CARY AUDIO

OWNER'S MANUAL

DMS-500

Digital Music Streamer

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.

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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.

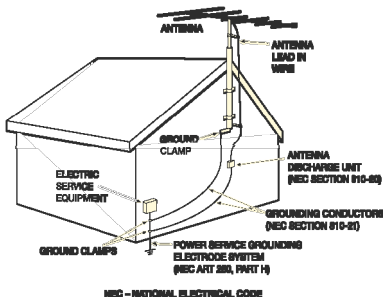
1. **OWNER'S MANUAL:** Before powering up the equipment, read all safety and operating instructions and follow them as instructed. Retain the safety and operating instructions for future reference.
2. **ATTACHMENTS:** Use only those attachments recommended by the unit manufacturer, as others may cause 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. **GROUNDING 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

WELCOME

USEFUL TERMS

Network Connection – A connection to a home network router (needed for *Network Music*) which in turn is typically connected to the Internet. Although an Internet connection is not necessary for a home network or *Network Music*, it is needed for *Internet Music*. A network connection can be either wired, or wireless.

Client – A component that finds music stored on network devices and retrieves it for playback over its own music playing software.

Renderer – A component that lets other devices such as computers or Apps push music to the component for playback via the media player of the computer or App.

Wired Connection (Ethernet) – A connection to the router with an Ethernet (Cat5e, etc.) cable.

Wireless Connection (Wi-Fi) – A connection to the router via a components built-in Wi-Fi. Router must also be Wi-Fi capable.

Network Music – A broad term that refers to music originating from a computer or NAS drive that is connected to a home network for playback over a *Digital Music Streamer/Network Audio Player*.

Digital Music Streamer/Network Audio Player – An audio component like the DMS-500 that connects to a home network that can access *Network Music* for playback.

NAS Drive – (Network Attached Storage) An external hard drive that connects directly to a network router (wired or wirelessly), unlike a USB hard drive that connects to a computer or audio component.

Internet Music – Music from an Internet music service, such as Pandora, Internet Radio, etc. Requires a router connected to the Internet.

Server – for the purposes of this manual, a server is a software application installed on a computer or NAS drive that monitors a music library and "serves" files to a **Digital Music Streamer/Network Audio Player**. Server software can be lite background "server only" applications (i.e.; Twonky), or part of a larger suite of software within a Media Player application (i.e.; JRiver).

Computer-less –Playback that doesn't require a computer or network setup. For example; directly connecting a USB HDD, flash/thumb drive, or SD Card to the DMS-500 for playback.

Local Music – This includes *Computer-less* USB HDD, flash/thumb drives, SD Cards, or other components (CD players, Cable Boxes, etc.) connected directly to the DMS-500 for playback.

App or Control App – A free iOS or Android App that can take the place of the hand held IR remote to control all functions of the DMS-500 from a comfortable position away from the unit itself.

WELCOME

ABOUT THE DMS-500

The DMS-500 is a Digital Music Streamer that allows for the playback of network, Internet and local digital music files. This means The DMS-500 can play digital music files stored on computers or NAS drives that are connected to the same network as the DMS-500, or from internet music services as well as from USB and SD card storage devices. The DMS-500 can connect either wired or wireless to your network. Additionally, the computers and or NAS drives storing your digital music files can also be connected to your network wired or wirelessly, depending on your network setup and peripherals. This manual assumes you are familiar with computers and networks necessary to stream network audio. Cary Audio is not responsible for supporting personal network, computer or software components nor settings. For "computer-less" playback of digital music files, the DMS-500 also includes USB and SD Card inputs. These allow a direct connection from USB hard drives, flash/thumb drive, or SD card for a fast and convenient method of playback. Additional inputs include aptX® Bluetooth, Coaxial, Optical, and AES/EBU to round out a complete digital music hub for all your digital music sources.

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 DMS-500 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 DMS-500, make sure the following accessories are included. You should find the following items within the box:

- Power Cable
- Owner's Manual
- Warranty Card

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 DMS-500 is not critical. Certain precautions must be taken to ensure optimum performance. Avoid extremely hot locations such as near radiators or other heating units. Keep the top of the DMS-500 clear of books, paper or other equipment to protect against overheating.

FEATURES

The following section describes the DMS-500 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.

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 DMS-500. This approach ensures that Bluetooth sources have the potential to sound like any other expensive input source whereby utilizing our sophisticated digital topology of parallel DACs and our other integrated digital features such as; TruBit™ Upsampling, and OSO™ Reclocking. Now your Bluetooth sources can truly be high ***fi***.

TruBit™ DSD & PCM 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 digital signals. Typically, this is done as a predefined *one-size-fits-all* sample rate, such as 96 kHz, 384 kHz, etc. 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 10 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 upsample 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.

PCM TO DSD CONVERSION

Within the TruBit™ Upsampling the DMS-500 can convert any PCM inputs to true DSD256 output. Now with PCM to higher PCM, or PCM to DSD upsampling even the most strident of PCM and DSD proponents can have their cake and eat it to. PCM to DSD conversion takes our TruBit™ technology to whole new level of pure silky smooth analog like sound like never before from digital sources.

OSO™ RECLOCKING

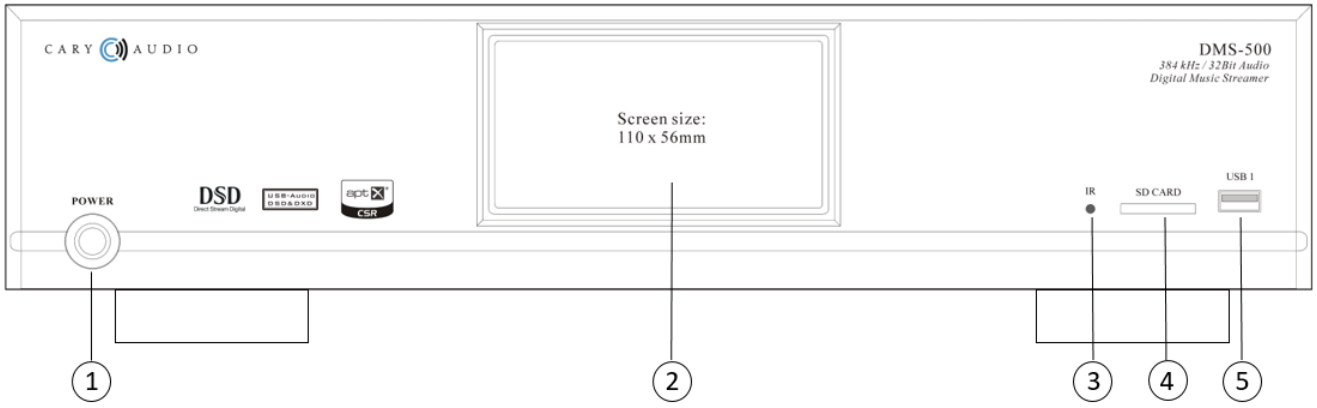
Once a digital signal is transferred into Cary Audio's digital ecosystem via the digital inputs, it is processed with extreme care to ensure the best possible sound achievable. As a digital source transfers from one point A to point B it creates an insidious digital problem called 'jitter'. To deal with this, Cary Audio uses something we call OSO™ Re-clocking. This solution re-clocks all signals again once onboard 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.

The operation of the DMS-500 assumes all users have a minimum of a moderate level of understanding of computers, file sharing principles, computer networks, and other associated peripherals such as; routers, Ethernet, Wi-Fi, USB hard disc and flash drives, SD Cards, NAS drives, computer operating systems, third party software such as media/music servers and media players, digital music downloading and storage, music library and file management such as tagging, imbedding of artwork, etc.

Cary Audio makes no warranties regarding such items and is not responsible to support such items as it related to the installation and operation of the DMS-500 beyond what is discussed within this manual. All operation methods herein refer to the DMS-500's hand held IR remote control unless otherwise specified. For information operating the DMS-500 via an iOS or Android app, please visit the DMS-500 product page on the Cary Audio Web Site and look for the "APP QUICK GUIDE" on the right side of the page or under the Downloads Tab.

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. **LCD FRONT PANEL DISPLAY**
   The 5" color LCD panel displays all playback information, navigation, and user settings in a simple easy to use user interface. Tutorial prompts (Tips) are also displayed on the front panel display to help guide you until you are familiar with the interface.

