M-AUDIO

ProFire Lightbridge

34-in/36-out FireWire
Lightpipe Interface

English
Quick Start Guide

M-AUDIO

Installation Instructions for Windows XP

PLEASE NOTE: *Make sure the ProFire Lightbridge interface is detached from your computer when beginning the installation. The following instructions will indicate when you should connect the interface to your computer.*

1. We recommend that you download the most recent ProFire Lightbridge drivers by going to the Support > Drivers page at www.m-audio.com. This ensures that you have the newest drivers available. If you do not have Internet access, insert the FireWire Series CD-ROM into your computer to install the drivers that came with the interface.

    a. If you are installing drivers from the FireWire Series CD-ROM, the computer will automatically display the interactive install screen ① when the CD-ROM is inserted. If your computer fails to launch this application, you can manually start it by clicking on Start > My Computer > FireWire Series CD-ROM. Next, select your product from the menu and click "Install."

    b. If you are installing drivers from www.m-audio.com, simply double-click the file once it has finished downloading.

2. Follow the driver installer's on-screen instructions.

3. At various points in this installation process, you may be notified that the driver being installed has not passed Windows Logo Testing. Click "Continue Anyway" to proceed with the installation.

4. Once the installer has completed, click "Finish."

5. Shut down your computer.

6. Connect ProFire Lightbridge to an available FireWire port using one of the provided cables.
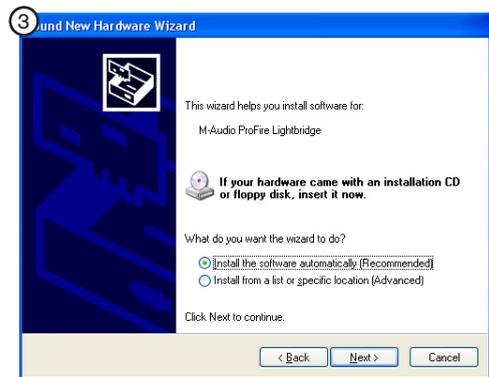
①

If you are connecting to a 4-pin FireWire port on your computer, then you will also need to connect the included power supply to provide power to the unit.

7. Turn on ProFire Lightbridge first, then turn on your computer.

8. Windows will identify the interface and will ask if you want to search the Internet for a driver. Select "No, not this time" and press "Next" ②.

9. Windows will display a "Found New Hardware" Wizard ③.

10. Choose "Install software automatically" and click "Next."

11. Once the Wizard has completed, click "Finish."

12. Once the installation is complete, you will see a message stating, "Your new hardware is installed and ready to use."

Windows may require you to repeat steps 8 to 11 of the installation process. This behavior is normal.

ATTENTION*: Connect and disconnect your ProFire Lightbridge only when your computer is powered off. Hotplugging may have adverse effects on the interface, your computer, or both. For more information about this issue, please visit the M-Audio knowledge base at www.m-audio.com.*

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Installation Instructions for Mac OS X

1. We recommend that you download the most recent ProFire Lightbridge drivers by going to the Support > Drivers page at www.m-audio.com. This ensures that you have the newest drivers available. If you do not have Internet access, insert the FireWire Series CD-ROM into your computer to install the drivers that came with the interface.

    a. If you are installing drivers from the FireWire Series CD-ROM, a CD-ROM icon will appear on your desktop once the disc is inserted into your computer. Double-click this icon to view the contents of the disc. Next, double-click "Open Me." Finally, select your product from the drop-down menu on the welcome screen and click "Install."

    b. If you are installing drivers from www.m-audio.com, the downloaded file should automatically mount and display its contents on the desktop. If this file does not mount automatically, simply double-click the file once it has finished downloading to view its contents. Next, double-click the installer application.

2. Follow the driver installer's on-screen instructions.

3. When the installer has completed the installation, a prompt will appear stating that you must restart your computer. Restart your machine.

4. Shut down your computer.

5. Connect the interface to an available FireWire port using the provided 6-pin cable.

6. Turn on ProFire Lightbridge first, then turn on your computer.

> **ATTENTION**: Connect and disconnect your ProFire Lightbridge only when your computer is powered off. Hotplugging may have adverse effects on the interface, your computer, or both. For more information about this issue, please visit the M-Audio knowledge base at www.m-audio.com.

Connecting Your Analog Equipment

In addition to its 34 channels of digital I/O, ProFire Lightbridge provides a 1/4" headphone monitoring output and a pair of balanced 1/4" analog line outputs for connection to a mixer or powered monitors. The headphone and line outputs always carry identical signals and bring the interface's total number of independent outputs to 36.

Since the ProFire Lightbridge interface's analog outputs can either mirror the S/PDIF outputs or be available as an independent pair of outputs in your DAW, you may need to make appropriate changes within your audio software to make sure the correct signals are being routed to the analog outputs. Please consult your DAW's documentation for instructions on this.

