CXN100 / CXN100 SE



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Introduction

This guide is designed to make installing and using this product as easy as possible. Information in this document has been carefully checked for accuracy at the time of publishing; however, Cambridge Audio's policy is one of continuous improvement, therefore design and specifications are subject to change without prior notice.

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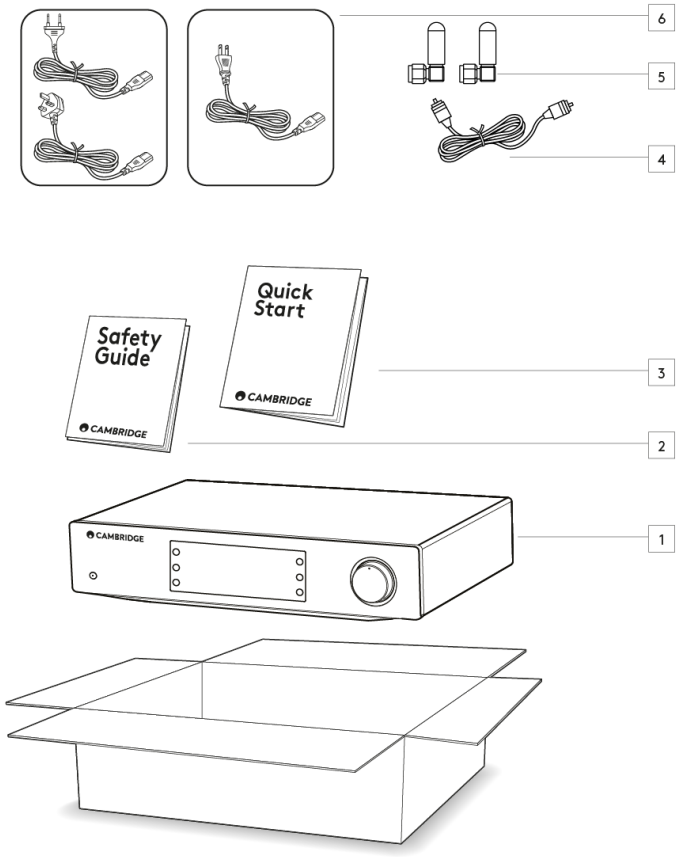
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What's included with the CXN100?



Inside the box of your CXN100 you will receive:

1. CXN100 Network Player

2. Safety Guide

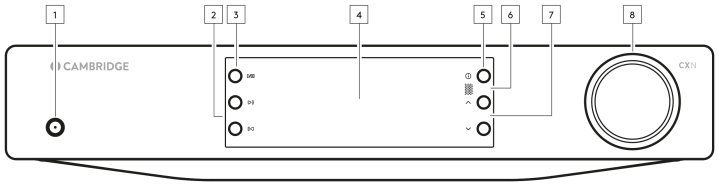
3. Quick Start Guide

4. Control Bus Cable

5. 2x Wi-Fi/Bluetooth Antennas

6. Regional Power Cable

Front panel controls



1. Standby/On

Switches the unit between Standby Mode (indicated by dim power LED) and On (indicated by bright power LED).

2. Skip

Skip to next track during playback.

3. Play/Pause

Play or Pause current track.

4. Display

5. Info

During playback, pressing this button will cycle through the different ‘Now Playing’ screens. Press and hold to display the product info, as well as options for updating the firmware, network setup mode and factory reset.

6. Infrared sensor

IR sensor that receives IR commands from the compatible CX series 2 remote control.

Note: The CXN100 does not have its own remote control and does not come with one included.

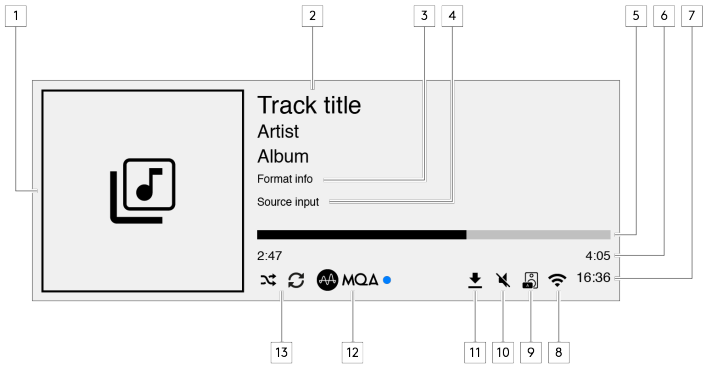
7. Source Selector

Scroll through sources enabled in the StreamMagic app.

8. Volume Control

When Pre-amp mode is enabled this will control volume via the analogue outputs.

Display



1. Album/Source artwork
Displays the album artwork. Alternatively, if no artwork is available this will display the source input icon.

2. Track title, artist and album
For Internet Radio, this will display the radio station name and the current playback.

3. Format info
Displays the streaming sample rate. For Internet Radio, this will display the bitrate the station is streaming.

4. Source input
Displays the currently selected source input.

5. Progress bar
When available, this will display the current track progression during playback.

6. Track time
When available, this will display the elapsed track time during playback.

7. Clock

8. Network connection
Displays the current network connection.

Wireless network connection	Wireless connection with no internet access	Wired network connection	Wired connection with no internet access	No network connection

9. Speaker output
Displays the currently selected speaker output on relevant network streamers.

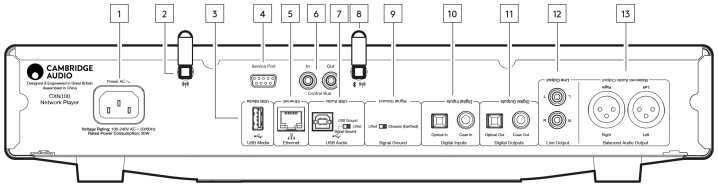
10. Mute volume
Displays when the network streamer is muted.

11. Firmware update
This indicates when new firmware is available. Press the 'Info' button on the front panel or use the StreamMagic app to update the network streamer's firmware.

12. MQA indicator
See the MQA section for more details.

13. Shuffle, Repeat and Repeat +1

Rear panel connections CXN100



1. AC Power socket

Once you have completed all connections to the amplifier, plug the AC power cable into an appropriate mains socket then switch on.

2. WiFi Antenna

Ensure antenna is connected securely before use.

3. USB Media

For connecting local media storage. Note that the USB ports are not intended for connection to mobile devices; no functionality, charging or otherwise is supported.

4. Service Port

For servicing use only.

Note: Connecting any other device here may result in damage.

5. Ethernet

Use to connect the CXN100 directly to a network router. Use a wired connection for seamless playback of high-resolution 352.8kHz, 384kHz, and DSD 256.

6. Control Bus

RCA sockets used to send and receive power and volume commands from other connected CX Series products. For more information on the Control Bus, see Control Bus section here.

7. USB Audio In

A USB B type socket to enable connection to PC and Mac computers.

Note: For Class 2 USB audio, Windows-based PCs require a Cambridge Audio USB driver to be installed before connection. You can find the latest USB driver here.

USB Ground Switch

Note: The ground switch position should be set to 1 as default. Use another position if a humming noise occurs.

Position 1 – Normal/default position. The main unit audio ground is lifted from chassis earth.

Position 2 – USB Audio ground is lifted from the main unit audio ground, which is also lifted from chassis earth. This may be useful to reduce hum and noise that can occur with some USB Audio setups.

8. WiFi/Bluetooth Antenna

Ensure antenna is connected securely before use. Bluetooth functionality won't be possible if this antenna is not connected.

9. Chassis Ground Switch

Position 1 – Normal/default position. The main unit audio ground is lifted from chassis earth.

Position 2 – Main unit audio ground is connected directly to chassis ground. For some setups, this can reduce hum or noise when certain TVs, Turntables, and other equipment are connected to the CXN100 unit.

10. Digital Inputs (Coax and Optical)

TOSLINK and S/P DIF coaxial digital inputs.

Coaxial – Use a high quality 75 ohm digital RCA Phono interconnect cable (This is different from an analogue audio phono interconnect). This input is suitable for 16-24 bit content up to 192kHz.

TOSLINK Optical – Use a high quality TOSLINK fibre optic interconnect cable designed specifically for audio use. This input is suitable for 16-24 bit content up to 96kHz (TOSLINK is not recommended at 192kHz sampling rates).

Note: If a digital input is connected to a TV, you can enable TV mode in the sources settings of the StreamMagic app. This mode minimises lip-sync delays on the audio path by bypassing MQA decoding and also reduces the chance of dropouts and glitches from some TVs.

11. Digital Outputs

TOSLINK and S/P DIF coaxial digital outputs.

12. Line Output

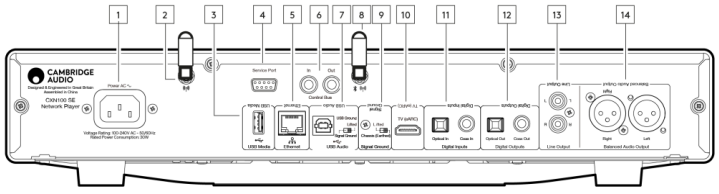
Line Output (fixed or variable) used to provide a signal to another amplifier or a recording device.

