

Lambda Harmonic Keyboard

Preliminary MIDI version
Operating Instructions



Interim MIDI Keyboard operating manual

Foreword:

The Lambdoma Harmonic Keyboard is in the process of transition. The original Lambdoma keyboard communicated with an Amiga computer through the serial port of the computer, using a non-standard encoding scheme. As computers evolved and more people discovered the Lambdoma keyboard, it became obvious that the serial port solution was no longer useful and that the Lambdoma Harmonic Keyboard needed to be updated to work with the world standard for electronic musical instruments, the Musical Instrument Digital Interface also known as MIDI.

The Lambdoma Harmonic Keyboard has recently been redesigned to operate as a MIDI keyboard controller. The hardware has been designed to implement both MIDI and USB operation. The USB software is still under development. This interim release of the MIDI Lambdoma Harmonic Keyboard only implements MIDI. However, it may be connected to the USB port of your computer using the included Edirol UM-1X USB-MIDI adapter. A future software release will enable the USB connector on the Lambdoma Harmonic Keyboard, eliminating the need for an external MIDI interface.

Installing the Edirol UM-1X USB-MIDI interface:

The Edirol UM-1X interface is able to be installed as a standard MIDI device on any Windows 98, ME, or XP machine without needing to load the driver software from the CDROM. The Edirol interface comes with an “Advanced Driver” that allows it to support higher-speed MIDI operation when used with a rack full of synthesizers. However, the Lambdoma Harmonic Keyboard doesn’t need these advanced features, so you can install it as a standard MIDI device.

If you want to install the UM-1X interface as a standard MIDI device, make sure that the switch labeled “advanced driver” in the upper left corner of the UM-1X is set to off. With your computer running, plug the USB connector into the computers USB port. Your computer should be able to automatically find the correct driver for a standard MIDI device and install it. Once the driver has been installed, the interface should start working immediately whenever it is plugged into the USB port of your computer.

If you want to use the advanced features of the UM-1X or want to install it on a Macintosh, follow the installation instructions in the manual included with the UM-1X.

Connecting up the Lambdoma Harmonic Keyboard:

Below is a drawing of the rear panel of the MIDI Lambdoma Harmonic Keyboard.

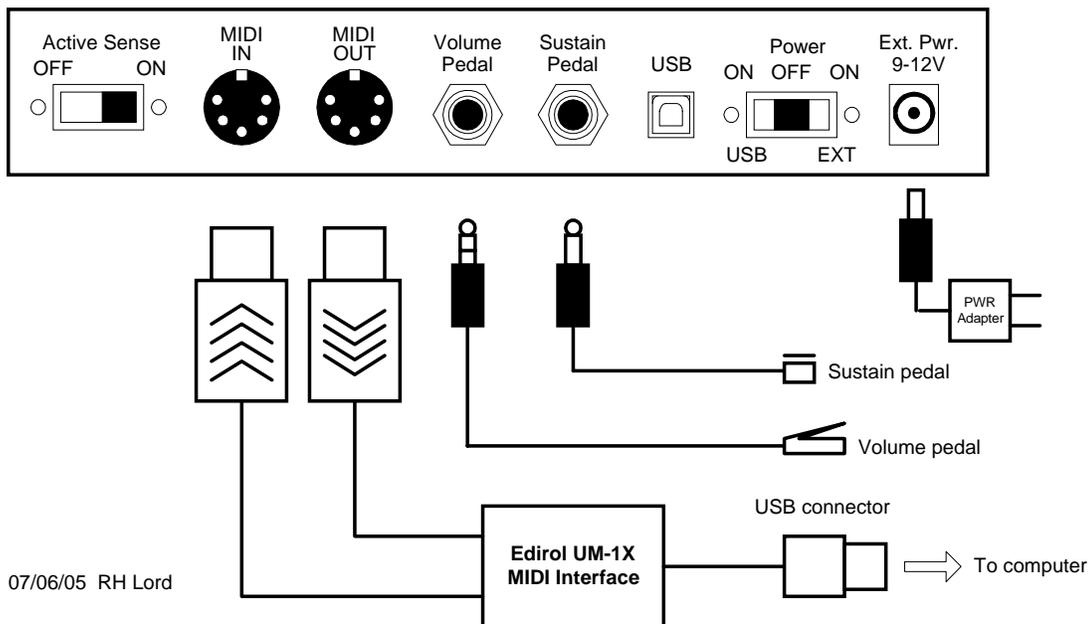
Connect the AC power adapter to the “Ext.Pwr.” connector. Then plug the adapter into the AC main. You can turn the keyboard on and off by moving the power switch between the center position (OFF) and the right position (EXT ON).

In the present version of the Lambdoma Keyboard, the USB capability has not yet been implemented. However, you can power the keyboard from a USB port of your computer as an alternative to using the external power adapter. If you connect the Lambdoma Keyboard to a USB port using a standard USB cable, then you can turn the keyboard on and off by moving the power switch between the center position (OFF) and the left position (USB ON).

