quick-start guide

Link.FireWire

COMPUTER AUDIO INTERFACE

TAPCO®

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Unplug this apparatus during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

FCC Information

NOTE: *This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.*

Product Serial #:

Purchased at:

Date of purchase:

Part No. SW0461 Rev. A 02/07

CONTENTS

**Please write your Tracktion License Number here
(packaged with the Link.FireWire CD):**

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_____  __  _____  _____  __  _____
       _____     _____     _____     _____     _____
```

Enter your my.mackie.com login information here:

Login email address _____

Password _____

**Don't forget to visit our website at www.tapcogear.com
for more information about this and other TAPCO products.**

INTRODUCTION

Thank you for purchasing the TAPCO Link.FireWire Audio Interface for digital recording systems. This is a complete, compact solution for computer-based music production on either a Macintosh or a PC.

The Link.FireWire is a 4x6 audio interface that is powered directly off the FireWire connection (or by the included external power supply), and also includes Tracktion 2.1, our powerful audio and MIDI sequencing software for digital recording. This hardware and software combination provides all you need to record and create wonderful music using your laptop or desktop computer.

The Link.FireWire Interface

The Link.FireWire interface provides either two analog audio inputs that can accept microphone level, line level, or direct instrument input signals, or a stereo S/PDIF digital input. The analog audio signals are routed to high-quality ADCs (Analog-to-Digital Converters) operating at 44.1, 48, 88.2, or 96 kHz with 24-bits. The digital signals are then routed to the FireWire port for connection to your computer.

The analog inputs are "combo" jacks that accept either a mic-level balanced XLR connector or a line-level (or instrument-level if the INSTR button is pushed in) balanced or unbalanced 1/4" TRS or TS connector.

Stereo master mixes can also be transferred from your host computer back to the Link.FireWire for monitoring during tracking or overdubbing. Monitoring is provided by the headphone jack on the front and by balanced outputs on the back, which can be connected to your studio monitors. The Monitor outputs and Phones output each have their own level controls. The master mix also appears on the S/PDIF stereo output.

Note: The Link.FireWire provides two output streams from the DAW that are mirrored on the Phones, Monitor, and S/PDIF outputs. Alternate firmware is available on our website to configure the Link.FireWire so that it provides six discrete output streams from the DAW. Refer to the Link.FireWire Owner's Manual for more information.

Bundled Software

The Link.FireWire comes with some powerful software to get you started with your own desktop multitrack audio recording music production studio.

Tracktion is an easy-to-use multitrack audio recording and MIDI sequencing software application, capable of unlimited track count, VST support, automation, and much more. It comes with a variety of EQ, compressor, and effects plug-in processors for creating exactly the sound you want.

GETTING STARTED

Use this section to get your Link.FireWire set up quickly. Refer to the Link.FireWire Owner's Manual (PDF file) for more detailed information about the operation of the Link.FireWire.

Installing the Software

- The Link.FireWire CD contains an installer that will install the drivers on your PC. If you are using a Macintosh (running OS X version 10.3.9 or later), you don't need to install drivers because the FireWire drivers are included in OS X.
  Note: If you are using OS X 10.3, be sure to update to the latest released version, 10.3.9.

- Your Link.FireWire CD also contains Tracktion 2.1. Double-click the file "TracktionSetup.exe" and follow the instructions to install Tracktion on your PC. For the Macintosh, double-click the file "TracktionSetup.dmg" and drag the Tracktion icon into your Applications folder.

- Visit http://my.tapcogear.com to register your Link.FireWire. If you haven't already done so, set up an account by entering your email address and clicking, "No, I want to create an account." Then click "Continue."
  Enter the information to set up your profile. Then click "Create My Account."
  Then proceed to register your Link.FireWire by clicking "TAPCO Product Registration."

- Your computer **must** meet the following minimum system requirements:
 ### PC Requirements
  - Windows XP (SP2)
  - Pentium III or better processor
  - 256 MB RAM (512 MB recommended)
 - 30 MB hard disk space
  ### Macintosh Requirements
  - OS X (10.3.9 or later)
  - Power Mac G3 (600 MHz or faster), G4, or G5 processor
  - 256 MB RAM (512 MB recommended)
  - 35 MB hard disk space

**To install the software on a PC running Windows XP (SP2):**

1. Turn off any (non-essential) applications.

2. Insert the Link.FireWire CD-ROM into your PC's CD-ROM drive.

3. The CD begins automatically, bringing up the Link.FireWire installer. If it doesn't, click Start in the task bar, then click Run and click Browse. Browse to your CD drive and double-click Link.Firewire_SETUP.EXE. Then click OK to start the installation.

