

RioVolt™ User Guide

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Navigating and printing the RioVolt User Guide

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

NOTE: We strongly recommend that you use Adobe Acrobat version 4.0 — available on the CD-ROM — to view and print the RioVolt User Guide.

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

Acrobat Toolbar icons



Click the Show/Hide Navigation Pane icon in the Acrobat toolbar to show the Navigation Pane Window and bookmarks in the left column. 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.

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Part Number 75550145-001

Riōvolt™

Introduction

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Introduction

Congratulations on purchasing the RioVolt, the simple solution to taking hours of digital music with you. Download music from the Internet onto your PC or Macintosh or encode your favorite CDs, then create your own CDs to enjoy using your RioVolt. The RioVolt supports multiple music formats for you to enjoy. You can choose from MP3 and WMA compressed digital audio or CD Audio (Red Book), including CDText. When playing your MP3 and WMA music files you will have up to 120 seconds of skip protection (up to 40 seconds for CD Audio) so that you can listen to your music where you want with Electronic Shock Protection. Your RioVolt also supports firmware upgrades should new features become available for your player in the future. With the simple to use interface, including folder and track titles, the RioVolt will give you easy access to over 250 music tracks on each CD you create!





Package Contents

- RioVolt™
- 8 Function Remote Control
- RioVolt Carrying Case
- Headphones
- AC Adapter
- 2 AA Alkaline Batteries
- Getting Started Poster
- RioVolt Installation CD
 - RioVolt User Guide
 - Frequently Asked Question Document (FAQ)
 - Real Jukebox®
 - Adaptec® Easy CD Creator®
 - SoundJam
 - Adobe Acrobat®

System Requirements (For included software only)

PC (Minimum System Requirements)

- Intel® Pentium®200 MHz MMX or higher CPU
- 32MB RAM
- 30MB or more free hard drive space
- Windows 95, 98, 98SE, ME, NT 4.0 w/ Service Pack 4, 2000
- Internet connection and web browser

Mac

- OS 8.6 or higher
- 32MB RAM
- 30MB or more free hard drive space
- Internet connection and web browser

System Recommendations

- CD-ROM Writer (RW) highly recommended

Safety Information

WARNING

TO REDUCE THE CHANCE OF SHOCK OR INJURY, DO NOT USE or OPERATE THIS DEVICE IN OR NEAR WATER OR WET LOCATIONS

CAUTION

RISK OF EXPLOSION, DAMAGE OR BATTERY LEAKAGE IS POSSIBLE IF REPLACED INCORRECTLY OR BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO INSTRUCTIONS OR LOCAL LAWS.

Use only certified and approved Batteries and AC Adapters as those specified in the product User Guide.

Use of headphones while operating a vehicle is not recommended and is unlawful in some states and areas. Be careful and attentive while driving. Stop operation of the player if you find it disruptive or distracting while operating any type of equipment.

Listening to music at full power over extended periods of time can be damaging to the hearing of the user.

Invisible laser radiation when open and interlocks defeated, avoid exposure to beam.

RioVolt™

Getting Started

Getting Started

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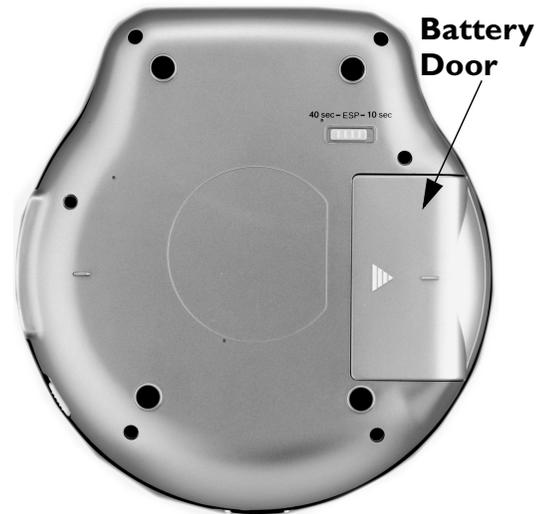
You will need the following items to start using your new RioVolt:

- The RioVolt
- 2 AA Alkaline Batteries (included) or the RioVolt AC Adapter (included)
- Headphones (included) or powered speakers (not included)
- Remote Control (included)

1. Open the **Battery Compartment Door** by sliding it away from the RioVolt and insert 2 AA Alkaline batteries (included).
2. Slide the **Battery Compartment Door** back to its original position to close.

