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## Introduction

Thank you for purchasing the Sonica by M-Audio. Sonica is your audio upgrade for any PC or Macintosh computer\*, utilizing the convenience of your computer's USB port—no tools, computer disassembly, or power supply is needed. The Sonica brings you true 24-bit 96kHz audio for the highest quality stereo, virtual surround, and multi-channel surround sound available today.

Please take the time to read this User Guide. It will tell you how to install the Sonica on your particular computer and instruct you on how to get the most from your Sonica audio interface.

\* must meet minimum system requirements

## What's in the Box?

The following items are included with your Sonica:

- Sonica audio interface
- One (1) standard USB cable
- Midiman/M-Audio driver CD (includes driver installation software)
- Product manual and warranty card

## Sonica Features

- Portable 24-bit/96kHz audio upgrade for laptops and desktops
- Digital connector for surround sound receiver or MiniDisc
- Analog connector for powered speakers or stereo receiver
- Supports Dolby Digital 5.1 (AC3)®, Dolby Pro Logic®, DTS®, and other encoded multi-channel formats
- Advanced SRS TruSurround XT® technology delivers 5.1 virtual surround sound over stereo speakers, deep bass enhancement, and Dialog Enhancement
- Completely USB-powered (no power supply required)
- One-year warranty

## Technical Features

- USB-to-S/PDIF Optical Out and 1/8" Mini Analog Line Out
- S/PDIF Optical Out can transmit either Linear PCM, or a digitally encoded surround sound signal such as Dolby Digital AC-3 or DTS
- Sonica supports the following output formats: 24-bit Linear PCM; 16-bit Linear PCM; 16-bit AC-3, Dolby Pro Logic, or DTS over optical connector
- Sonica supports the following sampling frequencies (Hz): 8000, 9600, 11025, 12000, 16000, 22050, 24000, 32000, 44100, 48000, 88200, 96000
- Audio Performance Specifications: Dynamic Range: 97 dB (typical, -60 dB input, A-weighted); Signal-to-Noise Ratio: 97 dB (typical, A-weighted); THD+N: -87 dB (typical)

# System Requirements

## **Windows:**

### Minimum:

- 200 MHz Pentium with MMX
- 64 MB RAM
- CD-ROM Drive
- Available USB 1.1 port
- Windows® Me, 2000, or XP

### Recommended:

- 500 mHz Pentium III
- 128 MB RAM
- DVD-ROM Drive and DVD Player application (For Dolby Digital Playback)
- Available USB 1.1 port
- Windows® Me, 2000, or XP

## **Apple Macintosh®:**

### Minimum:

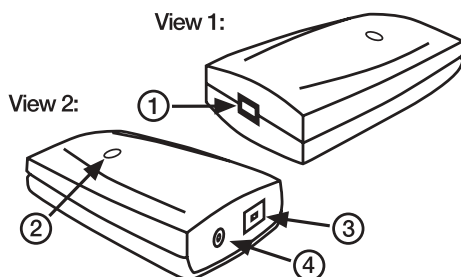
- G3, G4, iBook, or PowerBook with available built-in USB port
- 64 MB RAM
- CD-ROM Drive
- Mac OS 9.2.2 or later
- Mac OS X version 10.1.3 or later

### Recommended:

- G3, G4, iBook, or PowerBook with available built-in USB port.
- 128 MB RAM
- DVD-ROM Drive
- Mac OS X version 10.2. or later (for multi-channel output)

## A Closer Look...

The following is an illustration of your Sonica, with a description of its connectors and components. Please see the section, "Hooking Up Your Sonica," for more information.