4. The Link.FireWire Installer opens. Click "Next."
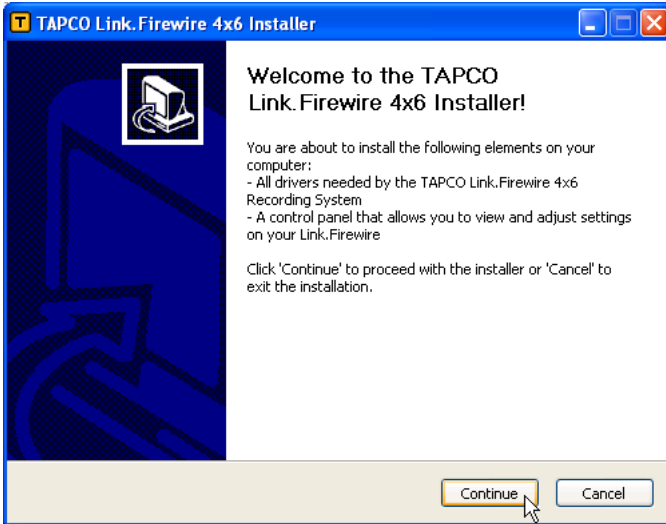
5. Next you will see the License Agreement. Read through the text and click "I Agree."
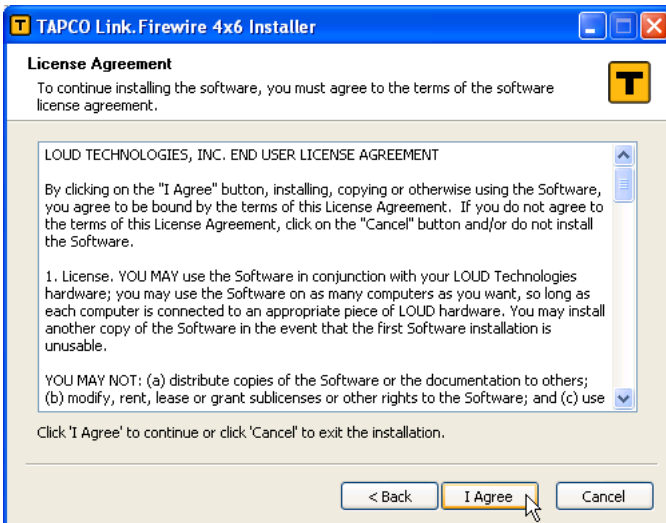
6. The next window reminds you to make sure the Link.FireWire is NOT connected to your computer yet. Read the instructions and then click "Continue."
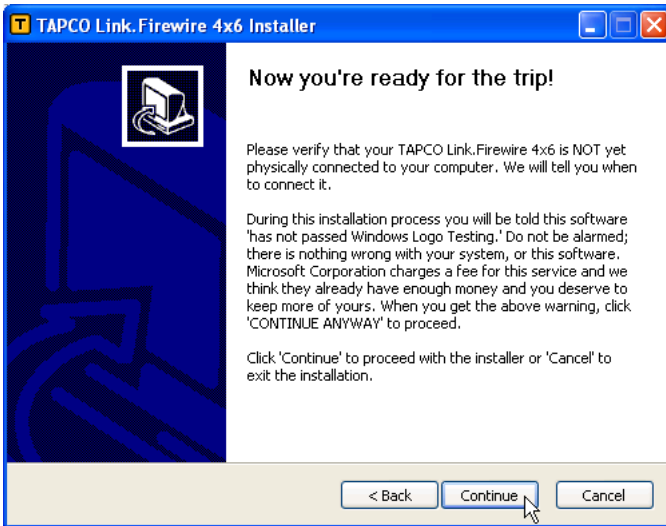
7. You may get a warning about running the installer because it hasn't passed Windows Logo testing. It's okay. We've tested it and it is compatible with Windows XP. Click "Continue Anyway."

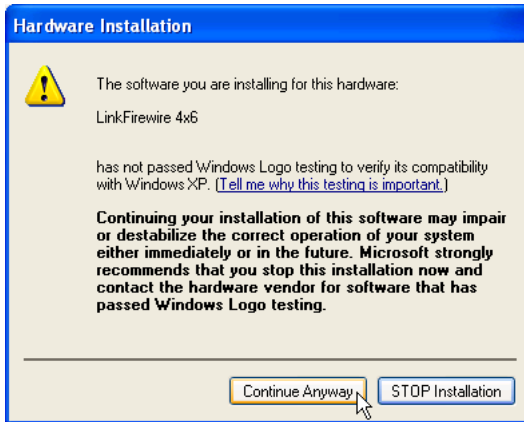8. Now it is time to connect your Link.FireWire to your computer. Follow the instructions and then click "Next."
