Sound Galaxy 2.0 Software Tools Suite User Guide

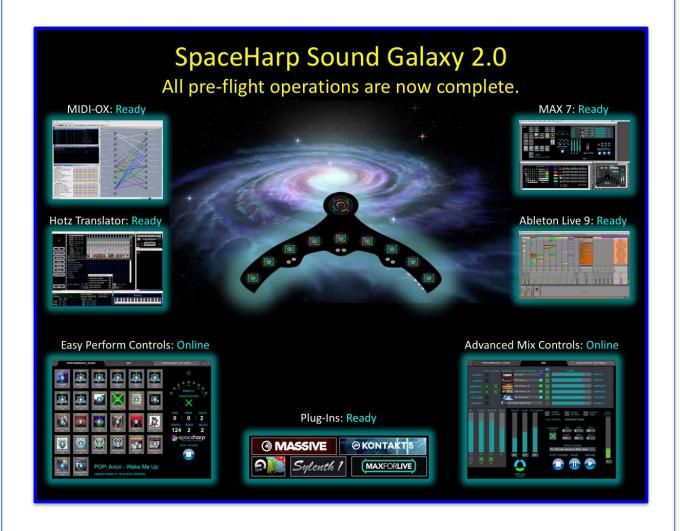




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NAVIGATING THIS GUIDE

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SOUND GALAXY 2.0 USER GUIDE

1.1 OVERVIEW

With Sound Galaxy, SpaceHarp Controllers plug in to a powerful Music Performance System, one that adds an easy user interface on to a complex and professional DAW environment. Sound Galaxy commands Ableton Live, popular instruments including Massive, Sylenth and Kontakt, song templates and enhanced effects racks. All of these are pre-wired the day you first boot up. The control interface has both novice and advanced screens, and supports wireless remote tablets.

Even if you have little or no prior background with Digital Audio Workstation (DAW) environments, you can play the SpaceHarp controller and use the Sound Galaxy 2.0 DAW Tools Suite without mystery and free from frustration, with the help of this Guide. For experienced DAW users, the system is also expandable and re-configurable, and LBE systems and installations may be customized.

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SUMMARY OF SECTIONS

- **Section 1** Overview (This page.)
- Section 2 QuickStart is a handy step-by-step checklist to get you up and playing quickly.
- **Section 3** Use Sound Galaxy illustrates how to use the simple Performance Tab controls, the advanced Mix Tab controls, remote control tablets, pedal board and accessories.
- **Section 4** Applications summarizes the kinds of players and venues that benefit from SpaceHarp and Sound Galaxy running on SpaceHarp Music Performance Systems hardware setups.
- **Section 5** Software and MIDI System Setups illustrates the overall software architecture and MIDI data flow between DAW modules, SpaceHarps and Sound Galaxy tools.
- **Section 6** Instruments and Effects details the provided library of Instrument Presets and Effects, including how those particularly exploit the SpaceHarp controller's sonar height sensors.
- Section 7 Song Library lists the demo Song Bank Library 01: the artist and title, duration, and exactly which Sound Galaxy Instruments are used in the Preset Automation tracks for that song.
- **Section 8** Benefits talks about the reasons for using Sound Galaxy, and for deploying a System.
- Section 9 Launch Sound Galaxy shows how to use the Auto-Launchers and boot up.
- Section 10 Troubleshoot gives you precise and guick step-by-step help for getting out of trouble.
- Section 11 System MIDI Specification covers how Sound Galaxy uses MIDI internally for interapplication communications, and provides a useful set of MIDI API's using Public MIDI buses for connecting systems including for lighting, visualizers, lasers, domes & VR/AR.
- Section 12 Reference covers cautions, notices, system requirements and installation.

1.2 QUICKSTART



1.2.1 Quick Launch Checklist for Sound Galaxy DAW Suite

First, we list in summary the steps to launch SpaceHarp Sound Galaxy host system from a reboot (or login) of the host computer, through to playing SpaceHarp. We have omitted on this page the reference screenshots, as well as various cautions and warnings found in Software Reference.

- **STEP (1)** Turn on or restart, the host computer (MacBook Pro). (Or, quit all open applications from their main menus, without saving, and completely log off the active user).
- **STEP (2)** Login to the user SpaceHarp_Control by entering the user password and hitting "ENTER".
- STEP (3) Click the "RUN" (play arrow) icon (upper right) in the "SPACEHARP AUTO ONE.workflow" window that appears.
- STEP (4) After about 30 seconds, when the Hotz Translator III application appears, single-click your mouse anywhere on the "Hotz Translator III" splash screen to close that window.
- **STEP (5)** Wait until you see the SPACEHARP AUTO ONE sequence has completed.
- STEP (6) In the Hotz Translator III main window, click "OPTIONS" then choose "Output Hotz Code" from the pull-down menu.
- STEP (7) Left-click and drag the top of the "CONDUCTOR MASTER" window down enough to see the window hidden behind it called "ADDITIONAL OPTIONS." (Or, you can drag the ADDITIONAL OPTIONS window up, to make it visible.)
- STEP (8) Left-click the green "YES" button at right of "Output HotzCode" to change it to a red colored "NO."
- **STEP (9)** If it's not already visible, bring the "SPACEHARP AUTO TWO.workflow" window to the front, and left-click the "RUN" button at the upper right corner (the play arrow).
- STEP (10) Wait until after Max 7 windows fully load and until after the Ableton Live Set fully loads. This will take about 2 minutes total. Notice that the SPACEHARP AUTO TWO.workflow window shows "Workflow Completed" at bottom of that window, when the sequence is done.

1.2.2 Quick Launch Checklist for Remote Controls

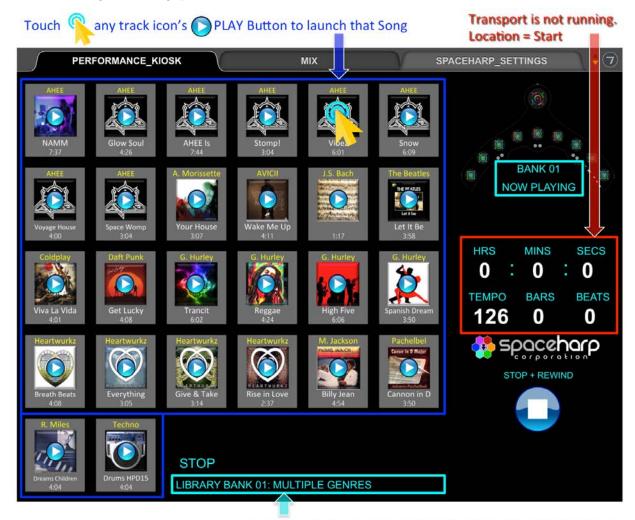
- **STEP (1)** Turn on the tablet, if not already on.
- **STEP (2)** Swipe right on the "slide to unlock" message, to open up the "Enter Passcode" Screen.
- **STEP (3)** Enter the correct passcode for that device to unlock the home screen of the device.
- **STEP (4)** Tap the Settings Icon at the bottom of the screen, to open iOS Settings.
- **STEP (5)** Make sure SH_Express_2 network is selected and active.
- **STEP (6)** Push the (hardware) home button on front of the device to return to home screen
- **STEP (7)** Tap the **MIRA** icon at the bottom of the screen, to launch the **MIRA** app.
- **STEP (8)** Under "Max Servers" at upper right, tap the lower "CONNECT" button.
- **STEP (9)** On the **PERFORMANCE_KIOSK Tab**, touch any song icon to perform that track.
- **STEP (10)** Tap the **STOP + REWIND** button TWICE to stop playing.
- Repeat STEP (9) and STEP (10) for any of the displayed song icons you'd like to perform.

LAUNCH

1.3 USE SOUND GALAXY

1.3.1 Performance Tab (Easy Controls)

When no song is running, you'll see a screen like this.



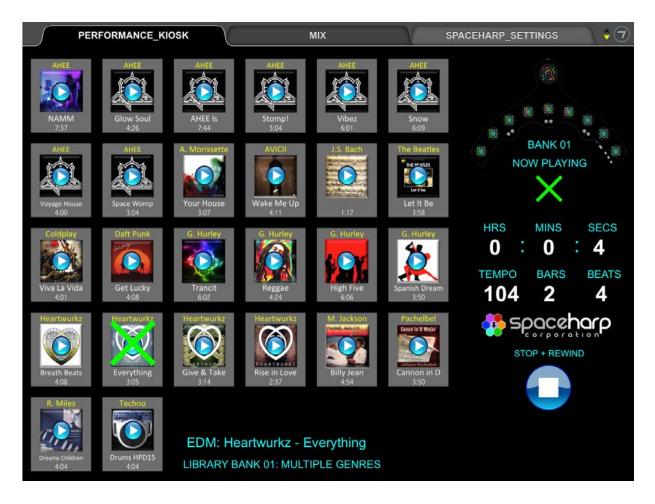
Currently Loaded Content Library Bank Number & Bank Name

1.3.1.1 Start an Interactive Song

STEP (1) Tap on the center of any song's icon (on its "Play" arrow) to START the song.



While the song runs, you'll notice a large green "X" on the song. You'll see the Genre: Artist – Title display at bottom. You'll hear the backing track begin (if any).



You'll see the Hours, Minutes, and Seconds and also the Bars and Beats start incrementing. Song Tempo is also displayed, and you'll also see the Genre: Artist – Song Title.

HRS 0	:	MINS 0	:	SECS 4
10 ⁴		BARS 2		BEATS 4

When the song begins, Sound Galaxy automatically pre-loads the SpaceHarp system with whichever installed software sound modules are best for that song. As the song rolls, it then switches to instrument presets that make sense for that particular song. Instrument changes are aligned with the conventional 'intro,' 'bridge,' 'verse,' 'chorus' and 'outro' song sections, where applicable. Advanced users can edit automation, see Editing Preset Automation Tracks.

For example, one song might load the **Kontakt** software sampler module. Then provide **jazz guitar** for the introduction, **electric piano** for the verses, and a **brass section** for the chorus. When the instruments change, the color of the "ring" LEDs on the SpaceHarp controller will change with them.

1.3.1.2 Play the SpaceHarp

STEP (2) Move your body (hands, arms, head and/or torso) over the SpaceHarp controller to play:



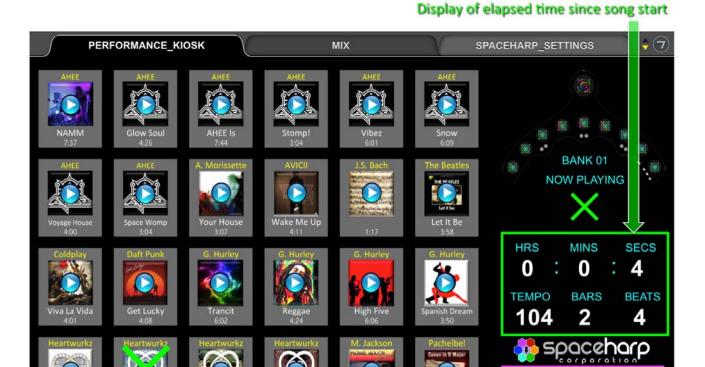
Try moving at different heights over the controller to experiment and hear the effects of height on the sound timbre and effects. Try using fingers, palms, and arms in various ways.

1.3.1.3 Stop the Song

STEP (3) Tap on the STOP + REWIND button two times to stop the current song and to rewind to the beginning.

Pause slightly (about ½ to 1 second) between the two clicks.





Shows What Is Playing Now:
GENRE: Artist – Song Title

Touch the Master STOP & REWIND Button twice to Stop and Rewind to beginning, for next chosen song.

STOP + REWIND

1.3.1.4 Perform More Songs

STEP (4) Repeat the above steps, to enjoy any songs you would like for your SpaceHarp session.

K 01: MULTIPLE GENRES

EDM: Heartwurkz - Everything

LIBRARY BA



Congratulations!

You may now resume normal Sound Galaxy Operations.



IMPORTANT NOTE: On the PERFORMANCE_KIOSK tab, the "easy controls" screen, you can only start a song, and stop a song. On the MIX Tab, the "advanced controls" screen, you can also PAUSE and RESUME play. The MIX Tab also lets you change the Mix, disable instrument automation and choose your own instruments, and more.

BENEFITS

1.3.2 Mix Tab (Advanced Controls)

Here's how the MIX tab looks when no song is playing (the transport is **Stopped**:)



When Sound Galaxy opens using the SPACEHARP AUTO ONE and TWO auto-loaders, the load sequence runs in such a way that all MAX controls, and corresponding Ableton Live controls, are initialized to reasonable values and together remain in 2-way control sync.

Instrument channel volumes are initialized at about 80%, Player and Backing Sub-Mix Volumes load at about 75%, and Mains Volume opens at an ambitious 60%.

Control initial states are saved with the Live Set file. With care (since ALL controls are saved), you can optionally re-save the same Live set file with your own desired starting controls state (setup either from using the MIX tab and/or from within Live itself). Your Sound Galaxy system and remote controls will auto-load with same defaults thereafter. For example, for safety, you may want MAINS and MIC volumes to always default to 0%.



IMPORTANT NOTE: If you save over the auto-loaded Ableton Live Set file, we recommend you first make a safety backup copy with a different name such as "Default-Sound-Galaxy-Lib-01-Set-Backup.als"

Here's how the MIX Tab looks when a Song is Playing (Transport is **Active.**)

(In this example, it's the Michael Jackson¹ song, "Billy Jean")

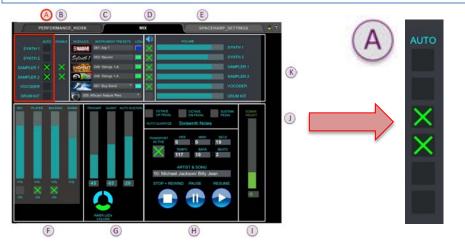


Below we illustrate the form and functions for each of the Control Groups in the MIX Tab.

If you're reading an electronic form of this User Guide, you can click on any of the 'callout' letters (A) through (K) above to jump to that Section below.

¹IMPORTANT NOTE: For some Sound Galaxy Library 01 included tracks, including those with original audio tracks used for backing live player content, for commercial non-demo uses and public performances, BMI and ASCAP royalties will apply. For interactive and live LBE applications, these royalties are nominal. Otherwise these Library Songs are restricted to "private demo use only." Section 3: Use Sound Galaxy

1.3.2.1 DAW Plug-In Automation Enable Control Group



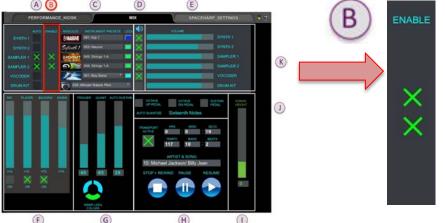
SAMPLER 1 and SAMPLER 2 Preset Automation Tracks (AUTO) are turned ON in this example

These controls display, and allow changing which DAW instrument preset automation tracks ("AUTO") are enabled when songs are running. All DAW Modules' automation are initially disabled when the Transport is **stopped**, then enabled variously per each Library song.

When Library Songs launch, they automatically enable the Preset Automation tracks for whichever DAW modules are enabled for that song. All songs in the Library 01 set include preset automation tracks for the enabled modules per each song.

Preset Automation Tracks may be disabled/enabled by the advanced user anytime the Transport is **running**. Simply click the "X" toggle to selectively disable automation tracks, to either keep the current instrument playing or to optionally change instruments manually using the DAW Plug-In Instrument Presets Controls.

1.3.2.2 DAW Plug-In Enable Modules Control Group



SAMPLER 1 and SAMPLER 2 DAW Modules are enabled in this example. Their Presets show as SpaceHarp LED Ring colors

When any Sound Galaxy Library Song starts, first it "loads" or "enables" pre-selected DAW Modules chosen to be a nice set of sounds for that particular song. These are not click-able controls, just indicators. If additional or different DAW Plug-ins are desired instead for a particular song, those changes can be made using the advanced DeltaMatrix Routing Controls.

1.3.2.3 DAW Plug-In Instrument Presets Control Group



The Sound Galaxy system is setup pre-wired for two types of synthesizers, plus two types of samplers, plus a custom Vocoder and drum kits, any of which may be used in any combination at the same time. The ability to "layer" DAW sound modules provides added richness, such as combining a swelling pad voice with a fast attacking voice, and so forth.

At the left of this control group you'll find graphic icons showing the currently loaded DAW Plug-In instruments "**MODULES**". These are determined by the content of the Sound Galaxy Bank 01 (... to Bank nn) Ableton Live set file when it loads. See Section 2.7.1 for full details.

In the middle of this control group you'll find the currently active "**INSTRUMENT PRESETS**" for each of the DAW modules plus the external drums patch.

At the right of this control group you'll find the SpaceHarp "ring" LED colors displayed on the SpaceHarp controller for that DAW module when it is ENABLED. See **Section 3.2.1 OUTER RING LEDs** for details of these LED functions. Up to four (4) of the five DAW modules may be simultaneously layered, plus optionally the external drum machine as well (which doesn't display LEDs).

When using Sound Galaxy, as songs change and are launched, automated instruments presets are "enabled" for the enabled modules only for that song, leaving disabled or "inactive" DAW modules previous presets still loaded and unchanged.

For example, when you notice that one and/or the other sampler's preset having the "-A" suffix in its name is active, you'll know that your instrument(s) will respond with four distinct "articulation" heights, and thus you would play accordingly (at different heights for example for legato, tremolo, pizzicato and slap for strings). In our example, two different types of Articulated Strings are enabled, giving an especially interesting and rich strings voicing.

1.3.2.3.1 Sound Galaxy 2.0 Included DAW Modules and Presets (Overview)

Below we summarize briefly what's included and pre-loaded in Library Bank 01 when Sound Galaxy 2.0 loads.

Current Sound Galaxy release 2.0 includes 135 SpaceHarp-optimized, highly customized instruments and effects setups for the loaded Bank 01 Content Library.

See the Instruments and Effects Section for complete details.

SYNTH 1: Native Instrument's "**Massive**" synthesizer.



32 'favorite' custom presets open pre-loaded, optimized for SpaceHarp play and sonar height response. Up to 96 additional co-residing user presets may be added to unassigned Program Change numbers without disturbing Sound Galaxy controls or automation tracks.

See Synth 1: Massive Instruments and Effects Pack 01 for details.

SYNTH 2: Lennar Digital's "**Sylenth 1**" synthesizer.



32 'favorite' custom presets open pre-loaded, optimized for SpaceHarp play and sonar height response. Up to 96 additional co-residing user presets may be added to unassigned Program Change numbers without disturbing Sound Galaxy controls or automation tracks.

See Synth 2: Sylenth Instruments and Effects Pack 01 for details.

SAMPLER 1: Native Instruments "Kontakt" sampler.



32 'favorite' custom presets open pre-loaded, optimized for SpaceHarp play and sonar height response. Up to 96 additional co-residing user presets may be added to unassigned Program Change numbers without disturbing Sound Galaxy controls or automation tracks.

See Sampler 1: Kontakt Instruments and Effects Pack 01 for details.

SAMPLER 2: Ableton Live 9 Suite using its sampler "Packs."



32 'favorite' custom presets open pre-loaded, optimized for SpaceHarp play and sonar height response. Up to 96 additional co-residing user presets may be added to unassigned Program Change numbers without disturbing Sound Galaxy controls or automation tracks.

See Sampler 2: Ableton Live Instruments and Effects Pack 01 for details.

VOCODER: Live's Vocoder with SpaceHarp presets & effects (also uses 2nd Sylenth)



8 'favorite' custom presets open pre-loaded, optimized for SpaceHarp play and sonar height response. Up to 120 additional co-residing user presets may be added to unassigned Program Change numbers without disturbing Sound Galaxy controls or automation tracks. Custom Sylenth1 presets, in a second Live Set instance of Sylenth1, are used for the Vocoder's "Oscillator."

See Vocoder: Vocal Effects for Sylenth Pack 01 for details.

DRUM KIT: External HPD-15 with Player-Live Kit setups.

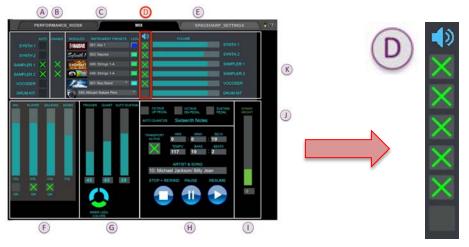


(Not for backing; SpaceHarp live player triggers only.)

24 'favorite' custom presets open pre-loaded, optimized for SpaceHarp play and sonar height response. Up to 104 additional co-residing user presets may be added, see **Section** ____. The SpaceHarp's sonar height is especially expressive for this HandSonic's excellent velocity response

See Drum Machine: HandSonic Presets Pack 01 for details.

1.3.2.4 Audio Mute/Unmute Control Group



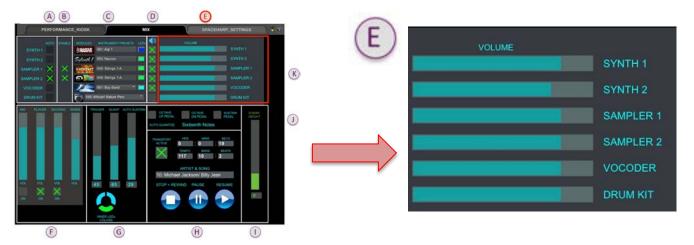
All 5 DAW Plug-ins
AUDIO are ON
(Unmuted)
and Drum Kit
AUDIO is OFF

All DAW Plug-ins default to Unmuted the initial Sound Galaxy launch, as well as the starting default for all Library Songs. Thus, unless you change them, you'll not usually see them change. You normally don't touch these controls, except when you want to MUTE one or modules that are enabled, leaving one UNMUTED only, which in effect "SOLOs" that instrument as a live performance choice.

External Drum machine defaults to OFF (Muted), but is Unmuted when a Song includes it. That's the only Mute/Unmute control that you'll see working in automated fashion.

Note that a sound module's Audio Mute/Unmute result (namely hearing sound, or not for that module) will only be apparent when that module is ENABLED and when the Transport is running.

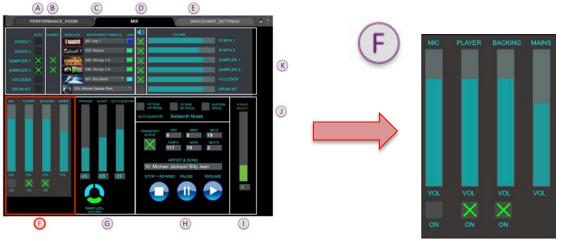
1.3.2.5 DAW Plug-In Instruments Volume Control Group



At Sound Galaxy Suite launch from the SPACEHARP_AUTO_TWO workflow, DAW module audio volumes levels default to however they were saved in the Ableton Live Sound Galaxy Set file. They default to something like 80%. These can be freely adjusted to suit the desired feel for the mix. Current beta-test release of Sound Galaxy has these as "global" or "set-and-stay" controls. Future Sound Galaxy Releases will include volume automation tracks for each song in the loaded Library. The mix of these six module volumes, together feeds into the PLAYER sub mix.

LIBRARY

1.3.2.6 Mains & Sub Mixes: Volumes & Mutes Control Group



Use the MIC for controlling microphone level. This can be used either for Host PA, or for the SpaceHarp performer when using the VOCODER instrument. See Using the Vocoder for details.

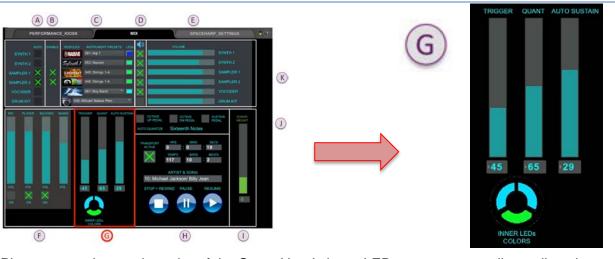
Use the Player and Backing Sub Mixes, for balancing the volume of the live player's Notes (mix of the discreet DAW instruments) vs. the volume of backing track.

MAINS control the combined stereo mix down from all Sub Mixes into the MAIN volume as sent from the audio interface's line level Left and Right hardware outputs.



WARNING: BE MINDFUL OF THE MAINS VOLUME LEVEL— it is being sent to your house audio and speakers! If you move the fader to the top of the MAINS control while at the same time your HOUSE SPEAKER AMPS are set too loud, YOU COULD DAMAGE YOUR SPEAKERS and/or DAMAGE HUMAN HEARING.

1.3.2.7 SpaceHarp Settings for Inner LEDs and Auto-Sustain



Players may change the color of the SpaceHarp's inner LEDs to taste, as well as adjust the SpaceHarp's Auto-Sustain function.

1.3.2.7.1 Inner LEDs Color Preferences

The two faders at the left of this Control Group are for SpaceHarp "inner" LED color assignments, as a purely aesthetic and "global mode" preference of the player.

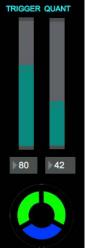
The pre-loaded default preferences are the green/cyan combination shown above.

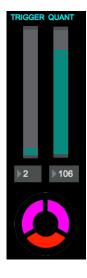
Each of the nine "Sensor-Ring-LED" modules in the SpaceHarp has two "inner" LEDs immediately surrounding the "trigger" or shadow-unshadow sensors.

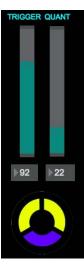
The upper inner LED represents the quantized, auto-sustained MIDI Note ON/OFF responses. The lower inner LED represents the "raw" or instantaneous trigger (shadow/unshadow) actions of the player.

See **Section 3.2.2 INNER LEDs** for a more detailed description of these LED functions.

- Here are some additional nice examples of inner LED color preference settings:
- Inner LED colors are currently a "global mode" or "set-and-stay" preference
- Future Sound Galaxy releases will include inner LED color automation.
- Re-saving your Live Set with changed LED color settings will make them your new default LED colors.







1.3.2.7.2 Notes Auto-Sustain Duration Preference

The right-hand fader in the **LEDs and AUTO-SUSTAIN Control Group** is for controlling the **AUTO-SUSTAIN** duration of the SpaceHarp player's live Note ON/Note Off MIDI messages. Notably the auto-sustain's OFF engages only after a Player has released the "shadow/unshadow" trigger, so these are variable length sustains, not fixed-duration notes.

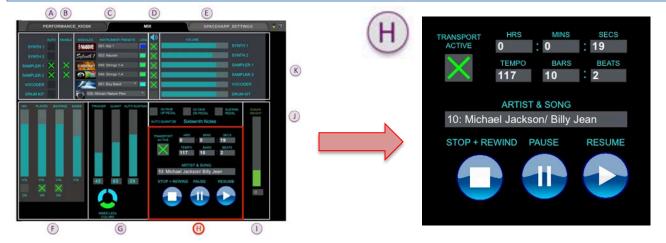


TIP: This is a "global" or "set-and-stay" manual control.

Sometimes for the ultimate realism, it's good to match a particular instrument preset with a sensible associated auto-sustain duration. For example, pairing a long duration auto-sustain setting with a legato or pad voice, vs. pairing a short auto-sustain duration with a staccato voice. The result are ultra-realistic musical notes even from casual player actions over the SpaceHarp. While default settings work fine in most all cases, changing the auto-sustain duration setting is an option for advanced users wanting to experiment. Note that auto-sustain duration can always be overtaken (in audio result, not LED responses) by use of the Sustain Pedal. See Using the Sustain Pedal.

LAUNCH

1.3.2.8 Master Transport Control Group



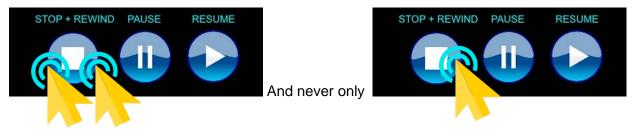
Ableton Live provides no pre-configured Pause and Resume of the Transport using simple MIDI messages from remotes or devices. (Ableton Live only provides Pause and Resume by computer keyboard command, or via MIDI Time Code, or by System Real-time Messages, or via Rewire). Fortunately, we have included a MAX-for-Live 'patcher' that provides this essential function. This is especially useful for rehearsals, demos and for Editing Instrument Preset Automation Tracks.

When any particular SONG is launched using the PERFORMANCE Tab, touch the MIX tab to bring that to the front of the tablet screen. (The MIX controls may take a second to refresh, the first time you do this.) If you're using the laptop screen instead of a tablet, use the MIX area at the right side of the top MAX window; the controls are the same.

While a Song plays you'll see the Transport Time incrementing, and the green "X" will show for the TRANSPORT ACTIVE indicator.

The STOP+REWIND button on the MIX Tab works identically to the STOP+REWIND button on the PERFORMANCE Tab. Tap it twice (with a brief pause in between) to Stop playing and also to Rewind the Transport to start time = 0:0:0.

Avoid tapping STOP only once, as if you do so, you may after that, start whatever next song in the middle or things may otherwise not go right.



While a Song is Playing and the Transport is Active, instead of using the STOP+REWIND (which is all you can do on the PERFORMANCE Tab), on the MIX Tab, you can instead use the PAUSE button to pause the song. When you do so you'll notice you won't hear anything, and the Transport times stop incrementing, and the Transport Active green "X" disappears.

While PAUSED, however you can change any other MIX Tab controls including for DAW module enable, enable preset automation, audio mute/unmute, sub mix volumes, module volumes and SpaceHarp Settings. Note that you can RESUME at any time later; since there's no "timer" on the PAUSE, in theory you could RESUME even the next day.

TROUBLESHOOT



Then anytime later

You may tap PAUSE and RESUME during a Song any number of times.

Tapping PAUSE more than once does nothing.

Tapping RESUME more than once does nothing.



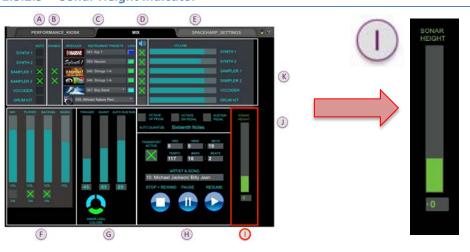
IMPORTANT NOTE: (Beta-test version only.) DO NOT tap RESUME after a STOP+REWIND, but instead only after you have most recently hit a PAUSE. Tapping RESUME after a STOP will restart the backing track audio (if unmuted) however, nothing else will work right. That'll be obvious right away since you won't hear any SpaceHarp notes generated when you move over it. To recover from such a "false start," simply Tap STOP+REWIND, then tap any Song Start Button; then either tap STOP, or tap PAUSE and when desired tap RESUME. You'll have the hang of this intuitively, after using these controls for just a minute or so.



DO NOT then Tap



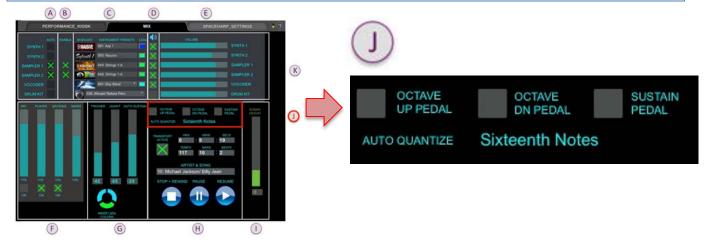
1.3.2.9 Sonar Height Indicator



This is a status readout for the current Sonar Height as detected by the SpaceHarp. Note that it is relative from off to high, and which automatically scales if the Sonar Range Knob at front of the SpaceHarp is changed (Range knob can be adjusted to anywhere between 1 foot up about 10 feet total sonar range.)

This is a more linear, clear display than the more subjective color-changing height cue that runs on the SpaceHarp's LED Stage (see SpaceHarp User Guide).

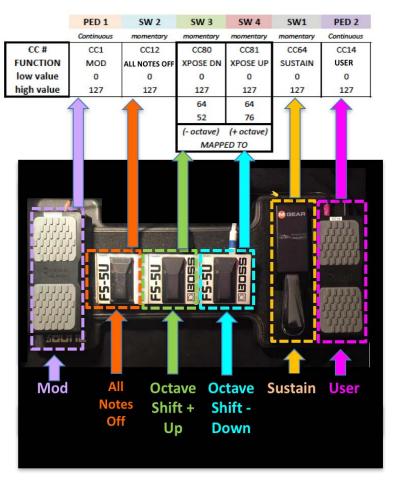
1.3.2.10 SpaceHarp Time Quantization and Foot Switches Control Group



1.3.2.10.1 Pedal (Momentary Foot Switch) Position Indicators

The upper section of this Control Group shows the current status of SpaceHarp's (optional) pedals (also known as momentary foot switches.)

They are not "toggle" switches. Their functions are engaged as "ON" (indicated by green "X's) only while the foot holds them down. The associated SpaceHarp controller's default hardware MIDI Out messages for these connections, and how they are used in Sound Galaxy features are noted here for convenience. The on-screen indicators are helpful way to quick check functionality especially on setup.



The lower section of this Control Group shows the current preference for real-time quantization of SpaceHarp Note ON and OFF MIDI messages. Sixteenth Notes are the pre-loaded default since it works in most situations.



