



Model LX
Reproducing System

Owner's Manual

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Introduction

Congratulations on your purchase of a Live Performance LX Reproducing System! The LX player system is the result of over thirty years of research and refinement in the field of solenoid-based player piano technology. Its superb musicality, high resolution and robust design will enhance your piano for many years to come.

To ensure optimal performance and maximum enjoyment of your LX Reproducing System, please read this manual carefully.

Important Safety Guidelines

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings.
8. Ensure installation is performed in accordance with the manufacturer's instructions.
9. Do not operate near any heat sources such as radiators, heat registers, stoves, or other devices which produce heat.
10. Protect cords and cables from being walked on or pinched, particularly at plugs, convenience receptacles, and at points where they exit the apparatus.
11. Use only attachments and accessories provided or specified by the manufacturer.
12. Unplug this equipment during lightning storms or when unused for long periods of time.
13. Do not remove any covers or housings. There are no user-serviceable parts inside.
14. Refer servicing to qualified personnel. Servicing is required when the equipment has been damaged in any way, such as when damage occurs to electric plugs or cords, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, it does not operate normally, or it has been dropped.

System Components

Your LX Reproducing System includes the following components and accessories:

- Sony CD/DVD player
- Sony infrared remote control
- Live Performance library sampler CD
- Power supply module
- Note solenoids and mounting frame
- Sustain solenoid
- LED/IR sensor/status panel
- Power cord

Overview

The LX Reproducing System is the most sophisticated reproducing player system ever made for installation into existing pianos. Its technical specifications include:

- 1020 different note velocities (approximately 10-bit precision)
- Proportional sustain pedaling (256 pedal positions; 8-bit precision)
- Support for up to 96 playing notes
- Unlimited polyphony

Unlike other player piano systems that can be installed into existing pianos, the LX Reproducing System does not include a proprietary playback console. Instead, it is designed to be driven by a digital signal carried by any line-level audio source, using any present or future technology that can deliver high-fidelity audio to its analog RCA inputs. This ensures that your LX system is not dependent on a front-end that could become obsolete or unserviceable after just a few years.

Today, most player piano recordings are distributed on Compact Discs. For this reason, a CD/DVD player provides a simple and effective interface for driving the LX using current technology. A suitable model manufactured by Sony has been included with your LX system.

Playing Your First CD

The LX Reproducing System in your piano has been carefully installed and calibrated by your technician or dealership prior to delivery. Under normal circumstances, it is ready to play upon arrival.

To play your first CD:

1. Ensure the LX system is plugged into a grounded wall outlet.
2. Turn the DVD player on by pressing its **Power** button.
(The LX system will automatically turn on by detecting flow of power to the DVD player.)
3. Press the DVD player's **Eject** button and insert the provided **Live Performance LX Demonstration CD**.
4. Aim the remote control at the LX system's sensor/status panel and press **Return**. (This resets the piano intensity and accompaniment volume settings to their default levels.)
5. Press **Play** on the remote control. The piano will begin to play the first track. You may use any of the standard playback controls on the remote control to switch songs, stop playback, etc.

Using the Remote Control

To start and stop playback and switch tracks, use the remote control's Play/Stop/Pause/Prev/Next buttons.

In addition to controlling disc playback, the remote control can also be used to adjust playback parameters of the LX system. The remote should be aimed at the LX system's sensor/status panel (usually mounted under the keyboard, facing the pianist). The button functions are as follows:

Left arrow	Lower volume of CD accompaniment track
Right arrow	Raise volume of CD accompaniment track
Up arrow	Increase piano playback intensity
Down arrow	Decrease piano playback intensity
Return	Restore default (full intensity) levels for piano and accompaniment
Enter	Save current piano and accompaniment settings (playback must be stopped)

Note: The **Vol+** and **Vol-** buttons on the remote control do not have any effect and should not be used.