OR

Plug the **RioVolt AC Adapter** into the **Power Port** on the side of the RioVolt.



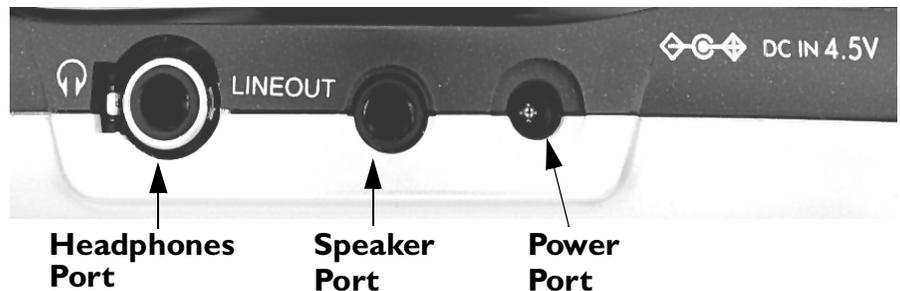
3. Plug the **Headphones Cable** into the **Headphones Port** on the side of the RioVolt.

OR

To use the Remote Control, plug the **Headphones Cable** into the **Remote Control**, and then plug the **Remote Control Cable** into the **Headphones Port** on the side of the RioVolt.

The Remote Control can then be clipped to your clothing for easy access.

4. Slide the **Release Latch** at the front of the RioVolt to the right to open the case.



Release Latch

Hold Switch

5. Place a music CD or a CD that you have burned with your own digital music files into the RioVolt.



6. Close the top lid securely.
7. Press **Play**  once to begin playing the first track on the CD.

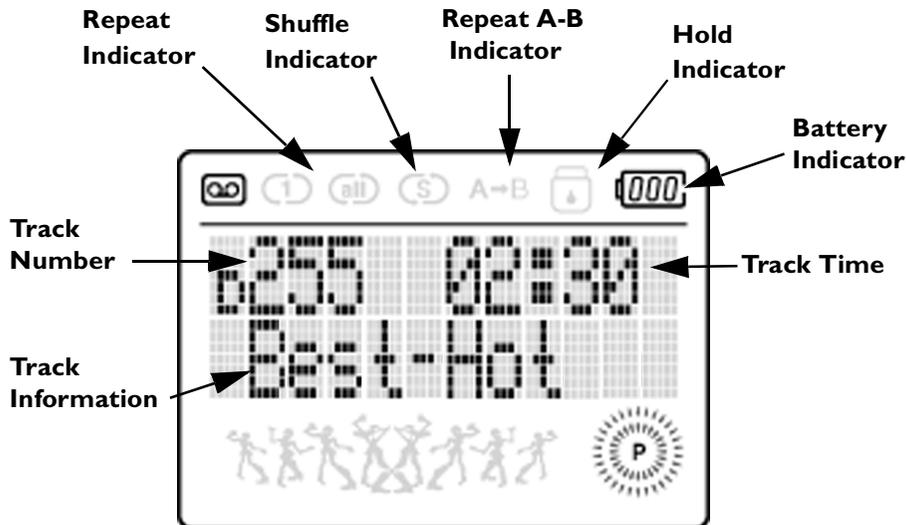
NOTE: Another option is to plug a pair of powered speakers into the RioVOLT's Lineout Port instead of using headphones.

Using Your RioVOLT

The Display

When powered on, the RioVOLT's Liquid Crystal Display (LCD) is backlit for easier viewing while buttons are in use. The backlight turns off after a few seconds to conserve battery power when selections are not being made. The LCD displays the status of the RioVOLT and the Artist and Song information for the the encoded music you are playing. The LCD assists you in selecting new music to listen to.

