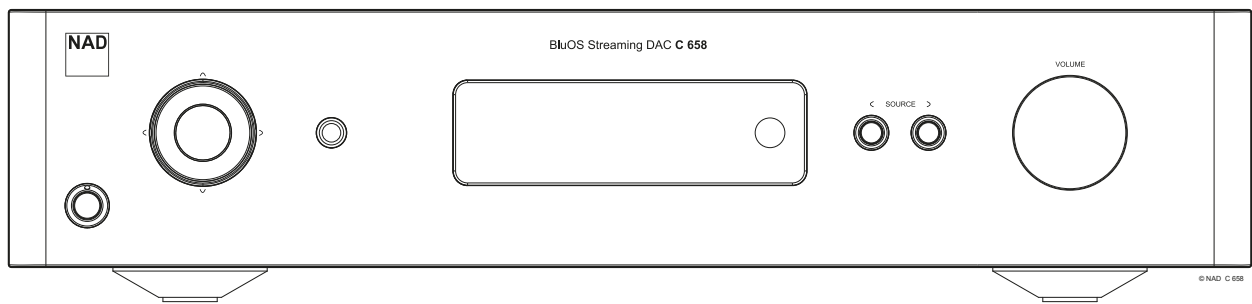




# C 658

BluOS Streaming DAC



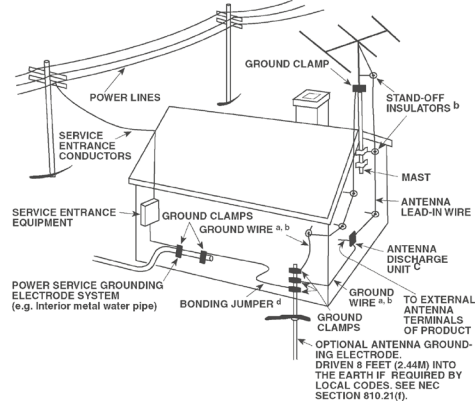
Owner's Manual

# IMPORTANT SAFETY INSTRUCTIONS

- 1. Read instructions** - All the safety and operating instructions should be read before the product is operated.
- 2. Retain instructions** - The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.
- 4. Follow Instructions** - All operating and use instructions should be followed.
- 5. Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 6. Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- 7. Water and Moisture** - Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- 8. Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- 9. Cart** - A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
- 10. Ventilation** - Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 11. Power Sources** - This product should be operated only from the type of power source indicated on the marking label and connected to a MAINS socket outlet with a protective earthing connection. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
- 12. Power-Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- 13. Mains Plug** - Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- 14. Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to 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.

## NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC 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.



- 15. Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- 16. Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- 17. Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 18. Flame Sources** - No naked flame sources, such as lighted candles, should be placed on the product.
- 19. Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- 20. Headphones** - Excessive sound pressure from earphones and headphones can cause hearing loss.
- 21. Damage Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power-supply cord or plug is damaged.
  - If liquid has been spilled, or objects have fallen into the product.
  - If the product has been exposed to rain or water.
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  - If the product has been dropped or damaged in any way.
  - When the product exhibits a distinct change in performance—this indicates a need for service.
- 22. Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

- 23. Battery Disposal** - When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.
- 24. Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 25. Wall or Ceiling Mounting** - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

**WARNING**



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



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



THE EQUIPMENT MUST BE CONNECTED TO AN EARTHED MAINS SOCKET-OUTLET.

**CAUTION REGARDING PLACEMENT**

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) than is equal to, or greater than shown below.

- Left and Right Panels: 10 cm
- Rear Panel: 10 cm
- Top Panel: 10 cm

**FCC STATEMENT**

This equipment has been tested and found to comply with the limits for 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, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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 that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

**CAUTION**

- Changes or modifications to this equipment not expressly approved by NAD Electronics for compliance could void the user's authority to operate this equipment.
- This device complies with Part 15 of the FCC Rules / Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
  - 1 This device may not cause harmful interference, and
  - 2 This device must accept any interference received, including interference that may cause undesired operation.
- Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.
- To prevent electric shock, match wide blade of plug to wide slot, fully insert.
- Marking and rating plate can be found at the rear panel of the apparatus.
- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.
- Mains plug is used as disconnect device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.
- Battery shall not be exposed to excessive heat such as sunshine, fire or the like.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.

**MPE REMINDER**

To satisfy FCC/IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

**IF IN DOUBT CONSULT A COMPETENT ELECTRICIAN.**



This product is manufactured to comply with the radio interference requirements of EEC DIRECTIVE 2004/108/EC.

**NOTES ON ENVIRONMENTAL PROTECTION**



At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging point this out.

The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment.

Your local administrative office can advise you of the responsible waste disposal point.

**RECORD YOUR MODEL NUMBER (NOW, WHILE YOU CAN SEE IT)**

The model and serial number of your new C 658 are located on the back of the cabinet. For your future convenience, we suggest that you record these numbers here:

Model number : .....

Serial number : .....

# INTRODUCTION

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### WHAT'S IN THE BOX

Packed with your C 658 you will find

- Two detachable mains power cord
- SR 9 remote control with 2 AA batteries
- USB MIC Sound Adaptor
- Mic Assembly with Ferrite Base
- Bluetooth and Wi-Fi antennas
- Quick Setup Guide

### SAVE THE PACKAGING

Please save the box and all of the packaging in which your C 658 arrived. Should you move or need to transport your C 658, this is the safest container in which to do so. We've seen too many otherwise perfect components damaged in transit for lack of a proper shipping carton so, please: Save that box!

### CHOOSING A LOCATION

Choose a location that is well ventilated (with at least several inches to both sides and behind), and that will provide a clear line of sight, within 25 feet / 8 meters, between the C 658's front panel and your primary listening/viewing position—this will ensure reliable infrared remote control communications. The C 658 generates a modest amount of heat, but nothing that should trouble adjacent components.

### RESTORING C 658 TO FACTORY DEFAULT SETTINGS

Press and hold both front panel's < SOURCE > buttons until the display shows the following three reset options. Use < or > buttons to select through the options.

- **Factory Reset MCU?** : Restore MCU factory default settings only
- **Factory Reset BluOS?** : Restore BluOS factory default settings only
- **Factory Reset All? This will reset both BluOS and MCU:** Restore both BluOS and MCU factory default settings

Press [ENTER] to select "Yes" and initiate selected Factory Reset option.

### IMPORTANT

*Restoring C 658 to factory default settings will delete all applicable configured or saved settings.*

**QUICK SETUP GUIDE**

This simple guide will help you get started with your C 658.

Your C 658 can be connected to your home network via **Wired** or **Wireless** connection.

**IMPORTANT!**

- *For wired and wireless connection to be established, ensure that a broadband router that supports Ethernet and/or Wi-Fi standards is setup and available.*
- *Tablets, smartphones and other applicable devices that support iOS (Apple) or Android operating system can be used as mobile device controller. These devices are not supplied with your C 658.*
- *Download and install the corresponding "BluOS Controller" App for your device.*
- *The BluOS App is available as a Mobile App for Android, iOS, Kindle and Desktop App for Windows and macOS Computers.*
- *Mobile Apps are handled by the respective Application Store of the Mobile devices.*
- *Desktop Apps are available to download directly from the Bluesound homepage - <https://www.bluesound.com>*

**WIRED CONNECTION**

Using an Ethernet cable (not supplied), connect one end to C 658's LAN port and the other end directly to your Wired network or router.

**WIRELESS CONNECTION**

The process is very easy but slightly differs between iOS (Apple) and Android devices. Follow below instructions for the smartphone or tablet that applies to you. Windows and Mac users please see the instructions under **Wireless Manual Setup** below.

**ANDROID**

- 1** Open App. The App may immediately prompt you saying "New Players detected", select "Setup Now".
  - a** If you are not prompted, open the Player Drawer by pressing the Home icon in the top right corner of the App.
  - b** Scroll to the bottom and select "Add a Player" to launch the Easy Setup Wizard.
  - c** Select your C 658's unique network ID\* from the Players detected Window.
  - d** Select your Home Wi-Fi Network from the "Choose a Wi-Fi Network" drop down menu.
  - e** If your Home Wi-Fi Network does not appear or is hidden, select "Manual SSID Entry". Enter network or applicable wireless network name.
  - f** Select the "Network Security" your network uses.
- 2** Enter your home network's Wi-Fi Password in the field provided and select "OK".
- 3** Enter the "Player Name" you prefer your C 658 to be customized for easier identification in the Player Drawer. Network setup connection proceeds automatically.
- 4** Network setup connection is completed when "All Done!" is shown in the App.

\*The C 658's unique network ID is listed as the product name (i.e. C658) immediately followed by the last four digits in the MAC (Machine Access Control) address (example: C658-001A). The full 12-digit MAC address is printed on a sticker on the C 658 rear panel.

**iOS**

- 1** Open App. Select Home icon in the top right corner of the App.
- 2** Scroll to the bottom and select "Add a Player" to launch the Easy Setup Wizard.
- 3** As illustrated, press the Home button and open the iOS Settings App to select the Wi-Fi network you will connect.
- 4** From the same iOS Settings App, select your C 658's unique network ID\*. Follow prompt instructions.
- 5** Return to BluOS App upon completion of the network setup connection.

If the above method does not work or if you are on a Windows PC or Apple Mac, **Wireless Manual Setup** can be undertaken.

