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You can read the recommendations in the user guide, the technical guide or the installation guide for M-AUDIO X-SESSION UC-17. You'll find the answers to all your questions on the M-AUDIO X-SESSION UC-17 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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Appendix H - X-Session Preset Chart

Factory Preset

- 01 MIDI CC's 16-31 *
- 02 MIDI CC's 32-47 *
- 03 MIDI CC's 48-63 *
- 04 MIDI CC's 102-117 *
- 05 GM Preset
- 06 Reason native Preset
- 07 Pro-53 Preset
- 08 Rebirth Preset
- 09 Sampletank Preset
- 10 Sound Blaster Synth Preset

Presets 1 to 4 are designed for software that does not have default MIDI CC's to control it's parameters, and instead uses a MIDI 'learn' mode.

*The Cross Fader will send out CC10 for all presets 1-4. F18 is set to 'OFF', so that only cc10 is sent out when the cross fader is moved. The buttons are assigned MIDI CC's such that their values will not clash with any of the CC's assigned to the controllers in all four of these presets.

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EVOLUTION Advanced User Guide

X-Session



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1. 2. Press the DATA LSB or DATA MSB button. Type in the bank number you wish to send, using the numerical keypad or the +/- keys. Please check the documentation for your receiving device to ensure that it will respond to these messages. For more information about LSB and MSB, please see the chapter "Program and Bank Changes Explained" on page 17 in this manual. Sending Snap Shot Press the +/- buttons together to send a SNAP SHOT of the current X-Session controller assignments and their values.

When you send a snapshot, the LCD will display the SNAPSHOT symbol. The data for an individual controller will be sent on which ever channel that controller has been assigned to. Snap Shot is one way of synchronizing the receiving device with the X-Session and can be used as a creative tool, with interesting and surprising results. The data sent when SNAP SHOT is pressed, can be viewed in your sequencers list editor. Set your sequencer to record and press SNAP SHOT. Then open the list editor and ensure its set to display controller data. 4 29 Evolution X-Session Advanced User Guide Evolution X-Session Advanced User Guide Appendix D - Useful MIDI data General MIDI Instruments Piano 0 Acoustic Grand Piano 1 Bright Acoustic Piano 2 Electric grand Piano 3 Honky Tonk Piano 4 Electric Piano 1 5 Electric Piano 2 6 Harpsichord 7 Clavinet Muting All Controllers To Mute all controllers and the cross fader, press the CTRL MUTE buttons. Bass Reed 64 Soprano Sax 65 Alto Sax 66 Tenor Sax 67 Baritone Sax 68 Oboe 69 English Horn 70 Bassoon 71 Clarinet Pipe 72 Piccolo 73 Flute 74 Recorder 75 Pan Flute 76 Bottle Blow 77 Shakuhachi 78 Whistle 79 Ocarina Synth Lead 80 Syn Square Wave 81 Syn Sawtooth Wave 82 Syn Calliope 83 Syn Chiff 84 Syn Charang 85 Syn Voice 86 Syn Fifths Sawtooth Wave 87 Syn Brass & Lead Synth Effects 96 SFX Rain 97 SFX Soundtrack 98 SFX Crystal 99 SFX Atmosphere 100 SFX Brightness 101 SFX Goblins 102 SFX Echoes 103 SFX Sci-Fi Ethnic 104 Sitar 105 Banjo 106 Shamisen 107 Koto 108 Kalimba 109 Bag Pipe 110 Fiddle 111 Shanai Percussive 112 Tinkle Bell 113 Agogo 114 Steel Drums 115 Woodblock 116 Taiko Drum 117 Melodic Tom 118 Syn Drum 119 Reverse Cymbal 32 Acoustic Bass 33 Electric Fingered Bass 34 Electric Picked Bass 35 Fretless Bass 36 Slap Bass 1 37 Slap Bass 2 38 Syn Bass 1 39 Syn Bass 2 Chromatic Percussion Strings/Orchestra 8 Celesta 9 Glockenspiel 10 Music Box 11 Vibraphone 12 Marimba 13 Xylophone 14 Tubular bells 15 Dulcimer Organ 16 Drawbar Organ 17 Percussive Organ 18 Rock Organ 19 Church Organ 20 Reed Organ 21 Accordion 22 Harmonica 23 Tango Accordion 40 Violin 41 Viola 42 Cello 43 Contrabass 44 Tremolo Strings 45 Pizzicato Strings 46 Orchestral Harp 47 Timpani Ensemble 48 String Ensemble 1 49 String Ensemble 2 (Slow) 50 Syn Strings 1 51 Syn Strings 2 52 Choir Aahs 53 Voice Oohs 54 Syn Choir 55 Orchestral Hit This allows you to alter the position of the controller without affecting the settings of your software. CTRL MUTE does not affect buttons, and as soon as an assignable button or a function key is pressed, the controllers are turned back on. Alternatively, you can press the CTRL MUTE buttons again to turn the controllers back on. When you first press the CTR MUTE buttons, you will see the LCD display 'OFF'. Changing the position of a controller with controller mute engaged, the LCD will always display OFF to indicate no data is being sent out by the X-Session. To cancel the controller mute function, simply press a function key (or keys) or one of the assignable buttons. This is a very useful feature if you are switching between presets on the X-Session with the controllers out of position. You will be able to move the controller to a position relative to the software's controller value, rather than causing the software's controller value to jump. You can also use this feature for creative mixing and interesting DJ type control. If for instance you use the X-Session as a conventional volume mixer, try engaging the controller mute function, change the volume up or down of various channels and press the SNAP SHOT buttons. This form of mixing is very dynamic and can not be done using a conventional mixer. About the Cross Fader The cross Fader can be assigned to two MIDI CC values, by editing F17 and F18. When it is moved, both F17 and F18 will be sent out.

