

A Harman International Company

960L Software Version 3.0

Installation Instructions & Release Notes

DOCUMENTATION CONVENTIONS

This document is a supplement to the 960L Owner's Manual (Rev 1). It contains installation instructions for Software Version 3.0, 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.



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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 INSTRUCTIONS

Note:

Although the installer will preserve user registers, it is recommended to save them to disk before installing the software upgrade. (See the Organizing Your Registers section in Chapter 4 of the owner's manual for more information.) These saved user registers will be compatible with the current software version in the 960L. If necessary, saved user registers can be loaded from the disk to the Software Version 3.0 system. However, it is recommended to save a copy of current user registers in case it is ever desired to revert the system back to its current software version. (See the Reverting to a Previous Software Version section on page 7.)

Performing this upgrade is a simple process. But to avoid problems, please follow the instructions carefully. Pay particular attention to precautions that appear throughout this document.

Please note the following before proceeding to the steps below:

- This bullet can be ignored if the 960L is currently running Software Version 2.4 or above. Otherwise, the installation process will require the 960L serial number, which is located on the back of the mainframe. 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 installation. (The unit will not ask to have the serial number re-entered if this process was completed during a previous installation.)
- Refer to the 960L Owner's Manual for instructions to open the 960L front panel.
- Use the front panel standby button whenever the 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 get the most from the 960L.
- The 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.

1. While the 960L is powered on, insert the Software Version 3.0 CD. Using the front panel standby button, power off the system, wait a few seconds, then power on the system again. After a few minutes, the following message will appear:

2. Press 1 to begin installation. A number of progress messages will appear. When this phase of installation is complete (after about 1 minute), the following message will appear:

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

3. Remove the CD from the drive. Using the front panel standby button, power off the system, wait a few seconds, then power on the system again. The 960L will take a little longer to boot than normal.

If the LARC2 requires an update, the following menu will appear on the LARC2 display:

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

- 4. Press 1 to begin the LARC2 update. This is the longest phase of the process, lasting about 10 minutes. The LARC2 will display a progress indicator. If the 960L is currently running Software Version 2.4 or above, skip ahead to step 7 (page 6). If not, proceed to step 5 (below).
- 5. After the LARC2 update is complete, the following message may appear:

```
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.
```

×_

Enter the serial number as it appears on the rear panel of the 960L mainframe. Do not enter the first letter. Enter the numbers and the dash only. Press ENTER when finished. The following message will appear:

```
Please re-enter serial number for verification . . . *____*__
```

Note:

When installing Software Version 3.0, the unit will not ask to have the serial number re-entered if this process was completed during a previous installation.

... Installation Instructions continues on page 6

Installation Instructions (continued from page 5)

- 6. Enter the serial number again as it appears on the rear panel of the 960L mainframe. Once again, do not enter the first letter of the serial number. Enter the numbers and the dash only. Press the ENTER button on the LARC2 when finished and the system will start.
- 7. After the system has started, verify that the software has been properly installed. To do this:
 - A. Press the CONTROL button on the LARC2 to enter Control Mode.

Figure 1: System▼ Menu



C. Select the System Information option to access the System Information screen shown in Figure 2 (below).

Figure 2: System Informa	ion Screen					
Syste	m Informat	tion	B01 I	P1: Large	Hall	
960L REV Rev: 3.00R Jan 7 2002 10:25:38 LARC2 REV Rev: 3.00R 960L SN 960L SN 960L SN	0-0903	System Messag Press # Keys to Vie	es w Last 10 Messag	es:	960L 1 2 5-In ± 5-Out o MIX: PROGRAM V-Page Shape 147 Spread 153	48K INT 👌
EriLvi RvbLv	MidRT	RtHicut	FrRoll	RearRoll	Size	Mix
6% 100%	0.219	3.30KHz	2.60KHz	4.20KHz	23.0	Wet
WORDCLK SYSTEM	METERS	CONFIG v	AUTO			

The 960L REV field indicates the software version that is installed on the 960L, and the LARC2 REV field indicates the software version that is installed on the LARC2. (These fields are circled in Figure 2, above.) Both fields should indicate that Software Version 3.00R is installed. If not, begin again with step 1.

REVERTING TO A PREVIOUS SOFTWARE VERSION

To revert to a previous software version, follow the instructions on pages 4 to 6 using the release CD for the desired software version. There is one special consideration: When upgrading to Software Version 3.0, the software recognizes previous versions of user registers and automatically converts them to a compatible format. However, when reverting to a previous software version, the software cannot recognize later versions of user registers or convert them to a compatible format.

Therefore, when reverting to a previous software version:

- 1. Save all user registers to a disk, noting the current software version.
- 2. Using the front panel standby button, power cycle the 960L.
- 3. As soon as the LARC2 receives power, press the PROGRAM and MACHINE buttons on the LARC2 to enter Menu Mode. The 960L will take a little longer to re-start than normal. When it starts, the 960L Boot Menu (shown below) will appear on the LARC2 display. (Ignore any messages that concern locking the CD.)

```
    Run 960L
    Update 960L Software
    Update LARC2 Boot ROM
    Update LARC2 Software
    960L Diagnostics
    Restore Factory Default Settings
    Erase User Registers, Sessions & Restore Factory Default Settings
    Copy internal log to Floppy
```

4. Select option 7, Erase User Registers, Sessions & Restore Factory Default Settings. The screen shown below will appear.

