

C A R Y A U D I O



OWNER'S MANUAL

DAC-200ts

USB Digital to Analog Converter

NOTE: Before installing your new component, please read this manual carefully as it will inform you of the product specifications, proper installation and correct operating procedures for your unit. Also included in this manual are guidelines on how to service and care for your new Cary Audio Design product.

TABLE OF CONTENTS

Important Safety Instructions.....	3
Welcome	
Thank You	5
Installation	
Unpacking	6
Warranty Card	6
Placement	7
Features	
Product Features.....	8
Controls and Displays	
Front Panel.....	10
Rear Panel.....	12
Remote Control.....	14
App Control for iOS and Android (Future).....	15
Variable Volume & Digital Preamplifier Operation	
Volume Control	16
Using as a Digital Preamplifier	16
Menu Operation	
Setup Menu Overview.....	17
Procedures for Navigating Ethernet and Wi-Fi Sub Menus	17
Setup Menu – Expanded View and Functions.....	18
Network Ethernet and Wi-Fi Setup.....	19
Maintenance Functions	23
SPDIF DAC Operations	
Using the SPDIF Inputs	23
USB Operation	
USB Requirements	25
PC Driver Installation.....	25
Macintosh USB Audio Setup	25
USB Audio Playback.....	26
DSD Playback	27
BLUETOOTH Operation	
BLUETOOTH Connection.....	28
BLUETOOTH Playback	28

TABLE OF CONTENTS

Word Clock Operation	
Word Clock In.....	29
Word Clock Out.....	29
TruBit™ Upsampling Operation	
Sample Rate Converter Function	30
DiO™ Analog Output Stages	
Dual Independent Analog Output Function.....	31
Balanced Connections	
Balanced Connections.....	32
Specifications	
Basic Specifications	33
USB Playback (PCM & DSD) Specifications.....	34
SPDIF Playback; Coaxial, Toslink, AES/EBU (PCM) Specifications	34
Service and Care	
Care and Cleaning	35
AC Power Fuse Replacement.....	35
Factory Service	35
Non-Warranty Repairs	35
Tube Replacement	36
Limited Warranty	37

IMPORTANT SAFETY INSTRUCTIONS

WARNING: The triangle with the lightning flash symbol displayed on the unit advises the user of dangerous un-insulated voltage inside the product's enclosure.

CAUTION: To reduce the risk of electric shock, do not remove the cover. There are no user-serviceable parts inside; it is recommended that only qualified personnel service this component.

ALERT: The triangle with the exclamation point symbol on the component suggests that the owner refer to important operating and maintenance instructions in the owner's manual.



1. **OWNER'S MANUAL:** Before powering up the equipment, read all safety and operating instructions and follow them as instructed. Retain the safety and operating instructions for future reference.
2. **ATTACHMENTS:** Use only those attachments recommended by the unit manufacturer, as others may cause hazards.
3. **ACCESSORIES:** Do not place the unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing injury to a person or damage to the unit. Mount the unit according to the manufacturer's instructions with the suggested mounting accessory.
4. **WALL OR CEILING MOUNTING:** Mount the unit to a wall or ceiling only in the manner recommended by the manufacturer.
5. **WATER AND MOISTURE:** Do not use the unit near water (for example, near a swimming pool, bath tub, wash bowl, kitchen sink, or laundry tub) or in a damp environment (like a basement or outside in the rain).
6. **OBJECT AND LIQUID ENTRY:** Do not push objects of any kind into the unit through openings as they could touch dangerous voltage points and short-out parts, possibly resulting in a fire or electric shock. Avoid spilling liquid of any kind on the unit. If water or any metal object (such as a paper clip, coin, or staple) accidentally falls inside the unit, disconnect it from the AC power source immediately and contact Cary Audio Design for further instructions.
7. **HEAT:** Position the unit away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.
8. **VENTILATION:** Slots and openings in the cabinet create ventilation to protect the component from overheating. These openings on the top and bottom panels must remain unobstructed. Allow at least 6 inches (16cm) of clearance above the unit and an opening behind the unit for airflow. Do not place the unit on a bed, sofa, rug, built-in bookcase, or rack without adequate ventilation.
9. **GROUNNING OR POLARIZATION:** As a safety feature, the unit may be equipped with a polarized alternating current line plug in which one blade is wider than the other. This plug will fit into the power outlet only one way. If you cannot insert the plug fully into the outlet, try reversing the plug. If the plug still will not fit, contact a licensed electrician to update your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
10. **POWER SOURCES:** Operate the unit only from the power source indicated on the marking label. If you are unsure of the type of power supplied to your home, consult your unit dealer or local power company.
11. **POWER CORD PROTECTION:** Arrange power supply cords so that they do not suffer from foot traffic or pinching by items placed on or against them. Pay close attention to cords where plug enter the AC outlet and where they exit from the unit.
12. **LIGHTNING:** For added protection during a lightning storm or when the component is idle for long periods of time, unplug the unit from the wall outlet and disconnect the antenna or cable system. This will help protect the unit from lightning and power line surge damage.
13. **POWER LINES:** Do not locate an outside antenna system in the vicinity of overhead power lines or other electric light or power circuits. When installing an outside antenna system, take extreme care to avoid touching the power lines or circuits; contact with them could be fatal.
14. **OVERLOADING:** Do not overload wall outlets, extension cords, or integral convenience receptacles as this increases the risk of fire or electric shock.
15. **REPLACEMENT PARTS:** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or those having the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock or other hazards.
16. **SAFETY CHECK:** Upon completion of any service or repairs to the unit, ask the service technician to perform safety checks to ensure the unit is in proper operating condition.

IMPORTANT SAFETY INSTRUCTIONS

17. IMPORTANT SAFETY NOTE:

- Before connecting a new product such as the Cinema 12 to your audio or home theater system, turn off all other equipment (preferably unplugging them from the AC power source). Many audio components feature automatic turn-on circuits that may activate during an installation, potentially causing damage to electronic components and/or speakers. This type of damage is not covered by product warranties, and Cary Audio specifically disclaims responsibility for any such damage.
- **Power Cord:** The removable power cord provided with your unit was specifically designed for use with this product, but other AC cords may be used. Consult your dealer for advice on AC power cords and high quality wire in your system.
- **AC Fuse:** The fuse is located inside the chassis and is not user serviceable. If the unit does not power up, contact an authorized service representative
- **Wiring:** Cables running inside walls should have the appropriate markings to indicate compliance and listing by the UL, CSA or other standards required by the UL, CSA, NEC or your local building code. Questions about cables inside of walls should be referred to a qualified custom installer, a licensed electrician, or low-voltage contractor.



18. RECORDING COPYRIGHT: Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

19. NOTE TO CATV SYSTEM INSTALLER: This reminder is provided to call the CATV system installer's attention to article 820-40 of the NEC, ANSI/NFPA 70, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

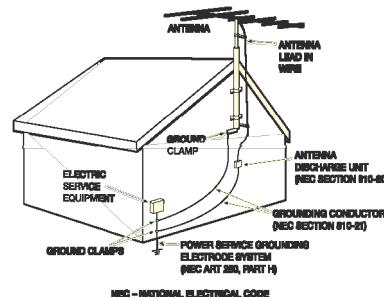
20. FCC INFORMATION FOR USER:

- **CAUTION:** Any changes or modifications not expressly approved by Cary Audio Design could void the user's authority to operate the equipment.
- **NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.
- These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy, and if not installed and used in accordance with the instructions it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from where the receiver is connected.



21. OUTDOOR ANTENNA INSTALLATION/SAFE ANTENNA AND CABLE CONNECTION:

- If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded in order to provide protection against built-up static charges and voltage surges. Article 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, Part 1 of the Canadian Electrical Code) provides information regarding proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.
- Outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.



WELCOME

THANK YOU

Congratulations on becoming a Cary Audio owner!

Cary Audio would like to thank you for purchasing our products.

