 new parameters added to all presets, Delay Time, Delay Level and Delay Modulation.

The delay sound being controlled is the original input signal, delayed, diffused and band limited by the Rolloff setting. This is injected into the start of the late reverb, (but not the early reverb.) You can control the level, from -20db to -6db and adjust the delay time, from 100ms to 1sec.

Even though it is controlled as a single delay, it is actually a diffused set of 8 voices spread in time. It will add coloration and a late swell to the late reverb.

The modulation parameter functions in a similar way as the reverb modulation parameters. Low settings are slower and more shallow, and the higher settings are more random and deeper. However in this case only the delay is modulated, not there reverb. There are new presets that have these parameters turned on and since it is available on all presets you can add it to any one of your favorites.

At first it might seem that this is only useful for big sounds, but try the Marble Room preset in the Rooms 2 bank. This is a smaller sound with this delay added. Vocal Plate 2 in the V1 plates bank is a new preset that has this delay added at a higher level to add a bright diffused swell to the later reverb, creating a shimmering effect that is very different than typical reverb modulation.

MIDI Enhancements

This release brings many new Midi features, including program changes and selective system exclusive data dumps.

System Menu MIDI Settings

You will find there are 2 new midi related pages in the system menu. These need to be set correctly for the M7 communicate with another midi device:

Midi Channel: This selects the midi channel the M7 will communicate on, 1-15 or Omni. This is only needed for Program Change Messages. Sysex messages do not use MIDI channel information.

Midi Bank: This selects the default bank that MIDI Program Changes will be mapped to. At the factory this is set to Registers.

This is the default bank used every time the M7 is powered up. The M7 does respond to MIDI Bank change messages (see below). When a MIDI Bank Change message is received it will change the current Bank, (but not the default bank specified in the System Page.)

Midi Program Changes

Midi Program Changes can be mapped to the Preset Programs by bank, User Registers, and Favorites. On the Midi Bank page, select between Preset Banks, User Registers or Favorites.

Mapping to the User Registers

1. In the system page Midi Bank select, set the M7 to Regs. This will map the program change to the user registers.

2. The program changes are mapped one to one with the user registers, so you will need to store the presets you want to use in the correct corresponding user registers. For example Midi program change 0 = M7 Register Bank 0

   program 0 in the M7 and so on.

3. Start the sequencer or application that generates the changes and the M7 will follow and load the programs from the

   user registers.

Mapping to the Preset Programs and Banks

1. In the system page Midi Bank select, set the M7 to one of the listed preset banks, for example Halls 1. This will map the bank and following program change to the selected M7 Bank, in this case Halls 1. These program changes are mapped one to one with the programs in the selected M7 bank.

   Mapping to the Four Favorites

   1. In the system page Midi Bank select, set the M7 to Favs. This will map the bank and following program

changes to the 4 front panel favorites.

Midi Bank and Program Changes

Press and hold momentarily ENTER and the current Bank and Program will be sent to your receiving device.

When this is sent back to the M7, the saved Bank and Program will be selected. If an attempt is made to select an unused Register or Favorite, the Bank and Program Change is ignored.

The M7 uses the following values for bank selects:

0 Halls	8 Rooms 2
1 Plates	7 Plates 2
2 Rooms	9 Spaces 2
3 Chambers	10 NonLin
4 Ambience	118 Edit
5 Spaces	119 Favorites
6 Halls 2	120 Registers

Sending Midi Sysex data from the M7 to another device.
You can select and send out different aspects of the M7 to be saved with your session for later recall, here is how to do it.
Sysex dumps from the M7 do not include MIDI channel information. If more than one M7 is in use, a MIDI patch bay is recommended.
Program Dump: This will send out the current running program, any edited parameters and the state of the user interface. The running program can be a loaded preset, register or favorite, along with any edits. If a register or favorite is the basis of the running program, an unedited version of it will be saved as well.
This can be used as a comprehensive session recall when all aspects of the M7 program must be saved. More generally, this can be used to save User Registers and Favorites.
Press and hold momentarily PROG and the current running program will be sent to your receiving device. The TAP light LED will flash when the data is transmitted.
System Parameters Dump: This will send out the complete system set up of the M7, and is useful for resetting the M7 to a desired I/O configuration for your session.
Press and momentarily hold SYSTEM and the system data will be sent to your receiving device. The TAP light LED will flash when the data is transmitted.
Edit Buffer Dump: This will send out the current state of all the edit parameters of the M7, and will allow for snapshot automation of any parameter changes in the M7.
Press and momentarily hold EDIT and the system data will be sent to your receiving device. The TAP light LED will flash when the data is transmitted.
Receiving Midi Data from an external device
When the M7 receives the specific data packet, regardless of the state the M7 is in, it will set itself to that saved state. This will allow you to recall session data or automate the M7 using stored Program or Edit Data files from your midi sequencing device.
Receiving Program Data: When the Program Data file is sent back to the M7, it will load the program, edited parameters and the state of the user interface.
If a User Register or Favorite was the basis of the stored program, the User Register or Favorite will be restored as well. If an attempt is made to restore a User Register that is in a write protected User Register Bank, the entire Program Data file is ignored.
The Tap LED will flash when a valid data pack is received. When the Tap LED lights, you can be assured that the data has been restored as requested.
Receiving System Data:
When the System Data file is sent back to the M7, it will set the system parameter settings in the M7 to the saved data. The MIDI address is not overwritten.
The Tap LED will flash when a valid data pack is received. When the Tap LED lights, you can be assured that the

data has been restored as requested.