Restore Factory Default Settings and Delete User Items Press 1 <ENTER> to execute Press 0 <ENTER> to return to the main menu without changes.

- 5. Press the 1 button, then the ENTER button on the LARC 2 to select the first option. When the process is complete, the 960L Boot Menu (shown above) will appear on the LARC2 display.
- 6. Insert the software release CD for the desired software version in the 960L disk drive. Follow the installation instructions outlined on pages 4 to 6. A few messages will differ slightly. When checking the software version (see step 7 on page 6), please refer to the release notes for the software version being installed to determine software revisions for the 960L and the LARC2.

RELEASE NOTES

The list below includes features of 960L Software Version 3.0 that are not fully 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 3.0, there is one soft button labeled CONFIG
 Pressing the CONFIG
 soft button accesses a menu that 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 OdB. 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 and lightly touching the desired fader.
- 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 changes 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 3.0. 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 five-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.

MIDI IMPLEMENTATION

Software Version 3.0 introduces a number of extensions for MIDI implementation. It now provides limited support for Continuous Controllers. In previous software versions, Continuous Controller values were used to control some aspects of system configuration. Because the addition of automation presents potential confusion, these values have been replaced with Sysex commands.

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

NOMENCLATURE

MIDI numbering – i.e. channel numbers 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 the channel table on the next page.

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 timecode automation sessions. When automation is running, MIDI is inactive except for the reception of incoming MIDI timecode. (See the back cover for more information about the optional Automation Package available for Software Versions 3.0 and above.)

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.

... MIDI Channel Allocation continues on page 10

MIDI Channel Allocation (continued from page 9)

Channel Number	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 the configuration of the DSP card. For example, the system has two DSP cards each configured as four stereo machines for a total of eight machines. These machines would be labeled Machine 1 to Machine 8, with the first machine on the second DSP card labeled Machine 5. For another example, the system has two DSP cards each configured in dual-surround mode for a total of four machines. These machines would be labeled Machine 1 to Machine 4, with the first machine on the second DSP card labeled Machine 3.

PROGRAM LOAD

Each bank contains 10 programs, which are numbered 1 to 10.

It is recommended to send bank change messages before program change messages, using Continuous Controllers 0 and 32. Bank 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	0	0
Description: Factory Preset		
2048 to 2147	10	0
Description: User Registers		
8192 to 8201 40 0		
Description: Disk (local buffer	rs, not act	tual disk)
* 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 Change, 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.

Controller	Mapping
0	Bank Change MSB*
1 to 31	Not used
32	Bank Change 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
	antinuous Controllars continuos on nago 12

... Continuous Controllers continues on page 12

Continuous Controllers

(continued from page 11)

Controller	Mapping
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
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

Controller	Mapping
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 11.

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.

MIDI SYSEX MESSAGES

The 960L responds to Sysex commands with the standard MIDI description, according to MIDI specifications:

Incoming Inquiry

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

960L Response

MIDI Byte	Description
FO	Sysex Header
7E	Non-Real Time Header
XX	Device ID (Always 0)
06	General Information
02	Device ID Message
06	Lexicon ID
0C	960L Sysex 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

SYSEX COMMANDS

Sysex messages sent to the unit use the following general format:

MIDI Byte	Description
FO	Sysex Header
06	Lexicon ID
0C	960L Sysex ID
XX	Device ID (Ignored)
0	System Control
XX	Command ID
	Remaining Data
F7	EOX

Command 0: Set Clock Source

MIDI Byte	Description
FO	Sysex Header
06	Lexicon ID
0C	960L Sysex 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	Sysex Header		
06	Lexicon ID		
0C	960L Sysex 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.

Note:

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

Configuration Partitioning (Notes)

0	4 Stereo Machines (single-speed only)
1	5-in Surround and 2-in Surround (single-speed only)
2	Dual 2-in Surrounds (single-speed only)
3	Dual 4-channel Surrounds (single-speed only)
4	Dual Stereo Cascade 1 (single-speed only)
5	Dual Stereo Cascade 2 (single-speed only)
6	5-channel Cascade (single-speed only)
7	4-channel Cascade (single-speed only)
8	4 Mono-in Machines (single-speed only)

Configuration	Partitioning (Notes)		
63	8-channel (single-speed only)		
64	2 Stereo Machines (double-speed only)		
65	5-in Surround (double-speed only)		
66	2-in Surround (double-speed only)		
67	4-channel Surround (double-speed only)		
68	Stereo Cascade (double-speed only)		
72	2 Mono-in Machines (double-speed only)		
127	8-channel (double-speed only)		

Command	2:	Set	Input	Routing	for	DSP	Card
---------	----	-----	-------	---------	-----	-----	------