F17 will increment from left to right, while F18 will increment from right to left. The 28 controllers can send MIDI CC, RPN/NRPN, GM 1&2 SysEx and even be assigned to individual MIDI channels. MIDI CC (continuous controller) numbers are part of the standard MIDI specifications and are typically used to control the real-time changing of parameters in musical equipment. For a complete list of standard MIDI controller numbers from 0 to 131, please see Appendix E on page 29. Appendix B - Assignable MIDI CC's on the X-Session B1 - The Cross Fader and rotary Controllers: MIDI CC Description Standard MIDI CC's Pitch Bend Sensitivity Channel Fine Tune Channel Coarse Tune Channel Pressure RPN coarse RPN fine NRPN coarse NRPN fine Master Volume GM* Master Pan GM* Master Coarse Tune GM* Master Fine Tune GM* Chorus Mod rate GM2* Chorus Mod Depth GM2* Feedback GM2* Send to Reverb GM2* Pitch Bend Controller Off**** RPN LSB RPN LSB NRPN LSB NRPN LSB - Any of the 28 real-time controllers on the X-Session can be assigned to a MIDI CC number however the 10 assignable buttons have slightly different options from the cross fader or 16 rotary controllers. The following 2 charts show all the transmit messages you can program for each of the 18 fader/controllers and 10 assignable MIDI buttons respectively. We show you this already at this stage, so you can follow the principle of programming the X-Session controllers in the following instructions and examples. Please pay extra attention to the differences between how you program the cross fader or controllers and how you program the buttons. Data Lsb (Press Twice) - Data Msb (Press Twice) 0-119 120-127 Channel Mode Messages 128 129 130 131 132 133 134 RPN MSB RPN MSB NRPN MSB NRPN MSB - Cross Fader & Rotary Dials ASSIGN 0-119 120-127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 255 Description Standard MIDI CC's Channel Mode Messages Pitch Bend Sensitivity Channel Fine Tune Channel Coarse Tune Channel Pressure RPN coarse RPN fine NRPN coarse NRPN fine Master Volume GM* Master Pan* Master Coarse Tune* Master Fine Tune* Chorus Mod rate** Chorus Mod Depth** Feedback** Send to Reverb** Pitch Bend Controller Off**** Data Lsb (Press Twice) RPN LSB RPN LSB NRPN LSB NRPN LSB Data Msb (Press Twice) RPN MSB RPN MSB NRPN MSB NRPN MSB - 135 136 137 138 139 140 141 142 143 144 255 * ** *** Sysex messages - for details please see pages 8 & 18. MMC Sysex messages, for details please see page 11. This value cannot be typed in using the numerical keypad.

Type in 144 and then press the '+' button to set this value, or 0 and press the '-' button.