Since its founding in 1989, Cary Audio has stayed at the forefront of home entertainment equipment by stubbornly adhering to the principles of quality and musicality upon which it was founded. It's not enough just to be able to build great sounding gear, but it needs to be well-made, reliable, and maintain its performance and value for many years. Cary Audio has certain criteria that have guided us since we began, and are still our primary focus.

We firmly believe in high performance products that offer incredible value for the money, backed by superior engineering and design, and supported by exceptional customer service. Whether a headphone amplifier or a world-class surround sound processor, Cary Audio uses the highest quality components available within the audio circuit, resulting in extraordinary sound quality. This is a well-known hallmark of all Cary Audio products.

For over a quarter century of providing the best in high performance music systems, Cary Audio remains committed to our goals of building the very best products, at real-world prices, and supporting them with world-class service. Let our passion for the very finest sound and picture quality help you better enjoy your music and movies! Thank you for your continued support!

Cary Audio

INSTALLATION

UNPACKING

This section describes the proper unpacking and installation procedures.

Unpacking

All Cary Audio shipping cartons have been specially designed to protect their contents and special care has been taken to prevent damage under normal shipping conditions. Mishandling should be evident upon inspection of the shipping container. If shipping damage is found after visual inspection, take care not to destroy the evidence. If necessary, document the damage with photographs and contact the transport carrier immediately.

Carefully remove your new component from its packing carton and examine it closely for signs of shipping damage. We strongly recommend saving all original packing cartons to protect your component from damage should you wish to store it or ship it at a later date.

Power Requirements

The DAC-200ts Digital to Analog Converter is designed to operate from AC main current. The design AC voltage is either 110V-120V or 220V-240V AC at 50-60 Hz.

In the Box

When unpacking your DAC-200ts, make sure the following accessories are included. You should find the following items within the box:

- Power Cable
- Owner's Manual
- Warranty Card
- Two Screws on Adjustable Angle Antennas

WARRANTY CARD

IN THE USA: If you are the original purchaser of a new unit purchased from an authorized Cary Audio dealer, please fill out the enclosed warranty registration card and return it to Cary Audio within 15 days of your purchase. Cary Audio also suggests that you keep your original packing cartons in case you ever need to ship the unit. Warranty restrictions apply. Consult the warranty section at the end of this manual for details. Please be certain to keep a copy of the original sales receipt from your direct purchase from Cary Audio or your authorized Cary Audio dealer to validate the warranty if ever needed. The warranty is for the original purchaser only and does not transfer to any subsequent owner.

OUTSIDE THE USA: Your local authorized Cary Audio distributor will make his own warranty policy for your country. Please check with them for the terms of warranty for your new amplifier.

INSTALLATION

PLACEMENT

In general, the location of your new DAC-200ts is not critical. Certain precautions must be taken to ensure optimum performance. Avoid extremely hot locations such as near radiator or other heating units. Keep the top of the DAC-200ts clear of books, paper or other equipment to protect against overheating.

WARNING

The DAC-200ts ships with the volume set to maximum (8.0) output for a full 3 volt output. IF you are using the DAC-200ts as a digital preamplifier and connecting directly to an amplifier (without using a preamplifier, integrated amplifier, or receiver), it is recommended to set the Volume to "Master" (see SETUP MENU instructions below) prior to operating. Upon first turn on, please turn the volume down to -98.5 (minus) BEFORE turning on your amplifier. Otherwise, maximum output volume will be passed directly to the amplifier inputs, which may damage your amplifier, speakers or your hearing.

FEATURES

The following section describes the DAC-200ts basic features. Please read the Operation Section of this manual to learn more on utilizing these features. The features are subject to change without notice or obligation.

MULTIPLE PARALLEL DAC TOPOLOGY

While the DAC chip(s) are a piece to the overall solution in creating a reference level digital source machine, it's just one part of a very complex puzzle. As DAC chips become smaller and more powerful with multiple channels per DAC and onboard processing, one could design a good product utilizing perhaps just one chip, maybe two chips, as many do. For the DAC-200ts, good wasn't good enough. We choose to use 4 DACS consisting of 8 channels, 4 channels per side. This makes for an outstanding product. This configuration is a fully balanced parallel circuit feeding both the balanced XLR and single-ended RCA outputs for exceptional clarity and detail.

***fi™* BLUETOOTH IMPLEMENTATION**

Bluetooth modules are a fantastic and convenient way in which to share and listen to music from online and mobile sources. It's not unusual for companies to use such modules as a complete end-to-end or add on solution whereby using the cheap low-grade onboard DAC chips included in the modules and simply passing the analog signal of the module to the analog output section. Our solution is to *fully integrate (fi™)* the digital information of the CSR aptX® lossless Bluetooth receiver into the entire digital circuit of the DAC-200ts. This approach ensures that Bluetooth sources have the potential to sound like any other expensive input source whereby utilizing our sophisticated digital topology of multiple parallel DACs and our other integrated digital features such as; TruBit™ Upsampling, OSO™ Reclocking, and DiO™ selectable tube or solid state outputs. Now your Bluetooth sources can truly be high *fi*.

TruBit™ Upsampling

Upsampling can be messy, leaving behind lots of digital artifacts resulting in noise and inaccurate signal generation. On the surface, upsampling may seem like a good idea. But if not implemented properly it can be disastrous. Many DACs use modest DSP chips at best, or worse, the DAC chip itself to upsample all incoming I2S and SPDIF digital signals. Typically, this is done as a predefined *one-size-fits-all* sample rate, such as 96 kHz. On the contrary, Cary Audio's TruBit™ Upsampling is a sophisticated and powerful process utilizing a dedicated 128 bit DSP engine which allows for up to 7 different selectable TruBit™ sample rates and an increased bit depth of 32 bits. Working in tandem with our OSO™ Reclocking feature, the newly generated signal is cross-checked multiple ways ensuring that the selected upsampled rate is as if it were an original native signal. The result is a signal free from digital artifacts that sounds accurate, pure, and a joy to listen to.

FEATURES

OSO™ RECLOCKING

Once a digital signal is transferred into Cary Audio's digital ecosystem via the digital inputs or CD, it is processed with extreme care to ensure the best possible sound achievable. As a digital source transfers from one point A to point B it creates an insidious digital problem called jitter. To deal with this, Cary Audio uses something we call OSO™ Reclocking. While USB Asynchronous inputs use the XMOS processor to control the clocking of the USB host, other non-USB sources don't have this luxury. Our solution is to re-clock all signals again once onboard, even XMOS USB, as to ensure all jitter is virtually eliminated to a minute degree. We call this OSO™, short for "Onboard Signal Origination" because this re-clocking and buffering creates a signal so stable and jitter free it's as if the origin of the signal was generated onboard and not from an external source.

XMOS xCore USB ASYNCHRONOUS

XMOS is the de-facto standard in USB Audio 2.0. This design delivers bit perfect PCM audio up to 384kHz, DSD and DoP format support, round trip latencies as low as 3ms and use asynchronous clocking for computer USB sources. This means the DMC has complete control over the audio clock quality; essential for no-compromise digital audio systems.

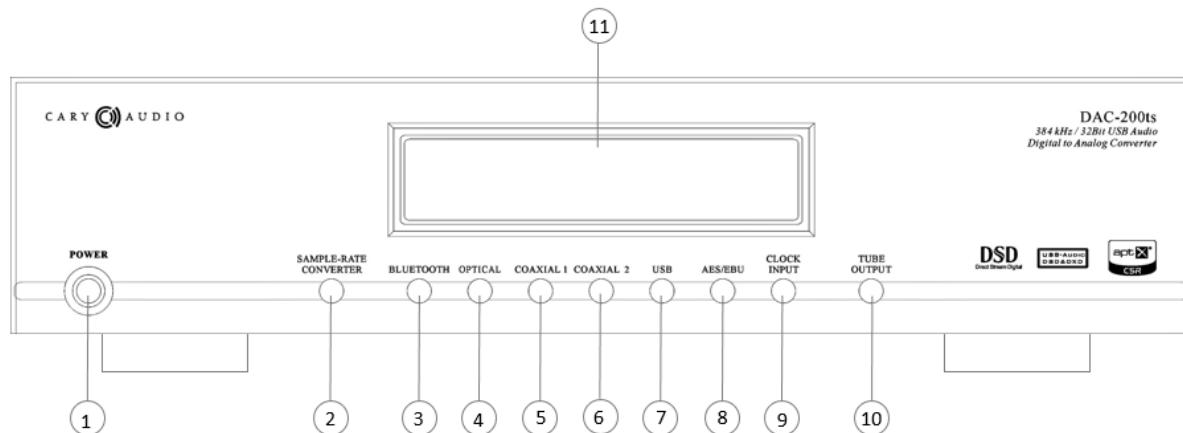
NOTE: TruBit™ Upsampling Sample Rate Converter does NOT engage for the USB source. Since USB playback is dependent on media player software of the PC or MAC, you must select any desired upsampling within the chosen media player software itself.