1. **USB Connector:** Connect the "device end" of the USB cable that came with your Sonica to this USB connector.
2. **Power LED:** This LED will be lit bright blue when the Sonica receives power from the USB port. This will occur when the Sonica is properly connected to your computer using a standard USB cable (such as the one that was supplied with the Sonica), and that computer is powered ON with the USB port enabled (depending on your computer model, Sonica may receive power from your computer, even with your computer turned off).
3. **Optical Digital Output:** This is a standard optical connector for digital audio (sometimes called a TOSLink connector), and will accept a standard optical digital cable. Either stereo digital audio or digitally encoded surround sound audio may be output from this port. This output comes with a cover that should be removed and can be stored for later use when you are transporting the Sonica.
4. **Analog Line Output:** This 1/8" mini-jack accepts a stereo plug and is the standard for connection with portable audio devices and powered computer speakers. If needed when connecting to a home stereo receiver, you may also obtain a cable with an 1/8" stereo plug on one end, and two male RCA plugs on the other (these are usually red and white, designating right and left side of the stereo signal).

## Software Installation

Your Sonica comes with software that allows it to communicate with your particular operating system and platform (PC or Mac). Please locate the operating system for your computer in this section and follow those instructions. Sonica's "driver" software, which includes the SRS TruSurround XT virtual surround sound software, will load during this installation.

Your Sonica has a USB connector for a standard USB cable, which is supplied with the unit. You may plug the "computer end" of the cable into your computer's USB port. When you are asked to connect your Sonica during the driver software installation, simply plug the "device end" of the USB cable into your Sonica. The "computer end" and "device end" will be easily identifiable by their size and shape.

### Windows XP

1. Place the Sonica Software CD in your CD-ROM Drive.
2. Plug the Sonica into your computer's USB port.



3. The New Hardware Wizard will appear, and state that "This wizard helps you install software for: Unknown." Select, "Install the software automatically (Recommended)." Click "Next."
4. The Hardware Installation window appears with a warning that the driver has not passed Windows Logo testing. Press the button "Continue Anyway."
5. The New Hardware Wizard window appears, stating that, "The Wizard has finished installing the software for: M-Audio Sonica DFU." Click "Finish."

6. The Hardware Installation window appears with a warning that the driver has not passed Windows Logo testing. Press the button "Continue Anyway."
7. After the installation, the M-Audio Sonica Control Panel icon appears in the System Tray of your Windows Taskbar. See section, "Using the SRS TruSurround XT Software" for more information on using this control panel.

Windows XP Installation is now complete.

## Windows 2000

1. Place the Sonica Software CD in your CD-ROM Drive.
2. Plug the Sonica into your computer's USB port.
3. When the New Hardware Wizard appears, click "Next."



4. The New Hardware Wizard will state that "This wizard helps you install software for: Unknown." Select, "Install the software automatically (Recommended)." Click "Next."
5. The New Hardware Wizard will prompt for the location of the driver files. Make sure the box titled "CD-ROM drive" is checked, and click "Next."
6. The New Hardware Wizard will state that it found a driver for the following device: Unknown. Click "Next" to continue.
7. The New Hardware Wizard will prompt that it has finished installing the software for this device. Click "Finish" to continue.
8. The Hardware Installation window appears with a warning that the driver has not passed Windows Logo testing. Click the button "Yes" to continue.
9. The computer must be rebooted to complete the M-Audio Sonica driver installation. Click "Yes" to reboot.
10. After the installation, the M-Audio Sonica Control Panel icon appears in the System Tray of your Windows Taskbar. See section, "Using the SRS TruSurround XT Software" for more information on using this control panel.

Windows 2000 Installation is now complete.

## Windows Me

1. Place the Sonica Software CD in your CD-ROM Drive.
2. Plug the Sonica into your computer's USB port.



3. The New Hardware Wizard will appear, and state that "This wizard helps you install software for: Unknown." Select "Install the software automatically (Recommended)." Click "Next."
4. The New Hardware Wizard will prompt that it has finished installing the software for the "M-Audio Sonica DFU" device. Click "Finish" to continue.
5. The New Hardware Wizard will appear one more time, and state that "This wizard helps you install software for: USB Audio Device." Select "Install the software automatically (Recommended)." Click "Next."
6. The New Hardware Wizard will prompt that it has finished installing the software for the "M-Audio Sonica USB" device. Click "Finish" to continue.
7. After the installation the M-Audio Sonica Control Panel icon appears in the System Tray. See section, "Using the SRS TruSurround XT Software" for more information on using this control panel.

