Rio 800 User Guide

About the User Guide

The Rio 800 User Guide includes the following information:

[Introduction](#)

[Using your Rio](#)

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[Using the Rio software](#)

[Understanding digital audio terms](#)

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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.
- Click the RealJukebox, AudibleManager, or SoundJam software Help menus for detailed step-by-step 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.
- Visit the [Rio Web site](#)

Navigating and printing the Rio 800 User Guide

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

> **Important: We strongly recommend that you use Adobe Acrobat Reader version 4.0—available on the Rio software CD-ROM—to view and print the Rio 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 of any page (by the page number) to go to the index—or you can click the Index bookmark. 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 in the list 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.

Legal notices

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Introduction

The Rio 800 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. 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. Plus, the convenient rechargeable battery and voice recording option make the Rio 800 the premier digital audio player. The Rio interfaces with your computer through the USB port. Use the software included on the CD-ROM to:

- Organize digital audio tracks on your computer.
- Organize tracks on your Rio.
- Record (encode) your audio CDs.
- Search for tracks on your computer or on the Internet.
- Create a custom CD-ROM—if you have CD burning hardware and your computer supports it.

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

Sources on the Internet for digital audio content include:

Riohome.com

WindowsMedia.com
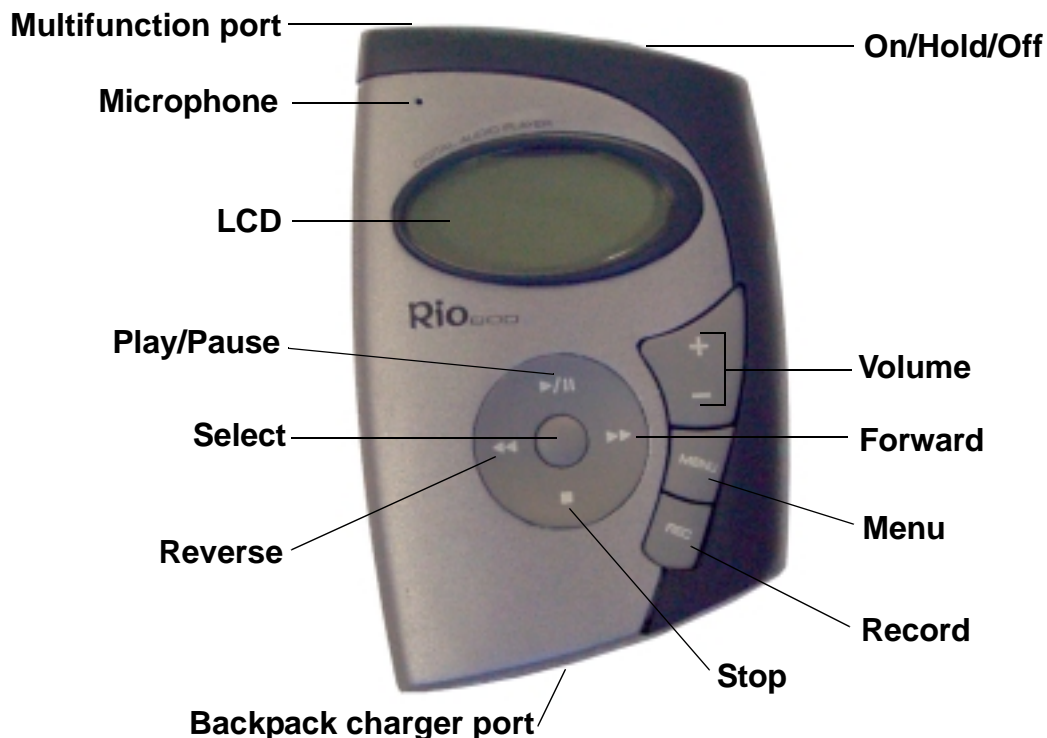
Audible.com—for spoken audio

Using your Rio

This section explains what you need to know about:

[Using Rio buttons and controls](#)

[Using the rechargeable backpack](#)

Multifunction port

Microphone

LCD

Play/Pause

Select

Reverse

On/Hold/Off

Volume

Forward

Menu

Record

Stop

Backpack charger port

Using Rio buttons and controls

- **Select**: The center navigation button. In play mode, press and hold **Select** for about two seconds to jump to a list of tracks you can pick from to play. To set a bookmark, press **Select** while the Rio is in pause mode. In menu mode, press **Select** to choose a menu or dialog option.