MIDI Byte	Description			
F0	Sysex Header			
06	Lexicon ID			
0C	960L Sysex ID			
XX	Device ID (Ignored)			
0	System Control			
2	Set Input Routing			
XX	DSP Card Identifier: "0" DSP Card 1, "1" DSP Card 2			
уу	Input Card Assigned to Input Bus 1*			
ZZ	Channel of Input Card Assigned to Input Bus 1**			
уу	Input Card Assigned to Input Bus 2*			
ZZ	Channel of Input Card Assigned to Input Bus 2**			
уу	Input Card Assigned to Input Bus 3*			
ZZ	Channel of Input Card Assigned to Input Bus 3**			
уу	Input Card Assigned to Input Bus 4*			
ZZ	Channel of Input Card Assigned to Input Bus 4**			
уу	Input Card Assigned to Input Bus 5*			
ZZ	Channel of Input Card Assigned to Input Bus 5**			
уу	Input Card Assigned to Input Bus 6*			
ZZ	Channel of Input Card Assigned to Input Bus 6**			
уу	Input Card Assigned to Input Bus 7*			
ZZ	Channel of Input Card Assigned to Input Bus 7**			
уу	Input Card Assigned to Input Bus 8*			

MIDI Byte	Description
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.

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

**Refers to channels 1 to 8.

Command 3: Set Output Routing for DSP Card

MIDI Byte	Description			
FO	Sysex Header			
06	Lexicon ID			
0C	960L Sysex ID			
XX	Device ID (Ignored)			
0	System Control			
3	Set Output Routing			
XX	DSP Card Identifier: "0" DSP Card 1, "1" DSP Card 2			
уу	Output Card Assigned to Output Bus 1*			
ZZ	Channel of Output Card Assigned to Output Bus 1**			
уу	Output Card Assigned to Output Bus 2*			
ZZ	Channel of Output Card Assigned to Output Bus 2**			
уу	Output Card Assigned to Output Bus 3*			
ZZ	Channel of Output Card Assigned to Output Bus 3**			
уу	Output Card Assigned to Output Bus 4*			
ZZ	Channel of Output Card Assigned to Output Bus 4**			
уу	Output Card Assigned to Output Bus 5*			
ZZ	Channel of Output Card Assigned to Output Bus 5**			
уу	Output Card Assigned to Output Bus 6*			
ZZ	Channel of Output Card Assigned to Output Bus 6**			
уу	Output Card Assigned to Output Bus 7*			
ZZ	Channel of Output Card Assigned to Output Bus 7**			
уу	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.

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

**Refers to channels 1 to 8.

MIDI IMPLEMENTATION CHART

Lexicon 960L

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	X X	1 to 16 X	
Mode	Default Messages Altered	Mode 3 X X	Mode 3 X X	
Note Number	True Voice	Х	Х	
Velocity	Note On Note Off	X X	X X	
After Touch	Keys Channel	X X	X X	
Pitchbend		Х	Х	
Control Change	1 to 119	0	0 and 32 O	Bank Change parameter change. See page 11.
Program Change		1 to 10	1 to 10	See page 11.
Bank Select		0	0	
System Exclusive		Device ID	Device inquiry configuration commands MIDI Timecode	See page 13. With Automation Package.
System Common	Song Position Song Select Tune Request MIDI quarter frame timecode	X X X X	X X X O	With Automation Package.
System Real Time	Clock Commands	Х	Х	
Aux Messages	Local ON/OFF All Notes Off Active Sensing System Reset	X X X X	X X X X	
Mode 1: OMNI ON, POLY Mode 3: OMNI ON, MONO Mode 2: OMNI OFF, POLY Mode 4: OMNI OFF, MONO				O: Yes X: No OX: Selectable

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(III.) stands for Illustration

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960L UPGRADE OPTIONS

Software Options

Delays & Additional 96kHz Reverbs Package

Contains four stereo and five multi-channel delay algorithms, as well as stereo and multi-channel 96kHz Plate and Chamber reverb algorithms.

Automation Package

Allows program changes, parameter updates, panning, and mutes to be recorded and played back synchronized to SMPTE/MIDI timecode. Up to 100 sessions can be saved and recalled to restore the entire state of the 960L, including wordclock settings, DSP configuration, and I/O routings.

Coming Soon!

LOGIC7™ UpMix Package

Transforms stereo program material into a dazzling multi-channel performance. This is an invaluable tool for creating multi-channel mixes when multi-track master tapes are unavailable.

Hardware Options

Reverb DSP Card

Doubles the processing power of the 960L, allowing up to eight stereo machines or four surround machines at 44.1/48kHz (four stereo, two surround at 88.2/96kHz).

A Second LARC2

Allows engineers on large projects to work unobtrusively on different machines at the same time, increasing efficiency. A second LARC2 also allows a single mainframe to be used in two different rooms.

AES/EBU Digital I/O Card

Modular I/O card that offers eight channels of AES EBU I/O at sampling rates up to 96kHz.

A/D Analog Input Card

Modular input card that provides up to eight channels of high-quality 24-bit analog-to-digital conversion at sampling rates up to 96kHz on XLR connectors.

D/A Analog Output Card

Modular output card that provides eight channels of high-quality 24-bit digital-toanalog conversion at sampling rates up to 96kHz on XLR connectors.



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