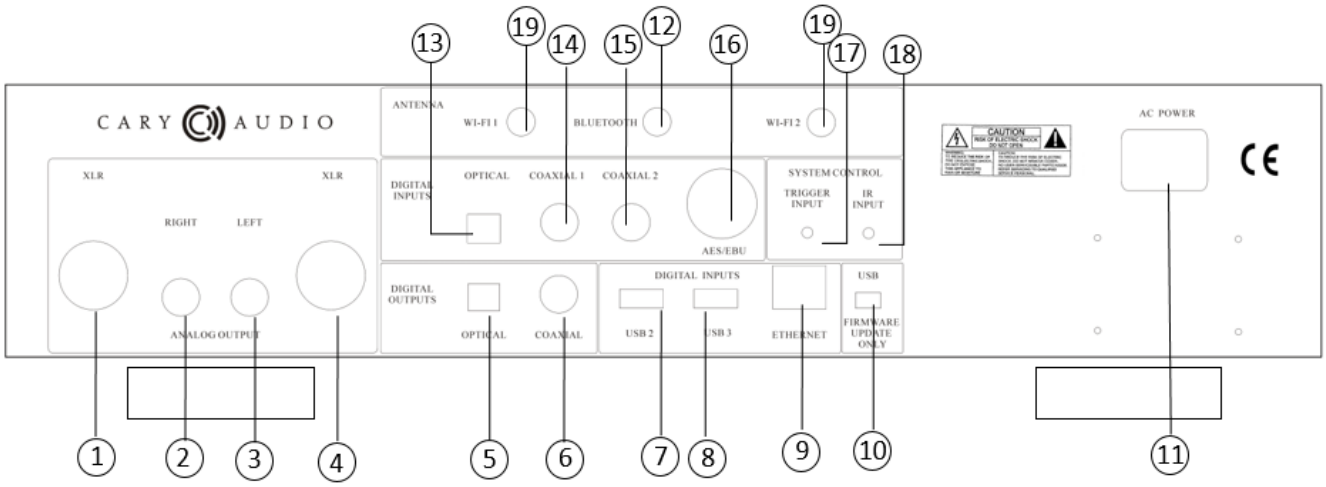
3. **IR REMOTE SENSOR**
   Line of sight IR eye sensor for hand held IR remote control

4. **SD CARD SLOT**
   For playback of music files from SD Cards up to 32 GB for SD and up to 2 TB for SDXC. Also used for firmware upgrading.

5. **USB TYPE-A INPUT**
   For playback of music files from USB hard disc drives (HDD) and USB flash/thumb drives up to 3 TB. *NOT FOR CONNECTING TO A COMPUTER.*

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. **USB 2 INPUT (TYPE-A)**
   For playback of music files from USB hard disc drives (HDD) and USB flash/thumb drives up to 3 TB. *NOT FOR CONNECTING TO A COMPUTER.*

8. **USB 3 INPUT (TYPE-A)**
   For playback of music files from USB hard disc drives (HDD) and USB flash/thumb drives up to 3 TB. *NOT FOR CONNECTING TO A COMPUTER.*

9. **ETHERNET RJ45 JACK**
   Connect to a network router for network music streaming of networked computer(s) or NAS drive(s) via a wired Ethernet connection. Also used for network control via apps or control system.

10. **MINI USB FIRMWARE**
    For internal service use only.

CONTROLS AND DISPLAYS

11. POWER INPUT (AC IN)
Connect to AC mains using the included power supply cord.

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

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. DC TRIGGER INPUT TERMINALS
Connection of devices that have DC + 12V output for remote turn-on/off of the DMS-500.

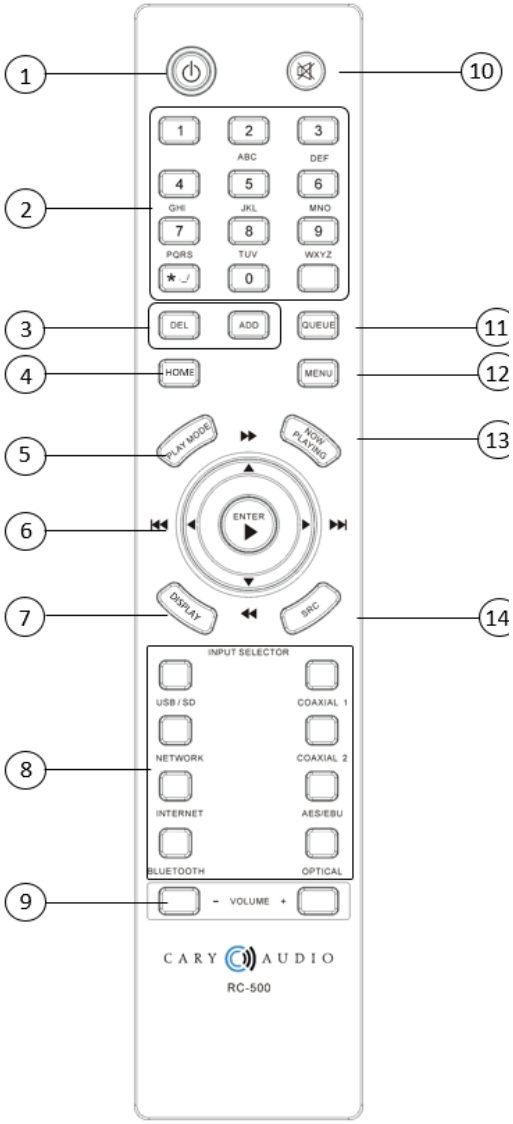
18. IR INPUT
Connection of external IR sensors.

19. Wi-Fi ANTENNAS
For connecting to a Wi-Fi router for network music streaming of networked computer(s) or NAS drive(s) via a wireless Wi-Fi connection. Also used for network control via apps or control system.

CONTROLS AND DISPLAYS

IR REMOTE CONTROL

This section explains how to use the remote control to set up and operate the DMS-500.



1. **POWER**: Use to turn the power on and off.

2. **ALPHANUMERIC KEYs**: Use for searching music library as well as entering network settings, such as Wi-Fi security key, etc.

3. **ADD/DELETE**: Press add or delete on music selections to create or edit a song queue or playlist.

4. **HOME**: Press to return to the home screen of the source.

5. **PLAY MODE**: Press to switch between Play, Shuffle, Repeat, and Repeat All.

6. **NAVAGATION/PLAY HUB**: Use the corresponding keys to navigation up, down, right, left, and Enter for menus/lists and to Play, Skip, Search, and Pause during music playback.

7. **DISPLAY**: Use to select the player displays various brightness levels or turn the display off.

8. **INPUT SOURCE SELECTOR**: Use to select the desired input source.

9. **VOLUME -/+**: Decrease or increase volume.

10. **MUTE**: Use to mute sound. Press again to resume sound.

11. **QUEUE**: Press to display the song queue for playback of queue or to save a queue as a playlist.

12. **MENU**: Press to go to the Setting Menu of the DMS-500.

13. **NOW PLAYING**: Press to jumps to the now playing screen of the current source.

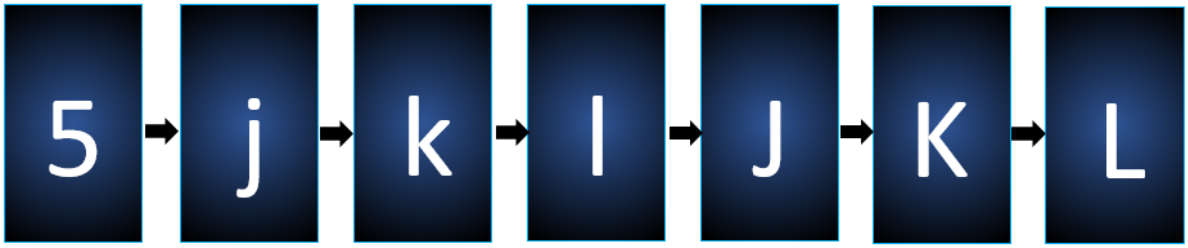
14. **SRC**: (Sample Rate Converter). Press to select one of the many PCM & DSD TruBit™ upsample-rates. This can also convert any playing PCM signal to a DSD (Direct Stream Digital) signal.

CONTROLS AND DISPLAYS

USING REMOTE ALPHANUMERIC KEYS

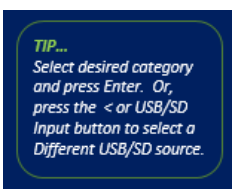
There are multiple operations of the DMS-500 that require text and/or numbers. These include; network settings such as Wi-Fi security keys, network user name and password, naming or re-naming playlists, and searching (jumping to) a number or letter when browsing library lists. Simply press the number key to scroll the number and associated alpha keys (just like on a phone). It will show a pop-up box with both upper and lower case except when searching library lists. For example; each time you press the #5 key is will display as follows; simply stop on the number or letter to select it.

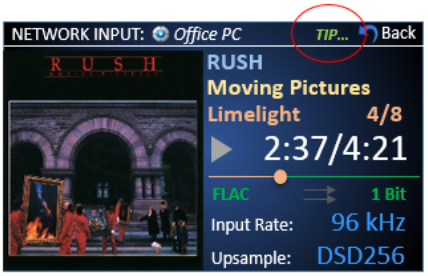
Note: For spaces, press the "0" key for a blank box. For special characters, press the *._/ key.

