Lexicon

A Harman International Company

960L Software Version 4.0

Installation Instructions & Release Notes

DOCUMENTATION CONVENTIONS

This document is a supplement to the 960L Owner's Manual (Rev 2). It contains installation instructions for Software Version 4.0, and discusses enhanced features available with the new software that did not receive full coverage in previous documentation. Refer to the owner's manual for general safety, installation, and operating instructions.

This document uses the term "960L" to refer to all 960L models, including the 960LD and 960LS. Instances in which information differs among models are specified.

WARNING Calls attention to a procedure, practice, condition, or the like that, if not correctly performed or adhered to could result in injury or death.

Note: Calls attention to information that is essential to highlight.

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INSTALLATION NOTES

Performing this software installation is a simple process. But, to avoid problems, please review the information contained in this document before executing the installation instructions that begin on the next page. Pay particular attention to the bulleted items below and to other precautions that appear throughout this document.

Please note the following before proceeding to the installation instructions that begin on the next page:

> ***Note:***
>
> ***After Software Version 4.0 is installed, the 960L cannot be downgraded. It will no longer be possible to revert the unit to previous software versions.*** *Software Version 4.0 should provide improved functionality over all previous software versions. Please contact Lexicon Technical Support at 781-280-0300 or csupport@lexicon.com with concerns regarding this matter or with technical difficulties experienced after the new software is installed.*

- Although the installation process should preserve user registers, it is recommended to save them to a disk before installing Software Version 4.0. Saved user registers will be compatible with the current software version. If necessary, saved user registers can also be loaded from the disk to a 960L running Software Version 4.0. (See Section 4: Organizing Your Registers in the owner's manual for more information.)

- This bullet can be ignored if the 960L is currently running Software Version 2.4 or above. The 960L will not ask to have the serial number re-entered if this process was completed during a previous software installation. Otherwise, the installation process will require the 960L serial number, which is located on the mainframe rear panel. The serial number consists of four digits, followed by a dash, followed by four more digits. It is recommended to note this number before beginning the installation process.

- Use the front panel standby button whenever the installation instructions call for the 960L to be powered on or off. Do not use the rear panel power switch.

- It is recommended to read the 960L Owner's Manual and Owner's Manual Addenda to take full advantage of the unit's capabilities.

- The software installation process will take about 15 minutes.

WARNING These service instructions are for use by qualified personnel only. Do not perform any servicing other than that contained in these instructions unless qualified to do so. Refer to safety instructions prior to performing any service.

INSTALLATION INSTRUCTIONS

1. While the 960L is powered on, insert the Software Version 4.0 CD in the 960L disk drive.

2. With the front panel standby button, power off the 960L, wait a few seconds, then power on the 960L again. After a few minutes, the message shown below will appear on the LARC2 display.

```
Install disc found in drive - [960L V4.00R]

Update / Install 960L:  press '1' to install
                        press '0' to continue with no install
```

3. Press the 1 button on the numeric keypad on the LARC2 to begin the installation process. A number of progress messages will appear on the LARC2 display. When this phase of the installation process is complete (after about 1 minute), the message shown below will appear.

```
Install complete. Please remove CD from drive.
```

4. When the message shown above appears on the LARC2 display, remove the Software Version 4.0 CD from the 960L disk drive.

5. With the front panel standby button, power off the 960L, wait a few seconds, then power on the 960L again. The system will take a little longer to boot than normal.

   The LARC2 will require an update. The menu shown below will appear on the LARC2 display.

```
Update needed on Larc2: Press '1' to update
                        Press '0' to ignore
```

6. Press the 1 button on the numeric keypad on the LARC2 to begin the LARC2 update. This is the longest phase of the installation process, lasting about 10 minutes. A progress indicator will appear on the LARC2 display.

> ***Note:***
>
> *If the 960L is currently running Software Version 2.4 or above, skip ahead to step 9 on the next page. If not, continue with step 7 below.*

7. When the LARC2 update is complete, the message shown at the top of the next page will appear on the LARC2 display.

. . . Installation Instructions continue on page 6

Installation Instructions *(continued from page 5)*

```
Please enter serial number of the 960L from the back panel of the
960L chassis. Do not use the serial number of the LARC2!
Enter numbers only. Do not enter first letter (shown as 'x')
Use minus for '-' : Use left arrow '<' for backspace : Finish with
ENTER.

      x_
```

With the numeric keypad on the LARC2, enter the serial number as it appears on the 960L mainframe rear panel. Do not enter the first letter. Enter the numbers and the dash. Press the ENTER button on the LARC2 when finished. The message shown below will appear on the LARC2 display.

```
Please re-enter serial number for verification . . .

      x_
```

> ***Note:***
>
> *The 960L will not ask to have the serial number re-entered if this process was completed during a previous software installation.*

8. With the numeric keypad on the LARC2, enter the serial number again as it appears on the 960L mainframe rear panel. Once again, do not enter the first letter. Enter the numbers and the dash. Press the ENTER button on the LARC2 when finished. The system will restart.

