Rio One User Guide

About the User Guide

The Rio One User Guide includes the following information:

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[Frequently asked questions (FAQ) and troubleshooting](#)

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To learn more:

- Refer to the Getting Started Guide for the basics on how to set up and start using your Rio One.
- Click the RealJukebox or iTunes software Help menus for detailed instructions on how to use the software to convert CD tracks into compressed digital audio formats, get audio from the Internet, or transfer tracks to your Rio One.
- Visit the [Rio Web site.](#)

Navigating and printing the Rio User Guide

The Rio One User Guide is in Adobe Acrobat (.PDF) file format.

> **Important: We strongly recommend that you use Adobe Acrobat version 4.0—available on the Rio software CD—to view the Rio One User Guide.**

Click [links](#) (blue underlined text) to jump to another location in the document or to a location on the World Wide Web.

Click the Index icon at the top right corner of any page (by the page number) to go to the index. Click page numbers in the Index to jump to a topic.

Using Acrobat toolbar icons

Click the Show/Hide Navigation Pane icon in the Acrobat toolbar to show a list of bookmarks. Bookmarks are links to the contents of the User Guide. Click any bookmark to jump to the page in the User Guide that contains the topic.

Click the Print icon in the Acrobat toolbar to print the User Guide. The size of the User Guide is optimized for printing.

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Introduction

The Rio One provides the ultimate listening experience while you exercise, commute or relax. Create and mix your favorite selections on your PC or Mac for playback on your Rio One. Your player is similar in function to a portable cassette or CD player. However, it has no moving parts, so it delivers skip-free music under any conditions. It is about the size of an audio cassette or pager and weighs only a few ounces.

The Rio One interfaces with your computer through the USB port. Use the software included on the CD to:

• Organize digital audio tracks on your computer.

• Organize and download tracks to your Rio One.

• Record (encode) your audio CDs.

• Search for tracks on your computer or on the Internet.

In addition, there are many cool accessories you can purchase separately to customize your Rio. Visit the Rio Web site for information about accessories for your Rio One.

Sources on the Internet for digital audio content include:
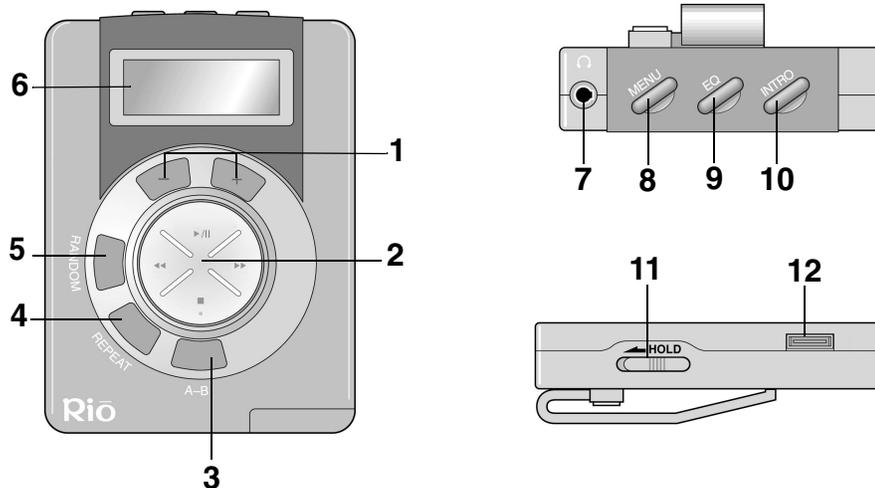
Riohome.com

WindowsMedia.com

Using your Rio One

Using buttons and controls

Using external flash memory expansion cards

This section explains what you need to know about your Rio's buttons and controls.

1   **+** and **- (Volume)**: Press **+** to increase the volume; press **-** to decrease the volume. Volume level ranges from 0-20.

2   Playback control button includes (clockwise from top) **Play/Pause/Power On ▶ / II** , **Forward ▶▶**, **Stop/Power Off ■** , and **Reverse ◀◀** .

   - ▶ **/ II** : Press once to turn on the Rio and begin Play; press again to pause the current track.

   - ▶▶ : Press and hold to move forward within the current track; press and release to skip to next track.

   - ■ : Press once to stop playback; press again to turn the Rio off.