**WIRELESS MANUAL SETUP**

- 1** Select your C 658's unique network ID\* from the Wi-Fi Setup connection settings menu of your tablet, smart phone or computer and join it.
- 2** "...Control Panel" menu window should automatically open. If not, open the web browser of your device and visit <http://10.1.2.3>.
- 3** Select "Configure Wi-Fi" from the "...Control Panel" menu. Select your network or applicable wireless network name (SSID) from the "Configure Wireless" drop down menu.
- 4** Enter your network's Wireless Password (Passphrase, WEP/WAP key as applicable) in the field "Enter password or key (if protected)".
- 5** Select a "Player name" from the drop down list or use the on-screen keyboard to create a customized room name in the field "Custom name".
- 6** Select "Update" to save all your settings and complete the set up connection of your C 658. Do not forget to go back to the Wi-Fi Settings section of your device to confirm that it is reconnected to the correct Wi-Fi network.

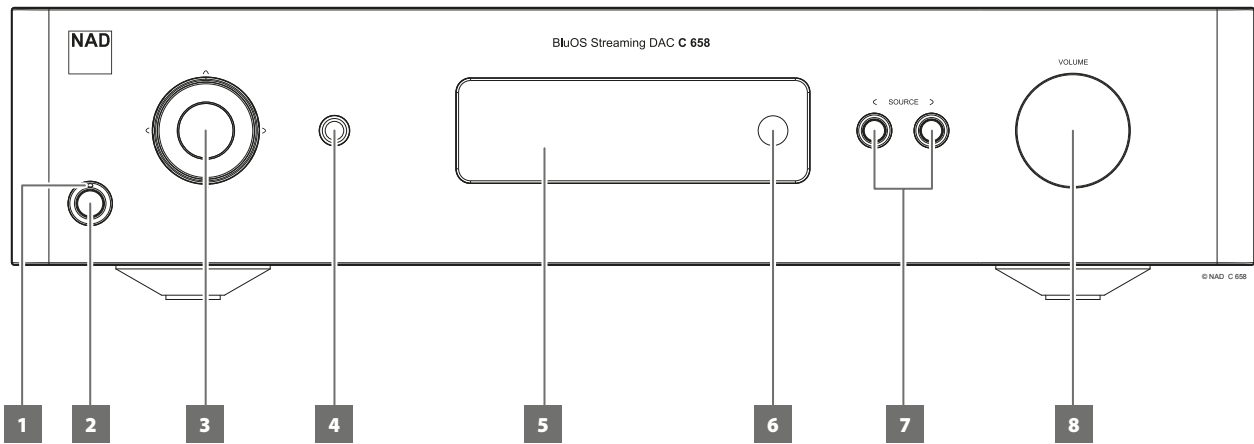
Your C 658 is now connected to your Wi-Fi network and ready to be used with the BluOS controller App.

**IMPORTANT!**

*Always ensure that your C 658 is updated with the latest firmware. Go to the C 658 product page at [nadelectronics.com](http://nadelectronics.com) for firmware update information.*

# IDENTIFICATION OF CONTROLS

## FRONT PANEL



### 1 POWER INDICATOR

- This indicator will be amber when the C 658 is in standby mode.
- When the C 658 is powered up from standby mode, this indicator will change from amber to blue color.

### 2 STANDBY BUTTON

- Press Standby button to switch ON the C 658 from standby mode. The Power indicator will change from amber to blue color.
- Pressing Standby button again switches back C 658 to standby mode. The Power indicator will change from blue to amber color.
- The Standby button cannot activate the C 658 if the rear panel POWER switch is off.

### IMPORTANT NOTES

#### Conditions for Standby button to activate

- Connect the plug of the supplied power cord to a mains power outlet while ensuring that the other end of the power cord is firmly connected to C 658's AC Mains input socket.*
- The rear panel POWER switch must be set to ON.*

### 3 NAVIGATION AND ENTER BUTTONS

- The navigation [ $\wedge/\vee/\langle/\rangle$ ] and [ENTER] buttons are used to go through menu options and selections.
- Use [ $\wedge/\vee/\langle/\rangle$ ] to go up, down, left or right given options or selections.
- The middle round button is designated as [ENTER] button. This is normally pressed to complete a selection, procedure, sequence or other applicable functions.

### 4 HEADPHONES

- A 1/4" stereo jack socket is supplied for headphone listening and will work with conventional headphones of any impedance.
- The volume, tone and balance controls are operative for headphone listening. Use a suitable adapter to connect headphones with other types of sockets, such as 3.5mm "personal stereo" jack plugs.

### IMPORTANT

*There is no audio output at Audio PRE-OUT (Balanced and Single-ended) if headphones is connected to HEADPHONES jack in the front panel.*

### 5 DISPLAY

- Visual and menu information are shown according to the selected settings.
- The following Main menu options are selectable from the display – Settings, Source Setup and System Info.
- Use the SR 9 remote control or front panel navigation [ $\wedge/\vee/\langle/\rangle$ ] and [ENTER] buttons to go through menu options and selections.

### 6 REMOTE SENSOR

- Point the SR 9 remote control at the remote sensor and press the buttons.
- Do not expose the remote sensor of the C 658 to a strong light source such as direct sunlight or illumination. If you do so, you may not be able to operate the C 658 with the remote control.

**Distance:** About 23ft (7m) from the front of the remote sensor.

**Angle:** About 30° in each direction of the front of the remote sensor.

### 7 < SOURCE >

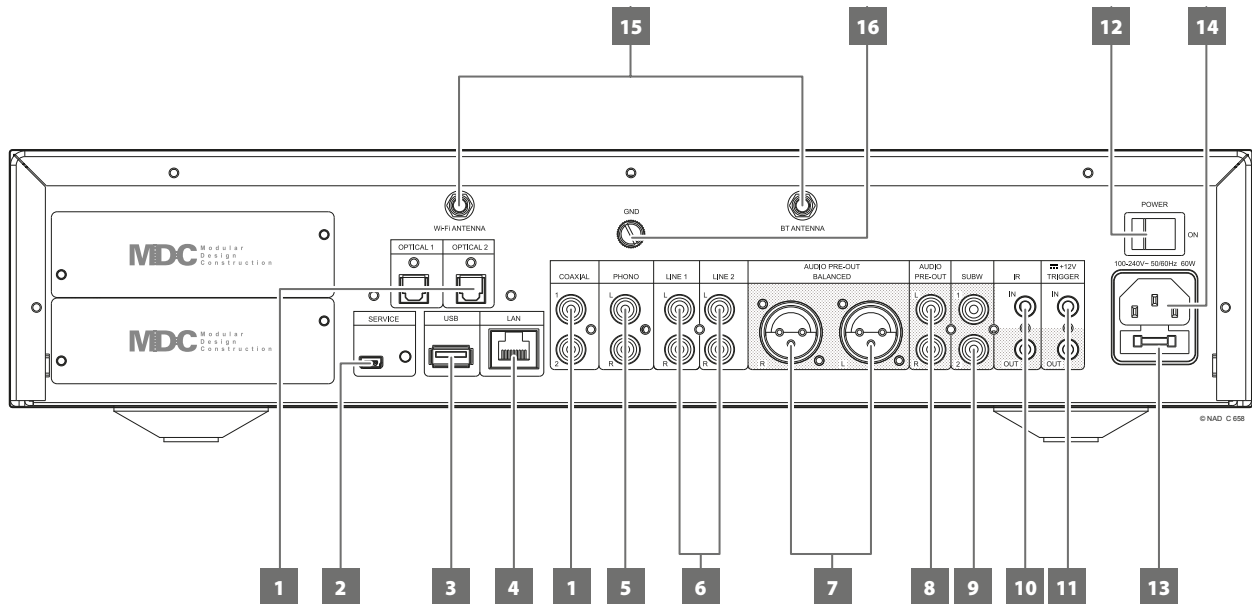
- Press < SOURCE or SOURCE > to select Sources.

### 8 VOLUME

- The VOLUME control adjusts the overall loudness of the signal sent to the loudspeakers. The Volume control is characterized by perfect signal tracking and channel balance. It provides a highly linear and low noise operation.
- Turn clockwise to increase the volume level and counter clockwise to lower it.
- The default volume level is -20dB.
- Volume level will wake up and reset to the -20 dB default setting if the unit goes to standby mode with a variable volume level higher than -20 dB. However, if volume level is lower than -20 dB when the unit goes to standby mode, that level setting will be preserved when the unit wakes up.

# IDENTIFICATION OF CONTROLS

## REAR PANEL



### ATTENTION!

Please ensure that the C 658 is powered off or unplugged from the mains power outlet before making any connections. It is also advisable to power down or unplug all associated components while making or breaking any signal or AC power connections.

#### 1 OPTICAL 1-2/COAXIAL 1-2

- Connect to the corresponding optical and coaxial digital output of sources such as CD or BD/DVD players, digital cable box, digital tuners and other applicable components.

#### 2 SERVICE

- These USB port and tact switch are for servicing purposes only. Not for consumer use.

#### 3 USB

- Connect to this USB port USB mass storage devices formatted as FAT32, NTFS or Linux ext4. The connected USB device appears as a Local Source (USB) in the BluOS App.
- Access and playback music stored in the connected USB device by selecting "USB" from the BluOS App.

#### 4 ETHERNET/LOCAL AREA NETWORK (LAN) PORT

- LAN connection must be setup for wired connection to be established. Set up a Wired Ethernet broadband router with broadband internet connection. Your router or home network should have a built-in DHCP server to consummate the connection.
- Using a standard straight-through Ethernet cable (not supplied), connect one end of the Ethernet cable to the LAN port of your wired Ethernet broadband router and the other end to C 658's LAN port.