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***** General MIDI SysEx messages - for details please see pages 8 & 18. General MIDI 2 SysEx messages MMC Sysex messages, for details please see page 11. This value cannot be typed in using the numerical keypad. Use '+' or '-'. 8 25 Evolution X-Session Advanced User Guide Evolution X-Session Advanced User Guide Appendix A - MIDI IMPLEMENTATION CHART Function Basic :Default Channel:Changed :Default Mode :Messages :Altered Note Number:True Voice Velocity: Note ON : Note OFF After : Keys Touch :Ch's Pitch Bend Control Change 0-119 Assignable MIDI Buttons ASSIGN 0-119 120-127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 255 Description Standard MIDI CC's Channel Mode Messages Pitch Bend Sensitivity Channel Fine Tune Channel Coarse Tune Channel Pressure RPN Coarse RPN Fine NRPN Coarse NRPN Fine Master Volume* Master Pan* Master Coarse Tune* Master Fine Tune* Chorus Mod rate** Chorus Mod Depth** Feedback** Send to Reverb** Pitch Bend Program/Bank Preset MIDI CC (on/off) Note (on/off) Note (on/off toggle) MMC Command*** Reverb type ** Reverb time ** Chorus type ** Controller Off**** Value Value Value Value Program MIDI CC Note Note Program (Press Twice) Bank LSB (Press Data Msb (Press Twice) Twice) Toggle Value 2 Toggle Value 1 Toggle Value 2 Toggle Value 1 Sensitivity value Tuning amount Tuning amount Pressure amount RPN LSB RPN MSB RPN LSB RPN MSB NRPN LSB NRPN MSB NRPN LSB NRPN MSB Volume LSB Volume MSB Pan LSB Pan MSB Tuning LSB Tuning MSB Tuning LSB Tuning MSB Mod rate Mod depth Feedback level Reverb send level Pitch shift LSB Pitch shift MSB Bank LSB Bank MSB Button release value Button press value Velocity off Velocity on Velocity off Velocity on Command select. Type Time Type - Transmitted 1-16 1-16 -----X ***** 0-127 ***** 0 0 0 0 0 0 Received X X X X X X X X Remarks 120-127 Program Change:True Number System Exclusive Song Position Common:Song Select System :Clock Exclusive:Commands Aux Messages :Local ON/OFF :All Notes OFF :Active Sense :Reset 0 0-127 ***** GM, GM2, MMC X X X 0 0 0 0 0 = YES X X Memory Dump X X Selecting A Controller For Editing Before you can assign a MIDI CC to one of the X-Session's controllers, you will need to select it for editing. There are 2 methods for doing this: 1. Press CONTROL SELECT. The LCD will display the CONTROLLER symbol. The symbol will be flashing to indicate the controller settings can be altered. The 3-digit display will show the number of the currently selected controller, preceded by a 'C', or an 'F' if the cross fader is selected. Type in the number of the controller using the numeric keypad, or the +/- buttons. Move the cross fader/rotary controller. Simply moving a fader/rotary controller will make it the currently selected controller, ready for editing. To select the second cross fader controller value (F18) please use method 1. It is also not possible to select any of the 10 numerical buttons by pressing them, since during edit mode, they are used to enter numerical values. To program these buttons, please use the first method. X 2. or Notes: X=NO 24 9 Evolution X-Session Advanced User Guide Evolution X-Session Advanced User Guide Assigning MIDI CC's Once the controller you want to edit has been selected, you can change the assigned MIDI CC number in the following way: 1. 2. Press ASSIGN. The LCD will flash the CC symbol. The 3 digit display will indicate the currently assigned MIDI CC number. Type in a new MIDI CC value using the numeric keypad or '+' and '-' buttons. The MIDI controller number you select will be assigned to the currently selected controller, shown by the number on the small, 2-digit display. Example: After pressing ASSIGN, the display shows the cc symbol and in this case displays that currently the MIDI CC 07 is assigned to controller number 13. Assigning An Individual MIDI Channel 1. 2. Select the controller you want to edit as described earlier. Press CHANNEL. The LCD will display the CHAN symbol and the 3-digit display will show the current channel assignment of the selected controller, preceded by a 'c'. The small 2-digit display will show the currently selected controller for assignment. Type the MIDI channel number (01-16) you want the controller to send to, using the numeric keypad or the +/- keys. Appendix A G & Factory Preset List 3. If the controller is assigned to channel 00, it will transmit on the global channel. Changing The Global MIDI Channel The X-Session's global MIDI channel affects only the controllers that have the individual MIDI channel assigned to value 00, as described in the previous section. Here is how you change the global MIDI channel: 1. Press GLOBAL CHANNEL (ASSIGN and CHANNEL together). The LCD will display the KEYBOARD and CHAN symbol. The 3-digit display will show the currently selected global channel, preceded by a 'c'. Type in the MIDI channel number (01-16) using the numeric keypad or the +/- keys. 2. Example: MIDI channel 01 is assigned as global MIDI channel. Using a combination of global MIDI channel and individually assigned MIDI channels can be a great way of navigating through your system. With multitimbral instruments such as Reason, it can be easier to just change the global MIDI channel on the X-Session in order to jump to the next device, rather than operating the software. 10 23 Evolution X-Session Advanced User Guide Evolution X-Session Advanced User Guide Viewing The Contents Of A Memory Right-click on a memory to view the contents. Please note that it is not possible to edit the contents of a memory. The Sys Ex librarian will simply allow you to rearrange the order of memories, or copy memories between one memory dump and another. Setting Toggle Values For The Buttons The 10 assignable buttons can each be assigned to toggle between two values. You may for instance want to send out value 15 when you first press the button followed by value 74 when you press the button for a second time. This is how you do it: 1. 2. 3. 4. Press the Function button labelled DATA MSB 2 times. Type in 15 using the numerical keypad or the +/- keys. Press the Function button labelled DATA LSB 2 times. Type in 74 using the numerical keypad or the +/- keys. Saving A Setup Once you have named all your presets, and organised them in the desired order, click 'save' to save the content. Alternatively you can click on the File menu and select save to save the file with the previously assigned file name, or save as to assign the memory dump a new file name. The shortcut key to save Bank 1 is CTRL+S. Make sure you give the file a name which allows you to quickly identify your collection of setups. If you want the button to send the same value every time you press it, simply type in the same value both times. RPN/NRPN, GM 1+2 SysEx & Other Messages As already described, the standard MIDI controller numbers range from 0 to 131.