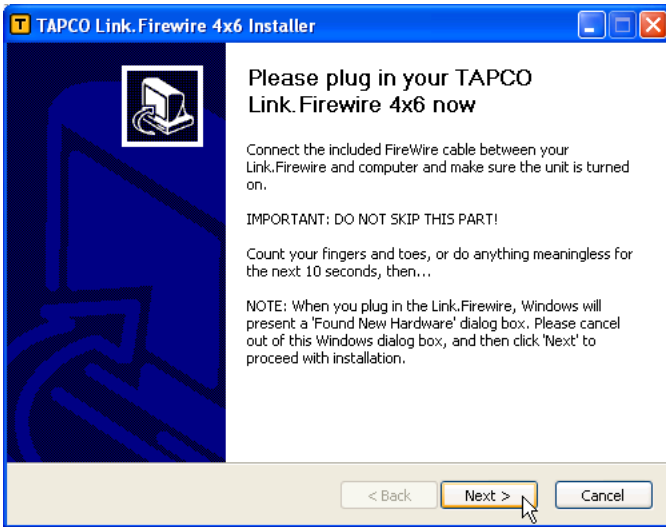
9. Wait until the "Found New Hardware Wizard" pops up. This may take a minute or so. Then click "Cancel" to continue.
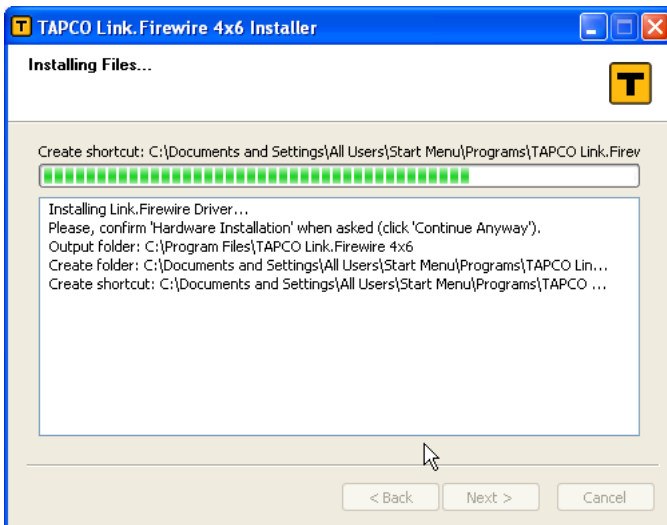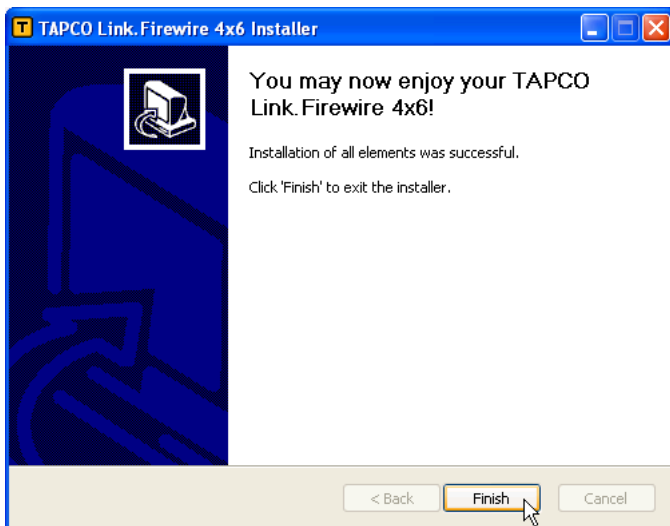
10. You will get another warning, this time about installing the hardware. It's okay. Click "Continue Anyway."

11. Next the Link.FireWire drivers and control panel will be installed on your computer.

11. When the installation is completed, a window will pop up to let you know that the installation was successful. Click "Finish" to complete the installation.

Now you are ready to use your Link.FireWire. The installer also places a shortcut to the Link.FireWire Console on your desktop.

Link.FireWire Console (PC only)

You can use the Console to change the sample rate, latency, and input source (Analog or S/PDIF) for your Link.FireWire.
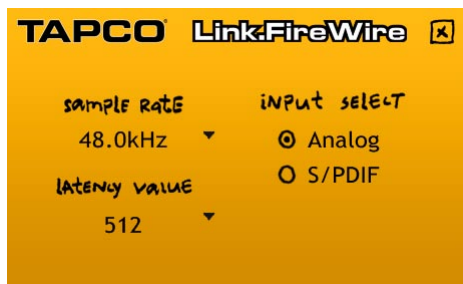

The sample rate and latency value (also known as buffer size) may also be set in your DAW software application's "Settings" window. Make sure the same value appears in both places.

You can leave your analog inputs and S/PDIF inputs connected to the Link.FireWire at the same time. Use the "input select" in the Console to choose which input is active. You can switch back and forth, but they cannot both be active at the same time.

Macintosh OS X Audio MIDI Setup
(version 10.3.9 or later):

The Macintosh OS X does not require FireWire drivers to be installed. OS X provides a dedicated setup utility for audio and MIDI. You can use the Audio MIDI Setup utility to change the default audio input and output and general system settings on your Macintosh.