- ▶/❙❙ : Play/Pause; the top navigation button. In play mode, press ▶/❙❙ once to play a track; press it again to pause. When paused, the play/pause icon appears as two blinking vertical bars on the LCD. If your Rio is left in Pause mode for an extended period of time, it goes into sleep mode to conserve battery life. Press ▶/❙❙ to wake your Rio from sleep mode. In menu mode, press ▶/❙❙ to navigate up through menu options.

- ■ : Stop; the bottom navigation button. In play mode, press ■ to stop playing the current track. Press and hold ■ for about two seconds to put your Rio into sleep mode to conserve battery life. In menu mode, press ■ to navigate down through menu options.

- ▶▶ : Forward; the right navigation button. In play mode, press and release ▶▶ to skip to the next track on your Rio. Press and hold ▶▶ to fast-forward through the track currently playing. In menu mode, press ▶▶ to navigate through menu options.

- ◀◀ : Reverse; the left navigation button. In play mode, press and release ◀◀ to skip to the beginning of the track currently playing on your Rio. Press and hold ◀◀ to fast-rewind through the current track. In menu mode, press ◀◀ to navigate through menu options.

- **Menu**: Press the **Menu** button to display the Rio menu options. Press ▶/❚❚ , ▶▶, ◀◀, and ■ to navigate through menu options. Press **Select** to choose a menu option. Generally, pressing **Menu** while in menu mode before saving any changes returns the Rio to play mode without saving.

- **Rec**: The Record button on the Rio. Press **Rec** to display the Recorder options menu, where you can choose to record your voice or play a recording. See the section on Recording and Playing Voice for instructions and more information.

- **Liquid Crystal Display (LCD)**: In play mode, the LCD provides the following information—clockwise from the right:

Track name
MP3 128kbps 3.6M
Album name / artist name ▶
TRK 1/15   VOL 09 ████   04:58

  - Play/Pause icon: Displays either a **Play** icon (triangle) or a **Pause** icon (two vertical bars), to show the current action of the Rio.

  - Divider line: Graphically organizes the display.

  - Current song position: Displays the play location in the current track in minutes:seconds (mm:ss) form. For Audible content the display includes hours (hh:mm or hh:mm:ss).

  - Volume level: Displays the volume setting in both digital and graphic form. The bar-graph disappears as volume is reduced and re-appears as volume is increased. Volume level ranges from 0-20.

  - Track display: Displays the number of the currently selected track and the total number of tracks on your Rio. If a playlist is active, the track count shows the number of tracks in a playlist.

  - Album name/artist name: Album name displays in this field for a few seconds, followed by artist name. If the name is longer than the width of the display, the name scrolls.

  - Track information: Track information includes the codec type (MP3, WMA, and so on), the bitrate (XXX kbps), and the file size (XX:XX MB).

  - Track name: Displays the title of the currently selected track. Song name scrolls if the name is longer than the width of the display.

  - Hold icon (key): Appears if the Rio is set to Hold mode. Hold locks all settings except the **Power** switch on the Rio.

Using the rechargeable backpack

Calibrating the battery ensures accurate battery level display. The first time you charge the battery backpack, it is important to calibrate it and give it a full charge overnight or until the calibration timer expires. You do not need to charge the battery before you calibrate it.

> **Note: You do not have to calibrate the battery each time you charge it—only the first time.**

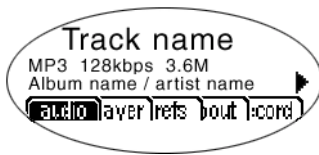See the section on Battery Calibration for instructions and more information.

For subsequent chargings you can charge the backpack until the charge lamp goes off for a quick charge—after about 1.5 hours—or leave the AC adapter attached for about 2.5 hours for a full charge. Full charge allows you to play music for about 10 hours.

You can leave the backpack plugged into the AC adapter after charging is complete to maintain the charge. In addition, you can use your Rio to play music while the backpack is charging.

> **Warnings: Do not remove the rechargeable battery from the backpack. Batteries may explode or leak if disposed of in fire, inserted backwards or disassembled.**

Using menu options and settings

When the **Menu** button is pressed, the LCD displays Rio menu options:

- **Audio**: Preset and custom equalizer settings.
- **Player**: Random and repeat play options, delete track, pick a track, bookmark, and playlist functions.
- **Prefs**: Player settings including power saving (time to sleep), LCD display backlight and contrast, time and date, battery level and calibration, and recorder.
- **About**: Various player status information including firmware version, internal and external memory used, battery level, calendar, and codec information.
- **Record**: Voice recording and playback options.