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We have extended the list of MIDI CC's that can be assigned to the controllers of the X-Session to include RPN/NRPN, MMC and General MIDI 1&2 SysEx messages. These advanced messages are as easy to program as a regular MIDI CC instruction by entering values 132 to 152 when programming MIDI CC's.

The charts on page 8 and 9 (or Appendix B) show you what number correspond to each message. To program the values required for these advanced messages, the X-Session requires you to press the PROGRAM, DATA LSB and DATA MSB buttons twice respectively. Pressing only once will send the program and bank change instructions "on the fly" as described earlier. Let's look at a couple of examples to see how this works. Please refer to the chart in Appendix B so you get to grips with the principle: Loading A Setup To load a memory setup file back in to the Librarian, click on the 'Load' button and select the required file. The loaded preset setups will appear in the Bank Window. You can then either send it directly to the Evolution device by clicking send, or edit it. Alternatively, select Open from the File menu. The shortcut key for loading is CTRL+O. Future Development Of The Librarian We strongly recommend you register your ownership of the Evolution Librarian if you would like to be kept informed about future development. As you can see from the version number, the software is at an early version 1.1 stage and we will continue to work on enhancements for the software. To register your copy, please visit www.evolution.co.uk/register

Assigning MMC Control To A Button 1. 2. 3. Select the button you want to control the MMC message. Press "ASSIGN" on the X-Session. Type in "149" using the numerical keypad. @@Press "Channel" once. Type in "127", using the numerical keypad. This ensures that the message is set to all device ID numbers. @@Press the "DATA LSB" button twice.

@@5. 4. @@1. 2. Select MIDI Setup from the Options menu. @@@@In the "Outputs" column, select the USB driver for your Evolution X-Session 1. You should now be ready to use the Librarian software with you Evolution X-Session. Librarian Overview Assigning RPN/NRPN To A Controller Note: For a detailed description of RPN/NRPN data see section RPN/NRPN's Explained on page 17. 1. @@@@To re-name a memory, double-click on the memory.

@@@@However, some manuals may only give the hex values. The X-Session requires you to enter the decimal value. @@@@Press the Dec button to convert it to a decimal value. Enter the decimal value into the X-Session. Alternatively, use the look up table in Appendix C.

@@Will copy all memories in Bank 2 to Bank 1. Will copy all the memories in Bank 1 to Bank 2. Will undo the last copy you made. Only the last copy is remembered. @@@@The display will show that you have selected controller 19.

Press ASSIGN and enter '147' this is the MIDI CC number that corresponds to Note on/off mode, as shown in Appendix B. Press DATA MSB twice and enter a value of '100'. This means when you press the button, a Note on message will be sent out with a velocity of 100. Press DATA LSB twice, and enter a value of '000'. This means when you release the button, a Note off message will be sent out. Press the PROGRAM button twice and enter '064'. This will mean you are sending out MIDI note 64 or E4, each time you press the button. The MIDI note numbers are given in Appendix D. 2. 3.

