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Wadia

di322 digital audio decoder

Owner's Manual





The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

WARNING - TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

IMPORTANT SAFETY INSTRUCTIONS!

PLEASE READ THEM BEFORE OPERATING THIS EQUIPMENT.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus



ATTENTION:
RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

- combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
 14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
 15. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
 16. If this equipment is supplied with a power supply cord only, the mains plug of the power supply cord shall remain readily operable. To completely disconnect this equipment from the a.c. mains remove the plug from the a.c. receptacle.
Si l'équipement est uniquement alimenté par un cordon d'alimentation, la fiche du cordon d'alimentation doit demeurer aisément accessible. Pour déconnecter complètement l'équipement du réseau d'alimentation, déconnecter la fiche du cordon d'alimentation de la prise murale.
 17. If this equipment is supplied with AC /DC Adapter with separate power supply cord or the AC/DC Adapter plugging directly into an a.c. receptacle, they shall remain readily operable. To completely disconnect this equipment from the a.c. mains remove the AC /DC Adapter mains power supply cord from the a.c. receptacle or remove the AC /DC Adapter when it is directly plugged into the a.c. receptacle.
Si l'équipement est alimenté par un adaptateur AC/DC

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

To prevent the risk of electric shock, do not remove cover or back. No user-serviceable parts inside.

munis d'un cordon d'alimentation ou un adaptateur AC/DC qui est alimenté directement à la prise murale, ils doivent demeurer aisément accessibles. Pour déconnecter complètement l'équipement du réseau d'alimentation, déconnecter l'adaptateur AC/DC de la prise murale ou déconnecter le cordon d'alimentation de l'adaptateur AC/DC de la prise murale.

18. **WARNING:** Do not expose batteries or battery pack to excessive heat such as sunshine, fire or the like.
AVERTISSEMENT: Les batteries ou bloc de batteries ne doivent pas être exposées à une chaleur excessive telle que celle du soleil, feu ou autre source de chaleur similaire.
19. **CAUTION:** danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
ATTENTION: danger d'explosion si la pile n'est pas remplacée correctement. Ne remplacer que par le même type ou un type équivalent.
20. Connect mains power supply cord only to a mains socket outlet with a protective earthing connection.



WARNING **DO NOT INGEST BATTERY, CHEMICAL BURN HAZARD**

The remote control supplied with this product contains a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death. Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children. If you think batteries might have been swallowed or placed inside of the body, seek immediate medical attention.

CAUTION:

Danger of explosion if the battery is incorrectly installed. Only install one of the approved Lithium Batteries listed below.

Battery Installation

The Wadia di322 Remote Control uses a long life Lithium Coin Cell type battery. The di322 may be supplied with a battery depending on the country where the di322 is purchased. When purchasing a battery for use in the di322 refer to the following list:

Approved Lithium Batteries		
Brand	IEC No.	ANSI/NEDA No.
Energizer	CR2032	5004LC ¹
Panasonic	CR2032(PA/1B) ¹	5004LC ¹

¹CR Lithium Coin Cells contain Perchlorate Material - special handling may apply. For additional information go to www.dtsc.ca.gov/hazardous_waste/perchlorate/index.cfm

Access to the recessed battery compartment is located on the Rear of the Remote Control.

Refer to figure 1.

Perform the following steps to install the battery:

1. Press the tab towards the bottom edge of the Remote Control and lift up on the Battery Cover and temporarily place it aside. Refer to figures 2 and 3.

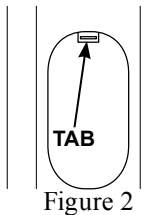


Figure 2

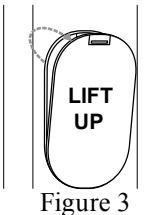


Figure 3

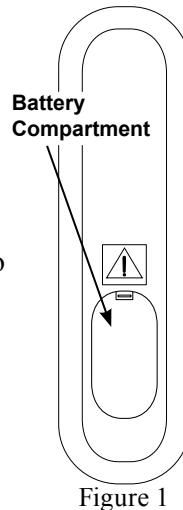


Figure 1

2. Remove the CR2032 Battery from its packaging.
3. Orient the battery so the + symbol (engraved into one side of the battery) is facing up.

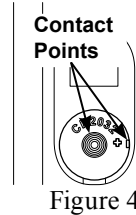


Figure 4

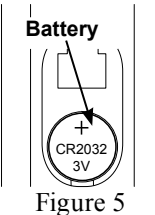


Figure 5

4. Referring to figures 4 and 5, insert the battery into the socket. Make sure the battery is touching both contact points and is seated in the socket.
5. Reinstall the Battery Cover.
6. The Remote Control is now ready for operation.

Battery Removal

The life of the Lithium Battery used in the Wadia Remote Control is dependent on the actual amount of use. It is advisable to remove the battery from the Remote Control when it is not to be used for an extended period of time. This will help to extend battery life and avoid possible damage to the Remote Control. Perform the following steps to remove the battery from the Remote Control:

1. Press the tab and lift up on the Battery Cover and temporarily place it aside. Refer to figures 2 and 3.

2. Referring to figure 6, press on the bottom edge of the battery to release the battery from the molded battery socket. Then remove the battery from inside of the Remote Control.

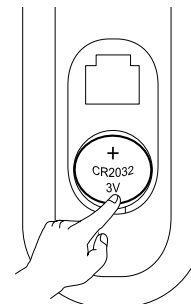


Figure 6

3. Reinstall the Battery Cover.
4. Store the battery in a cool dry place for future use or dispose of the battery in accordance with the local regulations for lithium battery disposal. Batteries should never be thrown away or incinerated.



WARNING

DO NOT INGEST BATTERY, CHEMICAL BURN HAZARD

The remote control supplied with this product contains a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death. Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children. If you think batteries might have been swallowed or placed inside of the body, seek immediate medical attention.



Thank You

All of us at Wadia Digital would like to say thank you, and congratulations for deciding to own this Wadia di322 digital audio decoder. We sincerely believe this Wadia product will bring you many years of musical enjoyment and satisfaction.

Please take a short time to read the information in this manual. We want you to be as familiar as possible with all the features and functions of your new Wadia Product.

About Wadia

Wadia Digital, founded in 1988, is one of the original companies dedicated to high performance digital audio reproduction. Wadia is based on the philosophy of applying advanced technology to improve the performance of digital audio components.

Wadia has consistently raised the standard for performance of Digital Audio playback. Some of the technological innovations pioneered by Wadia include:

- DigiMaster™ patented algorithm (filter optimized for reproducing music)
- ClockLink™ proprietary jitter reduction technology
- SwiftCurrent™ current to voltage conversion technology
- First outboard Digital-to-Analog converter
- First to apply glass fiber-optics to home audio

Our designs are born of a delicate balance of technology shaped by a passion for music. Wadia continues to re-define the limits of digital music playback.

Please Take A Moment

The serial number, purchase date and Wadia Dealer name are important to you for possible insurance claim or future service. The spaces below have been provided for you to record that information:

Serial Number: _____

Purchase Date: _____

Dealer Name: _____

Technical Assistance

If at any time you have questions about your Wadia product, contact your Wadia Dealer who is familiar with your Wadia equipment and any other brands that may be part of your system. If you or your Dealer wish additional help concerning a suspected problem, you can receive technical assistance for all Wadia products at:

Wadia Digital, LLC.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-3539
Fax: 607-724-0549

Customer Service

If it is determined that your Wadia product is in need of repair, you can return it to your Dealer. You can also return it to the Wadia Service Department. For assistance on factory repair return procedure, contact the Wadia Service Department at:

Wadia Digital, LLC.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-3539
Fax: 607-724-0549

Table of Contents

Safety Instructions	2
Battery Installation and Replacement.....	3
Thank You and Please Take a Moment.....	4
Technical Assistance and Customer Service	4
Table of Contents	4
General Information	5
Connector and Cable Information	5
Introduction.....	6
Performance Features	6
Dimensions	7
Installation	8

Connections:

Rear Panel Connections.....	9
Connecting to a Power Amplifier.....	10
Connecting to a Preamplifier.....	11

Remote Control:

Remote Control Push-buttons.....	12
----------------------------------	----

Front Panel:

Front Panel Displays, Push-buttons and Jack	13
---	----

Setup:

How to Operate Setup Mode	14
---------------------------------	----

Operation:

How to Operate the di322	15-19
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Additional Information:

