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You can read the recommendations in the user guide, the technical guide or the installation guide for M-AUDIO PROFIRE LIGHTBRIDGE. You'll find the answers to all your questions on the M-AUDIO PROFIRE LIGHTBRIDGE in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual M-AUDIO PROFIRE LIGHTBRIDGE
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M-AUDIO

M-AUDIO
ProFire Lightbridge
34-in/36-out FireWire Lightpipe Interface



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... @@@@ Using the high-bandwidth, industry-standard FireWire (IEEE1394) protocol, ProFire Lightbridge gives your DAW up to 34 audio inputs and 36 outputs while connecting to your computer via a single cable. This makes it perfect for multi-channel transfers to and from external multitrack recorders.

ProFire Lightbridge is also ideal for linking your DAW to an external digital mixer, or for connecting to another computer hosting soft synths and signal processors. This manual will explain the features and operation of ProFire Lightbridge. Even if you are an experienced recording enthusiast, please take a moment to read this guide and familiarize yourself with all of the unique features of your ProFire Lightbridge. T 1 What's in the Box 2 Your ProFire Lightbridge package contains each of the following: <<<<< ProFire Lightbridge audio interface Printed Quick Start Guide M-Audio FireWire Series CD-ROM FireWire 400 6-pin cable 6 ft. FireWire 400 4-pin cable 6 ft. 12V DC 1A power supply ProFire Lightbridge User Guide \ 3 About ProFire Lightbridge 3 P roFire Lightbridge is a 1U, half-rack audio interface designed to greatly expand the power of your digital studio. It provides a total of 34 digital inputs and outputs plus two analog outputs over a single FireWire connection. The interface's four optical inputs, four optical outputs, and SPDIF input and output let you connect all of your digital gear to your Windows or Mac computer and send and receive audio from all of these devices at the same time. If your Windows PC is not equipped with a native FireWire port, you can purchase a FireWire add-on card at any computer electronics retailer. All

If the "mirrors spdif output" checkbox is deactivated, then the analog outputs will be designated to output channels 35-36. When this box is active, the interface's optical ports will appear in your DAW first, followed by the S/PDIF and analog outputs. That is, the optical ports will be assigned to audio channels 1-8, 9-16, 17-24 and 25-32, with the S/PDIF and analog outputs assigned to 33-34. If the "mirrors spdif output" checkbox is left unchecked, the S/PDIF outputs will be assigned to 33-34, while the analog outputs will be designated to output channels 35-36. Note: When running Mac OS X, the channel numbering and port arrangement may vary, depending on the number of active digital ports.

< About Page This page contains information about your hardware and current driver software versions. This information may be helpful, should you ever need to contact technical support. Clicking the M-Audio web links will take you directly to the designated page on our website (you will need an Internet connection to use this feature). M-Audio ProFire Lightbridge User Guide \ 14 Word Clock Synchronization Understanding Word Clock 11 Your computer-based DAW stores and manipulates music as digital samples. Those samples are sent to and from your DAW as "snapshots" of data. These snapshots are all the same size--16- or 24-bit, depending on your selected resolution--with a beginning and an end, and are sent one after the other as a stream of data. Think of this data stream as a sentence, made up of a series of words of identical length. @@@@All devices must be running at the same sample rate as well. For example, if the master is running at 44.1kHz, no other device can be set to 48kHz.

Word clock is an important part of digital studios but is often overlooked by engineers new to digital recording. It is crucial to set up word clock correctly because without precise synchronization between your digital devices, your digital audio signal will be filled with clicks and pops, (if, in fact, it plays at all).