#### 5 PHONO

- Input for a Moving Magnet (MM) phono cartridge only. Connect the twin RCA-to-RCA lead from your turntable to this input if you are using a Moving Magnet cartridge.
- If your turntable includes a ground/earth lead, it can be connected to the Ground Terminal (refer to item 16 below).

#### 6 LINE 1-2

- Input for line level sources such as CD player, tuner or any compatible devices. Use a twin RCA-to-RCA lead to connect the source device's left and right "Audio Output" to these line input ports.

#### 7 AUDIO PRE-OUT (BALANCED)

- The AUDIO PRE -OUT is the main output port that connects the C 658 to the corresponding audio input ports of external amplifiers. This makes it possible to use the C 658 as a pre-amplifier to such devices. It is recommended to use C 658's BALANCED AUDIO PRE-OUT if the external amplifier has corresponding BALANCED input port.

#### 8 AUDIO PRE-OUT (SINGLE-ENDED)

- Use single-ended AUDIO PRE OUT for sources that are not equipped with BALANCED analog audio input.
- Use a twin RCA-to-RCA lead to connect AUDIO PRE-OUT to the corresponding analog audio input of compatible devices such as amplifiers, receivers or other applicable devices.

### NOTES

- NAD is not responsible for any malfunction of the C 658 and/or the internet connection due to communication errors or malfunctions associated with your broadband internet connection or other connected equipment. Contact your Internet Service Provider (ISP) for assistance or the service bureau of your other equipment.
- Contact your ISP for policies, charges, content restrictions, service limitations, bandwidth, repair and other related issues pertinent to internet connectivity.

### IMPORTANT

There is no audio output at Audio PRE-OUT (Balanced and Single-ended) if

- Headphones is connected to HEADPHONES jack in the front panel.
- C 658 is at Bluetooth Headphones mode.

# IDENTIFICATION OF CONTROLS

## REAR PANEL

### 9 SUBW (SUBWOOFER) 1, 2

- Connect SUBW 1 and/or 2 to the low level input of corresponding powered subwoofer.
- Low frequency information up to 80 Hz is sent to the connected subwoofer.

### 10 IR IN/IR OUT

- These mini-jacks accept and output remote-controlled codes in electrical format, using industry-standard protocols, for use with "IR-repeater" and multi-room systems and related technologies.
- All NAD products with IR IN/IR OUT features are fully compatible with the C 658. For non-NAD models, please check with your other product's service specialists with respect to their compatibility to the C 658's IR features.

#### IR IN

- This input is connected to the output of an IR (infrared) repeater (Xantech or similar) or the IR output of another compatible device to allow control of the C 658 from a remote location.

#### IR OUT

- Connect IR OUT to the IR IN jack of a compatible device.
- Command and control the linked compatible device by directing its own remote control to C 658's infrared receiver.

### 11 +12V TRIGGER

#### +12V TRIGGER OUT

- The +12V TRIGGER OUT is used for controlling external equipment equipped with a +12V trigger input.
- Connect this +12V TRIGGER OUT to the other equipment's corresponding +12V DC input jack using a mono cable with 3.5mm male plug.
- This output will be 12V when the C 658 is ON and 0V when it is either OFF or in standby mode.

#### +12V TRIGGER IN

- With this input triggered by a 12V DC supply, the C 658 can be switched ON remotely from standby mode by compatible devices such as amplifiers, preamplifiers, receivers, etc. If the 12V DC supply is cut off, the C 658 will return to standby mode.
- Connect this +12V Trigger input to the remote device's corresponding +12V DC output jack using a mono cable with 3.5mm male plug. The controlling device must be equipped with a +12V trigger output to use this feature.

### NOTE

*If there is a stereo jack connected to +12V TRIGGER IN, the C 658 cannot be powered ON/OFF using the front panel Standby button or SR 9's ON/OFF buttons. The stereo jack has to be unplugged to resume normal powering up of the unit via front panel Standby button or SR 9's ON/OFF buttons.*

### 12 POWER

- AC mains power is supplied to C 658.
- When the POWER switch is set to ON position, the C 658 goes to standby mode as shown by the amber status condition of the front panel Power indicator.
- Press the front panel Standby button or SR 9's remote control's [ON] button to switch ON the C 658 from standby mode.
- If you do not intend to use the C 658 for long periods of time (such as when on vacation), switch off the POWER switch.
- With POWER switched off, neither the front panel Standby button nor SR 9 remote control's [ON] button can activate the C 658.

### 13 FUSE HOLDER

- Only qualified NAD service technicians can have access to this fuse holder. Opening this fuse holder may cause damage thus voiding the warranty of your C 658.

### 14 AC MAINS INPUT

- The C 658 comes supplied with two separate mains power cords. Select the mains power cord appropriate for your region.
- Before connecting the plug to the mains power outlet, ensure that it is firmly connected to the C 658's AC Mains input socket.
- Always disconnect the mains power plug from the mains power outlet before disconnecting the cable from the C 658's AC Mains input socket.

### 15 WI-FI AND BLUETOOTH ANTENNA TERMINALS

- Install supplied antennas to corresponding Wi-Fi and BT antenna terminals.

### 16 GROUND TERMINAL

- Ensure that the C 658 is plugged-in to a grounded AC wall outlet.
- If necessary, use this ground terminal to connect to ground a phono or turntable source for PHONO input.
- If a separate earth ground is necessary, use this terminal to ground your C 658. The C 658 can be connected to ground by connecting a ground lead wire or similar to this terminal. After insertion, tighten the terminal to secure the lead.



### MDC CLASSIC UPGRADE SLOTS

The delivery format of digital content is constantly changing in pure digital systems like the C 658. Each of these format typically requires specialized hardware and software, often with licensed IP and content copy protection.

To address continuous technological evolution, NAD has placed all digital interface circuitry of the C 658 on easily upgradable modules, called Modular Design Construction (MDC). The C 658 has provision for two slots where MDC upgrade modules can be installed.

One significant upgrade for your C 658 is the integration of the optional MDC HDM-2. Consult with your NAD dealer for other compatible C 658 MDC module upgrades.

### MDC HDM-2

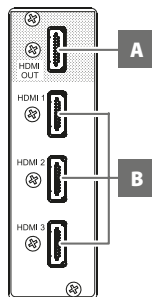
MDC HDM-2 offers three HDMI input terminals and one HDMI output. MDC HDM-2 adds HDMI switching and audio capability to C 658. It supports 4K@60 4:4:4 and HDCP 2.2 compliant. With MDC HDM-2 installed, C 658 supports HDMI Control (CEC) and Audio Return Channel (ARC) functions. Both functions are possible if external devices that also support both features are interconnected with C 658 via HDMI connection.

If an ARC connection is established, the front panel display will show "HDMI ARC".

### IMPORTANT!

*Ensure that ARC-connected devices to C 658 have their audio settings set to PCM only.*

- A HDMI OUT:** Connect to corresponding HDMI port of HDTV, projector with HDMI input or TV that supports HDMI CEC/ARC.
- B HDMI 1 - 3:** Connect to the HDMI OUT connectors of source components such as DVD player, BD player or HDTV satellite/cable box.

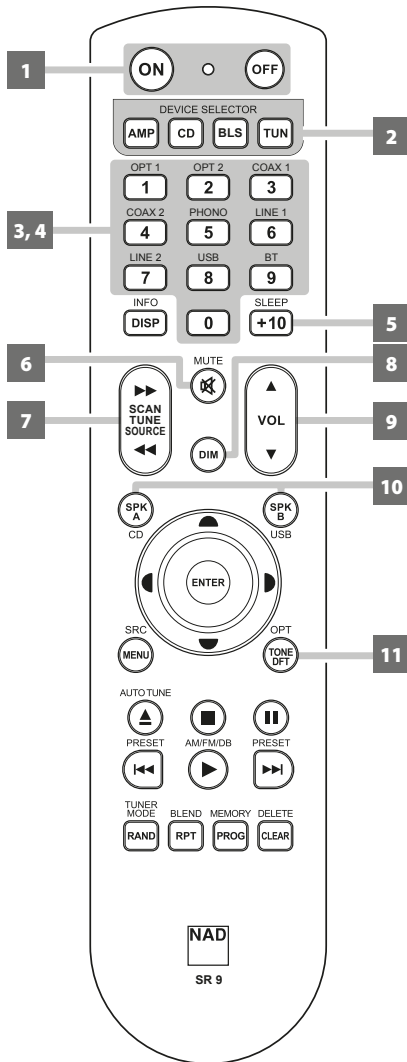


### WARNING!

*Before connecting and disconnecting any HDMI cables, both the C 658 and the source must be powered OFF and unplugged from the AC outlet. Failure to do so may cause permanent damage to equipment connected via HDMI sockets.*

# IDENTIFICATION OF CONTROLS

## USING THE SR 9 REMOTE CONTROL



The SR 9 remote control handset handles the key functions of the C 658 as well as other NAD Stereo Receivers, Integrated Amplifiers and Preamplifiers. It has additional controls to remotely operate NAD CD Players, AM/FM Tuners and dedicated AM/FM/DAB Tuners. It will operate up to a distance of 23ft (7m). Alkaline batteries are recommended for maximum operating life. Two AA batteries should be fitted in the battery compartment at the rear of the Remote Control handset. When replacing batteries, check that they have been put in the right way round, as indicated on the base of the battery compartment.