TIP: This is a "global" or "set-and-stay" manual control.

The application of matching particular time quantization settings with particular instruments includes for example pairing a long time-quantization setting (such as quarter notes) with a legato or pad voice, vs. pairing a short time quantization (such as thirty-second notes) with a staccato voice. The result is ultra-realistic musical notes response even from casual player actions over the SpaceHarp.

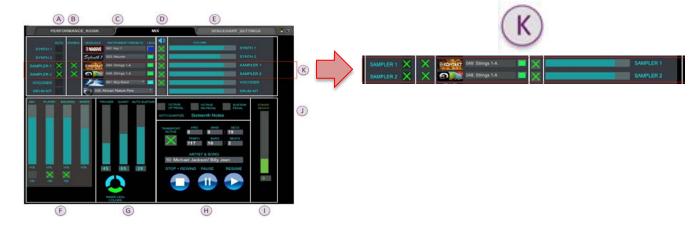
To change the time quantization setting, use the pull-down menu and make a selection. Duplets and Triplets as well as dotted values are supported. There are 22 time quantization settings available, ranging from Dotted Whole Notes at longest, up to 128th Notes at shortest.

Dotted Whole Notes Whole Notes Whole Note Triplets Dotted Half Notes Half Notes Half Note Triplets Dotted Quarter Notes Quarter Notes Quarter Note Triplets Dotted Eighth Notes Eighth Notes Eighth Note Triplets Dotted Sixteenth Notes Sixteenth Notes Sixteenth Note Triplets Dotted 32nd Notes 32nd Notes 32nd Note Triplets Dotted 64th Notes 64th Notes **Dotted 128th Notes** 128th Notes

128th Notes are so fast that in practice, they amount to running "raw triggers" with time quantization turned OFF. This is especially useful for expert drummers or for very skilled players who want ultimate control. However, realize that this setting comes with the price of virtuoso skills being needed, as well as a penalty for making continuous, sweeping motions yielding overly short Notes. Unless you're an expert SpaceHarp player, normally you'd not select quantize settings faster than 32nd Notes or 32nd Note Triplets.

OVERVIEW

1.3.2.11 Currently active DAW Instruments All Controls



All of the relevant controls for the currently active DAW instrument may be viewed as horizontal "rows" across the MIX TAB window: all controls in each "row" relate to that one DAW instrument.

1.3.3 DeltaMatrix (Expert Controls)

1.3.3.1 DeltaMatrix Routing Controls (Only on Host Computer Screen)



The main purpose of these controls, which are available in a Max window (not on remote tablets) is to support exactly how more than one SpaceHarp controller can be connected to the same Sound Galaxy DAW computer. Each of the SpaceHarps may be flexibly routed to any of the five DAW instruments: SYNTH 1, SYNTH 2, SAMPLER 1, SAMPLER 2 and/or VOCODER. The DRUM KIT is an external HandSonic HPD-15 drum unit and is always and only controlled by SpaceHarp #1. It may be used as a solo sound, or added to any combination of the DAW Plug-In instruments when thoseare also enabled for SpaceHarp #1. DAW Instrument Presets may also be manually selected here.

Only one SpaceHarp at the same time can route to any one DAW Instrument layer; however, any one SpaceHarp may be routed to up to four out of the five loaded DAW instruments.

1.3.3.2 DeltaMatrix Effects Controls (Only on Host Computer Screen)



We will provide further information on these expert controls in a future release of this User Guide.

1.3.4 Considerations for LBE Installation and Event Hosts

1.3.4.1 Screen(s) Setup

The DAW MacBook computer may be used without any external monitor. This suffices for most situations. Or, a second monitor maybe added to the computer (such as for a host station located away from the computer, with a wireless mouse), either as a 'mirrored' screen, or 'extended' screen just showing the desired set of MAX and/or other DAW application controls.

The Host can takeover (or normally use, if no remotes) full system operating control by mouse alone should iOS remote(s) fail for any reason. In this case a wireless mouse with a good Bluetooth range, or an active-extended USB cable would be needed for providing a mouse at a remote host station with an external monitor.

1.3.4.2 Remote Control Options

A typical setup has an iOS device mounted just above the SpaceHarp on its stand; this is used for self-serve players using Performance Tab and/or for displaying actions of the Host on that Tab, or for monitoring or using the Mix Tab. For walk-up public players, a tablet can be reduced to a status display for them, of the host's actions.

Most often the Host has a second iOS device for using both Performance Tab and Mix Tab. It's a matter of preference whether to use an iPad mini vs. regular sized iPad at the SpaceHarp vs. the Host station. If the Host is moving around, the iPad mini is better for them, leaving the larger sized and easier-to-read iPad display mounted for the player at the SpaceHarp.

1.3.4.3 Performance Tab

Generally, the Performance Tab is designed for walk-up, self-serve players (as well as for pro performers who want to keep things simple and "stay in the flow".) However, the Host can monitor their actions to ensure smooth operation.

1.3.4.4 Mix Tab

Walk-up, self-serve players will never use the MIX Tab for obvious reasons. The reason for this is, if they choose to make random settings, the mix could become bizarre. Thus, the Host manages Mix Tab features on behalf of walk-up players.

LIBRARY



WARNING: Making extremely rapid and random control changes on the Mix Tab can crash the system and require a re-login, or even a full computer restart. If you're a Host and using the MIX Tab, keep your cool – avoid making crazy or overly sudden moves!

For LBE Hosts the Mix Tab will be unlocked and available, and its controls are very helpful especially for these functions:

- Adjusting the Player, Backing, Mains Volumes and Mutes;
- Using the Pause and Resume buttons, for example in the case of demos, rehearsals or special circumstances.
- Noting the transport and time locations for managing the experience.
- Noting the pedal positions to ensure players are using them correctly.
- Noting the sonar height indicator to ensure players motions are sensible.
- Customizing the mix such as by changing the ratio of Player to Backing volume, adjusting DAW module volumes and mutes, disabling preset automation, changing instrument presets manually, enabling live Vocoder, enabling a player Drum Kit.

1.3.5 Using the Pedal Board

1.3.5.1 All Notes Off Foot Switch

Anytime while playing a song, especially when changing Instrument Presets in the middle of a dynamic SpaceHarp performance, occasionally stuck notes will occur. This is a result of how different DAW Plug-In instruments handle sounding notes when Preset changes happen (Program Change Messages,) and this issue plagues almost all MIDI systems in existence, to some extent. If ever a stray "stuck note" occurs, simply tap down on this foot switch, to send an all Notes Off message to all DAW instruments in the System. If the note(s) On persist even after this, you may need to Pause or Stop the Song Transport using the MIX TAB (or your custom DAW interface) to clear it.

1.3.5.2 Octave UP+ and DOWN- Foot Switches

At any time while playing a song, for added expression, you can extend the post-Hotz-Translated musical note results globally an octave up, or, globally an octave down, using these pedals. Notably this is done through MIDI; thus, you will only affect what Note triggers you invoke after these switches are held down. These switches do not affect Notes already sounding. Used with a little practice, you'll soon find that you can easily generate Notes spanning up to five or six octaves wide at a given time.

1.3.5.3 Sustain Pedal

This pedal works much like a conventional piano sustain pedal works. It works with MIDI and audio, so any Notes already sounding will sustain when this pedal is held down, even after those Notes began. Additional Notes played while it is held down, will also sustain. All Notes will sustain until the pedal is lifted up, or until they are released by the nature of the instrument preset being used. This works for all engaged DAW instrument layers at once; there is no way to combine un-sustained Notes and sustained Notes on different instruments at the same time (unless some are naturally of a short attack, decay, sustain and release, or ADSR.)

1.3.5.4 Continuous Control Pedals

The Modulation (CC#1) Pedal is routed to modulation for all currently engaged DAW instruments. In future releases, this will be configurable on the Sound Galaxy MIX TAB. The User Pedal (CC#14) is configurable, and is covered in **Application Notes**.

1.3.6 Using the Vocoder

We will provide further information on using this feature in a future release of this User Guide.

1.3.7 Using a Hot Hand USB Accelerometer Ring Accessory

We will provide further information on using this device use in a future release of this User Guide.

1.3.8 Using Apple Remote Device (iOS) Accelerometers

We will provide further information on using this device use in a future release of this User Guide.

1.3.9 Editing & Modifying Sound Galaxy

1.3.9.1 Editing Instrument Preset Automation Tracks

This information will be included in a future release of this User Guide.

1.3.9.2 Editing Performance Tab (Editing Song Library)

This information will be included in a future release of this User Guide.

1.3.9.3 Adding a new Song or Track to Sound Galaxy

This information will be included in a future release of this User Guide.

1.3.9.4 Creating a New Performance Bank

This information will be included in a future release of this User Guide.

1.4 APPLICATIONS

There are several applications for the SpaceHarp controller, DAW Systems and Sound Galaxy Software. Applications include LBE Installations, Special Events, DJ-EDM Stage Performers, Theme Park Attractions, Wellness and Therapeutic uses and Bedroom Musicians.

For detailed information on each of the hardware devices and hardware systems mentioned below in this section, please refer to the separate **SpaceHarp Performance Systems User Guide**. The Applications Section in that document includes hyperlinks to these system configurations, each of which is fully illustrated and detailed in that companion User Guide.

1.4.1 Single SpaceHarp LBE Installations



Museums, science centers, movie theater chains, family entertainment centers, dance clubs, mixed-use retail, destination resort hotels, store-within-a-store and theme parks are all excellent Location Based Entertainment (LBE) applications for long-term installations of single-SpaceHarp, turn-key Systems. As to business model for these, they may be operated under a people-traffic budget, offered as part of a bundled admission ticket, or offered as a five-minute personal pay-per-play experience.

Sound Galaxy provides an end-to-end software solution for these installations, including simple controls for self-serve kiosks and host facilitated experiences without compromising the musical quality and by exploiting the best features of today's soft instruments and effects.

1.4.2 Special Events



SpaceHarp is great for corporate events, festivals, county and regional fairs, receptions, product launches and trade shows.

Special events can sometimes benefit from two systems: one for a stage performer, and another in a separate space such as in a chill-out room for guests to take turns playing. "Silent Disco" wireless headphones may also be used, allowing many people to enjoy the music when sound isolation is needed. The two SpaceHarp attractions – performance and participatory, reinforce each other and generate much excitement.

1.4.3 DJ and EDM Performers



The SpaceHarp controller and Sound Galaxy DAW Tools were developed and created with the participation of EDM performers. The unique behavior of the sonar sensors' height function combined with many effects for DAW instrument plug-ins are ideal for a radical, dramatic and exciting EDM performance.

With SpaceHarp and Sound Galaxy 2.0, audiences will delight with the visual spectacle of the on-stage player, and enjoy the excitement of a true live performance which reflects an evolving and dynamic relationship between performer and audience.

1.4.4 Multiple-SpaceHarp Theme Park Attractions



The Sound Galaxy 2.0 software and SpaceHarp Performance Systems currently support up to four SpaceHarps for live jamming in shared music and visual media content.

At least one solo SpaceHarp session is a good idea before jamming in any group of players. A larger attraction can combine one-player booths, kiosks or mini-domes, together with some larger rooms or domes large enough for four players to share.

4D theaters seating 200-400 are also an excellent application. Prequalified Attraction Guests and/or Performers play on an interactive stage with up to four SpaceHarps, for audience that is in a 4D theater. SpaceHarps can be wired over MIDI into DMX lighting, 3D Video Effects, Music Visualizations and Laser Show Control computers – for effects that appear both on stage and through the entire venue. Further details on inter-computer configurations and hardware setups for this are illustrated in our separate **SpaceHarp Performance Systems User Guide.** The detailed MIDI API that is provided for these connections, which exploits IAC buses on the DAW computer, is set forth in this Sound Galaxy User Guide in the section System MIDI Specification.

1.4.5 Wellness and Therapeutic Applications



SpaceHarp spontaneously provides a new kind of therapeutic and wellness experience for players. Music therapy, even using the simplest of instruments such as drums, has been proven to have such well-established benefits that there are over 5,000 music therapists employed by major hospitals. SpaceHarp has the unique feature of allowing anyone who can move, to play real music providing instant gratification while being mistake-free. SpaceHarp's issued US patent covers a "Creative Wellness Response" which

entrains players within minutes into a "desirable cognitive state" that is uplifting and empowering in every way. In our experience, thousands of trial players have reported a feeling of "euphoria" and "creative joy" after only a minute or two from starting to play, even in their first SpaceHarp session. We welcome affiliations with principle investigators for research and validation of these applications.

When music visuals are also included, such a SpaceHarp experience can be viewed as an integration of music therapy, dance therapy, creative therapy, physical therapy and creative art therapy – all of which disciplines have been separately shown to have repeatable and profound therapeutic benefits. For an office or clinical setting, to maximize simplicity of operation and provide lower cost, we would recommend the Minimal Sound Galaxy DAW System Configuration set forth in the external document, **SpaceHarp Performance Systems User Guide**.

1.4.6 Bedroom Musicians



Half of the purchasing power of the US musical instrument, equipment and software market comes from "bedroom musicians." Although usually not professional musicians by career, they yet have a life-long enjoyment in making music for its own sake. Often they "breakout" over the internet and continue distributing tracks to fans. Especially for non-keyboard playing musicians, SpaceHarp offers an alternative "universal instrument" that can provide results similar to a keyboard controller together with DAW software, but without the months or years of learning piano to achieve.

Bedroom musicians are often already using many of the kinds of System Devices that work well with SpaceHarp. They are often experiences DAW users with Ableton Live or similar DAW environments. Thus, they are especially well-suited to adopt SpaceHarp with the Sound Galaxy DAW Tools Suite.

1.5 SOFTWARE & SYSTEM SETUPS

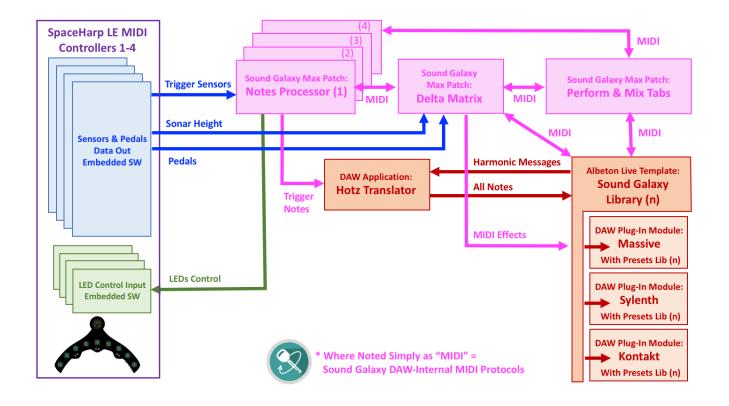
1.5.1 Sound Galaxy Internal MIDI Routing: Turn-Key DAW System

Below find an overview diagram of the Sound Galaxy's internal MIDI routing and inter-applications communication, and as it connects with the SpaceHarp LE MIDI controller in a fully Turn-Key System.

Each instance of the "Notes Processor" Max patch handles each SpaceHarp controller. Those patches align the shadow trigger "raw" Note messages, using a Time Quantization logic to the current Master Transport tempo clock, and also includes a novel variable auto-sustain logic for automatic Note Off generation that is still responsive to player actions.

These time-processed, but otherwise nine (9) fixed Note numbers are then passed to the Hotz Translator module which translates the Notes messages according to the current Harmonic database settings for Chord and Scale.

The Perform and Mix Tabs provide simplified UI on laptop and/or remote devices, which communicates seamlessly with Max patches on the laptop using either Max Mira or MiraWeb.

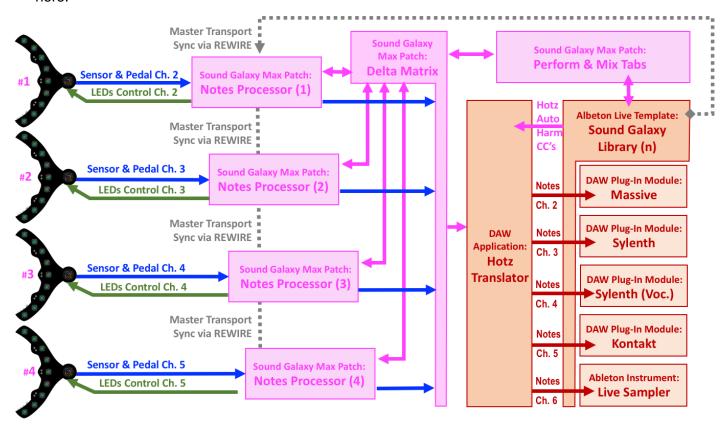


1.5.2 Sound Galaxy Multiple Controller Turn-Key DAW System MIDI Channels

Here we show a closer look at the MIDI Channel conventions for Messages used inside Sound Galaxy environment for up to four SpaceHarp controllers.

A key function of the "Delta Matrix" Max patch, and also the "Performance Tab" Max Patch, is to provide easy flexible routing between 1 to 4 SpaceHarp Controllers and the DAW Plug-In Instruments. Thus, the use of Channels 2,3,4 and 5 is standardized for the SpaceHarp controller ID #'s, whereas the use of Channels 2,3,4,5 and 6 on the DAW Plug-In side is standardized for Massive, Sylenth, Sylenth #2 for Vocoder, Kontakt and Ableton Sampler instruments.

Additional MIDI routing to external drum machine and various external visual media are not shown here.



1.5.3 Sound Galaxy's Use of System MIDI Buses

To accomplish such complex inter-application MIDI communication streams in an efficient, low-latency, error-trapped and overall powerful way, Sound Galaxy employs the use of a number of "MIDI Buses." Aside from convenience for internal and thus Reserved MIDI bus connections, establishing conventions for a set of Sound Galaxy Public Bus assignments, is done in order to maintain Sound Galaxy's interoperability with other existing and future MIDI applications and equipment.

Sound Galaxy's Public Bus Specification amounts to a MIDI API for the Sound Galaxy's system. See Sound Galaxy System MIDI Buses for full details.

1.6 INSTRUMENTS and EFFECTS

Current Sound Galaxy release 2.0 includes 135 SpaceHarp-optimized, highly customized Instrument and Effect setups. They are organized into five Sound Galaxy Factory 01 Packs, one each for Massive, Sylenth, Kontakt, Live Sampler and Vocoder. (Vocoder uses a second instance of Sylenth for its oscillator and effects.)

1.6.1 Allocation of Factory '01' Packs to Program Changes

If a Plug-in's Program Change Number is blank, it can be used for a User Preset without disturbing Sound Galaxy's UI controls or Library 01 Present Automation Tracks.









PIANOS	(PC#) INSTRUMENT GM NAME	MASSIVE	SYLENTH	KONTAK	LIVE
and the second second second	0 Acoustic Grand Piano		BIGFACE	PIANO 1	
	1 Bright Acoustic Piano	KEYS 1			PIANO 1
	2 Electric Grand Piano			PIANO 2	
	3 Honky-tonk Piano				
77 77 77 77	4 Electric Piano 1		STABS	PIANO 3	BELL 1
	5 Electric Piano 2	KEYS 2		PIANO 4	
, ,	6 Harpsichord			HARPSI 1	
	7 Clavinet			HARPSI 2	
CHROMATIC PERCUSSION		L	l		
	8 Celesta		KETTLE		
	9 Glockenspiel	RAVE 1			
The state of the s	10 Music Box				BELL 2
	11 Vibraphone			BELL 1	VIBRA
	12 Marimba		303	DEEL	MARIMB
	13 Xylophone	RAVE 2	303		IVIAINIUD
	14 Tubular Bells	IVAVL Z			
	15 Dulcimer			BELL 2	
ORGANS	13 Duicinier			DELL Z	
URGANS	16 D 1 0		CANE	ODC AN 1	ODCAN
	16 Drawbar Organ	DAVE 2	CAVE	ORGAN 1	ORGAN
ole	17 Percussive Organ	RAVE 3		ORGAN 2	
affillia.	18 Rock Organ				
	19 Church Organ		A)4/5 O		
WWW.	20 Reed Organ		AWE-O	ORGAN 3	
	21 Accordion	RAVE 4		HUMANA	
	22 Harmonica				
	23 Tango Accordion				
GUITARS					
	24 Acoustic Guitar (nylon)		DESERT	GUITAR	
	25 Acoustic Guitar (steel)	LEAD 1			GUITAR 1
	26 Electric Guitar (jazz)				GUITAR 2
	27 Electric Guitar (clean)				
	28 Electric Guitar (muted)		RAVERS		
	29 Overdriven Guitar	LEAD 2			GUITAR 3
	30 Distortion Guitar				GUITAR 4
	31 Guitar harmonics				
BASS		I			I.
X	32 Acoustic Bass		SQUARE	BASS 1	
1	33 Electric Bass (finger)	LEAD 3		BASS 2	
1	34 Electric Bass (pick)				
	35 Fretless Bass				BASS
	36 Slap Bass 1		BARK		WOBBLE
	37 Slap Bass 2	BASS 1			WODDEL
	38 Synth Bass 1	DA33 I		BASS 3	
	39 Synth Bass 2			טרפט זי	
	37 Synui Dass 2				









STRINGS	(PC#) INSTRUMENT GM NAME	MASSIVE	SYLENTH	KONTAK	LIVE
	40 Violin		LAZER		
•4 1	41 Viola	BASS 2			
	42 Cello				GLASS
	43 Contrabass				
	44 Tremolo Strings		WOBBLE		
	45 Pizzicato Strings	BASS 3			HARP 1
	46 Orchestral Harp				HARP 2
	47 Timpani				
STRINGS and VOICES					
	48 String Ensemble 1		MEGA	STRNG 1A	STRNG1
	49 String Ensemble 2	PLUCK 1			
* 1 4-4-4	50 Synth Strings 1				STRNG 2
TVTVT	51 Synth Strings 2			STRINGS2	
東京 原 一面	52 Choir Aahs		NEURON		
	53 Voice Oohs	PLUCK 2			
	54 Synth Voice				
	55 Orchestra Hit				
BRASS				1	
	56 Trumpet		ACID 1		
	57 Trombone	PLUCK 3			BRASS-A
	58 Tuba	. Look o			
	59 Muted Trumpet				
	60 French Horn		TRUMPET		
	61 Brass Section	PLUCK 4			
	62 Synth Brass 1	I LOOK I		BRASS-A	
	63 Synth Brass 2			BIASS A	
REEDS	Se Symm Bruss 2		1		
	64 Soprano Sax		ACID 2		
	65 Alto Sax	PLUCK 5	NOID 2		
	66 Tenor Sax	T EOOK 3			
1	67 Baritone Sax				
	68 Oboe		METAL		OBOE-A
Tell 1881	69 English Horn	STAB 1	WILTAL		HORN-A
	70 Bassoon	STABT			BASSN-A
	71 Clarinet				CLART-A
PIPES	/1 Clarifict		+		CLARTA
11120	72 Piccolo		TRIANGLE		
	73 Flute	STAB 2	INANGEL		
	74 Recorder	STADZ			
	75 Pan Flute		+		
THE REAL PROPERTY.	76 Blown Bottle	+	TRANCE		FLUTE1-
	77 Shakuhachi	STAB 3	TRANCE		I LUILI-
-	78 Whistle	31AD 3		WHISTLE	
	79 Ocarina			WILISTEE	
SYNTH LEADS	75 Ocarma		+		
STINITI LEADS	90 Lond 1 (cayara)		DIDE		
E-market and the second	80 Lead 1 (square)	A-DD-1-	PIPE		
	81 Lead 2 (sawtooth)	ARP 1			FLUTE
N N N	82 Lead 3 (calliope)		1		TRON
	83 Lead 4 (chiff)			CTAB	
	83 Lead 4 (chiff) 84 Lead 5 (charang)		CHICAGO	STAB	
	83 Lead 4 (chiff) 84 Lead 5 (charang) 85 Lead 6 (voice)	ARP 2	CHICAGO	STAB	
	83 Lead 4 (chiff) 84 Lead 5 (charang)	ARP 2	CHICAGO	STAB	









SYNTH PADS	(PC#) INSTRUMENT GM NAME	MASSIVE	SYLENTH	KONTAK	LIVE
	88 Pad 1 (new age)		POWER	PAD 1	
	89 Pad 2 (warm)	ARP 3		PAD 2	
	90 Pad 3 (polysynth)				
	91 Pad 4 (choir)				
	92 Pad 5 (bowed)		DOMI	PAD 3	
	93 Pad 6 (metallic)	PAD 1			
	94 Pad 7 (halo)				
	95 Pad 8 (sweep)				RHYTHM
SYNTH EFFECTS					
	96 FX 1 (rain)		TALK		
	97 FX 2 (soundtrack)	PAD 2			
	98 FX 3 (crystal)				
	99 FX 4 (atmosphere)				
Y	100 FX 5 (brightness)		DIGITAL		
	101 FX 6 (goblins)	SFX 1			
-	102 FX 7 (echoes)				
	103 FX 8 (sci-fi)				
ETHNIC	100 111 0 (001 11)				
	104 Sitar		ORCH		
	105 Banjo	SFX 2	GROIT		
A	106 Shamisen	31 X Z			SHAMISN
	107 Koto			KORA	STIMMON
	108 Kalimba		JUNO	KALIMBA	
	109 Bag pipe	SFX 3	30110	KALIWIDA	
	110 Fiddle	31 X 3			
25 25 25	111 Shanai				
PERCUSSIVE	111 Silaliai				
T ERCOSSIVE	112 Tinkle Bell		PULSE		
The second secon	113 Agogo	SEQ 1	PULSE		
	113 Agogo 114 Steel Drums	SEQ I		STEL DR	
	114 Steel Druins 115 Woodblock	+	1	SILLUK	
	116 Taiko Drum	+	CRYSTAL		
	117 Melodic Tom	SEQ 2	CRISTAL		
- Commence	117 Melodic Tolli 118 Synth Drum	SEQ Z			
	118 Synth Drum 119 Reverse Cymbal	+	-		NOISE 1
SOUND EFFECTS	119 Reverse Cymbai	+	1		NOISE 1
SOUND ELLECTS	120 Guitar Fret Noise	+	DEW		
		CEO 3	DEW		
	121 Breath Noise	SEQ 3			
SFX	122 Seashore				
	123 Bird Tweet		OVERTUR	1110 1100	
	124 Telephone Ring	D)=A	OVERTUR	HIP HOP	DDI MAG
	125 Helicopter	PITCH		909	DRUMS 1
	126 Applause		<u> </u>	TABLA	DRUMS 2
	127 Gunshot			(OFF)	(OFF)

1.6.2 Synth 1: Massive Instruments & Effects Pack 01

Native Instrument's "Massive" synthesizer.

MASSIVE

- Includes 32 'favorite' custom presets pre-loaded and optimized for SpaceHarp play and sonar height response.
- Unlimited user presets and banks, limited only by host system memory.
- Up to 96 additional co-residing user presets may be added.
- Most voices have significant timbre differences with Note Velocity which is always from Sonar Height.
- Defaults to two Sonar effects in DeltaMatrix Controls: Modulation/Articulation and Arp Accent. For voices without Articulation setups, modulation takes precedent.



• SpaceHarp LED colors are mapped across the favorites library as a 32-hue, evenly spaced spectrum (Touch OSC is limited to 8-colors however):



• When each preset loads, a unique Instrument setup for the MASSIVE synth is enabled for that DAW module. This is what's really going on behind the scenes, for each Preset:



1.6.2.1 Massive 'Piano' Presets

PIANOS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY	
	Controlled	0 Acoustic Grand Piano	(User Assignable)	
		1 Bright Acoustic Piano	KEYS 1	
		2 Electric Grand Piano	(User Assignable)	
		3 Honky-tonk Piano	(User Assignable)	
		4 Electric Piano 1	(User Assignable)	
		5 Electric Piano 2	KEYS 2	
		6 Harpsichord	(User Assignable)	
10.511		7 Clavinet	(User Assignable)	

001: Keys 1

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	001
PLUG-IN PRESET NAME	Keys 1-Satura-Tem.
PLUG-IN BANK NAME	Massive Exp. 1
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	005
PLUG-IN PRESET NAME	AHEE Keys 2 edit
PLUG-IN BANK NAME	Massive Factory
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.2.2 Massive 'Chromatic Percussion' Presets

CHROMATIC PERCUSSION	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY	
	CONTROL OF THE PARTY OF T	8 Celesta	(User Assignable)	
		9 Glockenspiel	RAVE 1	
		10 Music Box	(User Assignable)	
		11 Vibraphone	(User Assignable)	
		12 Marimba	(User Assignable)	
- W		13 Xylophone	RAVE 2	
		14 Tubular Bells	(User Assignable)	
		15 Dulcimer	(User Assignable)	

009: Rave 1

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	009
PLUG-IN PRESET NAME	AHEE Synth 1-Rave Syn.
PLUG-IN BANK NAME	Secret Sounds
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

013: Rave 2

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		013
PLUG-IN PRESET NAME	Rave 2-Lights-Cutoff	
PLUG-IN BANK NAME	EDM Drops V.2	
POLYPHONY (min.)		5

TIMBRE	N	OTE VELOCITY 0-127	_
EXPRESSION		CC# 15 0-127	

1.6.2.3 Massive 'Organ' Presets

OR	GANS		SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY				
			16 Drawbar Organ	(User Assignable)					
	17 Percussive Organ		RAVE 3						
	200 · a · @700. · 100 · · · · · ·	18 Rock Organ	(User Assignable)						
		19 Church Organ	(User Assignable)						
		Sight in print to when the	Digitial Injurit to wheel to	Grigition Population amount (in	Challe (specific sweet))	Challe (spirit to week)	Digital Input to weed to	Challed Found to served to	20 Reed Organ
		21 Accordion	RAVE 4						
		22 Harmonica	(User Assignable)						
				23 Tango Accordion	(User Assignable)				

MASSIVE 017: Rave 3

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		017
PLUG-IN PRESET NAME	Rave 3-Super-Cutoff	
PLUG-IN BANK NAME	(default)	
POLYPHONY (min.)		5

TIMBRE	N	OTE VELOCITY 0-127
EXPRESSION		CC# 15 0-127

MASSIVE 021: Rave 4

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	021
PLUG-IN PRESET NAME	Rave 4-Serum-env
PLUG-IN BANK NAME	EDM Drops V.2
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.2.4 Massive 'Guitar' Presets

GUITARS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY
	24 Acoustic Guitar (nylon)	(User Assignable)	
	25 Acoustic Guitar (steel)	LEAD 1	
		26 Electric Guitar (jazz)	(User Assignable)
	27 Electric Guitar (clean)	(User Assignable)	
	28 Electric Guitar (muted)	(User Assignable)	
	29 Overdriven Guitar	LEAD 2	
	30 Distortion Guitar	(User Assignable)	
		31 Guitar harmonics	(User Assignable)

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	025
PLUG-IN PRESET NAME	Lead 3-Machine-Cutoff
PLUG-IN BANK NAME	(default)
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

MASSIVE 029: Lead 2

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		029
PLUG-IN PRESET NAME	AHEE Lead 2 Edit	
PLUG-IN BANK NAME	Massive Psytrance Presets 2	
POLYPHONY (min.)		5

			,
TIMBRE	NC	TE VELOCITY 0-127	
EXPRESSION		CC# 15 0-127	

1.6.2.5 Massive 'Bass' Presets

BASS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY	
		32 Acoustic Bass	(User Assignable)	
3		33 Electric	33 Electric Bass (finger)	LEAD 3
\	200 a G catalog - 100 ag	34 Electric Bass (pick)	(User Assignable)	
	35 Fretless Bass	(User Assignable)		
	36 Slap Bass 1	(User Assignable)		
		37 Slap Bass 2	BASS 1	
		38 Synth Bass 1	(User Assignable)	
		39 Synth Bass 2	(User Assignable)	

033: Lead 3

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	033
PLUG-IN PRESET NAME	AHEE Lead 3 Edit
PLUG-IN BANK NAME	Secret Sounds
POLYPHONY (min.)	5

		_
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

037: Bass 1

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		037
PLUG-IN PRESET NAME	AHEE Bass 3-Wood	
PLUG-IN BANK NAME	Massive Exp. 2	
POLYPHONY (min.)		5

	I	
TIMBRE	NOTE V	ELOCITY 0-127
EXPRESSION		CC# 15 0-127

1.6.2.6 Massive 'String' Presets

STRINGS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY					
		40 Violin	(User Assignable)					
	41 Viola	BASS 2						
	42 Cello	(User Assignable)						
							43 Contrabass	(User Assignable)
		44 Tremolo Strings	(User Assignable)					
				45 Pizzicato Strings	BASS 3			
			46 Orchestral Harp	(User Assignable)				
		47 Timpani	(User Assignable)					

041: Bass 2

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		041
PLUG-IN PRESET NAME	Bass 1-Sawer-Plk-Cutoff	
PLUG-IN BANK NAME	Massive Psytrance Presets 2	
POLYPHONY (min.)		5

