

M-AUDIO

Fast Track

English
User Guide

1 Introduction

When M-Audio first introduced Fast Track, it quickly became one of the world's most popular portable audio interfaces. Now M-Audio is pleased to present the newly redesigned Fast Track, with the additional features and improvements requested by our customers: Phantom power for condenser microphones, enhanced gain on the guitar input for use with lower output guitar pickups, and a new ergonomic design with larger, top-mounted control knobs for convenient desktop use.

Fast Track works with your favorite music software to deliver professional-quality recordings. You can use it to capture your guitar and vocal performances, voice-overs, podcasts, or anything else you need to record.

Furthermore, its lightweight compact design allows you to take Fast Track anywhere.

Please take the time to read this User Guide. It will explain how to get the best performance out of your Fast Track audio interface.

2 What's in the Box

Your Fast Track package contains the following:

- ▶ Fast Track Audio Interface
- ▶ Printed Quick Start Guide
- ▶ Fast Track CD-ROM, including drivers and documentation
- ▶ Software Bundle Disc
- ▶ USB cable

3 Fast Track Features

- ▶ 2-input, 2-output audio interface
- ▶ Up to 24-bit, 48kHz operation
- ▶ 1/4" guitar input
- ▶ XLR microphone input
- ▶ 48V phantom power for condenser microphones
- ▶ 1/4" stereo headphone output
- ▶ RCA stereo line outputs
- ▶ Direct Monitor button
- ▶ USB bus powered operation
- ▶ Class compliant operation
- ▶ Pro Tools M-Powered compatible

4 Minimum System Requirements

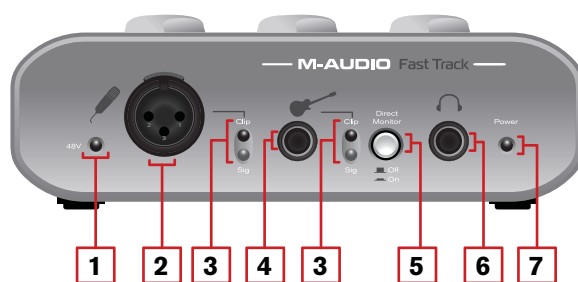
Minimum system requirements can be found on the Fast Track product packaging as well as at www.m-audio.com.

Before Updating Your Mac or Windows System: Please check the M-Audio driver download page at www.m-audio.com/drivers for the availability of an updated driver before you decide to install operating system updates.

Before new M-Audio device drivers are released, they are tested for use with the operating system versions that are available at that time. When updates for an operating system are released by Microsoft or Apple, all M-Audio device drivers have to be re-tested and possibly updated to ensure proper operation.

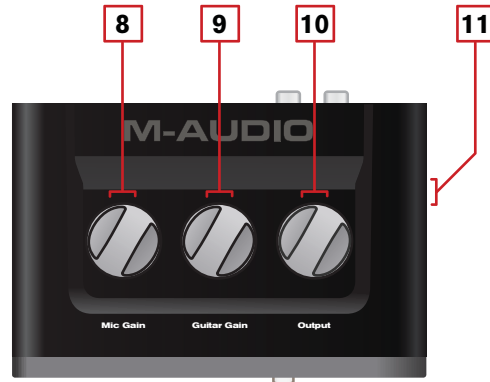
M-Audio recommends refraining from installing operating system updates until a driver has been posted to the M-Audio website for that specific operating system.