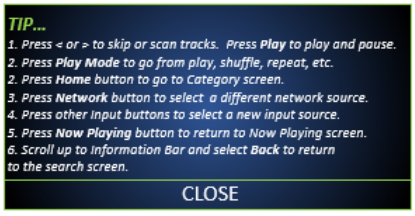


USER TIPS

Navigating various screens are intuitive and straight forward via the IR remote control. Many screens have a pop-up box outlined in green that functions as a tutorial for that screen as examples below show. Some screens may have a Tip prompt in the upper right corner of the display screen. Simply scroll up to the Tip by pressing the Up Arrow key on the remote twice and press enter to show the tutorial. Once you are familiar with all the screens and can command control of the DMS-500, you can hide all user tips from the Settings Menu.

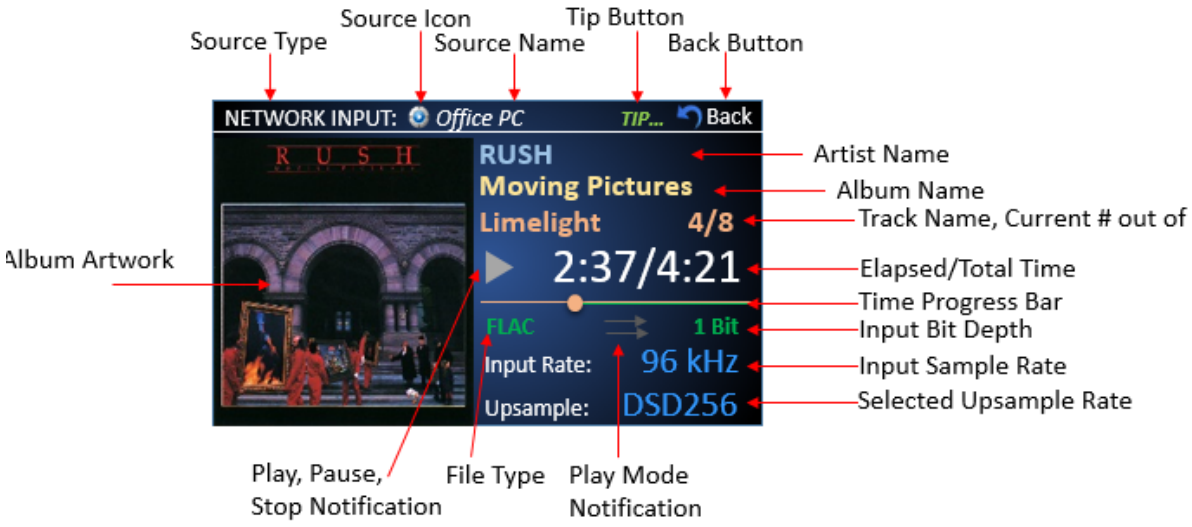




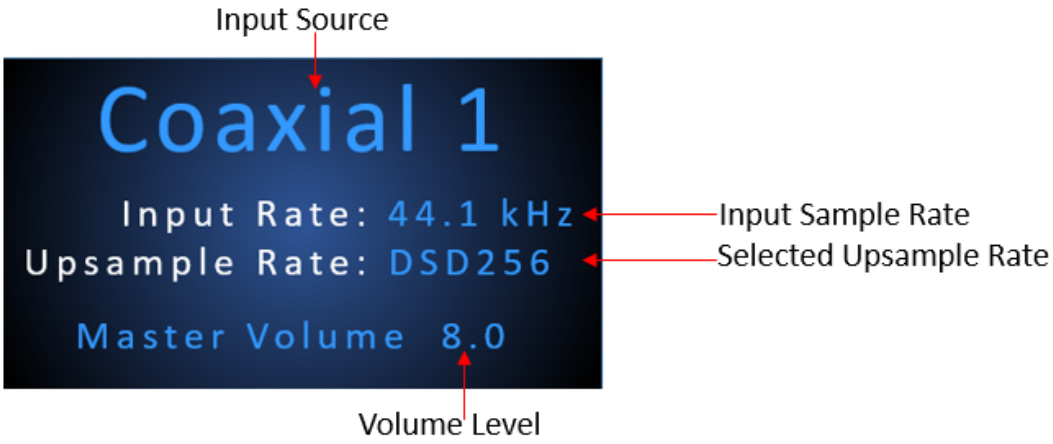


CONTROLS AND DISPLAYS

NOW PLAYING SCREEN (NETWORK, USB, SD, INTERNET)



NOW PLAYING SCREEN (SPDIF, BLUETOOTH)



APP CONTROL FOR iOS AND ANDRIOD

You can download a free Control App for either iOS on iTunes Store, or Android on Google Play Store. Each app is highly intuitive and easy to operate. Please refer to the apps for instructions.

VARIABLE VOLUME CONTROL

The volume control is located on the hand held remote. The DMS-500 will display a pop-up as shown below when adjusting volume for all Network, USB/SD, and Internet sources.

Note: For SPDIF sources, the volume is on-screen at all times.

USING AS A SOURCE (CONNECTING TO A PREAMPLIFER, ETC.)

When using the DMS-500 as a source unit and connecting to a preamplifier, integrated amplifier, or receiver, it is recommended to set the volume to "Independent Volume". The Independent Volume setting allows for adjusting the volume to each input of the DMS-500 to volume match the output of multiple connected sources. This is useful if some sources have a much greater or lesser output and you find yourself having to constantly turn your preamplifier's volume up or down to reach a comfortable level upon changing DMS-500 inputs. For the greatest sonic benefit, it is recommended to set the volume to max volume 8.0 (3.0 volts). However, please check your associated equipment's documentation to be sure it can accommodate a 3.0 volt input. Otherwise, set the volume/voltage level that match the highest acceptable input voltage of your associated equipment.

Note: The default Reset Independent Volume setting is -13.5

USING AS A DIGITAL PREAMPLIFIER (CONNECTING DIRECT TO AN AMPLIFER)

When using the DMS-500 as a digital preamplifier (connecting it directly to an amplifiers inputs), it is recommended to set the volume to "Master Volume". This will output the same volume for all connected sources. If using the DMS-500 as a digital preamplifier, be sure to **turn ON** the DMS-500 **BEFORE turning on your amplifier**. Then, **set the DMS-500 volume to - 98.5** (or mute). Only after being sure the volume is turned down, turn on your amplifier and gradually turn up the DMS-500 volume to an appropriate listening level. Otherwise, extreme damage may occur to your amplifier, speakers or hearing.

Note: The default Reset Master Volume setting is -30.0

SETTINGS MENU OVERVIEW

SETTINGS MENU OVERVIEW

Within the **Setting Menu** you can adjust, control, and customize the DMS-500 operation and setting as follows:

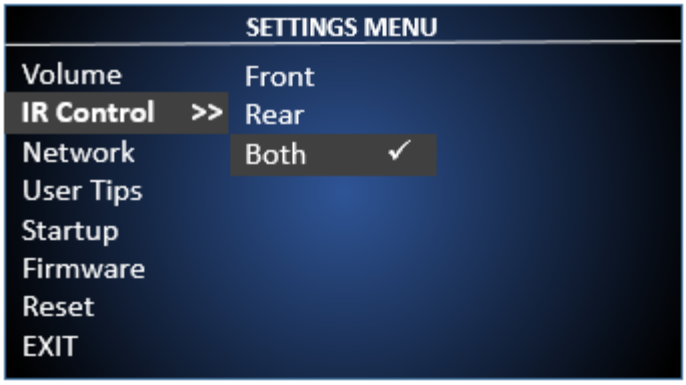
Main Setting Menu. Using the Up/Down arrow keys on the IR remote to scroll to the desired selection and *press* **Enter,** or *press* the **Right arrow key** *to expand*.

Volume Menu. *Select* **Master** when using the DMS-500 as a digital preamplifier. *Select* **Independent** when connecting the DMS-500 to a preamplifier, integrated amplifier, or receiver.

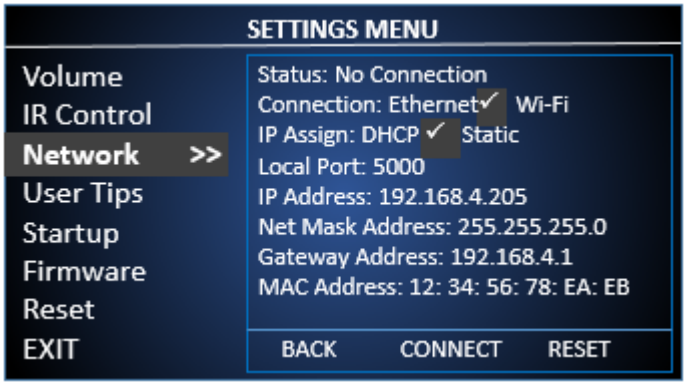
SETTINGS MENU OVERVIEW

IR Control Menu. This selects which IR sensors are activated.