   - ◀◀ : Press and hold to move backward within the current track; press and release to skip to the start of the current track.

   Note: To preserve battery life, the Rio One turns itself off after a few minutes of no activity.

3   **A-B**: Marks a selection within a track for repeated playback. Press once to start (A-B symbol displays with "B" blinking); press again to complete selection ("B" stops blinking); press again to cancel.

4   **Repeat**: Press once to repeat the current track; press again to repeat all tracks; press again to cancel.

5 **Random**: Press to mix the play order of all tracks. Press again to cancel.

6 **LCD**: Liquid crystal display. The LCD shows the following information (clockwise from the upper right):
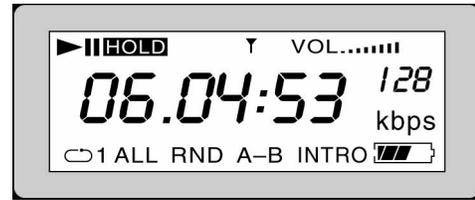
Rio One display

- **Volume level**. The bar graph disappears as volume is reduced and reappears as volume is increased. Volume level ranges from 0-20.

- **Track encoding rate**. A higher number indicates higher quality audio output measured in kilobits per second (kbps). See the **Understanding digital audio terms** section later in the User Guide for more information on track encoding bitrate.

- **Battery charge level**. The illustration shows one half battery life remaining. All black indicates a fully charged battery.

- **Intro** mode indicator. When displayed, the first 10 seconds of each track are played.

- **A-B**. Displays if A-B mode is selected.

- **Random**. Displays if Random play mode is selected.

- **Repeat 1/All**. Displays if Repeat:Current Track or Repeat:All Tracks is selected.

- **Track number.time counter**. Displays track number and time count of the current track.

- **Play/Pause**. Play arrow or vertical Pause displays depending on the current mode.

- **Hold**. Displays when the Rio is powered on and set to Hold mode.

- **Download icon**: Displays when the Rio One is connected to the computer.

7 **Headphone connector**: Plug your headphones into this port on top of the Rio.

8 **Menu**: In **Stop** mode, press **Menu** to monitor internal and external flash memory and firmware version. Press ▶▶ to display total internal memory (Ti), total external memory (Te), and then firmware version number. Press **Menu** again to hide the display.

9 **EQ**: Press to change equalization (EQ) settings. There are four EQ settings to choose from:

- Normal.

- Classic.

- Jazz.

- Rock.

10 **Intro**: Press to play the first 10 seconds of each track.

11 **Hold**: Slide to temporarily lock the buttons on your Rio. This is a useful feature during activities when the Rio buttons can be bumped, for example, while exercising.

12 **USB connector**: Plug the USB cable into this connector.

   Note: Do not connect your Rio to the computer before you install the software. This can disrupt the normal installation process.
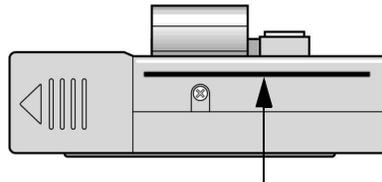
Using external flash memory cards

You can expand your Rio's memory with 3.3 volt external flash memory cards.

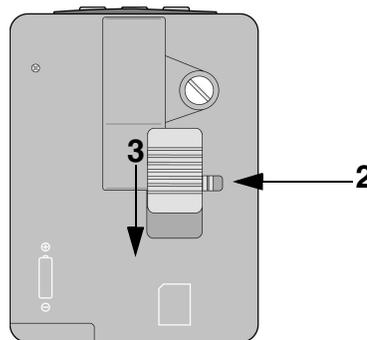   **Note: Do not use 5 volt cards—they are not compatible with the Rio.**

Inserting external flash memory cards

1 Make sure your Rio is powered **OFF**.

2 Insert a 3.3 volt external flash memory card into the port on the bottom of the Rio.

Ejecting external flash memory cards

1 Make sure your Rio is powered **OFF**.

2 Release the flash memory lock.

3 Push the eject slide with your thumb.

Using the Rio software

Using RealJukebox

RealJukebox audio management software is included on the software CD. Use RealJukebox to:

- Organize digital audio tracks on your computer.
- Organize and download tracks to your Rio One.
- Record (encode) your audio CDs.
- Search for tracks on your computer or on the Internet.