13. Balanced Audio Output

For use with balanced XLR connections. The balanced connection is the higher quality option and can reject noise and interference in the cable when used with other equipment that supports this function.

Note: XLR connectors should be wired as follows: Pin 1: Ground, Pin 2: Hot (in-phase) and Pin 3: Cold (phase-inverted).

Rear panel connections CXN100 SE



1. AC Power socket

Once you have completed all connections to the amplifier, plug the AC power cable into an appropriate mains socket then switch on.

2. WiFi Antenna

Ensure antenna is connected securely before use.

3. USB Media

For connecting local media storage. Note that the USB ports are not intended for connection to mobile devices; no functionality, charging or otherwise is supported.

4. Service Port

For servicing use only.

Note: Connecting any other device here may result in damage.

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Use to connect the CXN100 directly to a network router. Use a wired connection for seamless playback of high-resolution 352.8kHz, 384kHz, and DSD 256.

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8. WiFi/Bluetooth Antenna

Ensure antenna is connected securely before use. Bluetooth functionality won't be possible if this antenna is not connected.

9. Chassis Ground Switch

Position 1 – Normal/default position. The main unit audio ground is lifted from chassis earth.

Position 2 – Main unit audio ground is connected directly to chassis ground. For some setups, this can reduce hum or noise when certain TVs, Turntables, and other equipment are connected to the CXN100 unit.

10. Enhanced Audio Return Channel (eARC)

A connection from a TV that supports eARC and ARC via HDMI connection.

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TOSLINK and S/P DIF coaxial digital outputs.

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Line Output (fixed or variable) used to provide a signal to another amplifier or a recording device.

14. Balanced Audio Output

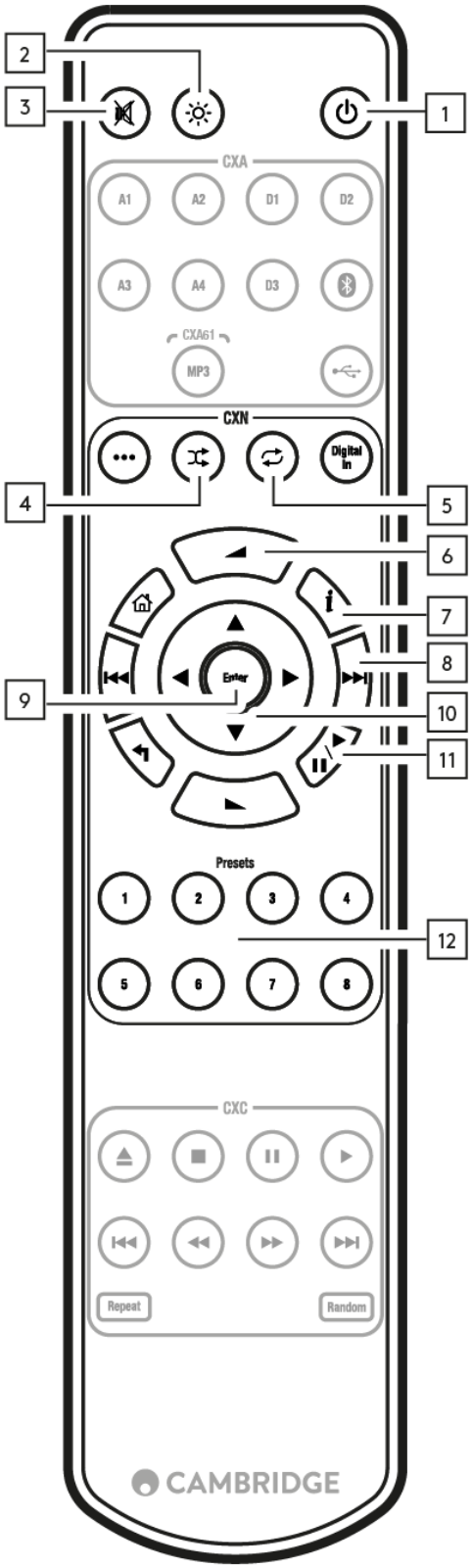
For use with balanced XLR connections. The balanced connection is the higher quality option and can reject noise and interference in the cable when used with other equipment that supports this function.

Note: XLR connectors should be wired as follows: Pin 1: Ground, Pin 2: Hot (in-phase) and Pin 3: Cold (phase-inverted).

Remote Control

Note: The CXN100 does not have its own remote control and does not come with one included. The device can be controlled via the StreamMagic app. If you wish to use a remote control with your device, the CX series 2 remote control is compatible with the CXN100.

1. Standby/On
Switches the CXN100 between On and Standby mode.
2. Brightness
Alters the brightness of the CXN100 display. There are two brightness levels and an option to switch off the backlight.
Note: When the brightness is switched to 'off', selecting any of the functions will briefly switch on the lights to show the change.
3. Mute
Press to mute or un-mute the audio. This can only be used with Pre-amp mode enabled.
4. Random
Play random track within queue.
5. Repeat
Repeat all tracks in queue.
6. Volume
Volume level adjust. This can only be used with Pre-amp mode enabled when connected via the analogue outputs.
7. Info
Tapping will toggle between display information. Holding will display the 'info' screen.
8. Skip
Skips between previous and next tracks.
9. Enter
Enter or select.
10. Source Selector
Scroll through sources enabled in the StreamMagic app.
11. Play/Pause
Play or Pause current track.
12. Presets
Recalls stored 1 – 8 presets.



If the remote control will not function, please check that the batteries have not expired, and that there is nothing blocking the front panel IR sensor.

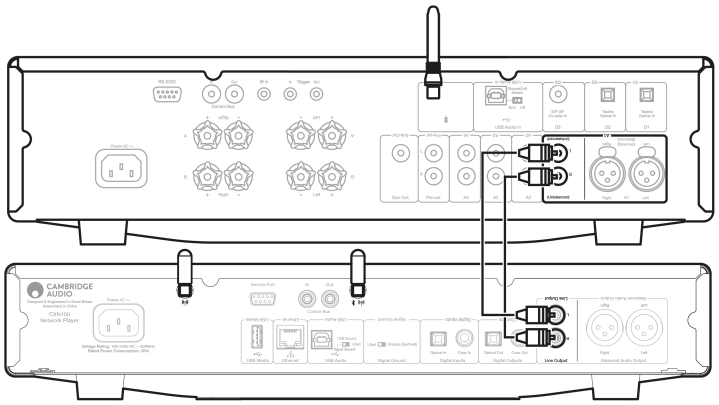
Getting connected

Basic Analogue Connections

Important Note: Switch the power off before making any connections.

There are two analogue connection options for the CXN100.

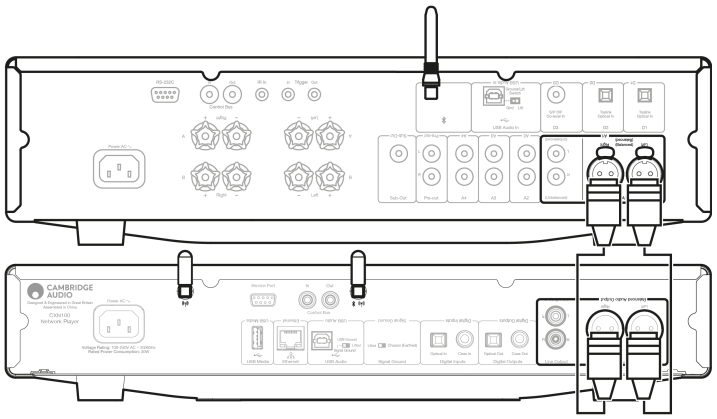
1. Line Output Connection (RCA)



2. Balanced Audio Connection (XLR)

The balanced connection is the higher quality option and can reject noise and interference in the cable when used with other equipment that supports this function.

Note: XLR connectors should be wired as follows: Pin 1: Ground, Pin 2: Hot (in-phase) and Pin 3: Cold (phase-inverted).



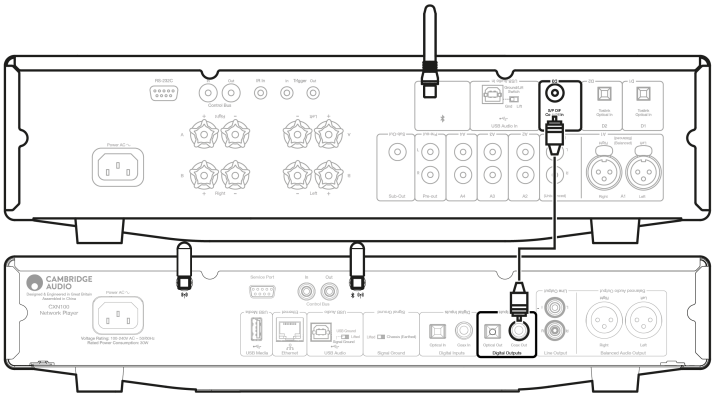
Basic Digital Connections

There are two digital connection options for the CXN100.