1. Go to the Applications folder and open the Utilities folder.
2. Double-click "Audio MIDI Setup."
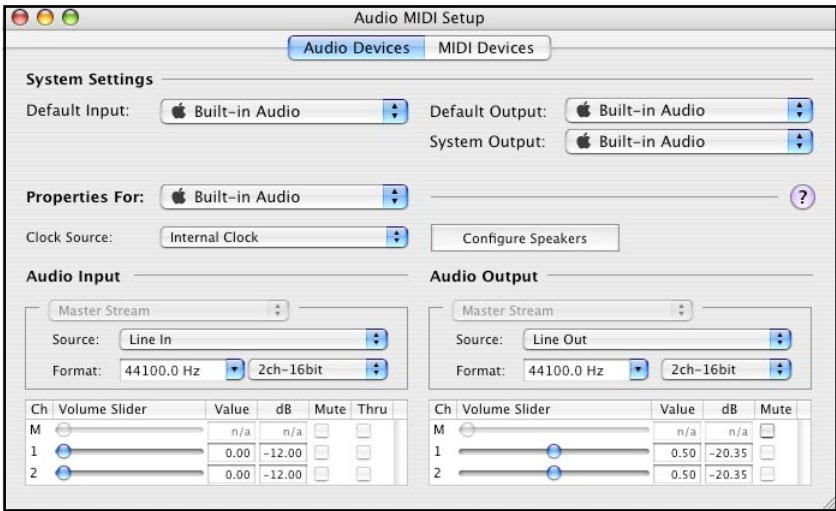
3. Click the Audio Devices tab, and select Tapco LINK.firewire in the "Properties For" drop-down box.
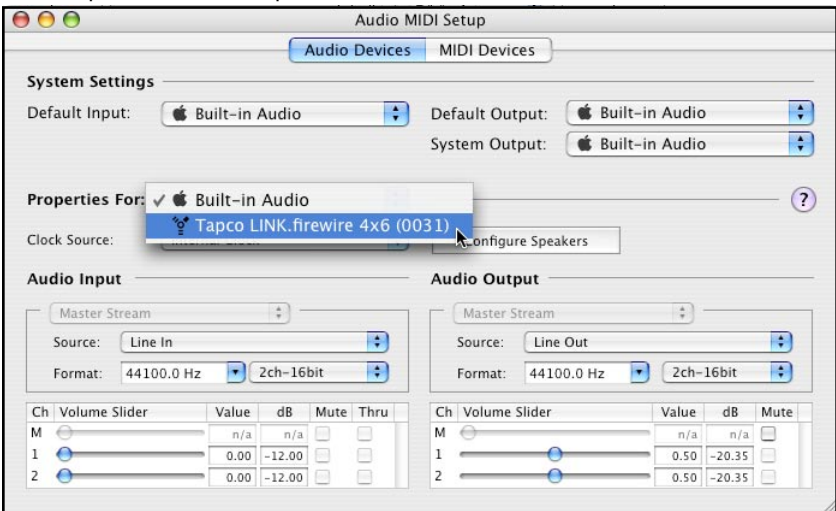
4. Here you can see the settings for the TAPCO Link.FireWire. You can also choose to use the Link.FireWire as your default input or output, as well as designate it to be used for system sound output.
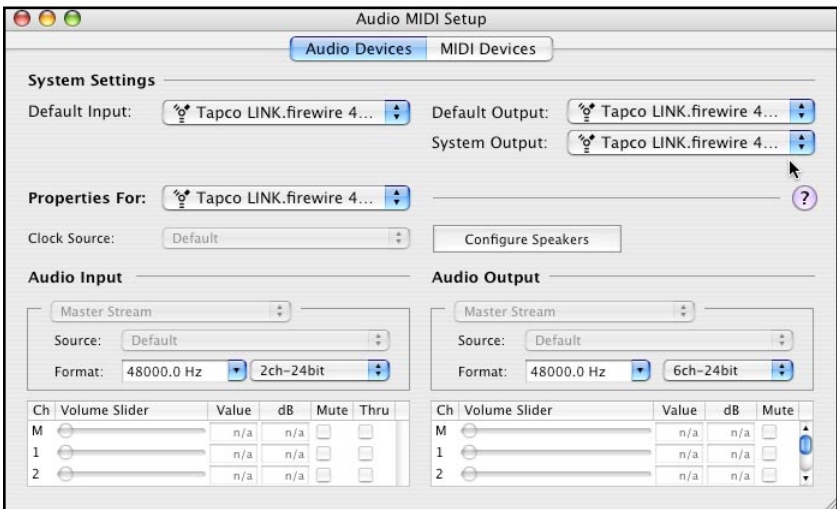
5. You're ready to go with any Mac OS X Core Audio host application (i.e., Tracktion, Logic, Cubase, Nuendo, Live, Digital Performer, etc.).

The TAPCO Link.FireWire should now appear as a 2x2 audio interface (or a 2x6 audio interface if you have installed the "True 6-Output Mode" firmware) available for any DAW application that you have installed on your computer.

Note: Since there is no FireWire Console for the Macintosh, it is necessary to select the sample rate and latency value (also known as buffer size) in the DAW software application's "Settings" window.

As on the PC, you can only have the analog inputs or the S/PDIF inputs active at any one time. When using the Link.FireWire on a Mac, if an active device appears on the S/PDIF input, it automatically overrides the analog inputs. You can still leave your analog inputs and S/PDIF inputs connected to the Link.FireWire at the same time, but when the S/PDIF device is turned on, it switches to the S/PDIF inputs and turns off the analog inputs.