Windows Me Installation is now complete.



## Mac OS 9.2.2

1. Insert Sonica Software CD into your CD-ROM drive. AutoRun will open the CD and allow you to view its contents.



2. Double click the "M-Audio Sonica Installer."
3. Click "Continue" at the M-Powered Screen.
4. Read the "Instructions for using M-Audio Sonica." Click "Continue."
5. Select your install location, or simply choose the OS 9 boot drive (which is the default). Click "Install" to continue.
6. Installation requires a restart of the computer. Click "Continue" to restart.
7. The next prompt states a similar message. Click "Restart" to reboot the computer.
8. Plug the Sonica into your computer's USB Port.
9. Once the computer has restarted, select "Sound" in "Control Panels," then select the "Output" tab. Click on "M-Audio Sonica" to choose the Sonica as your default output device.

Mac OS 9.2.2 Installation is now complete.

## Mac OS X (10.1.3 or later)

1. Insert the Sonica Software CD into your CD-ROM Drive and open the CD to view its contents.
2. Double click "M-Audio Sonica Installer.dmg" file. An Icon will appear on your desktop marked "Sonica."
3. Double click the "Sonica" icon on your desktop.



4. Now double click on the "M-Audio Sonica Installer.mpkg."
5. You will need your Administrator Password for the next step. To continue, click the lock icon in the lower left corner of the window that states, "Click The Lock To Make Changes."
6. Enter your password and click "OK."
7. The next window "Welcomes You..." to the installation process. Click "Continue."
8. Select your OS X hard drive. Click "Continue."
9. When prompted, click "Upgrade" to continue.
10. When prompted, click "Continue Installation."
11. When prompted, click "Restart" to finish the installation.
12. After the computer has restarted, now plug the Sonica into your computer's USB Port.
13. Go to "System Preferences" in the Apple Menu. Select the "Sound" preference panel, and click the "Output" tab. Select "M-Audio Sonica" to choose the Sonica as your default output device.

Mac OS X Installation is now complete.

## Hooking Up Your Sonica

Your Sonica has an 1/8" mini jack. This is an "analog" audio output that you can connect to your powered speakers. You may also connect this output to the stereo analog inputs of a home stereo or surround receiver.

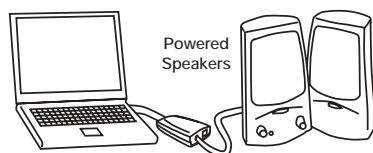
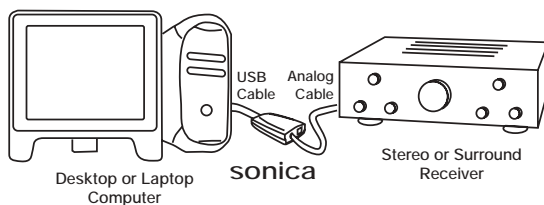
The Sonica also has a standard optical connector. This is a "digital" audio output that that will transmit either a stereo digital audio signal or a multi-channel "surround sound" encoded digital audio signal. You may connect the Sonica's digital output to the digital inputs of a home theater system, stereo receiver with a digital input, surround speakers with a digital input, MiniDisc recorder, or any device that has an optical digital audio input.