Note: If using either of the digital outputs of the CXN100, the digital signal will bypass the DAC in CXN100 and will instead be processed by the unit connected to the digital output, E.g., CXA81

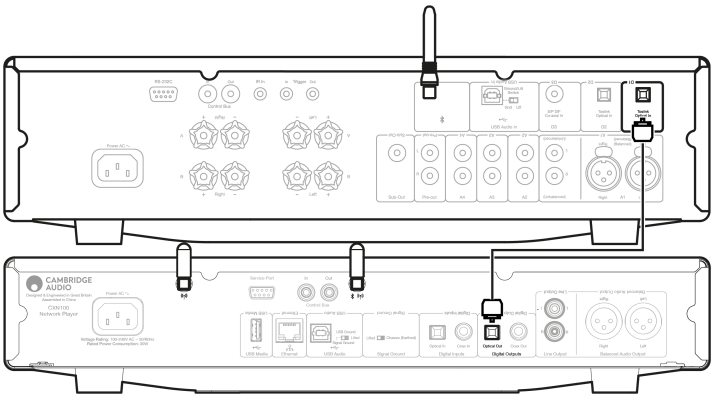
1. Digital Coaxial Output

Digital Coaxial connections are commonly used with CD players and amplifiers and is recommended for use as it has higher bandwidth.



2. TOSLINK Optical Output

Whilst having lower bandwidth, TOSLINK Optical connections are commonly found on televisions, DVD players and A/V units.



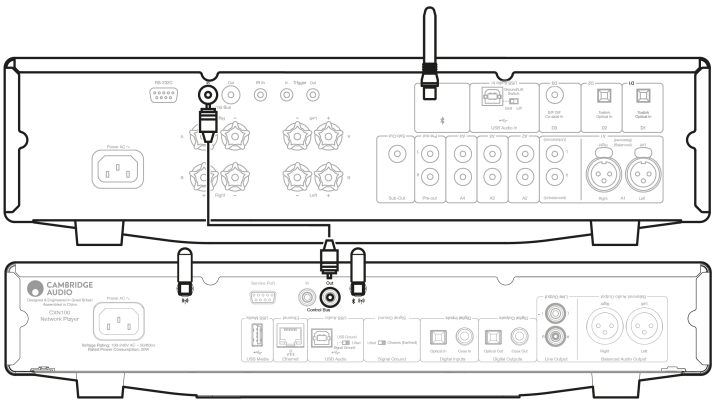
Control Bus

The Control Bus lets you control your other CX series units. See the following diagrams when connecting the CXN100 using the provided Control Bus cable.

Another added feature with this Control Bus is the use of the StreamMagic app. You can use the StreamMagic app to control other CX series units via the CXN100.

CXN100 with CXA (via StreamMagic app)

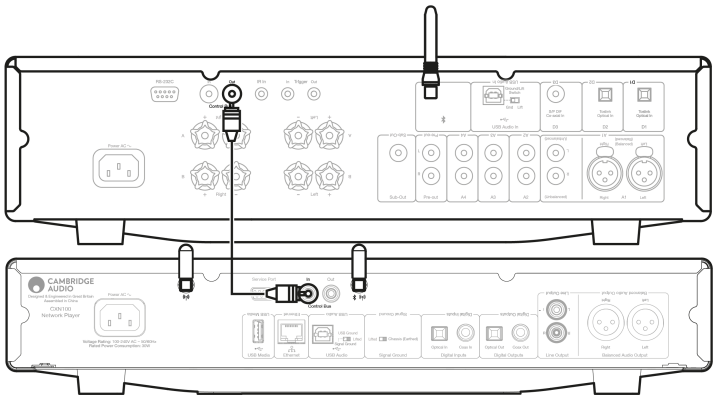
When using the app to turn the CXN100 on/off, this will also turn the CXA on/off. The app can also be used to control the volume of the CXA. Connect the CXN100 Control Bus Out to CXA Control Bus In.



CXA with CXN100

Note: Without using the StreamMagic app to control the CXA.

When turning the CXA on/off, this will also turn the CXN100 on/off. Connect the CXA Control Bus Out to CXN100 Control Bus In.



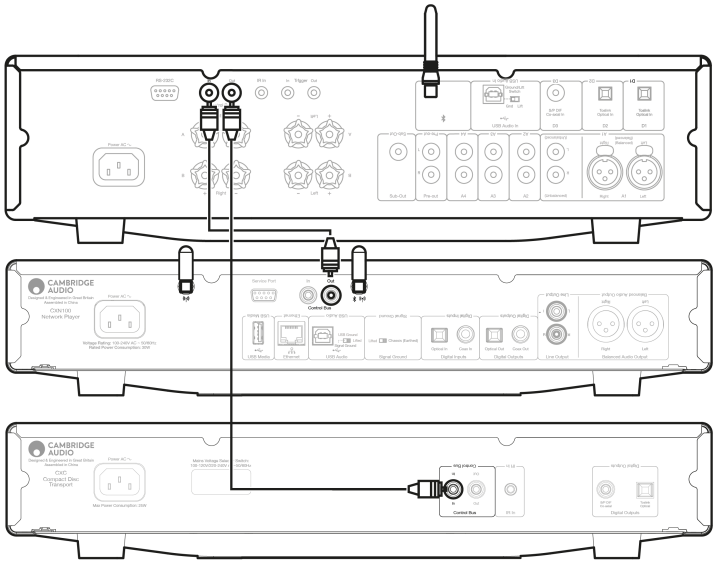
CXA with CXN100 and CXC

When turning the CXN on/off, this will turn the CXA and CXC on/off.

With all three CX devices, connect the CXN100 Control Bus out to CXA Control Bus in. Then connect the CXA Control Bus out to CXC Control Bus in.

Note: Do **NOT** loop back from the CXC Control Bus out to the CXN100 Control Bus in.

Control Bus will also need to be enabled and set to Amplifier within the device settings in the StreamMagic app once the app has been connected to the CXN100.



Note: If a device with APD enabled automatically switches off after the selected period of inactivity, this will also switch off the other connected devices.

Connecting to WiFi

Important Note: It is vitally important that your Network Player remains connected to an internet network as often as possible, either via Wi-Fi or Ethernet. This will ensure that the unit is regularly updated to meet essential security protocols, third party compatibility and the latest software requirements.

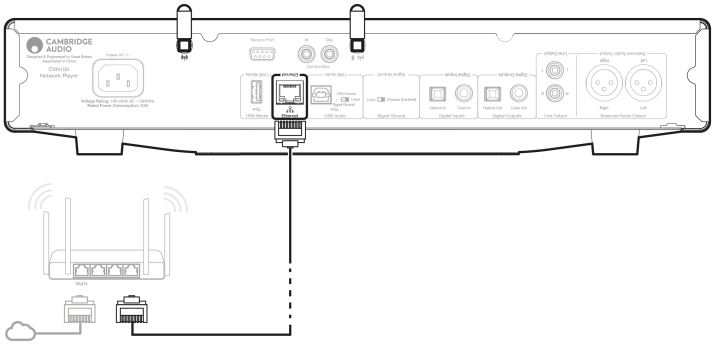
Failure to maintain your device with regular firmware updates as provided by Cambridge Audio will void the product warranty and is likely to cause major issues to the unit in time. Please ensure that your unit is updated to the most current firmware version.

Note: Your player is not compatible with captive portal networks. Where possible, avoid the use of powerline adapters and Wi-Fi signal boosters/extenders, as these can disrupt the reliability of the network connection.

Connecting to a Wired Network

1. Connect a network cable (Category 5/5E straight-through Ethernet cable) between your device and your router.

2. Your device will now automatically connect to the network.



Connecting to a wireless network

iOS:

1. Connect both of the supplied Wi-Fi antennas to the rear of the unit, and ensure that it's in range of your wireless router. Then power on your unit.

   Note: If you are setting up your device for the first time or after a factory reset, you will first need to follow the on screen instructions to select your preferred language after powering on your unit.

2. Go to the Wi-Fi settings on your iOS device and under ‘SETUP NEW AIRPLAY SPEAKER’ select the name of your Network Player.

   Note: Some iOS devices won't show an option for 'AirPlay Speaker'. In this instance still select the name of your Network Player.

3. Once connected, complete unit setup by downloading and installing the StreamMagic app from the Apple App store.

Android:

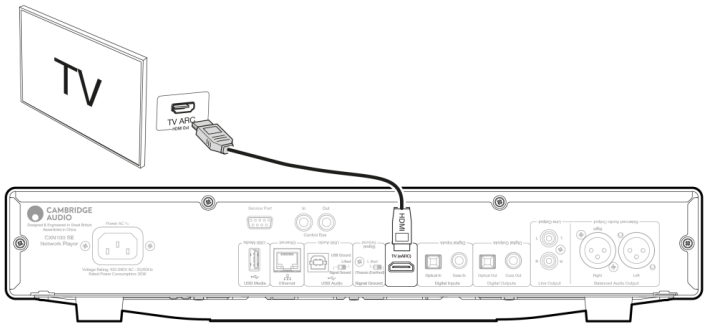
1. Connect both of the supplied Wi-Fi antennas to the rear of the unit, and ensure that it's in range of your wireless router. Then power on your unit.