Adjusting Playback Settings

When initially using the LX system, it is a good idea to press **Return** to restore both the piano intensity and accompaniment volume to their default (full intensity) levels. This ensures that the LX system will reproduce the full dynamic range of each performance as originally recorded. It is not possible to make the LX system play more loudly than this, but either level can be adjusted downwards, making playback artificially softer. This may be desirable when the piano is playing background music.

Keep in mind that the LX system will perform most accurately, and with optimal dynamics, when the piano intensity is left at its default setting. For this reason, when making adjustments, try to adjust the accompaniment level first. If the accompaniment is playing too softly relative to the piano, it is best to raise the accompaniment level and leave the piano intensity unchanged. Likewise, if the accompaniment level is too loud relative to the piano, it is best to lower the accompaniment level and leave the piano intensity unchanged.

Storing Playback Settings

Adjustments made to the piano and accompaniment levels during playback will remain in effect only until the LX system is powered off unless the changes are saved to memory.

To save the current settings, stop playback by pressing **Stop** or **Pause** on the remote control, then press **Enter**. The yellow light on the LX system's sensor/status panel will blink for a few seconds as the settings are stored. **Do not power off the LX system while the yellow light is blinking.**

The saved piano and accompaniment levels will be automatically restored the next time the LX system is powered on.

Supported CD Formats

Your LX Reproducing System can play CDs designed for use with several types of modern player piano systems:

- **Live Performance LX CDs** – high-resolution recordings produced by Live Performance specifically for use with the LX Reproducing System. These produce the highest-quality playback of all the supported formats. Many of these recordings were made on Live Performance’s legendary Bösendorfer SE reproducing piano.
- **Yamaha PianoSoft Plus Audio CDs** – discs designed for use with Yamaha Disklavier pianos. Note that Yamaha “PianoSoft” or “PianoSoft Plus” (without the “Audio” designator) material is sold on floppy diskettes, which are not directly supported by the LX Reproducing System. Be careful to buy only CDs when purchasing Yamaha recordings.
- **QRS Pianomation CDs** – discs designed for use with QRS Music Pianomation systems.
- **PianoDisc CDs** – discs designed for use with PianoDisc systems.
Note: PianoDisc CDs bearing the designation *Silent Drive Plus* cannot be played on the LX Reproducing System.
- **Pianocorder CDs** – discs derived from cassette tapes designed for use with the Superscope/Marantz Pianocorder Reproducing System. Live Performance will provide such CDs at a nominal charge to those LX owners who can prove ownership of original Pianocorder cassettes.

A recommended online source for CDs in these formats is <http://www.pianosoftware.com>

Some player piano CDs are available in multiple formats, including those from WebOnly Piano (<http://www.webonlypiano.com>). The technical capabilities of these formats differ substantially. When there is a choice of formats, be sure to purchase CDs in either native Live Performance LX format or in Yamaha Disklavier format. These formats will produce the best results on the LX Reproducing System.

Standard commercial audio CDs (i.e. CDs not specifically designed to operate a player piano) cannot be played by the LX Reproducing System.

Be aware that some older Yamaha, QRS and PianoDisc recordings are distributed on 3.5” floppy diskettes. These recordings are not directly playable on the LX Reproducing System (which lacks a floppy drive). However, they may be converted to CDs playable on the LX Reproducing System using *MID2PianoCD*, a third-party Windows application.

Creating Your Own CDs

You can create your own CDs to play on the LX Reproducing System by encoding Standard MIDI files (files with extension **.mid**, readily found on the Internet) into an LX-compatible format using the third-party encoding software *MID2PianoCD*, which runs on Microsoft Windows.