To learn more about using RealJukebox, from within the software:

- Click the **Help** menu, or
- Click the **Home** button, scroll down to **Real Jukebox Help**, and select **Using Real Jukebox** and/or **Frequently Asked Questions.**

Record (encode) your audio CDs

Find tracks on your computer or on the Web

Organize your tracks

Highlight tracks and
- play on your computer
- organize into playlists
- copy to your Rio
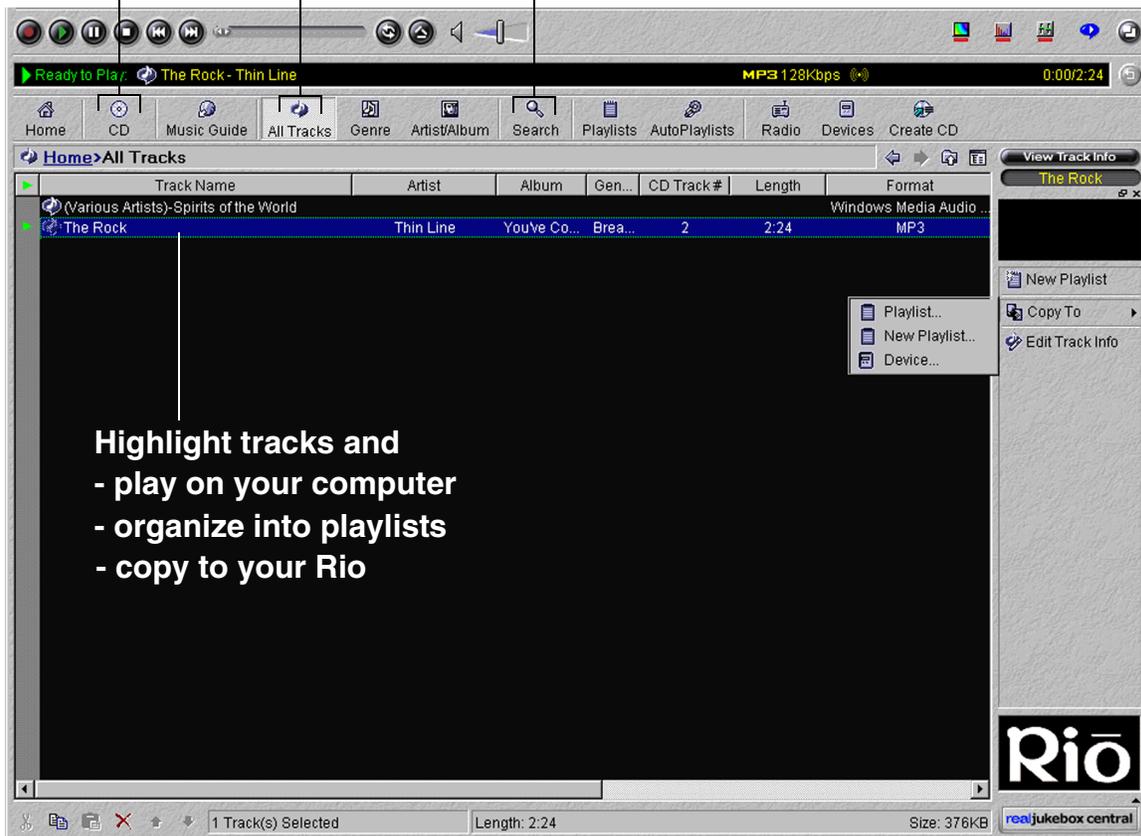
Copying tracks to your Rio

1 Plug the USB cable into the USB port on your Rio.

2 Plug the other end of the cable into the USB port on your computer.

3 Click the **All Tracks** button on the Real Jukebox software.

4 Click the desired track(s).

5 Click the right mouse button and select **Copy to Device** or click **Copy to > Device** in the right column on the window. Click **OK** on the dialog box.

6 Click **Copy Files** in the right column on the window.

Encoding a CD

1 Put an audio CD in your computer's CD-ROM drive.

2 Click the **CD** button.

3 The software prompts you and fills in track titles and other information via the Gracenote CDDB Web site.

4 Check the desired track(s)—click the check box to the left of the song title or click **Check All** in the right column on the window.