Connecting the Link.FireWire

- To stand the Link.FireWire upright, pull the stabilizer bar downward and twist it out 90° from the body, as shown below.

- Turn down all the Link.FireWire knobs to prevent any loud surprises.

- Connect microphones using the XLR/TRS combo input connectors on the back of the Link.FireWire. Press the 48V button if your microphone needs phantom power (mostly used for condenser mics).
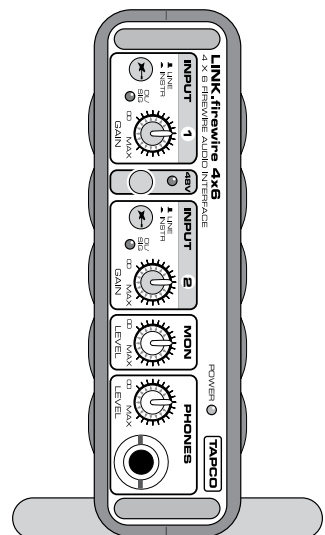
  Caution: DO NOT use phantom power on ribbon microphones unless your microphone states that it is okay. It can damage the delicate ribbon element in the microphone. Refer to your microphone's owner's manual to find out if it requires phantom power to operate.

- Connect guitars or other instruments using the XLR/TRS connectors on the back of the Link.FireWire. Press the front panel LINE/INSTR button (guitar icon) if you are connecting your guitar or instrument directly to the Link.FireWire without using a preamplifier or direct box.

- Connect a pair of powered monitor speakers, or an amplifier connected to speakers, to the Link.FireWire MONITOR jacks on the rear panel. You can also plug in headphones to the front panel PHONES jack.

- Connect the FireWire connector to a FireWire port on your computer with the FireWire cable provided.

- Launch Tracktion or the DAW software application of your choice and select Link.FireWire as the audio device for the audio inputs and outputs.
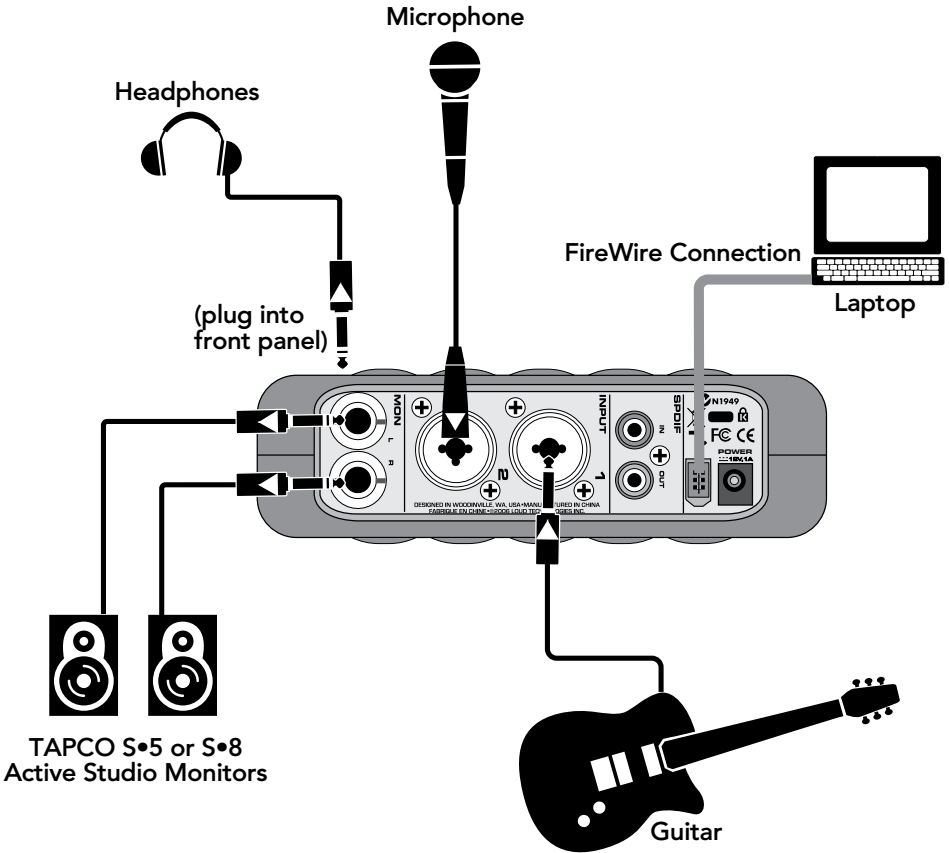
Note: The Link.FireWire is equipped with a 6-pin FireWire connector and comes with a 6-pin to 6-pin FireWire cable. The 6-pin FireWire connector provides power for the Link.FireWire and works with Macintosh laptops and desktops, and most PC desktops with a built-in FireWire connector or with a PCI or PCMCIA FireWire card added. Many laptop PCs have a 4-pin FireWire connector. If this is the case, you will need to purchase a 6-pin to 4-pin FireWire adapter because the 4-pin connection does not provide any power. In this case, you must also use the external power supply (included) to power the Link.FireWire.