DiO™ ANALOG STAGES

For decades, Cary Audio has made some of the world's greatest vacuum tube and solid state audio products. DiO™ stands for "Dual Independent Output" meaning it can switch between a vacuum tube analog outputs or a solid state analog output. Not to be confused with a hybrid design where the attributes of both tubes and solid state devices are joined into the same circuit for a combine sound that always has the same characteristic. While a hybrid design is typically better suited for an amplifier or perhaps preamplifier, it's not the best design for source products because of the wide variation of source material, i.e. recordings. To deal with this, Cary Audio's DiO™ Analog Stage is actually two separate analog output stages that are completely independent of one another. One is all solid state and the other is vacuum tube. Depending on taste or source material, the analog output can be switched on the fly from tube to solid state and back again, again and again. It's like having two source machines in one allowing you to get the most out of your recordings.

CONTROLS AND DISPLAYS

FRONT PANEL



1. POWER

Press once to turn the power ON. The blue indicator ring will blink until the unit is ready to operate. Press again to turn the power off.

2. SAMPLE RATE COVERTER BUTTON

Use this button to change the sample rate of the input signal via Cary Audio TruBit™ upsampling technology. Each time the button is pressed, the sample-rate will increase as follows:

BYPASS (44.1) ---> 48 ---> 88.2 ---> 96 →176.4 ---> 192 ---> 352.8 /384---> 705.6/768 kHz --->

3. BLUETOOTH INPUT BUTTON

Press this button to select the program source of connected/paired BLUETOOTH source.

4. OPTICAL TOSLINK INPUT BUTTON

Press this button to select the program source connected to the digital input jack labeled Optical. For digital signals over 96kHz it is usually best to use the coaxial, AES/EBU or USB input. Many Toslink cables do not transfer signals above 96kHz.

5. COAXIAL 1 INPUT BUTTON

Press this button to select the program source connected to the digital input jack labeled COAXIAL 1.

6. COAXIAL 2 INPUT BUTTON

Press this button to select the program source connected to the digital input jack labeled COAXIAL 2.

7. USB INPUT BUTTON

Press this button to select the PC or MAC computer connected to the digital input jack labeled USB.

8. AES/EBU INPUT BUTTON

Press this button to select the program source connected to the digital input jack labeled AES/EBU.

CONTROLS AND DISPLAYS

9. CLOCK INPUT BUTTON

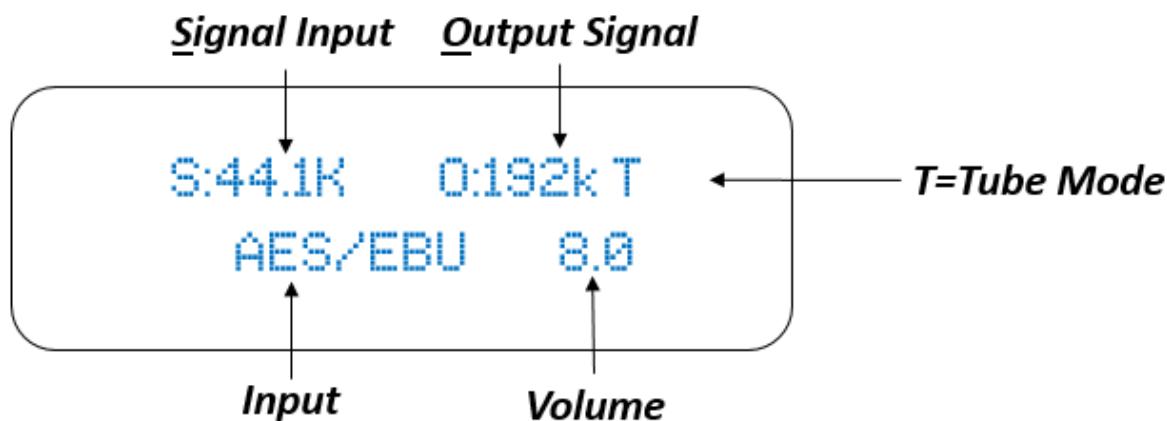
Press this button to select the Clock Input when an external master clock is connected to the Word Clock input of the DAC-200ts.

10. TUBE BUTTON

Use this button to switch the analog dual independent output stages (DiO™) between vacuum tube and the solid state.

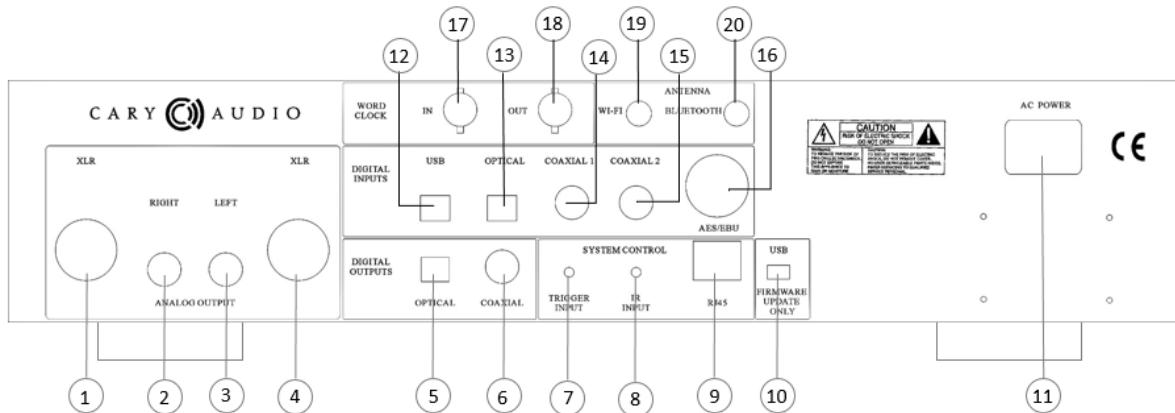
11. ALPHANUMERIC DISPLAY WINDOW

This twenty-character display provides a wide range of information concerning the operation of the DAC-200ts.



CONTROLS AND DISPLAYS

REAR PANEL



1. RIGHT CHANNEL ANALOG OUTPUT JACK (XLR BALANCED)

Use this jack for connecting to the preamplifier/amplifier's balanced XLR input jack.

2. RIGHT CHANNEL ANALOG OUTPUT JACK (RCA UNBALANCED)

Use this jack for connecting to the preamplifier/amplifier's RCA unbalanced input jack.

3. LEFT CHANNEL ANALOG OUTPUT JACK (RCA UNBALANCED)

Use this jack for connection to the preamplifier/amplifier's RCA unbalanced input jack.

4. LEFT CHANNEL ANALOG OUTPUT JACK (XLR BALANCED)

Use this jack for connecting to the preamplifier/amplifier's balanced XLR input jack.

5. DIGITAL OUTPUT JACK (TOSLINK)

44.1 kHz – 192 kHz digital data output.

6. DIGITAL OUTPUT JACK (COAXIAL)

44.1 kHz - 192 kHz digital data output.

7. DC TRIGGER INPUT TERMINALS

Connection of devices that have DC + 12V output for remote turn-on/off of the DAC-200ts.

8. IR INPUT

Connection of external IR sensors.