9. When the system has restarted, follow the instructions in the next section to confirm that Software Version 4.0 has been properly installed.

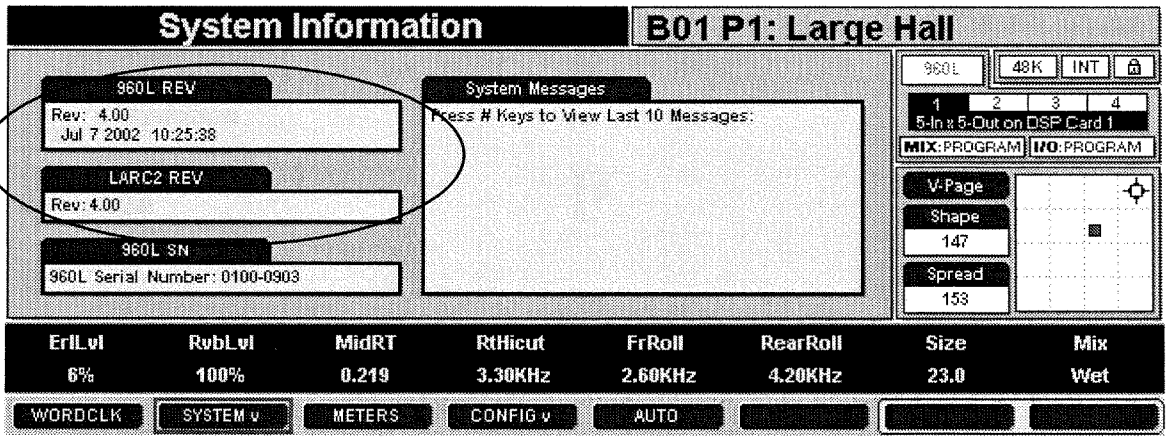
CONFIRMING THE CURRENT SOFTWARE VERSION

1. Press the CONTROL button on the LARC2 to enter Control Mode.

2. Press the SYSTEM▾ soft button to access the System Information screen shown in Figure 1 at the top of the next page. The 960L REV field indicates the current software version that is installed on the 960L, and the LARC2 REV field indicates the current software version that is installed on the LARC2. These fields are circled in Figure 1.

   Both fields should indicate that Software Version 4.0 is installed. If not, follow the installation instructions again, beginning with step 1 on page 5. If problems persist, contact Lexicon Technical Support at 781-280-0300 or csupport@lexicon.com.

Figure 1: System Information Screen



RELEASE NOTES

The bulleted items that begin below describe features of Software Version 4.0 that are not covered in the 960L Owner's Manual or Owner's Manual Addenda.

- When configuring systems with two DSP cards, there are no longer two soft buttons labeled CONFIG 1 and CONFIG 2. In Software Version 4.0, there is one soft button labeled CONFIG▾. Pressing the CONFIG▾ soft button accesses the CONFIG▾ menu, which allows selection of the DSP card for configuration. This menu is not available in systems with one DSP card.

- The ability to use double-button presses to access options has been removed in order to support future functionality.

- Reverb algorithms now allow input levels to be set to a maximum level of 0dB. In previous releases, –6dB was the maximum.

> ***Note:***
>
> *Setting the input level above –6dB can result in DSP overflows.*

- When processing audio, loading a very small Random Hall program while running a large Random Hall program (i.e. loading Oil Drum while running Large Hall) may generate DSP feedback. The level and duration of this feedback depends on the audio source. To prevent feedback from occurring, mute the machine before loading the smaller Random Hall program.

- Parameters with an OFF position in the center of the fader travel can now be set to OFF by pressing and holding the FINE ADJ button on the LARC2 and lightly touching the desired fader.

. . . Release Notes continue on page 8

Release Notes *(continued from page 7)*

- Occasionally, LARC2 motorized faders may exhibit a "vibrating" characteristic when settling into a new position as programs are loaded. This characteristic may appear to be inconsistent from fader to fader. This is normal due to the varying characteristics of individual fader components. The faders will settle into a stable position after a short adjustment or calibration period.