In playback mode, the LCD shows:

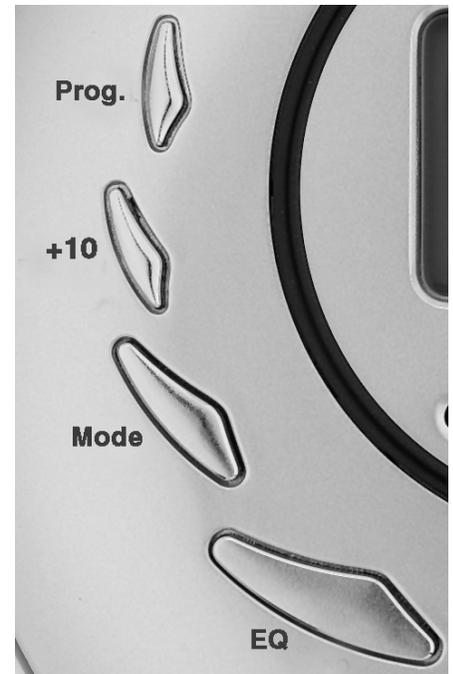


- **Track Information** — If you encoded the song using Real Jukebox, Rio Audio Manager, MusicMatch, or SoundJam software, the song information, the LCD scrolls from side to side through the File Type (MP3, WMA, etc.), Artist Name, and Song Title. Song information is contained in the [ID3 Tag](#), which can be included manually or by connecting to [Gracenote](#) via the Internet.
- **Track Number** — Track Number on the CD.
- **Track Time** — Time elapsed in the song.
- **Repeat Indicator** — Shows if **1** song is set to repeat, if **all D(Track Number)** songs in a directory are set to repeat, if **all** songs on the CD are set to repeat or if no songs are set to repeat.
- **Shuffle Indicator** — Shows if the RioVOLT is set to shuffle songs in play.
- **Repeat A-B Indicator** — Shows if the RioVOLT is set to repeat a programmed sequence of music.
- **Volume Level Indicator** — Indicates the volume level numerically when the Volume Bar is pressed once. Then it disappears.
- **Battery Indicator** — Shows graphically the remaining battery power level.

Menus and Buttons

The buttons on the face of the RioVOLT include:

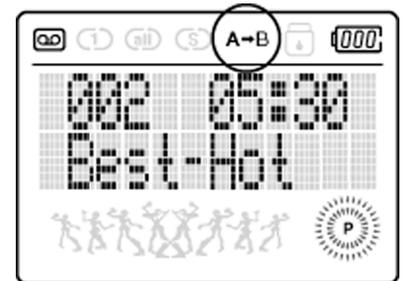
- Prog.
- +10
- Mode
- EQ
- Volume
- Navi
- Joypad (Play/Pause, Fast Forward, Rewind, Stop)



Using the Prog. Button: Repeat A-B

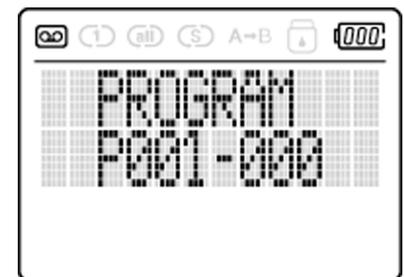
1. Once you have located the sequence you wish to repeat, press the **Prog. Button** once.
This initiates the sequence and places an **A-** at the top of the display.
2. Press the **Play/Pause button** to begin playing the music you wish to repeat.
3. Once you reach the end of the sequence you wish to repeat, press the **Prog. Button** again.
This ends the sequence, places an **A-B** at the top of the display and begins replaying the sequence you selected.

NOTE: To clear the Program settings, press the Prog. button again.