### NOTE

*The remote control handset supplied with the C 658 is of a universal NAD type, designed to operate several NAD models. Some buttons are applicable only to specific NAD models. Contact your dealer or NAD audio specialist for assistance.*

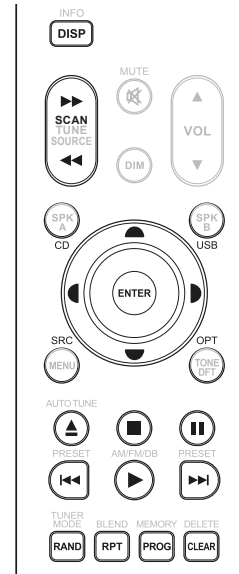
- 1 POWER ON/OFF:** The SR 9 remote has a separate ON and OFF button. Press ON button to switch the unit from Standby to operating mode. Press OFF button to switch the unit to Standby mode.
- 2 DEVICE SELECTOR:** A Device Selector button determines only what component the SR 9 will command; it does not perform any function on the C 658. Press desired Device Selector button for the applicable buttons to be directed to a "page" of commands relevant to the selected device. Upon selecting a Device, you can now press the corresponding SR 9 control buttons applicable for the selected Device.
- 3 INPUT SELECTORS:** Refer to the corresponding labels printed in the remote control faceplate and their respective assigned buttons to make use of these functions. Set the DEVICE SELECTOR to "AMP" in order to gain access to these buttons.
- 4 NUMERIC KEYS:** The numeric keys allow for direct input of tracks for CD players, and direct channel/preset access for tuners and receivers.
- 5 SLEEP:** Switch off specific NAD Receiver or Tuner models after a preset number of minutes. This button control does not apply to C 658.
- 6 MUTE:** Press the [MUTE] button to temporarily switch OFF the sound to the speakers and headphones. MUTE mode is indicated by the Standby LED indicator flashing for NAD Integrated Amplifiers or "Mute" shown in the VFD of NAD Receivers. For C 658, "Mute" is shown in the display. Press MUTE again to restore sound. Adjusting the volume level via the SR 9 or the front panel volume knob will automatically release the mute function.
- 7 SOURCE ◀▶:** Toggle through the source input selections. If the optional MDC modules are installed, the source selections will include the sources incorporated in the applicable modules.
- 8 DIM (for use with NAD Stereo Receiver, Tuner and CD Player):** Reduce, turn off or restore display brightness. Depending on the NAD model, the brightness of the front panel display will vary when you toggle this button. For C 658, toggle to vary brightness level of the display - brighter, normal or dimmer.
- 9 VOL [▲/▼]:** Press [▲/▼] button to increase or decrease the loudness level. Release the button when the desired level is reached. For NAD Receivers, the VFD will also show "Volume Up" or "Volume Down" while pressing SR 9's VOL [▲/▼]. For C 658, when VOL [▲/▼] is pressed, the dB level shown in the display will correspondingly increase or decrease.
- 10 SPK A, SPK B:** The [SPK A] and [SPK B] buttons engage or disengage the speakers connected respectively to the Speakers A and Speakers B terminals. Toggle [SPK A] to switch ON or OFF the speakers connected to the Speaker A terminals. Toggle [SPK B] to switch ON or OFF the speakers connected to the Speaker B terminals. These button controls do not apply to C 658.
- 11 TONE DFT:** Tone controls are enabled or disabled by pressing this button.

# IDENTIFICATION OF CONTROLS

## USING THE SR 9 REMOTE CONTROL

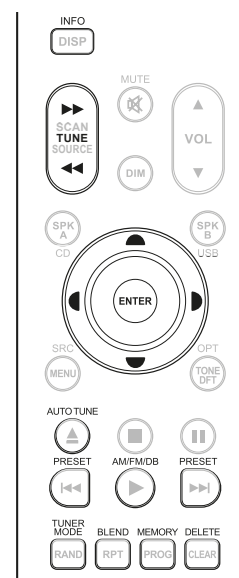
**CD PLAYER CONTROL (for use with NAD CD Player):** Set the DEVICE SELECTOR to “CD” in order to gain access to these buttons. Some of the control buttons below are applicable only to specific NAD CD Player models; check the owner’s manual of your NAD CD Player for control button compatibility.

- SCAN** [◀▶]: Fast reverse/forward search.
- [▲]: Open or close disc tray.
- [■]: Stop playback.
- [⏸]: Pause playback temporarily.
- [▶▶]: Go to next track/file.
- [◀◀]: Go to beginning of current track/file or to previous track/file.
- [▶]: Start playback.
- [◀/▶/▼]: Select through folder list/Select through WMA/MP3 files.
- ENTER**: Select desired folder or WMA/MP3 file.
- DISP**: Show playback time and other display information.
- RAND**: Play tracks/files in random order.
- RPT**: Repeat track, file or whole disc.
- PROG**: Enter or exit program mode.
- CLEAR**: Delete programmed track/file.
- CD**: Select CD as the active source.
- USB**: Select USB as the active source.
- OPT**: Select optical input as the active source.
- SRC**: Toggle to select desired SRC mode.



**TUNER CONTROL (for use with NAD AM/FM/DAB Tuner):** Set the DEVICE SELECTOR to “TUN” in order to gain access to these buttons. Refer to the corresponding labels printed in the remote control faceplate and their respective assigned buttons to make use of these functions. Some of the control buttons below are applicable only to specific NAD Receiver or Tuner models; check the owner’s manual of your NAD Receiver or Tuner for control button compatibility.

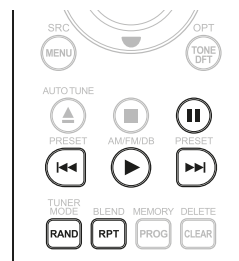
- AUTO TUNE**: In DAB mode, press this button to automatically scan all available local stations.
- TUNE** [◀▶] or [▲/▼]: Step up or down between AM or FM frequencies.
- PRESET** [◀◀/▶▶] or [▲/▼]: Step up or down between stored radio presets.
- AM/FM/DAB**: Select AM, FM, DAB or XM band (if applicable).
- TUNER MODE**: In FM mode, toggle between “FM Mute On” and “FM Mute Off”. In DAB mode, pressing this button will activate Dynamic Range Control (DRC), Station Order or other applicable DAB menu options.
- BLEND**: Engage or disengage BLEND feature.
- MEMORY**: Save current station into preset memory.
- DELETE**: Press and hold for about 2 seconds and the selected preset memory is erased.
- [◀/▶]: In DAB mode, in combination with TUNER MODE or other compatible buttons, toggle to select through DAB feature options like Dynamic Range Control, Station Order and other appropriate DAB options.
- ENTER**: In AM/FM mode, toggle to select Preset or Tune mode. In DAB mode, press and hold to check signal strength.
- INFO**: Repeatedly pressing this button will show information as supplied by the current radio station. The applicable display contents include related DAB display information and RDS broadcast data.



### BluOS PLAYBACK CONTROLS

Set DEVICE SELECTOR to BLS and the following control buttons are applicable for BluOS playback control.

- [▶]: Resume playback from pause mode.
- [⏸]: Pause current playback.
- [◀◀]: Skip back to the beginning of current song.
- [▶▶]: Skip forward to the next song.
- REPEAT**: Repeat song, playlist, all or repeat off. Refer to BluOS controller app to see repeat mode indicators.
- RANDOM**: Play songs/playlist in random order



# IDENTIFICATION OF CONTROLS

## USING THE SR 9 REMOTE CONTROL

### USING THE SR 9 REMOTE CONTROL LIBRARY

The SR 9 can store a different library of default NAD codes for each of its DEVICE SELECTOR "pages." If the original default library does not control your NAD CD player, DVD player or other components, follow the procedure below to change the library code. Refer as well to the table below for a list of applicable NAD Library Codes with their corresponding NAD models.

#### LOAD ANOTHER LIBRARY CODE

**Example:** Load NAD DVD Player T 517 library codes to SR 9's "CD" device.

- 1 Press and hold [CD] in the DEVICE SELECTOR section of SR 9.
- 2 While holding down the device button (CD), press "2" and "2" using SR 9's numeric buttons. "22" is the corresponding library code for T 517.
- 3 Press [ENTER] while still holding down the device button (CD). The CD device selector will flash once to indicate that the library input is successful. Both the device selector button (CD) and [ENTER] can now be released.

#### RESET THE SR 9 TO ITS DEFAULT SETTINGS

The SR 9 can be restored to its factory settings, including default libraries, by the following procedures

- 1 Press and hold [ON] and [DELETE/CLEAR] buttons for about 10 seconds until the AMP device button lights up.
- 2 Within two seconds of the AMP device button lighting up, release both buttons. If the reset mode is successful, the [CD] device button will flash twice.