   Note: If you are setting up your device for the first time or after a factory reset, you will first need to follow the on screen instructions to select your preferred language after powering on your unit.

2. Download and install the StreamMagic app from the Google Play store.
3. Open the StreamMagic app and select ‘Connect’.
4. Under Choose a device select 'Set up a new device' and then select the name of your Network Player.

5. Select ‘Wireless Connection’ and then 'Continue'.
6. Your Android device will now show all available Wi-Fi devices in range. Select the name of your Network Player.
7. Once connected, you will be prompted to enter your Wi-Fi network password. Enter the password and select 'Continue'.
8. Your device will now connect to your Wi-Fi network, this may take up to a minute.
9. Once connected, complete the initial setup of your unit within the StreamMagic app.

eARC input CXN100 SE



The eARC function on a TV allows it to send audio and control commands to a connected audio product. This allows the TV to switch on the audio product when needed, and also to control the volume from the TV remote.

Troubleshooting

No signal shown on the front panel or no audio output from your connected product

- Make sure the HDMI input on your TV supports ARC
- Make sure the TV is set to use a connected audio system rather than its internal speakers
- Make sure that the audio output of your TV is set to 'Stereo PCM (Uncompressed)'
- Make sure your HDMI cable is compatible with HDMI 1.4 or above

TV will not switch on or control your connected product

- Make sure that 'TV Power Control' is enabled in the StreamMagic app on the ARC source settings page

Reporting an issue

If after following the above troubleshooting steps you still have a problem getting ARC to work with your product, please let us know here.

StreamMagic app - Setup

Your player is network connected, not only can you listen to devices connected to the inputs on the product but you can also stream music from many different sources both on your home network and from the internet.

To set up your player, please first download the StreamMagic app from the Apple app store or Google Play store.





Set up

1. Switch on your player and follow the on screen instructions to select your preferred language.
2. Open the StreamMagic app and follow the instructions provided to complete setting up your player on your network. This process will also apply any new updates that may be pending.

Note: During the set up process you will be asked to give your player a name, please make sure this is unique to your player. This will make it easier to find when using streaming and smart home services.

Once your player is connected to your home network you'll have full control of your sources, including internet radio, streaming services, network and USB drives and more.

For more information on our StreamMagic app, please visit:
https://www.cambridgeaudio.com/gbr/en/products/streammagic

Important Note: It is vitally important that your player remains connected to a Wi-Fi network as often as possible. This will ensure that the unit is regularly updated to meet essential security protocols, third party compatibility and the latest software requirements.

Failure to maintain your device with regular firmware updates as provided by Cambridge Audio will void the product warranty and is likely to cause major issues to the unit in time. Please ensure that your unit is updated to the most current firmware version. Information on the latest firmware version for your player can be found here.

Note: Your player is not compatible with captive portal networks. Where possible, avoid the use of powerline adapters and Wi-Fi signal boosters/extenders, as these can disrupt the reliability of the network connection.

Google Home / Chromecast built-in

Your player is network connected, not only can you listen to devices connected to the inputs on the product but you can also stream music from many different sources both on your home network and from the internet.

Your player features Chromecast built-in and can be incorporated in to your Google Home. To set up your player, download the Google Home app on your smart phone or tablet.





With Chromecast built into your player, your phone becomes your remote. Simply tap the Cast button from apps you already know and love to stream music, podcasts and playlists from your phone, tablet or laptop to your player.

Chromecast built-in

Your phone is your remote

- Simply tap the Cast button from apps you already know and love. No new logins or downloads required.
- Use your phone to search, play, pause and turn up the volume from anywhere in the home.
- While you're streaming, you can keep using your phone for other things – scroll through social media, send a text, and even accept calls.
- Enjoy music throughout your house when you use multi-room casting with Chromecast-enabled speakers.
- Just say "Hey Google" to cast to your player

Unlimited entertainment, all on your schedule

- Works with hundreds of apps and new apps are being added all the time.
- Choose from millions of songs from popular music services like Pandora, Spotify, and Youtube Music.

Note: When first setting up your Player via the StreamMagic app or after a factory reset, please ensure that you accept Google's terms and conditions when prompted to enable Chromecast functionality.

Android, Google Play and the Chromecast built-in logo are trademarks of Google Inc.

Full Chromecast built-in features may not be available in some territories.

Internet radio

You can browse and play a wide variety of Internet Radio stations in the StreamMagic app Radio tab. You can also assign up to 99 of your favourite Internet Radio stations and other media as presets on your player, which can then be recalled using the StreamMagic app. A limited amount of presets can be recalled via the remote control if your player includes one.

You can search and assign a preset via the StreamMagic app:

1. Within the StreamMagic app navigate to the **Radio** tab.
2. Use the **Search for Radio** search tab at the top of the page or enter a Custom URL link by selecting URL.
3. Once you have located the station you wish to store, select and you will be prompted with the option to **Play now** or **Add to presets**.
4. Add station to the desired preset for your player between 1-99.

5. You will then receive confirmation that the station is saved to the chosen preset.

Note: Please ensure that the custom URL stream is one of the following supported file types: ALAC, WAV, FLAC, AIFF, DSD (x256), WMA, MP3, AAC, HE AAC AAC+, OGG Vorbis.

To remove a preset (iOS):

1. Within the StreamMagic app navigate to the **Home** tab.
2. Scroll to the bottom of the page where you find your player's **Presets**, and select **EDIT**.
3. To remove a station from preset, tap the red circle icon and then press **Delete**.

To remove a preset (Android):

1. Within the StreamMagic app navigate to the **Home** tab.
2. Scroll to the bottom of the page where you find your players **Presets**, and select **EDIT**.
3. Tap on the station you wish to remove.

Note: You may also assign a preset using a remote control if your player includes one, by pressing and holding a number on the remote whilst a station is playing.

Bluetooth

The Bluetooth source allows your player to receive wireless Bluetooth audio from most phones, tablets and laptops.

Pairing

To begin streaming high-quality music from your chosen media source it will first need to be paired with your player.

1. Within the StreamMagic App navigate to the Home tab.
2. Use the “Edit” option of the source to add the Bluetooth source.
3. Return to the Home tab and select the Bluetooth source.
4. Open your mobile device or laptop's Bluetooth settings.
5. Select your player from the list of available devices.
6. Your device should now connect to your player.

Once paired you should be able to connect to your player at any time by selecting the Bluetooth source on your player and then choosing your player from the list of previously connected devices.

Note:

Your Bluetooth device can only be connected to your player while the Bluetooth source is selected.

AirPlay

AirPlay is an Apple technology designed to control home audio systems and speakers in any room — with a tap or by just asking Siri — right from iPhone, iPad, HomePod, or Apple TV. Play a song in the living room and kitchen at the same time or adjust the volume in any room, all in sync.

After installing your player, add it to the Apple Home app with a few simple steps using your iPhone or iPad

How to use AirPlay from iPhone or iPad

1. Ensure your player is connected to your network.

2. Open the app that you want to AirPlay from.

3. Tap  or .

4. Select your player as your AirPlay device.

How to use AirPlay from Control Center

To switch the audio on your device from Control Center:

Swipe down from the top right side of the screen on your device to open Control Center.

Touch and hold  in the upper-right corner, then select your player.

This product supports AirPlay 2 and requires iOS 11.4 or later.

Apple and AirPlay are trademarks of Apple Inc., registered in the U.S. and other countries.

Use of the Works with Apple badge means that an accessory has been designed to work specifically with the technology identified in the badge and has been certified by the developer to meet Apple performance standards.

Built-in streaming services

Your player has the following built-in streaming services:

- Spotify Connect
- TIDAL
- Qobuz
- Deezer

Note: It is essential that the device you are streaming from (smartphone, tablet, computer, etc.) is on the same Wi-Fi network as your player, to ensure that the units can communicate with each other.

Spotify Connect

Use your phone, tablet or computer as a remote control for Spotify.

Go to spotify.com/connect to learn more.

TIDAL (Connect)

1. Open the TIDAL app and choose the playlist, album, song, etc. that you wish to stream to your player.

2. Select the Sound Output devices icon within TIDAL and select your player from the list.

3. TIDAL Connect should now be streaming your chosen content to your player.

Go to tidal.com/connect to learn more

TIDAL (via StreamMagic)

1. Open the StreamMagic app and navigate to the Library tab, and then select TIDAL.

Note: Please ensure that you sign into your TIDAL account when prompted to do so. This will only be required on the first instance of use to link the account to the StreamMagic app.