5 Recording begins...use the convenient playback controls at the top of the window to record, play, pause, and so on.

Using iTunes (Mac)

iTunes music software takes the confusion out of managing your personal music collection. iTunes turns your Mac into a powerful digital jukebox, complete with easy-to-use tools for recording music from audio CDs (simply insert a CD to import music to MP3s), searching and browsing your entire collection, managing playlists, downloading songs to your Rio One, and listening to Internet radio stations.

For more information, visit the iTunes Web site.

To copy to your Rio: Drag files from your iTunes library or playlists to the player icon

Full text search: Type in this field to search

Create playlists of your favorite songs

Digital audio terms

ADPCM

Adaptive Differential Pulse Code Modulation (ADPCM), is a form of pulse code modulation (PCM) that produces a digital signal with a lower bit rate than standard PCM. The Rio 800 uses ADPCM for voice recording. ADPCM produces a lower bit rate by recording only the difference between samples and adjusting the coding scale dynamically to accommodate large and small differences.

Bitrate

Bitrate denotes the number of bits per second used to represent an audio signal. The size and quality of a digital audio file is determined by the bitrate used when encoding the file. The higher the bitrate used, the higher the sound quality and the larger the file size. For example, with MP3, a bitrate of 128k is usually very close to CD quality, and takes up about 1MB per minute of music. At a 64k bitrate, the sound quality is similar to that of an FM radio signal, but you can get around two minutes of music in that same 1MB of storage space.

CDDB

See Gracenote.

Codec

Depending on the context and kind of technology involved, codec can be defined in two ways. In telecommunications, a codec is usually a "coding/decoding" chip used to translate between digital and analog transmissions. A modem uses one to interpret incoming analog signals and converts the digital data stream coming from the computer into analog. Codec is also defined as a compression/decompression algorithm. Codecs are used to compress audio data into a file, often for efficient transmission over a network, and then decode it for playback.

The Rio One supports the following digital audio file codecs:

- MP3
- WMA

DRM, security

Digital Rights Management (DRM) technologies protect copyright ownership of digital information. DRM became an issue with the rise of MP3 technology and Internet distribution of music. DRM platforms serve as a security "wrapper" around digital audio supporting Internet distribution while at the same time protecting and managing rights related to that digital information.

Encoding, or Ripping (a CD)

Encoding, or "ripping", refers to converting an audio file from an audio CD into a compressed digital audio format, such as MP3 or WMA, that can be played on the Rio or on the computer.

Firmware

Firmware is software–programs or data–that has been written onto read-only memory (ROM). Firmware is a combination of software and hardware that is comparable to an operating system on a computer. The Rio firmware controls everything from the liquid crystal display and codec support to the Rio's other functions.

How to upgrade the Rio firmware

Gracenote

Gracenote, formerly known as the CD Database (CDDB), is a vast database of CD information that includes artist, disc name, song title, and other information. Gracenote supports hundreds of third party software CD players. Software programs use a CDs serial number to search the Gracenote Web site for CD information. Access to the Gracenote service is offered free of charge to end-users. Visit the Gracenote Web site for more information.

MP3

MPEG-1, Layer 3 Audio (MP3) is a compressed digital audio file format. This format allows for near CD quality sound, but at a fraction of the size of normal audio files. MP3 conversion of an audio track from CD-ROM reduces the file size by approximately a 12:1 ratio with virtually no loss in quality. This digital sound encoding and compression process was developed by the Fraunhofer Institut fur Integrierte Schaltungen and Thomson Multimedia. MP3 uses perceptual audio coding and psychoacoustic compression to remove the redundant and irrelevant parts of a sound signal that the human ear doesn't hear. It also adds a Modified Discrete Cosine Transform (MDCT) that implements a filter bank, increasing the frequency resolution 18 times higher than that of layer 2. The MP3 encoding process is well suited for the transfer of high quality audio files with small file size over the Internet.

Playlist

Playlists let you organize lists of tracks to play in the order you choose. Playlists make it easier to manage large collections of music.

SDMI

The Secure Digital Music Initiative (SDMI) is a forum of over 130 companies in the fields of recorded audio content, computers, and consumer electronics, for the purpose of developing an integrated method of copyright protection technology that can be used worldwide. SDMI is working to create a framework for preventing improper usage of audio files and to promote legal music distribution services.

Skin

The skin is the software option that determines how digital audio player software applications appear on your computer screen. Some applications allow you to customize the color and window design of your software by changing the skin. Some skins omit certain playback controls for simplicity.