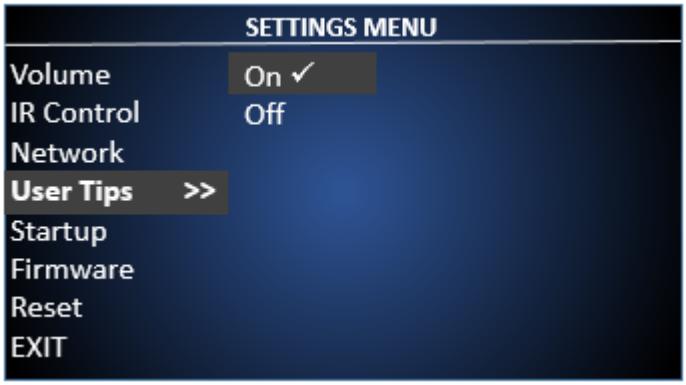
WARNING: Do not select Rear if you do not have a rear mounted IR sensor. Otherwise, you could be locked out of all IR command control. If this happens and you have previously connected an iOS or Android app to the DMS, you can use the app to change this setting. If not, you must reset the DMS.



Network Menu: Setup of Ethernet/Wi-Fi or DHCP/Static network connections**.** See *Establishing A Network Connection* further in this manual.



User Tip Menu. This turns the on-screen user tips on or off as desired.



SETTINGS MENU OVERVIEW

Startup Menu. This sets the default input at system startup. Only one input from all available inputs can be selected.

I. Network
- ✓ Source Screen (List of available servers/PC Share's on network).
- ✓ Last Server (Selects the last server or PC Share used, if available).

II. USB
- ✓ Source Screen (List of connected USB sources).
- ✓ Select USB 1, 2, or 3 input at startup.

III. SD Card
- ✓ Select SD Card input at startup.

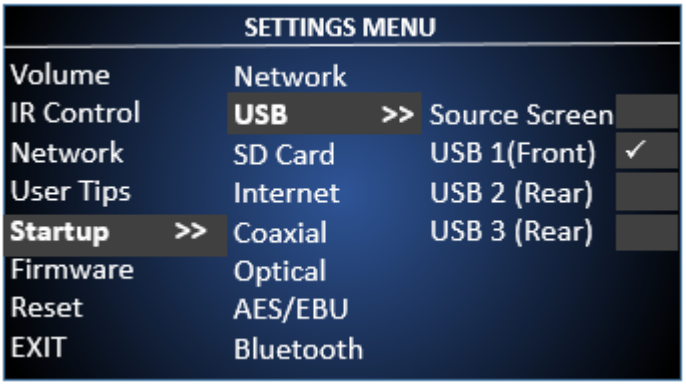
IV. Internet
- ✓ Select your preferred Internet Music Service at startup.

V. Coaxial
- ✓ Select Coaxial 1 or 2 input at startup.

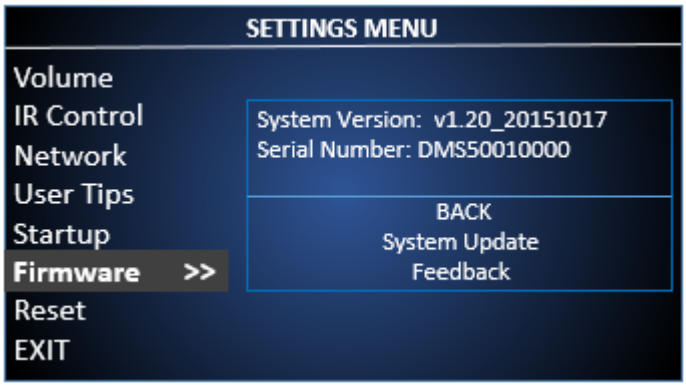
VI. Optical
- ✓ Selects Optical input at startup.

VII. AES/EBU
- ✓ Select AES/EBU input at startup.

VIII. Bluetooth
- ✓ Select Bluetooth input at startup.



Firmware Menu. This displays the current firmware version and serial number as well as checks for new firmware via the System Update.



SETTINGS MENU OVERVIEW

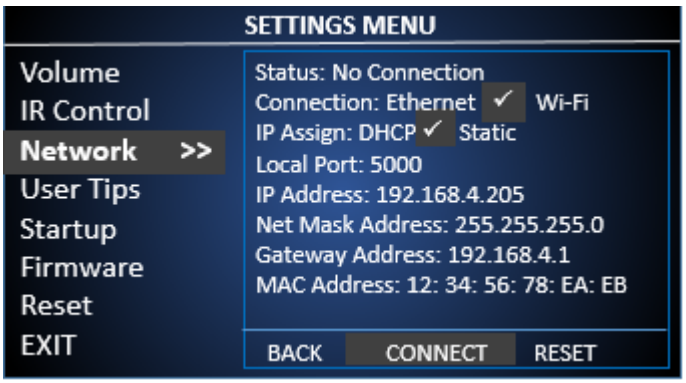
Reset. Resets the DMS-500 to factory default.

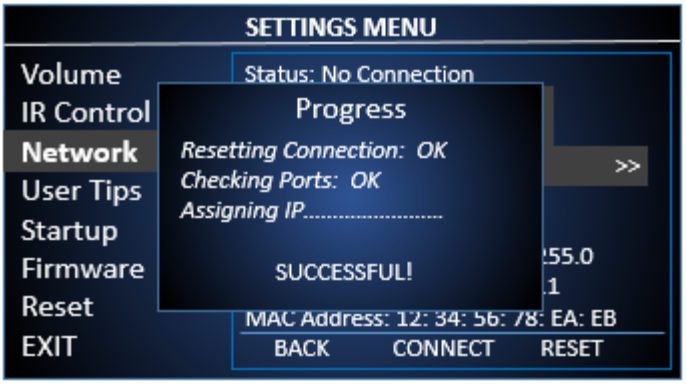
ESTABLISHING A NETWORK CONNECTION

WIRED (ETHERNET)

This step assumes you have an active home network and router installed in your home.

1. Place the DMS-500 within a cable run of your router or Ethernet port of which is wired back to the router.
2. *Connect* an **Ethernet cable** to the back of the DMS-500 and plug the other end into your router, or Ethernet Port.
3. If connection isn't automatically established, *Press* **Menu** on the IR remote and navigate to **Network Settings.** *Select* **Wired** and **DHCP** (for automatic configuration) and *press* **Connect.** If you prefer assigning a manual IP address, *select* **Static** and enter your Port number and IP address. However, DHCP is the most common method. If you encounter issues connecting, try to reset network by *selecting* "**RESET**".





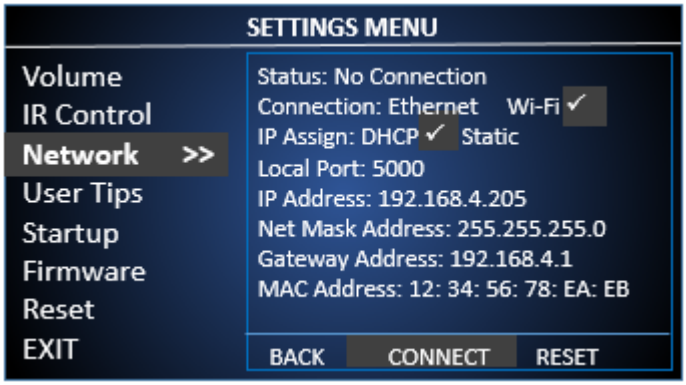
ESTABLISHING A NETWORK CONNECTION

WIRELESS (WI-FI)

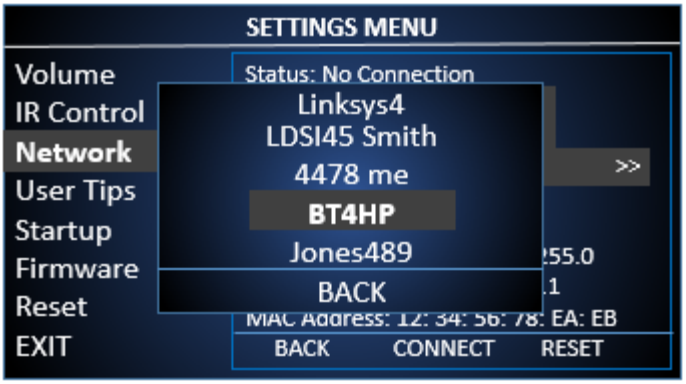
This step assumes you have an active wireless home network and router installed in your home.