Photos.....	20-21
Specifications.....	22
Packing Instruction.....	23

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General Information

1. For additional connection information, refer to the owner's manual(s) for any component(s) connected to the di322 digital audio decoder.
2. The Main AC Power going to the di322 and any other Wadia Component(s) should not be applied until all the system components are connected together. Failure to do so could result in malfunctioning of some or all of the system's normal operations. When the di322 and other Wadia Components are in their Standby Power Off Mode, the Microprocessor's Circuitry inside each component is active.
3. The Unbalanced Outputs and Balanced Outputs can be used simultaneously.
4. The di322's internal Digital to Analog Converter Circuitry is designed to decode 2-channel PCM (Pulse Code Modulation) Digital Signal present at the Coaxial, Optical and USB Digital Inputs. Other Digital Audio Signal Format Types will cause the Audio Outputs of the di322 to be muted.
5. The term "Absolute Phase" relative to reproduction of sound by Loudspeakers (or headphones) refers to the phase of the reproduced signal relative to the original signal, retaining the original polarity. This applies regardless of the number of audio channels. A positive pressure on the microphone is reproduced as a positive pressure by the Loudspeaker. This would be referred to as "In Phase" reproduction and is normal. When positive pressure on the microphone is reproduced as a negative pressure by the Loudspeaker, this would be referred to as "Out of Phase" reproduction and is not normal. The vast majority of recordings are made with all channels in "Absolute Phase".

The term "Absolute Phase" is not the same as "Phase Reversal" where there is a polarity reversal

between the Amplifier and Loudspeaker positive and negative terminal connections on any given channel.

6. When discarding the unit, comply with local rules or regulations. Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal.
7. For additional information on the di322 and other Wadia Products please visit the Wadia Web Site at www.wadia.com.

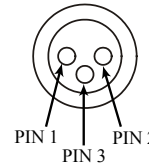


Connector and Cable Information

XLR Connectors

Below is the Pin configuration for the XLR Balanced Output Connectors on the di322. Refer to the diagram for connections:

- PIN 1: Shield/Ground
- PIN 2: + Output
- PIN 3: - Output



Introduction

The Wadia di322 digital audio decoder is one of the finest Digital to Analog Processors ever created with connections for digital sources including USB. The di322 Outputs have the ability to drive multiple components. The di322 reproduction is sonically transparent and absolutely accurate. The Wadia Sound is “The Sound of the Music Itself.”

Performance Features

• Dual Function

Use the Wadia di322 as the Digital Preamplifier together with Digital Source Components and Power Amplifier¹ to form a complete Audio System. Connect the Wadia di322 to an existing Analog Audio System to provide the latest in Digital-to-Analog Conversion from digital audio sources.

• Electronic Input Switching

Electronic Input Switching on all Inputs provides reliable, noiseless, distortion free switching.

• Digital Audio Inputs

The di322 has Coaxial, Optical, DIN and USB Digital Inputs to Decode PCM and DSD Signals from an external source. The Coaxial and Optical Inputs process Digital Signals up to 192kHz with 24-Bit resolution. The Digital DIN connection allows for streaming of high bandwidth digital signals (DSD, PCM) directly into the di322 from external sources. The USB Input processes Digital Signals up to 192kHz with 32Bit resolution, decodes DSD128 Digital Signals and DXD 24Bit with a sampling rate of 352.8 (or 384).

• Quad Balanced Digital to Analog Converter

The 8 channel 32-bit, 192kHz Digital to Analog Converter is used in a Stereo Quad Balanced Mode, assuring the music is reproduced with a wide dynamic range and extremely low distortion, for both Disc and external sources.

• Balanced Outputs

The Balanced Outputs allow the connection of long cable lengths without a loss in sound quality.

• High Performance Headphone Output

The separate Headphone Power Amplifier Circuitry is designed to produce high power output into Headphones with a low output impedance.

• Precision Tracking Volume Control

Volume levels are controlled by a Digitally Controlled Attenuator System with a tracking accuracy of 0.5dB.

• Alphanumeric Fluorescent Display

The Front Panel Information Display indicates the Source Selection, Sampling Frequency, Volume Level, Output Phase and Setup Mode Selections. The display intensity is adjustable.

• Trigger Input and Output

A Trigger Control connection for convenient Turn-On of Wadia Power Amplifiers, Source Components and Accessories is included.

• Remote Control

The Remote Control provides control of the di322 operating functions.

• Special Power Supply

Fully regulated Power Supplies and a special R-Core Power Transformer ensure stable noise free operation even though the power line varies.

• Gold Plated Connectors

The Input and Output Connector Contacts are gold plated for superior corrosion resistance and high electrical conductivity.

• LED Front Panel Indicators

Long life Light Emitting Diodes (LEDs) are used to indicate when the Setup Mode is active and when the di322 is in the Standby Mode.

• Die Cast Aluminium Chassis

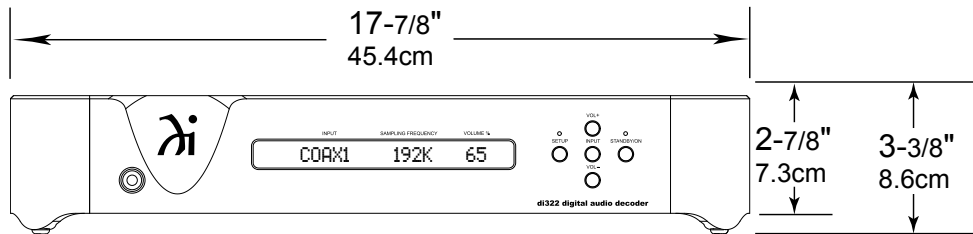
Maintains cool operating temperatures of the internal circuitry by the heat dissipating properties of the die cast aluminium chassis. The aluminium chassis with illuminated top glass panel is very durable and will retain its appearance for many years to come. This ensures the durability and functional design of the di322 will be retained for many years.

¹Note: The Wadia di322 is designed to be compatible with the majority of Audio Power Amplifiers. However, do to a wide range of Power Amplifier Designs, it is important the input sensitivity of the amplifier be at least 2 Volts. This will assure the playback of most music recordings is reproduced with adequate dynamic range.

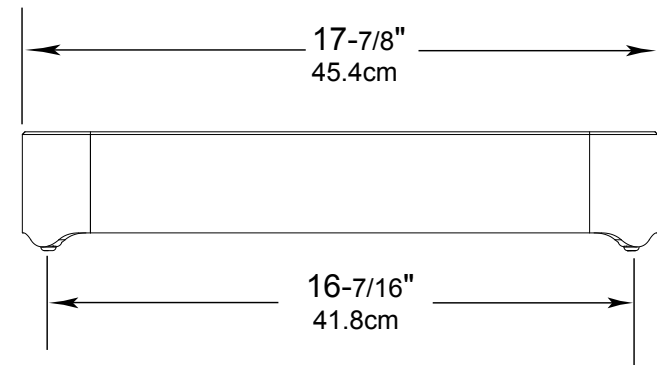
Dimensions

The following dimensions can assist in determining the best location for your di322. There is additional information on the next page pertaining to installing the di322 into cabinets.

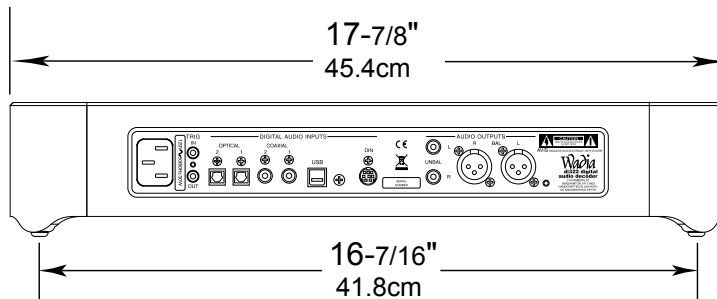
Front View of the di322



Side View of the di322



Rear View of the di322



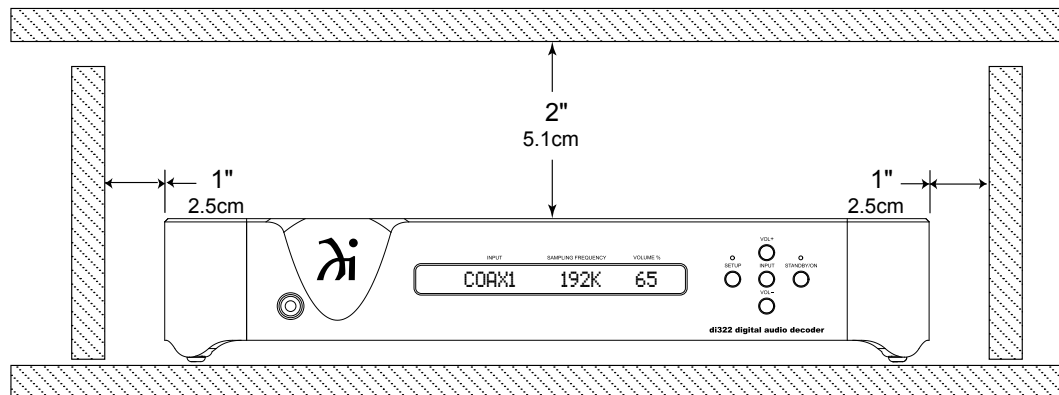
Installation

The di322 is designed to be placed upright on a table or shelf, standing on its feet. The required ventilation requirements are shown.