Using Audio functions

Audio functions include built-in and custom equalizer (EQ) settings. Custom EQ lets you set the Treble and Bass values on a range from 1 (low) to 9 (high).

Selecting built-in EQ settings

1 Press **Menu**.

2 Press the ◀◀ or ▶▶ buttons to navigate to **Audio**.

3 Press **Select**.

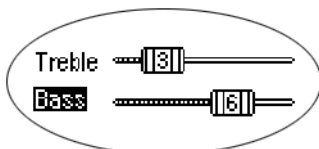4 The EQ settings display.

5 Press the ▶/ II , ■ , ◀◀ or ▶▶ buttons to highlight the desired setting.
    - To save the setting press **Select**.
    - To return to play mode without saving any changes, press **Menu**.

Setting the Custom EQ

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Audio**.

3   Press **Select**.

4   The EQ settings display.

5   Press the ▶/ II , ■, ◀◀ or ▶▶ buttons to navigate to **Custom**.

6   Press **Select**.

7   Press the ▶/ II or ■ buttons to navigate between **Bass** and **Treble**.

8   Use the ◀◀ or ▶▶ buttons to increase or decrease the **Bass** or **Treble** value from 1 (low) to 9 (high).

   •   To save the settings press **Select**.

   •   To return to play mode without saving any changes, press **Menu**.

Using Player functions

Player functions include:

- Play options: Repeat or randomize tracks.
- Delete tracks: Remove content from the Rio.
- Pick a track: Select and play a track.
- Bookmarks: Play or delete bookmarks.
- Playlist: Select playlists, create new playlists, manage playlists or remove playlists from the Rio.

Setting Repeat and Random play options

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Player**.

3   Press **Select**.

4   Navigate to **Play Options**.

5   Press **Select**.

6   Press the ▶/ II or ■ buttons to navigate between **Repeat** or **Random**.

7   Press the ◀◀ or ▶▶ buttons to change the **Repeat** or **Random** setting.

   Repeat settings include:

   - **All**: All tracks repeat.
   - **Track**: Current track repeats.
   - **Off**: Turns off repeat function.

   Random settings include:

   - **On**: All tracks play in random order.
   - **Off**: Turns off random function.

8   Press **Select** to save the settings. To return to play mode without saving any changes, press **Menu**.

Deleting tracks from the Rio

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Player**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Delete Tracks**.

5   Press **Select**. A list of all tracks displays.

```
02 California Uber Alles
03 The Time Warp
04 Electric Eye
05 Drive
```

6   Press the ▶/ II or ■ buttons to navigate to the track you want to delete.

7   Press **Select**.

   • Highlight **Yes** on the Delete dialog, then press **Select** to delete the track.

   • Highlight **No** on the Delete dialog, then press **Select** to return to the track list without deleting the track.

   • To return to play mode without saving any changes, press **Menu**.

Picking a track to play

In play mode, you can press and hold **Select** for about two seconds to jump to the **Pick a track** list.

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Player**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Pick a track**.

5   Press **Select**. A list of tracks displays.

6   Press the ▶/ II or ■ buttons to navigate to the track you want to play.

7   Press **Select**. The track immediately begins playing.

Adding bookmarks

1   Press ▶ / **II** during playback to pause.

2   Press **Select** to create a new bookmark. If you press and hold **Select** the **Pick a track** list displays.

Playing or deleting bookmarks

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Player**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Bookmarks**.

5   Press the ▶ / **II** or ■ buttons to highlight **Play Bookmark** or **Delete Bookmark**.

6   Press **Select**.

   • If **Play Bookmark** is selected, a list of bookmarks displays. Press the ▶ / **II** or ■ buttons to highlight a bookmark. Press **Select** to play the bookmark.

   • If **Delete Bookmark** is selected, a list of bookmarks displays. Press the ▶ / **II** or ■ buttons to highlight a bookmark. Press **Select** to choose the bookmark to be deleted. Press the ◀◀ or ▶▶ buttons to highlight **Yes** or **No** on the on the **Delete Bookmark?** dialog. Press **Select** to remove the bookmark and return to the bookmark list.
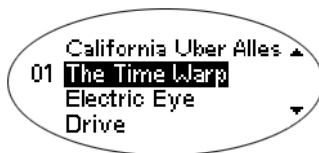
Working with Playlists

Playlist options include:

- **Choose**: Select a playlist from playlists stored on the Rio.
- **New**: Build a new playlist.
- **Edit**: Modify an existing playlist.
- **Remove**: Remove a playlist from the Rio.