NOTE: The quality and stability of the audio signal depends on the bandwidth and range of your Wi-Fi router. This is especially true for exceptionally high resolution files, such as DSD files or PCM files greater than 192kHz. When possible, a wired (Ethernet) connection is preferred.

1. Place the DMS-500 anywhere within the routers Wi-Fi range.
4. *Press* **Menu** on the IR remote and navigate to **Network Settings.** *Select* **Wi-Fi** and **DHCP** (for automatic configuration) and *press* **Connect.** If you prefer assigning a manual IP address, *select* **Static** and follow the prompts. However, DHCP is the most common method. If you encounter issues connecting, try to reset network by *selecting* "**RESET**".



2. *Select* your **Wi-Fi network** and *press* **Enter**.



ESTABLISHING A NETWORK CONNECTION

3. Using the alphanumeric keys on the hand held IR remote, **Enter** your **Security Key,** and *select* **Connect**. If you selected Static, enter your Port number and IP address as well.

NETWORK STREAMING OPERATION

The DMS-500 is an extremely versatile network audio component and can access/stream music in multiples ways. With respect to network audio the DMS-500 is a **Client**, meaning it finds and request playback of audio files from computer servers using its own custom apps for iOS and Android devices, or from its hand held IR remote control. It can also act as a **Renderer**, meaning you can push music to it from computer servers via third party DLNA/UPnP apps. The DMS-500 can also can play music from portable devices in a variety of ways, these include **aptX® Bluetooth, Airplay**, and **Phoneshare**. This section will discuss each of these options.

NETWORK AUDIO SETUP

Make sure The DMS-500 is connected to your network either by a wired Ethernet connections, or via Wi-Fi as outlined in the **Establishing a Network Connection** section of this manual. This section assumes you are familiar with third party media server software, computers, file sharing settings, etc. As such, networked computers can either have server software of your preference running on them to "serve" files to the DMS-500 (Media Server), or the DMS-500 can use standard Service Message Block (SMB) file sharing protocol from Windows and Apple without running installed server software (PC Share), and the DMS-500 can also act as a Renderer. So, before going further make sure your media server software is installed and running on the server computer, and or all **file sharing** and **permission** settings for **everyone** are setup for your computer(s) and music folder, subfolders, etc.

Note: Window Media Player includes a server (Window Media Server). Using the Windows Media severely limits support for various file types and resolutions. It is not recommended, but will show up as an available server. We suggest using dedicated media server software, such as JRiver, Foobar2000, Media Monkey, etc., for the advanced user, and PC Share for the less advanced user. PC Share uses Service Message Block (SMB) protocol to communicate with a PC or MAC. This requires very little setup and no third party software. Even though PC Share is suggested for the less advanced user it is sometimes preferred due to easy setup and support for any file type or resolution. Using the DMS-500 as Renderer is also quite simple. However, the computer or app media player software one uses can affect playback.


Windows Media Server will display icons similar to these.


PC Share/Phone Share displays the following icon.


Media Servers will display specific icons, similar to these


Renderer Mode and Airplay will display this icon

NETWORK STREAMING OPERATION

HELPFUL SITES

WINDOWS

Getting Started with Media Streaming
http://windows.microsoft.com/en-us/windows7/getting-started-with-media-streaming

File Sharing Essentials
http://windows.microsoft.com/en-us/windows/file-sharing-essentials#1TC=windows-7

Enable File and Printer Sharing
http://windows.microsoft.com/en-us/windows-vista/enable-file-and-printer-sharing

APPLE

How to Connect with File Sharing on your MAC
https://support.apple.com/en-us/HT204445

PROS AND CONS OF MEDIA SERVER VS. PC SHARE (SMB) VS. RENDERER

PROS AND CONS OF MEDIA SERVER VS. PC SHARE (SMB) VS RENDERER			
	Media Server	**PC Share**	**Renderer**
Initial Indexing of Library Required	*No*	*Yes*	*No*
Software Setup Required	*Yes*	*No*	*Yes*
File Type Support	*Server Dependent (Setup)*	*Any (No Setup)*	*Server & App Dependent (Setup)*
Categories Color Coded	*No*	*Yes*	*NA*
Folder Hierarchy View	*Server Dependent*	*DMS-500 Default*	*NA*
Playlist Support	*Server & DMS Playlists*	*DMS Playlists*	*Server & App Playlist*

NETWORK AND INTERNET PLAYBACK OPERATION

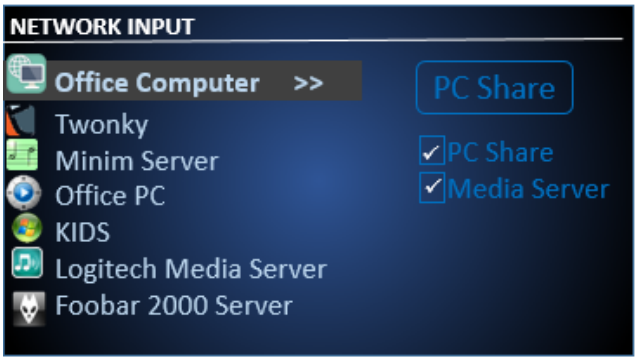
NETWORK CLIENT STREAMING AUDIO PLAYBACK

Network streaming allows the playback of digital music files stored on computers or NAS Drives connected to your network. The advantage of network streaming is you don't have to have the computer(s) or NAS Drive(s) located anywhere near the DMS-500 or your audio system. However, the computer(s) or NAS Drives must remain powered on for The DMS-500 or any network audio player to access them. The other advantage to network Client Streaming outside of using the IR hand held remote is that virtually all features of the DMS-500 can be accessed in one easy to use custom app.

1. *Press* the **Network** button on the IR remote. This will show a list of all available "PC Share" and or "Media Servers" on the network. The DMS-500 also lets you filter by PC Share or Media Servers by checking the associated box to the right of the list.

   NOTE: You can *press* the **Network** button on the IR remote at any time while in the Network Input Source Screen to **refresh** list of media servers and or PC Shares.

2. **Navigate** to your preferred **Network source** *with the Up, down keys* and select it by *pressing* **Enter**.

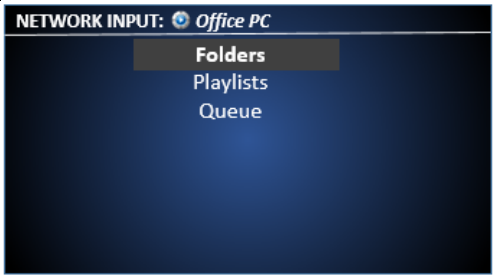
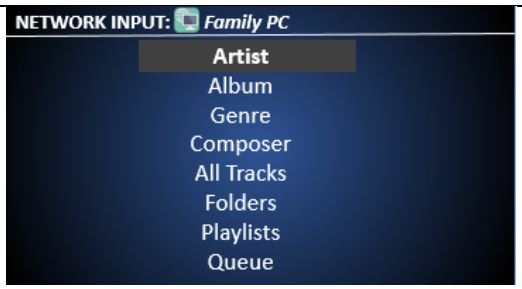
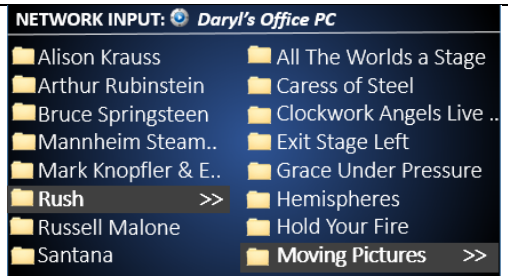
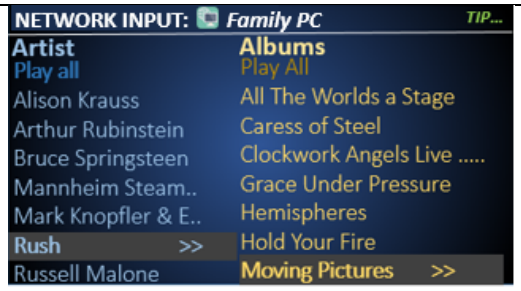
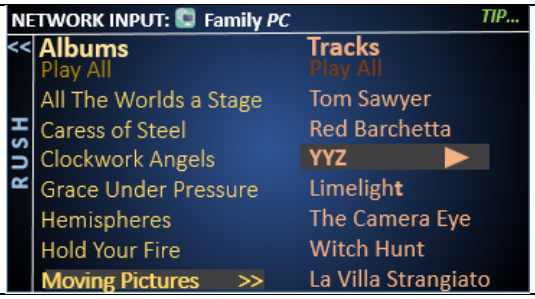


   NOTE: When selecting a PC Share for the first time it must index the PC Share library. This can take a while depending on the size of the library. While indexing, you will see the following pop-up.