4. Installing The Evolution Librarian Software 1. 2. 3. Insert the X-Session Installer CD-ROM in to your CD-ROM drive. Click on "Librarian Installer" Follow the on-screen instructions to complete the installation process 5. Once the installation has been completed, launch the program. The following is a screenshot of what you should be seeing on your monitor. This button mode has many uses. You can use this mode to trigger samples, control lighting equipment, play keyboard notes and much more.

Note: When you press the button in note mode, the LCD display will briefly show the note velocity. About Sys Ex Messages & Device ID When transmitting Sys Ex messages, the individual control channel number does not define a transmit channel, but a device ID. This is made clear since when you press the CHANNEL button, the CC symbol will not be shown and there is no 'c' in the 3 digit display. Device ID's range between 00 127. In most cases, you should set the device ID as 127.

127 means the SysEx message will be received by all devices. Please note that the device ID for a Sys Ex message assigned to a controller can not be changed using the Device ID buttons. These buttons are used for varying the device ID of the X-Session it self, not just a separate controller. 2 1 20 13 Evolution X-Session Advanced User Guide Evolution UC-33 Advanced User Guide Non-Volatile Memory The X-Session uses non-volatile memory so that you can continue where you left off even after powering down and restarting. The current X-Session controller and channel assignments are stored whether you have stored your setup to a memory locations or not.

Also stored is MIDI Out from USB on/off, Program, DATA LSB and DATA MSB data, global channel setting and last used memory preset. Memory Dump Pressing the MEMORY DUMP buttons will send out a number of Sys Ex data packets that represent the 10 memories you have set up in your X-Session. This is a useful way of storing or backing up the contents of your memory presets externally. You can record the complete memory dump in to a standard sequencer. To recall the memory dump back to the X-Session, play the MIDI track containing the recorded memory dump to the X-Session, making sure that the X-Session drivers are selected as output for that particular track. The current controller assignments are not affected by a memory dump, or a memory send to the X-Session. Once a memory dump has been sent to the X-Session, you will need to recall a preset to access the new memory settings. The Evolution Librarian Software Assigning A Device ID To The X-Session Pressing the "DEV. ID" buttons will allow you to assign a Device ID to the X-Session. The default Device ID is 127, which means when a memory dump is performed, that dump can be received by any X-Session, regardless of the Device ID setting.

If a device ID is assigned to any number other than 127, the memory dump performed will be specific to X-Session's with the same device ID. If the device ID of a X-Session differs from the one recorded with the memory dump, the data will be ignored. The device ID is a handy way of differentiating between multiple X-Session's. Otherwise, we recommend you keep the device ID setting as 127. When you press the Device ID buttons, you will see the small 2-digit display on LCD display 'id'. The 3-digit display represents the assigned Device ID. You can enter a new device ID using the numeric keypad, or the '+' and '-' buttons.



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For more information on Sys Ex messages and device ID, please go to page 18. Resetting To The Factory Default Setting The X-Session comes with 10 useful presets stored in it's memory (for complete list, see Appendix H). You can reset the X-Session back to the factory defaults on power-up by holding down the +/- buttons.

Note: Restoring the Factory presets will erase all X-Session setups stored to memory. 14 19 Evolution X-Session Advanced User Guide Evolution UC-33 Advanced User Guide A list of NRPN's will always be given in the User Manual of a device that receives NRPN messages. It is always necessary that the NRPN MSB and LSB are sent together. Both will be specified in the device's manual. You may find the manufacturer's have only specified the numbers in Hexadecimal format.

In this case, use Appendix C to translate the value to Decimal. The X-Session makes the process of transmitting NRPN's easy. All you need is to enter the appropriate NRPN LSB by pressing the LSB/DATA button twice, enter the NRPN MSB by pressing the MSB/DATA button twice, and as you move the X-Session controller, an appropriate NRPN message will be sent out. Assign NRPN coarse to make big sweeps, or NRPN fine to make slight adjustments. Sys Ex Explained System Exclusive (Sys Ex) messages were defined in the MIDI specification to allow individual devices to have individual control via MIDI.