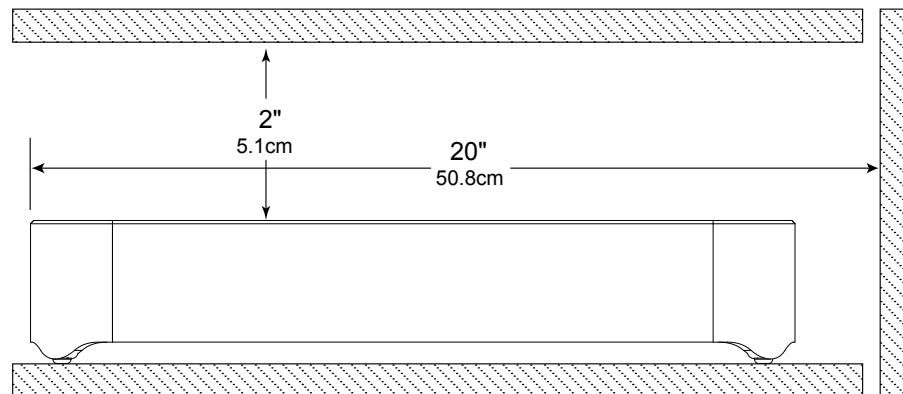
Always provide adequate ventilation for your di322.

Cool operation ensures the longest possible operating life for any electronic instrument. Do not install the di322 directly above a heat generating device, such as a Power Amplifier. Allow at least 2 inches (5.1cm) above the top, 5/8 inches (1.6cm) below the bottom and 1 inch (2.5cm) on each side of the di322, so that airflow is not obstructed. Allow 20 inches (50.8cm) of depth for airflow and cable connections.

di322 Front View



di322 Side View

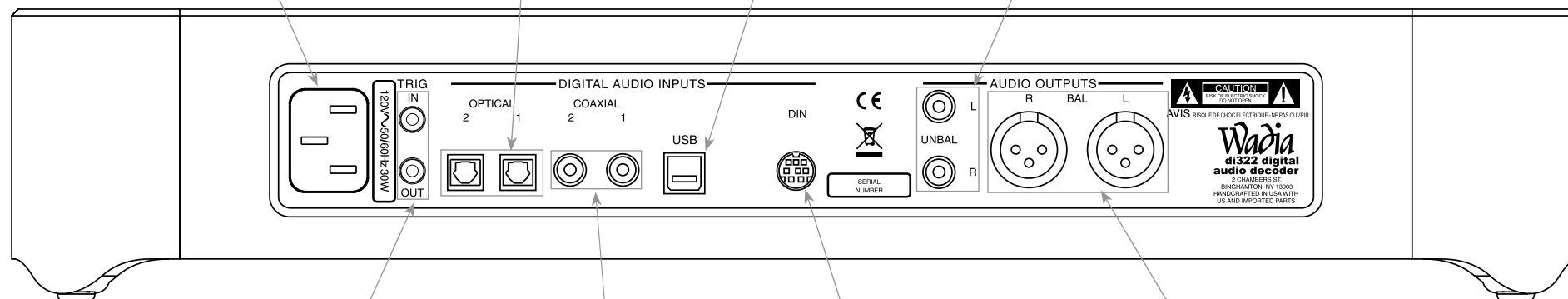


Connect the Wadia di322 power cord to a live AC outlet. Refer to information on the back panel of your di322 to determine the correct voltage for your unit

USB DIGITAL AUDIO INPUT
with control signal for connection
to a computer

DIGITAL AUDIO INPUTS OPTICAL
INPUTS 2 and 1 for components with
a Digital Audio Optical Output

UNBALANCED AUDIO OUTPUTS analog
audio output signals to a Preamplifier or A/V
Control Center



DIGITAL AUDIO INPUTS COAXIAL
INPUTS 2 and 1 for components with a
Digital Audio Coaxial Output

BALANCED AUDIO OUTPUTS analog
audio output signals to a Preamplifier or
A/V Control Center

TRIGGER IN receives turn-on
signals from a component and
TRIGGER OUT sends turn-on
signals onto another component

DIN DIGITAL AUDIO INPUT
for streaming high bandwidth
digital signals from SACD/CD
Transport Components



Connecting to a Power Amplifier

There are two different ways the di322 may be operated in an audio system. The first way as the Main Audio Preamplifier connected directly to a Power Amplifier, instructions on this page. The second way is as a Digital to Analog Converter with Input Switching, follow instructions on the next page.

The connection instructions below, together with the di322 Connection Diagram located on the separate folded sheet “*di1A*”, is an example of a typical audio system. Your system may vary from this, however the actual components would be connected in a similar manner. For additional information refer to “Connector and Cable Information” on page 5.

Notes: 1. The Output Connection Balanced or Unbalanced may be used simultaneously.

2. For additional information on Power Amplifier requirements when the Wadia di322 is connected directly to a Power Amplifier, refer to page 6, ¹Note.

Audio Connections:

1. Connect balanced audio cables from the di322 AUDIO OUTPUTS (Right and Left) connectors to the balanced Input connectors on the Power Amplifier.

Note: If two Power Amplifiers are used, connect one of the unbalanced AUDIO OUTPUTS (L or R) to the unbalanced Inputs on the second Amplifier.

Digital Audio Connections:

2. Connect a Digital DIN Cable from the di322 DIGITAL DIN IN Jack to the SACD/CD Transport Digital Audio DIN Output Jack.
3. Connect a Digital Optical Cable from the di322 DIGITAL AUDIO INPUTS OPTICAL 1 connector to the Media Player Digital Optical Output connector.
4. Connect a Digital Coaxial Cable from the di322

DIGITAL AUDIO INPUTS COAXIAL 1 connector to the AM/FM Tuner Digital Coaxial Output connector.

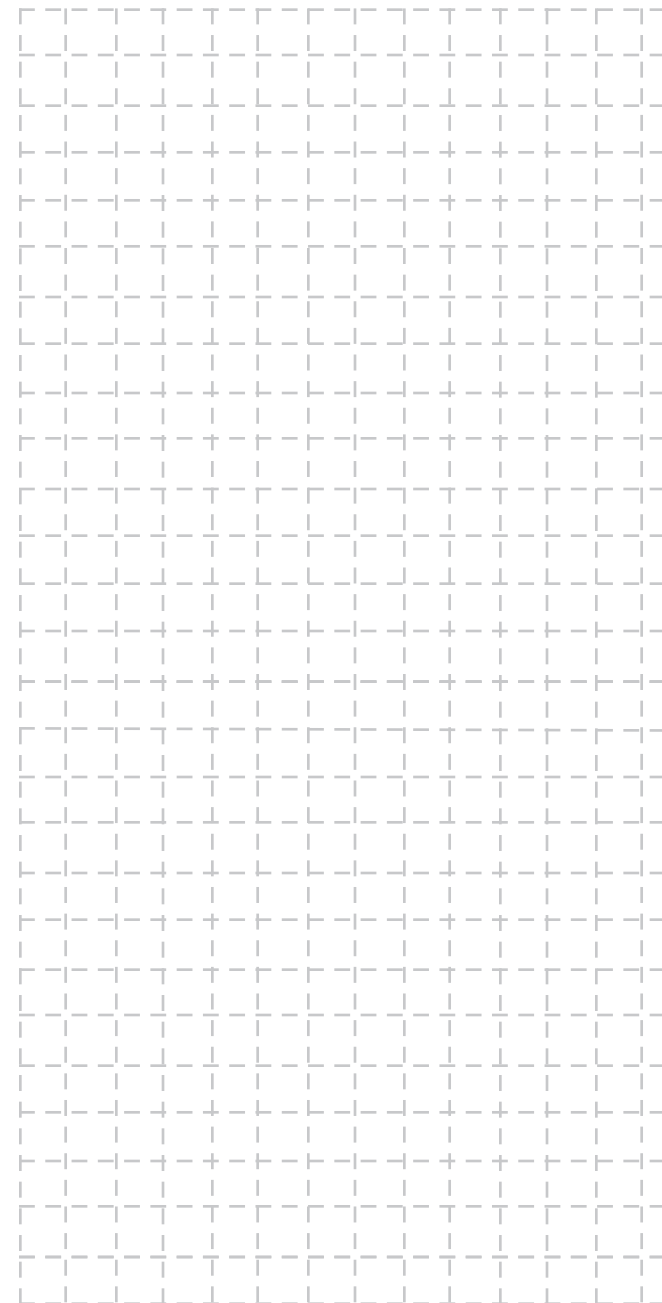
5. Connect a USB cable with (type A to type B) connectors from the di322 DIGITAL AUDIO INPUT USB connector to the Computer USB connector.
6. Connect any additional Components in a similar manner, as outlined in steps 2 thru 5.