- When in Machine Mode, some I/O and Mix parameter changes will be lost when a program load event is moved on the Event List screen. These parameter adjustments will be lost in the interval between the old time and the new time. No other parameters are affected. The farther the program load event moves, the more noticeable the absence of I/O and Mix parameter changes. When moving a program load event more than a few frames, it is recommended to delete the event, then reinsert it at the desired location.

- I/O routings need to be set after installing Software Version 4.0. Once set, the I/O routings are saved with the configuration and will be automatically recalled when that DSP configuration is loaded.

- I/O routings saved with each configuration may become invalid if the order of the I/O cards is changed or if an I/O card is removed from the unit. If this occurs, simply reset the I/O routings.

- Manual fader adjustment may be prevented when the fader is automatically positioned near the top or bottom of its physical range, even if the parameter is not set to its maximum or minimum value. To overcome this anomaly, move the fader in the opposite direction, then to the desired value.

- The LtRt outputs of the 5-output configurations cannot be routed as inputs to the second optional reverb DSP card.

- The two machine outputs in the 5-channel cascades are mixed to allow processed material from the first machine to simultaneously pass directly to the system output and feed the second machine. Phasing and comb filtering will occur if a dry signal is passed through both machines.

960L, 960LD, AND 960LS

The 960L Multi-Channel Digital Effects System is a multi-channel reverb processor designed for audio professionals. The 960LD is an AES/EBU digital I/O version of the 960L. The 960LS is a stereo reverb version of the 960L. The 960LD and the 960LS feature the same capabilities as the 960L, except for the differences described in the table on the next page.

The 960L, 960LD, and 960LS mainframe rear panels are shown in Figures 2, 3, and 4 on page 10.

960L	960LD	960LS
Supports up to 16 channels of I/O in various configurations. The 960L comes standard with eight channels of balanced analog I/O and eight channels of AES/EBU digital I/O. The 960L rear panel is shown in Figure 2 on the next page.	Supports up to 16 channels of I/O in various configurations. The 960LD comes standard with eight channels of AES/EBU digital I/O. It does not ship with balanced analog I/O. These cards are not included on the rear panel, as shown in Figure 3 on the next page. However, A/D analog input and D/A analog output cards are available as separate options.	Supports up to 16 channels of I/O in various configurations. The 960LS comes standard with eight channels of balanced analog I/O. It does not ship with AES/EBU digital I/O. This card is not included on the rear panel, as shown in Figure 4 on the next page. However, an AES/EBU Digital I/O card is available as a separate option.
Includes one DSP card and provides support for an optional second DSP card that doubles available processing power. Each card can support stereo configurations with up to four machines or surround configurations with up to two machines at 44.1/48kHz, as well as stereo configurations with up to two machines or surround configurations with one machine at 88.2/96kHz.	Includes one DSP card and provides support for an optional second DSP card that doubles available processing power. Each card can support stereo configurations with up to four machines or surround configurations with up to two machines at 44.1/48kHz, as well as stereo configurations with up to two machines or surround configurations with one machine at 88.2/96kHz.	Includes one DSP card and provides support for an optional second DSP card that doubles available processing power. Each card can support stereo configurations with up to four machines at 44.1/48kHz or two machines at 88.2/96kHz. The 960LS does not support surround configurations. (The Multi-Channel Package is available as a separate option.)
Supports the Automation, Delays & Additional 96kHz Reverbs, and the LOGIC7™ UpMix Algorithm options. Automation is standard on units shipped with Software Version 3.0 or above, and the LOGIC7 UpMix Algorithm is standard on units shipped with Software Version 4.0 or above. See pages 11 and 12 for more information about options available for the 960L.	Supports the Automation, Delays & Additional 96kHz Reverbs, and the LOGIC7 UpMix Algorithm options. Automation is standard on units shipped with Software Version 3.0 or above, and the LOGIC7 UpMix Algorithm is standard on units shipped with Software Version 4.0 or above. See pages 11 and 12 for more information about options available for the 960LD.	Supports the Automation option, as well as stereo algorithms included in the Delays & Additional 96kHz Reverbs option. The 960LS does not support the LOGIC7 UpMix Algorithm option. When the Multi-Channel option is enabled, the 960LS also supports surround algorithms in the Delays & Additional 96kHz Reverbs option and the LOGIC7 UpMix Algorithm option. See pages 11 and 12 for more information about options available for the 960LS.