9. ETHERNET RJ45 JACK

For network system control.

10. MINI USB FIRMWARE

For internal service use only

11. POWER INPUT (AC IN)

Connect to AC mains using the included power supply cord.

12. DIGITAL INPUT JACK (USB)

44.1 kHz -384kHz and DSD 64, 128, 256 digital data input to this jack.

CONTROLS AND DISPLAYS

13. DIGITAL INPUT JACK (OPTICAL)

44.1 kHz -192kHz digital data input to this jack.

14. DIGITAL INPUT JACK (COAXIAL 1)

44.1 kHz -192kHz digital data input to this jack.

15. DIGITAL INPUT JACK (COAXIAL 2)

44.1 kHz -192kHz digital data input to this jack.

16. DIGITAL INPUT JACK (AES/EBU)

44.1 kHz -192kHz digital data input to this jack.

17. WORD CLOCK INPUT JACK

For connection to an external master clocks output.

18. WORD CLOCK OUTPUT JACK

For connection to an external source.

19. Wi-Fi Antenna

Wireless network connection for system control.

20. BLUETOOTH ANTENNA

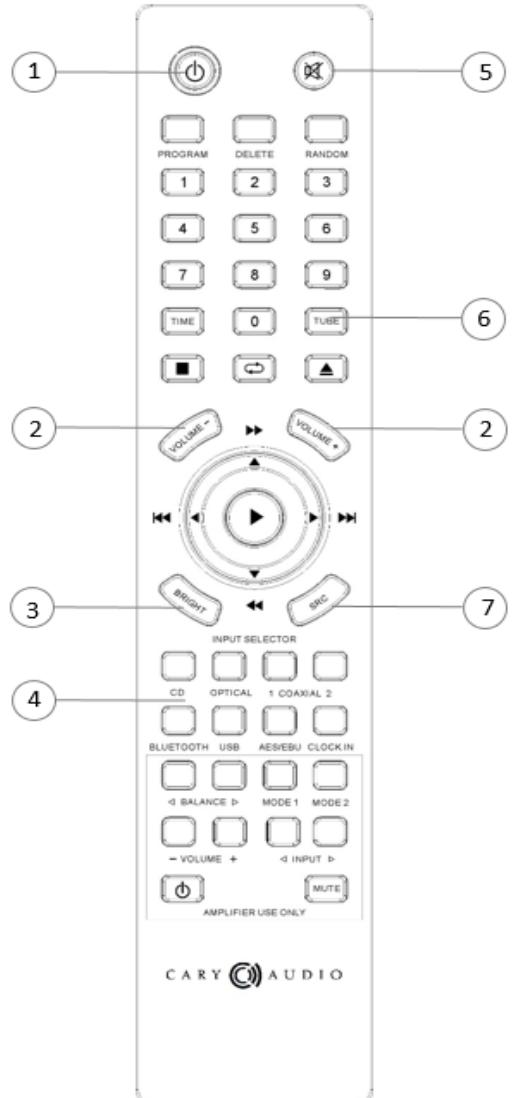
44.1 kHz CSR aptX® lossless wireless digital audio receive port.

CONTROLS AND DISPLAYS

REMOTE CONTROL

This section explains how to use the remote control to set up and operate the DAC-200ts.

1. **POWER:** Use to turn the power on and off.
2. **VOLUME -/+:** Decrease or increase volume for the analog outputs.
3. **BRIGHT:** Use to select the player displays various brightness levels or turn the display off.
4. **INPUT SOURCE SELECTOR:** Use to select the desired input source.
5. **MUTE:** Use to mute sound. Press again to resume sound.
6. **TUBE:** Use to select the DiO™ analog output sections between the vacuum tube stage and solid state stage.
7. **SRC:** Sample Rate Converter. Press to select a TruBit™ upsample-rate.



CONTROLS AND DISPLAYS

APP CONTROL FOR iOS AND ANDRIOD (**FUTURE**)

The DAC-200ts has a specialized App for iOS and Android devices that can be downloaded free of charge from Apple iTunes or the Google/Android Apps Marketplace. Utilizing the DAC-200ts Ethernet port or built-in Wi-Fi connection, these Apps can control all functions and maintenance of the DAC-200ts once the DAC-200ts has established a connection to your network. For information on connecting to a network, please be sure to read the **Ethernet and Wi-Fi Setup** section of the manual.

VARIABLE VOLUME & DIGITAL PREAMPLIFIER OPERATION

VOLUME CONTROL

The DAC-200ts is equipped with a variable digital volume that outputs up to 3 volts. This volume control can be set to "Master Volume", which is ideal if you wish to use the DAC-200ts as a digital preamplifier, connecting it directly to an amplifiers inputs (*see below for more information on using the DAC-200ts as a digital preamplifier*). The volume control is located on the hand held remote as well as all switching and all other features making for a complete and convenient means of controlling the DAC-200ts Digital Music Center.

When using the DAC-200ts as a source unit and connecting to a preamplifier, integrated amplifier, or receiver, it is recommended to set the volume to "Independent Volume". When possible, it is recommended to set the volume/output voltage be set to 3 volts, or max volume (8.0). However, the "Independent Volume" setting allows for adjusting the volume to each input if one chooses to volume match multiple sources. Please check your associated equipment's documentation to be sure it can accommodate a 3.0 volt input. Otherwise, set the volume/voltage to level that matches the highest acceptable input voltage of your associated equipment for maximum sonic benefit.

Volume Level (dB)	Output Voltage (v)	Volume Level (dB)	Output Voltage (v)
-98.5 to -0.1	0.15v to 1.95v	4.0	2.60v
0.0	2.0v	4.5	2.65v
+0.5	2.075v	5.0	2.70v
1.0	2.15v	5.5	2.75v
1.5	2.225v	6.0	2.80v
2.0	2.30v	6.5	2.85v
2.5	2.375v	7.0	2.90v
3.0	2.45v	7.5	2.95v
3.5	2.525v	8.0	3.0v

USING AS A DIGITAL PREAMPLIFIER

If using The DAC-200ts as a digital preamplifier and connecting it directly to an amplifier, be sure to **turn ON** the DAC-200ts **BEFORE** turning on your amplifier. Then, **Set the DAC-200ts volume to - 98.5** (minus). Only after being sure the volume is turned down, *turn on your amplifier and gradually turn up The DAC-200ts volume to an appropriate listening level*. Otherwise, extreme damage may occur to your amplifier, speakers or hearing.

As when using a traditional preamplifier, it is recommend that you turn the volume down on the DAC-200ts prior to turning the system off so as to prevent any excessively loud or damaging sounds pass through to your amplifier when turning on your system.

MENU OPERATION

SETUP MENU OVERVIEW

1. Enter “**1,2,1,2**” quickly on the hand held remote. If Setup Menu does not appear, re-enter the sequence faster and closer.
2. The display screen will show the Menu Mode as follows:

SETUP MENU

Volume Setup

IR Controls

Ethernet

Wi-Fi

EXIT

3. Using the “**UP**” or “**DOWN**” arrow keys on the remote, *highlight* your selection and **press Enter**.
4. Make your selections for each mode and **press Enter** to back out to the Setup Menu.
5. When finished, *select EXIT* and **press Enter** to leave the Setup Menu.

PROCEDURES FOR NAVIGATING ETHERNET & WI-FI SUB MENUS

Select Ethernet or Wi-Fi and press enter.

1. A * will denote the active sub menu topic with a selection choice below it.

Enable *

No

2. To change the default selection of a sub menu topic, press enter. Notice the * will move down to indicate the active selection which will blink.

STEP 1

Enable:

No (blink) *

3. As it blinks, use the up/down keys on the remote to change the available choices and press enter to make your selection. Note that all selection choices are not visible and you must use the up/down keys to scroll all available choices.

STEP 2

Enable:

Yes (blink) *

MENU OPERATION

- Once a selection for the sub menu topic is made, the * will move back up to the sub menu topic like so, showing your selection beneath it.