Trigger Control Connections:

7. Connect a Control Cable from the Wadia di322 TRIGGER OUT Jack to the Power Control IN Jack on the SACD/CD Transport.
8. Connect a Control Cable from the SACD/CD Transport Power Control Out Jack to the AM/FM Tuner Power Control In Jack.
9. Connect a Control Cable from the AM/FM Tuner Power Control Out Jack to the Media Server Trigger In Jack.
10. Connect a Control Cable from the Media Server Trigger Out Jack to the Power Amplifier Trigger In Jack.
11. Connect any additional Components in a similar manner, as outlined in steps 7 thru 9.

AC Power Cords Connections:

12. Connect the di322 AC Power Cord to a live AC outlet.



Connecting to a Preamplifier

There are two different ways the di322 may be operated in an audio system. The second way is as a Digital to Analog Converter with Input Switching. The Audio Output of the di322 is connected to an Analog Input on the Preamplifier (Integrated Amplifier, Receiver or A/V Control Center). The connection instructions below, together with the di322 Connection Diagram located on the separate folded sheet “A1B”, is an example of a typical audio system. Your system may vary from this, however the actual components would be connected in a similar manner. For additional information refer to “Connector and Cable Information” on page 5.

Note: 1. The Output Connection Balanced or Unbalanced may be used simultaneously.

Analog Audio Connections:

- 1. Connect audio cables from the di322 UNBALANCED AUDIO OUTPUTS R & L (Right and Left) connectors to the unbalanced Aux Input Connectors on the Preamplifier (Integrated Amplifier, Receiver or A/V Control Center).

Note: 1. The Balanced Outputs may be used instead of the Unbalanced Outputs.

Digital Audio Connections:

- 2. Connect a Digital DIN Cable from the di322 DIGITAL DIN IN Jack to the SACD/CD Transport Digital Audio DIN Output Jack.
- 3. Connect a Digital Optical Cable from the di322 DIGITAL AUDIO INPUTS OPTICAL 1 connector to the Media Player Digital Optical Output connector.
- 4. Connect a Digital Coaxial Cable from the di322 DIGITAL AUDIO INPUTS COAXIAL 1 connector to the AM/FM Tuner Digital Coaxial Output connector.

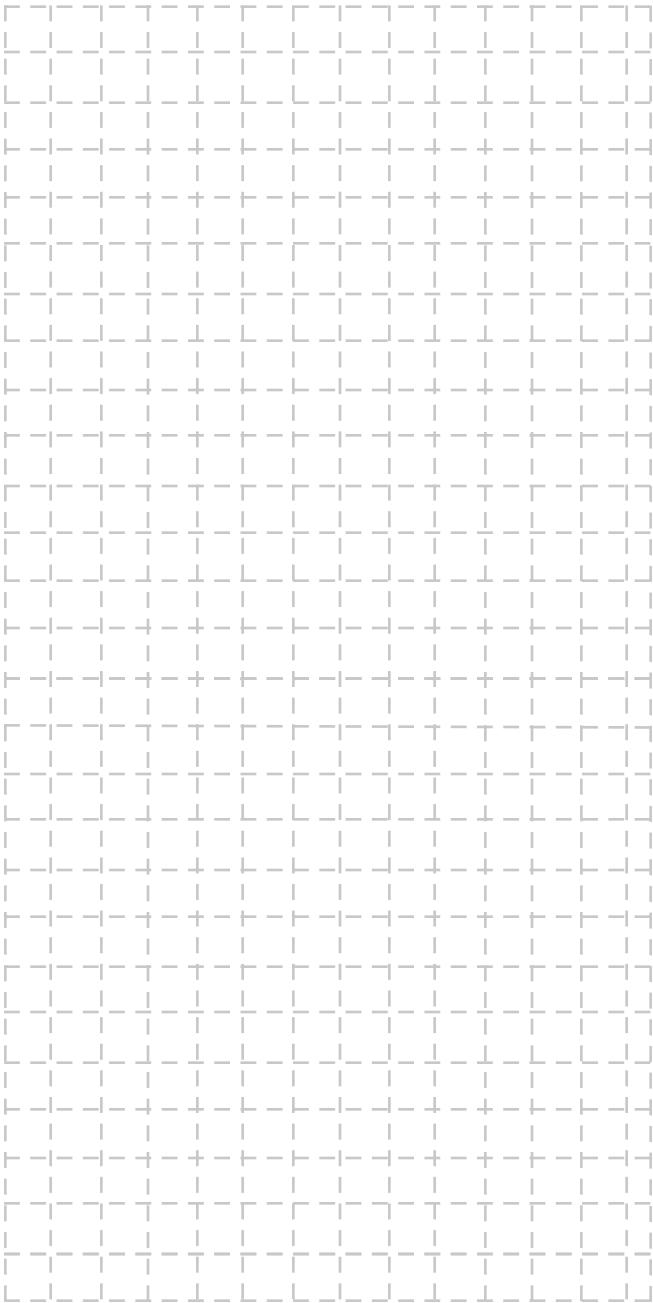
- 5. Connect a USB cable with (type A to type B) connectors from the di322 DIGITAL AUDIO INPUT USB connector to the Computer USB connector.
- 6. Connect any additional Components in a similar manner, as outlined in steps 2 thru 5.

Trigger Control Connections:

- 7. Connect a Control Cable from the (Integrated Amplifier, Receiver or A/V Control Center) Main Power Control (Trigger) Out Jack to Wadia di322 TRIGGER IN Jack.
- 8. Connect a Control Cable from the Wadia di322 TRIGGER OUT Jack to the Power Control IN Jack on the SACD/CD Transport.
- 9. Connect a Control Cable from the SACD/CD Transport Power Control Out Jack to the AM/FM Tuner Power Control In Jack.
- 10. Connect a Control Cable from the AM/FM Tuner Power Control Out Jack to the Media Server Trigger In Jack.
- 11. Connect any additional Components in a similar manner, as outlined in steps 7 thru 9.

AC Power Cords Connections:

- 12. Connect the di322 AC Power Cord to a live AC outlet.