. . . 960L, 960LD, and 960LS continues on page 10

960L, 960LD, and 960LS (continued from page 9)

Figure 2: 960L Rear Panel

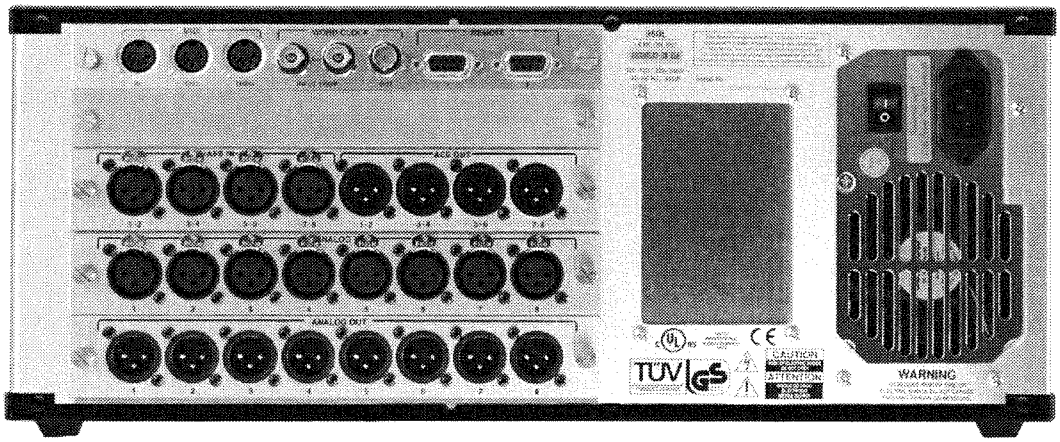


Figure 3: 960LD Rear Panel

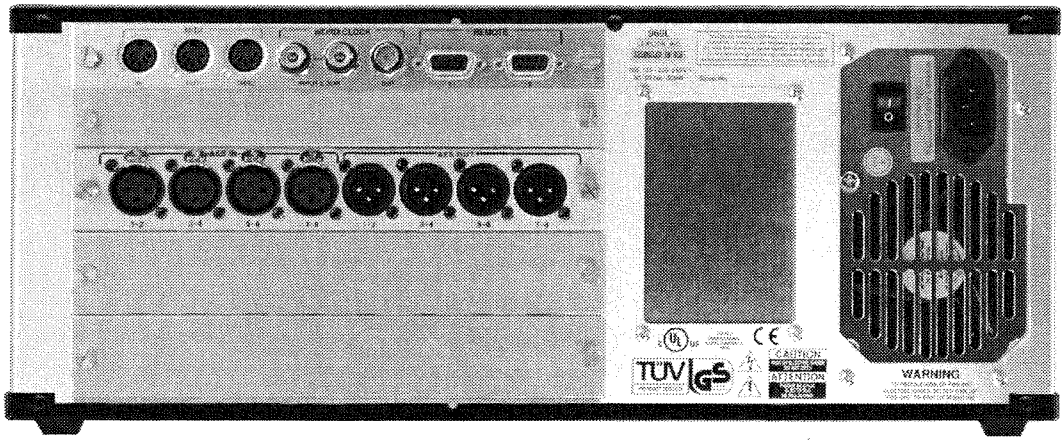
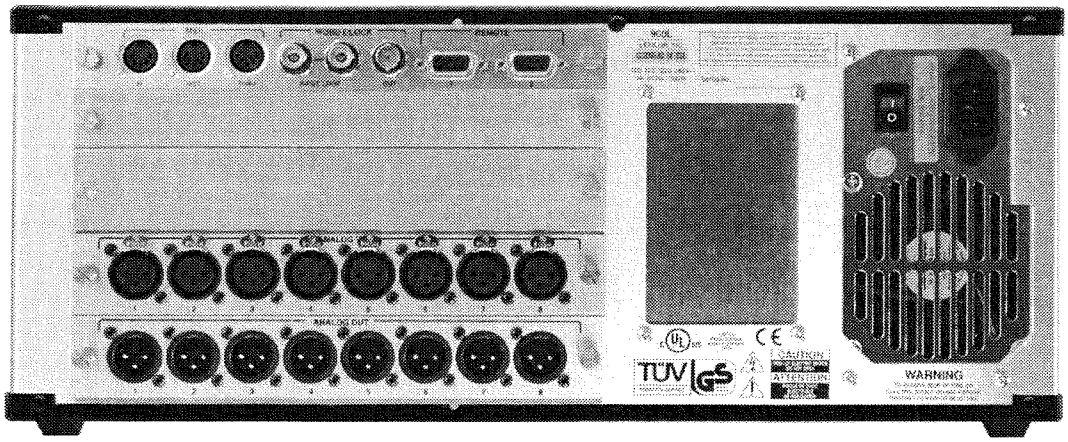


Figure 4: 960LS Rear Panel



HARDWARE & SOFTWARE OPTIONS

Numerous hardware and software options are available for the 960L, 960LD, and 960LS. These options are described in the table that begins below.