1 Press **Menu**.

2 Press the ◀◀ or ▶▶ buttons to navigate to **Player**.

3 Press **Select**.

4 Navigate to **Playlist**.

5 Press **Select**.

6 Press the ◀◀ , ▶▶ , ▶/ II or ■ buttons highlight **Choose**, **New**, **Edit** or **Remove** playlist options.

7 Press **Select**.

Choosing a playlist

1 Select the **Choose** playlist option. Any existing playlists display.

2 Press the ▶/ II or ■ buttons to highlight the desired playlist.

3 Press **Select**.

Building a playlist

1 Select the **New** playlist option. New playlists are numbered in sequential order starting at "01".

2 After a few moments, the playlist editor displays all tracks on the Rio.

3 Press the ▶/ II or ■ buttons to highlight a track.

- Press **Select** to assign a playlist order number to the track. The number is the order in which the track plays in the playlist.

- Press the ◀◀ or ▶▶ buttons change the track order number.

4 When you are finished, highlight **-done editing-** at the bottom of the playlist editor, and press **Select** to save the new playlist and exit to the playlist options menu.

Modifying a playlist

1   Select the **Edit** playlist option.

2   Press the ▶/ⅠⅠ or ■ buttons to navigate to the playlist.

3   Press **Select**.

4   The playlist editor displays tracks and their playlist order numbers in the left column.

   • To add or remove tracks from the playlist, highlight a track and press **Select** to tag or untag the track with a number in the left column. This number is the order in which the track plays in the playlist.

   • To change the track order number in the playlist, highlight a track and press the ◀◀ or ▶▶ buttons.

5   When you are finished, highlight **-done editing-** at the bottom of the playlist editor and press **Select** to save the new playlist and exit to the playlist options menu.

Removing a playlist

1   Select the **Remove** playlist option.

2   Press the ▶/ⅠⅠ or ■ buttons to highlight the playlist you want to delete.

3   Press **Select**.

   • Highlight **Yes** on the Delete dialog, then press **Select** to delete the playlist.

   • Highlight **No** on the Delete dialog, then press **Select** to exit without saving any changes.

   • To return to play mode without saving any changes, press **Menu**.

Setting Preferences

Preferences include these Rio settings:

*   [Power saving](#) (time to sleep).
*   [Time and date](#).
*   [Display backlight and contrast](#).
*   [Battery level display and calibration](#).
*   [Recorder](#).

Adjusting the power saving setting

You can adjust the time to sleep (suspend) setting from one to nine minutes. To turn off the power saving feature, set the time to sleep setting to 0 (zero).
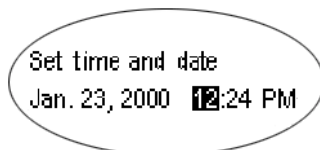
1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Prefs**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Power Saving**.

5   Press **Select**.

6   Press the ◀◀ or ▶▶ buttons to adjust the power saving setting.

    *   To save the setting press **Select**.
    *   To return to play mode without saving any changes, press **Menu**.

Setting time and date

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Prefs**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Time/Date**.

5   Press **Select**.

6   Press the ◀◀ or ▶▶ buttons to highlight each of the time and date fields.

7   Press the ▶/ ❚❚ or ■ buttons when any of the fields are highlighted to change the value. The date field will not roll to a value that is not valid for the selected month and year.

8   Press **Select** to save the time/date settings. To return to play mode without saving any changes, press **Menu**.

Adjusting LCD display backlight and contrast

1   Press **Menu**.

2   Press the ◄◄ or ►► buttons to navigate to **Prefs**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Display**.

5   Press **Select**.

6   Press the ►/ II or ■ buttons to navigate between **Backlight** and **Contrast**.

7   Press the ◄◄ or ►► buttons to adjust the **Backlight** or **Contrast** settings.

    Backlight settings include:

- timed **1**, **2**, **5**, or **10 seconds**.
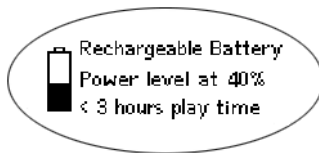- **always on**.
- **always off**.

    Contrast settings range from **1** (minimum) to **9** (maximum).