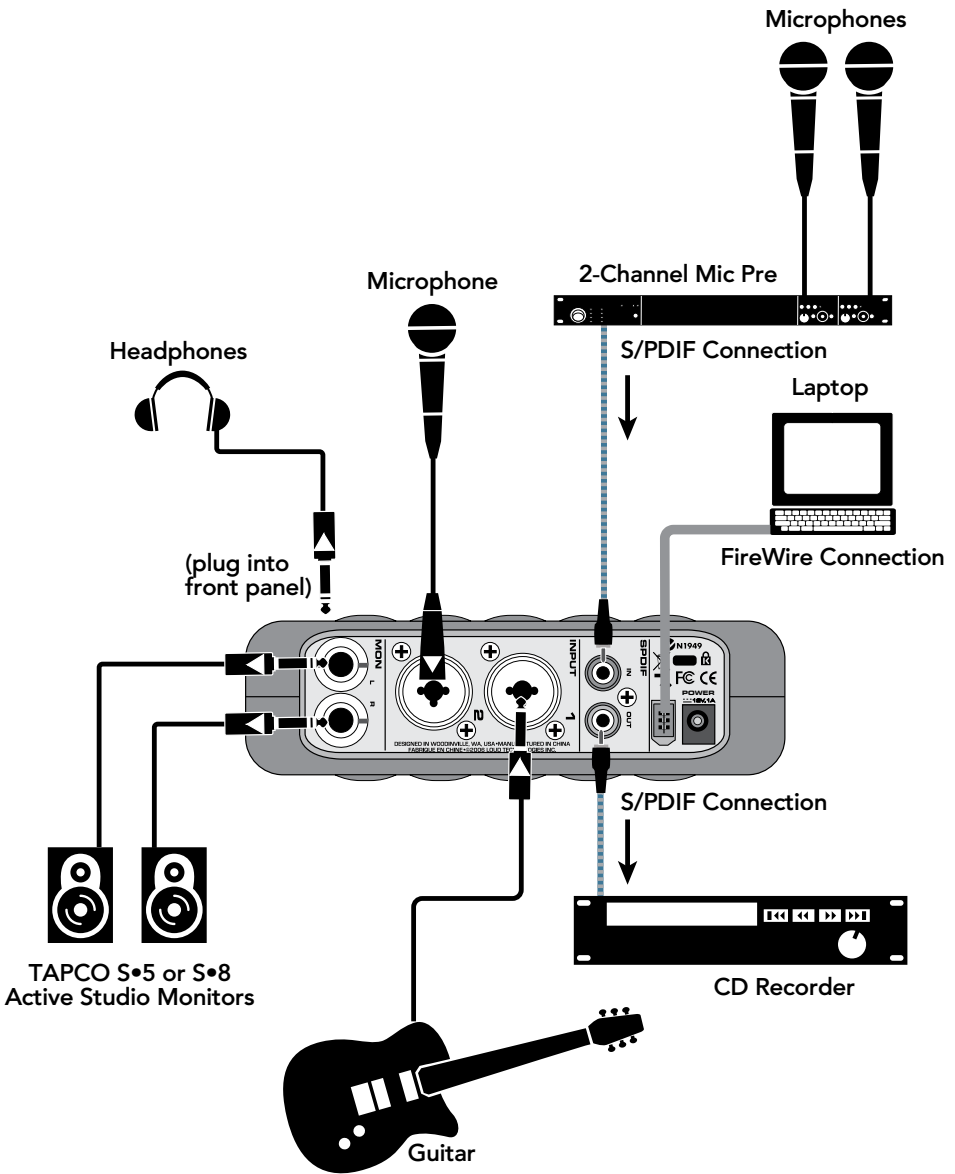
Hookup Diagrams

Microphone

Headphones

FireWire Connection

Laptop

(plug into
front panel)

MON

INPUT

SPDIF

IN

OUT

POWER

N1949

FC CE

DESIGNED IN WOODINVILLE, WA, USA•MANU   TURED IN CHINA
FABRIQUE EN CHINE•©2006 LOUD TE   OGIES INC.

TAPCO S•5 or S•8
Active Studio Monitors

Guitar

Typical Hookup: A guitar is connected to Input 1 with the
INSTR(ument) button pushed in, and a microphone is connected to
Input 2. The two signals are streamed to the laptop over the FireWire
connection, and the stereo mix is returned to the Link.FireWire for
monitoring through the headphones and the studio monitors.

Microphones

2-Channel Mic Pre

S/PDIF Connection

Microphone

Laptop

Headphones

FireWire Connection

(plug into front panel)

S/PDIF Connection

**TAPCO S•5 or S•8 Active Studio Monitors**

CD Recorder

Guitar

Using the S/PDIF Connectors: In addition to the guitar and microphone connected to Inputs 1 and 2, a 2-channel microphone preamplifier with a built-in A-to-D converter is connected to the S/PDIF input on the Link.FireWire. With S/PDIF selected as the input source, the two signals are streamed to the laptop over the FireWire connection, and the stereo mix is returned to the Link.FireWire for monitoring through the headphones and the studio monitors, and also recorded on the CD recorder connected to the S/PDIF output.