OPTION	AVAILABILITY	REQUIREMENTS
Automation Package Allows program loads, parameter adjustments, pan moves, and mutes to be recorded and played back synchronized to incoming MIDI time code. Up to 100 sessions can be saved and recalled to restore the entire state of the machine, including word clock settings, DSP card configuration, and I/O routings.	• 960L (standard on units shipped with Software Version 3.0 or above) • 960LD (standard on units shipped with Software Version 3.0 or above) • 960LS	• Software Version 3.0 or above
Delays & Additional 96kHz Reverbs Package Includes four stereo and five multi-channel delay algorithms, as well as stereo and surround 96kHz Plate and Chamber reverb algorithms.	• 960L • 960LD • 960LS • Receive at no charge when the unit is registered online at www.lexicon.com	• Software Version 2.5 or above
LOGIC7™ UpMix Algorithm Package Derives multi-channel surround output from stereo input sources. The LOGIC7 UpMix algorithm can generate surround mixes from stereo masters, serve as a reference for a full multi-track-to-surround mix, produce surround pan effects from stereo input sources, create surround ambiences from stereo input sources within a full multi-track mix, and convert stereo reverbs into surround reverbs.	• 960L (standard on units shipped with Software Version 4.0 or above) • 960LD (standard on units shipped with Software Version 4.0 or above) • 960LS (when Multi-Channel Package is enabled)	• Software Version 4.0 or above
Multi-Channel Package Enables multi-channel functions such as surround algorithms and configurations. When these functions are enabled, the 960LS will support the complete Delays & Additional 96kHz Reverbs Package and the LOGIC7 UpMix Algorithm Package.	• 960L (standard) • 960LD (standard) • 960LS (when Multi-Channel Package is enabled)	• Software Version 4.0 or above

. . . Hardware & Software Options continue on page 12

Hardware & Software Options *(continued from page 11)*

OPTION	AVAILABILITY	REQUIREMENTS
Reverb DSP Card A second reverb DSP Card doubles the processing power of the 960L, 960LD, or 960LS to support stereo configurations with up to eight machines at 44.1/48kHz or four machines at 88.2/96kHz. It also allows the 960L and 960LD to support surround configurations with up to four machines at 44.1/48kHz or two machines at 88.2/96kHz.	• 960L • 960LD • 960LS • One standard on all	• Software Version 2.0 or above
LARC2 A second LARC2 allows shared control of a single 960L mainframe.	• 960L • 960LD • 960LS • One standard on all	• Software Version 2.0 or above
AES/EBU Digital I/O Card Offers eight channels of AES/EBU digital I/O at sampling rates up to 96kHz.	• 960L • 960LD • 960LS • One standard on 960L and 960LD	N/A
A/D Analog Input Card Offers up to eight channels of high-quality 24-bit A/D conversion at sampling rates up to 96kHz with XLR connectors.	• 960L • 960LD • 960LS • One standard on 960L and 960LS	N/A
D/A Analog Output Card Offers up to eight channels of high-quality 24-bit D/A conversion at sampling rates up to 96kHz with XLR connectors.	• 960L • 960LD • 960LS • One standard on 960L and 960LS	N/A

MIDI IMPLEMENTATION

Software Versions 3.0 and above introduce a number of extensions for MIDI implementation, providing limited support for Continuous Controllers. In previous software versions, Continuous Controller values could be used to control some aspects of system configuration. Because the addition of automation presents potential confusion, these values have been replaced with Sys-Ex commands. (See page 11 for more information about the optional Automation Package.)

MIDI implementation remains fixed, meaning there is no user interface for modifications.

Note:

MIDI channel and program numbers can be confusing. Some sources begin counting at 0, while others begin counting at 1. The MIDI Implementation section of this document begins counting at 0. When working with MIDI controllers that use 1 as the lowest channel number, add one to the values included in this document.

MIDI ACTIVATION

When MIDI is active, program loads, mutes, I/O parameter updates, and VPAGE parameter updates are transmitted when adjusted with the LARC2. This allows external sequencers to capture these changes for replay. MIDI is active at all times, except during time code automation sessions. When automation is running, MIDI is inactive except for the reception of incoming MIDI time code.

MIDI CHANNEL ALLOCATION

The 960L uses a fixed-channel allocation, meaning it should be the lone device on its MIDI cable. All channels are either used or reserved for future expansion.