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

045: Bass 3

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		045
PLUG-IN PRESET NAME	Bass 3-Smooth-Cutoff	
PLUG-IN BANK NAME	Secret Sounds	
POLYPHONY (min.)		5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.2.7 Massive 'String & Voice' Presets

STRINGS and VOICES	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY									
		48 String Ensemble 1	(User Assignable)									
				49 String Ensemble 2	PLUCK 1							
* 1 (m/m/s				50 Synth Strings 1	(User Assignable)							
t i de de LTATATA									5	51 Synth Strings 2	51 Synth Strings 2	(User Assignable)
東京黨 □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □											Eliza traditional participation	Contract State Sta
			53 Voice Oohs	PLUCK 2								
		54 Synth Voice	(User Assignable)									
		55 Orchestra Hit	(User Assignable)									

049: Pluck 1

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	049
PLUG-IN PRESET NAME	AHEE Dirty Bass Edit
PLUG-IN BANK NAME	Massive Psytrance Presets 2
POLYPHONY (min.)	5

TIMBRE	NOT	E VELOCITY 0-127
EXPRESSION		CC# 15 0-127

MASSIVE 053: Pluck 2

RECEIVE MIDI CHANNEL#		2
PROGRAM CHANGE #		053
PLUG-IN PRESET NAME	AHEE Pluck 2 Edit	
PLUG-IN BANK NAME	EDM Drops V.2	
POLYPHONY (min.)		5

TIMBRE	NO	OTE VELOCITY 0-127
EXPRESSION		CC# 15 0-127

1.6.2.8 Massive 'Brass' Presets

BRASS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY						
		56 Trumpet	(User Assignable)						
4 22	Contribution		-	57 Trombone	PLUCK 3				
								58 Tuba	(User Assignable)
					59 Muted Trumpet	(User Assignable)			
					60 French Horn	(User Assignable)			
		61 Brass Section	PLUCK 4						
		62 Synth Brass 1	(User Assignable)						
		63 Synth Brass 2	(User Assignable)						

MASSIVE 057: Pluck 3

057
AHEE Hip Hop Bass
Massive Psytrance Presets 2
5
_

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

MASSIVE 061: Pluck 4

	2
	061
Pluck 4-Flowers-Cutoff	
EDM Drops V.2	
	5

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION		CC# 15 0-127

1.6.2.9 Massive 'Reed' Presets

REEDS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY
	64 Soprano Sax	(User Assignable)	
	65 Alto Sax	PLUCK 5	
	- C	66 Tenor Sax	(User Assignable)
F .		67 Baritone Sax	(User Assignable)
100			68 Oboe
11:20		69 English Horn	STAB 1
- Car		70 Bassoon	(User Assignable)
		71 Clarinet	(User Assignable)

065: Pluck 5

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	065
PLUG-IN PRESET NAME	Pluck5-TeaCup-Cutoff
PLUG-IN BANK NAME	(default)
POLYPHONY (min.)	5

TIMBRE	N	OTE VELOCITY 0-127
EXPRESSION	•	CC# 15 0-127

069: Stab 1

RECEIVE MIDI CHANNEL #		2
PROGRAM CHANGE #		069
PLUG-IN PRESET NAME	Stab 1 Lone Ranger	
PLUG-IN BANK NAME	Psytrance Presets 2	
POLYPHONY (min.)		5

	_	
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION		CC# 15 0-127

1.6.2.10 Massive 'Pipe' Presets

PIPES	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY		
		72 Piccolo	(User Assignable)		
distribute.		73 Flute	STAB 2		
		74 Recorder	(User Assignable)		
The state of the s		75 Pan Flute	(User Assignable)		
7.50				76 Blown Bottle	(User Assignable)
Distriction of the Control of the Co	77 Shakuhachi	STAB 3			
		78 Whistle	(User Assignable)		
The second secon		79 Ocarina	(User Assignable)		

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	073
PLUG-IN PRESET NAME	Stab 2-Lazer-Cutoff
PLUG-IN BANK NAME	Secret Sounds
POLYPHONY (min.)	5

			12
TIMBRE	N	OTE VELOCITY 0-127	
EXPRESSION		CC# 15 0-127	

077: Stab 3

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	077
PLUG-IN PRESET NAME	AHEE Howling Lead Synth
PLUG-IN BANK NAME	Urban Arsenal 2
POLYPHONY (min.)	5

TIMBRE	NOTE V	ELOCITY 0-127	
EXPRESSION		CC# 15 0-127	V

1.6.2.11 Massive 'Synth Lead' Presets

SYNTH LEADS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY
		80 Lead 1 (square)	(User Assignable)
T. (4.00 cm)		81 Lead 2 (sawtooth)	ARP 1
A A A A AITH	ESS (C)	82 Lead 3 (calliope)	(User Assignable)
		83 Lead 4 (chiff)	(User Assignable)
	State businesses	84 Lead 5 (charang)	(User Assignable)
		85 Lead 6 (voice)	ARP 2
		86 Lead 7 (fifths)	(User Assignable)
		87 Lead 8 (bass and lead)	(User Assignable)

081: Arp 1

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	081
PLUG-IN PRESET NAME	Arp-3-Runner-Cutoff
PLUG-IN BANK NAME	Massive Psytrance
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

085: Arp 2

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	085
PLUG-IN PRESET NAME	Arp-1-Vibrant-WT
PLUG-IN BANK NAME	Urban Arsenal 1
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

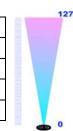
1.6.2.12 Massive 'Synth Pad' Presets

SYNTH PADS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY
	88 Pad 1 (new age)	(User Assignable)	
		89 Pad 2 (warm)	ARP 3
		90 Pad 3 (polysynth)	(User Assignable)
		91 Pad 4 (choir)	(User Assignable)
	South Marie Control	92 Pad 5 (bowed)	(User Assignable)
		93 Pad 6 (metallic)	PAD 1
		94 Pad 7 (halo)	(User Assignable)
		95 Pad 8 (sweep)	(User Assignable)

MASSIVE 089: Arp 3

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	089
PLUG-IN PRESET NAME	Arp-Alr-Cutoff
PLUG-IN BANK NAME	Massive Psytrance
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127
•	



093: Pad 1

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	093
PLUG-IN PRESET NAME	Pad 3-Bladerunner
PLUG-IN BANK NAME	Massive Threat
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.2.13 Massive 'Synth Effect' Presets

SYNTH EFFECTS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY							
		96 FX 1 (rain)	(User Assignable)							
		97 FX 2 (soundtrack)	PAD 2							
	ESS - 4 C-CATALON - 155 - 400 (1)	98 FX 3 (crystal)	(User Assignable)							
400	Biotechnico								99 FX 4 (atmosphere)	(User Assignable)
Y				100 FX 5 (brightness)	(User Assignable)					
		101 FX 6 (goblins)	SFX 1							
	102 FX 7 (echoes)	(User Assignable)								
		103 FX 8 (sci-fi)	(User Assignable)							

097: Pad 2

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	097
PLUG-IN PRESET NAME	Pad 1-Pastey-Cutoff
PLUG-IN BANK NAME	EDM Drops V.2
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

101: Sfx 1

RECEIVE MIDI CHANNEL #	-	
PROGRAM CHANGE #	101	
PLUG-IN PRESET NAME	068 SFX-MPTP2-Zenhise	
PLUG-IN BANK NAME	Massive Psytrance Presets	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

1.6.2.14 Massive 'Ethnic' Presets

ETHNIC	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY							
		104 Sitar	(User Assignable)							
			105 Banjo	SFX 2						
1		106 Shamisen	(User Assignable)							
								107 K0t0	107 Koto	(User Assignable)
	108 Kalimba	(User Assignable)								
	SHARES	109 Bag pipe	SFX 3							
		110 Fiddle	(User Assignable)							
		111 Shanai	(User Assignable)							

105: Sfx 2

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	105
PLUG-IN PRESET NAME	Noise 1-Beatique
PLUG-IN BANK NAME	Massive Threat
POLYPHONY (min.)	5

	T
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

MASSIVE 109: Sfx 3

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	109
PLUG-IN PRESET NAME	AHEE-C64-Stab-Edit
PLUG-IN BANK NAME	Urban Arsenal 2
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

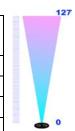
1.6.2.15 Massive 'Percussive' Presets

PERCUSSIVE	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY									
	112 Tinkle Bell	(User Assignable)										
	113 Agogo	SEQ 1										
			114 Steel Drums	(User Assignable)								
				115 Woodblock	(User Assignable)							
		117 Melodic Tom	SEQ 2									
American Section		118 Synth Drum	(User Assignable)									
	- -	119 Reverse Cymbal	(User Assignable)									

113: Seq 1 **MASSIVE**

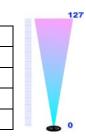
RECEIVE MIDI CHANNEL		2
#		
PROGRAM CHANGE #		113
PLUG-IN PRESET NAME	Seq 1-MPTPS-Zenhise	
PLUG-IN BANK NAME	Psytrance Presets 2	
POLYPHONY (min.)		5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	117
PLUG-IN PRESET NAME	Seq 2-Air-Noise-Cutoff
PLUG-IN BANK NAME	Massive Psytrance
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



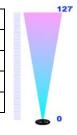
1.6.2.16 Massive 'Sound Effect' Presets

SOUND EFFECTS	SYNTH 1	INSTRUMENT NAME (GM)	SOUND GALAXY																
		120 Guitar Fret Noise	(User Assignable)																
		121 Breath Noise	SEQ 3																
CEV	TOTAL CONTRACTOR OF THE PARTY O	122 Seashore	(User Assignable)																
	Ban adamso	123 Bird Tweet	(User Assignable)																
		enen tudeunten	Committee of the Commit	Committee of the Commit	State by Command	State by Command	Bill hallmann	State by Command	Committee of the Commit	Bill hallmann	Bitti hattantidi	Bills by Chantal C	Bittl by Chantal C	Grant traditional Co	Unite to discussion	Contractive tens	Street to differential to	Street to differentiated	124 Telephone Ring
		125 Helicopter	PITCH																
		126 Applause	(User Assignable)																
	I	127 Gunshot	(User Assignable)																

121: Seq 3

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	121
PLUG-IN PRESET NAME	Arp 2-Trigger-Cutoff
PLUG-IN BANK NAME	Urban Arsenal 2
POLYPHONY (min.)	5

NOTE VELOCITY 0-127
CC# 15 0-127
_



125: Pitch

RECEIVE MIDI CHANNEL#	2
PROGRAM CHANGE #	125
PLUG-IN PRESET NAME	AHEE Theremin-Pitch
PLUG-IN BANK NAME	Massive Psytrance
POLYPHONY (min.)	5

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.3 Synth 2: Sylenth Instruments & Effects Pack 01

Lennar Digital's "Sylenth 1" synthesizer.



- Includes 32 'favorite' custom presets pre-loaded and optimized for SpaceHarp play and sonar height response.
- Unlimited user presets and banks, limited only by host system memory.
- Up to 96 additional co-residing user presets may be added.
- Most voices have significant timbre differences with Note Velocity which is always from Sonar Height.
- Defaults to two Sonar effects in DeltaMatrix Controls: Modulation/Articulation and Arp Accent. For voices without Articulation setups, modulation takes precident.



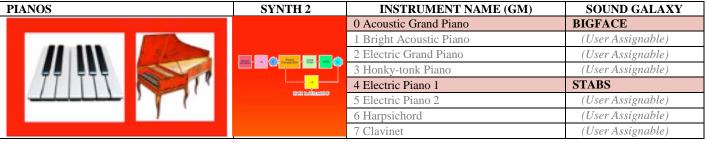
 SpaceHarp LED colors are mapped across the favorites library as a 32-hue, evenly spaced spectrum (Touch OSC is limited to 8-colors however):



• When each preset loads, a unique Instrument setup for the SYLENTH synth is enabled for that DAW module. This is what's really going on behind the scenes, for each Preset:



1.6.3.1 Sylenth 'Piano' Presets



Sylenth 1 000: Bigface 🔻

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	000
PLUG-IN PRESET NAME	Biface
PLUG-IN BANK NAME	
POLYPHONY (min.)	

		_
		I۱
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

Sulenth 1 004: Stabs RECEIVE MIDI CHANNEL

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	004
PLUG-IN PRESET NAME	16th Note Stabs
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.3.2 Sylenth 'Chromatic Percussion' Presets

CHROMATIC PERCUSSION	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
	8 Celesta	KETTLE	
		9 Glockenspiel	(User Assignable)
		10 Music Box	(User Assignable)
		11 Vibraphone	(User Assignable)
		12 Marimba	303
	On the Property of the Party of	13 Xylophone	(User Assignable)
		14 Tubular Bells	(User Assignable)
		15 Dulcimer	(User Assignable)

Sylenth 1 008: Kettle

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	008
PLUG-IN PRESET NAME	Soundmasters_Lead_
PLUG-IN BANK NAME	
POLYPHONY (min.)	
· ·	

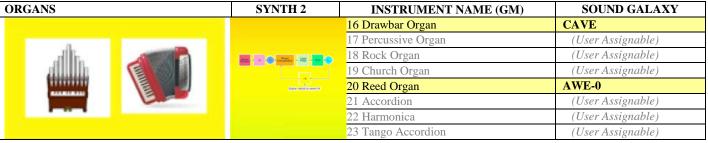
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sylenth 1 012: 303 -

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	012
PLUG-IN PRESET NAME	ARP 303 Drive
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
·		

Sylenth 'Organ' Presets 1.6.3.3





ALL WILLIAM CONTRACTOR	
RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	016
PLUG-IN PRESET NAME	Cave Bass
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

TIMBRE NOTE VELOCITY 0-127 EXPRESSION CC# 15 0-127

Sylenth 1 020: Awe-O

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	020
PLUG-IN PRESET NAME	ARP Awesome-O
PLUG-IN BANK NAME	
POLYPHONY (min.)	

1.6.3.4 Sylenth 'Guitar' Presets

GUITARS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
	24 Acoustic Guitar (nylon)	DESERT	
		25 Acoustic Guitar (steel)	(User Assignable)
	26 Electric Guitar (jazz)	(User Assignable)	
	- O - Cons. 100 100	27 Electric Guitar (clean)	(User Assignable)
		28 Electric Guitar (muted)	RAVERS
	512 (4.00 (4.00)	29 Overdriven Guitar	(User Assignable)
		30 Distortion Guitar	(User Assignable)
		31 Guitar harmonics	(User Assignable)

Sylenth 1 024: Desert

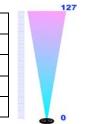
THE PERSON NAMED IN COLUMN TO THE PE	The second secon
RECEIVE MIDI CHANNEL #	3
PROGRAM CHANGE #	024
PLUG-IN PRESET NAME	Soundmasters_Lead Arab
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sy	lenth 1	028: Ravers	—	
	RECEIVE	MIDI CHANNEL#		3
	PROGR <i>A</i>	M CHANGE #	02	28
	PLUG-IN	PRESET NAME	ARP Ravers Unite	

PLUG-IN BANK NAME POLYPHONY (min.)

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



1.6.3.5 Sylenth 'Bass' Presets

BASS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
Annual Control of the		32 Acoustic Bass	SQUARE
1 1		33 Electric Bass (finger)	(User Assignable)
\	Diffe of Control of the Control	34 Electric Bass (pick)	(User Assignable)
		35 Fretless Bass	(User Assignable)
- L.	grant software o	36 Slap Bass 1	BARK
		37 Slap Bass 2	(User Assignable)
		38 Synth Bass 1	(User Assignable)
		39 Synth Bass 2	(User Assignable)

Sy	lenth 1	032: Square	<u> </u>	
	RECEIVE	MIDI CHANNEL		
	#			
	DDOCDA	NA CHANCE #		01

RECEIVE WIIDI CITATULE	2
#	3
PROGRAM CHANGE #	032
PLUG-IN PRESET NAME	Soundmasters_Lead Foga
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	-

Sylenth 1 036: Bark

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	036
PLUG-IN PRESET NAME	Rave Bark
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.3.6 Sylenth 'String' Presets

STRINGS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		40 Violin	LAZER
		41 Viola	(User Assignable)
		42 Cello	(User Assignable)
	and a Granista - its - and G	43 Contrabass	(User Assignable)
		44 Tremolo Strings	WOBBLE
	State Andreasters	45 Pizzicato Strings	(User Assignable)
The second secon		46 Orchestral Harp	(User Assignable)
		47 Timpani	(User Assignable)

Sylenth 1 040: Laser

RECEIVE MIDI CHANNEL #		3
PROGRAM CHANGE #		040
PLUG-IN PRESET NAME	RustyLazer	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

27		
		0

Sylenth 1 044: Wobble

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	044
PLUG-IN PRESET NAME	Soundmasters_Bass Dubsteb
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION		CC# 15 0-127

1.6.3.7 Sylenth 'String & Voice' Presets

STRINGS and VOICES	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY														
		48 String Ensemble 1	MEGA														
	C C C C C C C C C C C C C C C C C C C		49 String Ensemble 2	(User Assignable)													
* 1 48484		50 Synth Strings 1	(User Assignable)														
+ 1 a A A A A A A A A A A A A A A A A A A																51 Synth Strings 2	(User Assignable)
東京 基本 前の前の前																52 Choir Aahs	NEURON
		53 Voice Oohs	(User Assignable)														
		54 Synth Voice	(User Assignable)														
		55 Orchestra Hit	(User Assignable)														

Sylenth 1 048: Mega

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	048
PLUG-IN PRESET NAME	Mega Rave
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sulenth 1 052: Neuron

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	052
PLUG-IN PRESET NAME	ARP Neuron
PLUG-IN BANK NAME	
POLYPHONY (min.)	

T
NOTE VELOCITY 0-127
CC# 15 0-127

1.6.3.8 Sylenth 'Brass' Presets

BRASS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		56 Trumpet	ACID 1
		57 Trombone	(User Assignable)
		58 Tuba	58 Tuba
	59 Muted Trumpet	(User Assignable)	
4	Construction and Construction	60 French Horn	TRUMPET
	State Wast Connect &	61 Brass Section	(User Assignable)
		62 Synth Brass 1	(User Assignable)
		63 Synth Brass 2	(User Assignable)

Sylenth 1 056: Acid 1

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	056
PLUG-IN PRESET NAME	ARP New Order
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

060: Trumpet

RECEIVE MIDI CHANNEL #	3
PROGRAM CHANGE #	060
PLUG-IN PRESET NAME	PD Overture
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.3.9 Sylenth 'Reed' Presets

REEDS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY			
		64 Soprano Sax	ACID 2			
		65 Alto Sax	(User Assignable)			
	100 - 100 -	66 Tenor Sax	(User Assignable)			
	GEO GALLES				67 Baritone Sax	(User Assignable)
N.T.			68 Oboe	METAL		
1131		69 English Horn	(User Assignable)			
A. S. C.		70 Bassoon	(User Assignable)			
		71 Clarinet	(User Assignable)			

3

Sufenth 1 064: Acid 2 RECEIVE MIDI CHANNEL # PROGRAM CHANGE # PLUG-IN PRESET NAME ARP-Play With Mod

PROGRAM CHANGE #	064
PLUG-IN PRESET NAME	ARP-Play With Mod
PLUG-IN PRESET NAIVIE	Wheel
PLUG-IN BANK NAME	
POLYPHONY (min.)	

			_
TIMBRE	N	OTE VELOCITY 0-127	
EXPRESSION		CC# 15 0-127	

Sylenth 1 068: Metal

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	068
PLUG-IN PRESET NAME	Init (unnamed)
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127
_	•

1.6.3.10 Sylenth 'Pipe' Presets

PIPES	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY																										
		72 Piccolo	TRIANGLE																										
AND DESCRIPTION .		73 Flute	(User Assignable)																										
		74 Recorder 75 Pan Flute	(User Assignable)																										
NEW TOWN				CONTRACTOR OF THE STATE OF	ESS OF CASES AND S							ESS OF CASES AND SO	ESS OF CHIEFLY HER OF			ESS OF CASE OF SECOND	ESS OF CASE OF SECOND	ESS CAPETAL ESS NO ()	ESS CAPETAL ESS NO	ESS OF CASE OF SECOND	ESS CAPETAL ESS NO		ESS OF CASE OF STREET	ESS OF CARREST PARTY OF THE PAR	ESS OF CARREST PARTY OF THE PAR	ESS - A S CARESTA - ESS - ME S	ESS - A CONTRACT - ESS - MED (S)		
	76 Blown Bottle	TRANCE																											
	pro-ta-formatio	77 Shakuhachi	(User Assignable)																										
	78 Whistle	(User Assignable)																											
		79 Ocarina	(User Assignable)																										

Sylenth 1 072: TriAngle PECEIVE MIDI CHANNEL

RECEIVE MIDI CHANNEL#		3
PROGRAM CHANGE #		072
PLUG-IN PRESET NAME	TriAngle	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

lenth 1 076: Trance	~
RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	076
PLUG-IN PRESET NAME	ARP TranceMania
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127
	·

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

1.6.3.11 Sylenth 'Synth Lead' Presets

SYNTH LEADS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY																										
		80 Lead 1 (square)	PIPE																										
NAME OF TAXABLE PARTY.		81 Lead 2 (sawtooth)	(User Assignable)																										
A A A A MILLS		82 Lead 3 (calliope)	(User Assignable)																										
																												83 Lead 4 (chiff)	(User Assignable)
	STATE TO STATE OF THE STATE OF	84 Lead 5 (charang)	CHICAGO																										
		85 Lead 6 (voice)	(User Assignable)																										
		86 Lead 7 (fifths)	(User Assignable)																										
		87 Lead 8 (bass and lead)	(User Assignable)																										

Sylenth 1 080: Pipe

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	080
PLUG-IN PRESET NAME	KEY Downpipe
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

084: Chicago

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	084
PLUG-IN PRESET NAME	KEY Chicago
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		•

1.6.3.12 Sylenth 'Synth Pad' Presets

SYNTH PADS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		88 Pad 1 (new age)	POWER
		89 Pad 2 (warm)	(User Assignable)
		90 Pad 3 (polysynth)	(User Assignable)
	The second second second	91 Pad 4 (choir)	(User Assignable)
	Breat traditionary	92 Pad 5 (bowed)	DOMI
		93 Pad 6 (metallic)	(User Assignable)
		94 Pad 7 (halo)	(User Assignable)
		95 Pad 8 (sweep)	(User Assignable)

Sylenth 1 088: Power

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	088
PLUG-IN PRESET NAME	LD ElectroHouse
PLUG-IN BANK NAME	
POLYPHONY (min.)	

		12
		The second secon
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		- 6

Sy	lenth 1 092: Domi	*
	RECEIVE MIDI CHANNEL#	3
	PROGRAM CHANGE #	092
	PLUG-IN PRESET NAME	Init (unnamed)
	PLUG-IN BANK NAME	
	POLYPHONY (min.)	

			12
TIMBRE	NOTE VELOCITY 0-127	V	
EXPRESSION	CC# 15 0-127	V	0

1.6.3.13 Sylenth 'Synth Effect' Presets

SYNTH EFFECTS	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		96 FX 1 (rain)	TALK
		97 FX 2 (soundtrack)	(User Assignable)
	ESS OF CARREST SEE SEE	98 FX 3 (crystal)	(User Assignable)
4000		99 FX 4 (atmosphere)	(User Assignable)
Y	(Parameter)	100 FX 5 (brightness)	DIGITAL
		101 FX 6 (goblins)	(User Assignable)
		102 FX 7 (echoes)	(User Assignable)
		103 FX 8 (sci-fi)	(User Assignable)

Sylenth 1 096: Talk

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	096
PLUG-IN PRESET NAME	LD TalkBox
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sylenth 1 100: Digital 🔻

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	100
PLUG-IN PRESET NAME	LD Digitaria
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.3.14 Sylenth 'Ethnic' Presets



Sylenth 1 104: Orch

	C To the state of
RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	104
PLUG-IN PRESET NAME	KEY Orchestra Hit
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sy	lenth 1 108: Juno	T
	RECEIVE MIDI CHANNEL#	
	PROGRAM CHANGE #	
	PLUG-IN PRESET NAME	Junhoove
	PLUG-IN BANK NAME	

POLYPHONY (min.)

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

3 **108**

USE

1.6.3.15 Sylenth 'Percussive' Presets

PERCUSSIVE	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		112 Tinkle Bell	PULSE
		113 Agogo	(User Assignable)
		114 Steel Drums	(User Assignable)
	200 - 4	115 Woodblock	(User Assignable)
		116 Taiko Drum	CRYSTAL
	Sent trademino	117 Melodic Tom	(User Assignable)
American Control		118 Synth Drum	(User Assignable)
		119 Reverse Cymbal	(User Assignable)

Sylenth 1	112: Pulse	▼	

NOTE OF THE PROPERTY OF THE PR	
RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	112
PLUG-IN PRESET NAME	PsyPulse
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sylenth 1 116: Crystal

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	116
PLUG-IN PRESET NAME	KEY Crystal Bells
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.3.16 Sylenth 'Sound Effect' Presets



Sylenth 1 120: Dew

RECEIVE MIDI CHANNEL#	3
PROGRAM CHANGE #	120
PLUG-IN PRESET NAME	PD Morning Dew
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Sy	lenth 1 124: Overture	*
	RECEIVE MIDI CHANNEL#	3
	PROGRAM CHANGE #	124
	PLUG-IN PRESET NAME	PD Overture
	PLUG-IN BANK NAME	
	POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		-

1.6.4 Sampler 1: Kontakt Instruments & Effects Pack 01

Native Instruments "Kontakt" sampler.



- Includes 32 'favorite' custom presets pre-loaded and optimized for SpaceHarp play and sonar height response.
- Unlimited user presets and banks may be added, limited only by host system memory.
- Up to 96 additional co-residing user presets may be added.
- Defaults to one Sonar effect in DeltaMatrix Controls: Modulation/Articulation.



 Includes automated setups for mapping the sampler's live instrument "articulation" from four ranges of sonar height (low, medium-low, high, highest). Controlled results include such as variations in brass attacks, string bows and plucks, woodwind attacks, and subtle and realistic variations of many orchestral instruments.



"A" denotes Presets with 4-zone Height Articulation Expression



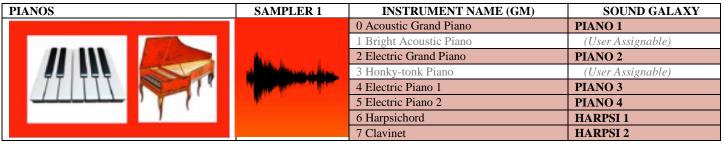
• SpaceHarp LED colors are mapped across the favorites library as a 32-hue, evenly spaced spectrum (Touch OSC is limited to 8-colors however):



 When each preset loads, a unique Instrument setup for the KONTAKT sampler is enabled for that DAW module. This is what's really going on behind the scenes, for each Preset:



1.6.4.1 Kontakt 'Piano' Presets





RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	000
PLUG-IN PRESET NAME	001 Upright Piano
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

⊘K□NTAKT 002: Piano 2

RECEIVE MIDI CHANNEL#	5	
PROGRAM CHANGE #	002	
PLUG-IN PRESET NAME	003 Mark I Classic	
PLUG-IN BANK NAME	Sound Galaxy Sampler 1	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		-

⊘K□NTAKT 004: Piano 3

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	004
PLUG-IN PRESET NAME	005 Rapman Piano
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

⊘K□NTAKT 005: Piano 4

5	
005	
006 DXY EP	
Sound Galaxy Sampler 1	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	V
		4

⊘К⊔NTAKT 006: Harpsi 1 ▼

RECEIVE MIDI CHANNEL#	5	
PROGRAM CHANGE #	006	
PLUG-IN PRESET NAME	007 Harpsichord	
PLUG-IN BANK NAME	Sound Galaxy Sampler 1	
POLYPHONY (min.)		

NOTE VELOCITY 0-127
CC# 15 0-127



@ KONTAKT

007: Harpsi 2



RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	007
PLUG-IN PRESET NAME	008 CP11 Harpsi
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

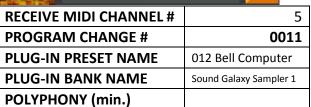
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

127

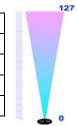
1.6.4.2 Kontakt 'Chromatic Percussion' Presets

CHROMATIC PERCUSSION	SYNTH 2	INSTRUMENT NAME (GM)	SOUND GALAXY	
		8 Celesta	(User Assignable)	
		9 Glockenspiel	(User Assignable)	
			10 Music Box	(User Assignable)
	Make a company	11 Vibraphone	BELL 1	
		12 Marimba	(User Assignable)	
	A Managara a distant	A September 1	13 Xylophone	(User Assignable)
	14 Tubular Bells	(User Assignable)		
	15 Dulcimer	BELL 2		

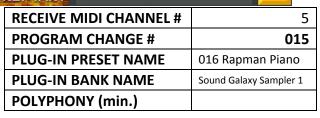
ØK□NTAKT 011: Bell 1



NOTE VELOCITY 0-127
CC# 15 0-127



ØKONTAKT 015: Bell 2



TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



127

127

1.6.4.3 Kontakt 'Organ' Presets

ORGANS		SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY																						
		1	16 Drawbar Organ	ORGAN 1																						
			17 Percussive Organ	ORGAN 2																						
allh.		Make at 1	18 Rock Organ	(User Assignable)																						
allillin		Name of the last	A STATE OF THE STA		A STATE OF THE STA	The second secon			A STATE OF THE STA		A STATE OF THE STA	A STATE OF THE STA	A STATE OF THE STA	A STATE OF THE STA	A STATE OF THE STA	A STATE OF THE STA	A STATE OF THE STA	A STATE OF THE STA	The second secon	ph the state of th	of the second second	and the second second	and the second second	and the second second	19 Church Organ	(User Assignable)
,,,,,,,,,,,																				20 Reed Organ	ORGAN 3					
		7	21 Accordion	HUMANA																						
			22 Harmonica	(User Assignable)																						
			23 Tango Accordion	(User Assignable)																						

01	KONTAKT	016: Organ 1	~
	RECEIVE I	MIDI CHANNEL #	

RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	016
PLUG-IN PRESET NAME	017 C3 Blues
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	
•	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

@KONTAKT U17: Orga	n z
RECEIVE MIDI CHANN	IEL# 5
PROGRAM CHANGE #	017
PLUG-IN PRESET NAM	018 Mellow Percussion Organ
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

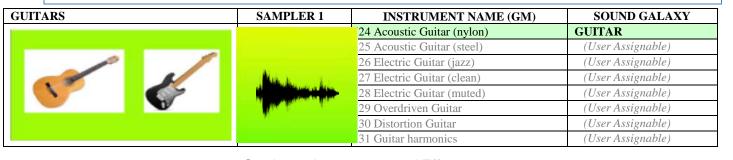
91	KDNTAKT 020: Organ 3	▼
	RECEIVE MIDI CHANNEL #	5
	PROGRAM CHANGE #	020
	PLUG-IN PRESET NAME	021 VSS-30 Jazz Organ
	PLUG-IN BANK NAME	Sound Galaxy Sampler 1
	POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Ø1	KONTAKT 021: Humana	▼		
	RECEIVE MIDI CHANNEL#			5
	PROGRAM CHANGE #		0	21
	PLUG-IN PRESET NAME	022 Vox		
	PLOG-IN PRESET NAIVIE	Humana		
	PLUG-IN BANK NAME	Sound Galaxy	Sample	r 1
	POLYPHONY (min.)			

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.4.4 Kontakt 'Guitar' Presets



USE

127

KONTAKT 024: Guitar	*
RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	024
PLUG-IN PRESET NAME	025 Nylon Guitar
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.4.5 Kontakt 'Bass' Presets

BASS	SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY					
		32 Acoustic Bass	BASS 1					
1 3		33 Electric Bass (finger)	BASS 2					
\	Au	34 Electric Bass (pick)	(User Assignable)					
A .	of the latest states	35 Fretless Bass 36 Slap Bass 1	35 Fretless Bass	(User Assignable)				
4 A.			A CONTRACTOR OF THE PARTY OF TH	A CONTRACTOR OF THE PARTY OF TH	A Company of the last of the l	A CONTRACTOR OF THE PARTY OF TH	A CONTRACTOR OF THE PARTY OF TH	A CONTRACTOR OF THE PARTY OF TH
	A STATE OF THE STA	37 Slap Bass 2	(User Assignable)					
		38 Synth Bass 1	BASS 3					
		39 Synth Bass 2	(User Assignable)					

ØK□NTAKT 032: Bass 1

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	032
PLUG-IN PRESET NAME	033 Classic Bass
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

ØKONTAKT 033: Bass 2

RECEIVE MIDI CHANNEL#	5	
PROGRAM CHANGE #	033	
PLUG-IN PRESET NAME	034 Deep Bass	
PLUG-IN BANK NAME	Sound Galaxy Sampler 1	
POLYPHONY (min.)		