Enable: *

Yes

- Use the up/down keys on the remote to go to the next sub menu topic and repeat above steps for all Ethernet and Wi-Fi sub menu topics.

IP Assign: *

DHCP

- For alphanumeric entries, use the keypad. Although the letters do not appear on the remote, they function like a telephone keypad as follows; Key 2 (2abcABC), key 3 (3defDEF), key 4 (4ghiGHI), key 5 (5jklJKL), key 6 (6mnoMNO), key 7 (7pqrsPQRS), key 8 (8tuvTUV), key 9 (9wxyzWXYZ).

SETUP MENU – EXPANDED VIEW & FUNCTIONS

Volume Setup

1. Master Volume

- If using the DAC-200ts as a digital preamplifier, select **Master Volume** so that the volume control will affect all inputs the same. For example, if listening to CD and the volume is set to -.05, the volume will remain at -.05 regardless of any input you select.

2. Independent Volume

- If the DAC-200ts is connected to a preamplifier, integrated amplifier, or receiver as a standard source, select **Independent Volume** to be able to customize or volume match all input sources independently. For example, CD can be set to 7.0, Bluetooth set to 8.0 Coaxial set to 6.5, and so on. When the volume is adjusted for any given source, the DAC-200ts will only adjust the volume for the source of which is being listened to and retain the volume as set for the other sources.

IR Controls

1. Front

- Select **Front** if there is only a need to control the DAC-200ts via the hand held remote and have line of sight to the front panel of the unit.

MENU OPERATION

2. Rear

- Select **Rear** if there are IR sensors connected to the rear of the DAC-200ts for when the unit is installed inside a rack or out of line of sight of the remote.

3. Both

- Select **Both** if both Front and Rear conditions apply and to be able to have flexibility of controlling either way or simultaneously.

NETWORK ETHERNET AND WI-FI SETUP

The DAC-200ts comes with both an Ethernet Port and built-in Wi-Fi for connection to your network for controlling the DAC-200ts via network control systems as well as iOS and Android Apps. Both wired Ethernet and Wi-Fi can be set up simultaneously and for different functions. For example, many integrated control systems (Crestron, Control4, AMX, etc.) prefer to have a separate dedicated network just for the control system. In such a scenario, the DAC-200ts Ethernet port could be set up on the dedicated network while the DAC-200ts Wi-Fi could be setup on the user's home network. The advantage is that the user could use the iOS or Android app on their multi-use smartphones or tablets to control the DAC-200ts while staying connected to their home network while an integrated control system operating on a separate dedicated network could also control the DAC-200ts allowing for maximum flexibility.

Ethernet

1. Enable:

Yes or **No**

Yes is the default setting. If Ethernet is not going to be used, you can select **NO**.

2. IP Assign:

DHCP or **Static**

Select **DHCP** for an IP address to be assigned automatically to the DAC-200ts (most common method).

(If Static is selected, follow steps a & b)

a) Assign IP:

Enter your desired IP address using the hand held remote control.

b) Connect:

Yes

After entering your desired IP address, select **YES**.

MENU OPERATION

3. Status:

Connected

Connected will display once successfully connected to your network. If the connection was unsuccessful **No Connection** will be display. If this happens, make sure your Ethernet cable is plugged into the DAC-200ts and your router/network is setup for **DHCP**. After confirming, make sure the above selections are correct and jump to Reset Connection below.

4. Reset Connection:

Yes or No

If your connection was unsuccessful, or you just need to reset the network connection for any reason, select **YES**.

5. Local Port:

Displays the assigned local port.

6. IP Address:

Displays the assigned IP address.

7. Net Mask Addr:

Displays the assigned net mask address.

8. Gateway Addr:

Displays the assigned gateway address.

9. MAC Addr:

Displays the assigned MAC address.

10. Return

Select return to the Ethernet Setup menu.

Wi-Fi

1. Enable;

Yes or No

No is the default setting for Wi-Fi. Select **YES**.

MENU OPERATION

2. IP Assign:

DHCP or Static

Select **DHCP** for an IP address to be assigned automatically to the DAC-200ts (most common method).

(If **Static** is selected, follow steps a thru d. Otherwise skip to number 3)

a) Scan Wi-Fi Networks:

Yes

Select **Yes** to display available Wi-Fi networks. Choose the network you wish to connect to and *select it by pressing Enter* on the hand held remote.

b) Enter Wi-Fi Key:

If the chosen network is secured, enter the security key code of your Wi-Fi network using the hand held remote.

c) Assign IP: -----

Enter your desired IP address using the hand held remote control.

d) Connect:

Yes

After successfully entering the network security key, *select YES* to connect.

3. Scan Wi-Fi Networks:

Yes

Select **Yes** to display available Wi-Fi networks. Choose the network you wish to connect to and *select it by pressing Enter* on the hand held remote.

4. Enter Wi-Fi Key: -----

If the chosen network is secured, enter the security key code of your Wi-Fi network using the hand held remote.

5. Connect:

Yes

After successfully entering the network security key, *select YES* to connect.

MENU OPERATION

6. Status:

Connected

Connected will display once successfully connected to your network. If the connection was unsuccessful **No Connection** will be display. If this happens, make sure your Wi-Fi is enabled on the DAC-200ts and your router/network is setup for **DHCP**. After confirming, make sure the above selections are correct and jump to Reset Connection below.

7. Reset Connection:

Yes or **No**

If your connection was unsuccessful, or you just need to reset the network connection for any reason, select **YES**.

8. Local Port:

Displays the assigned local port.

9. IP Address:

Displays the assigned IP address.

10. Net Mask Addr:

Displays the assigned net mask address.

11. Gateway Addr:

Displays the assigned gateway address.

12. MAC Addr:

Displays the assigned MAC address.

13. Return

Select return to the Ethernet Setup menu.

Exit

4. *Highlight EXIT and press ENTER on the hand held remote to leave the SETUP MENU and return to normal operation.*

MENU OPERATION

MAINTENANCE FUNCTIONS

Checking the Software Versions, Date and Serial Number of the DAC-200ts.

- *Enter “8,5,2,1” quickly on the hand held remote.* This will show the software version, date and serial number of the unit for a few seconds, then default to normal operation.

Resetting the DAC-200ts.

- *Enter “8,5,2,5” quickly on the hand held remote.* This will reset the unit.

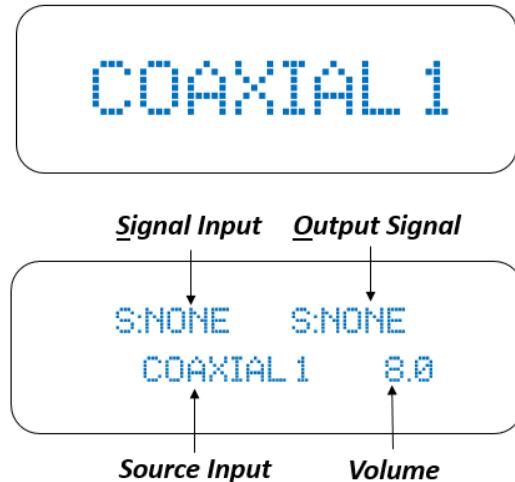
If the corresponding information fails to engage or display, re-enter the sequence faster and closer to the unit.

SPDIF DAC OPERATIONS

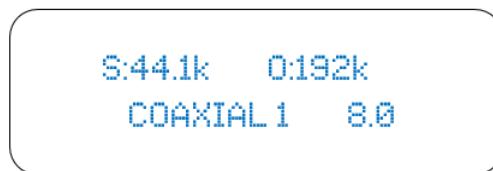
USING THE SPDIF INPUTS

The SPDIF inputs include; **COAXIAL 1, COAXIAL 2, OPTICAL, and AES/EBU.**

1. **Select** the desired input by **pressing COAXIAL 1, COAXIAL 2, AES/EBU or OPTICAL** button. Once selected, the DAC-200ts will confirm your selection by display the input name in LARGE print for a few seconds, and then will default to the following display.