Machine Channels

Machine channels can be used to control each virtual machine in the 960L. Each channel can be treated independently, much like a multi-timbral synthesizer.

No.	Usage	Description
0	System Channel	Reserved for future expansion
1	DSP Card 1	Reserved for future expansion
2	DSP Card 2	Reserved for future expansion
3	DSP Card 3	Reserved for future expansion
4	Card 1, Machine 1	Program change and additional control of Machine 1 on DSP Card 1*
5	Card 1, Machine 2	Program change and additional control of Machine 2 on DSP Card 1*
6	Card 1, Machine 3	Program change and additional control of Machine 3 on DSP Card 1*
7	Card 1, Machine 4	Program change and additional control of Machine 4 on DSP Card 1*
8	Card 2, Machine 1	Program change and additional control of Machine 1 on DSP Card 2*
9	Card 2, Machine 2	Program change and additional control of Machine 2 on DSP Card 2*
10	Card 2, Machine 3	Program change and additional control of Machine 3 on DSP Card 2*
11	Card 2, Machine 4	Program change and additional control of Machine 4 on DSP Card 2*
12	Card 3, Machine 1	Reserved for future expansion
13	Card 3, Machine 2	Reserved for future expansion
14	Card 3, Machine 3	Reserved for future expansion
15	Card 3, Machine 4	Reserved for future expansion

* *The number of machines depends on DSP card configuration. For example, if two DSP cards are each configured as four stereo machines for a total of eight machines, these machines would be labeled Machine 1-8. The first machine on the second DSP card would be labeled Machine 5. If two DSP cards are each configured in dual-surround mode for a total of four machines, these machines would be labeled Machine 1-4. The first machine on the second DSP card would be labeled Machine 3.*

PROGRAM LOAD

Each bank contains 10 programs, which are numbered 1 to 10. It is recommended to send Bank Select messages before Program Change messages, using Continuous Controllers 0 and 32. Bank Select and Program Change messages that are out of range will be ignored.

> ***Note:***
>
> *Program 10 appears as Program 0 on the LARC2.*

Bank	MSB*	LSB*
0 to 19 *Description: Factory Preset*	0	0
2048 to 2147 *Description: User Registers*	10	0
8192 to 8201 *Description: Disk (local buffers, not actual disk)*	40	0

* *In hex*

Examples

- To load Program 1 in Bank 2 to Machine 1 on DSP Card 1:

  B4 00 00 B4 20 01 C4 0 1

- To load Program 2 in User Bank 2 to Machine 2 on DSP Card 1:

  B5 00 10 B5 20 01 C5 0 2

CONTINUOUS CONTROLLERS

With the exception of MIDI Bank Select, all 960L parameters can be controlled with single, 7-bit controllers. Each parameter is controlled with the full controller range, regardless of the parameter range. For example, if the controller is at the midpoint of its range (64), the parameter will also be at the midpoint of its range no matter what the actual number.

Continuous Controllers range from 0 to 127. If the parameter range is less than 127, then a small controller change might not result in a parameter update. But the entire range of the parameter can still be accurately controlled. In addition, if the actual range of the parameter is greater than 127, MIDI control might be somewhat coarse. This is most noticeable with large delays. If either of these conditions is unacceptable, it is recommended to use automation, which provides accurate replay of all parameter updates.

VPAGE Parameters

Any parameter can be assigned to the VPAGE, more than once if desired. However, it is important to note the following:

- I/O parameters only respond to the controllers assigned to I/O parameters. When mapped to the VPAGE, I/O parameters will only transmit their regular controller value. This avoids the problem of two different controllers affecting a single parameter.

- If a parameter is mapped to two different slots on the VPAGE, it will only transmit to the controller assigned to the lowest numbered slot. In addition, it will only respond to the controller assigned to the lowest numbered slot.

- If the VPAGE is edited after MIDI data is recorded, the user must edit stored MIDI data in accordance with the changes.