**NOTE: When playing a digitally encoded surround sound signal from your Sonica (that is not decoded within your computer), you should listen only to the Sonica's digital output. Listening to the Sonica analog output while playing a digital surround signal will give undesirable results.**

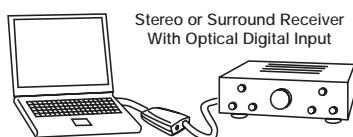
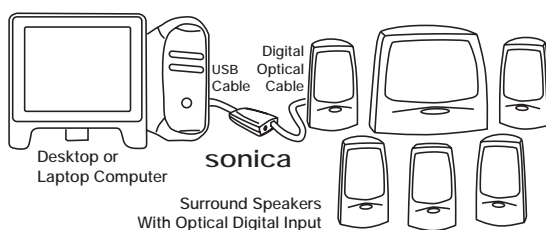
Lastly, your Sonica has a USB connector for a standard USB cable. You may plug the "computer end" of the cable into your computer's USB port. When you connect your Sonica for use with your computer (or during the driver software installation), simply plug the "device end" of the USB cable into your Sonica. These will be easily identifiable by their size and shape.

The diagrams on the next page have been created to give you some examples of how you might connect your Sonica:

## Using Analog Connection:



## Using Optical Digital Connection:



**NOTE:** For those who have a coaxial digital connector rather than optical connector on your surround receiver or other digital device, you may use the C02 Coaxial/Optical Converter from M-Audio to connect your Sonica. The C02 Coaxial/Optical Converter allows you to use an optical digital device with a coaxial digital input, or vice versa. For more information about the C02, go to <http://www.m-audio.com/products/m-audio/C02.php>.

## Using the Sonica with a Software DVD Player

The Sonica will work with any software DVD player. What type of audio signal your DVD player sends to the Sonica depends on the setting in your DVD player software.

Generally, your DVD player software will provide a series of audio setup options or preferences. The exact location of these audio options may vary, so check your DVD player's documentation for more information. It is from these setup options that you will be able to change or direct the audio output of the DVD player.

The choice of audio settings within software DVD players, and the way they are named, will vary and may be limited by the version, or 'level', of your DVD player. The choices within your player's settings may include stereo analog output, S/PDIF output, or 5.1 surround output. Here is a breakdown of how these settings might appear and how they affect the output of the Sonica:

**2 Speaker:** When the Sonica is chosen as your computer's audio device (see sections, "Sonica and the Windows Sound System," and "Sonica and the Macintosh Sound Manager"), this setting will send a stereo signal to the Sonica's outputs.

**Use S/PDIF:** When you have the Sonica digital output connected to the digital input of a surround sound receiver, choose this setting to send the encoded surround signal (Dolby Digital, DTS) to the receiver.

**6 Speaker:** If your DVD player is capable of decoding a surround sound signal, such as Dolby Digital and DTS, and you are listening to a set of stereo speakers or any stereo setup, you may make this selection. Then, in the Sonica Control Panel (see the next section), choose 5.1 Cinema Mode (Windows only). This combination of settings utilizes TruSurround XT to provide the best surround sound simulation from stereo speakers.

**NOTE:** At the time of this writing, Macintosh OS 9 will not allow you to send a digitally encoded surround signal, such as Dolby Digital (AC3) or DTS, from a digital audio port such as the Sonica's optical digital output. Mac OS X is expected to support this capability sometime in the future.

## Using the SRS TruSurround XT™ Software

TruSurround XT is a patented SRS technology that solves the problem of playing 5.1 multi-channel content over two speakers. TruSurround XT delivers a compelling, virtual surround sound experience through any two-speaker playback system. It is fully compatible with all multi-channel formats up to 6.1 channels. To view your M-Audio Sonica Control Panel and the TruSurround XT settings:

**In Windows:** Following the driver software installation in Windows Me, 2000, and XP, you will find an M-Audio logo “M” installed on the right side of your Windows taskbar. Double click on this logo, and you will launch the M-Audio Sonica Control Panel.

**In Mac OS 9:** Following the driver software installation in Mac OS 9 and restarting, the Sonica Control Panel will be placed in your Apple Control Panels folder. Go to the Apple menu, select “Control Panels,” then select “M-Audio Sonica Settings.” This will launch the M-Audio Sonica Control Panel.

**In Mac OS X:** Follow the driver software installation for Mac OS X and restart. Go to the Dock and choose System Preferences. Choose “Other,” and then choose “M-Audio Sonica.” Double click on this, and you will launch the M-Audio Sonica Preference Panel.