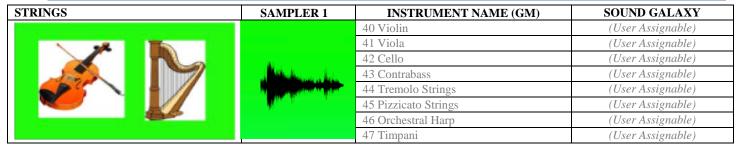
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

ØK□NTAKT 038: Bass 3

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	038
PLUG-IN PRESET NAME	039 Loaded Tube Bass 1
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.4.6 Kontakt 'String' Presets



LIBRARY

1.6.4.7 Kontakt 'String & Voice' Presets

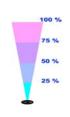
STRINGS and VOICES	SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY
24		48 String Ensemble 1	STRINGS 1-A
		49 String Ensemble 2	(User Assignable)
* 1 45454	Mark 1	50 Synth Strings 1	(User Assignable)
t i de di LIVITATA	de la	51 Synth Strings 2	STRINGS 2
2.2.基.2. 向公前公前	Mary Linear Street	52 Choir Aahs	(User Assignable)
	7"	53 Voice Oohs	(User Assignable)
		54 Synth Voice	(User Assignable)
		55 Orchestra Hit	(User Assignable)

⊘K□NTAKT 048: Strings 1-A



RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	048
PLUG-IN PRESET NAME	049 String Ensemble
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

ARTICULATION 76-100%	Attack Type 1
ARTICULATION 51-75%	Attack Type 2
ARTICULATION 26-50%	Attack Type 3
ARTICULATION 1-25%	Attack Type 4
TIMBRE: Velocity	EXP: CC 15



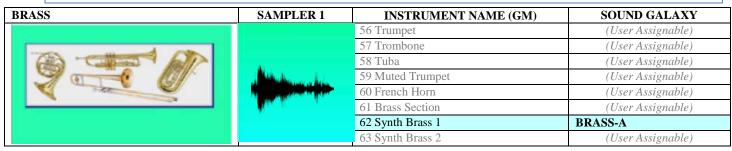
⊘KUNTAKT 051: Strings 2

RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	051
PLUG-IN PRESET NAME	052 High Strings
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

OTE VELOCITY 0-127
C# 15 0-127

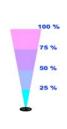


1.6.4.8 Kontakt 'Brass' Presets

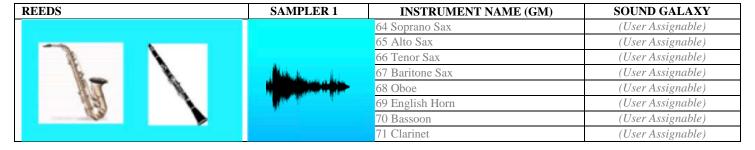


0	KONTAKT	062: Brass-A	-
	RECEIVE I	MIDI CHANNEL#	5
	PROGRAM	И CHANGE #	062
	PLUG-IN I	PRESET NAME	063 Brass Ensemble
	PLUG-IN E	BANK NAME	Sound Galaxy Sampler 1
	POLYPHO	NY (min.)	

ARTICULATION 76-100%	Attack Type 1
ARTICULATION 51-75%	Attack Type 2
ARTICULATION 26-50%	Attack Type 3
ARTICULATION 1-25%	Attack Type 4
TIMBRE: Velocity	EXP: CC 15



1.6.4.9 Kontakt 'Reed' Presets



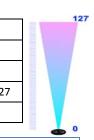
1.6.4.10 Kontakt 'Pipe' Presets

PIPES	SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY													
		72 Piccolo	(User Assignable)													
Automotive.		73 Flute	(User Assignable)													
1,10,10,10	At .	74 Recorder	(User Assignable)													
The state of the s	of the later of the	n difference or from	n dibeliane a frie	A State of the	n Market His	A STATE OF THE PARTY OF THE PAR	A STATE OF THE PARTY OF THE PAR	A STATE OF THE PARTY OF THE PAR	A STATE OF THE PARTY OF THE PAR	A CONTRACTOR OF THE PARTY OF TH	at the beauty of hear	at the beauty of hear	A Marketini o kan	and the state of the same	75 Pan Flute	(User Assignable)
The state of the s											76 Blown Bottle	(User Assignable)				
	Nic. 1	77 Shakuhachi	(User Assignable)													
		78 Whistle	WHISTLE													
		79 Ocarina	(User Assignable)													

© KONTAKT 078: Whistle ▼

RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	078
PLUG-IN PRESET NAME	079 High Whistle
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	
•	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



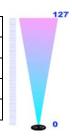
1.6.4.11 Kontakt 'Synth Lead' Presets

SYNTH LEADS	SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY													
		80 Lead 1 (square)	(User Assignable)													
7,447.00		81 Lead 2 (sawtooth)	(User Assignable)													
A A A A MILLS	Make 1	82 Lead 3 (calliope)	(User Assignable)													
		the state of the s		d Marinet et Athe								d the second second	d Control of the	d Committee of the	83 Lead 4 (chiff)	(User Assignable)
	A State of S	84 Lead 5 (charang)	STAB													
	7	85 Lead 6 (voice)	(User Assignable)													
		86 Lead 7 (fifths)	(User Assignable)													
The same of the sa		87 Lead 8 (bass and lead)	(User Assignable)													

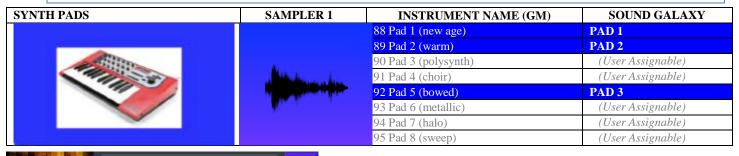
© K□NTAKT 084: Stab ▼

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	084
PLUG-IN PRESET NAME	085 Fat Staccato
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



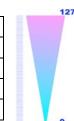
1.6.4.12 Kontakt 'Synth Pad' Presets



ØK□NTAKT 088: Pad 1

15 (All 1971) 1 (A	
RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	088
PLUG-IN PRESET NAME	089 Heaven's Sake
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

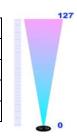
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



⊘K□NTAKT 089: Pad 2

The last term had been been all the second to be a	400
RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	089
PLUG-IN PRESET NAME	090 Uncertain Rising
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



@KONTAKT 092: Pad 3

RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	092
PLUG-IN PRESET NAME	093 Strings Attached
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.4.13 Kontakt 'Synth Effect' Presets

SYNTH EFFECTS	SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY																				
		96 FX 1 (rain)	(User Assignable)																				
The second secon		97 FX 2 (soundtrack)	(User Assignable)																				
	Make a control	98 FX 3 (crystal)	(User Assignable)																				
A STATE OF THE PARTY OF THE PAR	of the second of the	A Particular of Alba-	of property of from	A PROPERTY OF PARTY	A CONTRACTOR OF PARTY	A PROPERTY OF PARTY	of the second second	of the second second	Name of the							the state of the	d the state of the			de la	the state of the s	99 FX 4 (atmosphere)	(User Assignable)
Y										100 FX 5 (brightness)	(User Assignable)												
		101 FX 6 (goblins)	(User Assignable)																				
-		102 FX 7 (echoes)	(User Assignable)																				
		103 FX 8 (sci-fi)	(User Assignable)																				

1.6.4.14 Kontakt 'Ethnic' Presets

ETHNIC	SAMPLER 1	INSTRUMENT NAME (GM)	SOUND GALAXY												
		104 Sitar	(User Assignable)												
		105 Banjo	(User Assignable)												
3	Mikelingskin	106 Shamisen	(User Assignable)												
		and the state of the same	at the state of the same	and the state of the same	nd Miller Marianity of Artist	A State State of the last	nd the state of the same	at the state of the same	and the state of the same	at the state of the same	at the state of the same	A State State of the last	at the state of th	at the state of the same	107 Koto
	A CHARLEST CONTRACT OF THE CON	108 Kalimba	KALIMBA												
	y *** '	109 Bag pipe	109 Bag pipe	(User Assignable)											
		110 Fiddle	(User Assignable)												
		111 Shanai	(User Assignable)												

ØK□NTAKT 107: Kora

RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	107
PLUG-IN PRESET NAME	108 Kora
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	
·	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

127

⊘ K□NTAKT 108: Kalimba

RECEIVE MIDI CHANNEL #	5	
PROGRAM CHANGE #	108	
PLUG-IN PRESET NAME	109 Kalimba	
PLUG-IN BANK NAME	Sound Galaxy Sampler 1	
POLYPHONY (min.)		

111112112		
	TIMBRE	NOTE VELOCITY 0-127
EXPRESSION CC# 15 0-127	EXPRESSION	CC# 15 0-127

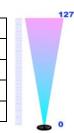
1.6.4.15 Kontakt 'Percussive' Presets



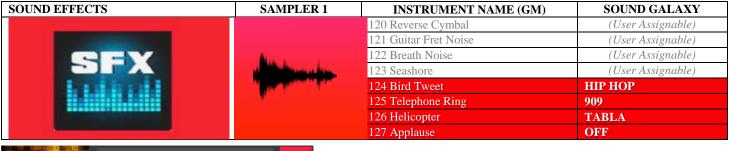
⊘K□NTAKT 114: Steel Drum

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	114
PLUG-IN PRESET NAME	115 Steel Drum
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



1.6.4.16 Kontakt 'Sound Effect' Presets



⊘KONTAKT 124: Hip Hop

RECEIVE MIDI CHANNEL#	5
PROGRAM CHANGE #	124
PLUG-IN PRESET NAME	089 Cash Flow
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

⊘K□NTAKT 125: 909

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	125
PLUG-IN PRESET NAME	126 909 Kit
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

		12
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		0

⊘К□NTAKT 126: Tabla

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	126
PLUG-IN PRESET NAME	127 Tabla
PLUG-IN BANK NAME	Sound Galaxy Sampler 1
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

ØKONTAKT 127: OFF

RECEIVE MIDI CHANNEL #	5
PROGRAM CHANGE #	127
PLUG-IN PRESET NAME	(null instrument)
PLUG-IN BANK NAME	'n/a
POLYPHONY (min.)	

1.6.5 Sampler 2: Ableton Live Instruments & Effects Pack 01

Ableton Live 9 Suite using its sampler "Packs."



- Includes 32 'favorite' custom presets pre-loaded and optimized for SpaceHarp play and sonar height response.
- Unlimited user presets and banks may be added, limited only by host system memory.
- Up to 96 additional co-residing user presets may be added.
- Defaults to one Sonar effect in DeltaMatrix Controls: Modulation/Articulation.



• Includes automated setups for mapping instrument "articulation" to four ranges of sonar height (low, medium-low, high, highest). Controlled results include such as variations in brass attacks, string bows and plucks, woodwind attacks, and subtle and realistic variations of many orchestral instruments.



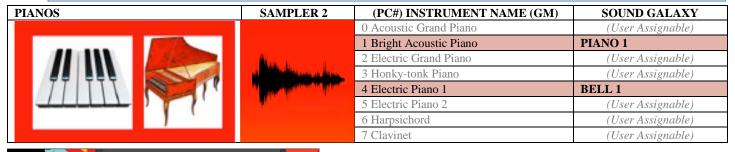
 SpaceHarp LED colors are mapped across the favorites library as a 32-hue, evenly spaced spectrum (Touch OSC is limited to 8-colors however):



• When each preset loads, a unique Instrument setup for the LIVE PACKS sampler is enabled for that DAW module. This is what's really going on behind the scenes, for each Preset:



1.6.5.1 Ableton Live Sampler 'Piano' Presets



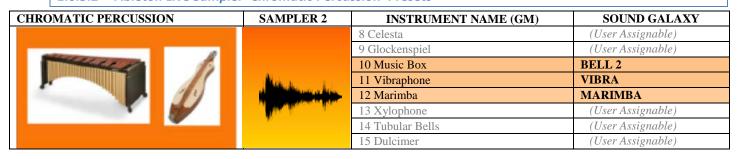
live	001: Piano 1		
	RECEIVE MIDI CHANNEL#		6
	PROGRAM CHANGE #		001
	PLUG-IN PRESET NAME	Grand Piano	
	PLUG-IN BANK NAME		
	POLYPHONY (min.)		
6	004: Bell 1	~	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127
	1

RECEIVE MIDI CHANNEL#		6
PROGRAM CHANGE #		004
PLUG-IN PRESET NAME	Bell E Piano	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127
	<u>.</u>

1.6.5.2 Ableton Live Sampler 'Chromatic Percussion' Presets



live	010: Bell 2	*	
	RECEIVE MIDI CHANNEL#		6
	PROGRAM CHANGE #		0010
	PLUG-IN PRESET NAME	Underwater Grain	Reverb
	PLUG-IN BANK NAME		
	POLYPHONY (min.)		•

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

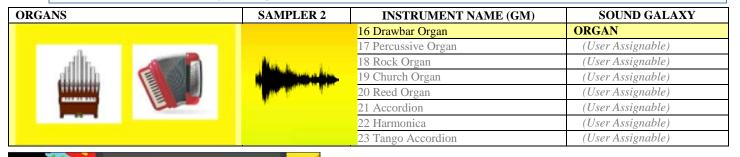
live	011: Vibra	*	
	RECEIVE MIDI CHANNEL#		6
	PROGRAM CHANGE #		0011
	PLUG-IN PRESET NAME	Vibraphone	
	PLUG-IN BANK NAME		
	POLYPHONY (min.)		

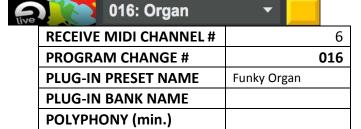
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

ve	012: Marimba	*	
	RECEIVE MIDI CHANNEL#	6	;
	PROGRAM CHANGE #	012	
	PLUG-IN PRESET NAME	Marimba	
	PLUG-IN BANK NAME		
	POLYPHONY (min.)		

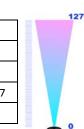
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

1.6.5.3 Ableton Live Sampler 'Organ' Presets

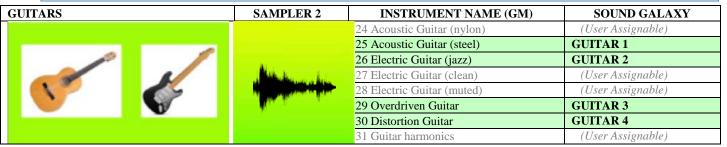




NOTE VELOCITY 0-127
CC# 15 0-127



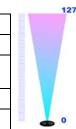
1.6.5.4 Ableton Live Sampler 'Guitar' Presets



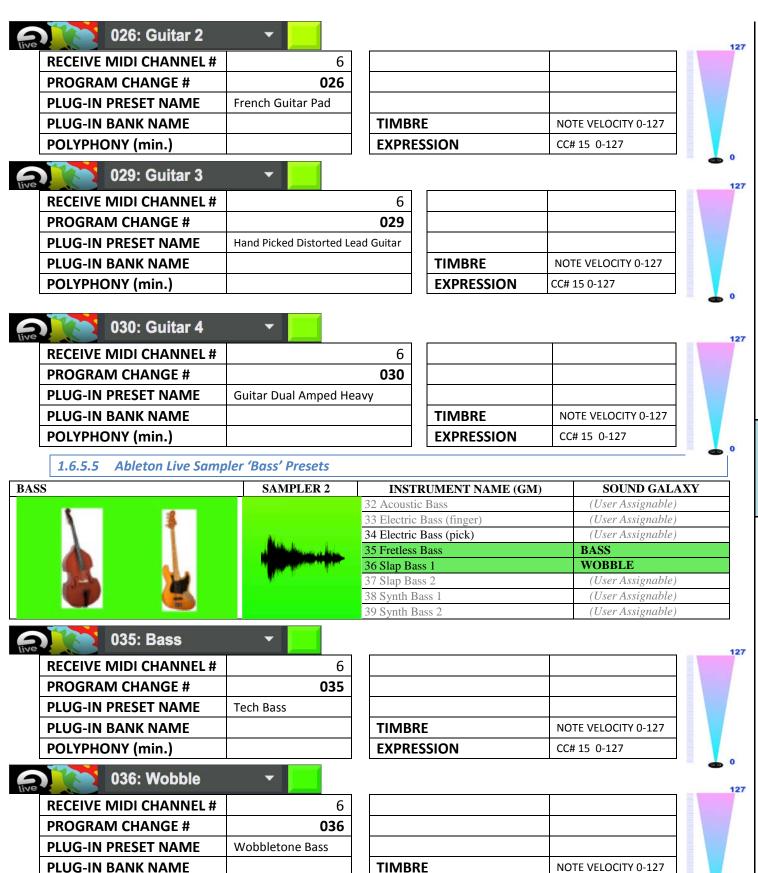
025: Guitar 1

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	025
DILLO IN DESCET MANAGE	Guitar Soft Tremolo
PLUG-IN PRESET NAME	Room
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



USE



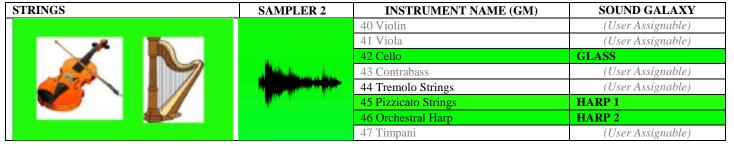
EXPRESSION

POLYPHONY (min.)

CC# 15 0-127

USE

1.6.5.6 Ableton Live Sampler 'String' Presets

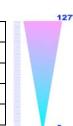


live

042: Glass

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	042
PLUG-IN PRESET NAME	IDM Pluck
PLUG-IN BANK NAME	
POLYPHONY (min.)	

NOTE VELOCITY 0-127
CC# 15 0-127



[ive

045: Harp 1

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	045
PLUG-IN PRESET NAME	Plucked String Synth Keys
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

127

live

046: Harp 2

RECEIVE MIDI CHANNEL#		6
PROGRAM CHANGE #		046
PLUG-IN PRESET NAME	Flange Harp	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



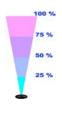
SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY	
	48 String Ensemble 1	STRINGS 1-A	
		49 String Ensemble 2	(User Assignable)
Mark to the	50 Synth Strings 1	STRINGS 2	
photography is fit in	51 Synth Strings 2	(User Assignable)	
All the state of t	52 Choir Aahs	(User Assignable)	
7	53 Voice Oohs	(User Assignable)	
	54 Synth Voice	(User Assignable)	
	55 Orchestra Hit	(User Assignable)	
	SAMPLER 2	48 String Ensemble 1 49 String Ensemble 2 50 Synth Strings 1 51 Synth Strings 2 52 Choir Aahs 53 Voice Oohs 54 Synth Voice	

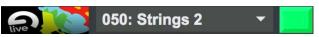


048: Strings 1-A

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	048
PLUG-IN PRESET NAME	Strings Ensemble
PLUG-IN BANK NAME	
POLYPHONY (min.)	

ARTICULATION 76-100%	Pizzicato
ARTICULATION 51-75%	Staccato
ARTICULATION 26-50%	Tremolo
ARTICULATION 1-25%	Legato
TIMBRE: Velocity	EXP: CC 15





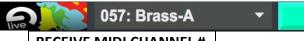
RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	050
PLUG-IN PRESET NAME	String Celtic Cello
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



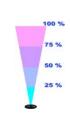
1.6.5.8 Ableton Live Sampler 'Brass' Presets

BRASS	SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		56 Trumpet	(User Assignable)
4 00		57 Trombone	BRASS-A
		58 Tuba	(User Assignable)
		59 Muted Trumpet	(User Assignable)
		60 French Horn	(User Assignable)
	61 Brass Section	(User Assignable)	
		62 Synth Brass 1	(User Assignable)
		63 Synth Brass 2	(User Assignable)



RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	057
PLUG-IN PRESET NAME	Trombone Section
PLUG-IN BANK NAME	
POLYPHONY (min.)	
·	

ARTICULATION 76-100%	Staccato
ARTICULATION 51-75%	Sforzando
ARTICULATION 26-50%	Mute Legato
ARTICULATION 1-25%	Legato
TIMBRE: Velocity	EXP: CC 15



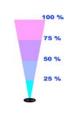
1.6.5.9 Ableton Live Sampler 'Reed' Presets

REEDS	SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY
		64 Soprano Sax	(User Assignable)
-		65 Alto Sax	(User Assignable)
		66 Tenor Sax	(User Assignable)
1	A Charles of the Control of the Cont	67 Baritone Sax	(User Assignable)
AT I	The second from the page.	68 Oboe	OBOE-A
1/20	No. of Contract of	69 English Horn	HORN-A
Car Car		70 Bassoon	BASSOON-A
		71 Clarinet	CLARINET-A



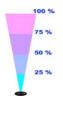
RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	068
PLUG-IN PRESET NAME	Oboe Solo
PLUG-IN BANK NAME	
POLYPHONY (min.)	

ARTICULATION 76-100%	Staccato
ARTICULATION 51-75%	Trills
ARTICULATION 26-50%	Legato
ARTICULATION 1-25%	Legato Vibrato
TIMBRE: Velocity	EXP: CC 15



069: Horn-A	*
RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	069
PLUG-IN PRESET NAME	English Horn Solo
PLUG-IN BANK NAME	
POLYPHONY (min.)	

ARTICULATION 76-100%	Staccato
ARTICULATION 51-75%	Trills
ARTICULATION 26-50%	Legato
ARTICULATION 1-25%	Legato Vibrato
TIMBRE: Velocity	EXP: CC 15

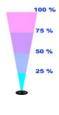


live

070: Bassoon-A

RECEIVE MIDI CHANNEL#		6
PROGRAM CHANGE #		070
PLUG-IN PRESET NAME	Bassoon Solo	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

ARTICULATION 76-100%	Staccato
ARTICULATION 51-75%	Trills
ARTICULATION 26-50%	Legato
ARTICULATION 1-25%	Legato Vibrato
TIMBRE: Velocity	EXP: CC 15

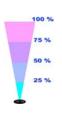


live

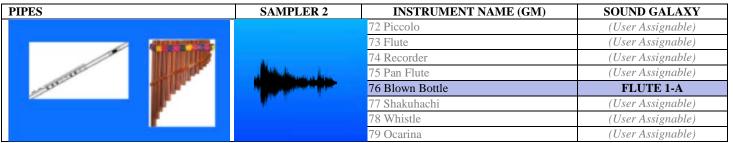
071: Clarinet-A

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	071
PLUG-IN PRESET NAME	Bb Clarinet Solo
PLUG-IN BANK NAME	
POLYPHONY (min.)	

ARTICULATION 76-100%	Staccato
ARTICULATION 51-75%	Trills
ARTICULATION 26-50%	Legato
ARTICULATION 1-25%	Legato Vibrato
TIMBRE: Velocity	EXP: CC 15



1.6.5.10 Ableton Live Sampler 'Pipe' Presets

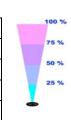




076: Flute 1-A

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	076
PLUG-IN PRESET NAME	Pan Flute Winds
PLUG-IN BANK NAME	
POLYPHONY (min.)	

EXPRESSION	EXPRESSION
TIMBRE	NOTE VELOCITY 0-127



1.6.5.11 Ableton Live Sampler 'Synth Lead' Presets

SYNTH LEADS	SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY	
		80 Lead 1 (square)	(User Assignable)	
C. (400)		81 Lead 2 (sawtooth)	FLUTE 2	
A A A attlia	Make it	82 Lead 3 (calliope)	TRON	
	A PARTIE AND A PAR	A STATE OF THE STA	83 Lead 4 (chiff)	(User Assignable)
			Mary Mary and Ass.	84 Lead 5 (charang)
	70	85 Lead 6 (voice)	(User Assignable)	
		86 Lead 7 (fifths)	(User Assignable)	
And the second s		87 Lead 8 (bass and lead)	(User Assignable)	

081: Flute 2	*
RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	081
PLUG-IN PRESET NAME	Wind 1000
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

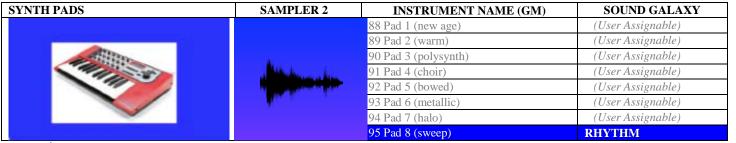
DECEIVE N

082: Tron

RECEIVE MIDI CHANNEL#		6
PROGRAM CHANGE #		082
PLUG-IN PRESET NAME	Tron Lead	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		•

1.6.5.12 Ableton Live Sampler 'Synth Pad' Presets



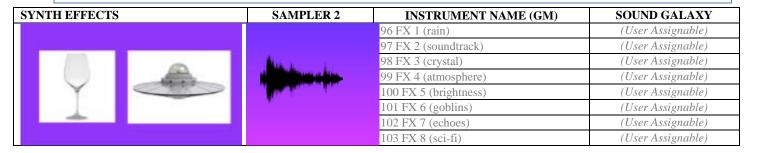
095: Rhythm

RECEIVE MIDI CHANNEL #	6
PROGRAM CHANGE #	095
PLUG-IN PRESET NAME	RHY Ultra Tremble
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

Y 0-127

1.6.5.13 Ableton Live Sampler 'Synth Effect' Presets



TROUBLESHOOT

1.6.5.14 Ableton Live Sampler 'Ethnic' Presets

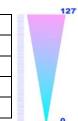
ETHNIC	SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY	
		104 Sitar	(User Assignable)	
the state of the s		105 Banjo	(User Assignable)	
2	AV., L	106 Shamisen	SHAMISEN	
	of the state of th	107 Koto 108 Kalimba	107 Koto	(User Assignable)
			108 Kalimba	(User Assignable)
	W	109 Bag pipe	(User Assignable)	
		110 Fiddle	(User Assignable)	
		111 Shanai	(User Assignable)	

live

106: Shamisen

RECEIVE MIDI CHANNEL#		6
PROGRAM CHANGE #		106
PLUG-IN PRESET NAME	Shamisen	
PLUG-IN BANK NAME		
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

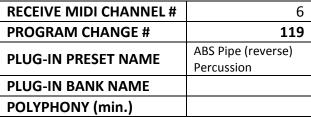


1.6.5.15 Ableton Live Sampler 'Percussive' Presets

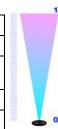
PERCUSSIVE	SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY											
	112 Tinkle Bell	(User Assignable)												
The second secon	n <mark>ijihahamahia</mark>	113 Agogo	(User Assignable)											
		Make a second	Make to the	Mark to the	Mark to the	Mark to 1	Mark to 1	Make to the	Mark to 1	Make to the	Mark to the	Mark to 1	114 Steel Drums	(User Assignable)
		115 Woodblock	(User Assignable)											
		No. of Superior Superior	W. W. Branning Iv.	116 Taiko Drum	(User Assignable)									
			117 Melodic Tom	(User Assignable)										
4								118 Synth Drum	(User Assignable)					
		119 Reverse Cymbal	NOISE 1											



119: Noise 1



TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



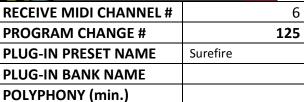
TROUBLESHOOT

1.6.5.16 Ableton Live Sampler 'Sound Effect' Presets

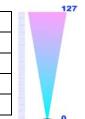
SOUND EFFECTS	SAMPLER 2	INSTRUMENT NAME (GM)	SOUND GALAXY	
		120 Reverse Cymbal	(User Assignable)	
		121 Guitar Fret Noise	(User Assignable)	
CEV	A A A A A A A A A A A A A A A A A A A	122 Breath Noise	(User Assignable)	
		123 Seashore	123 Seashore	(User Assignable)
London and A		124 Bird Tweet	(User Assignable)	
		125 Telephone Ring	DRUMS 1	
		126 Helicopter	DRUMS 2	
		127 Applause	OFF	



125: Drums 1



TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127





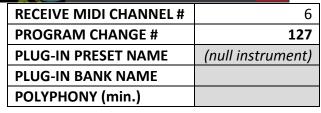
126: Drums 2

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	126
PLUG-IN PRESET NAME	Kindified Kit 13
PLUG-IN BANK NAME	
POLYPHONY (min.)	

		127
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		_ _ 0



127: OFF



1.6.6 Vocoder: Vocal Effects for Sylenth Pack 01

Ableton Live's 'Vocoder' with SpaceHarp presets & effects



- Includes 7 'favorite' custom presets pre-loaded and optimized for SpaceHarp play and sonar height response.
- Unlimited user presets and banks may be added, limited only by host system memory.
- Up to 121 additional co-residing user presets may be added.
- Defaults to one Sonar effect in DeltaMatrix Controls: Modulation/Articulation.
- Sonar ▼ 1. Mod/Art ▼ none ▼ none ▼
- SpaceHarp LED colors are mapped across the favorites library as a 12-hue, evenly spaced spectrum.



1.6.6.1 Sylenth (2nd) Vocoder Oscillator Presets

The Vocoder Presets are not aligned with GM instrument names. They are simply nicely "spaced" over the program change numbers, for clearest LED-colors distinction.

■ 010: Poly: Smooth 🔻 🗖

RECEIVE MIDI CHANNEL#	6
PROGRAM CHANGE #	010
PLUG-IN PRESET NAME	011 ARP Man &
TEOG-INT RESET INAME	Machine
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

■ 040: Mono: Clear 🔻 🔻

RECEIVE MIDI CHANNEL #	6
PROGRAM CHANGE #	040
PLUG-IN PRESET NAME	041 LD Bandisto
PLUG-IN BANK NAME	
POLYPHONY (min.)	
POLYPHONY (min.)	

<u> </u>		
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

■ 050: Mono: Tremolo 🔻 🗖

RECEIVE MIDI CHANNEL #	6
PROGRAM CHANGE #	50
PLUG-IN PRESET NAME	051 LD Exceeder
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

■ 060: Boy Band ▼ ■

RECEIVE MIDI CHANNEL #	6
PROGRAM CHANGE #	60
PLUG-IN PRESET NAME	061 LD Mega Lead
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

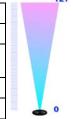
RECEIVE MIDI CHANNEL #		6
PROGRAM CHANGE #		80
PLUG-IN PRESET NAME	081 GAT	
PLUG-IN PRESET NAIVIE	Subconscious	
PLUG-IN BANK NAME		
POLYPHONY (min.)		
	•	

	Market 1971 1972 1972
TIMBRE NOTE VELOCIT	Y 0-127
EXPRESSION CC# 15 0-127	- 1

RECEIVE MIDI CHANNEL #	6
PROGRAM CHANGE #	90
DILLC IN DESCET MANAGE	091 BS Oldskool
PLUG-IN PRESET NAME	Acid
PLUG-IN BANK NAME	
POLYPHONY (min.)	

■ 090: Mono: Gliss

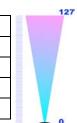
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



■ 100: Choral

RECEIVE MIDI CHANNEL #	6
PROGRAM CHANGE #	100
PLUG-IN PRESET NAME	101 PD ChillPad
PLUG-IN BANK NAME	
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



1.6.7 Drum Machine: HandSonic Presets Pack 01

External HandSonic HPD-15 with Player-Live Kit setups (example of external MIDI module)



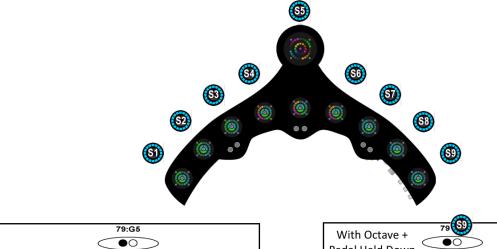
- Not for backing or loops, for SpaceHarp live triggers.
- Includes 24 'favorite' custom presets optimized for SpaceHarp play and sonar height response.

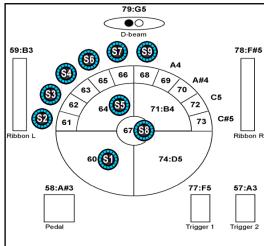


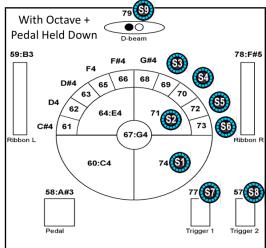
- Unlimited user presets and banks may be added.
- Up to 104 additional co-residing user presets may be added.
- Added as an available 'bonus live layer' to any mix of SYNTH 1&2, SAMPLER 1&2 & VOCODER plug-in modules.
- External MIDI hardware device instrument presets are not displayed on SpaceHarp's "ring" LEDs.
- Live triggers and time-quantized, auto-sustained response are fully displayed on SpaceHarp's "Inner" LEDs.
- Live SpaceHarp Triggers also light the corresponding Pad LED's on the HandSonic HPD-15 Digital Drum Instrument as well.
- External MIDI devices are not routed through the DeltaMatrix Controls. They are an added layer.

The following figures show how the SpaceHarp sensors, numbered S1 to S9 left to right on the controller, map to the HandSonic drum pads.