Connect the Edirol UM-1X MIDI interface to the MIDI-IN and MIDI-OUT connectors. Note the symbol on the end of each MIDI plug that indicates the data direction. Plug the USB connector of the UM-1X into one of the USB ports of your computer.

If you have a volume pedal and/or a sustain pedal, you may plug them into the ¼” phone jacks labeled “Volume Pedal” and “Sustain Pedal”.

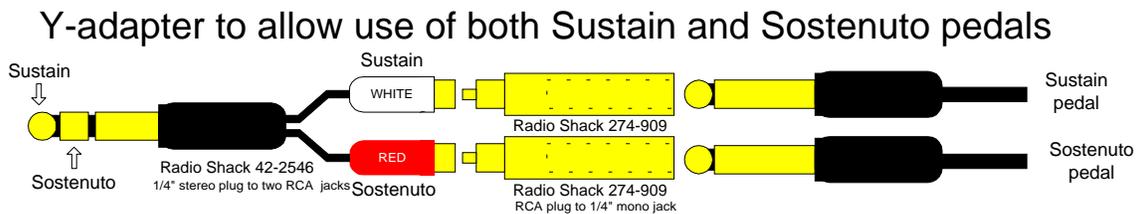
Lambdoma Keyboard Rear Panel



The “Active Sense” switch implements a feature of MIDI that can detect if the MIDI connection stops working. When “Active Sense” is on, the Lambdoma keyboard will repeatedly send the “Active Sense” MIDI message in the absence of any other keyboard output. If your MIDI device gets confused by this message, switch it off.

Sostenuto Pedal:

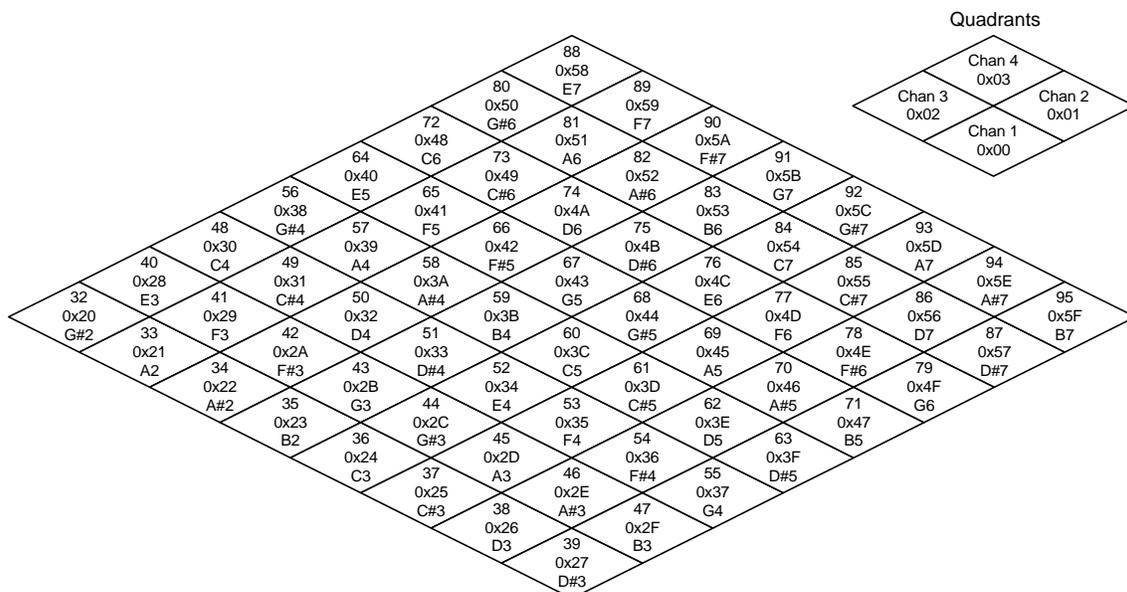
If your MIDI software or synthesizer supports the MIDI Sostenuto function, you can activate it by adding a second footswitch. You will need a 1/4” stereo to mono phone adapter cable that will let you plug both switches into the “Sustain Pedal” jack of the keyboard. Sostenuto allows the synthesizer to sustain all notes that were pressed at the time that the pedal was pressed, but does not sustain subsequent notes. See the illustration below.



MIDI implementation details:

The keyboard uses the standard encoding method for Note-On and Note-Off messages for MIDI keyboards. It transmits on MIDI channel #1. The volume pedal is mapped as MIDI controller #07 (volume) and the sustain pedal is implemented as MIDI controller #64. The sostenuto pedal is implemented as MIDI controller #66. The keys are mapped to MIDI note numbers by the mapping shown below.

LAMBDOMA Keyboard



MIDI quadrant encoding