Once you have opened your M-Audio Sonica Control Panel, you will be able to make changes according to your needs and your listening preferences. The control panel gives you the option to turn TruSurround XT on and off, using the “Enable TruSurround” checkbox. When you first install the Sonica, this checkbox is checked and TruSurround XT is enabled. If you do wish to turn TruSurround XT off, click in this checkbox and uncheck “Enable TruSurround.”

TruSurround XT incorporates *playback modes* (Windows and Mac OS X only), which are designed to give you the best performance for your particular playback situation. Here is a description of those modes, and when each is best used:

**(Stereo) Music Mode:** This mode is usually used for non-encoded audio such as music and games that are plain stereo. If you’re playing an Internet radio station or music from a normal CD (for instance), then choose this mode. When you first install the Sonica, this mode will be selected for you by default. In this instance, TruSurround XT will engage the SRS “WOW” feature (see below).

**(Stereo) Cinema Mode:** If you are using a DVD software application that only supports a 2-channel output and you wish to play a Dolby Digital or DTS movie (or DTS music CD), then choose this mode. This should also be used for sources that are encoded with Dolby Surround encoding, which is used for almost all 2-channel mix downs of movie content and some games.

**5.1 Cinema Mode (Windows only):** This mode should only be used when the audio from the application or DVD player is providing a 5.1 channel output to the TruSurround XT software—that is, when the software can decode the multi-channel audio (this is usually the case only in “advanced” versions of DVD playback software). In the case of a Dolby Digital movie or game, if supported by the DVD or gaming software, you should select “6 Channel” or “5.1 multi-channel” as the output mode from the application (see section, “Using the Sonica With Your DVD Player”). TruSurround XT will then take this 5.1 output from the Windows application software and provide an accurate 2-channel surround virtualization.

You may adjust the Dialog Enhancement and TruBass settings according to what pleases your ears, or you may leave them as they are. Feel free to experiment with these settings while you are playing a DVD or listening to music. You may turn off these features by clicking the box and unchecking either “Enable Dialog Enhancement” or “Enable TruBass.” The following are descriptions of these additional SRS TruSurround XT™ controls and features:


**SRS Dialog Enhancement:** Playback of dialog often suffers because feature film soundtracks are mixed specifically for cinema playback and are loaded with the latest advancements in special audio effects. When translated over home theater or computer systems, dialog may become unintelligible. This patented SRS algorithm enhances signal clarity to address these problems, thus improving dialog intelligibility from all such source material.

**TruBass:** TruBass is a patented SRS technology that enhances bass performance utilizing proprietary psychoacoustic techniques. These techniques restore the perception of fundamental low frequency tones by dynamically augmenting harmonics, which are more easily reproduced by contemporary loudspeakers. Using TruBass, TruSurround XT takes the bass information contained within the original audio track and helps the speakers or headphones recreate it – even if it is below the speaker’s low frequency limitations.

**WOW:** WOW is an award winning stereo enhancement technology that significantly improves the performance of stereo (non-surround sound encoded material) signals through any two-speaker system. It extends the sound image in both the horizontal and vertical planes well beyond the speakers themselves. In addition, WOW incorporates TruBass and SRS Dialog Clarity Enhancement. When TruSurround XT accepts a stereo signal, WOW is enabled for a better listening experience.

Finally, you may optimize TruSurround XT for your particular speaker system. TruSurround XT will give you the best bass response according to the size of your speakers, so take a quick look at your speakers and “size them up.” Then, under the section “Speaker Size,” drop down the list of selections.

Generally speaking, larger speakers produce lower frequencies. When using large speakers or ones with a subwoofer, using the lower Hz selections between 40Hz and 150Hz usually produce the best results. The setting of “Small 250Hz” should work well for most computer speakers (or “Small 100Hz” if using a subwoofer), though some experimentation won’t hurt at all. For each category of speaker size, Small, Medium and Large, you will see several “cutoff frequencies” shown in “Hz.” Again—the larger your speakers are, the more ability they will have to handle the lower cutoff (bass) frequencies.