Making a Recording

The following example of a recording session uses a guitar plugged directly into the Link.FireWire channel 1 input, and a microphone plugged into the channel 2 input, to record audio tracks in the Tracktion software.

Before starting, make sure you have correctly installed the Tracktion software.

1. Connect your equipment using the "Typical Hookup" diagram on page 14 as a guide.

2. On the Link.FireWire front panel, set the INPUT GAIN, MON, and PHONES knobs to minimum. Press the 48V button on the front panel if your microphone needs phantom power. Press the LINE/INSTR button on Channel 1 if you are not using a guitar preamp or direct box.

3. On your computer, open Tracktion. Make sure you have the Link. FireWire selected as the audio input/output device (under the Settings tab > Audio > Wave Device).
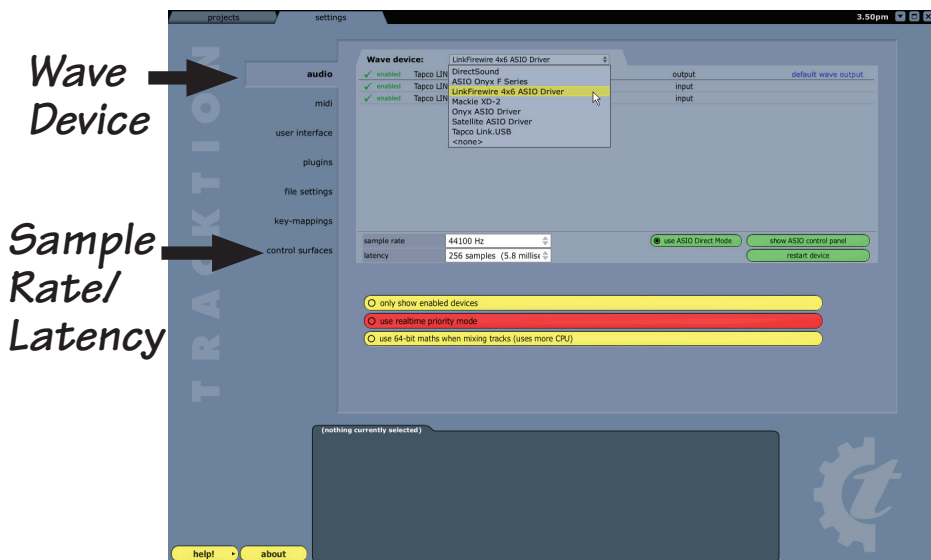

You can select the sample rate and the latency in the Settings tab. For more details about Tracktion, press the Help! button in the lower left-hand corner.

LOOK CLOSER Latency describes the amount of time it takes for audio to get in and out of your software application. The lower the latency setting, the faster audio can get into and out of the software application. However, a low latency setting requires more resources from your computer, so you need to find a happy balance between finding the lowest latency setting you can attain before the computer begins to have trouble routing and recording audio (e.g., dropouts, pops, distorted audio). See "What is Latency" on page 20 of the Link.FireWire Owner's Manual (PDF) for more info.

4.   Click the New Project button under the Projects tab.
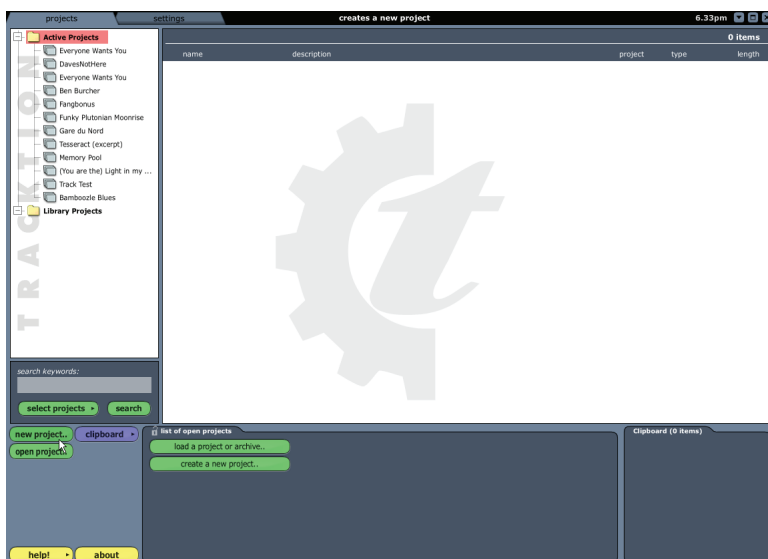
Enter a name for your new project and click "Save."