Scenario 1: ProFire Lightbridge as Word Clock Master By selecting "internal" in the control panel, you designate ProFire Lightbridge as the word clock master. You will then need to select "slave" mode on each of your other digital devices (this is usually an internal menu setting on that device). In Figure 1 below, digital multitracks are connected to optical ports 1 and 2 of the ProFire Lightbridge, and a DAT machine to the S/PDIF I/O. ProFire Lightbridge is selected as the master, and each of the other devices set to slave. Master S/PDIF (RCA) Slave Slave Figure 1 ProFire Lightbridge as clock master ProFire Lightbridge User Guide Scenario 2: ProFire Lightbridge Slaved to an Optical Input \ 15 If you prefer to use another device as word clock master, you will need to configure that device to act as master and select that device's input on ProFire Lightbridge as the sync source. This slaves ProFire Lightbridge (and any other devices connected to the ProFire Lightbridge) to that master device. In Figure 2 below, a digital multitrack recorder is configured as clock master, with ProFire Lightbridge and other devices (a DAT machine and another multitrack recorder, in this case) configured as slaves. Slave S/PDIF (RCA) Slave Slave Master Figure 2 External device on optical input as clock master M-Audio ProFire Lightbridge User Guide Scenario 3: ProFire Lightbridge Slaved to S/PDIF Input \ 16 You may need to use a two-track device as word clock master.

This is because many two-track digital devices, such as consumer CD players, are not designed to be slaved to other devices and must be selected as the word clock master when inputting a digital audio signal. In Figure 3 below, the digital two-track is configured as the clock master, with ProFire Lightbridge and other devices configured as slaves. Slave S/PDIF (RCA) Master Slave Slave Figure 3 External Device on S/PDIF input as clock master ProFire Lightbridge User Guide Scenario 4: ProFire Lightbridge Slaved to Word Clock BNC Input \ 17 In many larger digital setups, a master word clock generator is employed to provide an accurate timing reference to the entire setup. In this case, ProFire Lightbridge can be slaved to the word clock generator's BNC output, with other devices configured as slaves and receiving their word clock distribution via ProFire Lightbridge. In Figure 4 below, ProFire Lightbridge is slaved to a master clock generator, with additional devices slaved to the same master clock through ProFire Lightbridge.

Master Slave Word Clock (BNC) S/PDIF (RCA) Slave Slave Slave Figure 4 ProFire Lightbridge slaved to master clock, providing clock distribution For more information on selecting the word clock synchronization source, see the Software Control Panel section of this manual. M-Audio ProFire Lightbridge User Guide \ 18 Specifications 12 D/A Converters Supported Bit Rates Digital Inputs Digital Audio Outputs 44.1, 48, 88.2, 96kHz 16-bit, 24-bit 4 optical Lightpipe stereo coaxial S/PDIF 4 optical Lightpipe stereo coaxial S/PDIF Line Outputs Output Impedance Maximum Output Level Channel-to-Channel Crosstalk SNR Dynamic Range THD+N Frequency Response 1/4" TRS balanced/unbalanced 300 Ohm balanced/150 Ohm unbalanced +10.2 dBu (2.5 Vrms) balanced +2.0 dBV (1.26 Vrms), unbalanced < -110 dB @ 1kHz -109 dB, A-weighted 109 dB, A-weighted 0.00127 % (-98 dB) @ -1 dBFS, 1 kHz 20 Hz to 20 kHz, +/- 0.1 dB @ 48 kHz sample rate 20 Hz to 40 kHz, +/- 0.2 dB @ 96 kHz sample rate Headphone Output Maximum Output Working Range Impedance Crosstalk THD+N SNR Dynamic Range Frequency Response -3.0 dBV (1.71 Vrms) into 32 ohms 32 to 600 ohms 75 Ohm < -85 dB 0.011% (-79 dB) @ -1 dBFS, 1 kHz -108 dB, A-weighted 108 dB, A-weighted 20 Hz to 20 kHz, +/- 0.1 dB @ 48 kHz sample rate 20 Hz to 40 kHz, +/- 0.

2 dB @ 96 kHz sample rate 48 kHz sampling rate unless otherwise stated ProFire Lightbridge User Guide \ 19 Warranty Terms 13 Warranty M-Audio warrants products to be free from defects in materials and workmanship, under normal use and provided that the product is owned by the original, registered user. Visit www.m-audio.com/warranty for terms and limitations applying to your specific product. Warranty Registration Thank you for registering your new M-Audio product. Doing so immediately both entitles you to full warranty coverage and helps M-Audio develop and manufacture the finest quality products available. Register online at www.m-audio.com/register to receive FREE product updates and for the chance to win M-Audio giveaways. ProFire Lightbridge Tested to comply with FCC standards FOR HOME OR STUDIO USE WARNING: This product contains chemicals, including lead, known to the State of California to cause cancer, and birth defects or other reproductive harm.



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