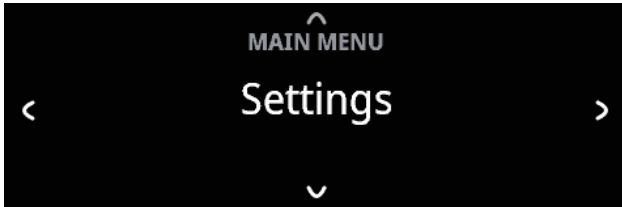
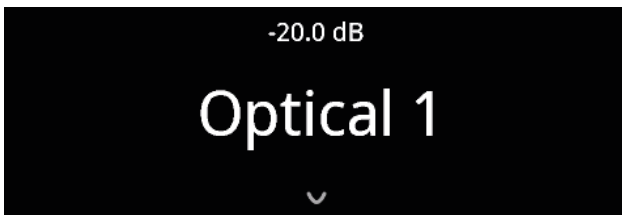
#### TABLE OF LIBRARY CODES APPLICABLE TO SR 9 REMOTE CONTROL

LIBRARY CODE	NAD PRODUCT DESCRIPTION
10	Default library for "AMP" page
11	Zone 2
12	Default library for "AMP" page without discrete ON/OFF (toggle ON/OFF) buttons
20	Default library for "CD" page; C 515BEE, C 545BEE, C 565BEE
21	T 535, T 585, M55, DVD section of L 54, VISO TWO, VISO FIVE
22	T 513, T 514, T 515, T 517
23	T 587
31	IPD 2
40	Default library for "TUN" page; Tuner section of C 725BEE, T 175, T 737, T 747, T 755, T 765, T 775, T 785
41	C 422, C 425
42	C 445

#### NOTE

*The SR 9 may not necessarily contain all the control buttons applicable for the above-mentioned NAD products. Use the prescribed remote control of the specific NAD product for a full complement of the applicable remote control buttons.*

ACCESS MAIN MENU



Press front panel [V] button once for the Main Menu options to appear in the display. Use front panel < or > button to select through the Main Menu options – Settings, Source Setup and System Info.

NAVIGATING THE MENU OPTIONS AND MAKING CHANGES

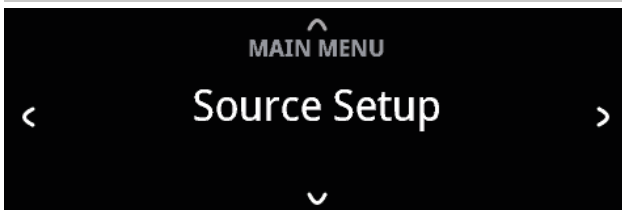
Navigate through the menu options using the front panel buttons or corresponding SR 9 buttons.

- 1 Press [V] to select a menu item.
- 2 Repeatedly press [C/D] to scroll through menu choices, options or selections.
- 3 Press [^] or [ENTER] to select or save current selection or option and at the same time exit or return to the previous menu.

NOTE

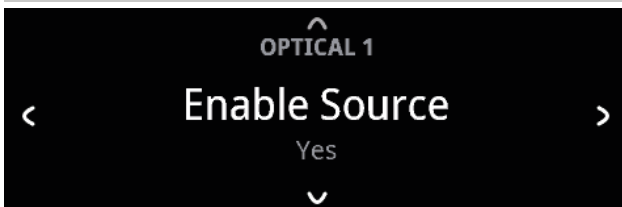
*Menu option will remain displayed and will only turn off or default to current Source after 1 minute of non-user interface.*

SOURCE SETUP



There are three Source Setup menu items – Enable Source, Name and Volume Control. At Source Setup menu, select the particular Source you want to enable, disable, rename or setup Volume Control.

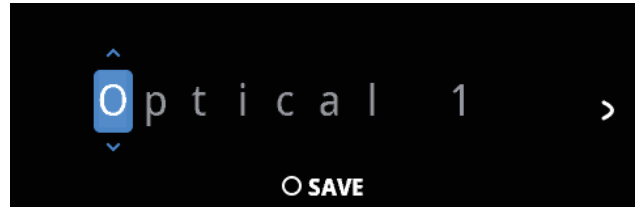
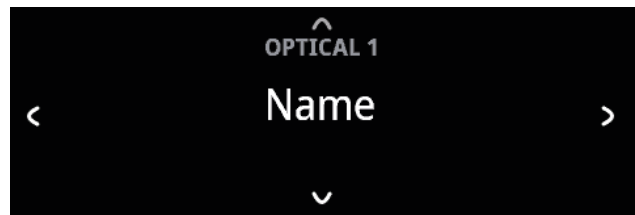
ENABLE SOURCE



One can enable/disable a Source via this option. This is particularly useful if only few Sources are used thereby bypassing unused sources.

- On:** Enable selected Source.
- Off:** Disable selected Source.

NAME

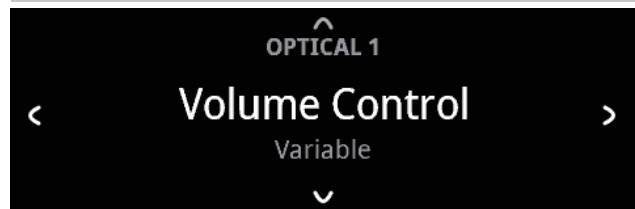


A new Name maybe assigned to a Source label. For example, if your BD player is attached to "Optical 1", it is possible to rename "Optical 1" to "BD Player".

In order to rename the Source label, select "Name" parameter.

- 1 While at the selected Source, for example "Optical 1", press [ENTER] to select "EDIT".
- 2 Use [V/^] to pick through the alphanumeric selections.
- 3 Press [D] to move to the next character and at the same time save the changes done on the current character. The name can be as long as twelve characters.
- 4 Repeat steps 1 and 2 for each character in sequence.
- 5 Complete the renaming process by pressing the [ENTER] button again to save the new source's input name. The new Name will be shown in the display.

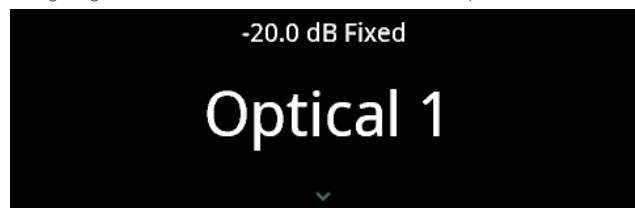
VOLUME CONTROL



Volume control can be set to either Variable or Fixed level.

**Variable:** Volume level is adjusted using the volume knob or SR 9's [VOL ▲/▼] buttons.

**Fixed:** Output level is fixed and the C 658's Volume Control is bypassed. This feature is sometimes referred to as "Cinema Bypass" because it allows the C 658 to be used for the front channels of a surround sound system by relegating the volume control function to the surround processor.



## OPERATION

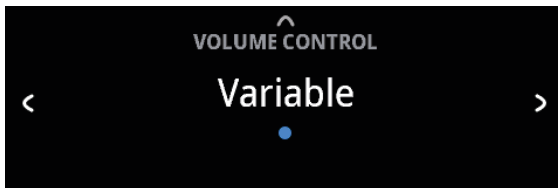
### USING C 658

-20.0 dB Fixed

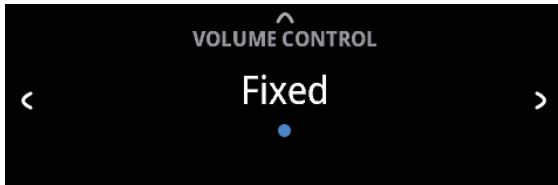
At Fixed volume level setting, front panel display will show "xx.x dB Fixed" as the volume control is adjusted.

#### HOW TO NAVIGATE VOLUME CONTROL LEVEL SETTING

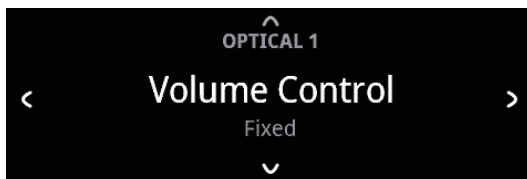
- A** While at "Volume Control" menu, press [✓].
- B** Use front panel [←/→] or SR 9's [◀/▶] buttons to toggle between "Variable" and "Fixed" level options.
- 1** While at "Variable" option, use front panel [^] or SR 9's [▲] button to select "Variable" level and return to "Source Setup" menu selections.



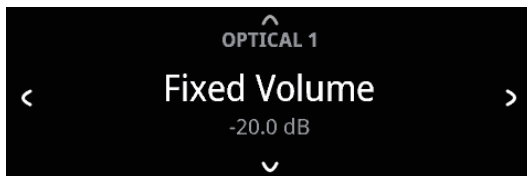
- 2** While at "Fixed" option, use front panel [^] or SR 9's [▲] button to select "Fixed" level and return to "Source Setup" menu selections.



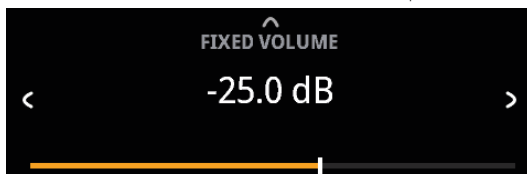
- a** With "Fixed" level selected and back to "Source Setup" menu selections, use front panel [←/→] or SR 9's [◀/▶] buttons to go "Fixed Volume" option. "Fixed Volume" manifests among "Source Setup" options only if "Fixed Volume" is the selected "Volume Control" level.



- b** Use [✓] button to go to Fixed Volume level setting.



- c** Use front panel [←/→] or SR 9's [◀/▶] buttons to set preferred dB level setting. Then, use front panel [^] or SR 9's [▲] button to save dB level selection and exit Fixed Volume setup mode.