2. Choose the playlist, album, song, etc. that you wish to stream to your player.

3. TIDAL should now be streaming your chosen content to your player.

Qobuz (via Google Cast)

1. Open the Qobuz app and choose the playlist, album, song, etc. that you wish to stream to your player.

2. Select the Google Cast icon within Qobuz and select your player from the Qobuz Connect list.

3. Qobuz should now be casting your chosen content to your player.

Qobuz (via StreamMagic)

1. Open the StreamMagic app and navigate to the Library tab, and then select Qobuz.

Note: Please ensure that you sign into your Qobuz account when prompted to do so. This will only be required on the first instance of use to link the account to the StreamMagic app.

2. Choose the playlist, album, song, etc. that you wish to stream to your player.

3. Qobuz should now be streaming your chosen content to your player.

Deezer (via Google Cast)

1. Open the Deezer app and choose the playlist, album, song, etc. that you wish to stream to your player.

2. Select the speaker icon within Deezer, then select 'Google Cast'. Select your player from the list.

3. Deezer should now be casting your chosen content to your player.

Deezer (via StreamMagic)*

1. Open the StreamMagic app and navigate to the Library tab, and then select Deezer.

Note: Please ensure that you sign into your Deezer account when prompted to do so. This will only be required on the first instance of use to link the account to the StreamMagic app.

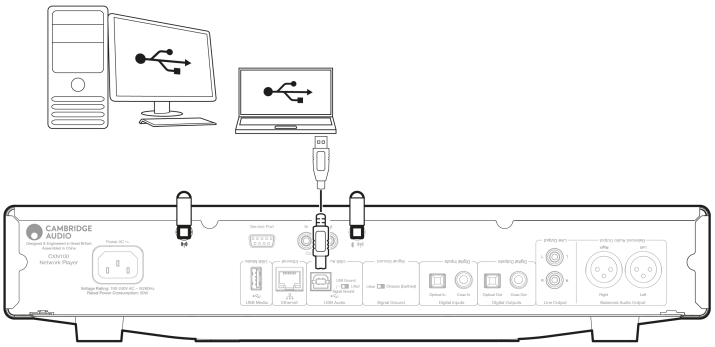
2. Choose the playlist, album, song, etc. that you wish to stream to your player.

3. Deezer should now be streaming your chosen content to your player.

*Deezer is only available within the StreamMagic app when running firmware version 129-b-004 or later and StreamMagic app version 2.9.0 or later.

USB Audio

Important note: Before setting up your device for the first time, please make sure that the USB Audio connection is unplugged. USB Audio can be re-connected once any firmware updates are applied.



PC Setup

Note: Before connecting your PC to the Network Player, ensure you install the required Cambridge Audio Windows 2.0 USB driver on your PC. Please find information on the most recent USB Audio driver here, and a link to download the latest driver here.

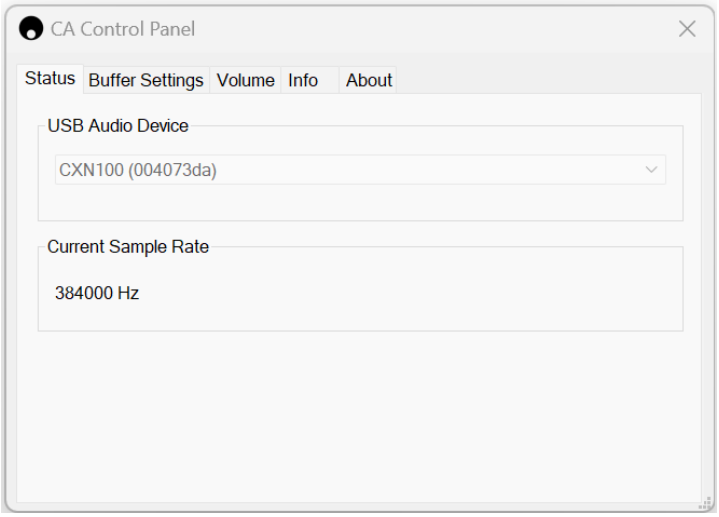
1. Connect your device to your PC.

- After installing the correct driver, using a USB Audio cable (Type A to Type B), connect the USB Audio In on your device to a USB port on the PC.

2. Select the USB Audio source.

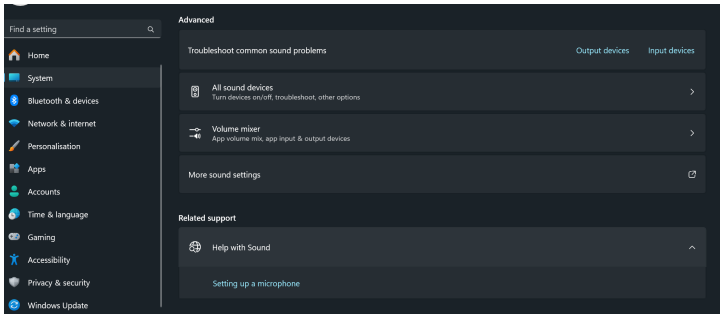
- This can be done using the source selector on the front of the device, or by going to the **Home** tab and then selecting USB Audio within the **Sources** section of the StreamMagic app.

3. Navigate to the **CA Control Panel** which should now be installed in your Windows taskbar. This will show any connected Cambridge Audio USB Audio device and current sample rate.

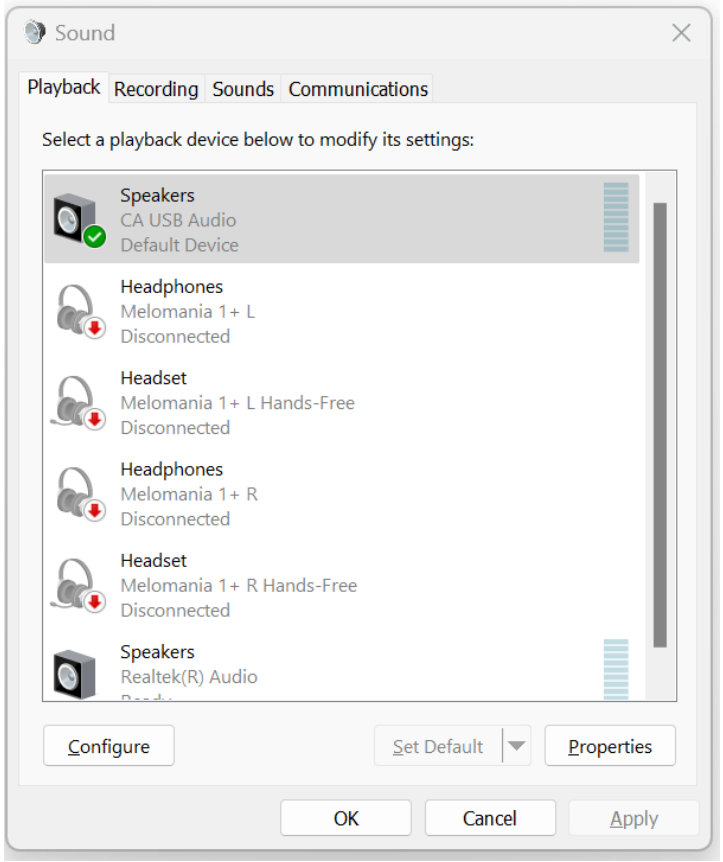


4. On your PC, navigate to **Settings** > **System** > **Sound**. Select your Network Player as your output device from the drop-down menu.

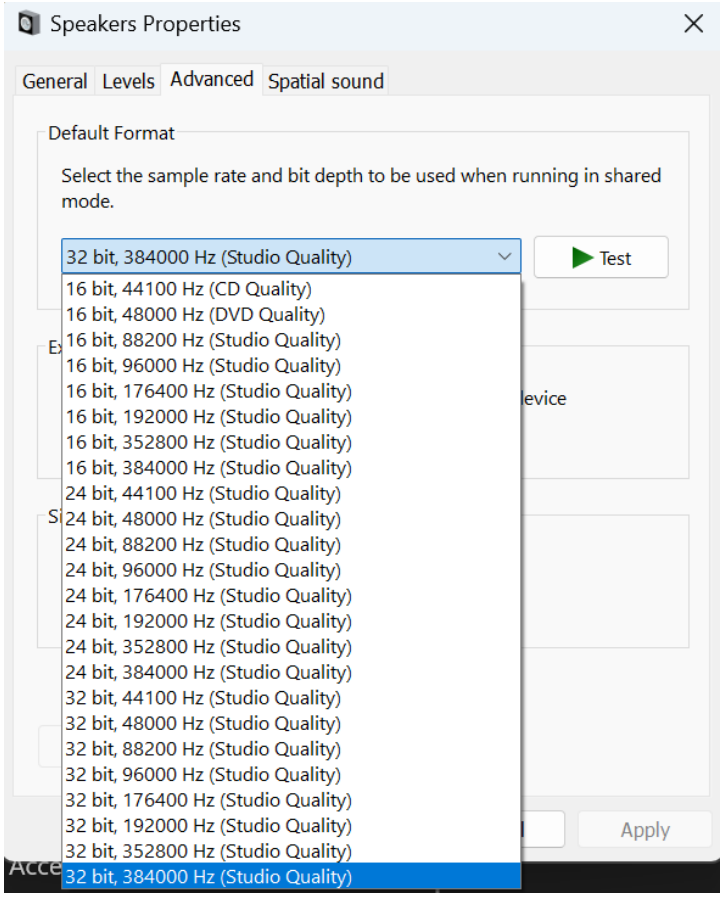
5. Within this same window under **Related Settings** on the right-hand side, select **Sound Control Panel**. Alternatively, scroll down and select **More Sound Settings**.