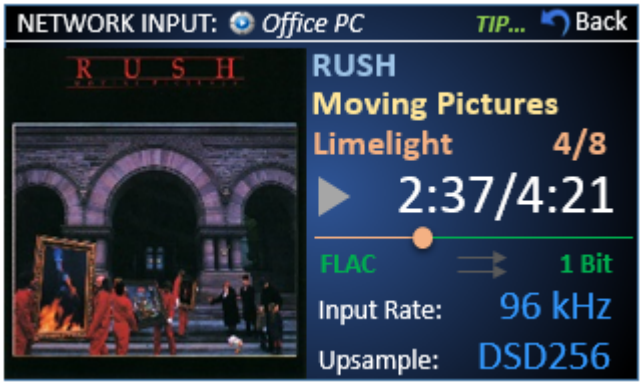
3. Navigate to your selections by using the Up and down keys. To expand the selection, *press* **Enter** or *press* **>** *on the hand held remote to expand*.

NETWORK AND INTERNET PLAYBACK OPERATION

Notice the Hierarchy difference between a Media Server and PC Share Home Screens. The folder view(s) for media Servers are dependent on how your media server software is setup and configured on your computer. PC Share is set by the DMS as below.

Media Server	PC Share
	
	
	
	

4. Navigate to your desired music selection and *press* **Play.** You can also *press* the **Play All** when available to play all selections beneath it. Once playback is initiated, the Now Playing Screen will display as follows.



NOTE: You can also *select* **Add** or **Delete** from the IR remote to *create* a **Queue** or **playlist**. *See Queue and Playlist section of the manual.*

NETWORK RENDERER STREAMING AUDIO PLAYBACK

Using the DMS-500 as a Renderer is altogether different from the Client operation. This function requires server software to be installed on your server computer(s) as described above, and the use of a third party DLNA/UPnP app. The advantage for some is that they may prefer to use a different app instead of our custom DMS-500 apps. For example, one may prefer JRiver's JRemote or Gizmo, Bubble UPnP, Plug Player, 8Player, etc. The disadvantage is the third party app can only play network audio but cannot access all features of the DMS-500 so a combination of a third party app and IR remote must be used in conjunction. Renderer operations is very simple as outlined below.

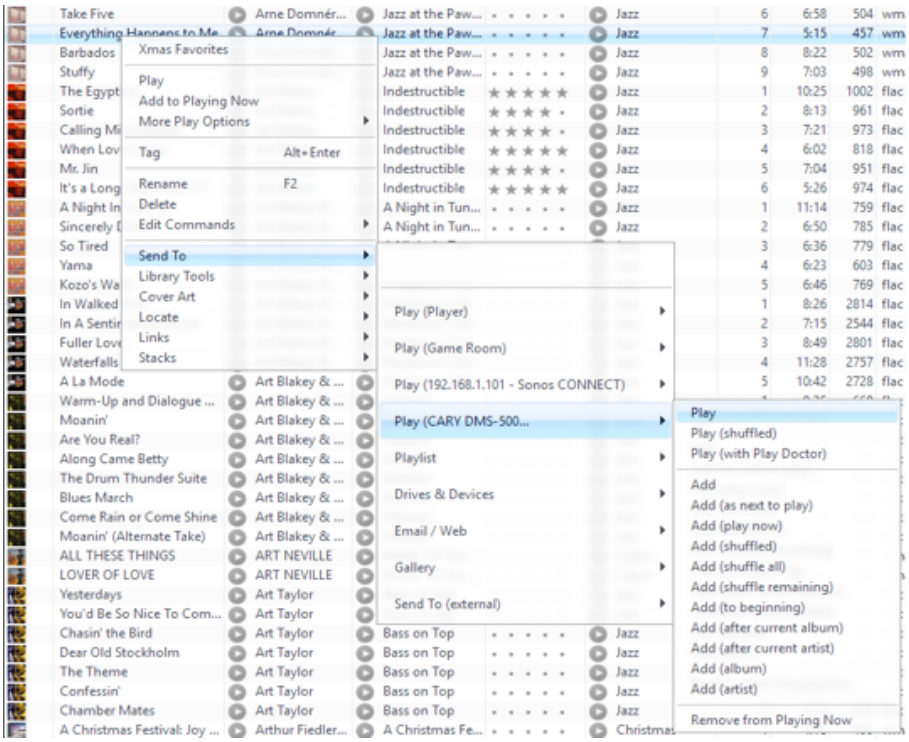
1. *Turn on* the **DMS-500**. It does NOT matter what inputs source the DMS-500 is set to.
2. *Open* your preferred third party DLNA/UPnP.
3. *Select* "**CARY DMS-500**" from the available renderers within the third party app and initiate playback in accordance to the third party app.
4. The Now Playing screen will display your selection. All music selections and playback can only be controlled by the third party app.

Another way to push music to the DMS-500 in renderer mode is with or from a computer. To do so follow these steps;

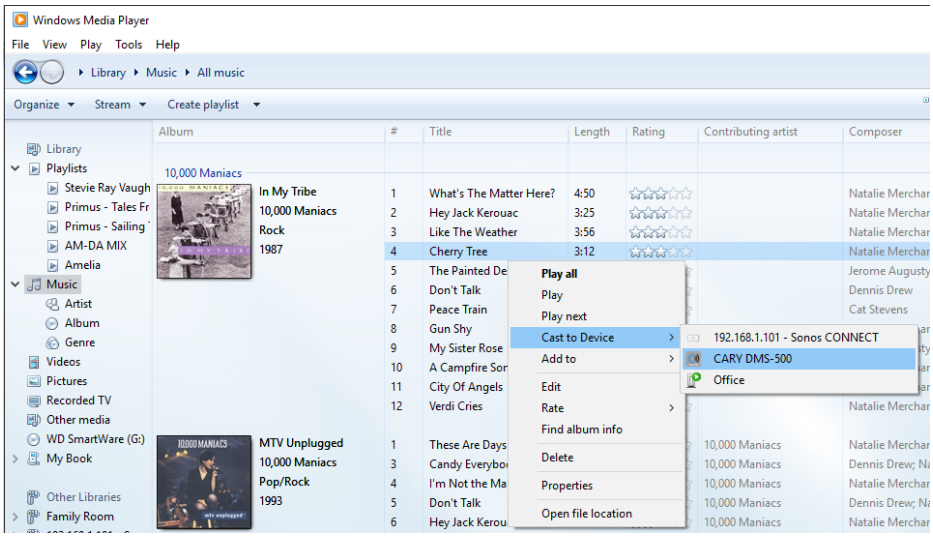
1. *Turn on* the **DMS-500**. It does NOT matter what inputs source the DMS-500 is set to.
2. *Turn on* your computer (Preferably Windows 7 or MAC OS X or latter) and open your preferred media player software.
3. *Right click on* a music selection and *Send to/Cast to* **Cary DMS-500** right from the computer. See example below. Function may vary depending on media player software being used.

NETWORK AND INTERNET PLAYBACK OPERATION

JRiver MC21 Example



Window Media Player 12 Example



4. The Now Playing screen of The DMS-500 will display your selection.

NETWORK AND INTERNET PLAYBACK OPERATION

INTERNET MUSIC SERVICES

Listening to Internet Music Services like Tidal, Spotify, etc. does require a network and router connected to the internet. Unlike network streaming audio, your computer(s) or NAS Drives do NOT need to be turned on since its accessing music streaming from the Internet and not from your computer(s). However, make sure a network connection to the DMS-500 is established and internet access is available via your network.

1. *Press* the **Internet** button on the IR remote or from the Control App.
2. **Navigate** to your preferred Internet music services and follow the prompts on screen or from the Control App.

When Accessing an Internet music service for the first time, you must enter your credentials for that given service. This requires the use of the on-screen keyboard and NOT by using alphanumeric keys on the IR remote. However, you must still use the arrow and enter keys of the remote to select the appropriate letters from the on-screen keyboard. To begin, use the Up and Down arrow keys to highlight the username/credential box and press Enter on the remote. This action will display the on-screen keyboard. Enter your information for the first box, when complete, select Hide from the on-screen keyboard. Navigate to the next box and press Enter on the remote access on on-screen keyboard once again. When complete, select Hide and navigate to the "Login" button of the music service and press Enter.