5 Controls and Connectors

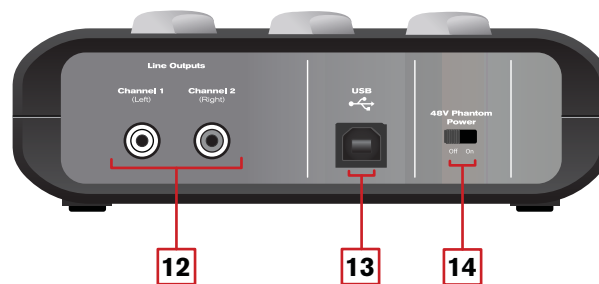


Front Panel

1. **Phantom Power Indicator (48V)** - This red LED illuminates when the Phantom Power switch (14) is set to the "on" position.
2. **Microphone Input** - This jack is used for connecting a microphone using a standard XLR cable.
3. **Signal/Clip Indicators** - The green LED indicates the presence of a signal at the corresponding input while the red LED indicates "clipping" or distortion at the input.
4. **Guitar Input** - This 1/4" jack is used for connecting an electric guitar, bass, or other instrument.
5. **Direct Monitor Button** - This button enables Direct Monitoring. When this button is set to the "in" position, the direct signals from the Microphone and Guitar inputs are mixed with the output of your music software to create a latency-free hardware mix. When this button is set to the "out" position, your Microphone and Guitar signals are not mixed with the output of your software through the Fast Track hardware. In this case, you must use your music application's software monitoring option to hear your Microphone or Guitar inputs while recording. For more information on Direct Monitoring, see the section titled "Direct Monitoring" on page 7.
6. **Headphone Output** - This 1/4" stereo jack is controlled by the Output knob (10).
7. **Power Indicator** - This blue LED indicates that Fast Track is receiving power from the computer's USB port.

Top Panel

8. **Mic Gain** - This knob controls the Microphone Input gain.
9. **Guitar Gain** - This knob controls the Guitar Input gain.
10. **Output** - This knob controls the output level for both the Line Outputs (12) and the Headphone Output (6).
11. **Kensington® Lock Port** - This connector is compatible with Kensington® security cables to protect your device from theft.

Back Panel

12. **Line Outputs** - These RCA jacks are used for connecting a pair of powered studio monitors, a mixer, or amplifier. These outputs are disabled when headphones are connected to the Headphone Output (6) on the front panel.
13. **USB Port** - This port is used for connecting Fast Track to your host computer, using the supplied USB cable.
14. **Phantom Power Switch** - This switch applies 48V phantom power to the Microphone Input (2) for use with condenser microphones that require external power. The Phantom Power Indicator (1) LED illuminates when power is being sent to the Microphone Input.

6 Installing Fast Track

For instructions on installing Fast Track, please refer to the printed Fast Track Quick Start Guide.

7 Hardware Connections and Setup

Begin by connecting Fast Track to your computer via a USB cable, according to the installation instructions in the printed Fast Track Quick Start Guide.

Recording Microphones

If you are using a microphone that requires phantom power, activate the Phantom Power switch **(14)** after the microphone has been connected to the Microphone Input **(2)**. Then follow the instructions for setting recording levels in the section titled "Using Fast Track" later on this page. In your recording software, select the Fast Track Microphone Input as the input source for a mono track. You can select the Microphone Input in your recording software by selecting the first (left) input of Fast Track.

NOTE: *If the Guitar Input is not being used, turn the Guitar Gain knob (9) fully counter-clockwise to maintain the best possible signal-to-noise ratio.*

Recording Instruments

Connect an electric guitar, bass, or other instrument to the Guitar Input using a standard 1/4" instrument cable. Then follow the instructions for setting recording levels in the section titled "Using Fast Track" later on this page. In your recording software, select the Fast Track Guitar Input as the input source for a mono track. You can select the Guitar Input in your recording software by selecting the second (right) input of Fast Track.

NOTE: *If the Microphone Input is not being used, turn the Mic Gain knob (8) fully counter-clockwise to maintain the best possible signal-to-noise ratio.*

Adjusting the Output Level

Connect the Line Outputs **(12)** to a mixer, amplifier or powered monitors. Connect headphones to the Headphone Output **(6)**. The volume of the Line Outputs and the Headphone Output are both controlled by the Output knob **(10)**. Remember that the back-panel Line Outputs are disabled when headphones are connected.

8 Using Fast Track

Setting Your Recording Levels

To set the gain levels for the Microphone Input **(2)** or Guitar Input **(4)**, begin by turning the Gain knob **(8, 9)** for that channel fully counter-clockwise. While the sound source is playing at its loudest levels, slowly turn the knob clockwise until the red LED of the Signal/Clip Indicator **(3)** begins to illuminate. Then, turn the knob counter-clockwise until the Signal/Clip Indicator no longer illuminates red. At this point, you should be ready to record with the optimum gain setting.

Setting the Sample Rate and Bit Depth of your Session

Fast Track can operate at two sampling rates (44.1 or 48kHz) and two different bit depths (16 or 24-bit) in order to accommodate a variety of projects. It is recommended that you decide on a sample rate and bit depth for your project before you begin recording to maximize fidelity and avoid potentially time consuming format conversions.

If you are unsure about what settings to use, the following general guidelines should help you decide on a format:

Music Projects:

If your final mix is intended to be played back on a CD player, portable media player (such as an MP3 player), or other "music" device, it is recommended that you work at 24-bit resolution with a sampling rate of 44.1kHz. Note that the final output file will have to be at 16-bit resolution for playback on a CD player (as well as some audio player applications).