Program

1. Press and hold the **Prog. Button** while the CD is not in play.
This will display the **Program** screen.
2. Press the **▶▶**, **◀◀** or **+10** buttons to locate the tracks you wish to program into your playlist.
3. Press the **Prog. Button** to select each track.
4. Repeat Steps 2 and 3 until you have finished selecting tracks.
5. Press **Play/Pause** to begin playing the playlist of tracks.
A **P** will appear next to the **Track Number** to indicate a programmed playlist.
6. Press **Stop** ■ to stop playing the playlist and to clear it from memory.

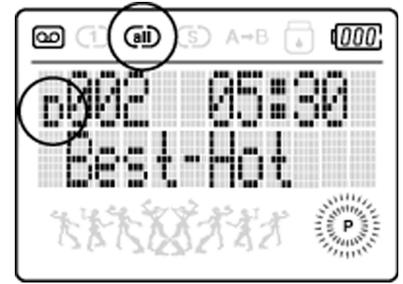


Pressing the +10 Button:

Causes the RioVOLT to skip 10 tracks ahead of its current song position.

Pressing the Mode Button places the RioVolt in the following modes:

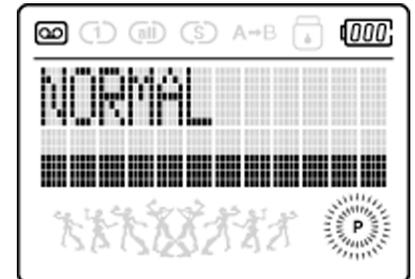
1. Circed **1** at the top of the screen, indicating that the current song will repeat.
2. Circed **all** at the top of the screen and a **D** next to the **Track Number**, indicating that all of the songs in the current directory will repeat.
3. Circed **all** at the top of the screen, indicating that all of the songs on the CD will repeat.
4. Circed **S** at the top of the screen, indicating that the songs on the CD will shuffle.
5. Circed **1** and a circed **S** at the top of the screen, indicating that it will shuffle the songs and repeat 1.
6. Circed **all** and a circed **S** at the top of the screen and a **D** next to the **Track Number**, indicating that all of the songs in that directory will repeat and shuffle.
7. Circed **all** and a circed **S** at the top of the screen, indicating that all of the songs on the CD will repeat and shuffle.
8. **I** next to the **Track Number**, return the RioVolt to the first track, and begin cycling through the introductions of each song on the CD.
Pressing the **Mode** button again turns off all **Repeat** and **Shuffle** features.



Pressing the EQ Button:

Displays the current EQ setting. Each additional time the EQ button is pressed, the RioVolt cycles through the five settings available. The EQ options are:

1. Normal (factory default)
2. Rock
3. Jazz
4. Classical
5. Ultra Bass



The Joypad Controls:

Play/Pause  — Press once to turn the RioVolt on and to play the first song in the current selection. Pressing the Play/Pause button while a song is playing pauses the song and the song title in the display blinks to indicate that it is in Pause mode.

In Navi Mode — Scrolls up through folder and song choices.

Fast Forward  — Press once to skip to the next track.

In Navi Mode — Scrolls to next Menu choice and selects folders and songs.

Rewind  — Press once to return to a previous track.

In Navi Mode — Scrolls back to previous Menu choice and exits Navi Mode.

Stop  — Press once to stop or hold to turn off.

In Navi Mode — Scrolls down through folder and song choices.



The Volume Bar and Navi Buttons:

The **Volume Bar** is marked with - and + signs.

- Decreases the volume level.
- + Increases the volume level.



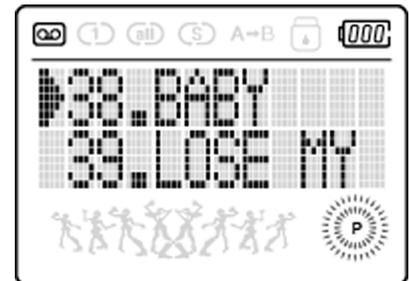
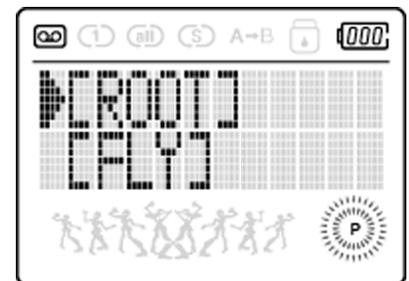
Pressing the Navi Button:

Puts the unit into **Navi Mode** and displays the Directories or Albums on the CD.