Receiving Edit Buffer Data:

When the Edit Data file is sent back to the M7, it will create a new preset bank called Edit. This bank consists of a single preset that contains all the saved parameter settings.

This preset bank can be used just like any factory preset bank. It can be overwritten by a subsequent Edit Data file, and it is erased when the M7 is powered off.

The Tap LED will flash when a valid data pack is received. When the Tap LED lights, you can be assured that the data has been restored as requested.

Copying and Transferring Settings and User Registers from one M7 to Another:

With two M7s connected with Midi send and receive cables, you can transfer System settings, User Registers, Favorites, and Edit buffer data from one M7 to another. This works just like the above examples only now the receiving M7 will immediately get the new settings and set itself accordingly.

This can be used to quickly copy User Registers between two M7s. Use Program Data to move User Registers to the same location in the second M7. Use Edit Data to first move a User Register into the Edit preset of the second M7, then store the Edit preset to any location in the second M7 if registers are to be moved to different locations.

Mute and Bypass Functions

The tap key will now function as a mute or bypass. Pressing the tap key quickly will set the M7 to mute and mute all outputs. This kills both the dry and wet signal paths. A long press on the tap key will set the M7 to bypass on all outputs. This mutes the reverberant or processed signal and passes through the dry unprocessed signal. The Tap LED will illuminate when the M7 is in mute or bypass mode.

The Presets

The revised V1 reverb algorithm preset list with all the original V1 release presets and including the new additions for this release:

Bank	Programs				
Halls	Large Hall Small & Near Gold Hall Boston Hall A The Arch Duke Saint Gerold Piano Hall	Medium Hall Large & Dark Clear Hall Boston Hall B Sandors Hall Pepes Hall A	Small Hall Large & Deep Brass Hall Chicago Hall Troy Hall Pepes Hall B	Large & Near Medium & Deep Amsterdam Hall Vienna Hall Saint Sylvan Refect Hall A	Medium & Near Concert Hall Berliner Hall Worcester Hall Mechanics Hall Reflect Hall B
Plates	Bright Plate Vocal Plate Silver Plate Large Plate Sun Plate B	Dark Plate Old Plate Percussion Plate Small Plate Sun Plate C	London Plate Rich Plate Echo Plate Fat Plate Vocal Plate B	Snare Plate A Gold Plate CD Plate A Crystal Plate Repro Plate	Snare Plate B Dense Plate CD Plate B Sun Plate A

Rooms	Studio A Studio E Small Wooden Diagnose Room Large Q Room Large Room Studio K Long Wood Room	Studio B Close Deep Stone Large Tiled Small Vox Small Q Room Small Room Waits Room	Studio B far Music Room Medium Tiled Glass Room Large Red Room Front Room Corn Room	Studio C Heavy Room Small Tiled Percussion Rm Red Room Center Room Oakland Room	Studio D Large Wooden Drum & Chamber Marble Foyer Blue Room Back Room SF Perf Room
Chambers	Large Chamber Large & Bright A&M Chamber Old Chamber Fat Chamber	Med Chamber Small & Bright CD Chamber Sunset Chamber Echo Chamber	Small Chamber Kick Chamber Deep Chamber A&M Chamber B	Large & Dark Smare Chamber Amb Chamber A Stone Chamber	Small & Dark Vocal Chamber Amb Chamber B Tiled Chamber
Ambience	Large Ambience Small & Dark Long Ambience	Med Ambience Large & Bright Clear Ambience	Small Ambience Med & Bright Heavy Ambience	Large & Dark Small & Bright Bass XXL	Medium & Dark Deep Ambience Percussion Air
Spaces	North Church Scoring Stage Tanglewood Europa	East Church Bath House Academy Yard Gated Space	South Church Car Park Hillside Reflect Chapel	West Church Arena Cavern Reflect Church	Cinema Room Redwood Forest Stone Quarry
Halls 2	Large Hall Small & Stage Concert A	Large & Stage Large Church Concert B	Medium Hall Small Church Live Hall	Medium & Stage Jazz Hall Koncert Piano	Small Hall West Hall Berliner Hall
Plates 2	Plate A Rich Plate B Large Plate	Small Plate Thin Plate Fat Plate	Snare Plate Vocal Plate A Alpha Plate	Dark Plate Vocal Plate B Vocal Shimmer	Rich Plate A Drum Plate

Rooms 2	Music Club Sm Wood Room Fat Chamber Guitar Room Wide Room	Large Room Large Chamber Studio 1 Marble Room Lush Room	Med Room Small Chamber Studio 2 Deep Chamber	Small Room Bright Chamber Studio 3 Dark Chamber	Lg Wood Room Tiled Room Studio 4 Vocal Chamber
Spaces 2	Open Space Cathedral Long Vox Space Ice House	Med Space Grand Stage Dark Warm Room Ice Beads	Small Space Lush Church Live Room Music Forest	VOX Ambience Grand Church Shimmering Sky Waving Bloom	Big Bottom Concert Wave Oak Ballroom
Non Linear	Nonlin A	Nonlin B	Nonlin C	Nonlin D	

Documents / Resources

Bricasti Design M7 Stereo Reverb Processor [pdf] User Manual
M7 Stereo Reverb Processor, M7, Stereo Reverb Processor, Reverb Processor, Processor