2. Initiate playback of the corresponding SPDIF source. Once playback begins the Signal Input will appear in the display window. The Output Signal will display based on its setting. For example, if the Signal Input is 44.1K and the TruBit™ Sample Rate Converter is set to 192K the display will appear as follows: (*Please read the TruBit™ Sample Rate Converter section of this manual for more on its operation*).



NOTES:

- Digital input signals can be outputted in both digital format (via the COAXIAL and TOSLINK DIGITAL OUTPUTS) and analog format (RCA and Balanced XLR) simultaneously.
- Only linear PCM signals with a sampling frequency of 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz or 192kHz can be played over the SPDIF inputs. Do not input any digital signal other than linear pulse code modulation (PCM) signals (CD-ROM, Dolby Digital, DTS signals, etc.). Doing so will generate output noise that could damage the speakers.

USB OPERATION

USB REQUIREMENTS

The following are minimum required specifications for using with the DAC-200ts USB port. If your computer does not meet these requirements, you will experience lagging of audio and possible freezing of your computer when attempting to operate the DAC-200ts.

WINDOWS

- Microsoft Windows XP (32bit), Microsoft Windows Vista (32 or 64 bit), Microsoft Windows 7 (32 or 64 bit), Microsoft Windows 8 (32 or 64 bit) or Microsoft Windows 8.1 (32 or 64 bit)
- Available USB 2.0 Port (High speed for USB2.0)
- ASIO/KS/WASAPI/Direct sound drivers for Windows XP to 8.1

MACINTOSH

- NO driver is needed for MAC OS version 10.6.4 and above.

PC DRIVER INSTALLATION

To use the DAC-200ts USB port on a Windows based PC, you **MUST** install the provided driver which is downloadable from the DAC-200ts product page on the Cary Audio website. We advise that users read all instructions carefully before installing and follow all instructions during the installation process.

Installing the PC Driver:

1. Download the CARY XMOS USBAUDIO V3.34.0 (or later) USB Driver from the Cary Audio DAC-200ts product page.
2. Unzip/extract the Driver folder and save to your desktop.
3. Connect a USB cable from the computer to the USB input of the DAC-200ts.
4. Power on the DAC-200ts. Wait until the power button blue ring stops flashing, then select the USB input.
5. Open the driver folder you saved to your desktop and double click the Setup.exe.
6. Follow the on-screen installation instructions.
7. Click "Finish" when complete.

MACINTOSH USB AUDIO SETUP

Start the setting on System Preferences Panel on MACINTOSH:

- (1) Power on the DAC-200ts and connect your USB cable from the unit to your MAC.
- (2) Open the System Preferences panel on your MAC.
- (3) Select "SOUND" icon.
- (4) Select "OUTPUT."
- (5) Select "**xCore USB Audio 2.0**" Output".
- (6) Close the System Preferences Panel.

USB OPERATION

USB AUDIO PLAYBACK

To playback music via the USB input and a connected computer, it is necessary to use a "media player" such as iTunes or Windows Media Player at minimum. The USB input is capable of extremely high resolution audio, up to 32 bit/ 384kHz PCM, or DSD up to 256. iTunes nor Windows Media is capable of such resolutions on their own. To do so, it is necessary to install add-on software or an entirely different media player capable of taking advantage of The DAC-200ts capabilities. Examples such as Amarra, JRiver, Foobar 2000, Media Monkey, etc., can playback high resolution files. However, please know your media player software thoroughly to know what its limitations may or may not be as it relates to setup, PCM resolutions, DSD capability and supported file types.

Make sure drivers (PC) have been installed by following the instructions above, under *USB Requirements* and *Installation*, then do as follows:

- (1) Make sure the DAC-200ts is turned ON and connected to your computer via a high quality USB cable, and then turn ON your PC or MAC.
 - a. **MAC** - Make sure "**xCore USB Audio 2.0 Output**" is selected in the MAC **Sound Preferences** in the **System Preferences Panel**.
 - b. **Windows PC** - Make sure "**XMOS XS1-U8 MFA (ST)**" is selected as the **Playback** device under the **Sound** preferences in the Windows **Control Panel**.
- (2) **Select** the **USB input** by pressing the USB input button on the front panel or the USB button on the hand held remote. "USB" will appear on the display screen.
- (3) Open your media player software audio settings and make sure "**TUSBAudioASIO Driver (ASIO)**" is selected as the **Audio or Output Device**. If there is a separate **Audio Output Mode** setting for your media player, select ASIO.
NOTE: ASIO/KS/WASAPI/and Direct Sound Modes are all supported.
- (4) Playback music through the media player software.

NOTE: Some media players have Smartphone and tablet Apps that allow you to control the PC or MAC software via the Smartphone or tablet. Otherwise, all control must be done via the computer.

USB OPERATION

DSD PLAYBACK

This requires the media player to support native DSD or “DSD over PCM” (DoP). It is recommended to use native DSD for PC (capable up to DSD256) and DoP for MAC (capable up to DoP128). Therefore, it is necessary to check your media player settings to send either DSD or DoP depending on your computer and media player. Upon playback, the display screen of the DAC-200ts will show either DoP64, DoP128 (PC or MAC), or DSD64, DSD128, or DSD256 (PC Only).

For now, DSD playback on MAC is limited to DoP64 and DoP128. You may also need to set the MIDI Audio of the MAC computer to 24 Bit.

1. In Applications, open the **Utilities** folder.
2. Open **Audio MIDI Setup**.
3. Select the **XCore Audio Output** on the left panel.
4. Next to Format, select the highest supported sample rate in the first dropdown box and select 2ch-24bit Integer in the second dropdown box.

NOTE: TruBit™ Upsampling Sample Rate Converter does NOT engage for the USB source. Since USB playback is dependent on media player software of the PC or MAC, you must select any desired upsampling within the chosen media player software itself.

BLUETOOTH OPERATION

CSR aptX® lossless Bluetooth audio is capable of CD quality audio when using an aptX® source device. For more information, please visit CSR's web site at <http://www.csr.com/products/61/aptx-lossless>.

BLUETOOTH CONNECTION

Pairing a device with the DAC-200ts

When connecting a Bluetooth device to the unit for the first time, the device is required to be registered to the unit. This process is called "PAIRING." Once pairing is completed, subsequent connection can be made with a couple of easy steps.

Initial Pairing Steps

- (1) **Select** the **BLUETOOTH** input on the DAC-200TS and the display will show "**Enter Pairing**".
- (2) **Go to** the "**Settings**" of your device and find *Bluetooth settings* and make sure Bluetooth function is **ON** and **search for Bluetooth sources**.
- (3) "**CARY DAC-200ts**" should appear on your device. Once it does, **select it**. After pairing is complete, the display of DAC-200ts will show "**Pairing Successfully**".

NOTE: If pairing information is deleted from your device, you will need to perform pairing of that device again in order to connect.

BLUETOOTH PLAYBACK

Once pairing has successfully been completed, you can easily enjoy music from your portable devices as follows.

- (1) **Select** the **BLUETOOTH** input on the DAC-200ts front panel or on the hand held remote.
- (2) Double check your device Bluetooth setting and make sure "**CARY DAC-200ts**" is selected.
- (3) Begin playback of music on your device, which can include stored music files or music apps, such as Pandora®, Spotify®, iHeart Radio®, etc.
- (4) If you see a "play to" icon;  in your music app, tap it and select "CARY DAC-200ts" to ensure the signal is playing to the DAC-200ts.

To get the most of our **fT™ Bluetooth Implementation** during playback you can utilize our TruBit™ Upsampling or both vacuum tube and solid state output stages of our DiO™ analog circuit as described below for a superior listening experience of Bluetooth sources.

WORD CLOCK OPERATION

The Word Clock IN allows the DAC-200ts to accept an external master clock, bypassing its own. Additionally, the Clock OUT allows one to use the DAC-200ts as a master clock for other external digital sources that accept a clock in. Therefore, it can be used *with an external master clock, or as an external master clock.*

The DAC-200ts can support Word Clock input frequencies of 44.1kHz when using either the Toslink, Coaxial, or AES/EBU inputs.