TruSurround XT™ and the  symbol are trademarks of SRS Labs, Inc. TruSurround XT technology is incorporated under license from SRS Labs, Inc.



## Sonica and the Windows Sound System

The Sonica's Windows Multimedia drivers will allow you to use the Sonica as your Windows system sound device. If the Sonica is the only audio device installed in your computer, then Windows will "select" it automatically. Otherwise, you may need to tell Windows to use the Sonica. To check your Windows Audio setting and select the Sonica:

1. Go to the Start menu, and then choose Control Panel.
2. Open "Sounds and Audio Devices," then click the "Audio" tab.
3. Under "Sound playback," the default device should say "Sonica." If it does not say Sonica, then drop down the list of devices and select "Sonica."
4. Click Apply, then click Okay. Close your Control Panel—you're done!

## Sonica and the Macintosh Sound Manager

The Macintosh Sound Manager in OS 9 will allow you to select the Sonica as the system's audio output device. To check your computer's audio output setting and select the Sonica:

1. Open the Apple menu, then select "Sound" from the Control Panels list.
2. Under Output, select the "Sonica" from the list of available devices.
3. Close the Apple Sound control panel. You're done!

## Sonica and Macintosh OS X

Macintosh OS X will allow you to select the Sonica as the system's audio output device. To check your computer's audio output setting and select the Sonica:

1. Go to "System Preferences" in the Apple Menu.
2. Select the "Sound" preference panel, and click the "Output" tab.
3. Select "M-Audio Sonica" to choose the Sonica as your default output device.

## Contact Information

For additional help, contact Midiman/M-Audio Technical Support by telephone (626-445-7556, 9-5 PST M-F), by fax (626-445-8407) or by e-mail ([support@m-audio.com](mailto:support@m-audio.com)).

## Sonica Warranty

MIDIMAN/ M-AUDIO warrants this product, under normal use, to be free of defects in materials and workmanship for a period of **One (1) Year** from date of purchase, so long as: the product is owned by the original purchaser, with proof of purchase from an authorized MIDIMAN dealer and, the product has been registered to the original purchaser, the purchaser having returned to MIDIMAN the completed product warranty card. This warranty explicitly excludes power supplies and included cables which may become defective as a result of normal wear and tear.

In the event that MIDIMAN receives, from an original purchaser and within the warranty coverage period, written notice of defects in materials or workmanship, MIDIMAN will either replace the product, repair the product, or refund the purchase price at its option. In the event repair is required, shipment to and from MIDIMAN and possible nominal handling charges shall be born by the purchaser. In the event that repair is required, a Return Authorization number must be obtained from MIDIMAN. After this number is obtained, the unit should be shipped back to MIDIMAN in a protective package with a description of the problem and the Return Authorization clearly written on the package.

In the event that MIDIMAN determines that the product requires repair because of user misuse or regular wear, it will assess a fair repair or replacement fee. The customer will have the option to pay this fee and have the unit repaired and returned, or not pay this fee and have the unit returned un-repaired.

The remedy for breach of this limited warranty shall not include any other damages. MIDIMAN will not be liable for consequential, special, indirect, or similar damages or claims including loss of profit or any other commercial damage, even if its agents have been advised of the possibility of such damages, and in no event will MIDIMAN's liability for any damages to the purchaser or any other person exceed the price paid for the product, regardless of any form of the claim. MIDIMAN specifically disclaims all other warranties, expressed or implied. Specifically, MIDIMAN makes no warranty that the product is fit for any particular purpose.

This warranty shall be construed, interpreted, and governed by the laws of the state of California. If any provision of this warranty is found void, invalid or unenforceable, it will not affect the validity of the balance of the warranty, which shall remain valid and enforceable according to its terms. In the event any remedy hereunder is determined to have failed of its essential purpose, all limitations of liability and exclusion of damages set forth herein shall remain in full force and effect.