USB

Universal Serial Bus (USB) is the external bus standard that supports data transfer rates of 12 Mbps (12 million bits per second). The Rio uses USB to communicate with the computer. A single USB port can be used to connect up to 127 peripheral devices, such as mice, modems, and keyboards. USB also supports Plug-and-Play installation and hot plugging. It is expected to completely replace serial and parallel ports.

WMA

Windows Media Audio (WMA) is the compressed audio format created by Microsoft as an alternative to MP3. WMA may replace MP3 since it offers greater file compression—twice that of MP3—at the same or better sound quality, enabling you to store twice as much music on your PC or Rio.

FAQ & troubleshooting

How do you put music on the Rio?

The Rio interfaces with your computer through the USB port. You can get digital audio from numerous Internet sites or encode your own digital audio tracks from your audio CDs using the CD-ROM drive on your computer. Use the software included with the Rio to get audio from the Internet, encode tracks from your audio CDs, or download tracks to your Rio.

How much music will my Rio hold?

> Note: Due to different software compression algorithms, the following information may vary slightly depending on what software you are using and what program the MP3 was created by.

To determine how much play time your Rio actually has, use the following equation:

Rio Play Time = $M / (S \times 0.439)$

where:

M=Rio memory size in MB (32MB, 64MB, 128MB, and so on).

S=Sampling Speed in kbps (128kbps, 80kbps, and so on).

The higher quality the MP3, the larger its size, causing it to take up more room on your Rio's memory.

The following bitrates are supported:

- 256 kbps, CD Quality, 5.6:1 reduction.
- 192 kbps, CD Quality, 7.5:1 reduction.
- 160 kbps, CD Quality, 9:1 reduction.
- 128 kbps, CD Quality, 11.25:1 reduction.
- 96 kbps, Near CD, 15:1 reduction.
- 80 kbps, Near CD, 18:1 reduction.
- 64 kbps, FM Radio, 22.5:1 reduction.

What are the differences between MP3 and WMA?

If you use the WMA format instead of the MP3 format, you can have the same quality at about one half the size. For example, a 64 kbps WMA sounds as good as a 128 kbps MP3. Since WMA offers CD quality at half the file size of MP3, it enables you to store twice as much music on your PC or Rio. WMA files are not Mac compatible.

Can I use the Rio with Windows 95? I have the USB supplement pack.

No. The Rio USB devices can only be used with Windows 98, Windows ME or Windows 2000 operating systems, or Mac OS 9.0.4 or later with a built-in USB port. The Rio requires a newer standard of USB that is not available in Windows 95, even with the USB supplement pack.

The Rio is connected to the USB, why doesn't the computer recognize it?

First, make sure the Rio software is running and check to make sure the USB cable is fully connected to both the Rio and the computer. You can also try unplugging the USB cable and plugging it back in.

Where is the serial number located on the Rio?

The serial number (S/N) is on the back of the Rio.

The AA battery inside my Rio drains even if I haven't used it for a while. What causes this?

The Rio player always uses some battery power. When Rio is turned "off," it actually is in a low-power mode. If you know you will not use Rio for a while, remove the AA battery to preserve its charge.

Can I use any flash memory card to increase my Rio's memory?

No. The Rio One only uses a 3.3 volt (v) flash ROM memory card. Do not use 5v cards. You can purchase flash memory cards for your Rio player online from the Rio Web site. Flash memory cards can also be purchased from retail electronic stores.

What brand replacement alkaline batteries do you recommend?

Your Rio One is powered by one AA size alkaline battery (included). Your Rio will run longer and perform best when using a good quality battery. Poor quality or leaking batteries can damage the Rio One. The following brands of replacement batteries are approved for use with the Rio One:

- Energizer AA size alkaline.
- Duracell Ultra AA size alkaline.

What does the Rio Hold feature do?

The **Hold** feature on the Rio locks all buttons and controls except the Power switch. **Hold** is useful at times when the Rio may be bumped, for example, when exercising.

How do I upgrade the Rio firmware?