WORD CLOCK IN

1. Press the desired digital input source button: **Optical, Coaxial 1, Coaxial 2 or AES/EBU** input button.
2. Press the **CLOCK IN** button.

Make sure **CLOCK IN** of the DAC-200ts is connected to the external Clocks output.

NOTE: The frequency sample (FS) selected on the external word clock generator must be set to 44.1 kHz. If it is not, the DAC-200ts will not output any audio.

3. If the external Word Clock signal is correct, the displays will show “**Clock In**”. If the external Word signal is not correct or no external Clocks signal input to DAC-200ts, the displays will show “**No Clock In**”.
4. To deselect the word clock input of an external word clock, Press the **CLOCK IN** button once again to revert back to the DAC-200ts own internal clock.

WORD CLOCK OUT

In addition to accepting a clock input (WORD CLOCK IN) from an external master clock, one can also use the DAC-200ts as a master clock (WORD CLOCK OUT) for other sources that accept a master clock input.

The DAC-200ts can output Work Clock (FS) of 44.1 kHz while playback of CD, Toslink, Coaxial 1, Coaxial 2, and AES/EBU inputs.

TruBit™ UPSAMPLING OPERATION

SAMPLE RATE CONVERTER FUNCTION

TruBit™ Upsampling is a powerful upsampling technology used to upsample lower sample rates to higher sample rate and increases the bit depth to 32 bits in the digital domain via a dedicated 128 bit DSP engine prior to analog conversion. This can be very useful in achieving a more enjoyable listening experience. Once a native input signal is changed to a selected higher sample rate, the bit depth will also automatically increase to 32 bits. However, like all-powerful tools, this too should be used prudently. We do not take a blanket "higher is better" approach to upsampling. It is important to experiment with different rates depending on your source or source material. Many times a native rate might be preferred whereas some recordings or files formats might benefit from a higher sampling rate, and so on.

The available selectable sample rates depend on the input signals original sample rate. For example, above 192 kHz the available rate(s) will only be in multiples of either 44.1 kHz or 48 kHz as follows:

Input signal rates of 44.1 or multiples of:

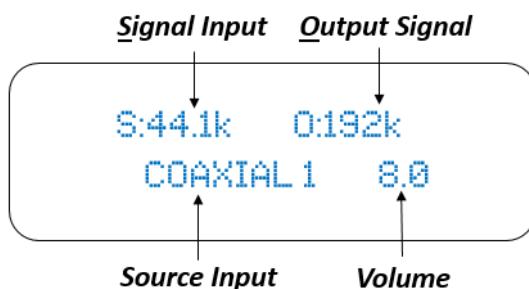
BYPASS (44.1) ---> 48 ---> 88.2 ---> 96---> 176.4 ---> 192 ---> **352.8**---> **705.6**.

Input signal rates of 48 or multiples of:

BYPASS (44.1) ---> 48 ---> 88.2 ---> 96---> 176.4 ---> 192 ---> **384**--->**768**.

Pressing the "**Sample Rate Converter**" button on the front panel, or the "**SRC**" button on the hand held remote will cycle through the available sample rates.

- The **BYPASS** mode will pass the input signal rate out in its native rate without any upsampling.
- **When an upsample rate is selected**, the DAC-200ts will upsample all incoming rates lower than the selected sample rate up to the selected sample rate as well as increase the bit depth to 32 bits. Any signals played that are equal to or higher than the selected sample rate will playback unchanged. Each of the DAC-200ts inputs will remember the sample rate as set for that input.



NOTE: TruBit™ Upsampling Sample Rate Converter does NOT engage for the USB source. Since USB playback is dependent on media player software of the PC or MAC, you must select any desired upsampling within the chosen media player software itself.

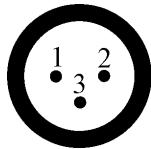
DiO™ Analog Output Stages

DUAL INDEPENDENT ANALOG OUTPUT FUNCTION

Like TruBit™ upsampling, the DiO™ function is a tool, which can greatly enhance your listening experience depending on source, source material or personal taste. By **pressing** the “***Tube***” button on the front panel or hand held remote will change the analog output stage from solid state to vacuum tube. When in tube mode a “T” will appear in the display window. Pressing “***Tube***” again will switch back to the solid-state output stage and the “T” will disappear from the display window.

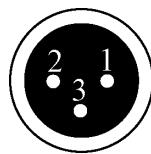
BALANCED CONNECTIONS

The pin assignments of ALL of the XLR-type male analog outputs, the XLR-type male digital output and XLR-type female digital inputs are:



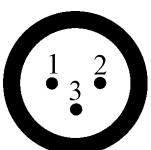
- Pin 1: Signal ground
- Pin 2: Signal + (non-inverting)
- Pin 3: Signal - (inverting)
- Connector ground lug: chassis ground

Refer to your amplifier's operating manual to verify that the XLR pin assignments of its input connectors correspond to the DAC-200TS. If they are different, wire the XLR cable so that the appropriate XLR output pin connects to the equivalent XLR input pin.



- Pin 1: Signal ground
- Pin 2: Signal + (non-inverting)
- Pin 3: Signal - (inverting)
- Connector ground lug: chassis ground

Refer to your digital input source signal player or other digital source's operating manual to verify that the XLR pin assignments of its input connectors correspond to the DAC-200TS. If they are different, wire the XLR cable so that the appropriate input pin connects to the equivalent input pin.



- Pin 1: Signal ground
- Pin 2: Signal + (non-inverting)
- Pin 3: Signal - (inverting)
- Connector ground lug: chassis ground

Refer to your digital source's operating manual to verify that the XLR pin assignments of its input connectors correspond to the DAC-200TS. If they are different, wire the XLR cable so that the appropriate output pin connects to the equivalent output pin.

SPECIFICATIONS

The following section describes the DAC-200ts basic specifications. The specifications are subject to change without notice or obligation.

BASIC SPECIFICATIONS

Master Clock Jitter	Below measurable levels
Digital Sampling Rates (Fs)	44.1 kHz to 768 kHz
Digital Filter	8x Oversampling Digital Filter
Digital/Analog Converters	4 - 2 channel AK4490EQ for working on true balanced output
BLUETOOTH	CSR Bluetooth v 4.0 with aptX® low latency audio decoder
Analog Filter	3 rd Order Bessel
Analog Outputs	Balanced XLR , Single – Ended RCA
Digital Outputs	Coaxial, Toslink operating at Sample Frequency (Fs) from 44.1 kHz to 192 kHz, 16 bit to 24 bit
Digital Inputs	USB x 1 BLUETOOTH x1 AES/EBU x1, Coaxial x2, Toslink x1
Digital Input Sample Rate	USB operating at Sample Frequency (Fs) from 44.1 kHz to 384 kHz, 16 bit to 32 bit, DSD 64, DSD 128 and DSD 256. BLUETOOTH operating at Sample Frequency (Fs) 44.1 kHz, 16 bit. AES/EBU, Coaxial, Toslink operating at Sample Frequency (Fs) from 44.1 kHz to 192 kHz, 16bit to 24 bit
Tube Compliment	12au7 x 2
Control	Trigger input 12VDC x1 IR control x1
Communication	Ethernet RJ45 full remote configuration interface Wi-Fi 802.11 b/g/n
Power Input	Configured at factory for either 110-120 or 220-240 VAC, 50-60 Hz
Power Consumption	52 Watts
Dimensions	3.75" H x 17.25" W x 16.25 " D
Weight	28 lbs.