Then use the **Joypad Controls** to navigate about the Directories.

For example:

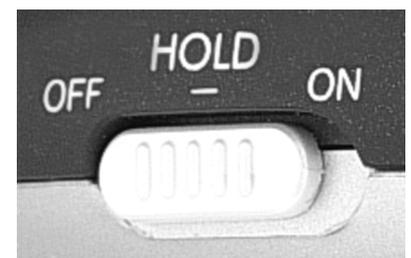
1. Press **Navi**.
2. Press **▲** to move down the list of Albums or press **▼** to move up the list.
3. Press **▶▶** to make a selection.
This will then display the contents of the Album.
4. Press **▲** to move down the list of Track Titles, **▼** to move up the list or **◀◀** to return to the previous menu level.
5. Press **▶▶** to make a selection.
The RioVolt then plays the selected song.



The Hold Switch

The **Hold Switch** is located at the side of the RioVolt.

- When in the **ON** position, the **Hold Switch** locks all of the buttons on the RioVolt and does not allow any changes to be made to the current settings.
A padlock symbol appears at the top of the display when the Hold Switch is enabled.
- When in the **OFF** position, the **Hold Switch** releases the buttons and allows changes to be made.



NOTE: The Hold Switch does not turn the RioVolt power on or off. It only locks and unlocks the buttons to avoid the RioVolt being activated accidentally.

The Electronic Shock Protection (ESP) Switch

Located on the back of the RioVolt, the ESP Switch adjusts the amount of music that is stored to prevent skipping when the RioVolt is jarred. In the **ON** position, ESP uses approximately 40 seconds for music CDs. In the **OFF** position, ESP uses approximately 10 seconds for music CDs. 120 seconds of skip free MP3/WMA music is always available regardless of the switch position.



The RioVolt Remote Control

The **Remote Control** cable plugs into the **Headphones port** on the side of the RioVolt. The headphones then plug into the end of the Remote Control. The buttons include:

Volume — Press **+** to increase and **-** to decrease the volume.

EQ — Press to cycle through the five options: Normal, Rock, Jazz, Classical, and Ultra Bass.

Hold — Slide Hold Switch **ON** to lock buttons or **OFF** to unlock the buttons.

Play/Pause **▶||** — Press once to play a song. Pressing the Play button when a song is in play will pause the song and cause the title to flash.

Fast Forward **▶▶** — Press once to skip to next track or hold down to fastforward through a track.

Rewind **◀◀** — Press once to return to previous track or hold down to rewind through a track.

Stop **■** — Press once to stop the current song.



How to Upgrade Your RioVolt:

Periodically, new RioVolt firmware is released to provide additional features or to support improved music formats. Check out www.riohome.com to determine if new firmware is available.

To upgrade the RioVolt:

1. Download the new firmware from the the **RioHome website**.
2. Burn the unzipped file onto a Data CD with your CD-ROM Writer.

NOTE: The RioVolt will not play music contained on a CD with the upgrade firmware.

3. Place the CD in the RioVolt and press the **Play/Pause** button to start the RioVolt. The RioVolt player will find the firmware, upgrade itself, and then turn off.
4. Remove the CD from the RioVolt. The upgrade is complete. You may now resume using your RioVolt player.

Troubleshooting

Problem: I am unable to power up the RioVolt. This happens when using new batteries or the AC power adapter, what's wrong?

Troubleshooting measures:

Be sure that the **Hold Switch** on the front of the unit is set to **OFF**. If the **Hold Switch** is in the **ON** position, you will be unable to power up the unit. Place the **Hold Switch** to the **OFF** position and hold down the **Play** button to power the RioVolt on.

Problem: The skip protection for CD Audio does not seem to last for 40 seconds, is this a problem?