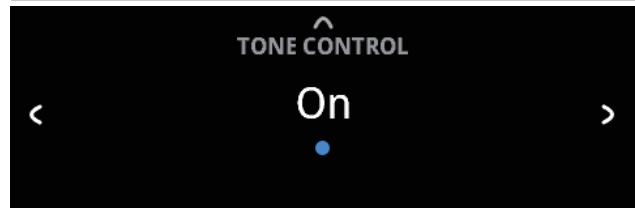


#### SETTINGS

The "Settings" main menu allows the configuration of the following features:

- Tone Control
- Treble
- Bass
- Balance
- Analog Bypass
- Auto Sense
- Auto Standby
- Network Standby
- IR Channel
- IR Learning
- Dimmer
- Temporary Display
- Volume Display Mode

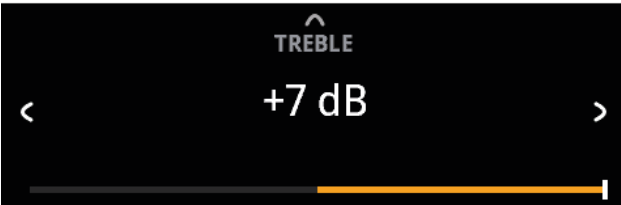
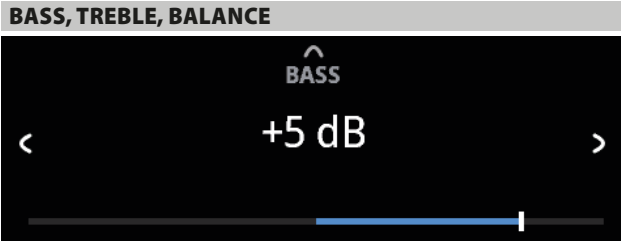
#### TONE CONTROL



Tone control allows the boosting or reduction of particular audio frequencies. The tone control levels, Bass and Treble, can be turned on or off.

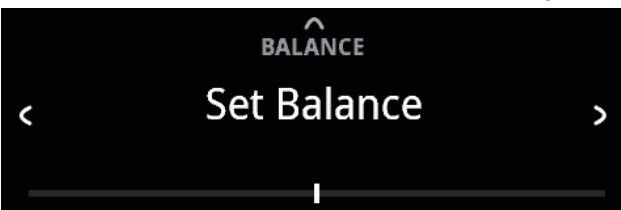
**On:** Tone control levels are active. At Tone Controls On, Bass and Treble control levels are available for configuration.

**Off:** Tone controls levels are bypassed. At Tone Controls Off, Bass and Treble control levels become unavailable or turned off from the Settings menu.



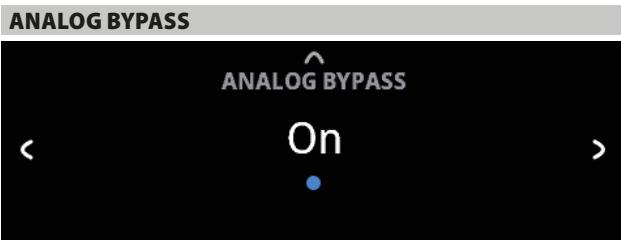
Bass and Treble controls only affect the low bass and high treble leaving the critical midrange frequencies free of coloration.

- Use [C/>>] to boost or cut Bass or Treble levels within ±7 dB range.



Balance control adjusts the relative levels of the left and right channels.

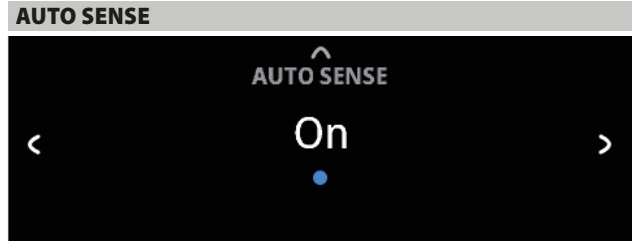
- Press [D] to shift the balance to the right or [C] to shift the balance to the left. Use [C/>>] also to recover or even out the balance levels.
- The center level setting provides equal level to the left and right channels.



All analog signals remain in the analog domain without analog-to-digital conversions.

**On:** DSP circuitry is bypassed but full tone control functions remain.

**Off:** Analog bypass feature is turned off.



Auto Sense feature enables the C 658 to wake up from standby mode when triggered by network connected App or active source input. Auto Standby must be set to ON for Auto Sense to work.

**On**

- Unit wakes up from standby mode when triggered by network connected App or active source input.
- Except for analog input, the unit will power up to the Source that activated the unit to operating mode.
- When the unit is triggered by an active analog input, the unit will always power up to Line 1.

**Off**

- Unit remains at standby mode even if it is triggered by network connected App or active source input.

Refer also to table below about "OPERATING MODE TRIGGER POINTS".

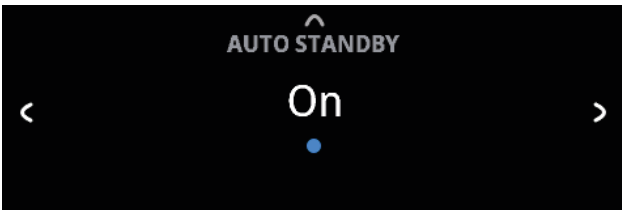
**OPERATING MODE TRIGGER POINTS**

SETTINGS	OPERATING MODE TRIGGER
Auto Standby: On Network Standby: On Auto Sense: On	Unit switches back to operating mode by <ul style="list-style-type: none"> <li>• resuming activity at network connected app</li> <li>• an active source input</li> <li>• pressing front panel Standby button or SR 9 remote control's [ON] button</li> </ul>
Auto Standby: On Network Standby: Off Auto Sense: On	Unit switches back to operating mode by <ul style="list-style-type: none"> <li>• an active source input</li> <li>• pressing front panel Standby button or SR 9 remote control's [ON] button</li> </ul>
Auto Standby: On Network Standby: On/Off Auto Sense: Off	<ul style="list-style-type: none"> <li>• Unit remains at standby mode even if it is triggered by network connected App or active source input</li> <li>• Unit can only be switched back to operating mode by pressing front panel Standby button or SR 9 remote control's [ON] button</li> </ul>

# OPERATION

## USING C 658

### AUTO STANDBY



Auto Standby feature is an integral feature of C 658 that conforms to European ecodesign regulations. The C 658 can be setup to automatically go to standby mode if there is no user interface interaction and no active source input within 20 minutes.

#### On

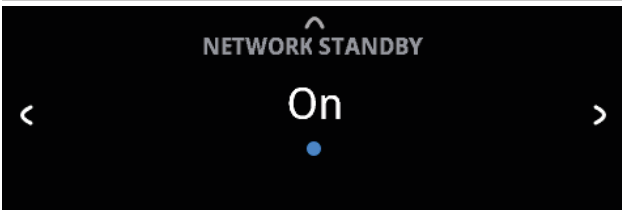
- C 658 switches to standby mode at lowest power consumption (less than 0.5W) if there is no user interface interaction and no active source input within 20 minutes.

#### Off

- C 658 remains at operating mode even if there is no user interface interaction and no active source within 20 minutes.

Refer also to table above about "OPERATING MODE TRIGGER POINTS".

### NETWORK STANDBY



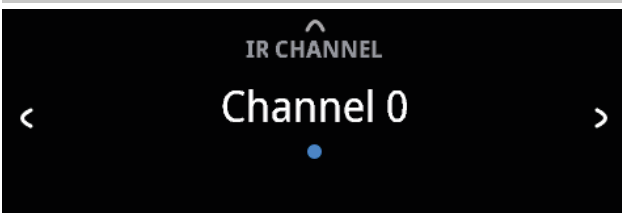
Network Standby mode maintains network connection at standby mode with reduced system performance level.

**On:** Network connection is maintained at standby mode.

**Off:** Network connection is disconnected at standby mode.

Refer also to table above about "OPERATING MODE TRIGGER POINTS".

### IR CHANNEL



The C 658 has the capability to operate via Alternate IR channel. This is useful if you have two NAD products that can be operated by similar remote control commands. With alternate IR Channel, two different NAD products can be controlled independently in the same zone by setting each one to a different IR channel.

#### IR Channel Assignment

The C 658 and the SR 9 remote control must be set to the same channel.

#### To change the IR Channel on the C 658

While at IR Channel menu, use the [C/D] to select through Channel 0 to Channel 3. Press [^] to select preferred IR Channel setting. C 658 IR Channel is defaulted to Channel 0.

#### To change the IR Channel on the SR 9 remote control

- Include a channel number before the library code. For SR 9, library code "10" is the default library table for "AMP" device. To select this "AMP" library table for Channel 0, retain the library code "10" (or "010").
- If you want to load the "AMP" library table on "Channel 1" prefix the library code with "1" to indicate association with "Channel 1". Load then the "AMP" library table using the code "110". Repeat the same for MP (130) and TUNER (140).

#### SAMPLE SETUP OF TWO NAD PRODUCTS ON THE SAME ZONE

C 658 and T 758 are both defaulted to Channel 0. If [OFF] button is pressed on the SR 9 remote control (or AVR 4 remote control for the T 758), both products will go to standby mode. Press [ON] and both products will power up from standby mode.

To prevent both products from simultaneously going in and out of standby mode along with other common commands, set each one to a different IR channel. In this setup, we will keep T 758 and AVR 4 remote control defaulted to "Channel 0". As for C 658, we will assign it to "Channel 1"; the same applies to SR 9.

Set C 658 and SR 9 to "Channel 1" via the following procedure.

#### C 658

While at "IR Channel" menu, use the [C/D] to go to "Channel 1" setting. Press [^] to select "Channel 1".

#### SR 9

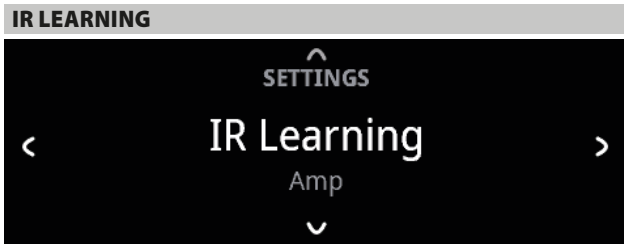
- Press and hold [AMP] in the DEVICE SELECTOR section of the SR 9.
- While holding down the device button [AMP], press "1", "1" and "0" using SR 9's numeric buttons.
- Press [ENTER] while still holding down the device button [AMP]. The AMP device selector will flash once to indicate that the library input is successful.