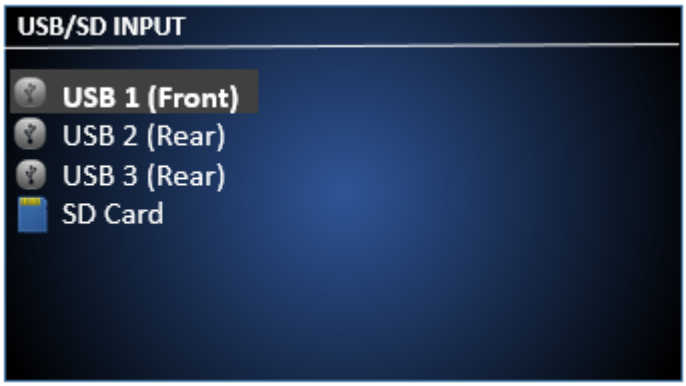
USB AND SD CARD OPERATION (COMPUTER-LESS)

USB AND SD CARD AUDIO

For those that want to be able to playback their digitally store music library but don't want to bother with a computer at all, USB and SD Card playback is a no fuss solution.

The USB and SD Card inputs include; **USB 1 (Front), USB 2, 3 (Rear) and SD Card (Front).** Like PC Share, The DMS-500 must index the drive's library the first time it is selected. Please note, this can take a while depending on the size of your drive.

1. *Insert* a ***USB hard disc drive, USB flash/thumb drive*** **or** ***SD Card*** into the desired port. Once inserted a pop-up message say "The USB 2 Port is mounted", meaning the DMS-500 has successfully connected to it.



2. **Navigate** to your preferred **USB or SD Card source** *with the Up, Down keys* and select it by *pressing* **Enter**.
3. Navigate to your selections by using the Up and Down keys. To expand the selection, *press* **Enter** or *press* **>** *on the hand held remote*.
4. Navigate to your desired music selection and *press* **Play.** You can also *press* the **Play All** when available to play all selections beneath it.

NOTE: You can also *select* **Add** or **Delete** from the IR remote to *create* a **Queue** or **playlist**. *See Queue and Playlist section of the manual.*

QUEUES AND PLAYLISTS

QUEUES

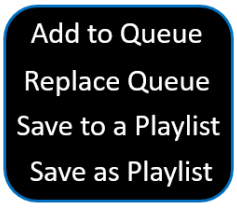
A Queue is temporary list of music. This includes all music that is played during a given session, or manually added to the queue while listening to a Network, USB, or SD Card source. All music temporarily stored in a queue is specific to that source. All music played during a session is stored in the Queue with the most current selection being added to the bottom of the list. All music stored in the queue will be cleared at turn off. To save the Queue, please see Playlists below.

To **ADD** music to a Queue

- Highlight an Artist, Album or Track and press the Add button on the remote. A pop-up message will display saying the selection has been added to the queue.

(When in Server Mode, only folders that have only songs within them can be added to the queue. For example; you cannot add an Artist to the queue in server mode IF there are album folders within. This is also dependent on the server folder hierarchy as they can vary from server to server).

Note: Pressing and holding the Add Button for more than 2 seconds on an item will pop-up additional options for Queue and Playlist selections as follows:



To **VIEW** a Queue

- Press Queue button remote and the queue list will display. Alternatively, when in the Home Screen of a Network, USB or SD Card source, you can highlight the Queue command and press enter. Pressing the Home button on the remote when in a source displays the Home screen.

To **EDIT** a Queue

- While viewing the Queue, highlight any track and press the Delete key on the remote to remove that selection from the Queue.

To **PLAY** the Queue

- While viewing the Queue, press the Play command in the blue box to the right of the list.

To **CLEAR** a Queue

- While viewing the Queue, press the Clear command in the blue box to the right of the list

SAVING Queues

- Please see Playlists section below.

QUEUES AND PLAYLISTS

PLAYLISTS

A Playlist is a queue from a Network, USB or SD Card source that has been saved. Queues can be saved as a playlist or save to an existing playlist. Playlists created by DMS-500 while in media server sources are saved to the DMS-500 Playlists and not within the media server itself. Therefore you can only access the DMS created playlist from the DMS-500 and not from the media server software on your computer.

To **SAVE AS A PLAYLIST**

- While viewing your queue, Press the Save as Playlist command in the blue box to the right of the list and name and save it. Now it is a playlist which is permanently stored for that source.

To **SAVE TO PLAYLIST**

- While viewing your queue, Press the Save to Playlist command in the blue box to the right of the list and highlight the Playlist you wish to add the queue to. Press Enter on the remote. Now that queue is part of that playlist.

Note: Pressing and holding the Add Button for more than 2 seconds on an item will pop-up additional options for Queue and Playlist selections as follows:

To **VIEW** Playlists

- Select a Network, USB or SD Card source, or press the Home button on the remote if already in the desired source. Highlight the Playlist command and press enter.

To **PLAY** a Playlist

- While viewing Playlists, highlight the desired Playlist and press Enter.

To **EDIT** a Playlist

- While viewing Playlists, highlight the desired Playlist and press the > button on the remote. Select EDIT from the blue box to the right and press Enter. Highlight the selection you wish to remove from the Playlist and press the Delete button on the remote. When finished, press the < button on the remote to go back to the Playlist view.

QUEUES AND PLAYLISTS

To **DELETE** a Playlist

- While viewing Playlists, highlight the desired Playlist and press the > button on the remote. Select DELETE from the blue box to the right and press Enter. Confirm your choice.

To **RENAME** a Playlist

- While viewing Playlists, highlight the desired Playlist and press the > button on the remote. Select RENAME from the blue box to the right and press Enter. Enter name and select Save.

SPDIF SOURCE OPERATION

SPDIF INPUTS

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

1. *Select* the desired input by *pressing* **COAXIAL 1 or 2, AES/EBU or OPTICAL** button on the IR remote or control App.

2. If no source is connected to the selected input, it will say so.

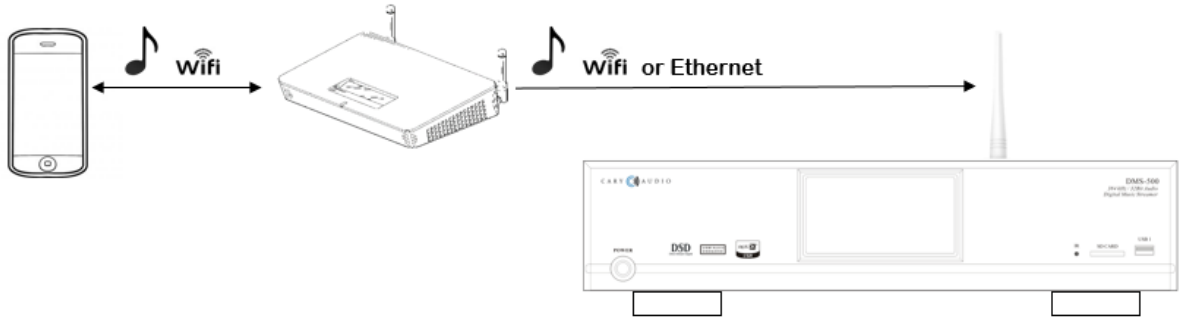
3. Initiate playback of the corresponding SPDIF source.

PLAYING MUSIC FROM PORTABLE DEVICES

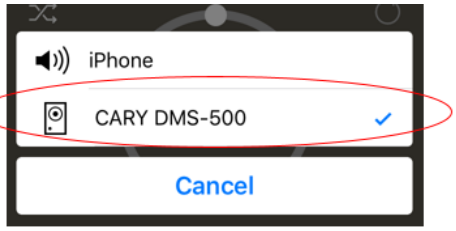
The DMS-500 can play music from phones and tablets in several ways. These methods include Airplay, Phoneshare, and aptX® Bluetooth. Airplay and PhoneShare operate via the same method although AirPlay is mostly for iOS devices and PhoneShare for Android devices.

AIRPLAY AND PHONESHARE PLAYBACK AND CONNECTION

Airplay is primarily for iOS devices while PhoneShare is for Android devices. They both require a wireless connection of your portable device to your network and sends music from your device to your router over Wi-Fi and the router sends it to the DMS-500 either Wi-Fi or wired Ethernet, depending on how your DMS-500 is connected to your network router. The advantages of AirPlay and PhoneShare is that since it relies on Wi-Fi the range of which you can send music to the DMS-500 from your portable device is much greater then Bluetooth.



(1) Open your desired music app and look for this icon
(2) Tap on the icon and wait for available device(s) to appear.
(3) Select "Cary DMS-500" and start playback of your music selection.
(4) The DMS-500 will display all track information including artwork on the front panel.