Controller	Mapping
0	Bank Select MSB*
1 to 31	Not used
32	Bank Select LSB*
33	VPAGE slot 1
34	VPAGE slot 2
35	VPAGE slot 3
36	VPAGE slot 4
37	VPAGE slot 5
38	VPAGE slot 6
39	VPAGE slot 7
40	VPAGE slot 8
41	Joystick X
42	Joystick Y
43 to 63	Not used
64	Channel 1 Input Gain
65	Channel 1 Input Xpan
66	Channel 1 Input Ypan
67	Channel 2 Input Gain
68	Channel 2 Input Xpan
69	Channel 2 Input Ypan
70	Channel 3 Input Gain
71	Channel 3 Input Xpan
72	Channel 3 Input Ypan
73	Channel 4 Input Gain
74	Channel 4 Input Xpan
75	Channel 4 Input Ypan
76	Channel 5 Input Gain
77	Channel 5 Input Xpan
78	Channel 5 Input Ypan
79	Channel 6 Input Gain
80	Channel 6 Input Xpan
81	Channel 6 Input Ypan

Controller	Mapping
82	Channel 7 Input Gain
83	Channel 7 Input Xpan
84	Channel 7 Input Ypan
85	Channel 8 Input Gain
86	Channel 8 Input Xpan
87	Channel 8 Input Ypan
88	Channel 1 Output Gain
89	Channel 1 Output Xpan
90	Channel 1 Output Ypan
91	Channel 2 Output Gain
92	Channel 2 Output Xpan
93	Channel 2 Output Ypan
94	Channel 3 Output Gain
95	Channel 3 Output Xpan
96	Channel 3 Output Ypan
97	Channel 4 Output Gain
98	Channel 4 Output Xpan
99	Channel 4 Output Ypan
100	Channel 5 Output Gain
101	Channel 5 Output Xpan
102	Channel 5 Output Ypan
103	Channel 6 Output Gain
104	Channel 6 Output Xpan
105	Channel 6 Output Ypan
106	Channel 7 Output Gain
107	Channel 7 Output Xpan
108	Channel 7 Output Ypan
109	Channel 8 Output Gain
110	Channel 8 Output Xpan
111	Channel 8 Output Ypan
112	Mute (OFF ≥64; ON≤63)

* *See the Program Load section on page 14.*

MIDI SYS-EX MESSAGES

The 960L responds to Sys-Ex commands with the standard MIDI description, according to MIDI specifications:

Incoming Inquiry

MIDI Byte	Description
F0	Sys-Ex Header
7E	Non-Real Time Header
XX	Device ID (Ignored)
06	General Information
01	Device Inquiry
F7	EOX

960L Response

MIDI Byte	Description
F0	Sys-Ex Header
7E	Non-Real Time Header
XX	Device ID (Always 0)
06	General Information
02	Device ID Message
06	Lexicon ID
0C	960L Sys-Ex ID (Device Family Code LSB)
00	Reserved (Device Family Code MSB)
00	Reserved (Device Family Member Code LSB)
00	Reserved (Device Family Member Code MSB)
XX	Major Revision
XX	Minor Revision
XX	Revision Type: "A" Alpha, "B" Beta, "R" Release
00	Unused Revision Information
F7	EOX

SYS-EX COMMANDS

Sys-Ex messages sent to the unit use the following general format:

MIDI Byte	Description
F0	Sys-Ex Header
06	Lexicon ID
0C	960L Sys-Ex ID
XX	Device ID (Ignored)
0	System Control
XX	Command ID
	Remaining Data
F7	EOX

Command 0: Set Clock Source

MIDI Byte	Description
F0	Sys-Ex Header
06	Lexicon ID
0C	960L Sys-Ex ID
XX	Device ID (Ignored)
0	System Control
0	Set Clock Source
XX	Source Value*
F7	EOX

* *The source value can be any value from the table below.*

Source	Description
0	44.1 Internal
1	48K Internal
2	88.2 Internal
3	96K Internal
4	Low-speed BNC
5	High-speed BNC
6	Low-speed AES
7	High-speed AES

Command 1: Set DSP Card Configuration

MIDI Byte	Description
F0	Sys-Ex Header
06	Lexicon ID
0C	960L Sys-Ex ID
XX	Device ID (Ignored)
0	System Control
1	Set Card Configuration
XX	DSP Card Identifier: "0" DSP Card 1, "1" DSP Card 2
XX	Configuration Source Value*
F7	EOX

* *The configuration source value can be any value from the table below.*

Configuration	Partitioning (Notes)
0	4 Stereo Machines*
1	5-in and 2-in Surround*
2	Dual 2-in Surrounds*
3	Dual 4-channel Surrounds*
4	Dual Stereo Cascade 1*
5	Dual Stereo Cascade 2*
6	5-channel Cascade*
7	4-channel Cascade*
8	4 Mono-in Machines*
63	8-channel*
64	2 Stereo Machines**
65	5-in Surround**
66	2-in Surround**
67	4-channel Surround**
68	Stereo Cascade**
72	2 Mono-in Machines**
127	8-channel**

* *Single-speed only;* ** *Double-speed only*

Note:

It is important to send a value that matches the current single-speed (44.1/48kHz) or double-speed (88.2/96kHz) word clock setting.