8   Press **Select** to save the settings.

Displaying battery information

1 Press **Menu**.

2 Press the ◀◀ or ▶▶ buttons to navigate to **Prefs**.

3 Press **Select**.

4 Press the navigation buttons to highlight **Battery**.

5 Press **Select**.

6 Press the navigation buttons to highlight **Power level**.

7 Press **Select** to display battery information:

- Battery type: Rechargeable.
- Battery charge level: The battery's charge state percentage.
- Run time estimation: The battery's remaining play time.
- Battery level graphic: A bar graph inside a battery icon displays the approximate remaining charge.

8 Press **Menu** to return to play mode.

Calibrating the battery

Calibrating the battery ensures accurate battery level display. It is important to calibrate the battery backpack and give it a full charge overnight or until the calibration timer expires the first time you charge it. You do not need to charge the battery before you calibrate it.

> **Note: You do not have to calibrate the battery each time you charge it—only the first time.**

1 Connect the AC adapter into your Rio's backpack port at the bottom of the backpack.

2 Connect the AC adapter power cord into an electrical outlet. The charge lamp on the backpack lights up when charging begins.

3 Slide the Rio power switch to **On**.

4 Press **Menu**.

5 Press the ◀◀ or ▶▶ buttons to navigate to **Prefs**.

6 Press **Select**.

7 Press the navigation buttons to highlight **Battery** and press **Select**.

8 Press the navigation buttons to highlight **Calibrate** and press **Select**.

9 Wait overnight or until the timer expires to give the backpack a full charge.

10 When charging is complete, unplug the AC adapter from the Rio's backpack port.

Setting recorder sampling rate and volume

Record rate means the sampling rate for recordings in kHz. A higher record rate yields better quality recordings with larger file size. **Analog gain** refers to the volume of voice recordings.

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **Prefs**.

3   Press **Select**.

4   Press the navigation buttons to highlight **Recorder**.

5   Press **Select**.

6   Press the ▶ / ‖ or ■ buttons to navigate between **Record Rate** and **Analog Gain**.

7   Press the ◀◀ or ▶▶ buttons to adjust the **Record Rate** or **Analog Gain** setting.

  • **Record Rate** settings include **8 kHz** and **11 khz**.

  • **Analog Gain** settings range from **1** (minimum) to **9** (maximum).

8   Press **Select** to save the settings.

Displaying About information

1   Press **Menu**.

2   Press the ◀◀ or ▶▶ buttons to navigate to **About**.

3   Press **Select**. The following information displays:

```
John Doe's Rio 800  V1.03
Int:  64M   ▧▧▧▧▧▧▧
Ext:  64M   ▧▧▧▧▧▧▧
```

- • Player personalization message defined through the software or Rio model number.
- • Firmware version the Rio is using.
- • Total internal memory amount installed and a bar graph display of the amount used.
- • Total external memory installed and a bar graph display of the amount used.

4   Press ■ to display battery information including:

- • Battery type: Rechargeable.
- • Battery charge level: The battery's charge state percentage.
- • Run time estimation: The battery's remaining play time.
- • Battery level graphic: A bar graph inside a battery icon displays the approximate remaining charge.

5   Press ■ to display clock and calendar information.

```
mon tue wed thur fri sat sun
Feb  12:34 :56 PM
23rd         2000
```

6   Press ■ to display codec information.

```
Compression Support:
WMA  MP3  ADPCM
```

7   Press **Menu** to return to play mode.

Recording and playing voice

Recording your voice

Note: The recorder automatically turns off the backlight when in use to prevent background noise from the backlight from interfering with your recording.

1   To record your voice you can either:

  • Press the **Rec** button on the Rio, or

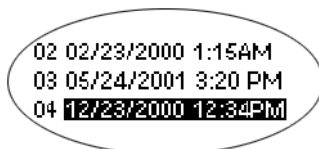 • Press **Menu**, press the navigation buttons to highlight **Record**, then press **Select**.

2   Highlight **New Recording** and press **Select** to start recording.

3   Press ■ to stop recording.

The Recording display includes:

  • Status Message: Displays "Preparing to Record", "Recording…", "Recording Done", and so on.

  • Recording time elapsed: Displays duration of the present recording in hours:minutes:seconds (hh:mm:ss).

  • Memory used graph: Displays how much memory is used and free for recording.

  • Percentage of memory remaining: Displays how much free flash memory is left.

  • Record level meter: Displays relative volume sensed at the microphone.

Playing a recording

1   To play a recording you can either:

  • Press the **Rec** button on the Rio, or

  • Press **Menu**, press the navigation buttons to highlight **Record**, then press **Select**.