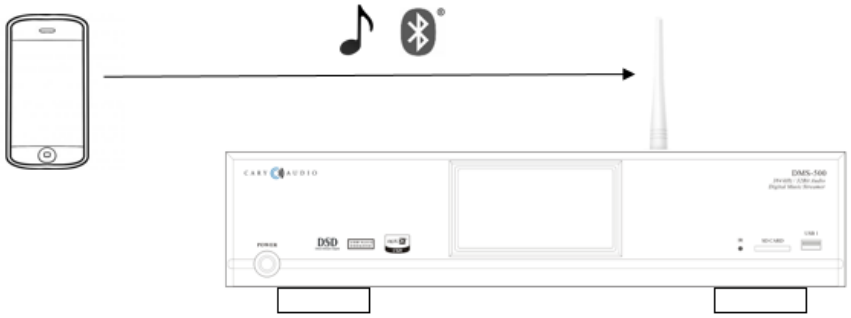
NOTE: To get the most of Airplay or PhoneShare during playback you can utilize our TruBit™ PCM and DSD Upsampling for a superior listening experience of these sources.

PLAYING MUSIC FROM PORTABLE DEVICES

BLUETOOTH CONNECTION

Bluetooth can work for both iOS and Android devices. The advantage of Bluetooth is it's a point to point signal, meaning no Wi-Fi or router connection is required to work. However the range of Bluetooth is much shorter

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.



Pairing a device with the DMS-500

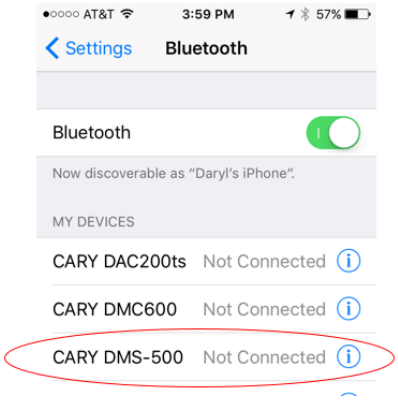
When connecting a Bluetooth device to the unit for the first time, you must "pair" it to the DMS-500. Once pairing is completed, subsequent connection can be made with a couple of easy steps.

Initial Pairing Steps

1. **Select** the **BLUETOOTH** input on the DMS-500 and the display will show as follows;

2. **Go to** the "***Settings***" of your portable device and find *Bluetooth settings* and make sure Bluetooth function is **ON** and in **search mode**.

3. "**CARY DMS-500**" should appear on your portable device as a Bluetooth receiver. Once it does, **select it**.



4. After pairing is complete, the display of DMS-500 will show as follows;

4. The display of the DMS-500 will show as follows once you initiate playback rom your portable device.

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

PLAYING MUSIC FROM PORTABLE DEVICES

BLUETOOTH PLAYBACK

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

(5) **Select** the **BLUETOOTH** input on the DMS-500 front panel or on the hand held remote.
(6) Double check your device Bluetooth setting and make sure "**CARY DMS-500**" is selected.
(7) Begin playback of music on your device, which can include stored music files or music apps.
(8) If you see a "play to" icon;  in your music app, tap it and select "CARY DMS-500" to ensure the signal is playing to the DMS-500.

NOTE: To get the most of our ***fi***™*Bluetooth Implementation* during playback you can utilize our TruBit™ PCM and DSD Upsampling for a superior listening experience of Bluetooth sources.

FILE CONVERSION AND UPSAMPLING

PCM TO DSD CONVERSION

Through use of our TruBit™ Upsampling technology as described below, it is now possible to convert PCM files to DSD. For those that prefer DSD this is an extremely powerful feature. Imagine taking any source or sample rate from network, internet, Bluetooth, AirPlay, or SPDIF and converting to DSD64, 128 or 256. Whether you're in the PCM or DSD camp, The DMS-500 accommodates both! Not only can you convert any PCM sample rate up to 768 kHz in the PCM domain, but TruBit™ Upsampling also allows you to convert that 16, 24 bit PCM to a 1 bit direct stream digital signal with sample rates of 2.8224 MHz (64 or standard rate), 5.6448 MHz (128 or Double rate), 11.2 MHz (256 or Quad rate). You can even up convert a native DSD64 file to a higher level of DSD128 or DSD256. By using superior no compromise AKM DAC's, any native DSD or PCM to DSD converted signal is processed as true DSD. In other words, The DMS-500 does NOT down convert a DSD signal to PCM within the DAC chips. This is actually somewhat rare as many so called DSD players actually down convert the DSD signal to PCM inside the inferior DAC chip(s) without you knowing it.

PCM AND DSD UPSAMPLING

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 for PCM and 1 Bit for DSD 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 for PCM or change to 1 bit for DSD conversion. 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 PCM 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** **--->** DSD64 ---> DSD128 ---> DSD256.

Input signal rates of 48 or multiples of:

BYPASS (44.1) ---> 48 ---> 88.2 ---> 96--> 176.4 ---> 192 ---> **384**--->**768** **--->** DSD64 ---> DSD128 ---> DSD256.

FILE CONVERSION AND UPSAMPLING

Pressing the "***SRC***" button on the hand held remote will cycle through the available sample rates.

- **"BYPASS"** next to **Upsample Rate** means The DMS-500 will pass the input signal rate out in its native rate without any upsampling.
- **When an upsample rate is selected** higher than the native input rate**,** the DMS-500 will upsample all incoming rates lower than the selected upsample rate up to the selected upsample rate (as well as change the bit depth to 32 bits for PCM or 1 bit for DSD). Any signals played that are equal to or higher than the selected upsample rate will playback unchanged as evident by the displays "Upsample Rate" showing "BYPASS" or the same upsample rate as the input rate. Subsequent playback of lower input rates behave as described above. Each of the DMS-500 inputs will remember the upsample rate as set for that input.

DSD OPERATION

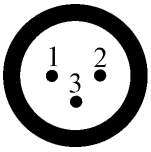
DSD PLAYBACK

The DMS-500 is capable of playing native (not DoP) DSD files up to 512 via both wired Ethernet and wireless Wi-Fi inputs as well as from the USB/SD inputs. If using Wi-Fi as your network connection, it is recommend to use a 5 GHz router and have a very robust signal at the DMS-500 location. You can also choose to access a computer that is connected wirelessly to your network as well.

However, this adds another potential interruption in the signal path when playing large files, such as DSD, etc. For the fastest and most reliable playback, a wired Ethernet connected is recommend to both the DMS-500 as well as to your computer(s).

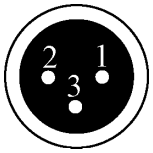
BALANCED OPERATION

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:



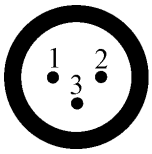
Pin 1: Signal ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal - (inverting)
Connector ground lug: chassis ground

Refer to your amplifier's operating manual to verify that the XLR pin assignments of its input connectors correspond to the DMS-500. 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 DMS-500. 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 DMS-500. 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 DMS-500 and it's 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	32-Bit 8x Oversampling Digital Filter
Digital/Analog Converters	2 - 2 channel AK4490EQ for working on true balanced output
BLUETOOTH	CSR Bluetooth v 4.0 with aptX® low latency audio decoder
Analog Filter	3rd 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 3, SD Card 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, 128, 256 and 512. BLUETOOTH 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
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	45 Watts
Dimensions	3.75″ H x 17.25″ W x 16.25″ D
Weight	23.5 lbs.

SPECIFICATIONS

AUDIO (LPCM)

Frequency Range	2 Hz - 22 kHz (44.1 kHz)
Amplitude Linearity	0.1 dB (20 Hz – 20 kHz)
Phase Linearity	3 degrees (20 Hz - 20 kHz)
Dynamic Range	121 dB (1 kHz)
Signal-to-Noise Ratio	113 dB (1 kHz)
Channel Separation	106 dB (1 kHz)
Total Harmonic Distortion	0.0004% (1 kHz)
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

NETWORK, USB, SD CARD PLAYBACK

PLAYBACK FORMAT SUPPLY	.dsf, .dff (DSD64, 128, 256, 512), .aif, .aiff, .alac, .flac, .m4a, .mp4, .wav, .ape, .mp3, .aac, .wma, .ogg, .asf
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 – 22.5792 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

SPECIFICATIONS

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

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 DMS-500and DMS-500may be cleaned with a soft cloth and Windex or a window cleaner. The frequency of cleaning will be governed by how many hours the DMS-500 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

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. The AC power fuse is NOT in the IEC power socket on this model, but rather is a bayonet holder just above the power cord. Remove the fuse holder by twisting the holder counter-clockwise and pulling it straight out. Replace the fuse in the holder, push it into the socket and turn it clockwise until it stops. 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 DMS-500 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 DMS-500 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.

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.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

International Purchasers (Export Markets)

Cary Audio warrants its merchandise to purchasers within the United States exclusively for use within the United States. It provides no other warranties, expressed or implied. If you are living outside of the United States, please consult your local dealer or distributor to determine the details of your local warranty.

CARY AUDIO DESIGN

6301 Chapel Hill Road | Raleigh, NC 27607
phone 919-355-0010
fax 919-573-9573
www.caryaudio.com