With both C 658 and SR 9 set to "Channel 1", the C 658 can now be remotely controlled independent of the T 758.

#### NOTE

*Performing Factory Reset for C 658 or SR 9 will restore their respective IR channel setting to "Channel 0".*

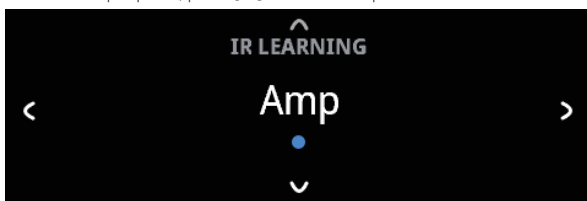




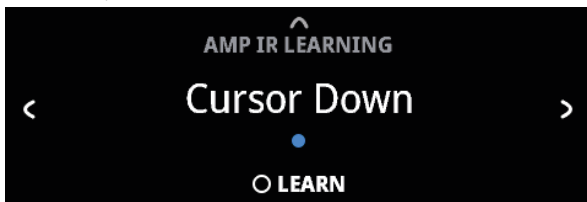
IR Learning enables any non-NAD remote control learn AMP and BluOS basic remote control codes. With the learned codes, the configured non-NAD remote control can be used to command or operate the C 658.

**HOW TO LEARN REMOTE CONTROL CODES**

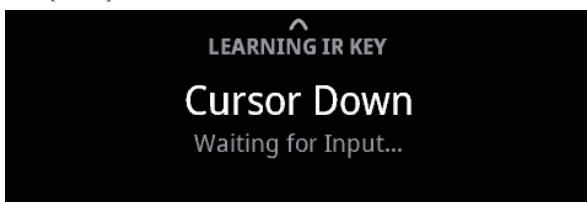
- 1 While at "IR Learning" menu, press [V] and then [C/D] to select either "Amp" or "BluOS".
- 2 While at "Amp" option, press [V] to select "Amp".



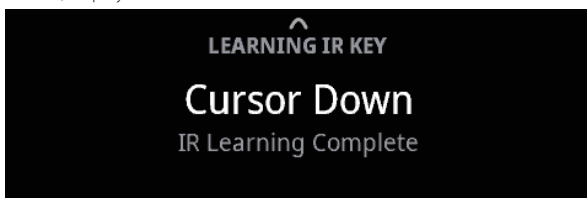
- 3 Press [V] and then [C/D] to select through AMP remote control command options.



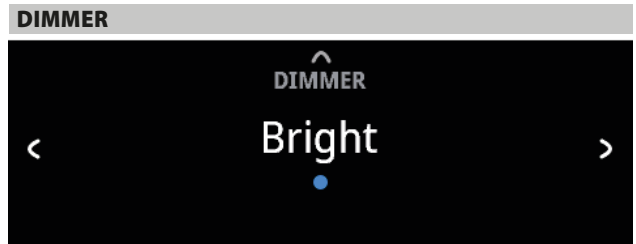
- 4 Press [ENTER] to select "Cursor Down".



- 5 Direct or point the non-NAD remote control to the IR sensor in the front panel. Then, press desired button on the non-NAD remote control where CURSOR DOWN will be learned. Upon pressing the designated button, display will turn to below.



- 6 "CURSOR DOWN" is now learned into the designated button of the non-NAD remote control. Repeat the same for the other remote control commands to be learned. The same procedure applies for BluOS learning.

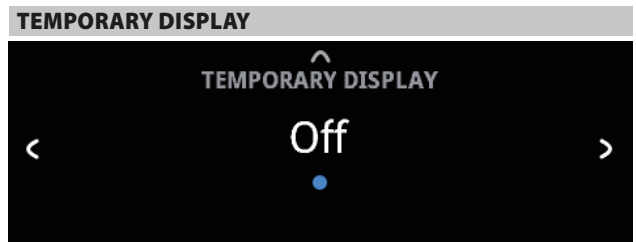


DIMMER function makes it possible to adjust the brightness level of the front panel display.

**Bright:** Display is at its brightest level or above normal brightness level.

**Normal:** Display brightness level is normal.

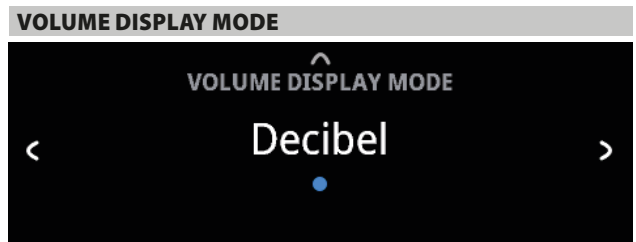
**Dimmed:** Display is dimmed or below normal brightness level.



Temporary Display feature enables the display to be turned off temporarily after 10 seconds of non-user interface.

**On:** Display is turned off temporarily after 10 seconds of non-user interface. The Standby LED is also turned off at the same time. Display and Standby LED are activated once user interface is initiated.

**Off:** Display remains illuminated.



Volume Display Mode gives the user two options on how to display Volume level. Use [C] or [D] to select between "Decibel" and "Percent" Volume level display mode.

# OPERATION

## USING C 658

### BLUETOOTH MODE

Bluetooth mode defines the two roles of the C 658 as either Bluetooth Receiver or Bluetooth Headphones.

**Receiver:** Audio stream is received from a Source on the same Bluetooth network environment.

**Headphones:** Audio is streamed or sent to another device (Receiver) on the same Bluetooth network environment.

### IMPORTANT NOTES

- Both Bluetooth Receiver and Bluetooth Headphones modes are accessible via BluOS App.
- Ensure that the Bluetooth antenna is connected to the BT antenna terminal at the rear panel.

### C 658 AS BLUETOOTH RECEIVER

Initiate pairing of your Bluetooth device with C 658 by following below procedure.

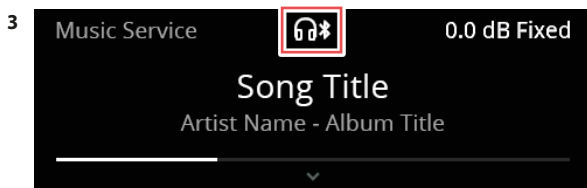
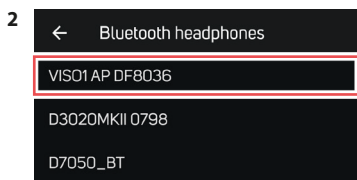
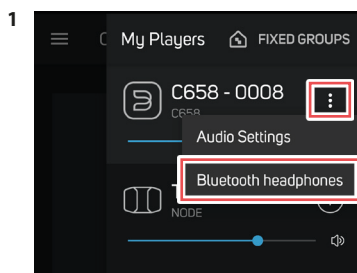
- 1 Using your iOS or Android device, go to Settings – Bluetooth and then scan for Bluetooth devices.
- 2 Look for the unique device ID of your C 658 in the available device list of your Bluetooth device. Pair or connect your C 658 and Bluetooth device.
- 3 Upon successful pairing of your Bluetooth device and the C 658, select “Bluetooth” from the BluOS App navigation drawer to initiate Bluetooth playback

### IMPORTANT

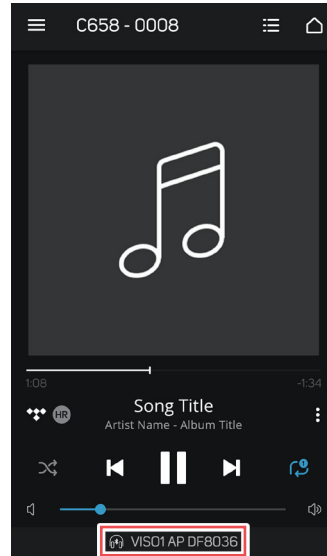
- Select Bluetooth Headphones “Disconnect” (see below) in order to switch from Bluetooth Headphones to Bluetooth Receiver mode.
- If pairing is not successful, select “Unpair” or “Forget device” from the “Settings” menu of your Bluetooth device and try pairing again.

### C 658 AS BLUETOOTH HEADPHONES

#### A CONNECT



Front panel display

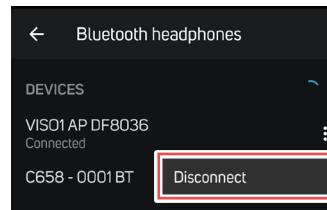


BluOS App

### IMPORTANT

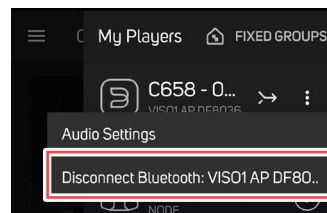
There is no audio output at Audio PRE-OUT (Balanced and Single-ended) if C 658 is at Bluetooth Headphones mode.