Press MODE to switch power On or Off to the di322

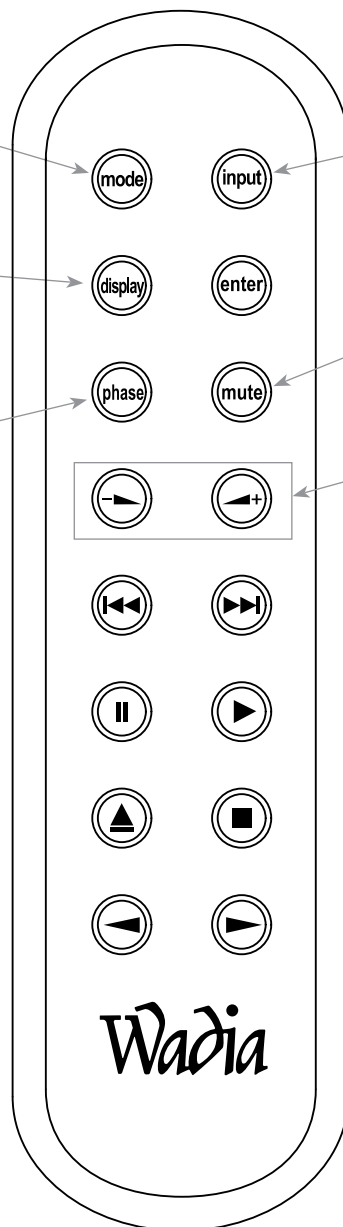
Press DISPLAY to adjust brightness of the di322 Front Panel Display

Press PHASE to change the phase of the Outputs Connections

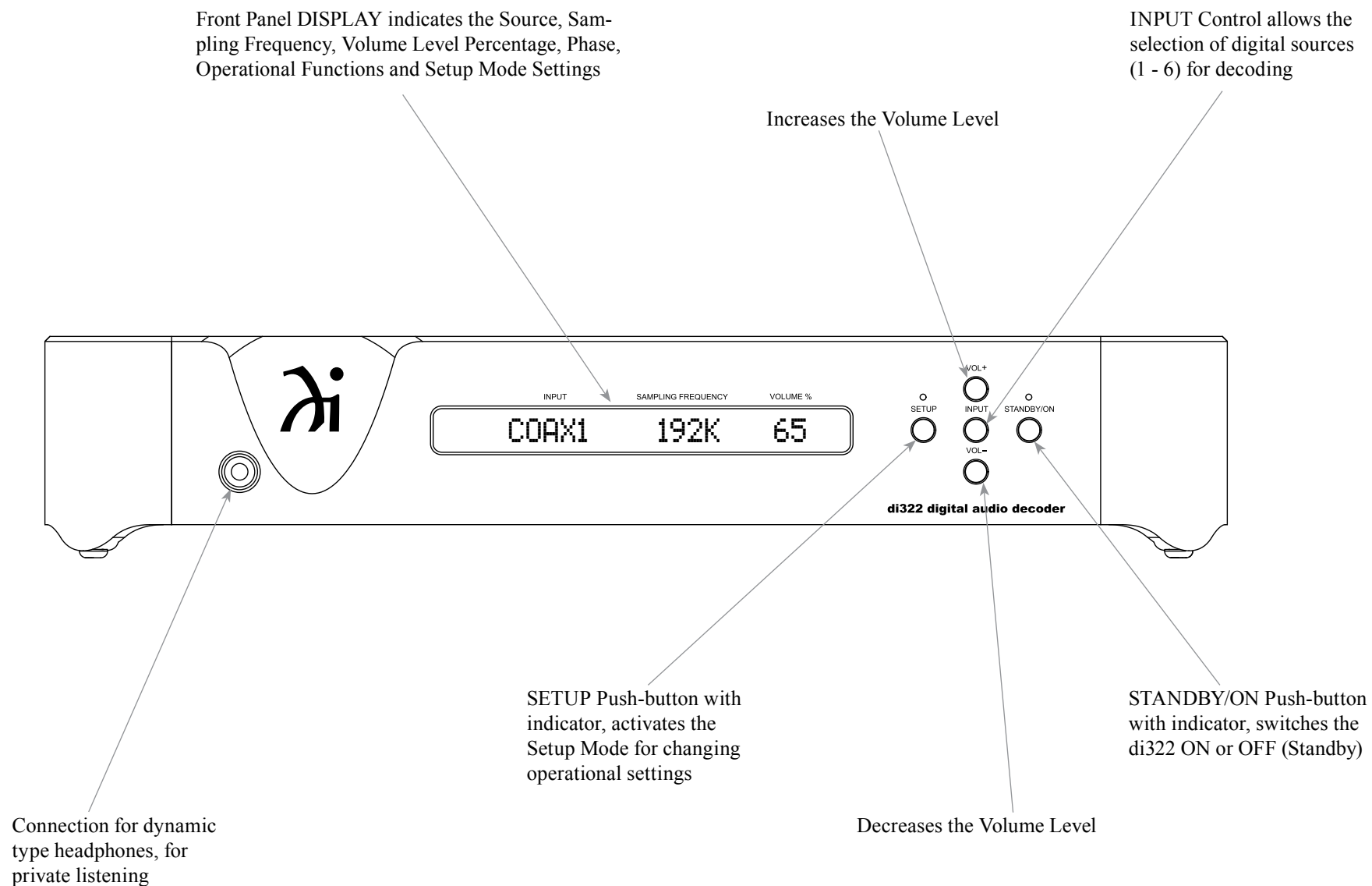
Steps thru the Digital Inputs (1 - 6) for source selection

Mutes the audio

Press the (+) or (-) to adjust the Volume Level Up or Down



Note: Push-buttons whose function is not identified above are for use with other Wadia Products.



How to Operate the Setup Mode

Your Wadia di322 has been factory configured allowing for immediate enjoyment of superb audio. If you wish to make changes to the factory default settings, a Setup Feature is provided to customize the operation by using the Front Panel Information Display. Refer to the di322 Front Panel Illustration on the previous page while performing the following steps.

Note: If the di322 is currently On, proceed to step 2.

1. Press the STANDBY/ON Push-button on the Front Panel or press the MODE (Power) Push-button on the Remote Control to switch On the di322. The di322 will go through a brief startup initialization with the Front Panel Display indicating the last used Input Source and volume setting. Refer to figure 1.



Figure 1

2. Press the SETUP Push-button repeatedly until the Front Panel Information Display indicates “Firmware V1.00” or higher. Refer to figure 2.

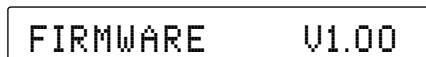


Figure 2

3. Press the SETUP Push-button to exit from the Setup Mode. The LED above the SETUP Push-button will extinguish and the Front Panel Display will revert back to its display of Input, Sampling Frequency and Volume %. Refer to figure 1.

Default Settings

The Default Settings Chart that follows indicates the Function Name, Default Setting and the Page Number for additional information.

Default Settings		
Function Name	Setting	Page No.
AUTO POWER OFF	ENABLED	14
FIRMWARE	V_._._	14

Auto Power Off

The di322 incorporates an Auto Power Off Feature, which can automatically place the di322 into the Power Saving Standby/Off Mode. This occurs approximately 30 minutes after there has been an absence of a Digital Audio Signal on the currently selected di322 Input. If it is desirable to change the default Auto Off Setting of Enabled to Disabled, perform the following steps:

1. Press the SETUP Push-button.
2. The Front Panel Display will momentarily indicate “Auto Power Off”. Refer to figure 3.

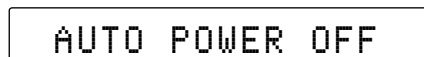


Figure 3

3. The display will then indicate the current setting, either Disabled or Enabled. Refer to figures 4 and 5.

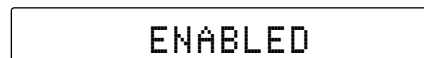


Figure 4



Figure 5

4. Press the INPUT Push-button to change the current setting.
5. Press the SETUP Push-button repeatedly until the LED above the SETUP Push-button is extinguished, the Front Panel Display indicates the currently selected Input Source. Refer to figure 1.

Firmware Version

The di322 functionality is controlled by internal software known as “Firmware”. The current Version of the Firmware can be identified by utilizing the Setup Mode.

1. Repeatedly press the SETUP Push-button until “FIRMWARE V_._._” is indicated on the Front Panel Display. Refer to figure 2.