Video Projects:

If your final mix is intended to be played back on a DVD player, TV show, or other "video" device, it is recommended that you work at 24-bit resolution with a sampling rate of 48kHz.

TIP: Keep in mind that it is always possible to convert from one format to another with little or no audible degradation in sound quality. However, it is not possible to raise the fidelity of your already recorded files by increasing the bit depth. Therefore, to maximize the fidelity of your final mix, always try to work at the highest possible sample rate and bit depth that is appropriate for your specific project.

Direct Monitoring

When signal is recorded into software, there is often a slight delay before it reaches the outputs. This monitoring delay, called *latency*, is caused by the computer processing required to convert and record audio. Since this delay can sometimes distract the artist being recorded, Fast Track provides a direct analog monitor path from the inputs to the outputs, which is activated by pressing the Direct Monitor button (5).

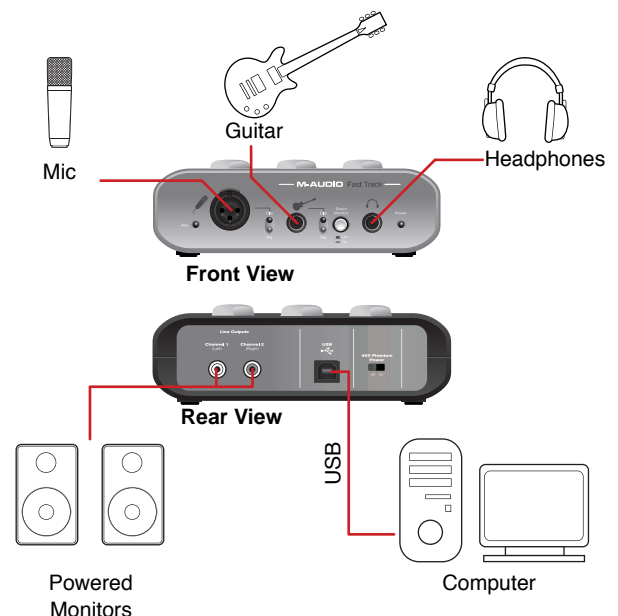
When you press the Direct Monitor button, a mono mix of sound from the Microphone and Guitar Inputs is routed directly to the Line Outputs and Headphone Output, and mixed with the output signal from your audio software. This lets you hear your "live" inputs (Microphone and Guitar) without any latency. Use of the Direct Monitor button has no effect on what is being recorded by your audio software.

When using the Direct Monitor feature, make sure that your audio software is not outputting signal from the track you are recording on. This would cause "double-monitoring," resulting in increased volume and an undesirable "phasing" sound. Consult the documentation for your audio software regarding disabling software monitoring.


Typical Setup

Here is a typical setup for simultaneous recording of an electric guitar and vocals:

1. Turn the Guitar Gain knob fully counter-clockwise and connect a guitar to the Guitar Input using a standard instrument cable.
2. Turn the Mic Gain knob fully counter-clockwise and connect a microphone to the Microphone Input using standard XLR cable.
3. Enable 48V phantom power if required by your microphone.
4. Engage the Direct Monitor button for low latency monitoring, if necessary.
5. Assign tracks in your audio software to the appropriate inputs for tracking guitar & vocals.
6. Record enable the track(s).
7. Set input levels for the Guitar and Microphone inputs. See "Setting Your Recording Levels" on page 6 to learn how to properly set input levels.
8. Increase the Output Level while playing your instrument, singing, or playing back from your audio software until the desired level is reached.
9. Begin recording.



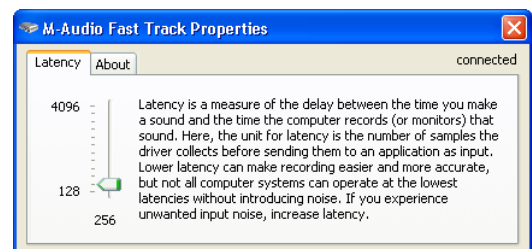
9 The Software Control Panel

- ▶ **Windows XP/Vista users:** A small M-Audio logo  will be placed in the system tray, generally located at the bottom of your Windows desktop. Double-click this icon to open the Control Panel.
- ▶ **Mac OS X users:** The Fast Track Control Panel can be found in System Preferences, under "Other."