2   Highlight **Play Recordings** and press **Select**. A list of recordings on the Rio displays:

3   Press ▶/ ❙❙ or ■ to highlight a recording.

4   Press **Select** to play the highlighted recording.

5   Press **Menu** to exit to play mode.

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 tracks on your Rio.
- Record (encode) your audio CDs.
- Search for tracks on your computer or on the Internet.
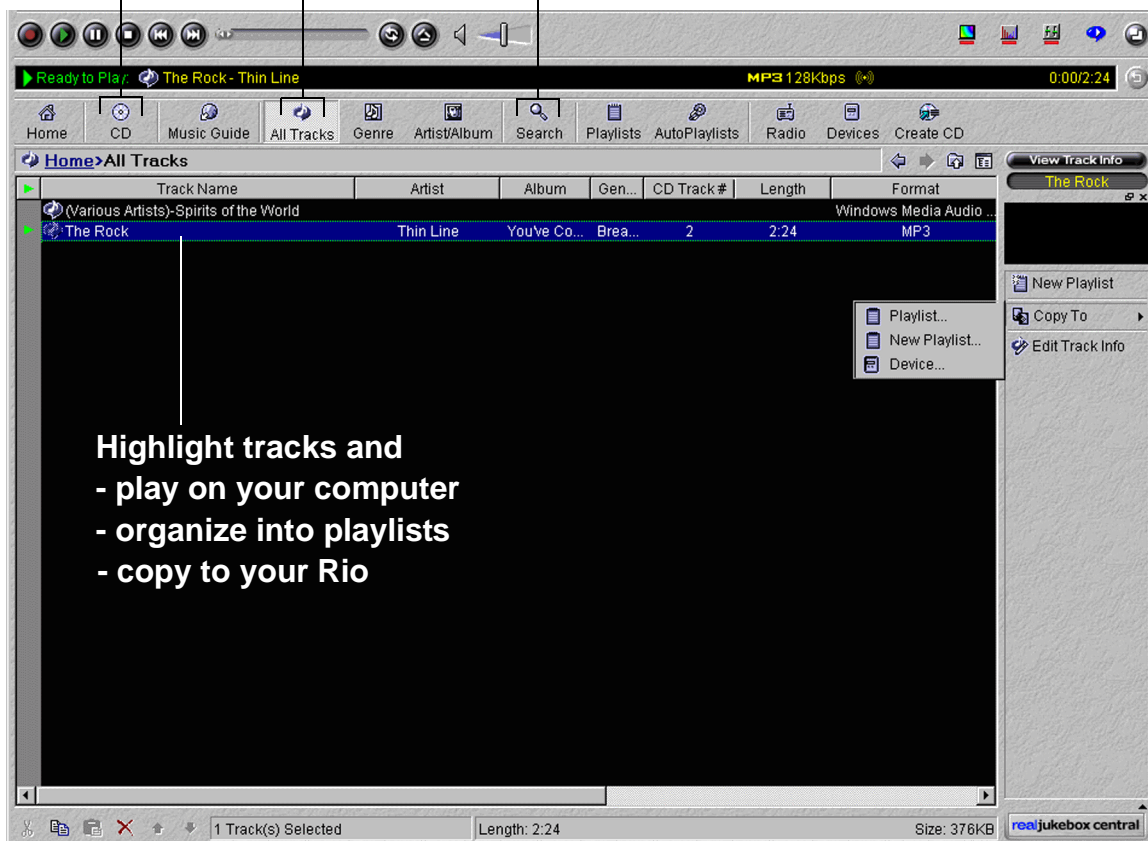- Create a custom CD-ROM—if you have CD burning hardware and your computer supports it.

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**

Copying tracks to your Rio

1   Plug the USB cable into the multifunction port on top of your Rio.

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

3   Slide the power switch on top of your Rio to **On.**

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

5   Click the desired track(s).

6   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.

7   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 AudibleManager (PC only)

The AudibleManager software supports audio books, lectures, public radio programs, news-papers, and other spoken word audio programs.

Use AudibleManager to:

•   Create an Audible.com account, where you may choose from thousands of spoken word audio programs.

•   Download audio programs from the Internet to your PC.

•   Transfer audio programs to your Rio.

For more information, visit the AudibleManager Web site.

Using SoundJam MP (Mac only)

SoundJam MP player and encoder converts music into compressed digital quality MP3's from CD, MP2, AIFF, QuickTime™, SMD, Sound Designer, and WAV formats.