To create your own CD:

1. Download and install MID2PianoCD from <http://dp70.dyndns.org/mid2pianocd/>
2. Open MID2PianoCD using the icon on your desktop.
3. Add one or more MIDI files to the list of source files (you can also drag and drop one or more files into the window from Windows' Explorer).
4. Select the output folder in which you want the WAV files to be written.
5. Set the Output Format to **Disklavier** (or if available, **Live Performance LX**)*
6. Click **Start Conversion**.
7. Take the WAV files generated by MID2PianoCD and use any CD-burning package (Nero, Windows Media Player etc.) to burn an **audio** CD-R or CD-RW containing the WAV files. Use Disk-At-Once write mode to burn the CD if available, and be sure to close the session. Do not create a **data** CD (i.e. a CD with files and directories on it) or the disc will not play on your piano.

You can find instructions regarding advanced usage of MID2PianoCD on the MID2PianoCD web page.

* Support for the Live Performance LX format will appear in a future version of MID2PianoCD. The MID2PianoCD web page will be updated when the new version becomes available.

Using Other Audio Sources

Advanced users may prefer to use alternative audio sources to drive the LX Reproducing System by playing archived CD recordings through other technologies, including:

- Portable media players (e.g. iPods and other MP3 players)
- Personal computers via WiFi links (e.g. Linksys Music Bridge, Slim Devices Squeezebox)
- Laptop computers via direct audio connections (using laptop's audio output)
- Radio links to remote computers or CD changers
- Networked home theater media players (e.g. Tvix, ISTAR, Popcorn Hour)

Describing the steps and equipment required to utilize alternative audio delivery mechanisms is beyond the scope of this manual, but the following guidelines should be observed:

- CD tracks should be ripped to a lossless format such as FLAC, Apple Lossless Audio Codec, or uncompressed WAV format. Using lossy codecs such as MP3 is not recommended but will often work successfully when high bitrates are used (192+ Kbps), depending on the encoder.
- Care must be taken to ensure that the left and right audio channels are not swapped in the course of converting audio tracks, connecting cables, etc.
- Audio passed to the LINE IN jacks of the LX system must be line level signals or the headphone output of portable audio gear. Connecting the LX to the speaker terminals of a stereo system may damage the LX system.
- Always set the volume level of the audio source to a low level when initially connecting a new device to the LX, then gradually increase the volume as needed to ensure reliable playback. Leave the volume level of the audio source set around 30% beyond the minimum level that appears to work reliably.

Maintenance

The LX Reproducing System is designed to require minimal maintenance.

Never apply wet or dry lubricants of any kind to the note or pedal solenoids. Lubricants will attract dust and lint, eventually impairing movement of the solenoids.

The LX Reproducing System will not interfere with a piano technician's ability to perform normal tuning and regulation work on your piano. However, in the event that you feel your LX Reproducing System requires adjustment or repair, be sure to consult a qualified technician - preferably the one who performed the installation.

Troubleshooting

Problem	Possible Cause	Solution
CD/DVD player operates, but piano does not play	CD/DVD player not plugged into the LX's power supply.	Plug CD/DVD player into the LX's power supply.
	Unsupported CD format	Ensure that you are playing one of the supported CD formats. Note that standard audio CDs (designed for playback on a stereo system) will not operate the piano.
	Left/right channels swapped between the CD/DVD player and LX's RCA inputs.	Ensure left (white) and right (red) channels are not swapped between the CD/DVD player and piano.
	Player system not turned on	Cycle power to the CD/DVD player.
Soft notes sometimes fail to play	Piano requires regulation	Consult your piano technician.
	LX system requires calibration	Consult your LX installer.
Piano not responding to remote control commands to play more loudly	Piano already playing at its loudest level	Remember that the LX cannot play more loudly than intended by the original recording.
Piano not responding to remote control commands to play more softly	Piano already playing at its softest level	Remember that the piano is a mechanical device and cannot be turned down as softly as a stereo system.
Piano does not respond to the remote control.	Remote batteries weak or dead	Replace remote control batteries.
	Remote not aimed at detector	Be sure to point the remote at the LX system's sensor/status panel, found below the keybed.

Obtaining Service and Support

For service and replacement parts, please contact the technician who performed your LX installation.