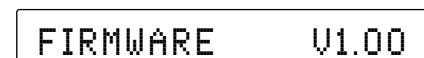
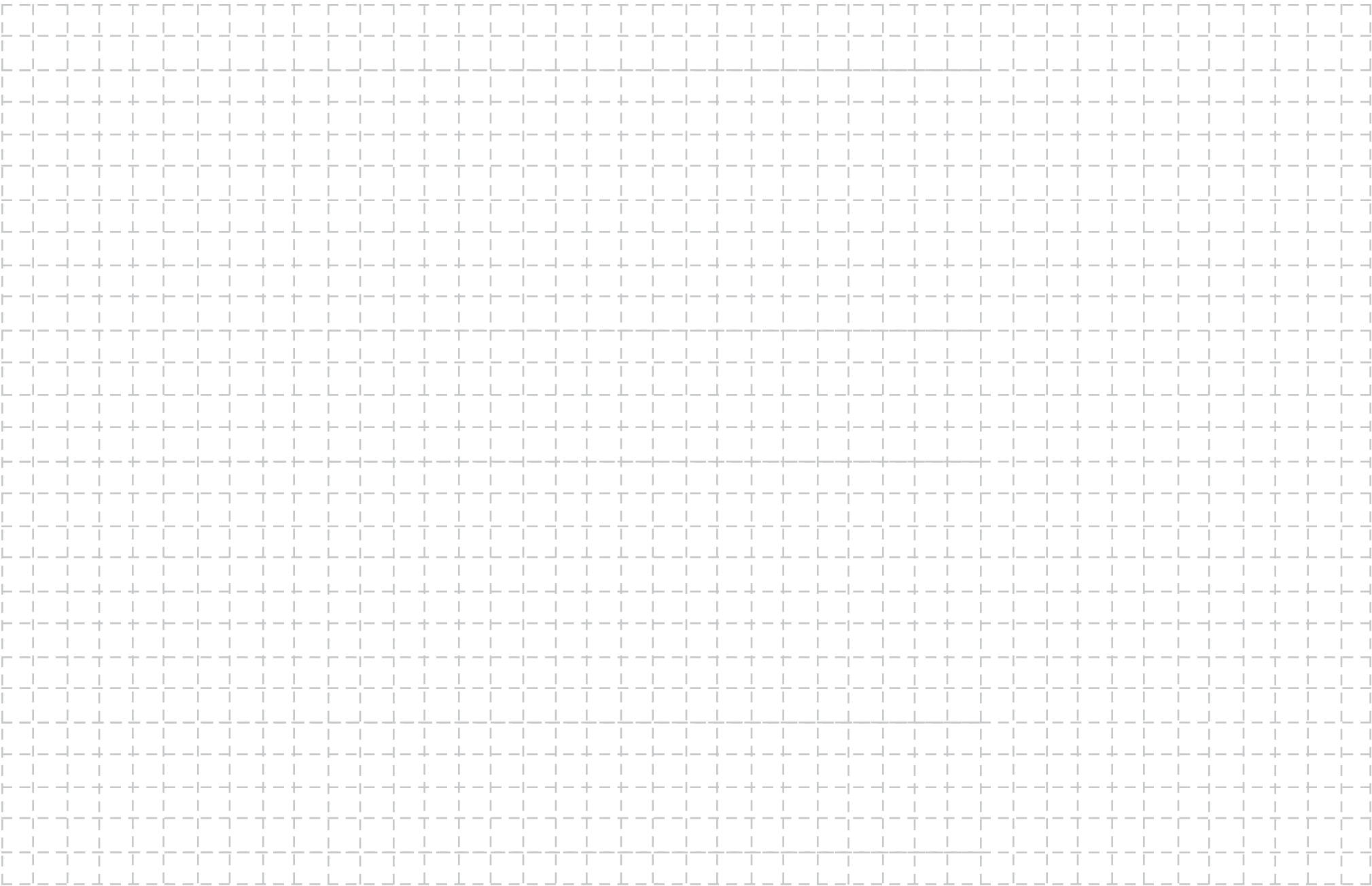


Figure 2

2. Press the SETUP Push-button until the LED above the SETUP Push-button is extinguished.





How to Operate the di322

Power On and Off

The Red LED above the STANDBY/ON Push-button lights to indicate the di322 is in Standby mode. To switch ON the di322, press the STANDBY/ON Push-button on the Front Panel or the MODE (Power On) Push-button on the Remote Control. The di322 will go through a brief startup initialization with the Front Panel Display indicating the last used Input Source and Volume Level Setting. Refer to figures 50, 53, and 56. To switch OFF the di322 press the STANDBY/ON Push-button on the Front Panel or the MODE (Power Off) Push-button on the Remote Control.



Figure 50

Source Selection

Press the INPUT Push-button on the Front Panel or the INPUT Push-button on the Remote Control to select the desired source. Refer to figures 53 and 56. When the selected Input Source stops sending a Digital Audio signal to the Wadia di322, the Front Panel Display will display a series of dashes where the Sampling Frequency is normally displayed. Refer to figure 51.

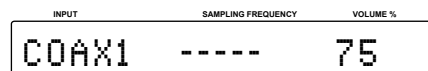


Figure 51

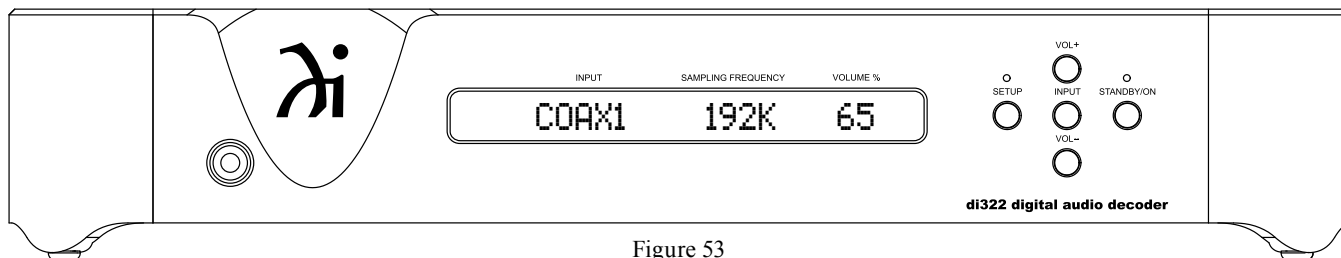


Figure 53

Volume Level

To change the Volume Level of the Wadia di322, press the Front Panel VOLUME + Push-button to increase the Volume or the VOLUME - Push-button to decrease the Volume. The Volume Level may also be changed by using the Remote Control ◀+ (Volume Up) Push-button or the -▶ (Volume Down) Push-button for the desired listening level. Refer to figures 53 and 56.

Note: A Volume Setting of 88% on the Wadia di322 will provide optimum performance when it is connected to a Preamplifier (Integrated Amplifier or Receiver).

Mute

Press the Remote Control MUTE Push-button to mute the Audio Outputs. Refer to figure 56. When the Wadia di322 is muted, the Front Panel Display will display a “m” to the right of the Sampling Frequency. Refer to figure 52. Pressing the MUTE Push-button a second time to un-mute the di322.



Figure 52

Headphones Jack

Connect a pair of dynamic headphones to the Headphones Jack with a 1/4" (0.635cm) stereo phone type

plug for private listening. Press MUTE Push-button to mute the Loudspeakers.

Note: The Headphone Output is optimized for impedances ranging from 20 to 600 ohms.

Display Brightness

The Front Panel Display Brightness may be changed from the default setting. The di322 will remember the brightness preference, High (default setting) or Low Illumination. To change the Brightness Setting, repeatedly press the DISPLAY Push-button on the Remote Control for the desired Brightness. Refer to figure 56.

Output Phase

Normally, the “Absolute Phase” of recorded music is “In Phase”. Occasionally the music may be “Out of Phase” and the di322 can correct this out of phase condition by pressing the PHASE Push-button on the Remote Control. On the Front Panel Display an “i” will appear to the right of the Volume Percentage. Refer to figure 54.

Note: For additional information on “Absolute Phase” and “Phase Reversal”, refer to note 5 on page 5.



Figure 54

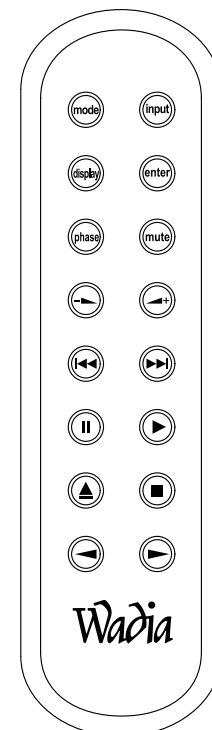


Figure 56

USB Input Operation and Driver Installation

The di322 USB Input provides the capability to playback music from a computer, when the computer is connected to the rear panel USB connector.

Note: The USB Input is for direct connection to a computer only. To playback music from a USB Drive, connect the USB Drive to another USB Port on the computer and select the USB Drive with the Media Playback Program.

The di322 USB Input is compatible with PC Computers using Microsoft®, Windows 7 (SP1) and Windows 8.1. It is also compatible with Apple® Macintosh® Computers using OS-10.6.8 or later.