6. On the **Playback** tab, ensure that the device is the default output device, then select **Properties**.



7. Within **Speaker Properties**, navigate to the **Advanced** tab. Select the desired bit depth and sample rate preference. (This step is optional.)



Note: **Not all Windows versions support playback at sample rates greater than 384kHz. If you experience issues please set the default Windows playback format to 384kHz or lower, then restart your Network Player.**

8. Your PC's output will now playback via your Network Player.

Mac Setup

Note: No extra drivers are required when using a Mac.

1. Connect your device to your Mac.

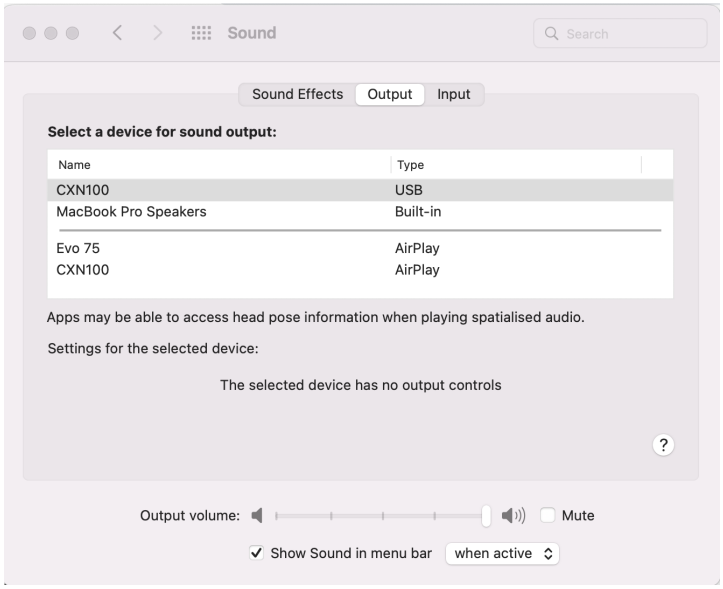
- Using a USB Audio cable (Type A to Type B), connect the USB Audio In on your device to a USB port on the Mac.

Note: If using a Mac without a USB Type A port, you may also use USB Type C (Thunderbolt 3) to USB Type B connection.

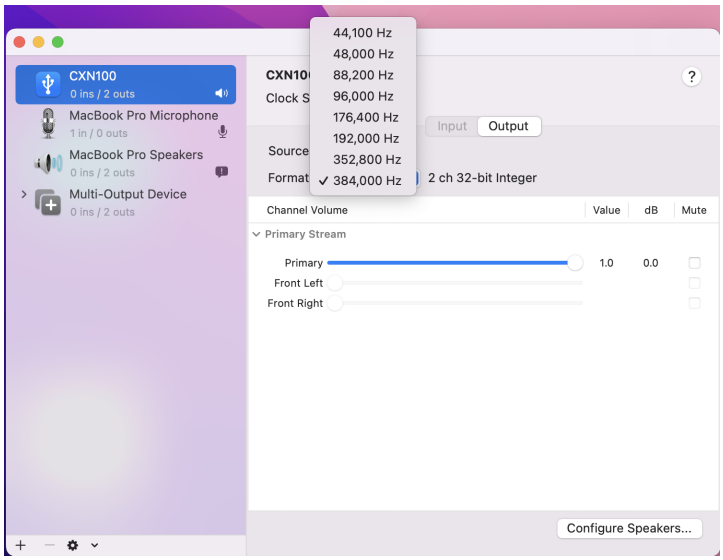
2. Select the USB Audio source.

- This can be done using the source selector on the front of the device, or by going to the **Home** tab and then selecting **USB Audio** within the Sources section of the StreamMagic app.

3. Within the **System Preferences** of the Mac, locate the **Sound** settings. Select your Network Player as the output sound device.



4. On the Mac navigate to **Applications** > **Utilities** > **Audio MIDI Setup**. Select the device as the output sound device on the left column, and then using the drop-down options select the desired bit depth and sample rate preference.



Note: This step is optional.

5. Your Mac's output will now playback via your Network Player.

USB Media

You may connect a USB SSD, USB HDD or ▪ash drive to your player via the USB Media input located on the rear of the unit for playback. Once connected, the following formats are supported: ALAC, WAV, FLAC, AIFF, DSD, WMA, MP3, AAC, HE AAC, AAC+, OGG Vorbis

Note: your player will read large capacity hard drives connected to the USB input. However, some larger capacity drives will require you to use their own power supply.

Your player only supports USB hard drives which are formatted to FAT32, exFAT, NTFS and Ext4.

The primary function of your player is as a network music player. The USB ports are intended for convenient connection of USB thumb drives. As such, we cannot guarantee compatibility with all USB HDD's.

USB Media Playback (via StreamMagic app)

1.Connect a USB SSD, HDD or ash drive to rear panel USB Input.

2.Navigate to the Library tab of the StreamMagic app.

3.Under USB Drives, locate your USB Media device and open.

4.Upon selecting a track you will have the option to 'PLAY FROM HERE', 'PLAY TRACK NOW', 'PLAY TRACK NEXT' or 'QUEUE TRACK'.

Playback Options:

PLAY FROM HERE – Playback of album/folder will begin from this point onwards.

PLAY TRACK NOW – Selected track will playback immediately.

PLAY TRACK NEXT – Selected track will be added to queue and playback next.

QUEUE TRACK – Selected track will be added to playback queue.

Streaming your local digital music collection

Your player can play content from many different physical sources and this section will explain what you need to do to access and play your locally stored digital music collection. 'Locally Stored' means the digital music files you have on your **PC**, **Mac** or **Network Attached Storage devices** (**NAS**).

To stream local content, you will need the following hardware and software running in your network:

1. Your Cambridge Audio Network Player.

2. A mobile device such as a smartphone or tablet on which you can run the StreamMagic app, or by accessing your collection via the front panel controls.

3. A hard drive, computer or NAS containing your compatible digital music files.

4. An active UPnP music or media server.

5. A router which is configured to allow the UPnP service.

Note: The above items must be correctly connected and configured, and it is important to note that depending on the server, NAS, computer, etc. you're using, this will differ from setup to setup. To help you with this we have created best practice guide which should get you up and running with minimal fuss and effort. This can be found here.

MQA (Master Quality Authenticated)

Your player includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording.



The front panel will display MQA green or blue to indicate that the unit is decoding and playing an MQA stream or file, and denotes provenance to ensure that the sound is identical to that of the source material. It displays MQA blue to indicate it is playing an MQA Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner.

Settings

Device Name

This is how your player will appear in your StreamMagic app and on your home network when using services like Spotify, Chromecast built-in and TIDAL Connect.

Giving your player a unique name makes it easier to distinguish when using streaming and smart home services.

AirPlay Name

This is how your player will appear when using AirPlay or the Apple Home app.

Standby Mode

This selects what type of standby mode your player will use.

Network Standby means your player will still be controllable by the StreamMagic app and other network services while in standby.

If ECO mode is chosen, your player will use even less power in standby but will need to be switched on either by the front panel or the remote control. It will not be controllable via the app or other network services while in standby.

Automatic Power Down

This sets how long your player will wait while inactive before switching to standby.

Display Brightness

This sets the brightness of your player's display. If set to 'Off' the display will show for a few seconds after any change and then switch off.

Roon Ready DSD

This will allow you to choose how Roon provides DSD content.

Use DoP for digital output – If your device does support native DSD in DoP format.

Use PCM for digital output – If your device doesn't support native DSD.

Control Bus

If your device is connected to a Cambridge Audio amplifier using a control bus connector, volume commands can be sent directly to the amplifier. For more information, please refer to the Getting Connected section of this manual under 'Control Bus' here.

Pre-Amp

With Pre-Amp mode enabled, the volume of the device's analogue outputs can be controlled using the app or rotary dial.

For more information see our FAQ.

Note: Pre-Amp mode and volume control can only be enabled when connected via the analogue outputs.

Volume Limit

This sets the maximum volume that other streaming services like AirPlay, Spotify, TIDAL Connect and Chromecast built-in can set. The front panel, remote control and StreamMagic app volume controls can override this setting.

Early Update

Setting this to ‘On’ will let you try out the latest firmware ahead of general release.