For technical support, please e-mail support@live-performance.com.

Specifications

Note expression:	1020 levels (approximately 10-bit precision)
Playing notes:	96
Pedals supported:	Sustain, Sostenuto (emulated), Soft (emulated)
Proportional pedaling:	256 levels (8-bit precision)
Maximum polyphony:	96 notes
Power consumption (playing):	240 Watts
Power consumption (idle):	15 Watts
Audio inputs:	Stereo RCA x 2, line level
Audio outputs:	Stereo RCA x 2, line level
MIDI input:	5-pin DIN, female
Serial input:	RS232 DB9, male
Status LEDs:	3
Infrared receiver:	Standard

FCC and Industry Canada Information

The LX Reproducing System complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the affected equipment.
- Increase the separation between the affected equipment and the LX Reproducing System.
- Connect the affected equipment to an electrical circuit different from that to which the LX Reproducing System is connected.
- Consult an experienced electronics technician for help.

FCC regulations state that unauthorized changes or modifications to this equipment may void the user's authority to operate it.

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

Note that the DVD player included with your LX Reproducing System is a separate component covered under its own regulatory certifications. Please refer to the DVD player's documentation for details.

Limited Warranty

What your warranty covers:

- Defects in materials or workmanship.

For how long after your purchase:

- One year from date of delivery: Unit repair or exchange, which includes parts and labor.
- Until five years from date of delivery: Unit repair or exchange, which includes parts only.

What Live Performance will do:

- **During the first year:**
Repair or exchange the defective portion of your LX Reproducing System. Parts may be replaced with new or, at our option, refurbished components. Live Performance will cover labor costs to have a technician perform the necessary repairs.
- **After the first year, during the first five years:**
Repair or exchange the defective portion of your LX Reproducing System. Parts may be replaced with new or, at our option, refurbished components. You will be responsible for paying labor costs for a technician to perform the necessary repairs.

How you get service:

- Call the technician who installed your LX system (or dealership at which you purchased a piano with the LX system pre-installed) and have your unit's date of delivery and serial number ready.

What your warranty does not cover:

- Acts of nature, such as but not limited to lightning damage
- Adjustment of customer controls
- Damage from misuse or neglect
- Equipment that has been modified or adapted into other products
- Batteries
- Equipment purchased, serviced or operated outside the U.S.A.
- Loss of the customer's software, firmware, information or memory data.
- Installation
- Shipping damage on returned parts, if not packed as prescribed by the manufacturer.

Product Registration:

- Please complete and mail the product registration form at the end of this manual. This will make it easier to contact you should it ever be necessary. The return of this form is not required for warranty coverage.

Limitation of Warranty:

- **The warranty stated above is the only warranty applicable to this product. All other warranties, express or implied (including all implied warranties of merchantability or fitness for a particular purpose) are hereby disclaimed. No verbal or written information given by Live Performance, Inc., its agents or employees shall create a guaranty or in any way increase the scope of this warranty.**
- **Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. Live Performance Inc. shall not be liable for incidental or consequential damages resulting from the use of this product or arising out of any breach of any express or implied warranty on this product. This disclaimer or warranties and limited warranty are governed by the laws of the state of Nevada. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose on this product is limited to the warranty period set forth above.**

How state law affects your warranty:

- Some states do not allow the exclusion nor limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.
- This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

If you purchased your LX Reproducing System outside the United States:

- This warranty does not apply. Contact Live Performance for warranty information.

NOTES



**PRODUCT REGISTRATION
FORM**

Please complete and return promptly!

*You may also register online at
<http://www.live-performance.com>*

Name : _____

Address: _____

City: _____

State: _____

ZIP: _____

Telephone: _____ Email: _____

LX Installer: _____

LX Serial Number: _____

Piano Model: _____

Piano Serial
Number: _____

Please mail completed form to:

**Live Performance, Inc.
316 California Ave, Suite 825
Reno, NV 89509**