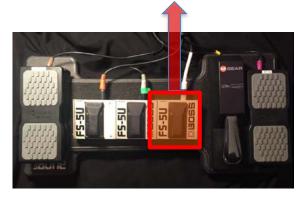
- When the recommended SpaceHarp Pedal Board is connected, by default, the left-hand group of HandSonic Pads shown below are active.
- When the Octave Up+ pedal is held, the right-hand group of HandSonic Pads shown below are active. (Beta-test version may not have this feature active.)







Press Octave+ Foot Switch For 2nd Half of HandSonic Triggers



1.6.7.1 HandSonic HPD-15 Presets

For convenience, the external drum machine HandSonic HPD-15 Presets in Sound Galaxy are not aligned with GM instrument names but rather to Roland's Program Change List for this instrument. We picked twenty-four "favorites" for our Library 01 Preset Automation Tracks and UI controls.

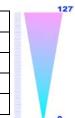
The live Drum Kit may be added to any combination of one up to four DAW modules. SpaceHarp LEDs do not reflect external devices, instead only showing presets for DAW soft plug-in instruments. However the Preset Patch colors do show in the Max windows and remote controls.

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004: Latin/ Conga

RECEIVE MIDI CHANNEL#		10
PROGRAM CHANGE #		004
PRESET NAME	Conga	
BANK NAME	Latin	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

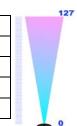




005: Latin/ Timbale Mix

RECEIVE MIDI CHANNEL#	10
PROGRAM CHANGE #	005
PRESET NAME	Timbale Mix
BANK NAME	Latin
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

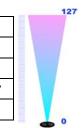




017: Latin/ Surdo II

	10
	017
Surdo II	
Latin	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127





018: Latin/ Brazil Mix

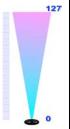
RECEIVE MIDI CHANNEL #	-	10
PROGRAM CHANGE #	01	18
PRESET NAME	Brazil Mix	
BANK NAME	Latin	
POLYPHONY (min.)		

		١
		١
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

023: African/ Djembe

RECEIVE MIDI CHANNEL#		10
PROGRAM CHANGE #		023
PRESET NAME	Djembe	
BANK NAME	African	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

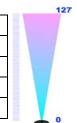




025: African/ Frame Drum

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	025
PRESET NAME	Frame Drum
BANK NAME	African
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

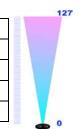




026: African/ Pot Drum

RECEIVE MIDI CHANNEL #		10
PROGRAM CHANGE #		026
PRESET NAME	Pot Drum	
BANK NAME	African	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

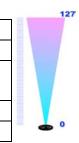




035: African/ Nature Perc

RECEIVE MIDI CHANNEL #		10
PROGRAM CHANGE #		035
PRESET NAME	Nature	
	Percussion	
BANK NAME	African	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	-
·	·	=

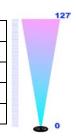




037: African/ Talking Drum II

10
037
Talking Drum II
African

/ELOCITY 0-127
0-127



040: Indian/ Dholak	▼

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	040
PRESET NAME	Dholak
BANK NAME	Indian
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

042: Indian/ Dhol

RECEIVE MIDI CHANNEL#	10
PROGRAM CHANGE #	042
PRESET NAME	Dhol
BANK NAME	Indian
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127

063: Asian/ Java Gameln

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	063
PRESET NAME	Java Gamelin
BANK NAME	Asian
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
-		

065: Asian/ Bali & Java

RECEIVE MIDI CHANNEL#		10
PROGRAM CHANGE #		065
PRESET NAME	Bali & Java	
BANK NAME	Asian	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	V



066: Asian/ Gongs

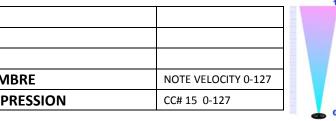
RECEIVE MIDI CHANNEL #		10
PROGRAM CHANGE #		066
PRESET NAME	Gongs	
BANK NAME	Asian	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
		- 4

077: Orchestral/ Timpani

RECEIVE MIDI CHANNEL#		10
PROGRAM CHANGE #		077
PRESET NAME	Timpani	
BANK NAME	Orchestral	
POLYPHONY (min.)		

NOTE VELOCITY 0-127
CC# 15 0-127



079: Orchestral/ Light Perc

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	079
PRESET NAME	Light Percussion
BANK NAME	Orchestral
POLYPHONY (min.)	

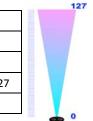
TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



080: Orchestral/ Percussion

RECEIVE MIDI CHANNEL #		10
PROGRAM CHANGE #		080
PRESET NAME	Percussion	
BANK NAME	Orchestral	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



082: Drums/ Standard

RECEIVE MIDI CHANNEL #		10
PROGRAM CHANGE #		082
PRESET NAME	Standard	
BANK NAME	Drums	
POLYPHONY (min.)		

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	



99: Drums/ Techno Gate

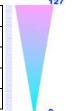
RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	099
PRESET NAME	Techno Gate
BANK NAME	Drums
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

101: Drums/ Junky Drums

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	101
PRESET NAME	Junky Drums
BANK NAME	Drums
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127





110: Dance/ Cosmo 21

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	110
PRESET NAME	Cosmo 21
BANK NAME	Dance
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127
EXPRESSION	CC# 15 0-127



117: Dance/ Sweep 808

RECEIVE MIDI CHANNEL #		10
PROGRAM CHANGE #		117
PRESET NAME	Sweep 808	
BANK NAME	Dance	
POLYPHONY (min.)		

		I
TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	



120: Dance/ Amber Water

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	120
PRESET NAME	Amber Water
BANK NAME	Dance
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	
_	•	•



127: SFX/ Psycho Drama

RECEIVE MIDI CHANNEL #	10
PROGRAM CHANGE #	127
PRESET NAME	Psycho Drama
BANK NAME	SFX
POLYPHONY (min.)	

TIMBRE	NOTE VELOCITY 0-127	
EXPRESSION	CC# 15 0-127	

1.7 SONG LIBRARY 01: MULTI-GENRE DEMO

1.7.1 Electronic Dance Music (EDM)

` `	AHEE	NAMM Demo
AHEE		Massive: Keys 2; Lead 2; Stab 3; Rave 2; Arp 3; Stab 1
		Sylenth: Stabs; Ravers; Digital; Pulse; Laserz
NAMM		(Beta 2.x only – muted/ in develop.)
AHEE	AHEE	Glowing Soul
(C)		Kontakt: Guitar; Harpsichord 1; Kora; Piano 4; Organ 3;
Glow Soul 4:26		Harpsichord 2
AHEE	AHEE	AHEE Is
AHEE IS 7:44		Massive: Arp 2; Arp 3; Lead 2; Keys 1; Lead 1
AHEE	AHEE	Stomp
Stomp!		Massive: (Manual Preset Select; no automation track) (Beta 2.x only – muted/ in develop.)
AHEE	AHEE	Vibz
		Massive: Rave 3; Bass 3
Vibez 6:01		Sylenth: Crystal; Pulse
AHEE	AHEE	Snow
		Massive: Rave 3; Bass 3; Bass 2; Pluck 2
Snow 6:09		Sylenth: Crystal; Metal; Talk; Trance; Wobble

Massive: Lead 1; Lead 2; Rave 2; Rave 3 Voyage House 4:00 AHEE Space Womp Massive: Pluck 4; Lead 2; Pluck 1	
Massive: Pluck 4; Lead 2; Pluck 1	
HPD-15: African/Nature Percussion; Indian/Dhol;	
Space Womp 3:04 Dance/Cosmo 21; JunkyDrums	
Heartwurkz HEARTWURKZ Breath Beats	
Massive: Bass 2; Pluck 5; Lead 2; Arp 1; Sfx 3; Lead 3 Breath Beats 4:08	
Heartwurkz HEARTWURKZ Everything	
Massive: Keys 2; Rave 3; Bass 2; Lead 1 Everything 3:05	
Heartwurkz HEARTWURKZ Give and Take	
Massive: Keys 1; Keys 2; Rave 1	
Sylenth: Crystal; Metal; Pipe Give & Take	
3:14 Heartwurkz HEARTWURKZ Rise In Love	
Massive: Sfx 3; Keys1; Sfx 1; Pad 1; Bass 2 Rise in Love 2:37	
Techno TECHNO DEMO Drums Demo	
HPD-15: African/Nature Percussion; Indian/Dholak; African/Frame Drum; Dance/Junky Drums; Dance/Cosmo	o 21

1.7.2 Pop

A. Morissette	A. MORISSETTE	Your House
Your House 3:07		Live Packs: Strings 1-A; Guitar 1; Glass; Brass-A
AVICII	AVICII	Wake Me Up
		Massive: Lead 2
Wake Me Up		Live Packs: Strings 1-A
The Beatles	BEATLES	Let It Be
Let It Be 3:58		Live Packs: Guitar-1; Glass; Strings 1-A; Brass-A; Oboe-A; Clarinet-A
Coldplay	COLDPLAY	Viva La Vida
Viva La Vida 4:01		Kontakt: Harpsichord 1; Guitar; Strings 1-A; Brass-A
Daft Punk	DAFT PUNK	Get Lucky
Get Lucky 4:08		Massive: Rave 3; Bass 3; Arp 2
M. Jackson	M. JACKSON	Billy Jean
MICHAEL JACK/ON		Kontakt: Strings 1-A; Kora; Guitar; Piano 4
Billy Jean 4:54		Live Packs: Strings 1-A; Guitar 1; Guitar 4; Glass

<u>IMPORTANT LICENSING NOTE</u>: For some Sound Galaxy Library 01 included tracks including those with original audio tracks used for backing live player content, for commercial uses and public performances BMI and ASCAP and/or other music royalties will apply. For interactive and live LBE applications, these royalties are nominal. Otherwise these Library Songs are restricted to "private demo use" only. In addition, player re-recordings released including original backing audio may also be subject to sync rights.

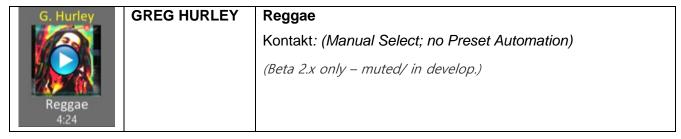
1.7.3 Classical

J.S. Bach 1:17	BACH	Bach Live Packs: Marimba; Strings 1-A; Guitar 2; Bass (Beta 2.x only – muted/ in develop.)
Pachelbel Canon in D Major Johann Pachelbel Cannon in D 3:50	PACHELBEL	Cannon Kontakt: (Manual Select; no Preset Automation) (Beta 2.x only – muted/ in develop.)

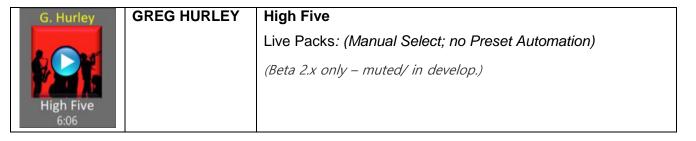
1.7.4 Trance

G. Hurley Trancit 6:02	GREG HURLEY	Trancit
		Sylenth: (Manual Select; no Preset Automation)
		HPD-15: (Manual Select; no Preset Automation)
		(Beta 2.x only – muted/ in develop.)

1.7.5 Reggae



1.7.6 Jazz



1.7.7 Latin



GREG HURLEY Spanish Dream

Kontakt: Guitar; Strings 1; Harpsichord 1

1.7.8 New Age



ROBERT MILES | Dreams of Children

Kontakt: (Manual Select; no Preset Automation)
Live Packs: (Manual Select; no Preset Automation)

(Beta 2.x only – muted/ in develop.)

(Additional Songs and Library Banks are in development).

1.8 BENEFITS of SOUND GALAXY

The **Sound Galaxy 2.0 DAW Suite** of music software applications and tools delivers a zero-compromise approach, and benefits from the best of today's modern music software. Instead of "dumbing-down" the resulting musical quality as some other new controller manufacturers have tried when entering the market, our software approach instead centers around exploiting the already widespread adoption of Ableton Live 9 as a DAW platform that's especially well-suited to live performing. However, we do so in a way "ready-to-play," without requiring days or even weeks of complex DAW programming and studio setups that might otherwise be unavoidable when setting a DAW environment "from scratch."

Our use of Ableton Live is further enhanced by our "behind-the-scenes" MIDI events processing logic, combined with a fully custom, simplified remote control User Interface created using MAX 7 with MIRA.

Also supported is the incredible auto-harmonic engine of Hotz Translator, which provides instant access to billions of rich chord structures and hundreds of ethnic scales. The Hotz Translator software engine, already pre-wired-up for Sound Galaxy "behind the scenes," not only provides non-musicians instant access to this vast harmonic universe, but also enables musicians a scope of complex performance capabilities that approaches and sometimes even exceeds true musical virtuosity in the results.



Our approach has been to bring sanity to the use of the powerful and professional DAW music environment, exploiting all the advantages of modern Plug-Ins such as by Native Instruments and Lennar Digital. Sound Galaxy makes that state-of-the-art digital audio platform instantly accessible to even to the novice user, to the theme park or museum kiosk self-serve guest, without eliminating the advanced capabilities and features needed by DJs and professional stage performers. Sound Galaxy provides to LBE installation engineers and content developers the ability to modify, expand and add to the musical content of the interactive library, without compromising the fully professional quality of the digital soft instruments used.

SpaceHarp accelerates music creation and generation of interactive content, as well as providing a robust stage environment for performers who want to play live but without leaving the power and flexibility of a modern DAW studio environment.

In addition to the SpaceHarp controller's unique and patented combination of motion sensors and height sensors, Sound Galaxy supports the optional use of additional accessories such as Source Audio's Hot Hand USB accelerometer ring, and/or using iOS device (iPod, iPhone) accelerometers for super-sophisticated multiple effects for pro performers.

In fact, effects expression can get "positively crazy!" Sound Galaxy supports as many as three different active height and/or accelerometer effects applied to each of up to four simultaneous DAW instrument "layers." Typical content in the Library Bank 01 collection is already amazing with just one or two effects active on one or two layers. Adding even more effects amounts to an "interactive sonic universe" that is just being discovered and explored! This fact is in part what led us to name this environment, "Sound Galaxy."

For musicians, the benefits include:

- A universal multi-instrument for accompaniment, recording and performance.
- Non-keyboard playing musicians can be ready as a multi-instrumentalist in hours to days, instead of months to years to learn piano keyboard.
- Gives players intuitive, easy access to all the expressive powers of today's music software, even on stage.
- Sound Galaxy[™] Software Tools simplify control of DAW instruments and effect setups without sacrificing world-class professional sound.
- Supports over twenty different classes of DAW and Plug-In effects, each optimized for SpaceHarp's height sensors.
- Sound Galaxy[™] empowers artists to create interactive tracks for the Location-Based and mass consumer markets
- New to Sound Galaxy 2.0! Our "Auto-Loader" sequence provides worry-free launching of the
 entire DAW environment with minimal time and user actions, and is easy to run even for those
 with absolutely no previous DAW experience.
- Our detailed documentation gives step-by-step instructions for all important operations.

SpaceHarp has proven to be an instant "hit" amongst festivalgoers and art walk participants, as one market application that has met with resounding success. Here are some examples:

















1.9 LAUNCH SOUND GALAXY

1.9.1 Launch Sound Galaxy DAW Suite

STEP (1) Turn on, or reboot, the host computer (MacBook Pro).

STEP (2) Login to the user SpaceHarp_Control. (User Login Password is on the inside back cover of this User Guide or is provided separately.) Go to STEP (3)

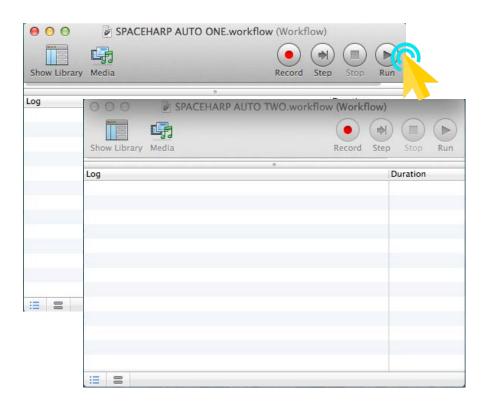
Or, if you are already logged in:

Alt. STEP (1) Close any and all applications that are open. Ideally, use the steps for a "clean" Log off as shown in Section 2.6.4.

Alt. STEP (2) Logout, then log back in.

1.9.1.1 Run SPACEHARP_AUTO_ONE

After logging in, you will see two open windows automatically open: "SPACEHARP AUTO ONE" and "SPACEHARP AUTO TWO". They may be overlapping (one behind the other).



The process to auto-load the full Sound Galaxy 2.0 DAW Suite of applications and tools is split into two parts. You'll run the SPACEHARP AUTO ONE first; then when that is complete, you'll run the SPACEHARP AUTO TWO. (Beta-test version of autoloader only).

STEP (3) Click the "RUN" (play arrow) icon (upper right) in the SPACEHARP AUTO ONE.workflow window.

You will see a series of windows open automatically. Wait until they are completed before you run AUTO TWO.

BENEFITS

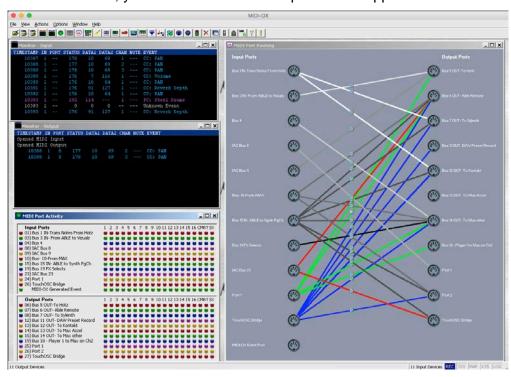


IMPORTANT NOTE: Do not run SPACEHARP AUTO TWO.workflow until AUTO ONE is fully completed, which is illustrated below. If you do start AUTO TWO early by mistake, applications may not load correctly, and if so, then return to STEP (#1) and repeat.

First, you will see this "Welcome to Sound Galaxy 2.0" greeting:



Next after about ten seconds, you will see this window open for the application "MIDI-OX."





WARNING: Avoid making any changes. There's no undo function in this application for certain features. If you do make random changes, you may cause the need for reinstallation steps with the assistance of SpaceHarp technical support.

Then you will see these windows open for the application "Hotz Translator":



STEP (4) Single-click your mouse anywhere on the "Hotz Translator III" splash screen to close it.

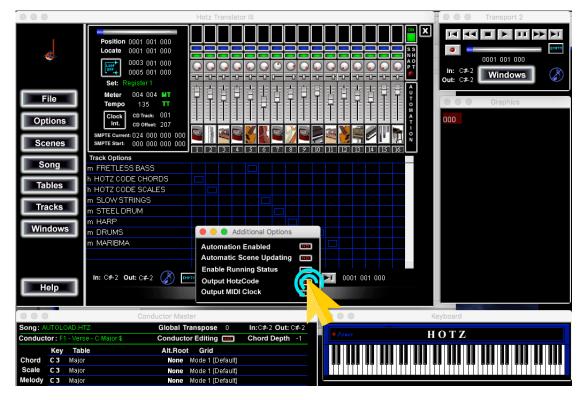
STEP (5) Wait until you see that the SPACEHARP AUTO ONE sequence has completed. When it's done, it should look something like this, with a "Workflow completed" message at the bottom:



(The following steps #6 - #8) are beta-test version only and will be eliminated soon.)

STEP (6) In the Hotz Translator III main window, click OPTIONS then choose "Output Hotz Code" from the pull-down menu.

- STEP (7) Left-click and drag the top of the "CONDUCTOR MASTER" window down enough to see the window hidden behind it called "ADDITIONAL OPTIONS." (Or, you can drag the ADDITIONAL OPTIONS window up, to make it visible.)
- STEP (8) Left-click the green "YES" button at right of "Output HotzCode" to change it to a red colored "NO."

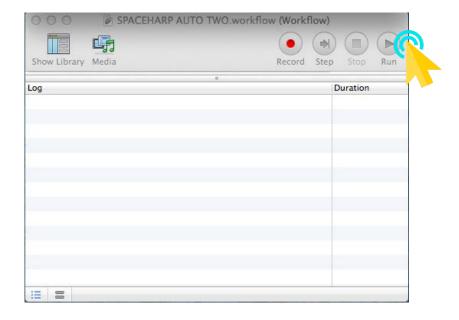


You should also see this announcement:

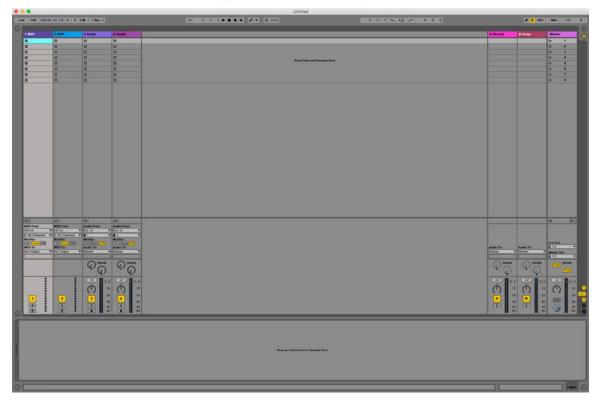


G 1.9.1.2 Run SPACEHARP_AUTO_TWO

STEP (1) If it's not already visible, bring the SPACEHARP AUTO TWO.workflow window to the front, then Left-click the "RUN" button at the upper right corner (the play arrow):



You will next see a window for an "empty" Ableton Live Set open.



(Don't do anything.)

LIBRARY

After about a 30 seconds delay, you'll see the following group of three MAX 7 windows open up. At first, they won't look quite right (some controls are outside the window and cut off).



(Don't do anything.)

After a few more seconds, you'll see them automatically scale correctly, and they'll look like we show here:



The top window left-hand and right-hand sides show the two Groups of controls that you'll be using on your remote controls iPad device, the "simple" PERFORMANCE controls at left and the "advanced" MIX controls at right.

These are the simple controls, also found on the remote tablet's "Performance_Kiosk" Tab:

These are the advanced user controls, also found on the remote tablet's "Mix" and "SpaceHarp_Settings" Tabs:

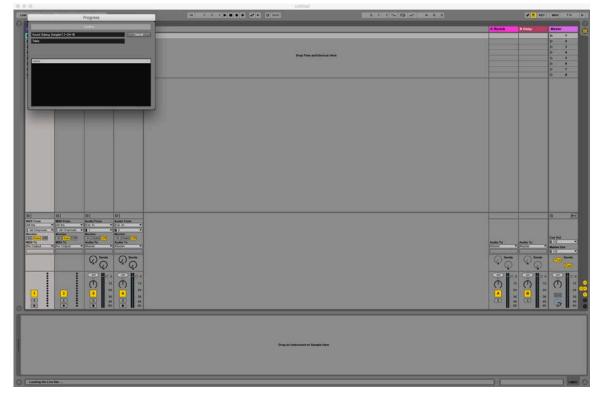


These are the advanced DAW user controls, found only on-screen. They are not shown on the remote tablet.



TIP: You can use the on-screen controls in the top MAX window (mainly on the left hand side) with your mouse, as a "PLAN B" to operate the system normally even if your remote tablet somehow fails or loses its battery power. The rest of the controls on the right side of the top window and in the bottom two windows are for advanced users only.

Next, you'll see the Ableton Live "blank" set become the active window again, and the SpaceHarp Sound Galaxy Live Set will automatically start to load.



This takes about 80 seconds as it's a large file that includes the full BANK 01 Song Library. As the Live Set opens, you will notice at the bottom left of this window, these progressive status messages appear:

Next:



Then:



Then:



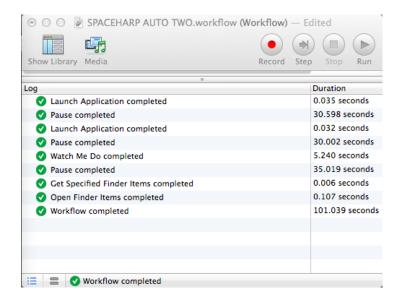
When the Ableton Live Set for Sound Galaxy Content Library Bank 01 is fully loaded, it'll look something like this





IMPORTANT NOTE: If you notice an error message at this window's bottom left corner saying, "Media files are missing..." IGNORE IT. *This is normal (for beta test version) and only appears after the Sound Galaxy Live set is fully loaded and ready to run.*

STEP (2) Wait until you see that the SPACEHARP AUTO TWO.workflow window looks something like this, to make sure the whole sequence has fully completed.



LIBRARY

Finally, you'll also see:



(This window may not always appear in Sound Galaxy beta release version)



Congratulations!

You may now resume normal Sound Galaxy Operations.

Go to the following Section Launch Remote Controls to fire up your Sound Galaxy Remote Control Device to use these two control screens:

EASY PERFORMANCE CONTROLS



ADVANCED MIX CONTROLS



H 1.9.2 Launch Remote Controls

STEP (1) Push and hold the side power button to Turn ON the remote touch-tablet device (iOS iPad or iPad mini). At first you will see a grey screen with an Apple logo, as it powers up.

Then, you will see the "Lock Screen", looking something like this:





IMPORTANT NOTE: If you pause or step away, the screen may go black again. If that happens, simply push the (hardware) "Home Button" on the front of the tablet to bring the "Lock Screen" back.

STEP (2) Swipe right on the "slide to unlock" message at bottom, to open up the "Enter Passcode" Screen:



STEP (3) Enter the correct passcode for that device to unlock the home screen of the device.

LIBRARY

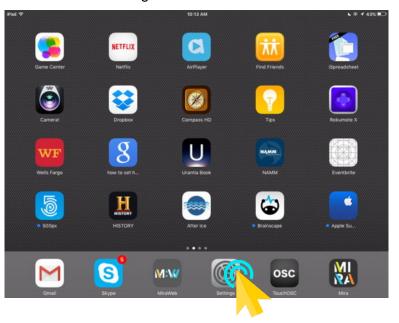


WARNING: DO NOT ENTER A WRONG PASSWORD more than six times. If you do, you may lock up the device and require a restore from iTunes device backup. This is a standard Apple iOS security protocol. See http://smallbusiness.chron.com/happens-enterwrong-password-iphone-many-times-69874.html

If you make this mistake for an event or performance and can't use your remote device, don't panic!! You can still use all the Sound Galaxy controls directly on the Laptop screen using a mouse, without any reduction in features other than convenience.

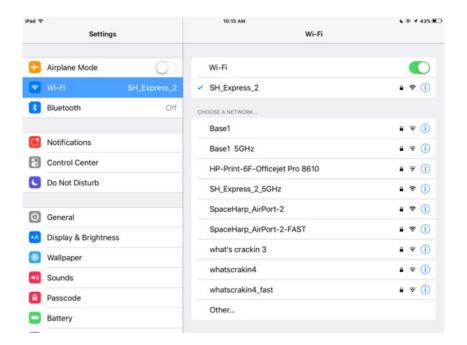
The security passcode is taped onto the back side of the iOS device, and/or on your User Guide's last page, and/or on the User Guide's inside back cover.

Your device screen will now look something like this:



STEP (4) Tap the Settings Icon at the bottom of the screen to open iOS Settings

Settings will look something like this:



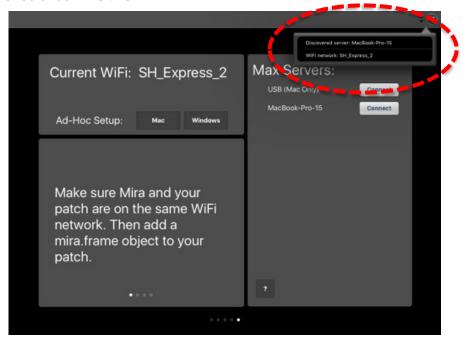
- STEP (5) If not already selected, choose the Wi-Fi network "SH_Express_2."
- **STEP (6)** Push the (hardware) home button on front of the device to return to home screen:



STEP (7) Tap the MIRA icon at the bottom of the screen, to launch the MIRA app.



The iPad screen should look like this:



You should briefly see two status messages at upper right, "Discovered server MacBook Pro-15" and "Current Wi-Fi: SH_Express_2". (These messages will then disappear.)

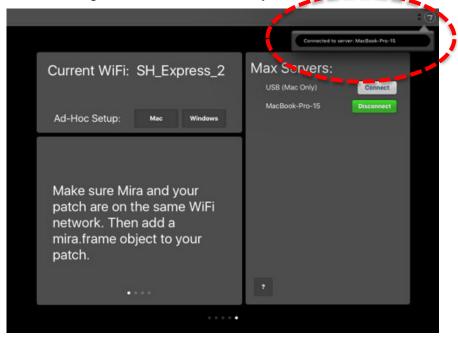


IMPORTANT NOTE: IF THESE STATUS MESSAGES DO NOT APPEAR, see Restore a Lost Remote Controls Section, and Remote Device Fails to Connect Using Max MIRA for some quick recovery options.

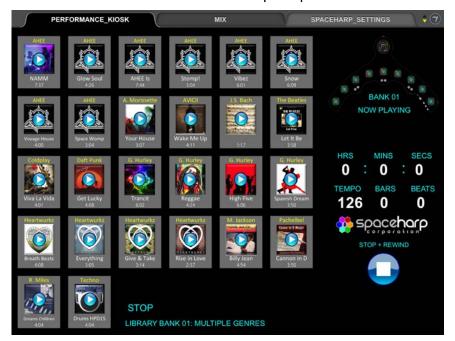
STEP (8) Under "Max Servers" at upper right, tap the lower "CONNECT" button.



Next, you'll see this "connecting to server..." status, briefly:



Then, you'll see our SOUND GALAXY Controls screen open up on the iPad:





Congratulations!

You may now resume normal Sound Galaxy Operations.

LIBRARY

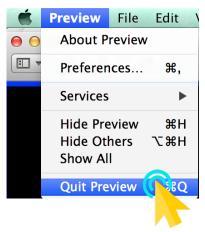
1.9.3 Quit all Apps on Host Computer and Log Out

These are the "best practices" method to log out of Sound Galaxy 2.0 DAW Tools Suite "cleanly." That means, closing each and all open applications and all files cleanly, thereby ensuring that subsequent Sound Galaxy system reboots using the SPACEHARP AUTO loader tool will continue to work normally and without added steps.

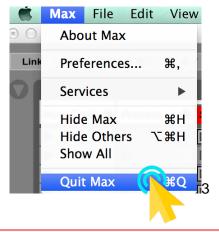
Usually it's fine to just shut the MacBook screen closed, which will put the laptop screen to rest but everything can still run on the remotes. Or, you can leave the screen open and choose "Sleep" from the Apple Menu. You can most often resume normal SpaceHarp play after waking from sleep without any extra time or steps. (If not, follow the steps in the Section____, Recover from a System put in 'sleep')

When you do wish to completely power OFF the computer, or, just before you log off for a Sound Galaxy reboot, try to use the following steps.

STEP (1) Click "Quit Preview" from the Preview App's Main Menu at top of the computer screen (if it's open):



STEP (2) Click "Quit Max" from Max 7's Main Menu at top of the computer screen:





IMPORTANT NOTE: Always close the Max and Live Applications directly from their top Main Menu "Quit...(application)." Please do NOT close their open application windows first (such as by using their red "X" button.)

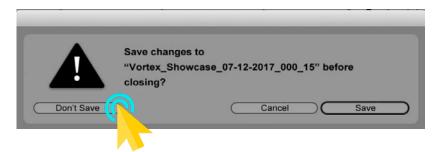
LAUNCH

STEP (3) Click "Quit Live" from Live's Main Menu at the top of the computer screen:





IMPORTANT NOTE: If you get a dialog box asking you to "Save Changes to..." Always click "**Don't Save**". DO NOT click "SAVE."



STEP (4) At bottom of the computer, right-click on the Taskbar icon for CrossOver (which you'll find just to the left of the "MIDI-OX" icon) and select Quit from its pop up menu. This will "cleanly" close both the MIDI-OX and Hotz Translator applications.



STEP (5) Make sure that Live has "naturally" completely quit before proceeding to log out. You can tell if Live is running by checking how its Taskbar icon looks at the bottom of the computer screen.

This is the Taskbar icon for Live while it is still running.



Notice the small "dot" underneath.

This is the Taskbar icon for Live after it has fully quit.



Notice there is no small "dot."



IMPORTANT NOTE: (if you can avoid it) DO NOT "Force Quit" Ableton Live. It takes a while to close. If you do Force Quit, just know that at next Live launches, while things will run just fine, you'll have a few extra clicks needed to clear error windows, during the SPACEHARP AUTO TWO launch sequence.