The format of Sys Ex messages allows for virtually any function to be performed via MIDI so long as the receiving device is able to translate the message, and act accordingly. This allows devices to send audio sample memory data, memory dumps, controller settings, and much more. It also allows the controllers of one device to be controlled by another. It is not possible to program your own specified Sys Ex message into the X-Session. However, there are some useful Sys Ex messages pre-programmed, that can be accessed by assigning the appropriate MIDI cc to a controller (see Appendix B) It should be noted that a Sys Ex message is not transmitted on any specified channel. All Sys Ex messages contain a device ID, that is used to single out devices to respond to the Sys Ex message. All other devices are ignored. If you are using a Sys Ex message on the X-Session the global channel is ignored. When you press CHANNEL, instead of entering a channel for the controller, you will be enter a device ID instead. This is indicated by the fact that the CC symbol will not be showing.

Device ID's run from 00 to 127. 127 is the default device number setting on the X-Session. This setting transmits the Sys Ex message to all devices. Although it is not possible to program the controllers of the X-Session with your own Sys Ex messages, there are software applications that can receive a MIDI input signal and transmit a different, user specified message. You can program your Sys Ex messages into the translator software, then translate the incoming data from the X-Session to your Sys Ex, depending on the controller you are using. MIDI In/Out & MIDI Messages Explained 18 15 Evolution X-Session Advanced User Guide Evolution X-Session Advanced User Guide MIDI In & MIDI Out Signal Flow Diagram The MIDI IN & MIDI OUT ports have different uses depending on how you intend to connect and power the X-Session. The diagram below shows the different routing options. Program & Bank Changes Explained The original GM MIDI specification catered for only 128 voices, numbered from 0-127. It is possible to access a different voice by sending a program change. In order to expand on the GM set of voices, Bank changes were devised.

Each bank contains 128 patches, that can be accessed using a program change. There are 16,384 banks available, accessible by sending a 14-bit Bank change message. @@The last 7 bits are specified by another byte known as the Bank MSB. @@@@The FM7 by Native Instruments is a good example of this. Bank changes are more rarely used, although they do exist.

Bank changes are useful in manufacturer's extensions to the MIDI specification, such as Roland's GS specification and Yamaha's XG specification. Both of these require you to specify a Bank change, in order to access the extra voices and effects that these specifications provide. Sending Program, Bank LSB and Bank MSB data is made simple using the X-Session. Simply press the PROGRAM, DATA LSB or DATA MSB button and enter the program or bank change you wish to send. About The MIDI In Port The MIDI in plug can be used to interface another MIDI device to your PC, via the USB port.

Data received from this device will be transmitted via the X-Session to the PC. This is achieved using a second USB MIDI out. So, when you select the MIDI devices section of your sequencer you will see two X-Session USB MIDI Ins. The first of these is used to receive the X-Session controller data, the second is used to receive data from the other device connected to the X-Session's MIDI IN plug. So, the X-Session is acting as a MIDI-to- USB interface for the other MIDI device. About The MIDI Out Port The X-Session can of course also interface with other MIDI devices. By default (I.e. when you switch the unit on), all controller data is sent out via the MIDI output as well as the USB out. If you want the MIDI output to act like a traditional USB-to-MIDI interface, just press the two buttons (SELECT and ASSIGN) that activate the MIDI OUT from USB mode.

If you are using a host application which can pick up multiple input drivers, you will be able to use the X-Session's MIDI input and the X-Session surface to record MIDI data and send the whole lot out of the X-Session's MIDI output. Important note: The X-Session is not a MIDI THRU device and as such, MIDI data received at the X-Session's MIDI IN plug can never be sent directly to the X-Session's MIDI OUT plug. However, if the X-Session is connected via USB to a computer, data received at the MIDI IN can be transmitted to the MIDI OUT plug, since the data is sent to the computer, and received back from the computer. MIDI OUT FROM USB mode must be engaged for this to occur. RPN/NRPN's Explained Non-registered parameter numbers (NRPN's) are device specific messages that enable the control of synths via MIDI. The MIDI specification defines parameter numbers to allow scope for manufacturers to specify their own controllers. The more common of these have been registered by the MIDI Manufacturer's Association and are part of the MIDI specification (hence the term Registered Parameter Numbers RPN's). (See Appendix F.) MIDI controllers 98 and 99 represent the NRPN LSB and MSB respectively, while 100 and 101 represent the RPN LSB and MSB. This can be seen from the MIDI controllers list in Appendix D.

To transmit an NRPN/RPN, these two controller messages are sent along with their user-specified values. A further controller message and value needs to be sent to specify the (coarse or fine) value adjustment.



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