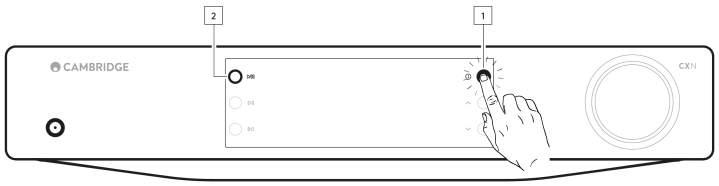
For more information and to find out what's new visit our FAQ.

Firmware

This will check for and apply any new firmware available for your player.

You can also check for new updates on the info screen and manually update the unit’s firmware by following the steps below:

1. Hold down the ‘i’ (Info) button on the front panel
2. As instructed on the display, press the ‘play/pause’ button to check for new firmware. The new firmware version will now update if there is one available.



When left in network standby overnight your player will check and apply any new updates.

Note: Your network player must be connected to the internet to carry out firmware updates. You should keep your network player connected to ensure optimal performance.

Restart

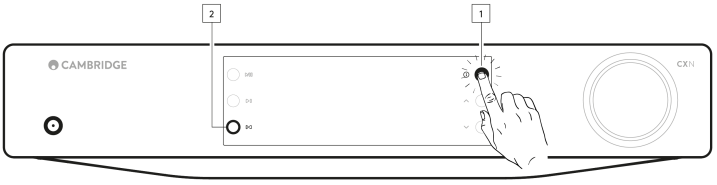
This will restart your device and it will briefly lose connection with your network and the app.

Factory Reset

This will return your player to its factory settings.

You can also do this from the info screen by following the steps below:

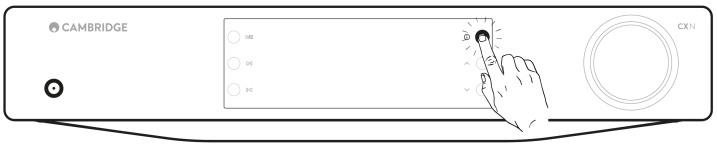
1. Hold down the ‘i’ (Info) button on the front panel.
2. As instructed on the display, hold down the ‘reverse skip’ button to perform the factory reset.



Info screen

The info screen shows useful information about your player, it also allows you to carry out some actions to help resolve problems with your player.

To access the info screen hold the ⓘ button on the front panel for 2 seconds.



Technical specifications

D/A CONVERTERS
ESS ES9028Q2M

THD @ 1kHz 0dBFs
< 0.0005 %

THD @ 20kHz 0dBFs
< 0.0005 %

FREQUENCY RESPONSE
20Hz-20kHz +/- 0.1dB *

SIGNAL TO NOISE RATIO (REF 1W)
> 120dBr

CROSSTALK @ 1kHz
< -120dB

DIGITAL OUTPUTS

S/PDIF Coaxial: 16/24-bit, 32-192kHz

TOSLINK Optical: 16/24-bit, 32-96kHz

AUDIO FORMATS
WAV containing uncompressed, PCM 16-32 bit 32-768kHz, FLAC containing losslessly compressed, PCM 16-32 bit 32-768kHz, Apple Lossless (ALAC) containing losslessly compressed PCM 16-24 bit 32-192kHz, AIFF containing uncompressed, PCM 16-32 bit 32-768kHz, Microsoft® Windows Media TM Audio (WMA 9 Standard) 32-320kbps, MP3 (CBR or VBR) 16-320kbps, AAC, HE AAC and AAC+, (CBR or VBR) 16-320kbps, OGG Vorbis 32-320kbps.
Native DSD64 to DSD512 support.

STREAMING PROTOCOLS
RTSP (Real Time Streaming Protocol), MMS (Microsoft Media Server Protocol), HTTP (Hyper Text Transfer

Protocol).

CONNECTIVITY
UPnP, Local USB media, Airplay 2, Chromecast built-in, Internet Radio, Spotify Connect, TIDAL, Qobuz, Deezer, Roon Ready.

PLAYLIST
ASX (Microsoft® playlist format) M3U, PLS

WI-FI
IEEE 802.11 b/g/n or AC (2.4GHz and 5GHz)

WI-FI ENCRYPTION
WEP, WPA, WPA2

ETHERNET
IEEE 802.3, 10 Base-T or 100 Base-T

USB
1 x USB 2.0 current limited to 1A

FILE SYSTEMS
FAT32, NTFS, Ext4, ExFAT

MAINS INLET VOLTAGE
100-240 VAC (switch mode)

STANDBY CONSUMPTION

ECO Mode: <0.5W

Network Standby Mode: >2W

MAX POWER CONSUMPTION
30W

DIMENSIONS
80 x 430 x 325mm (3.1 x 16.9 x 12.8")

WEIGHT
3.55kg (7.8lbs)

Source quality matrix

SOURCE	DELIVERY METHOD	MAXIMUM RESOLUTION
Spotify Connect	Mobile/Desktop App	320kbps
Spotify AirPlay	Mobile/Desktop App	320kbps
Spotify Chromecast	Mobile/Desktop App	320kbps

Spotify Bluetooth	Mobile/Desktop App	aptX HD
TIDAL Connect	Mobile/Desktop App	24bit / 192 kHz
TIDAL (via StreamMagic app)	StreamMagic App	24bit / 192 kHz
TIDAL AirPlay	AirPlay 2	16bit / 44kHz
TIDAL Chromecast	Chromecast	24bit / 48 kHz
TIDAL Bluetooth	Bluetooth	aptX HD
TIDAL Roon	Roon Endpoint	24bit / 192 kHz
TIDAL Roon	USB Class 2	24bit / 192 kHz
TIDAL Desktop App	USB Class 2	24bit / 192 kHz
Qobuz (via StreamMagic app)	StreamMagic App	24bit / 192 kHz
Qobuz AirPlay	AirPlay 2	16bit / 44kHz
Qobuz Chromecast	Chromecast	24bit / 48 kHz
Qobuz Bluetooth	Bluetooth	aptX HD
Qobuz Roon	Roon Endpoint	24bit / 192 kHz
Qobuz Roon	USB Class 2	24bit / 192 kHz
Qobuz Desktop App	USB Class 2	24bit / 192 kHz
Third Party App (via AirPlay)	AirPlay 2	16bit / 44kHz
Third Party App (via Chromecast)	Chromecast	24bit / 48 kHz

Third Party App (via Bluetooth)	Bluetooth	aptX HD

Troubleshooting

If you have trouble connecting the Network Player to your network, these steps may help to resolve the problem:

- Ensure that you have followed the 'Connecting to WiFi' steps in the manual here.
- Ensure both Wi-Fi dongles are securely connected to the rear of the unit.
- Ensure your mobile device is connected to the same network you wish to connect your Network Player to.
- Remove any VPN or Anti Virus app you may have downloaded on your mobile device, as they can sometimes prevent the app from 'seeing' other devices on the network.
- Remove any network switches/extenders etc. that are part of your network set up
- Connect the unit directly to your router via an Ethernet cable.
- Perform a factory reset on your unit, and then attempt the network set up steps again.
- Check that a DHCP server is available, or that you have configured a static IP address on your Player. You can configure a static IP address on the unit via the 'Network' settings in the StreamMagic app.
- Reboot and/or factory reset your router.

If you have trouble connecting the StreamMagic app to your Network Player, these steps may help to resolve the problem:

- Ensure your mobile device is connected to the same network you wish to connect your Network Player to.
- Remove any VPN or Anti Virus app you may have downloaded on your mobile device, as they can sometimes prevent the app from 'seeing' other devices on the network.
- Ensure that you have allowed the StreamMagic app to have access to devices on your network. You can check this via your mobile devices' app settings.
- Ensure both Wi-Fi dongles are securely connected to the rear of the unit.
- Check whether other apps and sources on your device are able to 'see' the unit. If they are, this would suggest that something on your device is preventing the StreamMagic app from 'seeing' the Network Player.
- Download the StreamMagic app on to another mobile device.
- Remove any network switches, extenders, boosters etc. that may be part of your network set up

If your Network Player is experiencing audio dropouts during playback from a network source, these steps may help to resolve the problem:

- Ensure both Wi-Fi dongles are securely connected to the rear of the unit.
- Remove any network switches, extenders, boosters etc. that may be part of your network set up
- Connect the unit directly to your router via an Ethernet cable.
- Reset your network router.
- Perform a factory reset on your Network Player by following the steps in the manual here.

If your Network Player can connect to the network successfully but is unable to play particular Internet Radio stations, it may be due to one of the following causes:

- The station is not broadcasting at this time of the day (remember it may be in a different time zone).
- The station has reached the maximum allowed number of simultaneous listeners.

- The station is not broadcasting anymore.
- The link in our database is simply out of date. (You can request that a radio station is added or updated by following the steps in the following FAQ.)
- The Internet connection between the server (often located in a different country) and you is slow.
- Try using a computer to play back the stream via the broadcaster's web site.
- Try deleting and then re-installing the StreamMagic app on your device.
- Perform a factory reset on your Network Player by following the steps in the manual here.