SPECIFICATIONS

USB PLAYBACK (PCM & DSD)

Frequency Range	2 Hz - 100 kHz
Signal System	16, 20, 24, & 32 bit PCM and 1 bit DSD
Sampling Frequency	44.1 kHz to 384 kHz PCM and 2.822MHz – 11.288 MHz DSD
Dynamic Range	123 dB
DSD System Clock	Frequency 22.5792 MHz
Signal-to-Noise Ratio	112 dB
Audio Output Level	2.0V RMS (220 Ω output impedance) for Volume in 0.0dB 3.0V RMS (220 Ω output impedance) for Volume in +8.0dB
Balanced XLR Output	+/- 2.0V RMS (440 Ω output impedance) for Volume in 0.0dB +/- 3.0V RMS (440 Ω output impedance) for Volume in +8.0dB

SPDIF PLAYBACK; COAXIAL, TOSLINK, AES/EBU (PCM)

Frequency Range	2 Hz - 100 kHz
Signal System	16, 20, and 24 bit
Sampling Frequency	44.1 kHz to 192 kHz PCM
Dynamic Range	123 dB
System Clock	Frequency 22.5792 MHz
Signal-to-Noise Ratio	112 dB
Audio Output Level	2.0V RMS (220 Ω output impedance) for Volume in 0.0dB 3.0V RMS (220 Ω output impedance) for Volume in +8.0dB
Balanced XLR Output	+/- 2.0V RMS (440 Ω output impedance) for Volume in 0.0dB +/- 3.0V RMS (440 Ω output impedance) for Volume in +8.0dB

SERVICE AND CARE

CARE AND CLEANING

The cabinet housing and front panel of the DAC-200ts may be cleaned with a soft cloth and Windex or a window cleaner. The frequency of cleaning will be governed by how many hours the DAC-200ts is operated and by operating environment cleanliness.

CAUTION:

- Do not let any liquids spill into the vents on top of the unit.

AC POWER FUSE REPLACEMENT

The fuse is located inside the chassis and is not user serviceable. If the unit does not power up, contact an authorized service representative. Never replace the fuse with any other value than a two (2) amp slow blow fuse, 250V for a unit configured to operate at 110V-120V AC. Never use any other value than a one (1) amp slow blow fuse, 250V for a unit configured to operate at 220V-240V AC. The AC Power Cord must be unplugged from the AC Power jack on the back of the unit prior to replacing the fuse. Set the unit Power On/Off switch to the Off position and plug the AC Power cord back into the AC Power jack. Then set the Power On/Off switch to the On position and verify proper operation. Contact Cary Audio for advice if the fuse repeatedly blows.

FACTORY SERVICE

Careful consideration has been given to the design of your DAC-200ts to keep maintenance problems to a minimum. Any problems or requests for service should be referred to our Customer Service Department at 919-355-0010. DO NOT return the DAC-200ts to the factory without a Return Merchandise Authorization (RMA) number from our online Customer Service Center (www.caryaudio.com).

Cary Audio will assume no responsibility if the shipping company refuses to pay for damage due to your improper packing or lack of insurance should the unit be lost or damaged in shipment. Please retain and always use the original shipping carton for shipping the player. Also, Cary Audio reserves the right to return products sent in for service in a new box set at the customer's expense if the original packing material was damaged in the initial shipment, or if it is deemed unsatisfactory to use in return shipping.

NON-WARRANTY REPAIRS

Cary Audio will provide repair service for its products charging on a time and expense basis. At this time, the standard non-warranty service bench fee is \$125 for the first hour and \$95 per hour thereafter. Parts used for repairs as well as return shipping are additional. This may change and is not a quote for service. Please call us at 919-355-0010 for more information about out-of-warranty service and repair fees.

CAUTION:

- Never remove or insert the back panel AC plug when the unit is on or the AC cord is plugged into the wall.

SERVICE AND CARE

TUBE REPLACEMENT

The Cary Audio DAC-200ts tube circuit is designed to offer several years of performance under normal listening conditions. Please bear in mind that tube degradation is a slow and subtle process over time. As such, after several years of enjoyment one may not notice any significant difference in performance. Therefore, we recommend regularly scheduling tube replacement every two to three years or sooner if usage is heavy. Please follow the procedures below or log into Cary Audio's online Customer Service Center (www.caryaudio.com) for an RMA.

- **Tube Replacement Procedure:**

- Disconnect any attached connectors (AC power cord, and audio cables) from the unit.
- Remove screws holding top cover.
- Remove tubes and replace them with the correct replacement tube (12au7) being sure the pins are inserted correctly and the tubes are fully seated.
- Take care in handling the tubes properly minimizing any direct contact with your fingers. A soft, lint free glove or cloth works best.
- Replace top cover and reinstall screws.

CAUTION:

- ALWAYS disconnect the unit from the AC outlet and power cord.

LIMITED WARRANTY

Cary Audio Warrants to the Original Purchaser for the Following Cary Audio Products for the Periods Indicated:

1. Power Amplifiers, Integrated Amplifiers, Surround Sound Processors, and Preamplifiers have a three (3) year parts and labor warranty from the date of the original purchase from Cary Audio.
2. CD or SACD players, DVD players, Music Servers, or Digital Music Centers have an eighteen (18) month parts and labor warranty from the date of the original purchase from Cary Audio.
3. Vacuum tubes, if any are used in the component, are offered a 90-day exchange policy against defects with the exception of the 300B vacuum tube that has a one (1) year exchange policy from the date of the original purchase from Cary Audio.

What is Covered and What is Not Covered

Except as specified below, this warranty covers parts and labor to correct all defects in materials and workmanship. The following are not covered by the warranty:

1. Damage, deterioration, malfunction or failure to meet performance specifications resulting from:
 - a. Accident, acts of nature, misuse, abuse, neglect or unauthorized product modifications
 - b. Improper installation, removal or maintenance, or failure to follow instructions supplied with the product.
 - c. Repair or attempted repair by anyone not authorized by Cary Audio to repair the product.
 - d. Any shipment of the product (claims must be presented to the carrier).
 - e. Any cause other than a product defect.
2. Cleaning, initial set-up, check-ups with no defects found, or charges incurred for installation, removal or reinstallation of the product.
3. Any product, on which the serial number has been defaced, modified or removed.
4. Batteries.
5. Accessories, including but not limited to, batteries, cables, mounting hardware and brackets, cleaning accessories, antenna and detachable power cords.
6. Warranty is void if purchase was made from anyone other than an authorized Cary Audio dealer.

Who May Enforce the Warranty?

This warranty extends to products purchased directly from Cary Audio or an authorized Cary Audio dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

To obtain such warranty service, the original purchaser must complete and send in the Warranty Registration Card within 15 days of purchase.

LIMITED WARRANTY

What Will We Pay For?

We will pay for all labor and material expenses for items covered by the warranty. Payment of shipping charges is discussed in the next section of this warranty.

How Can You Get Service?

In the event that the owner needs to return the unit to Cary Audio for service or repair of a possible defect, he must follow the following steps:

1. Create a new account or login to our Customer Service Center (www.caryaudio.com) to obtain a Return Merchandise Authorization (RMA) number. Once the account is set up or you have logged in, click on "Open New RMA" to begin entering the information to create an RMA that is needed to return or exchange a product. You will be given an RMA number, which must appear on the label of the box you ship back.
2. Submit a copy of the original sales receipt; blank receipts will not validate the limited warranty for service by Cary Audio. The original sales receipt must contain the following information:
 - a. The authorized Cary Audio dealer's name
 - b. The date of purchase
 - c. The unit's sales price
 - d. The buyer's name and address
 - e. Describe in detail the problem.
 - f. Note the unit's model number and serial number.
3. Deliver by either of these methods:
 - a. With all freight and insurance charges prepaid and in its original packing container or equivalent, ship the component to Cary Audio, 6301 Chapel Hill Road Raleigh, NC 27607.
 - b. Hand-deliver the product to Cary Audio (address noted above) or the nearest authorized service facility.

Limitation of Implied Warranties

All implied warranties, including warranties of merchantability and fitness for particular purchase, are limited in duration to the length of this warranty.

Exclusion of Damages

Cary Audio's liability for any defective product is limited to repair or replacement of the product at Cary Audio's option. Cary Audio shall not be liable for damage to other products caused by any defects in Cary Audio products, damages based upon inconvenience or loss of use of the product, or any other damages, whether incidental, consequential, or otherwise.

LIMITED WARRANTY

How State Law Relates to the Warranty

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

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CARY AUDIO DESIGN

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