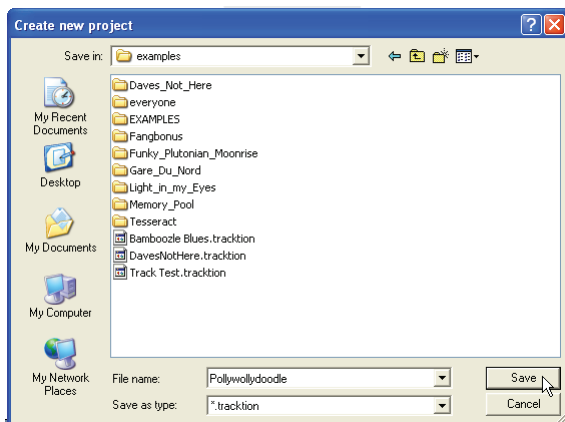
5. "New edit #1" appears at the top of the item list. An edit is Tracktion's way of keeping a version of your song. You can rename the song by clicking on the edit and entering the new name in the properties panel at the bottom of the screen.

6. Double-click on "new edit #1" to open up the Edit screen. A new project starts with eight horizontal tracks, stacked vertically. You can add or remove tracks once you get going. Tracks can also be renamed by selecting them and typing the new name in the Properties panel.
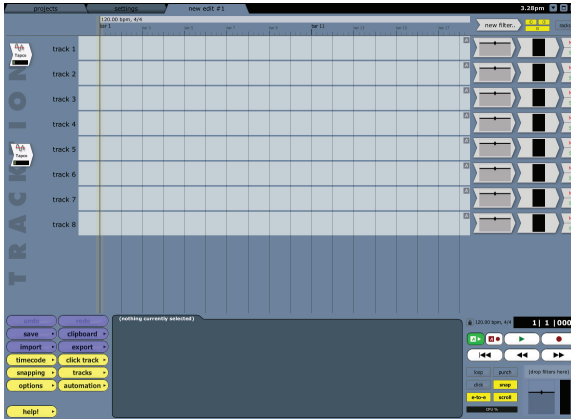
7. The two audio icons represent the Link.FireWire's two inputs. If these two icons do not appear, make sure Link.FireWire is selected as the audio device under the "Settings" tab.

8. Click on the Input 1 icon, and drag it to track 1. As it gets close, an arrow pops out and connects the icon to the track. This indicates that the track is armed for recording. To disconnect an icon (and disarm the track), drag it to the left and the arrow will disappear.

M=Mute
S=Solo
Channel Meter
Pan and volume
Play
Record
RTZ

18
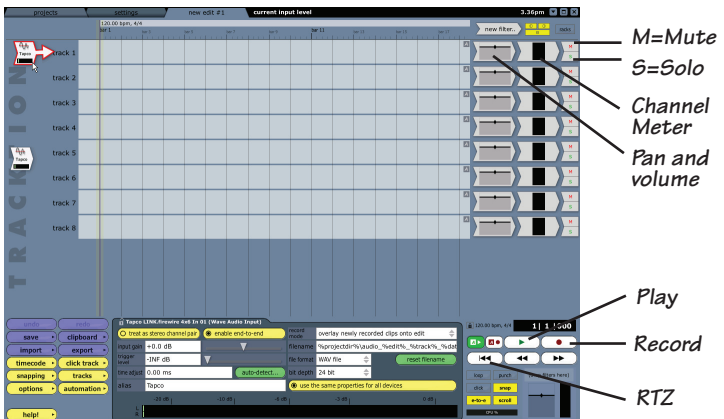
9. Play the guitar and slowly turn up the front panel INPUT 1 GAIN knob about halfway. You should see the input meters in Tracktion indicating that a signal is present. Make sure the overload indicator doesn't light. If it does, turn down the GAIN knob until the musical peaks no longer light the overload indicator. If the meter is barely indicating a signal, turn up the GAIN knob.

10. We will begin by recording the guitar. Click on the Input 1 icon to highlight it. The input meters (in the Properties panel) will show the signal level being recorded.

11. Put on the headphones and slowly turn up the PHONES knob to a comfortable listening level while playing the guitar. Now you can monitor what you are playing.

12. To record, click the Record button in the Transport area (or press the "R" key on the keyboard). Tracktion records any armed tracks. Play your guitar as the vertical cursor line moves to the right.

13. To stop recording, click the Record button again (or the "R" key). A squiggly line (amplitude vs. time waveform) of your recording is displayed.

14. To play back your guitar recording, click the RTZ (Return to Zero) button in the Transport area and click the Play button. If you are happy with the recording, drag the Input 1 icon to the left to disarm the track.

15. To record some vocals, drag the Input 2 icon to track 2. This arms the track for recording the microphone connected to Input 2 on the Link.FireWire. Adjust the Input 2 GAIN knob so your vocals do not light the overload indicator in Tracktion.

16. Click the Record button to record your vocals while listening to the guitar track.

17. You can record more instruments on more tracks and build a multitrack masterpiece by continuing in a similar fashion. As you record and play other tracks, you can mute any tracks you don't want to hear by clicking the "M" button at the far right side of the track.

18. Tracktion has a number of plug-ins that you can use to enhance each track. Refer to the Tracktion User's Guide or Reference Manual for more information on using plug-ins and creating a stereo mix for burning to CD or creating an MP3 file.

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