STEP (6) Choose Log Out SpaceHarp_Control from the Apple Menu:



STEP (7) Confirm that yes, you really, really DO want to Log Out:

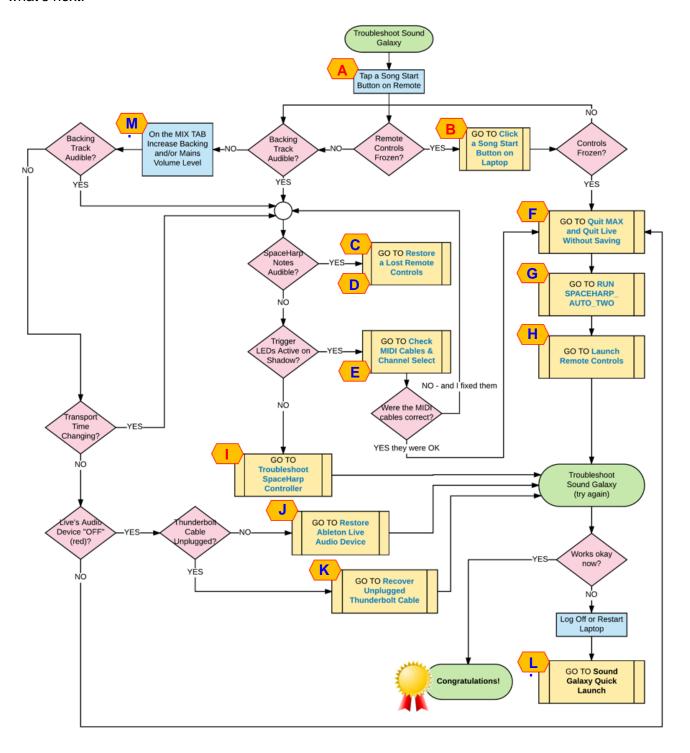


(Uncheck "Reopen windows when logging back in," if that was checked.)

1.10 TROUBLESHOOT SOUND GALAXY

1.10.1 Troubleshoot Sound Galaxy Flowchart

To assist you in a quick recovery from any issue with Sound Galaxy, we include this handy flowchart to determine which recovery procedure(s) to use. If you're on an electronic Guide, click on a recovery steps callout and you'll jump to that section of this Guide. After you complete the relevant recovery steps, if it's not obvious that you're running normally, then come back to this flowchart to see what's next.





1.10.2 Click a Start Song Button on the Remote Controls Tablet

Launch Sound Galaxy if you hadn't already done so. Try playing a Song from the PERFORMANCE Tab on your remote control device, by first tapping on one of the Start Song Buttons. Every song has a small "play" arrow in the middle of its icon:

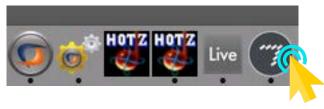


If things work okay (you hear backing track and when you move over the controller you hear SpaceHarp notes play), you're good to go. If not, return to the Troubleshooting flowchart.

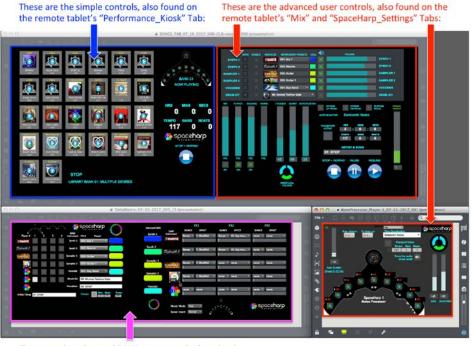


1.10.3 Click a Start Song Button on the Laptop

Here we'll try launching any Song on the laptop screen instead of on the iPad (that'll tell us if the issue is with the tablet or with the laptop). To do that, if you don't already see our Sound Galaxy controls on a laptop screen, then first locate the MAX "7" icon on the Apple Dock, and left-click with the laptop's mouse or trackpad. This will to bring the MAX windows to the front and in view.



You will now see the MAX screens. Do you see ALL of the MAX windows shown here? If not, go to Recover from a Crash of Max.



If all your MAX screens appear as we show here, notice that the "Performance Tab" is simply the upper left-hand group of controls in the top of the three MAX windows.

You'll see it looks virtually identical to the PERFORMANCE Tab screen on the iPad.

Use the mouse to left-click on any Start Song Button. (Don't touch any of the other controls for the moment.)



If things work okay (when you move over the controller you hear SpaceHarp notes play, and the backing track if there is one for that song), then your issue was only with the remote control connection. Go to the next Section, Restore a Lost Remote Controls Connection.



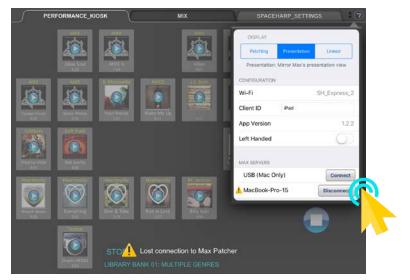
1.10.4 Restore a Lost Remote Controls Connection

You can restore a lost remote controls (MAX MIRA) connection in three quick steps:

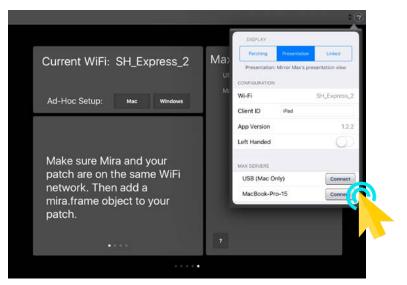


STEP (1) Tap the "7" Icon in the far upper right of the remote controls screen, to bring down this menu. You'll notice the icon next to the "MacBook-Pro-15."

STEP (2) Tap the Disconnect button.



Step (3) Next tap the Connect Button either on the drop-down menu, or tap the Connect Button on the main MIRA screen in case that menu closes.





1.10.5 Remote Device fails to connect using MAX MIRA

There are three possible causes of this. Here are solutions for each of them.

- 1) MIRA has crashed somehow. Completely force-quit MIRA app and re-launch it on the iPad. Or, reboot the iPad entirely and then relaunch MIRA and re-Connect; see Launch Remote Controls.
- 2) Your device may NOT be connected to the right Wi-Fi network; if so another network name will show for the "Current Wi-Fi:" at upper left of the MIRA welcome screen. In this case, go to Launch Remote Controls.
- 3) MAX 7 was not properly launched on the host computer or it has crashed. Follow the recovery steps in the Recover from a Crash of Max. Then go to Launch Remote Controls.

E

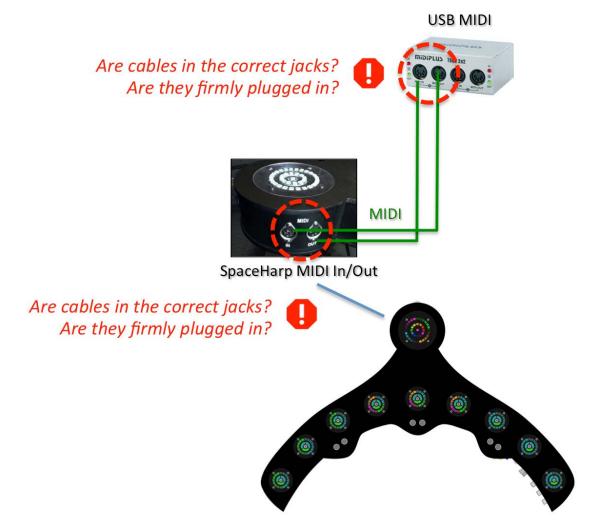
1.10.6 Check SpaceHarp MIDI Cable Connections and MIDI Channel

STEP (1) Check your MIDI cables:

- Check MIDI cable connections, are they fully plugged into the jacks?
- Are the MIDI IN and OUT cables swapped?



WARNING: Make sure that the MIDI cable plugged into the MIDI OUT jack on the USB interface is plugged into the MIDI IN jack on the SpaceHarp. Similarly, make sure that the MIDI cable plugged into the MIDI IN jack on the USB interface is plugged into the MIDI OUT jack on the SpaceHarp. (MIDI is a 1-directional connection.) If you swap the cables, at best nothing will work right in your SpaceHarp setup; at worst, you might possibly damage hardware (although the latter is unlikely.)



STEP (2) Also check the SpaceHarp's MIDI Channel setting. This can result in a situation similar to wrong MIDI cables. For a one-SpaceHarp system setup, this is always set to Channel 2, which is two clicks clockwise from the "12 o-clock noon" (vertical) position. If you are using multiple SpaceHarps, see Multiple SpaceHarp Sound Galaxy Setup.





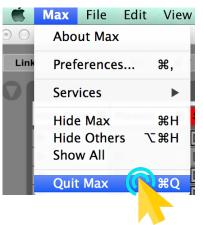
STEP(2) cont'd Move the SpaceHarp Channel Select Knob back to the MIDI Channel 2 position (2 clicks clockwise from 12-oclock position), and RESET the SpaceHarp. Let the controller's colorful power-up/reset cycle complete before you move over the controller or shadow anything over it; (if you or something is over the controller while it restarts, it'll thereafter think that shadow was part of the ambient situation; you don't want that).

After you have corrected any loose or wrongly connected cables and/or corrected a wrong CHANNEL KNOB position, go back to the Troubleshooting Flowchart to see what's next.



1.10.7 Quit Ableton Live and MAX Applications Without Saving

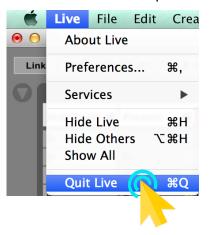
STEP (1) Click "Quit Max" from Max 7's Main Menu at top of the computer screen:





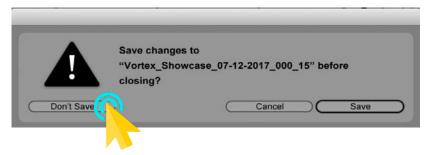
IMPORTANT NOTE: Always close the Max and Live Applications directly from their top Main Menu "Quit...(application)." Please do NOT close their open application windows first (such as by using their red "X" button.)

STEP (2) Click "Quit Live" from Live's Main Menu at the top of the computer screen:





IMPORTANT NOTE: If you get a dialog box asking you to "Save Changes to..." Always click "**Don't Save**". DO NOT click "SAVE."



STEP (3) Make sure that Live has "naturally" completely quit before proceeding to log out.

You can tell if Live is running by checking how its Taskbar icon looks at the bottom of the computer screen.

This is the Taskbar icon for Live while it is still running.



Notice the small "dot" underneath.

This is the Taskbar icon for Live after it has fully quit:



Notice there is no small "dot."



IMPORTANT NOTE: (if you can avoid it) DO NOT "Force Quit" Ableton Live. It takes a while to close. If you do Force Quit, just know that at next Live launches, while things will run just fine, you'll have a few extra clicks needed to clear error windows, during the SPACEHARP AUTO TWO launch sequence.



1.10.8 Restore Ableton Live Audio Device

Here we will check the audio device status in Ableton Live, to see if the hardware Audio Device (like a PreSonus for example) has become disconnected for some reason. If Live's hardware Audio Device is not selected and active, a Song will never start and the Transport will never advance. It'll behave pretty much like things are "dead."

This rarely happens, except sometimes after a Thunderbolt cable is reconnected, or sometimes after an AC power cycle has occurred (namely the AC power to Laptop and/or rack equipment was turned OFF then ON, or an AC circuit breaker tripped OFF then was turned back ON).

STEP (1) If the Ableton Live Set window is not visible on the Laptop Screen, click its application on the Apple dock to make it visible in the foreground:

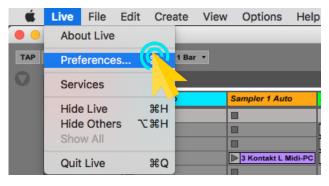


STEP (2) Now take a look at the upper right corner of the Ableton Live Set window. Does it look like this - showing a red "OFF"?

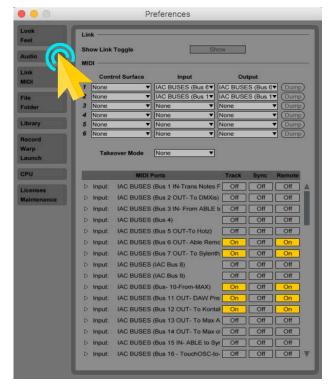


Live has lost its audio device connection.

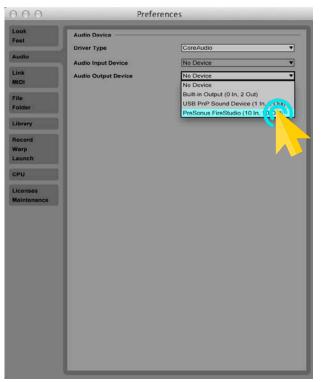
STEP (3) Open Live's Preferences, from the Live menu at upper left:



STEP (4) Click on the "Audio" Tab at left, in case Preferences didn't already open with that showing:

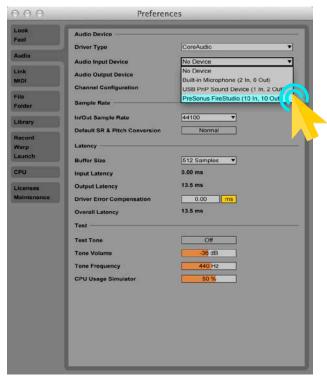


STEP (5) Choose the PreSonus FireStudio (or your Audio Interface if different) from the Audio Output Device pull-down menu:

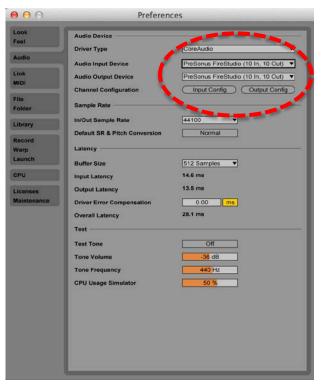


STEP (6) In the unusual case that you do not see "PreSonus..." (or your audio device, if different) in the pull down, try powering the rack (or audio device) off, then back on, to bring it back.

- STEP (7) If that doesn't work, try unplugging the Thunderbolt cable and plugging it back in. If that doesn't work, Quit Live and Quit Max without saving, and run SPACEHARP_AUTO_TWO again.
- STEP (8) Choose the PreSonus FireStudio (or your Audio device if different) from the Audio Input Device pull-down menu:



STEP (9) Your Live Preferences should now look like this, for the Audio Tab:



Your Ableton Live window at the upper right, should now look like this:





1.10.9 Recover from the Thunderbolt cable being unplugged

There are two cases - try first the "instant" way, and if that doesn't work, the "still pretty quick" way:

1.10.9.1 The Instant way to restore unplugged thunderbolt

STEP (1) Plug the thunderbolt cable back in. See SpaceHarp User Guide Section 1.7 Rack Mounting and Cabling for cable connections depending on your setup.

Try a song and play the SpaceHarp. Can you hear yourself play? Yes?

No audio still? Okay. Don't panic! Go on to the next STEP below.

1.10.9.2 The still pretty quick way to restore unplugged thunderbolt

STEP (2) Plug the thunderbolt cable back in to wherever it came unplugged from. See Sections____,
___ or____ for cable connections depending on your setup.

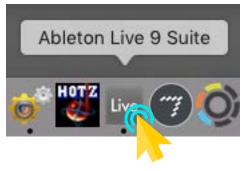
STEP (3) Look at the Firewire connected LED indicator on the PreSonus. Is it red? If not, skip ahead to STEP (5) below.



STEP (4) If it is red color, then PreSonus is not syncing with the host computer's FireWire. Power cycle the rack containing PreSonus, (or power cycle the PreSonus if not in a rack), and this LED should turn back to light steady blue color.



STEP (5) From the Apple doc at screen bottom, single-left-click the Live Application Icon to bring the Ableton Live window to the front.



STEP (6) Look at the audio engine status indicator in the upper right corner of the Live window.

Your Ableton Live window at the upper right, should now look like this:



If it looks like this, most likely your audio is restored and you can go back to playing. You're done!

Otherwise, Is it red?

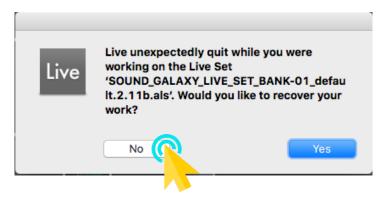


STEP (7) If so then next, go to Restore Ableton Live Audio Device.

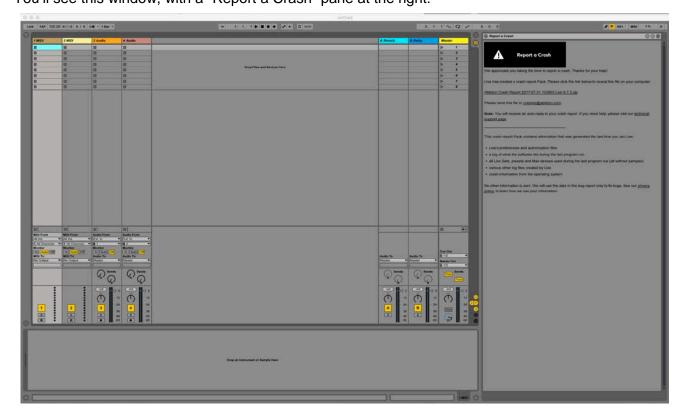
1.10.10 Restarting computer after a "freeze" and cold power off

If you are recovering from a hard power reset, such as from a system crash or "freeze" (namely, you had to hold the hardware power button down for several seconds in order for computer to turn itself off), or after a low-battery sudden shutdown, or AC power failure. Here are the steps to recover for any of these "sudden power down" or "hidden crash" cases.

- STEP (1) Run the SPACEHARP_AUTO_ONE.workflow as usual, to automatically open the first four applications in the Sound Galaxy Suite namely TouchOSC Bridge, Crossover, Hotz Translator and MIDI-OX. Normally, a freeze or hard power down won't change the way these programs open up. See Quick Launch Checklist for Sound Galaxy DAW Suite.
- STEP (2) Proceed to run SPACEHARP_AUTO_TWO.workflow, which opens the remaining two applications in the Sound Galaxy Suite, namely MAX and Ableton Live. Depending on the nature of that abnormal computer shutdown, you may possibly face the following issues: either Live will open unusually, or MAX will open unusually, or both. You'll know that clearly when SPACEHARP AUTO TWO runs, as we illustrate below.
- **STEP (3)** If when the SPACEHARP AUTO TWO.workflow first opens the application Ableton Live, and you see the message below "...Would you like to recover your work?" click "No."

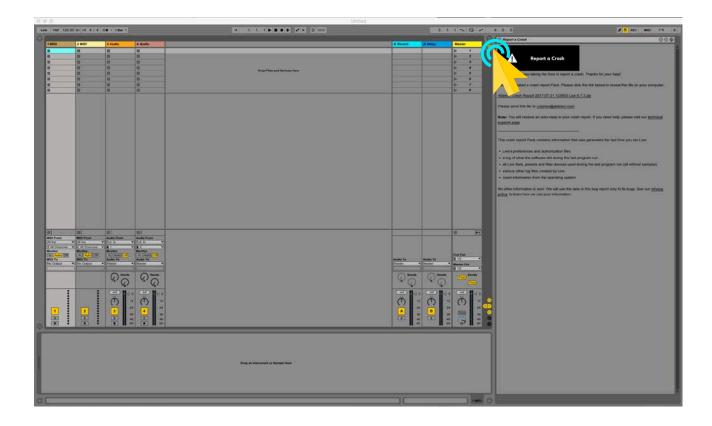


STEP (4) Allow the auto-loader to continue as you complete the next STEP. You'll see this window, with a "Report a Crash" pane at the right:



STEP (5) Click the "X" at the upper-left-hand corner of the "Report a Crash" Window.

USE



Let the AUTOLOADER_TWO continue and complete, and if it seems to run normally, then you're recovered and are ready to resume Sound Galaxy functions.



CONGRATULATIONS!

Your controls will now reappear, and you can resume normal Sound Galaxy operations.

1.10.11 Recover from a system put in 'sleep'

Normally, you can put the Sound Galaxy laptop computer to "sleep" to save power when not using it. The advantage is, compared to a log off or a power shut down, is that you can resume normal play almost instantly, using just three touches on the remote, as we illustrate below.

When you choose "sleep" from the Apple menu, the laptop screen(s) go completely black, and the disk drive spins down.

STEP (1): Press any key on the laptop keyboard, or, move the mouse. The laptop screen(s) will restore from blackout, showing all the Sound Galaxy application windows. You will find, however, that while the remote control screens will remain loaded, they are "greyed-out" and you'll possibly see a "Lost connection to Max Patcher" message at the bottom of the tablet screen.

STEP (2): Go to Restore a Lost Remote Controls Connection to restore your MAX/MIRA screens, if Mira is open but the controls do not show up.

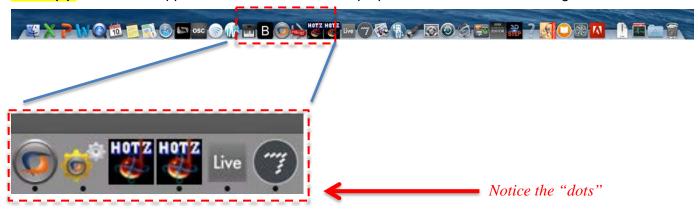
< or alternatively >

STEP (3) If case you don't see the Mira application open at all, go to Launch Remote Controls.

1.10.12 I'm not sure what happened, but I want to recover ASAP

If you are really pressed for time and you want to minimize recovery (i.e. avoid a complete laptop computer restart or a complete SPACEHARP_AUTO_ONE and _TWO workflows run, then it's good to first find out exactly what happened. That way, you will take the fewest steps and the least time to recover. Here's how to know when any of the DAW applications that Sound Galaxy uses has crashed or quit.

STEP (1): Locate the Apple Dock at bottom of the Laptop Screen. It'll look something like this.



The Sound Galaxy Suite of DAW Applications are grouped together in about the middle of the Apple Doc on the Laptop. When all Sound Galaxy applications are running (not quit), you will see five (5) small 'dots,' these show when applications are running normally.

If your Apple Doc Sound Galaxy Suite of app icons looks like the above, then it doesn't appear that anything has crashed or quit; there's some other issue. Go to the Troubleshooting Flowchart.

If you have less than the exact five 'dots' as shown above, something has definitely quit or crashed. On some OS versions, the dots have a shadowed effect that's harder to see, but they *are there*. Check to see exactly what has crashed, comparing with these cases below:

STEP (2): If your Apple Dock looks like the below, then Hotz Translator has quit. See Recover from a Crash of Hotz Translator.



Notice the missing "dots"

STEP (3): If your Apple Dock looks like the below then MIDI-OX has quit.

Go to Recover from a Crash of MIDI-OX.



— Notice the missing "dot"

STEP (4): If your Apple Dock looks like the below, then MIDI OX and HOTZ have both quit, along with "Crossover" which supports them running on a Mac computer.
Go to Recover from a Crash of Both Hotz Translator and MIDI-OX.



Notice the missing "dots"

STEP (5): If your Apple Doc looks like the below, then Ableton LIVE has quit.

Go to Recover from a crash of Ableton Live.



Notice the missing "dot"

STEP (6): If you're Apple Doc looks like the below, then MAX has quit.

Go to Recover from a Crash of Max.



Notice the missing "dot"

STEP (7): If your Apple Doc looks like the below, somehow NONE of your Sound Galaxy apps are running; (perhaps they were never launched since your last restart or logon).

Go to Quick Launch for Sound Galaxy DAW Suite.



Notice the missing "dots"

1.10.12.1 Recover from a crash of MAX

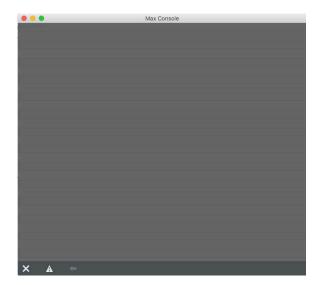
STEP (1) From the Apple doc at screen bottom, left-click the MAX 7 Application Icon to open MAX 7.



STEP (2) Click "no" on the message, "...would you like to recover your work?"

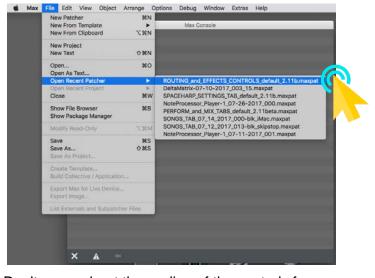


Next, MAX will open, but you won't see any open Sound Galaxy Control windows, while instead a blank Max Console window (if anything):



STEP (3) From the MAX menu, choose Open Recent Patcher File:

ROUTING_and_EFFECTS_CONTROLS_default_2.xx.x.maxpat (xx.x #'s may vary)

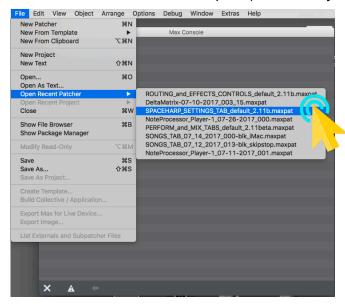


This window will appear. Don't worry about the scaling of the controls for now.

BENEFITS



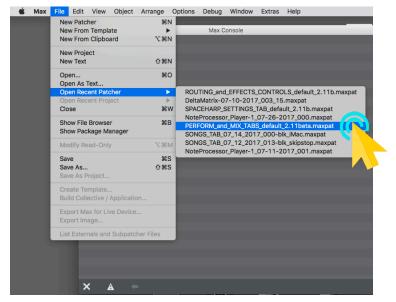
STEP (4) From the MAX menu, choose Open Recent Patcher File: SPACEHARP_SETTINGS_default_2.xx.x.maxpat (xx.x #'s may vary)



This window will appear. Don't worry about the scaling of the controls for now.



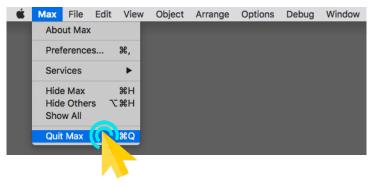
STEP (5) From the MAX menu, choose Open Recent Patcher File: PERFORM_and_MIX_TAB_default_2.xx.x.maxpat (xx.x #'s may vary)



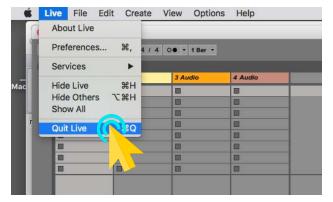
This window will appear. Don't worry about the scaling of the controls for now.



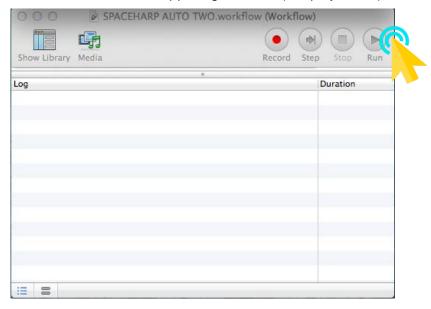
STEP (6) Choose "Quit MAX" from the Max Menu, to close Max:



STEP (7) If Ableton Live is open, Choose "Quit Live" from the Live Menu, to close Live:



- **STEP (8)** Bring the SPACEHARP_AUTO_TWO window to the front to make it visible and active.
- **STEP (9)** Left-click the "RUN" button at the upper right corner (the play arrow):



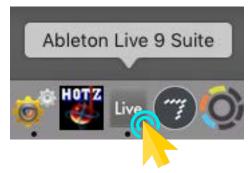
STEP (10) If you need to reconnect Remote Controls device, go to Restore a Lost Remote Controls Connection.



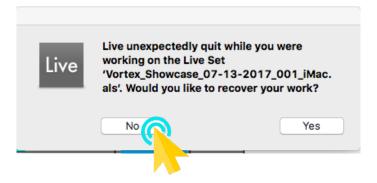
Congratulations!

1.10.12.2 Recover from a crash of Ableton Live

STEP (1) From the Apple doc at screen bottom, left-click the Live Application Icon to open



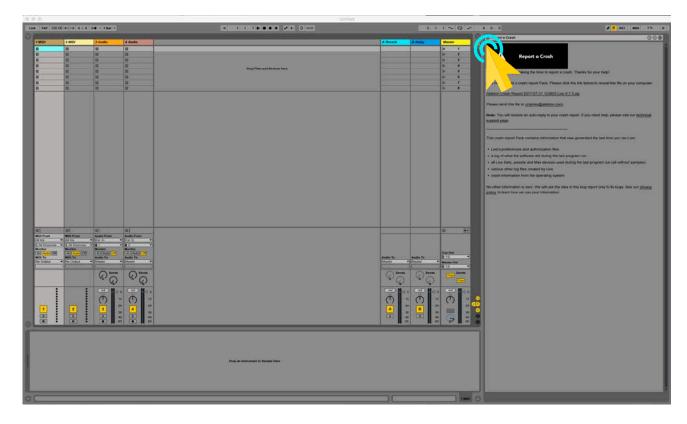
STEP (2) Click "no" on the message, "...would you like to recover your work?"



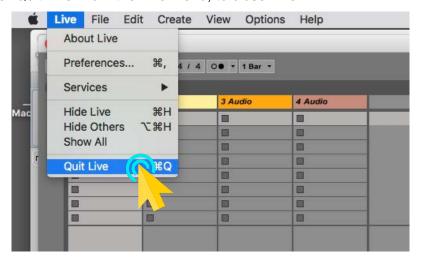
Next, you'll see this window, with a "Report a Crash" pane at the right:



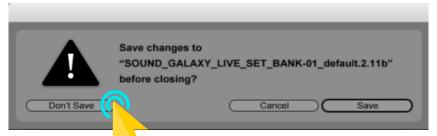
STEP (3) Click the "X" at the upper-left-hand corner of the "Report a Crash" Window.



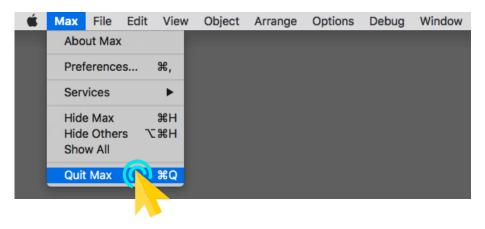
STEP (4) Choose "Quit Live" from the Live Menu, to close Live:



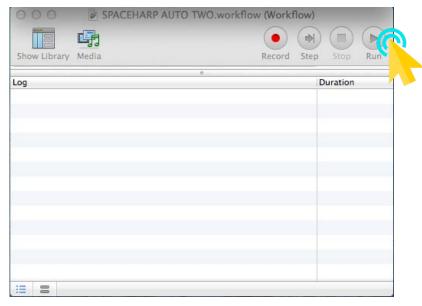
STEP (5) If asked, "Do you want to save changes to..." click "Don't Save"



STEP (6) If Max is currently open, then choose "Quit MAX" from the MAX Menu, to close MAX.



- **STEP (7)** Bring the SPACEHARP_AUTO_TWO window to the front to make it visible and active.
- **STEP (8)** Left-click the "RUN" button at the upper right corner (the play arrow). Let the autoloader complete, which takes about two minutes.



STEP (9) If you need to reconnect to your remote control iPad screen, Go to Restore a Lost Remote Controls Connection.



Congratulations!

LAUNCH

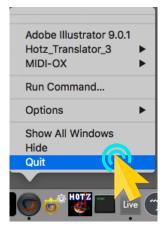
1.10.12.3 Recover from a crash of MIDI-OX

STEP (1) If Hotz Translator is still open then click the "X" in its main window to quit the program:

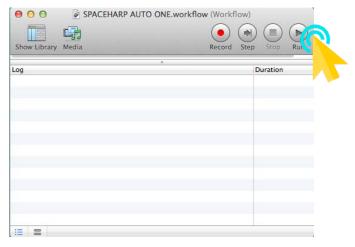


STEP (2) If asked "Do you want to save changes," click "Don't Save."

STEP (3) If you see a small "dot" under the icon for Crossover on the Apple Dock, then it means it's still running. You'll need to right-click on the Crossover icon and choose "Quit." (If there's no "dot" underneath crossover, it's already quit, so go on to STEP (4).



- **STEP (4)** Bring the SPACEHARP_AUTO_ONE window to the front to make it visible and active.
- **STEP (5)** Left-click the "RUN" button at the upper right corner (the play arrow). This will re-load Hotz-Translator and MIDI-OX both correctly.





Congratulations!

1.10.12.4Recover from a crash of Hotz Translator

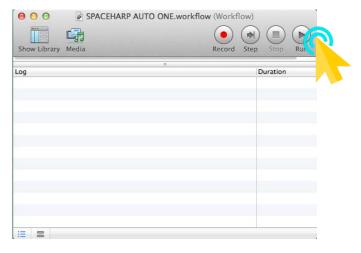
STEP (1) If MIDI-OX is still open then close it by choosing "Quit MIDI-OX" from its Apple Dock icon:



STEP (2) If you see a small "dot" under the icon for Crossover on the Apple Dock, then it means it's still running. You'll need to right-click on the Crossover icon and choose "Quit." (If there's no "dot" underneath crossover, it's already quit, so go on to STEP (3).



- **STEP (3)** Bring the SPACEHARP_AUTO_ONE window to the front to make it visible and active.
- STEP (4) Left-click the "RUN" button at the upper right corner (the play arrow). This will re-load Hotz-Translator and MIDI-OX both.





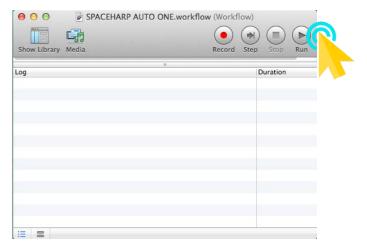
Congratulations!