Master Playlist

Use the Master Playlist editor to:

• Search your audio collection stored on your Mac.

• Build and manage custom playlists.
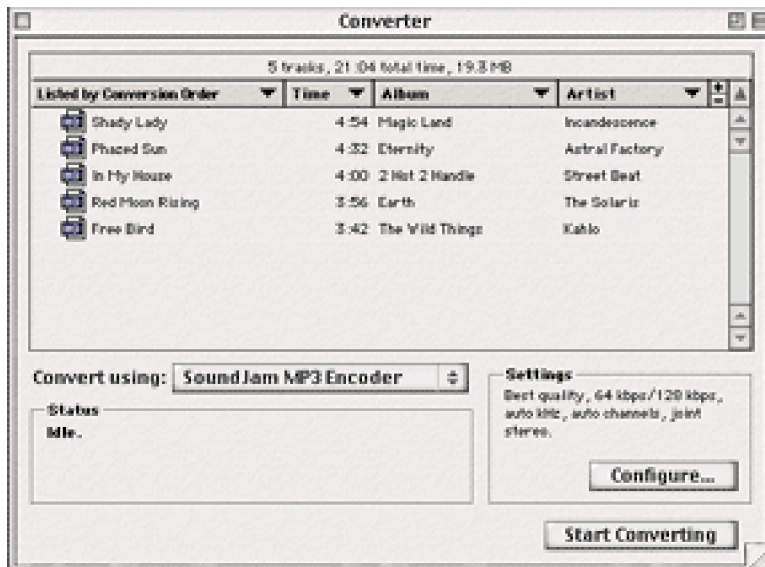

Main Window

Use the SoundJam MP Main Window to:

• Listen to audio on your Mac.

• Play music files from your playlist or CD-ROM.

Converter

Use the Converter window to:

• Encode audio CDs.

• Save tracks into MP3 format to be transferred to and played on your Rio.

Connector

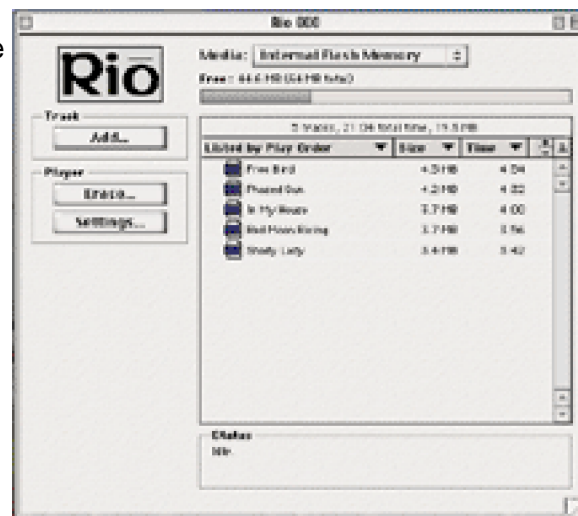The Connector window displays when you plug your Rio into your Mac with the USB cable. Use the Connector window to:

• Manage the content on your Rio.

• Export audio to your Rio. Choose the track by selecting "Add..." or drag the desired track to the view window.

Use the help system to learn more

The SoundJam software includes a complete online Help manual. To learn more about using the SoundJam MP software:

1 Click the Help Menu.

2 Select SoundJam MP Help.

   • Click the topic you are interested in for detailed step-by-step instructions.

   • Click How To Use This Help System to understand the basics of using the SoundJam Help.

For more information about SoundJam, visit the SoundJam Web site.

Digital audio terms

AAC

Advanced Audio Coding (AAC) is one of the audio compression formats defined by the MPEG-2 specification. AAC used to be called NBC (Non-Backward-Compatible), because it is not compatible with the MPEG-1 audio formats. AAC may eventually replace MP3 since it offers better sound quality and greater file compression.

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 may 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 may 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. A 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 800 supports the following digital audio file codecs:

- MP3
- WMA
- ADPCM—for voice recording
- ACELP.net (Audible)

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.

The security mechanism in the Rio supports several secure file formats. If the audio management software you are using supports secure file formats, when you download a secure track to the Rio, you must have the license associated with the track. If the Rio doesn't read a corresponding license for a track, the tracks themselves contain information on where you can purchase them. Publishers can program restrictions on how many times you can play, copy, or distribute a song directly into the music files. Although the Rio includes security, it is still able to accept and play standard MP3 files.

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 may be played on the Rio or on a 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 many other functions.