Checking your Rio's firmware version

> **Important: First determine the version of the firmware installed on your Rio. Do not "downgrade" your Rio firmware by installing an older version.**

1 Press the **Menu** button.

2 Press the ▶▶ button.

3 The firmware version the Rio is using displays.

Downloading the firmware upgrade from the Rio Web site

1   Go to the [Rio Web site](#)

2   Click the **Support** link.

3   Navigate to the Rio Technical Support Updates page.

4   Select and download the latest **Rio One xxxx.exe (PC)** or **Rio One Update xxxx (Mac)** firmware upgrade file to your computer.

Upgrading the Rio firmware—PC

Important: Quit all other applications before running the firmware upgrade. While running the firmware upgrade, do not close the program, turn off the Rio or unplug the USB cable.

1   Connect the Rio to the computer with the USB cable.

2   Double-click the **Rio One xxxx.exe** firmware upgrade file. The RioFlasher window displays.

3   Click the **Upgrade Now** button on the RioFlasher window.

4   Click Yes.

5   When the upgrade is complete, a check of the firmware version displays the new number.

Upgrading the Rio firmware—Mac

Important: Do not close the program, turn off the Rio or unplug the USB cable during the upgrade.

1   Press the ▶ / II button to turn your Rio **On**.

2   Connect the Rio to the computer with the USB cable.

3   Double-click the iTunes icon.

4   Select the Rio player icon.

5   Click the **Options** button on the iTunes window. The Rio Settings window displays.

6   Click the **Upgrade Firmware** button in the Rio Settings window.

7   Choose the **Rio One Update xxxx** firmware upgrade file.

8   Click the **Open** button.

9   When the upgrade is complete, a check of the firmware version displays the new number.

Why do I get an error when I click Read a CD to start the encoding process?

The following factors may interfere with the CD encoding process:

1   Over-utilization of the CPU during the encoding process. Close all other software before encoding.

2   Insufficient RAM to cache the track properly. Generally, 64 MB is fine if no other memory intensive application is running. Close all other software before encoding. Windows 98 uses about 15-20 MB of RAM at startup depending on what applications you have running.

3   CD-ROM firmware. Even if a CD-ROM drive is new, it may require a firmware update from the manufacturer to correct audio extraction errors.

4   Overclocking. Overclocking the system—running it faster than it is rated to run—can have adverse effects on the peripheral components. If your system is overclocked, bring it back to its normal operating speed.

How can I get the best sound quality when encoding from a CD?

If you use a significant amount of your computer system's resources with other applications, encoding songs from a CD can result in poor quality recordings. If the song(s) you encode contain abnormalities, such as pops or skips, close down other applications which are running and encode those songs again. The condition of the audio CD—scratches and so on—can affect the quality of the recording as well.

Warranty information

One Year Limited Warranty

Our warranty to you

SONICblue Incorporated warrants that your product will be free from defects in materials and workmanship for a period of one year from the date of original retail purchase. If you discover a defect covered by this warranty, we will repair or replace the product at our option using new or remanufactured components. SONICblue Incorporated's liability is limited solely to the repair or replacement of the defective product. This warranty is extended to the original end user purchaser only and is not assignable or transferable to any other party. Any parts or boards removed in the replacement or remanufacture process shall become the property of SONICblue Incorporated. Out of warranty service may also be available for a fee.

How to obtain service under this warranty

To obtain service under this warranty, please contact the dealer from whom you purchased this product or call the SONICblue Incorporated Customer Care Center at (541) 967-2450 for return instructions.

Customer Care hours of operation are:

- Monday through Friday 5am-7pm, PT.
- Saturday 8am-4pm, PT.

You must deliver the product and the original sale receipt to either the dealer from who you purchased this product or to SONICblue Incorporated in order to obtain service under this warranty. If you return the product to us, you must pay for shipping to SONICblue Incorporated.

Product failures not covered by this warranty

This warranty covers defects in manufacture that arise from correct use of the device. It does not cover damage caused by abuse, misuse, improper modification or repair, moisture, extreme heat or cold, corrosive environments, shipping, or high voltage surges from external sources such as power line, telephone line, or connected equipment. This warranty does not cover wear and tear on covers, housing or wiring. This warranty also does not apply to any product with an altered or defaced serial number.

How to obtain out of warranty service

To obtain out of warranty service, please contact the SONICblue Incorporated Customer Care Center at (541) 967-2450 (see above for hours of operation).

Out of warranty service is provided for owners of Rio One Personal Digital Music Players who:

- Are unable to provide valid proof of purchase for their Rio Personal Digital Music Player.
- Require repair service after the expiration of the original warranty.
- Require service for product failures not covered under the SONICblue Incorporated warranty on this product.