1.10.12.5 Recover from a Crash of Both Hotz Translator and MIDI-OX

STEP (1) If you see a small "dot" under the icon for Crossover on the Apple Dock, then it means it's still running. You'll need to right-click on the Crossover icon and choose "Quit." (If there's no "dot" underneath crossover, it's already quit, so go on to STEP (2).



- **STEP (2)** Bring the SPACEHARP_AUTO_ONE window to the front to make it visible and active.
- **STEP (3)** Left-click the "RUN" button at the upper right corner (the play arrow). This will re-load Hotz-Translator and MIDI-OX both.





Congratulations!

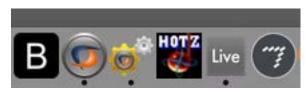
1.10.12.6 Recover from a failure of the AUTO-Launchers

If for any reason you find that either SPACEHARP AUTO TWO.workflow or SPACEHARP AUTO TWO.workflow files crash or stop with an error message, here's the fallback procedure to load the entire Suite manually. It takes about two minutes longer than the AUTO launchers to do, but requires closer attention to the additional steps.

You should normally never need to launch Sound Galaxy's suite of tools and applications manually.

Use these steps ONLY as a "last resort" namely if for some reason the SPACEHARP AUTO ONE and TWO auto-loaders are not functioning correctly, i.e. they are not completing, or are stopping before the complete, with an error message.

STEP (1) At the bottom of the Mac Screen, find the "Doc" bar. You'll see this group of application Doc icons:



There are six relevant applications used for SpaceHarp's Sound Galaxy Suite. You will be launching five of them (one is automatic)

STEP (2) Click the doc icon to open the "TouchOSC Bridge" Application



(LOAD TIME: 1 second)

This step simply results in the appearance of a small "B-in-a-black-square" icon at top of Mac screen:

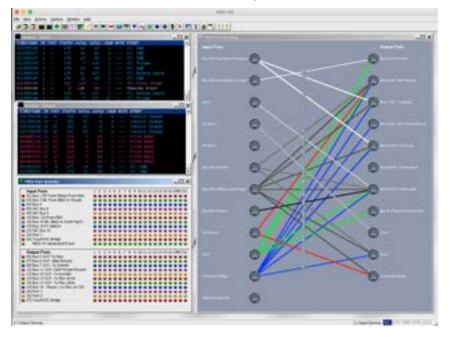


STEP (3) Click the Doc icon to open the "MIDI-OX" Application.



(LOAD TIME: 10 seconds)

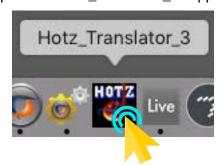
When you view the MIDI-OX window, it'll look something like this:





WARNING: Avoid making any changes. There's no undo function in this application for certain features. If you do make random changes, you may cause the need for reinstallation steps with the assistance of SpaceHarp technical support.

STEP (4) Click the Doc icon to open the "Hotz_Translator_3" Application



(LOAD TIME: 4 seconds)

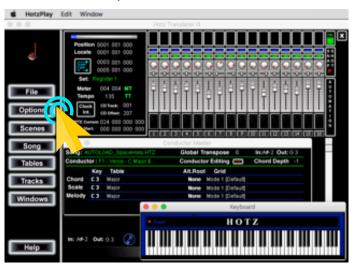
STEP (5) Click anywhere in the middle "Hotz Translator" splash screen to hide it.



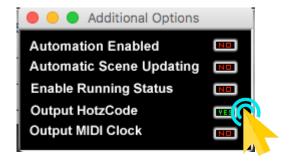
Now you'll see something like the below: (window positions may vary somewhat.)



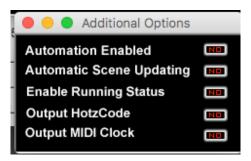
STEP (6) Click "Options" and select "Output Hotz Code." Required for Sound Galaxy beta-test version only.



An "Additional Options" window will appear. (You may have to drag it into view from behind another window.) From that window:



STEP (7) Click once to uncheck the (green colored) "YES" button to the right of "Output HotzCode", so it looks like this:

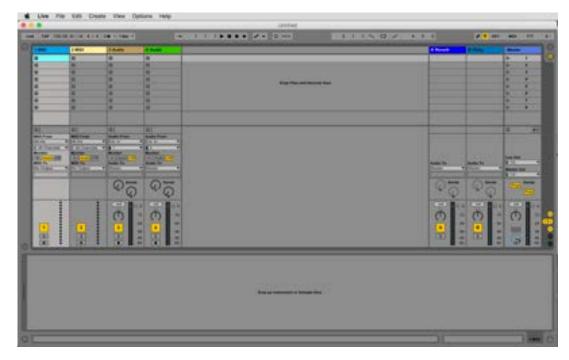


STEP (8) Click the Doc icon for the "Ableton Live 9 Suite" Application



(LOAD TIME: 5 Seconds)

If you view the Ableton Live application, it'll look approximately something like this, initially an "empty" Set:





WARNING: Do not Save any changes made in Ableton unless you are an experienced Ableton Live user, and you've carefully reviewed Software System and MIDI Setups, and Editing and Modifying Sound Galaxy sections. If you inadvertently do what we caution against, and you save the Ableton Live Set without renaming it, you could possibly disable one or more major functions in the Sound Galaxy environment. You might even need assistance from SpaceHarp technical support.



IMPORTANT NOTE: Do not open any Ableton Live recent set file, yet. If you do so, MAX controls may not load in a sensible state when you are ready to run.

STEP (9) Click the Apple Doc icon for the "Max-v7-3-3" Application to open Max.



(LOAD TIME: 15 Seconds)

This will open three Max patcher "Presentation" windows: a Top window, a lower left window and a lower right window. At first, they will not be scaled correctly, so we'll fix that.



(Initial unscaled view of MAX windows when viewed on the host computer screen).

- STEP (10) Click anywhere without a control (a black region) in the top Max window and click CMD-(command key plus minus key) two times to 50% scale. This reduces the scale to fit nicely.
- STEP (11) Click anywhere without a control (a black region) in the lower left Max window and click CMD- (command key plays minus key) two times to 50% scale. This reduces the scale to fit nicely.
- STEP (12) Click anywhere without a control (a black region) in the lower right Max window and click CMD- (command key plays minus key) once to 75% scale. This reduces the scale to fit nicely.

Now your Max windows will look something like this, after you've scaled them:

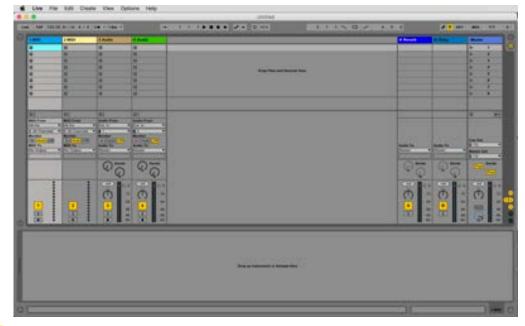


(STEPS 10, 11 and 12) above, are eliminated when the SPACEHARP AUTO TWO runs.)

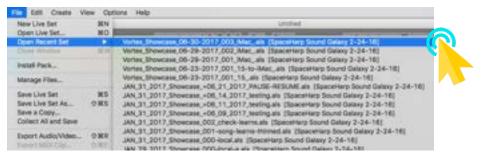
Notice in the top window above, the on/off controls such as for Preset Automation and Enable are in "off" position, and the fader controls in some cases may be at very low levels or muted. This is

because we have not yet opened our Sound Galaxy Ableton Live Set, whose shared control settings will then "SYNC" with our Max Controls at that time (see STEP 14 below). Then our remote touch-control screens and Ableton Live Set controls on the host computer will match up, and stay in sync from then on.

STEP (13) Make the Ableton Live Window active again (click anywhere in it, or, click the Ableton Live Doc icon again). It will look something like this:



STEP (14) From the File Menu at top, choose "Open Recent Set", highlight the top file in the list, and click to open it:



(LOAD TIME: 1 minute 15 seconds.)



IMPORTANT NOTE: It takes about 75 seconds for the Sound Galaxy Ableton Set to Fully Load. This is because it is loading all information for Performance BANK A and additional songs. Also, it's loading gigabytes of instrument samples and other data. This single Ableton Live "Set" file includes all of the Content and Controls setups for LIBRARY BANK 01.

As the Live Set opens, you will notice at the bottom left of this window, these progressive status messages appear:



then:



then:



Once the Sound Galaxy Performance Bank A Live Set fully loads, it'll look something like this:





WARNING: Do not Save any changes made in Ableton unless you are an experienced Ableton Live user, and you've carefully reviewed Software System and MIDI Setups, and Editing and Modifying Sound Galaxy sections. If you inadvertently do what we caution against, and you save the Ableton Live Set without renaming it, you could possibly disable one or more major functions in the Sound Galaxy environment. You might even need assistance from SpaceHarp technical support.

LIBRARY

STEP (15) Make the MAX 7 Application active again (click anywhere in it, or, click the MAX 7 doc icon again). (You might have to click in all three screens separately to make them visible in front of other application windows, depending on your display monitor setup.) Be sure you're clicking in a "blank" area, not directly on any of the controls, to make them active:



If things have gone right, as a direct result of the Ableton Live Set file loading AFTER Max had initially loaded its files, now you'll notice for example in the top window that a number of instruments faders now have high levels, and a number of "Audio ON" (speaker icon) toggles may now be marked with a green "X" meaning that they are ON.

Max and Live Control sync works both in both directions: changing a Max control changes the corresponding Ableton Live Control simultaneously and, vica-versa (!)

STEP (16) With your mouse (or with finger touch on the iPad if you've already got that up and running), click the small "PLAY" (arrow) icon on any of the song icons.



Currently Loaded Content Library Bank Number & Bank Name

When the song rolls, you should notice several things that will "prove" that you are up and running correctly (immediately).

- The bright green colored Transport Active X's will appear on the right-hand side "MIX" controls and also under "Now Playing" on the left-hand Kiosk controls;
- The HRS:MINS:SECS will increment on both sides of the top window;
- One or more green X's will appear in the AUTO column, and in the ENABLE column on the MIX side of the upper window;
- INSTRUMENT PRESET NAMES will change in the upper right window;
- The Bars and Beats values will be incrementing in the lower right window;
- When you move over the SpaceHarp you hear the musical notes you make.



CONGRATULATIONS!

You have Successfully Manually Launched the Sound Galaxy Suite.

Total time to manually launch, after logging in to SpaceHarp_Control is about four (4) minutes.

USE

1.11 SYSTEM MIDI SPECIFICATION

1.11.1 Sound Galaxy System MIDI Buses

Sound Galaxy uses MIDI buses to manage its inter-application communications. If you are using a turn-key Sound Galaxy DAW system, you can ignore this MIDI topic. By using multiple Buses, we keep each MIDI data steam as "thin" as possible for low latency, system throughput, ease of troubleshooting and MIDI monitoring, and to maximize the MIDI messages available when connecting to external systems and devices. As established by the industry, a MIDI Bus has its own isolated set of MIDI channels 1-16, as well as System Realtime and System Exclusive. Unless done on purpose, there is no crosstalk between these MIDI buses, they are isolated from each other completely.

On Macs this is accomplished using the built-in <u>IAC Buses</u>, by having defined IAC 1 through IAC (n), usually to Bus 28, or up only to the highest MIDI bus # needed. On Windows this requires the utility <u>MIDI Yoke</u>; the commercial version supports up to 32 MIDI buses. <u>MIDI-OX</u> is used for routing, mapping, splitting and merging when in a customized DAW setup. In a turn-key system MIDI-OX isn't used, and instead the bus setups are managed by a Max patch that serves that sole function.

MIDI busses with the symbol are "Public." That means they have published MIDI Messages.

IAC BUS	CHANNELS	TYPE	NOTES ON/OFF	PC's	CC's
Ø 1	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
Ø 2	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 3	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 4	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 5	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 6	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
7	2, 3, 4	SYNTHS 1 & 2	HT, TQ, AS, w/ VEL	Ch. 2,3,4	(none)
⊘ 8	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 9	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 10	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 11	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
12	5, 6	SAMPLERS 1 & 2	HT, TQ, AS, w/ VEL	Ch. 5,6	(none)
⊘ 13	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 14	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 15	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 16	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 17	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
18	2, 3, 4, 5	SPACEHARPS 1-4	TRIGGER SENSORS	none	Sonar & Pedal CC's
⊘ 19	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
⊘ 20	(n/a)	SG Use Only	(n/a)	(n/a)	(n/a)
21	10	EXT. DRUM	TQ, AS, VEL	Ch. 10	Pedal CC's (typ.)
22	11	VISUALIZER	TQ, AS, VEL	Ch. 11	Pedal CC's (typ.)
23	12	DMX LIGHTING	TQ, AS, VEL	Ch. 12	Pedal CC's (typ.)
24	13	LASER CONTROL	TQ, AS, VEL	Ch. 13	Pedal CC's (typ.)
25	14	DOME VIZ CONTROL	TQ, AS, VEL	Ch. 14	Pedal CC's (typ.)
26	15	VR/AR CONTROL	TQ, AS, VEL	Ch. 15	Pedal CC's (typ.)
27	2, 3, 4, 5	SPACEHARPS 1-4	LEDs CONTROL	none	LED CC's
28	1, 2, 3, 10	HOTZ TRANSLATOR	HARMONIC CTL.	none	Hotz Conductor CC's

1.11.2 Overview of Reserved vs. Public MIDI Buses

Sound Galaxy's MIDI buses fall into five different types or categories of MIDI data bus:

• Reserved Sound Galaxy Internal Buses (1-6; 8-11; 13-17; 19-20);

Public Enhanced Music Performance Buses: MIDI API (7,12)

Public SpaceHarp Controller Buses: MIDI API (18, 27)

Public Device Mapped Performance: Buses MIDI API (21-26)

Public Auto-Harmonic Bus (28); "Hotz Translator Conductor Master."

Reserved Sound Galaxy Internal MIDI Buses are those that carry MIDI information between Sound Galaxy applications and devices, that otherwise rarely would be of utility to other software. These MIDI data streams are typically only of utility for Sound Galaxy's inter-module communications. The Public MIDI Buses are those that carry streams of MIDI information that can be of use to other DAW software and/or other MIDI equipment including external media computers.

Public MIDI buses are available to other software and equipment in two ways. They can be routed using MIDI-over-LAN, using Apple's Core MIDI IP protocol which also can connect with PCs using the **rtpMIDI** utility. Together, these amount to a MIDI "API" (Applications Programming Interface) for a Sound Galaxy DAW System as it relates to external media systems, show control and other computers. Each published Bus # specification is fixed; where the short default Macintosh names are used ("IAC 1, IAC 2, IAC 3" etc.), or on windows, ("Yoke 1, Yoke 2," etc.), their use remain fixed by #.

1.11.3 Reserved Sound Galaxy Internal Buses

1.11.3.1 IAC Buses 1-6, 8-11, 13-17, 19-20 (Reserved)

Bus numbers 1-6, 8-11, 13-17 and 19-20 are reserved for internal Sound Galaxy use only. Connect to these buses in your DAW or other custom setup, only when you're working under the guidelines of specific SpaceHarp Application Notes and/or with the assistance of SpaceHarp Corporation.

1.11.4 Public Enhanced Music Performance Buses: MIDI API

Bus numbers 7 & 12 are the two Public Enhanced Music Performance Buses. In practice, these are the result of "translating" SpaceHarp controller(s) MIDI stream comprised of raw, un-quantized shadow-trigger Note messages, into a stream of highly conditioned Note messages. The Enhanced Music Performance Bus provides Note-On attacks that are tempo-clock-synced and time-quantized, Note-Off's that are auto-sustain managed. Furthermore, by means of output from the Hotz Translator harmonic engine, these streams include all 128 Note Numbers auto-arranged into a musical MIDI stream. Continuous Controller #15 for sonar height as well as all SpaceHarp Pedalboard CC#'s are also included through both of these Buses.



1.11.4.1 IAC Bus 7: Synth 1&2 Music Performances

- All messages are sent on channels 2, 3 & 4 regardless of ID# of originating SpaceHarp(s).
- Note On and Note Off messages are DAW Master Transport clock-tempo-synced, variably time-quantized, variably auto-sustained, and have Velocity values equal to the sonar height for the corresponding SpaceHarp(s) shadow sensor triggers;
- Represent a musical MIDI stream suitable for Sound Galaxy type of Instrument Modules "SYNTH 1" and "SYNTH 2;" includes Note On and Note Off messages having any byte 2 Note Numbers between 0 and 127.
- All Note #'s are used, and no alternative messages or CC#'s are available for this Public Bus.
- Includes Program Change messages on the supported channels.
- See SpaceHarp User Guide MIDI Specification



1.11.4.2 IAC Bus 12: Sampler 1&2 Music Performances

- All messages are sent on channels 5 & 6 regardless of ID# of originating SpaceHarp(s).
- Note On and Note Off messages are DAW Master Transport clock-tempo-synced, variably time-quantized, and variably auto-sustained.
- Note messages have Velocity values equal to the sonar height for the corresponding SpaceHarp(s) shadow / un-shadow sensor triggers;
- Represent a musical MIDI stream suitable for Sound Galaxy type of Instrument Modules "SAMPLER 1" and "SAMPLER 2;" includes Note On and Note Off messages having any byte 2 Note Number between 0 and 127.
- All Note #'s are used, and no alternative messages or CC#'s are available for this Public Bus.
- Includes Program Change messages on the supported channels.
- See SpaceHarp User Guide MIDI Specification.

1.11.5 Public SpaceHarp Controller Buses: MIDI API

Bus numbers 18 & 27 are the Public SpaceHarp Controller Buses. Bus 18 includes output MIDI streams from all connected SpaceHarp controllers, from one up to four. Bus 19 includes all the LED commands being sent to all connected SpaceHarp controllers which can be used, for example to synchronize 1-4 CLUT palettes between the SpaceHarp LEDs and other visual media's CLUT palettes including as used for Music Visualizers, DMX Lighting, Laser Control and other visual media.



1.11.5.1 IAC Bus 18: SpaceHarp Performances

- All messages sent on channels 2, 3, 4 or 5 depending on the ID# of originating SpaceHarp(s).
- Notes On and Off messages are "raw" in timing, having no time quantization nor auto-sustain processing of any kind. Duration between On and Off may thus be short, (i.e. the time between a Note On message and the corresponding Note Off message, from player(s) swift actions).
- Note messages have Velocity values equal to the sonar height for the corresponding SpaceHarp(s) shadow / un-shadow sensor trigger for that Note On or Note Off event;
- Notes On and Off use a fixed nine (9) Note Numbers, representing SpaceHarp Trigger Sensors #1 through #9, the same as piano "white keys" between #36 and #50 (decimal.)
- Includes Sonar Height Continuous Controller #15 messages;
- Includes SpaceHarp(s) ¼" jack connected foot pedals and switches: Continuous Controllers CC #1 (Modulation), CC #12 (All Notes Off), CC#14 (User Defined), CC#64 (Sustain), CC#80 (Transpose Down) and CC#81 (Transpose Up).
- See SpaceHarp User Guide MIDI Specification for full details including in MIDI hex.



1.11.5.2 IAC Bus 27: SpaceHarp LED Commands

- All messages are on Ch. 2, 3, 4 and 5 depending on the ID# of the destination SpaceHarp(s).
- Continuous Controller Messages for "Ring LEDs" including: CC#89 for number of active LED ring "arcs"; CC#85, 86, 87, and 88 for Ring LED active arc CLUT indexes, respectively;
- Continuous Controller Messages CC# 103 for "Inner/Upper LEDs" CLUT and CC# 102 for "Inner/lower" LEDs CLUT.
- "Inner/Upper" LED on/off states, corresponding to SpaceHarp Trigger Sensors #1 through #9, using CC# 111 through CC#119, respectively.
- Includes SpaceHarp(s) ¼" jack connected foot pedals and switches: Continuous Controllers CC #1 (Modulation), CC #12 (All Notes Off), CC#14 (User Defined), CC#64 (Sustain), CC#80 (Transpose Down) and CC#81 (Transpose Up).
- See SpaceHarp User Guide MIDI Specification for full details including in MIDI hex.

1.11.6 Public Device Mapped Performance Buses: MIDI API

Bus numbers 21 through 26 are the Public Device Mapped Performance Buses. These six MIDI buses include messages that have elements which "blend" the time-management of Buses 7 and 12, however using a fixed set of nine note numbers or CC # range of nine when provided.

There is a one-to-one correspondence between each SpaceHarp's nine sensors and that external visual system's nine discreet animations, cues and/or effects responding to that SpaceHarp. No Hotz Translator is invoked in these MIDI streams; Hotz Translated streams include any of 128 Note #'s.

Public Buses 22 through 26 provide both Notes On/Off and Control Change Messages on each bus single channel, which represent sensor triggers, height, foot switches & accelerometer accessories.

All Public Buses also provide Program Change Messages on their respective channels.



1.11.6.1 IAC Bus 21: Drum Machine Pad Voices & Presets Control

- For Trigger Sensors, this bus provides only Notes messages, exclusively on Channel 10.
 Supports one SpaceHarp. No Control Changes for triggers are provided on this bus.
- Uses a fixed set of nine (9) + nine (9) = eighteen (18) Note Numbers. The upper set of Note numbers are provided when the Octave Up Pedal is held down while sensor triggers occur.

	IC BUS 21:			AVAILABLE	NOTE ON, NO	OTE OFF MESSAGES
Exteri	nal Drum Ma	achine			NOTE#	NOTE #
IAC BUS #	SpaceHarp ID (1)	Trigger Sensor #	Octave 'Up' Pedal	Channel (3)	Alt. Notes	(or) Default Notes (5)
21	1	1	up (released)	10	60	60
21	1	2	up (released)	10	61	61
21	1	3	up (released)	10	62	62
21	1	4	up (released)	10	63	63
21	1	5	5 up (released)		64	64
21	1	6 up (released)		10	65	65
21	1	7 up (released)		10	66	66
21	1	8 up (released)		10	67	67
21	1	9 up (released)		10	68	68
21	1	1 down (pressed)		10	74	69
21	1	2	down (pressed)	10	71	70
21	1	3	down (pressed)	10	69	71
21	1	4	down (pressed)	10	70	72
21	1	5	down (pressed)	10	72	73
21	1	6	down (pressed)	10	73	74
21	1	7	down (pressed)	10	77	75
21	1	8	down (pressed)	10	67	76
21	1	9	down (pressed)	10	79	77
	(1) External Drum machine supported for one controller only	(2) See Map of SpaceHarp Sensors to this device's pad voices: Drum Machine: HandSonic Presets Pack 01		(3) Decimal. For HPD- 15, re- mapped to Ch. 6	(4) Decimal. Device- Specific Pad Voices Map	(5) Decimal. Standard Alternative Notes are half-steps starting Middle C
						ight Sets MIDI te 3 Data Values

- See HandSonic Presets Pack 01.
- Notes On and Off messages are DAW Master Transport clock-tempo-synced, variably timequantized, variably auto-sustained.
- Note On and Note Off Velocity (byte 3) values are equal to the sonar height for the SpaceHarp(s) shadow / un-shadow sensor triggers.
- This bus does not include Sonar Height Continuous Controller #15 messages.
- Includes SpaceHarp(s) ¼" jack connected foot pedals and switches but remapped to Channel 10: Continuous Controllers CC #1 (Modulation), CC #12 (All Notes Off), CC#14 (User Defined), CC#64 (Sustain).
- CC#80 (Transpose Down) and CC#81 (Transpose Up) are not separately provided, as these
 control special functions of a Max patch for drums processing. Notably the CC#81 transpose
 up is used to engage and disengage an additional set of nine (9) HandSonic pad voices. For
 this Public Bus 21, all these messages are on Channel 10.
- See SpaceHarp User Guide MIDI Spec.
- Incudes Program Changes for the supported channel. These can be optionally also used to change Presets for different drum kits in various common as well as ethnic and world samples.



1.11.6.2 IAC Bus 22: Music Visualization Control

- All messages are exclusively on channel 11 regardless of ID# of originating SpaceHarp(s).
- For Note messages, each SpaceHarp ID# 1-4 is represented over this bus by a separate set of nine (9) Note Numbers, thus four SpaceHarps of sensor trigger data requires a range of 36 MIDI Note Numbers.
- Note On and Note Off messages are DAW Master Transport clock-tempo-synced, variably time-quantized and variably auto-sustained.

	C BUS 22: N Visualizer (AVAILABLE N	IOTE ON, NOT	E OFF	
IAC BUS#	SpaceHarp ID	Trigger Sensor #	Channel (1)	Alt. Channel Remap (2)	Alt. Notes	(or)	NOTE # Default Notes (4)
22	1	1	11	2	36		60
22	1	2	11	2	38		61
22	1	3	11	2	40		62
22	1	4	11	2	41		63
22	1	5	11	2	43		64
22	1	6	11	4	45		65
22	1	7	11	4	47		66
22	1	8	11	4	48		67
22	1	9	11	4	50		68
22	2	1	11	(not supported)	(not supported)		69
22	2	2	11	(not supported)	(not supported)		70
22	2	3	11	(not supported)	(not supported)		71
22	2	4	11	(not supported)	(not supported)		72
22	2	5	11	(not supported)	(not supported)		73
22	2	6	11	(not supported)	(not supported)		74
22	2	7	11	(not supported)	(not supported)		75
22	2	8	11	(not supported)	(not supported)		76
22	2	9	11	(not supported)	(not supported)		77

_	C BUS 22: I			AVAILABLE N	OTE ON, NOT	E OFF MESSAGES
Music	Visualizer (C <mark>ontrol</mark> (con	t'd)		NOTE #	NOTE #
IAC BUS#	SpaceHarp ID	Trigger Sensor #	Channel (1)	Channel Remap ⁽²⁾	Alt. Notes	Default Notes (4)
22	1	3	11	(not supported)	(not supported)	78
22	2	3	11	(not supported)	(not supported)	79
22	3	3	11	(not supported)	(not supported)	80
22	4	3	11	(not supported)	(not supported)	81
22	5	3	11	(not supported)	(not supported)	82
22	6	3	11	(not supported)	(not supported)	83
22	7	3	11	(not supported)	(not supported)	84
22	8	3	11	(not supported)	(not supported)	85
22	9	3	11	(not supported)	(not supported)	86
22	1	4	11	(not supported)	(not supported)	87
22	2	4	11	(not supported)	(not supported)	88
22	3	4	11	(not supported)	(not supported)	89
22	4	4	11	(not supported)	(not supported)	90
22	5	4	11	(not supported)	(not supported)	91
22	6	4	11	(not supported)	(not supported)	92
22	7	4	11	(not supported)	(not supported)	93
22	8	4	11	(not supported)	(not supported)	94
22	9	4	11	(not supported)	(not supported)	95

- (1) Decimal. Channel for messages received from this Sound Galaxy Public MIDI Bus.
- (2) Decimal. Alternative Notes Channel remap for device-specific visualizer scenes.
- (3) Alternative Notes are a Content-Specific MIDI Notes Map.
- (4) Decimal. Default Notes are half-steps starting Middle C.
- Note On and Note Off velocity values are always equal to the sonar height for the corresponding SpaceHarp(s) shadow / un-shadow sensor triggers.
- For SpaceHarp ID #1 only, there is a special set of Notes messages available that are remapped to device-specific (scene-specific) output channels 2 and 4.
- Incudes Program Changes for the supported channel. These can be used to change master
 Visualizer scenes or cues, in a way that corresponds to Instrument Preset changes in the
 music. Thus, master scenes always include at least one, and up to four SpaceHarps in shared
 content.
- The following table shows how all of the data for up to four SpaceHarps including their connected foot pedals and optional accelerometer accessory (Hot Hand USB Ring or iOS device), can all be handled on a single Public Bus Channel using only Control Changes.
- Foot pedal CC's can be used to add variations in behaviors, objects and effects to the visual content, which can correspond to the musical impact of using these foot controls.
- While the channel separated streams on Bus 18 and Bus 27 are also available, here we provide a one-channel allocation of 26 CC #'s per each of the four SpaceHarp systems.
- This way, one integrated set of "faders" are contemplated in the external computer. This is often the most convenient format for such systems. The CC #'s allocations are the same for each of the Public Bus 22, 23, 24, 25 & 26, with the only difference being the Public Bus Channel numbers namely 11, 12, 13, 14, 15 and 16 respectively.

PUBLIC B	US 22:	Music Visualizer Control (CC's)	CH. 11	CNTL. CHG.	SPA	ACEHARF	DEVICE	ID (6)
Same as Bus	CC #'s	DATA TYPE (2)	MUTE AVAIL.(3)	VALUES	ID-1 CC #	ID-2 CC #	ID-3 CC #	ID-4 CC#
27	111	SPACEHARP TRIGGER SENSOR 1		0 - 127 (4)	24	50	76	102
27	112	SPACEHARP TRIGGER SENSOR 2		0 - 127 ⁽⁴⁾	25	51	77	103
27	113	SPACEHARP TRIGGER SENSOR 3		0 - 127 (4)	26	52	78	104
27	114	SPACEHARP TRIGGER SENSOR 4		0 - 127 ⁽⁴⁾	27	53	79	105
27	115	SPACEHARP TRIGGER SENSOR 5		0 - 127 ⁽⁴⁾	28	54	80	106
27	116	SPACEHARP TRIGGER SENSOR 6		0 - 127 (4)	29	55	81	107
27	117	SPACEHARP TRIGGER SENSOR 7		0 - 127 ⁽⁴⁾	30	56	82	108
27	118	SPACEHARP TRIGGER SENSOR 8		0 - 127 ⁽⁴⁾	31	57	83	109
27	119	SPACEHARP TRIGGER SENSOR 9		0 - 127 (4)	32	58	84	110
18	15	SONAR GLOBAL HEIGHT	Yes	0 - 127 ⁽⁴⁾	33	59	85	111
18	1	FOOT CONTROL #1: MOD		0 - 127	34	60	86	112
18	12	FOOT CONTROL #2: ALL NOTES OFF		0-63; 64-127 (5)	35	61	87	113
18	14	FOOT CONTROL #3: USER DEFINED		0 - 127	36	62	88	114
18	64	FOOT CONTROL #4: SUSTAIN		0-63; 64-127 (5)	37	63	89	115
18	80	FOOT CONTROL #5: TRANSP UP		0-63; 64-127 (5)	38	64	90	116
18	81	FOOT CONTROL #6: TRANSP DN		0-63; 64-127 (5)	39	65	91	117
27	85	CLUT Ring LED arc 1		0 - 127	40	66	92	118
27	86	CLUT Ring LED arc 2		0 - 127	41	67	93	119
27	87	CLUT Ring LED arc 3		0 - 127	42	68	94	120
27	88	CLUT Ring LED arc 4		0 - 127	43	69	95	121
27	89	# ACTIVE Ring LED ARCs		0 - 127	44	70	96	122
27	102	CLUT INNER/LOWER LEDs		0 - 127	45	71	97	123
27	103	CLUT INNER/UPPER LEDs		0 - 127	46	72	98	124
n/a (OSC		ACCELEROMETER TILT	Yes	0 - 127	47	73	99	125
n/a (OSC		ACCELEROMETER ROLL	Yes	0 - 127	48	74	100	126
n/a (OSC	C/prop.)	ACCELEROMETER YAW	Yes	0 - 127	49	75	101	127

- (1) All CC's on the Music Visualizer Control Bus are on a single MIDI Channel: they are re-mapped from the above per-channel CC messages from Bus 18 or Bus 27 which use Channels 2-5.
- (2) All Data Types above are also available over Channels 2-5 (for SpaceHarp ID's 1-4) on BUS 18 and 27 and are detailed in SpaceHarp Controller MIDI Specification; with the exception of the three Accelerometers that are not otherwise (aside from this Public Bus) available and are Sound Galaxy internal use only.
- (3) The four most dense MIDI streams, namely Sonar and 3-axis Accelerometer data, may optionally be muted.
- (4) Value = Sonar Height
- (5) 0-63 = Off; 64-127 = On
- (6) All Data for each of one to four SpaceHarps with Pedal Boards & optional 3-axis Accelerometer Accessories are allocated their own unique and dedicated set of 26 consecutive CC# faders.
- (7) Controller #'s 0 to 23 are not assigned, and are available for future expansion or customized user allocation.



1.11.6.3 IAC Bus 23: Lighting Show Control

- All messages are exclusively on channel 12 regardless of ID# of originating SpaceHarp(s).
- For Note messages, each SpaceHarp ID# 1-4 is represented over this bus by a separate set of nine (9) Note Numbers, thus four SpaceHarps of sensor trigger data requires a range of 36 MIDI Note Numbers.
- Note On and Note Off messages, and Control Changes when supplied, are DAW Master Transport clock-tempo-synced, variably time-quantized and variably auto-sustained.