Troubleshooting measures:

First, be sure the **ESP Switch** on the back of the unit is set to "40 sec" (the option for "10 sec" will reduce skip protection but increase battery life). CD Audio skip protection requires memory storage of playback time. The Audio CD must have time to store this information. Early in to the track less skip protection may be available and this is normal.

Problem: During playback of MP3/WMA music CDs, the CD appears to stop, is something wrong?

Troubleshooting measures:

The CD will stop spinning to improve skip protection and battery life. While the disc is stopped, music continues to play out of memory. During this time the player will not skip as the disc is no longer being read.

Problem: The RioVolt is working with batteries, but when I plug in the AC adapter it does not work. Why?

Troubleshooting measures:

Be sure that the AC Adapter is plugged into the proper connection. The AC Adapter connection is the furthest to the right when looking at the options for plugging in the device. The middle connection is a **Line-out** plug and is not meant for the power adapter. If you are still experiencing problems, be sure the **Hold Switch** on the front of the device is set to **OFF**.

Problem: Why is it that when I play a CD with both CD Audio and MP3/WMA files I can only play the CD Audio?

Troubleshooting measures:

When the player reads the disc, the CD Audio tracks are located first and played accordingly. MP3/WMA files will subsequently not be read. It is recommended to use either CD Audio or MP3/WMA files when creating your CDs.

Problem: I am not able to get the display to remain lit when using the player in the dark, why not?

Troubleshooting measures:

The back-lighting is designed to go off when the player is not being accessed by button interaction. This helps to conserve battery life. As you use the buttons to navigate the player, the light will remain on.

Problem: I am hearing some 'popping' or 'skipping' in some MP3/WMA tracks, it is always in the same place, why is this?

Troubleshooting measures:

Try playing the same track(s) on your computer. If the same sounds are present on the computer, it could be that the file has a sound defect that was transferred when your CD was created. Try re-encoding the same audio track again or verify with the source of the file that it was created correctly.

Problem: When the player is left unattended and in a 'stop' or 'pause' state, often when I return the player is 'off'. Why is this?

Troubleshooting measures:

To preserve battery life the player will shut itself off when not in use. This is normal and will help to extend your battery life.

Problem: I cannot get the Program function to work on the player. It always tries to set an A-B loop instead, what's wrong?

Troubleshooting measures:

The player must be stopped to create a playlist. When the player is not playing, press the **Prog.** button and you will be able to add tracks to your playlist.

Frequently Asked Questions

How do I encode, "rip", the songs from my CDs so I can listen to them on my RioVolt?

We have included the Real Jukebox(PC) and SoundJam (Mac) programs for your use, but there are many encoder programs available on the Web, many of which are free. To install the programs available on the RioVolt CD:

1.) Put the CD in your computer's CD-ROM drive.

If it does not autorun on your **PC**, click **Start, Run**, type in `D:\setup32.exe`, and click **OK**. If your CD-ROM drive is a letter other than D, type in that letter.

If it does not autorun on your **Mac**, double-click the **RioVolt CD icon** that appears on your desktop and then double-click **Install**.

2.) When the installation splash screen displays on your monitor, click **Install** and then the program you wish to install.

3.) Follow the instructions on the screen to finish the installation.

4.) Refer to the **Real Jukebox Help** or the **SoundJam Help** document available within the program for instructions on how to use the program, including how to encode MP3s, create and manage playlists, and download digital music files from their website.

Where can I find digital music files on the Internet?

There are many websites that offer legal copies of digital music for downloading. For example: www.real.com or www.rioport.com. To download your favorite tunes from the Internet, go to your favorite digital music website.

1.) Select the category of music you prefer.

2.) Browse through the provided track lists by artist or title, depending on the website.

3.) Select the music file you wish to download. Price of the download, artist information, and file size may be included with the song track's name, but if not, clicking on the music file should produce this information.

4.) Click **Download**.

5.) When the **File Download** screen appears, select **Save this program to disk** and click **OK**.

6.) When the **Save As** screen appears, select the destination folder on your hard drive and click **OK**. The music file will then be saved to your hard drive.

How do I burn my own CDs?