Out of warranty service is limited to the Personal Digital Music Player only and is not available for headphones, memory cards or other accessories.

The fee for out of warranty repairs is payable by credit card at the time the service agreement is created and Return Authorization provided. This fee includes all labor, parts needing replacement, and return shipping.

You must deliver the product to SONICblue Incorporated in order to obtain out of warranty service. You must pay for shipping to SONICblue Incorporated. It is recommended that you use a shipping service providing you with tracking capability, because we will not be responsible for items lost in the mail. A Return Authorization number is required for all shipments to SONICblue Incorporated. Please contact our Customer Care Center for more information or to arrange for out of warranty service.

Limits of liability

We are only responsible for the repair of this product. We will not be liable to you or anyone else for any damages that result from the failure of this product or from the breach of any express or implied warranties. These include damage to other equipment, lost data, lost profits, or any consequential, incidental, or punitive damages. In no event will SONICblue Incorporated be liable for any amount greater than the currently suggested retail price of this product.

This written warranty represents the entire warranty agreement between SONICblue Incorporated and you. This warranty is given in lieu of all other warranties, express or implied, including without limitation implied warranties of merchantability and fitness for a particular purpose. This warranty is limited to the term specified above. No warranties, either express or implied, will apply after this period. This warranty may not be altered in any way other than in writing by an officer of SONICblue Incorporated. This warranty gives you specific legal rights and you may also have other rights, which vary, from state to state. Some states limit what warranties may be excluded as well as how long an implied warranty lasts, so the above limitation may not apply to you.

Regulatory information

Federal Communications Commission (FCC)

The device has been tested and found to comply with limits for a Class B computing device according to the specifications in FCC rules Part 15. Operation is subject to the following two conditions:

1   This device may not cause harmful interference, and

2   This device must accept any interference received, including interference that may cause undesired operation.

If your device needs repairs, you must arrange for the manufacturer to make them if you are to keep the device's FCC registration valid. This equipment, like other electronic equipment, generates and uses radio frequency energy. If not installed and used according to the instructions in this manual, this equipment may cause interference with your radio and television reception. If you think this equipment is causing interference with your radio or television reception, try turning the equipment off and on. If the interference problems stop when the equipment is switched off, then the equipment is probably causing the interference. You may be able to correct the problem by doing one or more of the following:

•   Adjust the position of the radio or TV antenna.

•   Move the device away from the radio or TV.

If necessary, consult your dealer or an experienced radio or television technician. You may find this booklet helpful: "How to Identify and Resolve Radio and TV Interference Problems" (Stock No. 004-000-00345-4), prepared by the FCC and available from the U.S. Government Printing Office, Washington, DC 20402. See individual devices for FCC ID and registration numbers.

Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Customer care

Technical support

Hours of Operation
Monday-Friday 5am-7pm PT

Saturday 8am-4pm PT

Email
customersupport@riohome.com

Telephone
New product support
(541) 967-2450

TDD
(541) 967-2451

Fax
(541) 967-2401

Web site
www.riohome.com

Solution Library

Customer service

Hours of Operation
Monday-Friday 6am-5pm PT

Email
customersupport@riohome.com

Telephone
1-800-468-5846 or (541) 967-2450

Fax
(541) 967-2485

Rio Product Support

With every Rio product you receive the following support services:

- Unlimited access to the Rio web-based technical information resources, available 24 hours a day every day at www.riohome.com. Here you will find FAQ files, a knowledge-base search engine, product updates, and other useful tools.

- Unlimited e-mail support for the duration of your Rio product hardware warranty period.

- Access to the latest software updates and enhancements for Rio product via our Web site.

New Product Support

In addition to the services mentioned above, all retail purchasers of Rio products receive person-to-person telephone support for the first 90 days of ownership.

Extended Service Option

To extend support after the expiration of New Product Support, we offer an affordable, fee-based, Extended Service Option. Please see the [Web site](#) for details.

Premium Support Service

Have a tough question and no time to wait? Rio also offers a Premium Support service. No hold time and your call is routed directly to our most experienced support technicians. This service is available at a low per minute fee whether your Rio product is in warranty or not. (You must be 18 years or older or have your parent's permission to use this service). Please see the [Web site](#) for details.

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