Connecting Your Digital Equipment

This section explains the importance of synchronizing interconnected digital devices. While there are many different ways to synchronize digital devices, this section will cover a few common scenarios to help users understand the concept of digital synchronization. Please consult the ProFire Lightbridge User Guide on the FireWire Series CD-ROM for a more complete explanation of this subject.

ProFire Lightbridge has four ADAT optical inputs and one S/PDIF input, all of which can be used simultaneously. However, if you are using multiple inputs, all digital audio devices must be synchronized to each other in order to avoid timing glitches. These glitches can result in various audio problems including clicks, pops, and bursts of white noise.

The most important rule to remember when making digital connections is that one device must be set to generate the synchronization signal (known as "word clock") that all other devices will lock to. The generating device is commonly called the word clock "master," while all other devices are known as "slaves." All slave devices must be set to receive the word clock signal provided by the word clock master and use that to synchronize all their audio streams.
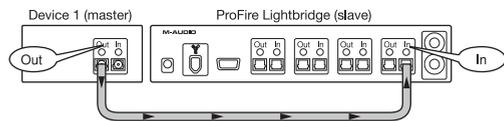

Figure 1: *Two digital devices, uni-directional connection*

In this example, Device 1 generates word clock and transmits it via an optical cable to the ProFire Lightbridge interface's first ADAT optical input port. As a result, the interface's first ADAT optical input needs to be configured as the sync source. This makes ProFire Lightbridge the word clock slave. The digital audio streams coming from device 1 and the digital audio streams from ProFire Lightbridge are now running in sync.
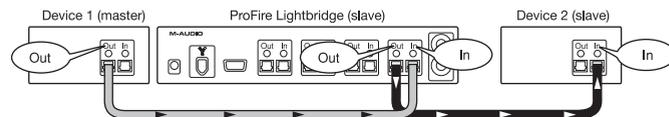

Figure 2: *Three digital devices, uni-directional connection*

This setup is identical to the previous example with one difference: ProFire Lightbridge now passes the received sync signal through the second ADAT output port to device 2. Device 2 is also configured as a slave to listen and sync to the incoming signal. All three devices are now running on the same clock. Additional slave devices can be connected to the ProFire Lightbridge interface's ADAT optical output ports 3 and 4 and to its S/PDIF output port if these devices are set to listen/sync to the incoming word clock–all interconnected devices will be synchronized.
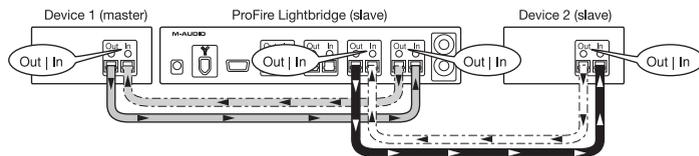

Figure 3: *Three or more digital devices, bi-directional connection*

In the previous examples, the digital signal only traveled in one direction: away from the device configured as the word clock master. In practical use, you may want to transmit digital audio signals to and from any device at any time–and you can still do so without problems. While keeping the Master/Slave configurations exactly as indicated in example 3, simply connect and return the digital output of any device back into the digital input of the device that it receives its signal from (See dotted lines in figure 3).

The only difference between examples 2 and 3 is that digital signals are now looped back to the device of their origin. This does not require any additional settings when it comes to word clock sync—the configuration steps in example 2 ensure that all digital audio streams (including any looped back connections) are already synchronized.

Attention: Digital audio devices are commonly "cross-linked" (i.e., the output of device A is connected to the input of device B while the output of device B is connected to the input of device A) to allow synchronization, audio, and other data to be shared between both devices. There is no problem with creating such loops within your digital equipment. However, doing so opens the possibility of inadvertently creating loud, distorted "feedback loops" that can damage your speakers. When cross-linking equipment, be careful to avoid feedback loops by planning your signal paths carefully and avoiding situations in which one audio signal will be passed back and forth between two (or more) devices in an endless loop.

Accessing the Control Panel

The control panel allows users to configure various parameters and features of ProFire Lightbridge.

Windows XP users can access the control panel by double-clicking the M-Audio icon in your computer's system tray. ④

Double-click here to launch the FireWire Control Panel

Mac OS X users can launch the control panel by clicking the M-Audio icon found in the System Preferences panel. ⑤

Use the control panel's hardware tab to configure ProFire Lightbridge to synchronize to its own internal clock or to any one of its digital inputs as explained in the previous section.
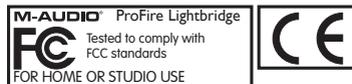
For more detailed information about the parameters in the control panel, please refer to the ProFire Lightbridge User Guide on the FireWire Series CD-ROM.

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Click here to launch the FireWire Control Panel

Additional Information and Support

The M-Audio website (www.m-audio.com) contains the latest drivers and program updates as well as useful links to news stories, FAQs, and technical support. We recommend checking this site regularly to ensure you have the latest drivers and most up-to-date information about your M-Audio product.

M-AUDIO® ProFire Lightbridge
FC Tested to comply with FCC standards
FOR HOME OR STUDIO USE

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WARNING: This product contains chemicals, including lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. *Wash hands after handling.*

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