If you own a PC, the included Real Jukebox and Adaptec Easy CD Creator software included on the RioVolt Installation CD can be used to create CDs of your own. The online Help documents available within those programs contain instructions on how to create CDs. You should also refer to the documentation that came with your CD burner and its accompanying software for instructions on its use in any platform.

What type of CDs can I play with the RioVolt?

You can play CDs that have MP3 and/or WMA music files or you can play regular CD audio music discs.

What are ID3 tags and how can I use this feature?

ID3 tags store the information about the music track within the file. When an MP3 or WMA file is created from a CD with an internet connection, the file is labeled automatically. When playing or searching for these tracks on the RioVolt, the artist name and track name will be displayed.

Can I mix CD Audio with MP3 and/or WMA files?

No. You can play either CD Audio discs or CDs with MP3 (and/or WMA) music content. They cannot be mixed together.

Can I put both MP3 and WMA files on the same CD?

Yes. You can play a CD with both MP3 and WMA files and can choose tracks however you like.

What is the maximum number of songs I can put on a single CD?

You can put up to 255 music tracks per CD depending on the size of the music tracks and the available space on your CDR.

What is CDText support?

CDText is a feature of Audio CDs that displays your music's track titles if the Audio CD was created using CDText. The RioVolt displays CDText on CDText capable Audio CDs. Many of the current mainstream music CDs contain CDText that will display as track titles on the RioVolt.

How much playtime can I get from 2 AA batteries?

Playtime varies with battery type and music content. However, as a guideline the following applies: MP3/WMA CDs get up to 15 hours of music playtime. Audio CDs playtime will have approximately 6 hours of playtime with ESP on and 8 hours with ESP off.

What kind of skip protection is there on the Riovolt?

The Riovolt uses Electronic Shock Protection to help prevent skipping during playback. When playing MP3/WMA files, you get up to 120 seconds of skip protection. When playing Audio CDs, you have the option of up to 40 seconds or 10 seconds of skip protection*

*There is an ESP switch on the back of the device to choose this option. This only affects Audio CD skip protection and is available to help increase battery life.

Do I have to use the remote control when I use the headphones?

No. The remote control is optional and not required for normal operation. *Note – The remote is designed with a larger outer connection to allow communication to the player. When the remote is not in use, the headphone connector may appear to be too large, this is normal, and standard headphones will work properly.

Can I use any set of headphones with the remote control?

Yes. As long as you have a 1/8" stereo connection, this can be used with the remote control in place. You can also connect any 1/8" stereo headphones directly to the device.

The CD seems to stop during playback, is this normal?

Yes. This is part of the skip protection and battery life protection. When the CD is stopped, the RioVolt plays songs from memory. This serves as absolute shock protection during this time as the disc is not even spinning!

Is it normal for the player to default to a volume setting of '10' after turning the unit back on?

Yes, this is a normal function of the RioVolt. '10' is the medium volume level for the RioVolt and the player will default to this setting after being powered off.

Is it normal for my playlist and EQ settings to be reset when I turn the RioVolt off?

Yes, this is a normal function of the RioVolt. Default settings are loaded when the unit is powered on.

Category	Item	Specifications
AUDIO	Number of Channels	Stereo (left and right)
	Frequency Range	20Hz-20KHz
	Headphone Output	7mW(left) + 7mW (right) (160 max. volume)
	Line out Level	0.57V ms(47k Ω) max. volume
	Signal vs. noise ratio	80dB(CD-DA), 80dB(MP3 CD)
	Frequency Characteristics	+/- 2dB
CD SUPPORT	CD Type	CD-DA, CD-Text CD-ROM Mode 1, Mode 2 Form 1 Enhanced CD, CD-Plus
	CD-R/RW Read	Packet Write, ISO9660, Joliet, Romeo, Multi-Session
FILE SUPPORT	File Type	MPEG 1/2/2.5, Layer 3, WMA
	Bit Rate	Supports 32 Kbps ~ 320 Kbps
	Tag	ID3 V1 Tag, ID3 V2 2.0, ID3 V2 3.0
POWER SUPPLY	AC Adapter	DC 4.5V, 5W
	Battery	1.5V, two AA batteries
GENERAL ITEMS	Dimension	Approx. 130(W) x 147(L) x 30(H) mm
	Weight	Approx. 235g (excluding batteries)
	Operational Temperature	0°C - 40°C