	C BUS 23: (AVAILABLE OFF M	NOTE (
Ligitui	ig Show Co	TILI OI		NOTE #		NOTE #
IAC BUS#	SpaceHarp ID	Trigger Sensor #	Channel (1)	Alt. Notes (2)	(or)	Default Notes (3)
23	1	1	12	36		60
23	1	2	12	38		61
23	1	3	12	40		62
23	1	4	12	41		63
23	1	5	12	43		64
23	1	6	12	45		65
23	1	7	12	47		66
23	1	8	12	48		67
23	1	9	12	50		68
23	2	1	12	52		69
23	2 2	2 3	12	53		70
23	2		12	55		71
23	2 2 2	4	12	57		72
23	2	5	12	59		73
23	2	6	12	60		74
23	2	7	12	62		75
23	2	8	12	64		76
23	2 2 3	9	12	65		77
23		1	12	67		78
23	3 3 3 3	2 3	12	69		79
23	3		12	71		80
23	3	4	12	72		81
23	3	5	12	74		82
23	3	6	12	76		83
23	3	7	12	77		84
23	3	8	12	79		85
23	3	9	12	81		86
23	4	1	12	83		87
23 23	4 4	2 3	12 12	84		88
23				86		89 90
23	4 4	4 5	12 12	88 89		90 91
23	4	6	12 12	89 91		91 92
23	4	6 7	12	91		92 93
23	4	8	12	93 95		93 94
23	4	9	12			
23	4	9	12	96		95

- (1) Decimal. Channel for messages received from this Sound Galaxy Public MIDI Bus.
- (2) Decimal. Alternative Notes are a content-Specific MIDI Notes Map.
- (3) Decimal. Default Notes are half-steps starting Middle C.
- (4) Data byte three for trigger Note and CC messages are always equal to Sonar Height for that trigger.

- Notes On and Off messages (or alternate CC fader messages, when used) are DAW Master Transport clock-tempo-synced, variably time-quantized, and variably auto-sustained.
- Incudes Program Changes for the supported channel. These can be used to change master
 Lighting scenes or cues, in a way that corresponds to Instrument Preset changes in the music.
 Thus, master scenes or cues always include at least one, and up to four SpaceHarps in
 shared content.
- The following table shows how all of the data for up to four SpaceHarps including their connected foot pedals and optional accelerometer accessory (Hot Hand USB Ring or iOS device), can all be handled on a single Public Bus Channel.
- While the channel separated streams on Bus 18 and Bus 27 are also available, here we
 provide a one-channel allocation of 26 CC #'s per each of the four SpaceHarp systems.

PUBLIC	BUS 23:	Lighting Show Control (CC's)	CH. 12	CNTL. CHG.	SPA	ACEHAR	DEVICE	ID (6)
Same as Bus	CC #'s	DATA TYPE (2)	MUTE AVAIL.(3)	VALUES	ID-1 CC#	ID-2 CC#	ID-3 CC #	ID-4 CC #
27	111	SPACEHARP TRIGGER SENSOR 1		0 - 127 ⁽⁴⁾	24	50	76	102
27	112	SPACEHARP TRIGGER SENSOR 2		0 - 127 (4)	25	51	77	103
27	113	SPACEHARP TRIGGER SENSOR 3		0 - 127 (4)	26	52	78	104
27	114	SPACEHARP TRIGGER SENSOR 4		0 - 127 (4)	27	53	79	105
27	115	SPACEHARP TRIGGER SENSOR 5		0 - 127 (4)	28	54	80	106
27	116	SPACEHARP TRIGGER SENSOR 6		0 - 127 (4)	29	55	81	107
27	117	SPACEHARP TRIGGER SENSOR 7		0 - 127 ⁽⁴⁾	30	56	82	108
27	118	SPACEHARP TRIGGER SENSOR 8		0 - 127 (4)	31	57	83	109
27	119	SPACEHARP TRIGGER SENSOR 9		0 - 127 (4)	32	58	84	110
18	15	SONAR GLOBAL HEIGHT	Yes	0 - 127 ⁽⁴⁾	33	59	85	111
18	1	FOOT CONTROL #1: MOD		0 - 127	34	60	86	112
18	12	FOOT CONTROL #2: ALL NOTES OFF		0-63; 64-127 (5)	35	61	87	113
18	14	FOOT CONTROL #3: USER DEFINED		0 - 127	36	62	88	114
18	64	FOOT CONTROL #4: SUSTAIN		0-63; 64-127 (5)	37	63	89	115
18	80	FOOT CONTROL #5: TRANSP UP		0-63; 64-127 (5)	38	64	90	116
18	81	FOOT CONTROL #6: TRANSP DN		0-63; 64-127 (5)	39	65	91	117
27	85	CLUT Ring LED arc 1		0 - 127	40	66	92	118
27	86	CLUT Ring LED arc 2		0 - 127	41	67	93	119
27	87	CLUT Ring LED arc 3		0 - 127	42	68	94	120
27	88	CLUT Ring LED arc 4		0 - 127	43	69	95	121
27	89	# ACTIVE Ring LED ARCs		0 - 127	44	70	96	122
27	102	CLUT INNER/LOWER LEDs		0 - 127	45	71	97	123
27	103	CLUT INNER/UPPER LEDs		0 - 127	46	72	98	124
n/a (OS	SC/prop.)	ACCELEROMETER TILT	Yes	0 - 127	47	73	99	125
n/a (OS	SC/prop.)	ACCELEROMETER ROLL	Yes	0 - 127	48	74	100	126
n/a (OS	SC/prop.)	ACCELEROMETER YAW	Yes	0 - 127	49	75	101	127

- (1) All CC's on the Lighting Show Control Bus are on a single MIDI Channel: they are re-mapped from the above per-channel CC messages from Bus 18 or Bus 27 which use Channels 2-5.
- (2) All Data Types above are also available over Channels 2-5 (for SpaceHarp ID's 1-4) on BUS 18 and 27 and are detailed in SpaceHarp Controller MIDI Specification; with the exception of the three Accelerometers that are not otherwise (aside from this Public Bus) available and are Sound Galaxy internal use only.
- (3) The four most dense MIDI streams, namely Sonar and 3-axis Accelerometer data, may optionally be muted.
- (4) Value = Sonar Height
- (5) 0-63 = Off; 64-127 = On
- (6) All Data for each of one to four SpaceHarps with Pedal Boards & optional 3-axis Accelerometer Accessories are allocated their own unique and dedicated set of 26 consecutive CC# faders.
- (7) Controller #'s 0 to 23 are not assigned, and are available for future expansion or customized user allocation.
- This way, one integrated set of "faders" are contemplated in the external computer. This is often the most convenient format for such systems. The CC #'s allocations are the same for each of the Public Bus 22, 23, 24, 25 & 26, with the only difference being the Public Bus Channel numbers namely 11, 12, 13, 14, 15 and 16 respectively.
- Foot pedal CC's can be used to add variations in behaviors, objects and effects to the visual content, which can correspond to the musical impact of using these foot controls.



1.11.6.4 IAC Bus 24: Laser Show Control

- All messages are exclusively on channel 13 regardless of ID# of originating SpaceHarp(s).
- For Note messages, each SpaceHarp ID# 1-4 is represented over this bus by a separate set of nine (9) Note Numbers, thus four SpaceHarps of sensor trigger data requires a range of 36 MIDI Note Numbers.
- Note On and Note Off messages, and Control Changes when supplied, are DAW Master Transport clock-tempo-synced, variably time-quantized and variably auto-sustained.

	C BUS 24: (Show Contr	•			OTE ON, NOTE OFF
Lusoi	onon cont	0.		NOTE #	NOTE #
IAC BUS#	SpaceHarp ID	Trigger Sensor #	Channel (1)	Alt. Notes (2)	(or) Default Notes (3)
24	1	1	13	36	60
24	1	2	13	38	61
24	1	3	13	40	62
24	1	4	13	41	63
24	1	5	13	43	64
24	1	6	13	45	65
24	1	7	13	47	66
24	1	8	13	48	67
24	1	9	13	50	68
24	2	1	13	52	69
24	2	2	13	53	70
24	2	3	13	55	71
24	2	4	13	57	72
24	2	5	13	59	73
24	2	6	13	60	74
24	2	7	13	62	75
24	2	8	13	64	76
24	2	9	13	65	77
24	3	1	13	67	78
24	3	2	13	69	79
24	3	3	13	71	80
24	3 3	4	13	72	81
24	3	5	13	74	82
24	3	6	13	76	83
24	3	7	13	77	84
24	3	8	13	79	85
24	3	9	13	81	86
24	4	1	13	83	87
24	4	2	13	84	88
24	4	3	13	86	89
24	4	4	13	88	90
24	4	5	13	89	91
24	4	6	13	91	92
24	4	7	13	93	93
24	4	8	13	95	94
24	4	9	13	96	95

- (1) Decimal. Channel for messages received from this Sound Galaxy Public MIDI Bus.
- (2) Decimal. Alternative Notes are a content-Specific MIDI Notes Map.
- (3) Decimal. Default Notes are half-steps starting Middle C.
- (4) Data byte three for trigger Note and CC messages are always equal to Sonar Height for that trigger.

- Notes On and Off messages (or alternate CC fader messages, when used) are DAW Master Transport clock-tempo-synced, variably time-quantized, and variably auto-sustained.
- Incudes Program Changes for the supported channel. These can be used to change master Laser scenes or cues, in a way that corresponds to Instrument Preset changes in the music. Thus, master scenes or cues always include at least one, and up to four SpaceHarps in shared content.
- The following table shows how all of the data for up to four SpaceHarps including their connected foot pedals and optional accelerometer accessory (Hot Hand USB Ring or iOS device), can all be handled on a single Public Bus Channel.
- While the channel separated streams on Bus 18 and Bus 27 are also available, here we
 provide a one-channel allocation of 26 CC #'s per each of the four SpaceHarp systems.

PUBLIC	BUS 24:	Laser Show Control (CC's)	CH. 13	CNTL. CHG.	SPA	CEHAR	P DEVICE	ID (6)
Same as Bus	CC #'s	DATA TYPE (2)	MUTE AVAIL.(3)	VALUES	ID-1 CC #	ID-2 CC #	ID-3 CC #	ID-4 CC #
27	111	SPACEHARP TRIGGER SENSOR 1		0 - 127 ⁽⁴⁾	24	50	76	102
27	112	SPACEHARP TRIGGER SENSOR 2		0 - 127 (4)	25	51	77	103
27	113	SPACEHARP TRIGGER SENSOR 3		0 - 127 ⁽⁴⁾	26	52	78	104
27	114	SPACEHARP TRIGGER SENSOR 4		0 - 127 ⁽⁴⁾	27	53	79	105
27	115	SPACEHARP TRIGGER SENSOR 5		0 - 127 (4)	28	54	80	106
27	116	SPACEHARP TRIGGER SENSOR 6		0 - 127 ⁽⁴⁾	29	55	81	107
27	117	SPACEHARP TRIGGER SENSOR 7		0 - 127 ⁽⁴⁾	30	56	82	108
27	118	SPACEHARP TRIGGER SENSOR 8		0 - 127 (4)	31	57	83	109
27	119	SPACEHARP TRIGGER SENSOR 9		0 - 127 (4)	32	58	84	110
18	15	SONAR GLOBAL HEIGHT	Yes	0 - 127 ⁽⁴⁾	33	59	85	111
18	1	FOOT CONTROL #1: MOD		0 - 127	34	60	86	112
18	12	FOOT CONTROL #2: ALL NOTES OFF		0-63; 64-127 (5)	35	61	87	113
18	14	FOOT CONTROL #3: USER DEFINED		0 - 127	36	62	88	114
18	64	FOOT CONTROL #4: SUSTAIN		0-63; 64-127 (5)	37	63	89	115
18	80	FOOT CONTROL #5: TRANSP UP		0-63; 64-127 (5)	38	64	90	116
18	81	FOOT CONTROL #6: TRANSP DN		0-63; 64-127 (5)	39	65	91	117
27	85	CLUT Ring LED arc 1		0 - 127	40	66	92	118
27	86	CLUT Ring LED arc 2		0 - 127	41	67	93	119
27	87	CLUT Ring LED arc 3		0 - 127	42	68	94	120
27	88	CLUT Ring LED arc 4		0 - 127	43	69	95	121
27	89	# ACTIVE Ring LED ARCs		0 - 127	44	70	96	122
27	102	CLUT INNER/LOWER LEDs		0 - 127	45	71	97	123
27	103	CLUT INNER/UPPER LEDs		0 - 127	46	72	98	124
	SC/prop.)	ACCELEROMETER TILT	Yes	0 - 127	47	73	99	125
-	SC/prop.)	ACCELEROMETER ROLL	Yes	0 - 127	48	74	100	126
n/a (OS	C/prop.)	ACCELEROMETER YAW	Yes	0 - 127	49	75	101	127

- (1) All CC's on the Laser Show Control Bus are on a single MIDI Channel: they are re-mapped from the above per-channel CC messages from Bus 18 or Bus 27 which use Channels 2-5.
- (2) All Data Types above are also available over Channels 2-5 (for SpaceHarp ID's 1-4) on BUS 18 and 27 and are detailed in SpaceHarp Controller MIDI Specification; with the exception of the three Accelerometers that are not otherwise (aside from this Public Bus) available and are Sound Galaxy internal use only.
- (3) The four most dense MIDI streams, namely Sonar and 3-axis Accelerometer data, may optionally be muted.
- (4) Value = Sonar Height
- (5) 0-63 = Off; 64-127 = On
- (6) All Data for each of one to four SpaceHarps with Pedal Boards & optional 3-axis Accelerometer Accessories are allocated their own unique and dedicated set of 26 consecutive CC# faders.
- (7) Controller #'s 0 to 23 are not assigned, and are available for future expansion or customized user allocation.
- This way, one integrated set of "faders" are contemplated in the external computer. This is often the most convenient format for such systems. The CC #'s allocations are the same for each of the Public Bus 22, 23, 24, 25 & 26, with the only difference being the Public Bus Channel numbers namely 11, 12, 13, 14, 15 and 16 respectively.
- Foot pedal CC's can be used to add variations in behaviors, objects and effects to the visual content, which can correspond to the musical impact of using these foot controls.



1.11.6.5 IAC Bus 25: Immersive Dome Visuals Control

- All messages are exclusively on channel 14 regardless of ID# of originating SpaceHarp(s).
- For Note messages, each SpaceHarp ID# 1-4 is represented over this bus by a separate set of nine (9) Note Numbers, thus four SpaceHarps of sensor trigger data requires a range of 36 MIDI Note Numbers.
- Note On and Note Off messages, and Control Changes when supplied, are DAW Master Transport clock-tempo-synced, variably time-quantized and variably auto-sustained.

	C BUS 25: (•		AVAILABLE NOTE ON, NOTE OFF MESSAGES			
IIIIIICI	SIVE DUTTE	visuais		NOTE #	NOTE #		
IAC BUS #	SpaceHarp ID	Trigger Sensor #	Channel (1)	Alt. Notes	(or) Default Notes (3))	
25	1	1	14	36	60		
25	1	2	14	38	61		
25	1	3	14	40	62		
25	1	4	14	41	63		
25	1	5	14	43	64		
25	1	6	14	45	65		
25	1	7	14	47	66		
25	1	8	14	48	67		
25	1	9	14	50	68		
25	2	1	14	52	69		
25	2	2	14	53	70		
25	2	2	14	55	71		
25	2	4	14	57	72		
25	2	5	14	59	73		
25	2	6	14	60	74		
25	2	7	14	62	75		
25	2	8	14	64	76		
25	2	9	14	65	77		
25	3	1	14	67	78		
25	3	2	14	69	79		
25	3	3	14	71	80		
25	3		14	72	81		
25	3 3	4 5	14	74	82		
25	3	6	14	76	83		
25	3	7	14	77	84		
25	3	8	14	79	85		
25	3	9	14	81	86		
25	4	1	14	83	87		
25	4		14	84	88		
25	4	2 3 4	14	86	89		
25	4	4	14	88	90		
25	4	5	14	89	91		
25	4	6	14	91	92		
25	4	7	14	93	93		
25	4	8	14	95	94		
25	4	9	14	96	95		

- (1) Decimal. Channel for messages received from this Sound Galaxy Public MIDI Bus.
- (2) Decimal. Alternative Notes are a content-Specific MIDI Notes Map.
- (3) Decimal. Default Notes are half-steps starting Middle C.
- (4) Data byte three for trigger Note and CC messages are always equal to Sonar Height for that trigger.

- Notes On and Off messages (or alternate CC fader messages, when used) are DAW Master Transport clock-tempo-synced, variably time-quantized, and variably auto-sustained.
- Incudes Program Changes for the supported channel. These can be used to change master
 Dome Lighting scenes or cues, in a way that corresponds to Instrument Preset changes in the
 music. Thus, master scenes or cues always include at least one, and up to four SpaceHarps in
 shared content.
- The following table shows how all of the data for up to four SpaceHarps including their connected foot pedals and optional accelerometer accessory (Hot Hand USB Ring or iOS device), can all be handled on a single Public Bus Channel.
- While the channel separated streams on Bus 18 and Bus 27 are also available, here we
 provide a one-channel allocation of 26 CC #'s per each of the four SpaceHarp systems.

PUBLIC	BUS 25:	Immersive Dome Visuals (CC's)	CH. 14	CNTL. CHG.	SPA	CEHAR	P DEVICE	ID (6)
Same as Bus	CC #'s	DATA TYPE (2)	MUTE AVAIL. ⁽³⁾	VALUES	ID-1 CC #	ID-2 CC #	ID-3 CC #	ID-4 CC#
27	111	SPACEHARP TRIGGER SENSOR 1		0 - 127 (4)	24	50	76	102
27	112	SPACEHARP TRIGGER SENSOR 2		0 - 127 (4)	25	51	77	103
27	113	SPACEHARP TRIGGER SENSOR 3		0 - 127 (4)	26	52	78	104
27	114	SPACEHARP TRIGGER SENSOR 4		0 - 127 (4)	27	53	79	105
27	115	SPACEHARP TRIGGER SENSOR 5		0 - 127 (4)	28	54	80	106
27	116	SPACEHARP TRIGGER SENSOR 6		0 - 127 (4)	29	55	81	107
27	117	SPACEHARP TRIGGER SENSOR 7		0 - 127 (4)	30	56	82	108
27	118	SPACEHARP TRIGGER SENSOR 8		0 - 127 (4)	31	57	83	109
27	119	SPACEHARP TRIGGER SENSOR 9		0 - 127 (4)	32	58	84	110
18	15	SONAR GLOBAL HEIGHT	Yes	0 - 127 (4)	33	59	85	111
18	1	FOOT CONTROL #1: MOD		0 - 127	34	60	86	112
18	12	FOOT CONTROL #2: ALL NOTES OFF		0-63; 64-127 (5)	35	61	87	113
18	14	FOOT CONTROL #3: USER DEFINED		0 - 127	36	62	88	114
18	64	FOOT CONTROL #4: SUSTAIN		0-63; 64-127 (5)	37	63	89	115
18	80	FOOT CONTROL #5: TRANSP UP		0-63; 64-127 (5)	38	64	90	116
18	81	FOOT CONTROL #6: TRANSP DN		0-63; 64-127 (5)	39	65	91	117
27	85	CLUT Ring LED arc 1		0 - 127	40	66	92	118
27	86	CLUT Ring LED arc 2		0 - 127	41	67	93	119
27	87	CLUT Ring LED arc 3		0 - 127	42	68	94	120
27	88	CLUT Ring LED arc 4		0 - 127	43	69	95	121
27	89	# ACTIVE Ring LED ARCs		0 - 127	44	70	96	122
27	102	CLUT INNER/LOWER LEDs		0 - 127	45	71	97	123
27	103 CLUT INNER/UPPER LEDs			0 - 127	46	72	98	124
n/a (OS	SC/prop.)	ACCELEROMETER TILT	Yes	0 - 127	47	73	99	125
n/a (OS	SC/prop.)	ACCELEROMETER ROLL	Yes	0 - 127	48	74	100	126
n/a (OS	SC/prop.)	ACCELEROMETER YAW	Yes	0 - 127	49	75	101	127

- (1) All CC's on the Immersive Dome Visuals Bus are on a single MIDI Channel: they are re-mapped from the above per-channel CC messages from Bus 18 or Bus 27 which use Channels 2-5.
- (2) All Data Types above are also available over Channels 2-5 (for SpaceHarp ID's 1-4) on BUS 18 and 27 and are detailed in SpaceHarp Controller MIDI Specification; with the exception of the three Accelerometers that are not otherwise (aside from this Public Bus) available and are Sound Galaxy internal use only.
- (3) The four most dense MIDI streams, namely Sonar and 3-axis Accelerometer data, may optionally be muted.
- (4) Value = Sonar Height
- (5) 0-63 = Off; 64-127 = On
- (6) All Data for each of one to four SpaceHarps with Pedal Boards & optional 3-axis Accelerometer Accessories are allocated their own unique and dedicated set of 26 consecutive CC# faders.
- (7) Controller #'s 0 to 23 are not assigned, and are available for future expansion or customized user allocation.
- This way, one integrated set of "faders" are contemplated in the external computer. This is
 often the most convenient format for such systems. The CC #'s allocations are the same for
 each of the Public Bus 22, 23, 24, 25 & 26, with the only difference being the Public Bus
 Channel numbers namely 11, 12, 13, 14, 15 and 16 respectively.
- Foot pedal CC's can be used to add variations in behaviors, objects and effects to the visual content, which can correspond to the musical impact of using these foot controls.



1.11.6.6 IAC Bus 26: Virtual Reality & Augmented Reality Control

- All messages are exclusively on channel 15 regardless of ID# of originating SpaceHarp(s).
- For Note messages, each SpaceHarp ID# 1-4 is represented over this bus by a separate set of nine (9) Note Numbers, thus four SpaceHarps of sensor trigger data requires a range of 36 MIDI Note Numbers.
- Note On and Note Off messages, and Control Changes when supplied, are DAW Master Transport clock-tempo-synced, variably time-quantized and variably auto-sustained.

	C BUS 26: (3D Visuals				E NOTE ON, NOTE MESSAGES
VK-AK	SD VISUAIS			NOTE #	NOTE #
IAC BUS #	SpaceHarp ID (2)	Trigger Sensor #	Channel (1)	Notes (3)	(or) Alt. Notes
26	1	1	15	36	60
26	1	2	15	38	61
26	1	3	15	40	62
26	1	4	15	41	63
26	1	5	15	43	64
26	1	6	15	45	65
26	1	7	15	47	66
26	1	8	15	48	67
26	1	9	15	50	68
26	2	1	15	52	69
26	2 2	2	15	53	70
26	2	3	15	55	71
26	2	4	15	57	72
26	2	5	15	59	73
26	2	6	15	60	74
26	2	7	15	62	75
26	2	8	15	64	76
26	2	9	15	65	77
26	3	1	15	67	78
26	3	2	15	69	79
26	3	3	15	71	80
26	3	4	15	72	81
26	3	5	15	74	82
26	3	6	15	76	83
26	3	7	15	77	84
26	3	8	15	79	85
26	3	9	15	81	86
26	4	1	15	83	87
26	4	2	15	84	88
26	4	3	15	86	89
26	4	4	15	88	90
26	4	5	15	89	91
26	4	6	15	91	92
26	4	7	15	93	93
26	4	8	15	95	94
26	4	9	15	96	95

- (1) Decimal. Channel for messages received from this Sound Galaxy Public MIDI Bus.
- (2) Decimal. Alternative Notes are a content-Specific MIDI Notes Map.
- (3) Decimal. Default Notes are half-steps starting Middle C.
- (4) Data byte three for trigger Note and CC messages are always equal to Sonar Height for that trigger.

- Notes On and Off messages (or alternate CC fader messages, when used) are DAW Master Transport clock-tempo-synced, variably time-quantized, and variably auto-sustained.
- Incudes Program Changes for the supported channel. These can be used to change master VR-AR visual scenes or animations, in a way that corresponds to Instrument Preset changes in the music. Thus, master scenes or cues always include at least one, and up to four SpaceHarps in shared content.
- The following table shows how all of the data for up to four SpaceHarps including their connected foot pedals and optional accelerometer accessory (Hot Hand USB Ring or iOS device), can all be handled on a single Public Bus Channel.
- While the channel separated streams on Bus 18 and Bus 27 are also available, here we
 provide a one-channel allocation of 26 CC #'s per each of the four SpaceHarp systems.

PUBLIC BUS 26:		VR-AR Visuals Control (CC's)	CH. 15	CNTL. CHG.	SPACEHARP DEVICE ID (6)			
Same as Bus	CC #'s	DATA TYPE (2)	MUTE AVAIL.(3)	VALUES	ID-1 CC #	ID-2 CC #	ID-3 CC #	ID-4 CC #
27	111	SPACEHARP TRIGGER SENSOR 1		0 - 127 ⁽⁴⁾	24	50	76	102
27	112	SPACEHARP TRIGGER SENSOR 2		0 - 127 (4)	25	51	77	103
27	113	SPACEHARP TRIGGER SENSOR 3		0 - 127 ⁽⁴⁾	26	52	78	104
27	114	SPACEHARP TRIGGER SENSOR 4		0 - 127 ⁽⁴⁾	27	53	79	105
27	115	SPACEHARP TRIGGER SENSOR 5		0 - 127 (4)	28	54	80	106
27	116	SPACEHARP TRIGGER SENSOR 6		0 - 127 ⁽⁴⁾	29	55	81	107
27	117	SPACEHARP TRIGGER SENSOR 7		0 - 127 ⁽⁴⁾	30	56	82	108
27	118	SPACEHARP TRIGGER SENSOR 8		0 - 127 (4)	31	57	83	109
27	119	SPACEHARP TRIGGER SENSOR 9		0 - 127 (4)	32	58	84	110
18	15	SONAR GLOBAL HEIGHT	Yes	0 - 127 (4)	33	59	85	111
18	1	FOOT CONTROL #1: MOD		0 - 127	34	60	86	112
18	12	FOOT CONTROL #2: ALL NOTES OFF		0-63; 64-127 (5)	35	61	87	113
18	14	FOOT CONTROL #3: USER DEFINED		0 - 127	36	62	88	114
18	64	FOOT CONTROL #4: SUSTAIN		0-63; 64-127 (5)	37	63	89	115
18	80	FOOT CONTROL #5: TRANSP UP		0-63; 64-127 (5)	38	64	90	116
18	81	FOOT CONTROL #6: TRANSP DN		0-63; 64-127 ⁽⁵⁾	39	65	91	117
27	85	CLUT Ring LED arc 1		0 - 127	40	66	92	118
27	86	CLUT Ring LED arc 2		0 - 127	41	67	93	119
27	87	CLUT Ring LED arc 3		0 - 127	42	68	94	120
27	88	CLUT Ring LED arc 4		0 - 127	43	69	95	121
27	89	# ACTIVE Ring LED ARCs		0 - 127	44	70	96	122
27	102	CLUT INNER/LOWER LEDs		0 - 127	45	71	97	123
27	103	CLUT INNER/UPPER LEDs		0 - 127	46	72	98	124
n/a (OSC/prop.)		ACCELEROMETER TILT	Yes	0 - 127	47	73	99	125
n/a (OSC/prop.)		ACCELEROMETER ROLL	Yes	0 - 127	48	74	100	126
n/a (OSC/prop.)		ACCELEROMETER YAW	Yes	0 - 127	49	75	101	127

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Footnotes to Above Table

- (1) All CC's on the VR-AR Visuals Bus are on a single MIDI Channel: they are re-mapped from the above per-channel CC messages from Bus 18 or Bus 27 using Channels 2-5.
- (2) All Data Types above are also available over Channels 2-5 (for SpaceHarp ID's 1-4) on BUS 18 and 27 and are detailed in SpaceHarp Controller MIDI Specification; with the exception of the three Accelerometers that are not otherwise (aside from this Public Bus) available and are Sound Galaxy internal use only.
- (3) The four most dense MIDI streams, namely Sonar and 3-axis Accelerometer data, may optionally be muted.
- (4) Value = Sonar Height
- (5) 0-63 = Off; 64-127 = On
- (6) All Data for each of one to four SpaceHarps with Pedal Boards & optional 3-axis Accelerometer Accessories are allocated their own unique and dedicated set of 26 consecutive CC# faders.
- (7) Controller #'s 0 to 23 are not assigned, and are available for future expansion or customized user allocation.
- This way, one integrated set of "faders" are contemplated in the external computer. This is often the most convenient format for such systems. The CC #'s allocations are the same for each of the Public Bus 22, 23, 24, 25 & 26, with the only difference being the Public Bus Channel numbers namely 11, 12, 13, 14, 15 and 16 respectively.
- Foot pedal CC's can be used to add variations in behaviors, objects and effects to the visual content, which can correspond to the musical impact of using these foot controls.



1.11.7 Public Auto-Harmonic Bus: MIDI API

IA Bus 28 provides Hotz Translator "Conductors" Continuous Controller messages defined and used by the Hotz Translator auto-harmonic engine. See documentation for the **Hotz Translator**, for details.

Messages include those that invoke musical scale, chord, voicing and transpose from an extremely large musical database which includes billions of structures on demand. Connecting this bus would be useful when connecting to entirely additional DAW Systems, locally or remotely, that would "Chase" the Hotz Conductor commands. This way, literally any number of additional controllers, whether SpaceHarps or other types, can play harmonically within shared content of the master Sound Galaxy DAW System.

See the Application Note: Sending Hotz Conductors to (n) instances of Hotz Translator.

1.12 REFERENCE

1.12.1 Cautions and Notices

1.12.1.1 Explanation of Symbols Used in this Guide



IMPORTANT NOTE: The exclamation point inside the triangle symbol, is intended to alert the user to the presence of important operating instructions in this Guide. These are most often specific actions to avoid doing, in order to prevent unpredictable results, or which result in the unstable or other unintended functioning of the software



WARNING: The exclamation point within a "stop sign" symbol is intended to alert the user to the potential for serious damage to the associated SpaceHarp hardware unit and/or it's connected system and/or accessories. This symbol is also used to warn the user against "manual tampering" with some of the behind-the-scenes MIDI setups in the system, which are used and managed by all the Sound Galaxy Suite of DAW applications.



TIP: The "light bulb" symbol is intended to alert the user to a helpful tip, an interesting good practice, a time saving measure or other useful information. This symbol doesn't indicate anything required or critical, but rather something that is often just a good idea.

1.12.1.2 Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.

1.12.1.3 Specifications Subject to Change

The information contained in this manual is believed to be correct at the time of printing. However, SpaceHarp Corp. reserves the right to change or modify any of the specifications without notice or obligation to update existing software.

1.12.1.4 About this Guide

- The figures and computer display screens as shown in this document are for instructional purposes only, and may look somewhat different from those in your particular system setup.
- Apple, iTunes, Mac, Macintosh, iPhone, iPad and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries.
- iOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license.
- The company names and product names in this manual including Ableton Live, Kontakt, Sylenth, Massive, MIDI-OX, Hotz Translator, Crossover, Max, MIRA, MiraWeb, are the trademarks or registered trademarks of their respective companies.

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1.12.1.5 Users of this Guide

This User Guide provides useful information to several kinds of SpaceHarp users, from first time players with no experience, up to experienced Digital Audio Workstation (DAW) experts and Max programmers:

- 1. Casual, novice players having no prior musical experience;
- 2. Musicians at any level having little or no prior Digital Audio Workstation experience;
- 3. Live "Hosts" having minimal training, who assist location-based and event public players;
- 4. System technicians and operators responsible for system setup;
- 5. Recording Artists, Producers, DJs and Pro Performers familiar with digital music (DAW) environments;
- 6. Advanced DAW (Digital Audio Workstation) Composers and Users; and
- 7. MIDI experts, advanced Max and DAW programmers.

Some of the applications include more than one types of user. Various Sections of this User Guide provides important and useful information helpful to all of them. For example, in LBE and Themed Attraction Installations, there could be as many as four different people, each serving in one of these four roles:

- 1. Players, Public or Professional: PLAYER
- 2. Live Host, facilitating pre-show and/or players: FACILITATOR
- 3. Installation, setup and system support: **TECHNICIAN**
- 4. Composer and/or Sound Galaxy Library Editor: PRODUCER

1.12.2 Sound Galaxy 2.0 DAW System Requirements

The RAM requirements for applications and tools for the full Sound Galaxy 2.0 system, with the level of instruments and samples, content and all associate files provided, indicate that a 16GB+ RAM DAW computer is highly recommended.

To use an 8GB RAM DAW computer at least 2GB, possibly up to 4GB of Preset samples will have to be sacrificed.

1.12.3 Sound Galaxy 2.0 DAW Suite Installation

- Current beta and demo systems are pre-bundled and ready-to-go.
- LBE Kiosk and other permanent systems are pre-bundled and ready-to-go.
- For other applications and installations on a user hardware DAW system, installation information will be provided in future versions of this User Guide, and/or in **Application Notes**.