If you have problems with UPnP playback check the following:

- Ensure your chosen UPnP server software can serve the file type you are trying to access. Some servers do not serve FLAC for instance.
- This Network Player can only play non-DRM files. Files that have DRM controls cannot be played by the CXN100.
- If attempting to play 24-bit WAV or FLAC content, note a wired Ethernet connection is normally preferred for reliable operation due to bandwidth considerations.
- Check the Network Player can play back the file type you are trying to access. WMA, AAC, HE AAC, AAC+, MP3, OGG Vorbis, FLAC, WAV, ALAC, AIFF can currently be played.
- Ensure your PC/NAS drive are connected to the same network as your Network Player.
- Ensure you have followed the required steps for PC/NAS drive configuration with a Network Player. You can find out more about this in the following FAQ.

If you have problems with USB Media playback check the following:

- Check the Network Player can play back the file type you are trying to access. WMA, AAC, HE AAC, AAC+, MP3, OGG Vorbis, FLAC, WAV, ALAC, AIFF can currently be played.
- This Network Player can only play non-DRM files. Files that have DRM controls cannot be played by the CXN100.
- Check that your device does not require more than 1A if it is powered from the USB socket itself.
- Check your device is formatted in FAT32/NTFS/exFAT/Ext4 format.
- The way you organise your USB media affects the size of the internal database the Network Plater needs to build dynamically as you browse content. It is good practice to create folders for Artists, within which should be a sub folder for each album containing the tracks for that album. Libraries with thousands of tracks in one folder will progressively slow down the Player's media browsing.

If you have problems connecting a Bluetooth device to the Network Player check the following:

- Ensure the Bluetooth source has been selected via the app or the front panel source selector. You will be unable to pair a Bluetooth device to the Player unless the Bluetooth source has been selected.
- Ensure the supplied Wi-Fi/Bluetooth antenna has been connected to the rear of the Player.
- Ensure your device is not already connected to another Bluetooth speaker/headphones.
- Ensure the Player is not already connected to another Bluetooth device.

MQA tracks do not display as MQA on the front panel:

- Ensure the track you are playing is an MQA track.
- Ensure that you have the required streaming subscription to play MQA files.

There is no sound:

- Ensure the unit is not in Standby mode.
- Check that your amplifier/DAC is properly connected.
- Check that your speakers are properly connected to the amplifier.

- Check that your connected amplifier/DAC is not in mute mode.
- If Pre-Amp mode has been enabled, ensure the Player is not in mute mode.
- Ensure the correct source has been selected via the app or the front panel source selector.

There is no audio when connecting a Mac/PC to the USB Audio input:

- Ensure that all the steps within the USB Audio section of the manual have been followed.
- Ensure that the USB Audio source has been selected via the app or the front panel source selector.
- Ensure that your PC/Mac is connected to the USB Audio input with a USB A to B cable.
- If you are connecting a PC, make sure that the correct USB driver is downloaded. The driver is available from https://www.cambridgeaudio.com/gbr/en/driver-updates.

A TV connected to a digital input has dropouts, glitches or disrupted audio:

- Some TVs have been found to have issues on digital inputs. Enabling 'TV mode' in the StreamMagic app for the digital input connected to a TV should reduce the chance of audio issues from the TV.

Safety Instructions

Click here to view

Frequently asked questions

Can I play files from a connected USB HD when the CXN100 is not connected to a network?

This is not possible as the use of the StreamMagic app is required to be able to play local files from a connected USB HD.

Please note that it is strongly recommended that the CXN100 is connected to a network at all times.

Does the CXN100 come with a remote control?

No, the CXN100 does not have its own remote control and does not come with one included. The unit can be fully controlled and the settings can be adjusted via the StreamMagic app.

If you wish to use a remote control with your device, the CX series 2 remote control is compatible with the CXN100 and can be purchased from our website here.

Can I access features such as Internet Radio and streaming services via the front panel?

It is not possible to access services and features via the front panel of the CXN100. You will be able to access many features via the StreamMagic app, as well as integrated services such as TIDAL, Spotify etc. via their respective apps.

How do I change the volume of the CXN100?

With Pre-Amp mode enabled within the StreamMagic app device settings, the volume of the device's analogue outputs can be controlled using the app or rotary dial.

Note: Pre-Amp mode and volume control can only be enabled when connected via the analogue outputs.

Do I need to connect both of the supplied Wi-Fi antennas for the CXN100 to work?

Yes, if you are connecting your CXN100 to your network wirelessly, you will need to connect both of the supplied antennas to enable full Wi-Fi functionality and the strongest possible wireless network connection.

Bluetooth functionality will also only be possible when one of the antennas is connected to the port with the Bluetooth symbol.

Can I use more than one of the CXN100's outputs at once?

If you wish to connect the CXN100 to one single device, you can use any output, digital or analogue, that you wish.

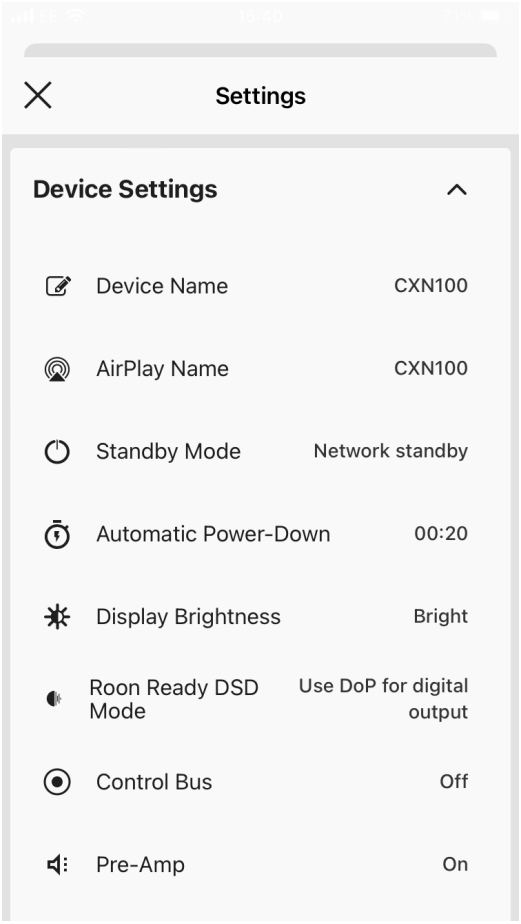
If, however, you would like to connect the CXN100 to more than one device at a time, you can connect up to four devices and play simultaneously, as all outputs remain active at all times.

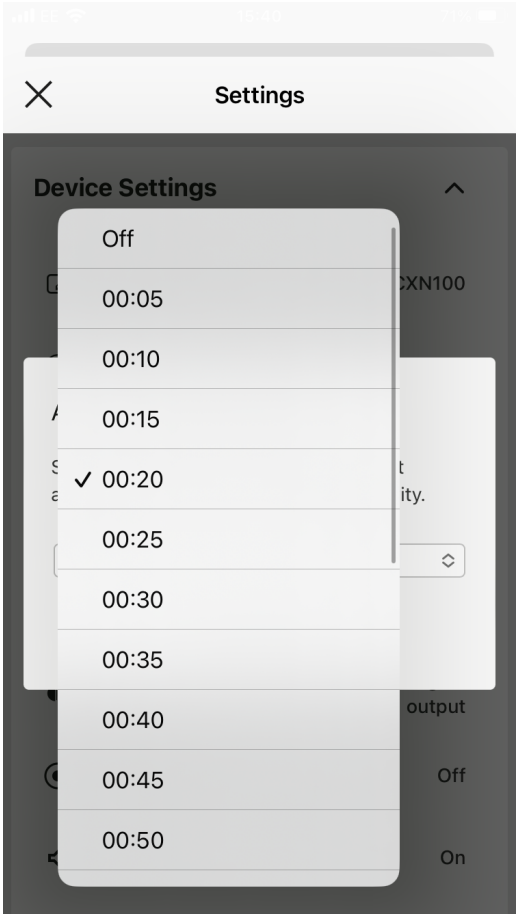
Please note that you will need to enable Pre-Amp mode in the app, if you wish to control the volume via the CXN100.

How do I stop the CXN100 from powering down when not in use?

The CXN100 will automatically switch to standby mode after 20 minutes of inactivity. This Automatic Power-Down (APD) feature can be disabled, by navigating to the device settings within the StreamMagic app.

You can either disable this feature, or edit the length of time it takes for APD to be triggered, by selecting 'Automatic Power-Down'.





What USB HDs will the CXN100 support?

The primary function of the CXN100 is as a network music player and the USB port is intended for convenient connection of USB HDDs and SSDs. As such, we can not guarantee compatibility with all USB HDDs and SSDs.

The CXN100 will read large capacity hard drives connected to the USB Media input. Some larger capacity drives, however, may require their own power supply, as the player's USB port may not provide enough power for the drive to function.

The CXN100 will support USB hard drives which are formatted to FAT32, exFAT, NTFS and Ext4.