#### B DISCONNECT

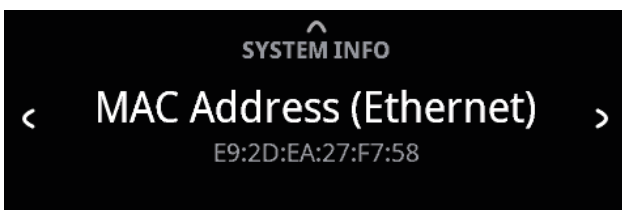
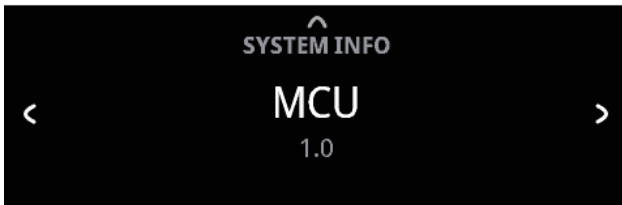
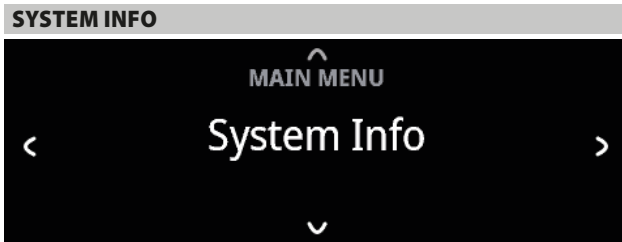


BluOS App

OR

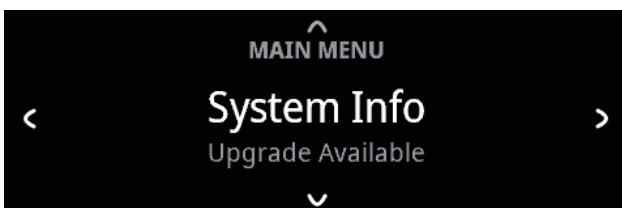


BluOS App



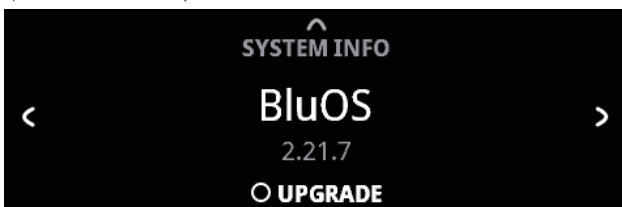
"System Info" displays information about current MCU, LCD and BluOS firmware versions as well as MDC Slot information, MAC and IP addresses. Use [**</>**] to toggle through the corresponding information.

#### UPGRADE AVAILABLE



With the C 658 connected to internet and if a software upgrade is available, "(Upgrade Available)" will be shown below "System Info" menu.

If "(Upgrade Available)" is shown, use [**▼**] to go to BluOS upgrade menu. Press [**ENTER**] to initiate upgrade mode. Internet software upgrade will proceed automatically.



# OPERATION

## USING C 658

### DIRAC LIVE

The proprietary Dirac Live is integrated with your C 658. Dirac Live® is a patented room correction technology that not only corrects the frequency response, but also the impulse response of a room's loudspeakers. Dirac Live provides true impulse response correction over a large listening area, improving the depth, positioning and distinction of individual voices and instruments. Using multiple measurement and mixed phase correction, Dirac Live helps create a natural, realistic and transparent sound with tighter bass and reduced room modes, in a way previously not possible.

For Dirac Live Setup guidelines, go to [support.nadelectronics.com](http://support.nadelectronics.com) and search for "Dirac Setup".

### MASTER QUALITY AUTHENTICATED



Master Quality Authenticated (MQA) is a revolutionary end-to-end technology built into C 658 that captures and delivers master quality audio.

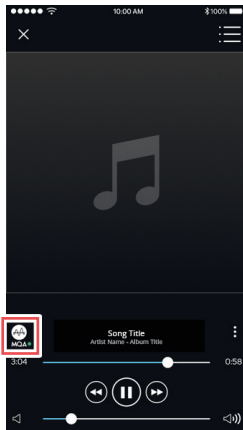
C 658 includes a powerful decoder and audio renderer for the MQA system. This ensures that MQA-encoded audio files sound exactly like the source. C 658 playback and decodes MQA content from BluOS sources.

### MQA INDICATORS

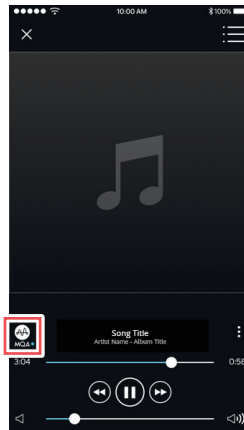
MQA indicators are both shown in the front panel display and in the BluOS app.

The MQA indicator displays green or blue to indicate that the unit is decoding and playing an MQA file. It displays green to indicate decoding and playback of a MQA file and denotes provenance to ensure that the sound is identical to that of the source material. It displays blue to indicate playback of MQA Studio file that has either been approved in the studio by the artist/ producer or has been verified by the copyright owner.

### BluOS APP

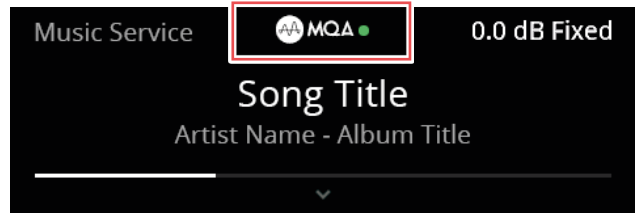


Green Indicator - Original MQA file

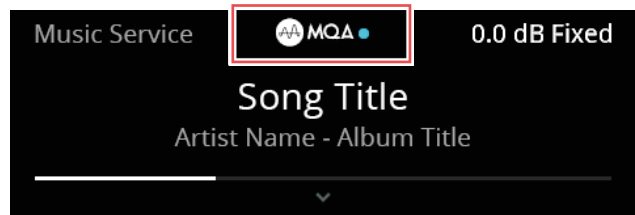


Blue Indicator - MQA Studio file

### FRONT PANEL DISPLAY



Green Indicator - Original MQA file



Blue Indicator - MQA Studio file

The MQA logo is a trade mark of MQA Limited. © MQA Limited 2018

All specs are measured according to IHF 202 CEA 490-AR-2008 standard. THD is measured using AP AUX 0025 passive filter and AES 17 active filter.

### PREAMPLIFIER SECTION

#### LINE INPUT, AUDIO PRE-OUT

THD (20 Hz – 20 kHz)	<0.005 % at 2 V out
Signal-to-Noise Ratio	>106 dB (IHF; A-weighted, ref. 500 mV out, unity gain)
Channel separation	>80 dB (1 kHz) >70 dB (10 kHz)
Input impedance (R and C)	22 kohms + 100 pF
Maximum input signal	>4.5 Vrms (ref. 0.1 % THD)
Output impedance	Source Z + 240 ohms
Input sensitivity	93 mV (ref. 500 mV out, Volume maximum)
Frequency response	±0.3 dB (20 Hz - 20 kHz)
Maximum voltage output -IHF load	>4.5 V (ref. 0.1 % THD)
Tone controls	Treble: ±7.0 dB at 20 kHz Bass: ±7.0dB at 60 Hz Balance: -10dB

#### PHONO INPUT, AUDIO PRE-OUT

THD (20 Hz – 20 kHz)	<0.01 % at 2 V out
Signal-to-Noise Ratio	>84 dB (200 ohms source; A-weighted, ref. 500 mV out) >76 dB (MM cartridge source, IHF; A-weighted, ref. 500 mV out)
Input sensitivity	1.44 mV (ref. 500 mV out, Volume maximum)
Frequency response	±0.3 dB (20 Hz - 20 kHz)
Maximum input signal at 1kHz	>80 mVrms (ref. 0.1 % THD)

#### LINE INPUT, HEADPHONE OUT

THD (20 Hz – 20 kHz)	<0.005 % at 1V out
Signal-to-Noise Ratio	>110 dB (32 ohms loads; A-WTD, ref. 2V out, unity gain)
Frequency response	±0.3 dB (20 Hz - 20 kHz)
Channel separation	>60 dB at 1kHz
Output impedance	6 ohms

### DAC SECTION

Supported audio file formats	MP3, AAC, WMA, OGG, WMA-L, ALAC, OPUS
Hi-Resolution audio formats	MQA, DSD, FLAC, WAV, AIFF
Native sampling rates	up to 32bit/192 kHz
Bit depths	16 – 24

### BLUOS SECTION

Supported operating systems	Plays music from network shares on the following desktop operating systems: Microsoft Windows XP, 2000, Vista, 7, 8 to current Windows Operating Systems and macOS versions
User interface mobile operating system	BluOS - Free Android and iOS App available online at Google Play and Apple App store
Supported cloud services*	Amazon Alexa, Amazon Music, Spotify, Deezer, Qobuz, HDTracks, HighResAudio, Murfie, JUKE, Napster, Slacker Radio, KKBox, Bugs
Free internet radio*	TuneIn Radio, iHeartRadio, Calm Radio, Radio Paradise
Bluetooth quality	Bluetooth aptX HD wireless built-in
Bluetooth connectivity	Two-Way (Receive and Transmit/Headphone)
Network connectivity	Gigabit Ethernet RJ45 Wi-Fi 5

### DIMENSION AND WEIGHT

Gross dimensions (W x H x D) **	435 x 100 x 405 mm 17 1/8 x 3 15/16 x 16 inches
Shipping weight	10.1 kg (22.3 lbs)

\* - Supported cloud services and free internet radio are subject to change without notice.  
\*\* - Gross dimension includes feet, volume knob and extended rear panel terminals including installed antennas.

Specifications are subject to change without notice. Check out [www.NADelectronics.com](http://www.NADelectronics.com) for updated documentation or latest information about C 658.



[www.NADelectronics.com](http://www.NADelectronics.com)

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