Battery Lifetime (based on the alkaline battery)

CD Type	General Audio		MP3/WMA
ESP	10 seconds	40 seconds	120 seconds
Max. Playback Time	8 hours	6 hours	13 hours



One Year Limited Warranty

Our warranty to you:

SONICblue, Inc. 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, Inc.'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, Inc..

How to obtain service under this warranty:

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

The Customer Care hours of operation are:

Monday through Thursday, 5 am to 7 pm, PT

Friday, 5 am to 11 am and 1 pm to 7 pm, PT

Saturday 8 am to 4 pm, PT.

You must deliver the product and the original sale receipt to the dealer from whom you purchased this product or to SONICblue, Inc. in order to obtain service under this warranty. If you return the product to SONICblue, Inc., you must pay for shipping to SONICblue, Inc. Our mailing address is:

SONICblue, Inc.

7101 Supra Drive SW

Albany, OR 97321 USA

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.

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, INC. BE LIABLE FOR ANY AMOUNT GREATER THAN THE CURRENTLY SUGGESTED RETAIL PRICE OF THIS PRODUCT.

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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
3. 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.

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.

Bitrate, file compression

Bitrate denotes the average number of bits that one second of audio data will consume. The size 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, for MP3s 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 MP3 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.

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 shrink large files or data streams, often for efficient transmission over a network, and then decode them when they are displayed.

The RioVOLT 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.

Encode, "Rip" (a CD)

Encoding, or "ripping", refers to converting an audio file from a CD-ROM into a compressed digital audio format, such as MP3 or WMA, that may be played on the RioVOLT, on the computer, or on a portable Rio Digital Audio Player.

Gracenote

Formerly known as CDDDB, Gracenote is an vast database of CD information that includes disc name, song titles and other information. Gracenote supports hundreds of third party software CD players. Access to the Gracenote service is offered free of charge to end-users. Visit the [Gracenote website](#) for more information.

ID3 Tag

This is the part of the encoded MP3 file that contains information about the digital music file such as song title, artist, album title, bitrate encoding, time duration of track, and so on.

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 files encoded from CD-ROM may be compressed to under 10 percent of their former size. This digital sound encoding and compression process was developed by the Fraunhofer Institut für Integrierte Schaltungen and Thomson Multimedia. MP3 uses perceptual audio coding and psychoacoustic compression to remove all superfluous information—more specifically, 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. MP3 shrinks the original sound data from a CD-ROM with a bitrate of 1411.2 kilobits per one second of stereo music by a factor of 12 down to 112-128kbps, without sacrificing sound quality. The MP3 encoding process is well suited for the transfer of high quality audio files with small file size over telephone or ISDN lines, and over the Internet.

WMA

Windows Media Audio (WMA) is the compressed audio format that Microsoft is positioning as a replacement for MP3. WMA may replace MP3 since it offers greater file compression—twice that of MP3—at the same or better sound quality.

Technical Support - US	Customer Service - US
<p>Hours of Operation: Mon.-Thurs. 5am-7pm PT Fri. 5am-11am 1pm-7pm PT Sat. 8am-4pm PT</p> <p>Email customersupport@riohome.com</p> <p>Telephone 1(541)-967-2450</p> <p>Fax 1(541)967-2401</p> <p>TDD 1(541)967-2451</p>	<p>Hours of Operation: Mon.-Thurs. 6am-5pm PT Fri. 6am-11am 1pm-5pm PT</p> <p>Email customersupport@riohome.com</p> <p>Telephone 1(800)-468-5846 1(541)-967-2450</p> <p>Fax 1(541)967-2485</p>
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Rio Product Support

With every Rio product you receive the following support services:

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

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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.

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