When using a PC Computer with Windows, a special Wadia USB Audio Software Driver needs to be installed on the PC Computer. The driver needs to be installed before connecting the di322 USB Input to the USB Port on the computer.

Note: If an Apple Macintosh computer is used with the di322, no additional driver is required.

The Wadia USB Audio Windows Driver is available for download from the Wadia Web Site:

<http://www.Wadia.com/en-us/products/di322>

Under “PRODUCTS select “di322” then scroll down to the bottom of the Wadia di322 to the “DOWNLOAD AREA”. Select the “WADIA di322 PC DRIVER SETUP” and download the PC Windows Driver. Follow the instructions below to install the Wadia di322 Driver:

Purpose: To Install the Wadia USB Audio Windows Driver for use with Wadia Products with an USB-Digital Audio Input.

Requirements: 1. A PC Computer with a functioning USB Port.
2. Windows 7 (SP1 or greater) or Windows 8 (8.1) Operating System.

3. An USB Cable with Type A to Type B Connectors.

Installing the Software

It is important to first install the downloaded software on your computer before connecting the Wadia Product to the computer. The USB Driver is included in the downloaded software package.

Note: Before installing this software, please check to see if the Wadia Product(s) with the USB-Digital Audio Input has the latest firmware version, if not update the firmware first.

1. Unzip the downloaded Wadia Windows USB Driver Software Package.
2. Run “WadiaHDSwPkgSetup.msi”. Refer to figures 71 thru 76.
3. When the Windows Security window appears check the *Always trust software from “Savitech Corp.”* box and then the Install button. When the software has been installed it is necessary to reboot the computer. Refer to figures 76 thru 78.

After rebooting, a Wadia-HD icon will appear on the desktop. Refer to figure 79.



Figure 71



Figure 72

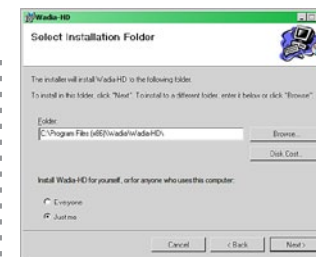


Figure 73



Figure 74

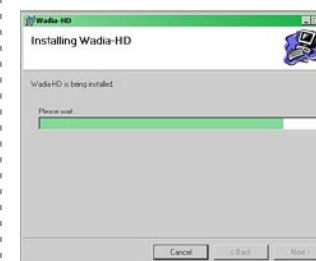


Figure 75

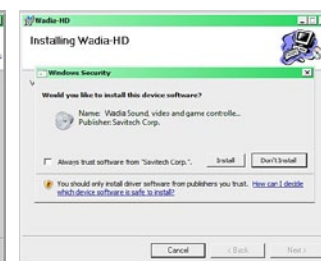


Figure 76



Figure 77

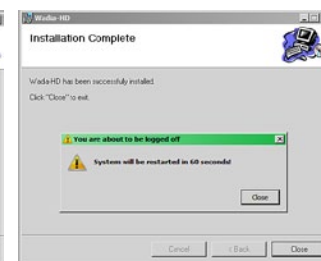


Figure 78

USB Connection

Connect the USB Cable with Type A to Type B connectors between the PC Computer and the Wadia Product with the USB-Digital Audio Input. An Icon will appear On-Screen indicating Windows has found new



Figure 79

hardware. Refer to figure 80.

Upon completion of installing the driver, figure 81 will appear.

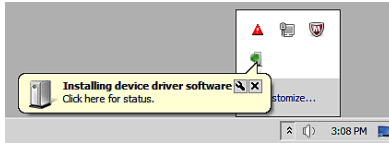


Figure 80

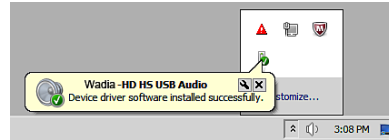


Figure 81

Windows Sound Settings

For proper operation of the Wadia Product via the Computer USB Connection, it is required to make changes to Windows Sound Settings:

1. From the Windows START button, click on “CONTROL PANEL” followed by selecting “SOUND”. Refer to figure 82.
2. Referring to figure 83, first select “Wadia-HD HS USB Audio” and then click on the “Set Default” button.

Notes: 1. When the Wadia USB Audio Product is not connected to your computer, the previous



Figure 82

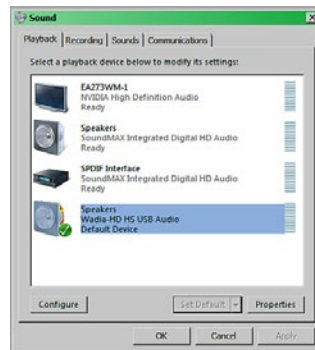


Figure 83

default Audio Device will be selected.

2. If other Wadia Products with USB Audio Connections are also connected to the computer, an additional “Wadia USB Audio” playback device will appear in the listing. Make sure to select the “Wadia-HD HS USB Audio” from available playback devices listed when using this Wadia Product for USB Audio.

Control Panel Settings

To activate the Wadia-HD USB Audio Control Panel Click on the “Wadia Icon” (located in the Windows notification area on the right side of the taskbar) or click on the Windows “Show hidden icons”, then select the “Wadia Icon”. Refer to figures 84 and 85.

Notes: 1. It is not necessary for the Wadia-HD USB Audio Control Panel to be running, unless it is desired to make changes to the default settings.

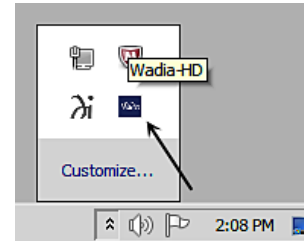


Figure 84

2. The Wadia-HD USB Audio Control Panel displays the current Sampling Rate, Bit-Rate and Buffer Size for the music streaming from the computer into the di322.
3. When the Media Stream Program on the computer is set to output in the “ASIO” format the Wadia -HD USB Audio Control Panel allows for changing the setting parameters on the fly.

USB Music Playback

When the USB Input is selected on the Wadia di322, the Front Panel Display indicates the Sampling Rate (refer to figures 86 and 87 for PCM Signals).

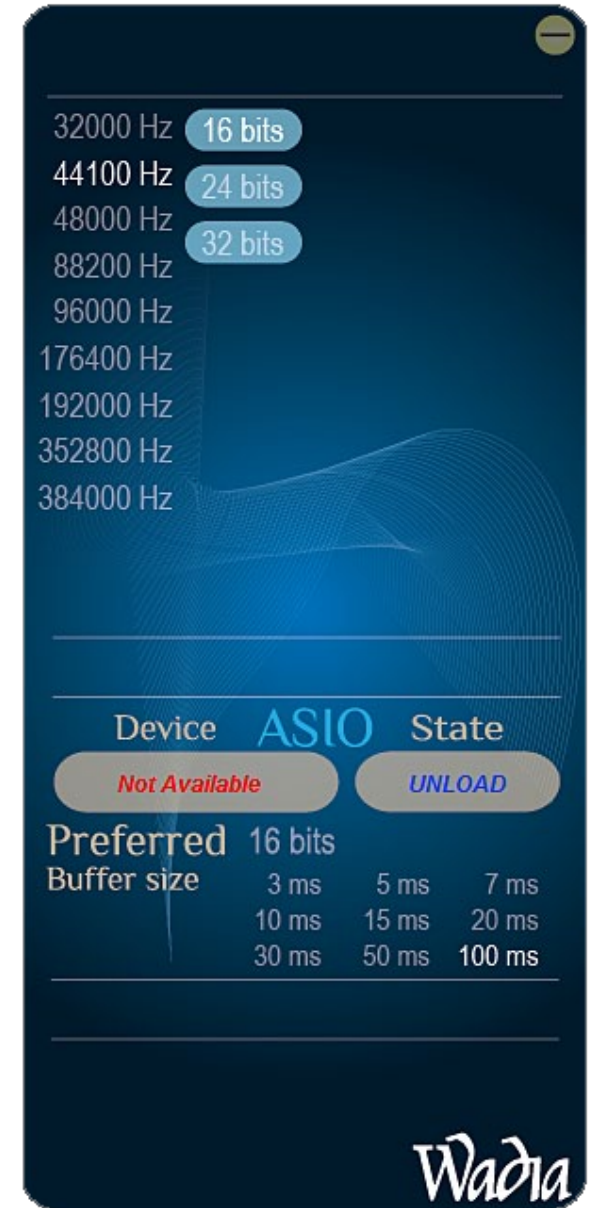


Figure 85

INPUT	SAMPLING FREQUENCY	VOLUME %
USB	192K	75

Figure 86

INPUT	SAMPLING FREQUENCY	VOLUME %
USB	352.8K	75

Figure 87

Figures 88 and 89 indicate a Sampling Rate of 64 or 128 times the Sampling Rate of a CD Disc for the incoming DSD Digital Audio Signal.