Command 2: Set Input Routing for DSP Card

MIDI Byte	Description
F0	Sys-Ex Header
06	Lexicon ID
0C	960L Sys-Ex ID
XX	Device ID (Ignored)
0	System Control
2	Set Input Routing
XX	DSP Card Identifier: "0" DSP Card 1, "1" DSP Card 2
yy	Input Card Assigned to Input Bus 1*
zz	Channel of Input Card Assigned to Input Bus 1**
yy	Input Card Assigned to Input Bus 2*
zz	Channel of Input Card Assigned to Input Bus 2**
yy	Input Card Assigned to Input Bus 3*
zz	Channel of Input Card Assigned to Input Bus 3**
yy	Input Card Assigned to Input Bus 4*
zz	Channel of Input Card Assigned to Input Bus 4**
yy	Input Card Assigned to Input Bus 5*
zz	Channel of Input Card Assigned to Input Bus 5**

. . . Command 2: Set Input Routing for DSP Card continues on page 18

Command 2: Set Input Routing for DSP Card *(continued from page 17)*

MIDI Byte	Description
yy	Input Card Assigned to Input Bus 6*
zz	Channel of Input Card Assigned to Input Bus 6**
yy	Input Card Assigned to Input Bus 7*
zz	Channel of Input Card Assigned to Input Bus 7**
yy	Input Card Assigned to Input Bus 8*
zz	Channel of Input Card Assigned to Input Bus 8**
F7	EOX

* *The input card source value can be any value from the table below.*

** *Refers to Channels 1-8.*

Source	Meaning
0	Analog Card 1
1	Analog Card 2
2	AES Card 1
3	AES Card 2

Command 3: Set Output Routing for DSP Card

MIDI Byte	Description
F0	Sys-Ex Header
06	Lexicon ID
0C	960L Sys-Ex ID
XX	Device ID (Ignored)
0	System Control
3	Set Output Routing
XX	DSP Card Identifier: "0" DSP Card 1, "1" DSP Card 2
yy	Output Card Assigned to Output Bus 1*
zz	Channel of Output Card Assigned to Output Bus 1**
yy	Output Card Assigned to Output Bus 2*
zz	Channel of Output Card Assigned to Output Bus 2**
yy	Output Card Assigned to Output Bus 3*
zz	Channel of Output Card Assigned to Output Bus 3**
yy	Output Card Assigned to Output Bus 4*
zz	Channel of Output Card Assigned to Output Bus 4**
yy	Output Card Assigned to Output Bus 5*
zz	Channel of Output Card Assigned to Output Bus 5**
yy	Output Card Assigned to Output Bus 6*
zz	Channel of Output Card Assigned to Output Bus 6**
yy	Output Card Assigned to Output Bus 7*
zz	Channel of Output Card Assigned to Output Bus 7**
yy	Output Card Assigned to Output Bus 8*
zz	Channel of Output Card Assigned to Output Bus 8**
F7	EOX

* *The output card source value can be any value from the table below.*

** *Refers to Channels 1-8.*

Source	Meaning
0	Analog Card 1
1	Analog Card 2
2	AES Card 1
4	AES Card 2

MIDI IMPLEMENTATION CHART

Lexicon 960L

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	X	1 to 16	
	Changed	X	X	
Mode	Default	Mode 3	Mode 3	
	Messages	X	X	
	Altered	X	X	
Note Number	True Voice	X	X	
Velocity	Note On	X	X	
	Note Off	X	X	
After Touch	Keys	X	X	
	Channel	X	X	
Pitchbend		X	X	
Control Change	1 to 119	O	0 and 32 O	Bank Select parameter change. See page 14.
Program Change		1 to 10	1 to 10	See page 14.
Bank Select		O	O	
System Exclusive (Sys-Ex)		Device ID	Device inquiry configuration commands MIDI Time code	See page 16. With Automation Package.
System Common	Song Position	X	X	With Automation Package.
	Song Select	X	X	
	Tune Request	X	X	
	MIDI quarter frame time code	X	O	
System Real Time	Clock Commands	X	X	
Aux Messages	Local ON/OFF	X	X	
	All Notes Off	X	X	
	Active Sensing	X	X	
	System Reset	X	X	

Mode 1: OMNI ON, POLY
Mode 2: OMNI OFF, POLY
Mode 3: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

O: Yes
X: No
OX: Selectable

Notes

Index

(Ill.) stands for Illustration

SYMBOLS

NUMBERS

A

B

C

C *(continued)*

D

E

F

H

I

lexicon

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