Note: The Software Control Panel is available only after the Fast Track driver software has been installed. It will not appear if Fast Track is being used as a *class compliant* device (this means using the device with the drivers already built into the computer's operating system).

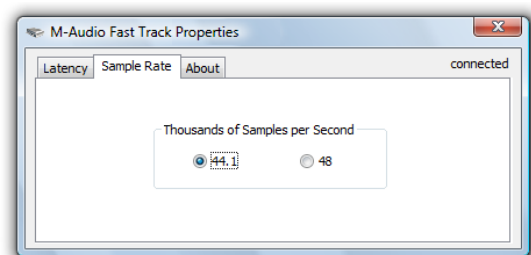
Latency Tab (Windows XP and Vista)

Latency is defined as the time it takes for your input signal to pass through your audio software and appear at the outputs. This latency can result in a delay that is undesirable when overdubbing to existing tracks. The slider lets you select the size of the buffer in samples. Smaller buffer sizes result in lower latency, but may not function well with slower systems, causing clicks, pops and dropouts in the audio playback. The default buffer size is 256 samples. If you are experiencing clicks and pops in your audio, try increasing the buffer size. On Macintosh systems, the buffer size is normally adjusted within your audio recording software.



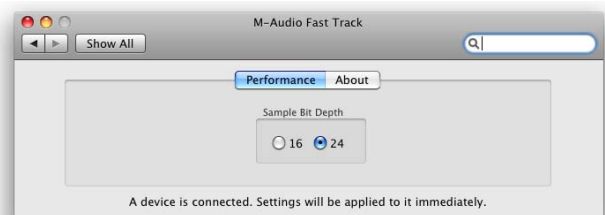
Sample Rate Tab (Windows Vista Only)

This page allows you to choose a sample rate of 44.1kHz or 48kHz. This is provided in order for MME applications in Vista to have access to both of the supported sample rates. ASIO and WDM applications allow you to change the sample rate within the recording software, regardless of the setting on this tab.



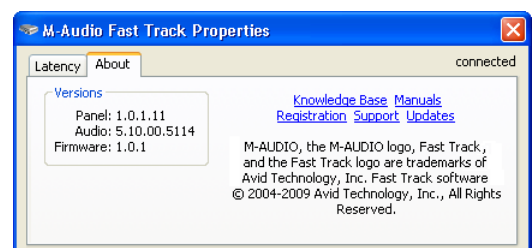
Performance Tab (Macintosh Only)

This page allows you to choose a sample bit depth of 16-bit or 24-bit. The default sample bit depth is 24-bit. On Windows systems, the sample bit depth is normally adjusted within your audio recording software.



About Tab (All Systems)

This page contains information on your hardware and current driver software versions. This information may be helpful should you ever have the occasion to call for technical support. Clicking the links on this page will take you to useful pages on the M-Audio website.



Note: If Fast Track is not currently connected to, or not recognized by your computer, a message noting this will be displayed on all pages of the

10 Troubleshooting

Fast Track has been designed to give you high performance and professional-quality audio. It has been tested under a wide range of systems and operating conditions. However, there is a virtually limitless number of operating scenarios, any of which could affect your system's performance. Though this section cannot cover all possible issues you may encounter, we would like to offer you some suggestions for dealing with common problems.

We recommend that you avoid connecting too many devices via USB. The USB bus is a dependable protocol that is ideally suited for digital audio. Nevertheless, it is important to remember that audio and multimedia streaming can place considerable demands on your processor and the USB bus.

If you are having trouble getting audio in or out of your Fast Track, please check the following:

- ▶ Make sure the device is connected via USB at both ends, and that the computer's USB port is providing sufficient bus power (the blue Power LED on Fast Track should be illuminated).
- ▶ If you have no sound, and are using Fast Track as a *class compliant* device (this means using the device with the drivers already built into the computer's operating system), download and install the latest Fast Track drivers for your operating system. If this does not resolve the issue, check to see if the Fast Track drivers are properly installed:
 - In Windows XP, go to the Windows Control Panel and double-click the System icon (under Performance and Maintenance if you are in Category view) and then:
 - Select the Hardware tab and click the Device Manager button.
 - Click the plus sign ("+") next to Sound, Video and Game Controllers, and locate the Fast Track listing.
 - If you see a question mark or exclamation point next to it, or if you do not see it listed, you may need to reinstall the driver software.
 - In Windows Vista, go to the Windows Control Panel, double-click the Device Manager icon, and then:
 - Click the plus sign ("+") next to Sound, Video and Game Controllers, and locate the Fast Track listing.
 - If you see a question mark or exclamation point next to it, or if you do not see it listed, you may need to reinstall the driver software.
- ▶ Make sure your audio software has been configured for use with Fast Track.
 - Open the Sound Control Panel (Windows Vista) or Sounds and Audio Devices Control Panel (Windows XP) and make sure that Fast Track is set as the Default Playback device. On Mac, go to System Preferences > Sound and select Fast Track under the Input and Output tabs.
 - Open your application's audio settings page and check to see if the correct ASIO or WDM drivers (on Windows), or Core Audio drivers (on Mac) have been selected.
- ▶ If you are certain Fast Track is correctly installed and configured for your audio software, check your signal path. Make sure your outputs are routed correctly so that your signal is sent to your headphones, amplifier, or powered monitors. Verify that your recording application is receiving audio signal. If you find that your recording application is not receiving audio signal:
 - Check your audio connections and cables to make sure everything is plugged in correctly.
 - Check the Signal/Clip indicators for each channel to see if input signal is present.
 - If using a condenser microphone that requires phantom power, make sure the Phantom Power switch (14) is set to the "on" position, and that the Phantom Power Indicator LED (48V) is illuminated.

For more troubleshooting tips, visit the Knowledge Base at www.m-audio.com/support

11 Specifications

Microphone Input

max input level	-1.8dBu, min. gain
signal to noise ratio	-102dB, A-weighted, min. gain
dynamic range	102dB, A-weighted, min. gain
THD + N	0.003% (-90 dB) @ 1kHz, -1dBFS, min. gain
frequency response	20Hz to 20kHz, -0.3 / +0.1dB, min. gain
gain range	48 dB
input impedance	6K Ohms (balanced)
crosstalk	< -105dB, 1kHz, channel-to-channel
phantom power	+48V, 10mA max

Guitar Input

max input level	+12dBV, min. gain
signal to noise ratio	-103dB, A-weighted, min. gain
dynamic range	103dB, A-weighted, min. gain
THD + N	0.005% (-86 dB) @ 1kHz, -1dBFS, min. gain
frequency response	20Hz to 20kHz, -0.2 / +0.1dB, min. gain
gain range	40 dB
input impedance	1M Ohms
crosstalk	< -105dB, 1kHz, channel-to-channel

Line Outputs

max output level	+2dBV (monitor off), +8dBV (monitor on)
signal to noise ratio	-105dB, A-weighted, max. gain
dynamic range	105dB, A-weighted, max. gain
THD + N	0.002% (-94 dB), 1kHz, -1dBFS, max. gain
frequency response	20Hz to 20kHz, -0.2 / +0.1dB, max. gain
output impedance	100 ohms
crosstalk	< -110dB, 1kHz, channel-to-channel

Headphone Outputs

max output level	+2dBV at THD < 0.007% into 32 ohms
max output power	48 mW per channel into 32 ohms
signal to noise ratio	-105dB, A-weighted, max. gain
dynamic range	105dB, A-weighted, max. gain
THD + N	0.007% (-83 dB), 1kHz, -1dBFS, max. gain
frequency response	20Hz to 20kHz, -0.2 / +0.1dB, max. gain
output impedance	33 ohms
crosstalk	< -85dB, 1kHz, channel-to-channel, into 32 ohms
headphone impedance	32 to 600 Ohms recommended

12 Warranty Terms and Registration

Warranty Terms

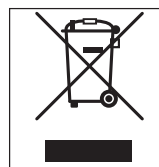
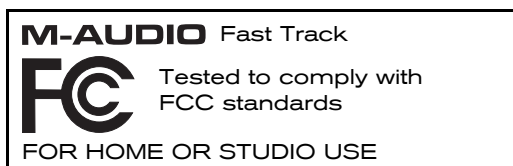
M-Audio warrants products to be free from defects in materials and workmanship, under normal use and provided that the product is owned by the original, registered user. Visit www.m-audio.com/warranty for terms and limitations applying to your specific product.

Warranty Registration

Immediately registering your new M-Audio product 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.

Documentation Feedback

At M-Audio, we are always looking for ways to improve our documentation. If you have comments, corrections, or suggestions regarding our documentation, email us at publications@m-audio.com



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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M-AUDIO
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