INPUT	SAMPLING FREQUENCY	VOLUME %
USB	DSD64	75

Figure 88

INPUT	SAMPLING FREQUENCY	VOLUME %
USB	DSD128	75

Figure 89

The Sampling Rate and the Bit Rate is determined by the original recording, the Application Output Format (when available) and the Wadia-HD Control Panel Settings.

Note: In general, when the original music is recorded at a higher Sampling Rate, the result is usually more detail in the music. However, this higher rate results in consuming larger amounts of storage space. The Sample Rate usually should be set to match the Sample Rate of the music recording being played back.

There are many third party Applications (besides Applications like Windows Media Player) for steaming music from the computer to Wadia di322 USB Input. An example of just one of the available applications is "JRiver Media Center".

Reset of Microprocessors

In the unlikely event the controls of the di322 stop functioning while On or the di322 will not switch On, the microprocessors can be reset by performing the following:

1. Simultaneously press and hold in the SETUP and INPUT Push-buttons until the LED indicator above the STANDBY/ON Push-button is extinguished.
2. To switch the di322 back on, press STANDBY/ON Push-button.







Audio Specifications

Frequency Response

+/-0.5dB from 4Hz to 20,000Hz

+0.5/-3dB from 4Hz to 68,000Hz (Source dependent)

Total Harmonic Distortion

0.002%

Variable Output level

0 - 4.0Vrms Unbalanced

0- 8.0Vrms Balanced

Signal To Noise Ratio (A-Weighted)

110dB

Dynamic Range

100dB

Output Impedance

600 ohms Unbalanced and Balanced

Headphone Load Impedance

20 to 600 ohms

Digital Audio Specifications

Digital Input Signal Format

Coaxial and Optical Inputs - SPDIF (PCM¹)

USB Input - PCM¹, DSD

DIN Input - SPDIF (CD), DSD (SACD)

Digital Input Sample Rate

Coaxial and Optical: 32kHz, 44.1kHz to

192kHz, 24-Bit

USB: 32kHz, 44.1kHz to 384kHz, 32-Bit (PCM)

DSD64, DSD128, DSD256, DXD352.8kHz,
DXD384kHz

Digital Inputs

Coaxial 1 and 2: 0.5V p-p/75 ohms

Optical 1 and 2: - 15dbm to -21dbm (TOS Link)

USB: USB Type B Connector

¹ PCM (Pulse Code Modulation) Digital Signal type used for
CD Discs, etc.

General Specifications

Power Requirements

Field AC Voltage conversion of the di322 is not possible. The di322 is factory configured for one of the following AC Voltages:

100 Volts, 50/60Hz at 30 watts

110 Volts, 50/60Hz at 30 watts

120 Volts, 50/60Hz at 30 watts

220 Volts, 50/60Hz at 30 watts

230 Volts, 50/60Hz at 30 watts

240 Volts, 50/60Hz at 30 watts

Standby Power, less than 0.5 watts

Note: Refer to the rear panel of the di322 for the correct voltage.

Overall Dimensions

Width is 17-7/8 inches (45.4cm)

Height is 3-3/8 inches (8.6cm) including feet

Depth is 20 inches (50.8cm) including the Front Panel,
and Cables

Weight

25 pounds (11.4 kg) net, 29.5 pounds (13.4 kg) in shipping carton

Shipping Carton Dimensions

Width is 22-1/2 inches (57.2cm)

Height is 8-1/8 inches (20.6cm)

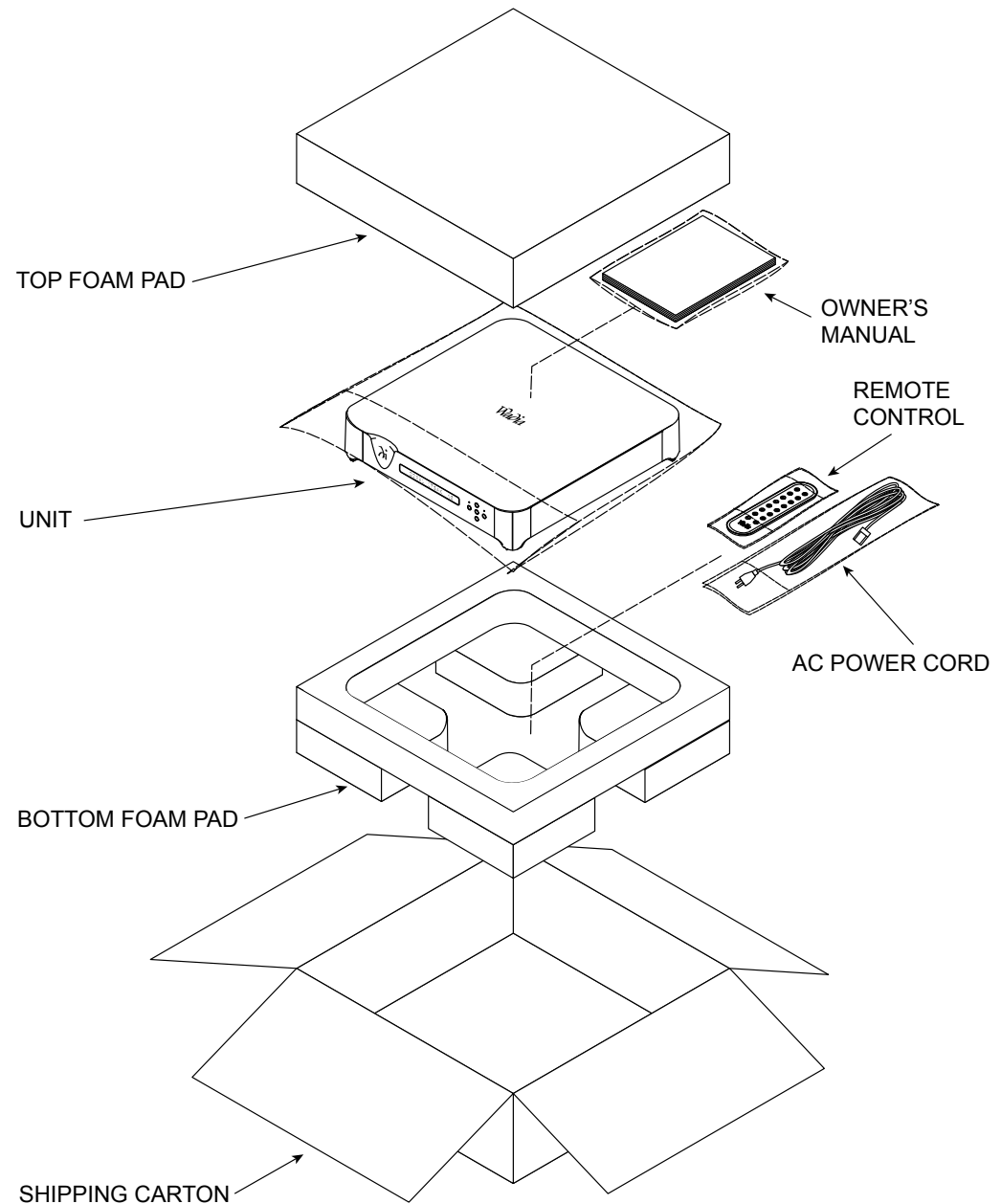
Depth is 22-1/2 inches (57.2cm)

Packing Instructions

In the event it is necessary to repack the equipment for shipment, the equipment must be packed exactly as shown below. It is very important to ensure the proper equipment location between the bottom and top foam pads. Failure to do this will result in shipping damage.

Use the original shipping carton and interior parts only if they are all in good serviceable condition. If a shipping carton or any of the interior part(s) are needed, please call or write Customer Service Department of Wadia. Refer to page 4. Please see the Part List for the correct part numbers.

Quantity	Part Number	Description
1	034555	Shipping carton only
1	034556	Top foam pad
1	034564	Bottom foam pad





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