To see your Rio's firmware version:

1 Press the **Menu** button.

2 Press the ◄◄ or ►► (Forward or Reverse) navigation buttons to highlight **About**.

3 Press **Select** (center navigation button). The firmware version the Rio is using displays.

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.

Ripping

See Encoding.

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 may 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.

FAQ and 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 x 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.

Note: 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.

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 8.6 or later. The Rio requires a newer standard of USB that is not available in Windows 95, even with the USB supplement pack.

Where is the serial number located on the Rio?

The serial number is on the back of the Rio under the backpack. Remove the backpack from the Rio to see the serial number (S/N).

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 to the computer. Then, turn the Rio off and back on.

Is the Random menu function truly random?

No. The Random function uses an algorithm called pseudo-random which is common to all computers. The Rio selects a seed number and then enters a list of predetermined random numbers to play music in a seemingly random order. If the same seed is picked, the Rio may play songs in the same order.

What does the Rio Hold feature do?

The **Hold** feature on the Rio locks all buttons and controls except the Power switch. This is useful at times when the Rio may be bumped or jostled. 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 ◀◀ or ▶▶ (Forward or Reverse) navigation buttons to highlight **About**.

3   Press **Select** (center navigation button). 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 **Support**, then click **Firmware upgrades**.

3   Select and download the latest **Rio 800 xxxx.exe (PC)** or **Rio 800 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   Slide the Rio power switch to **On**.

3   Double-click the **Rio 800 xxxx.exe** firmware upgrade file.

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

5   Click **Yes**.

6   When the upgrade is complete, a check of the firmware version displays the new version 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   Connect the Rio to the computer with the USB cable.

2   Slide the Rio power switch to **On**.

3   Double-click the SoundJam icon. The Rio Connector window displays.

4   Click the **Settings...** button on the Rio Connector window. The Rio Settings window displays.

5   Click the **Upgrade Firmware** button on the Rio Settings window.

6   Choose the **Rio 800 Update xxxx** firmware upgrade file.

7   Click the **Open** button.

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

How do I register my SoundJam software online?

SoundJam allows 50 encodes prior to free registration that unlocks SoundJam for unlimited MP3 encoding. You must have an Internet connection to complete online registration. At the time of registration, you may choose to upgrade the features of the software for a small fee.

1   Double click the hard drive icon.

2   Double click the SoundJam folder.

3   Double click the SoundJam MP icon to open the program. You will immediately be prompted to register online.

4   Click the **Register Now** button.

5   Follow the instructions on the screen.

6   You will receive your unlock code by e-mail.

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

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. Win 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 may 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—may effect the quality of the recording as well.

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 800 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 do not allow limitations on 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.

CISPR 22

Warning: This equipment is belongs to class A of CISPR 22 recommendation. In a residential environment, it can produce electromagnetic interference. In that case, it can be requested to the user to take some appropriated measures.

EU Declaration of Conformity

We

DIAMOND Multimedia Systems Vertriebs GmbH

Moosstrasse 18b

D-82319, Starnberg

GERMANY

On behalf of

SONICblue Incorporated

2841 Mission College Blvd.

Santa Clara, CA 95054 USA

Hereby declare under our sole responsibility that the following product(s) conform to the requirements of the European Parliament Council Directive 1999/5/EC dated 9th March 1999. And to which this declaration is related the product(s) listed are in conformity with the following relevant harmonized European Standards or other normative documents, the references of which have been published in the Official Journal of the European Communities / European Union.

Product (s): **RIO 800**

Harmonized Standards:

EN 55022: 1994, A1'95, A2'97 Specification for limits and methods of measurement of radio interference characteristics of Information Technology (IT) equipment.

EN 50082-1: 1998 Electromagnetic Compatibility, Generic Immunity Standard, Part 1. Residential, Commercial and Light Industry.

EN 50332-1: 1999 Maximum sound pressure level measurement methodology and limit considerations. Part 1 General method for "one package equipment".

CEI/IEC 60065: 1998 Audio, Video, and similar electronic apparatus Safety Requirements.

In accordance with the terms of Directive 1999/5/EC, 89/336/EEC, 73/23/EEC and Council Decision 98/482/EC the original signed Declaration is retained by us in the product compliance folder. Upon request photocopies may be available.

Date: 02 November 2000

Place: St. Ingbert

Name of Authorizing Person

Scott Naccarato

Regulatory Compliance Manager

Customer Care

Technical support

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

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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.

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.

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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