

CXN v2 Network Player

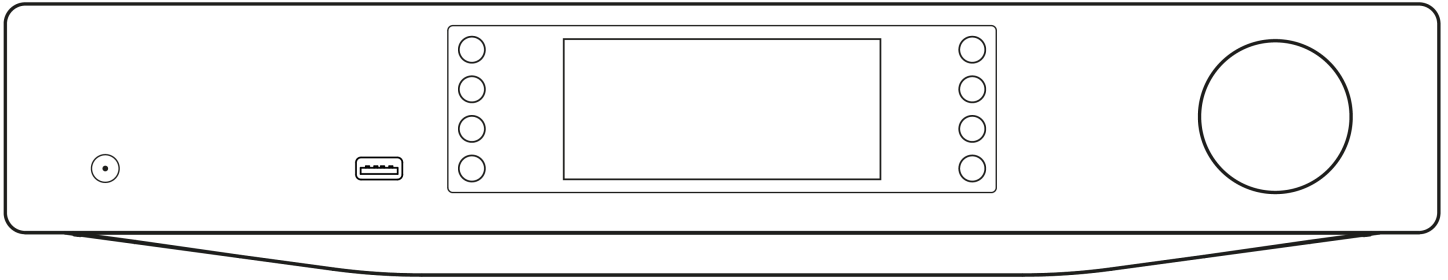
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CXN v2 Network Player

Last updated: April 20, 2022 08:25. Revision #3725



User's Manual

Introduction

Last updated: April 14, 2022 04:33. Revision #3713

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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The Spotify software is subject to third party licenses found here: www.spotify.com/connect/third-party-licenses.

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

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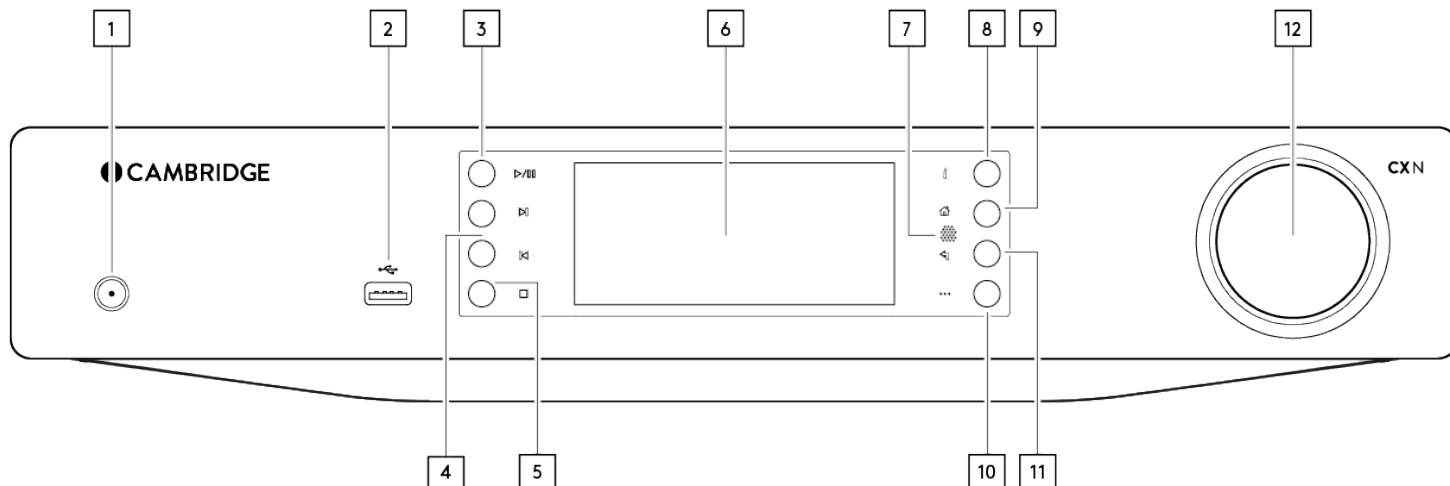
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Front panel controls

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1. Standby/On

2. USB

For use with USB audio storage. 1A maximum current consumption.

Note: This USB port is not intended for connection to Apple mobile devices.

3. Play/Pause

4. Skip

5. Stop/Delete

Press during playback to stop or delete items in various menus.

6. Display

7. Infrared sensor

8. Info

During playback, pressing this button will cycle through 'Now Playing' screens. Press and hold to display the product info.

9. Home

10. (More)

When playing from UPnP sources, this button displays queued tracks and options.

11. Return

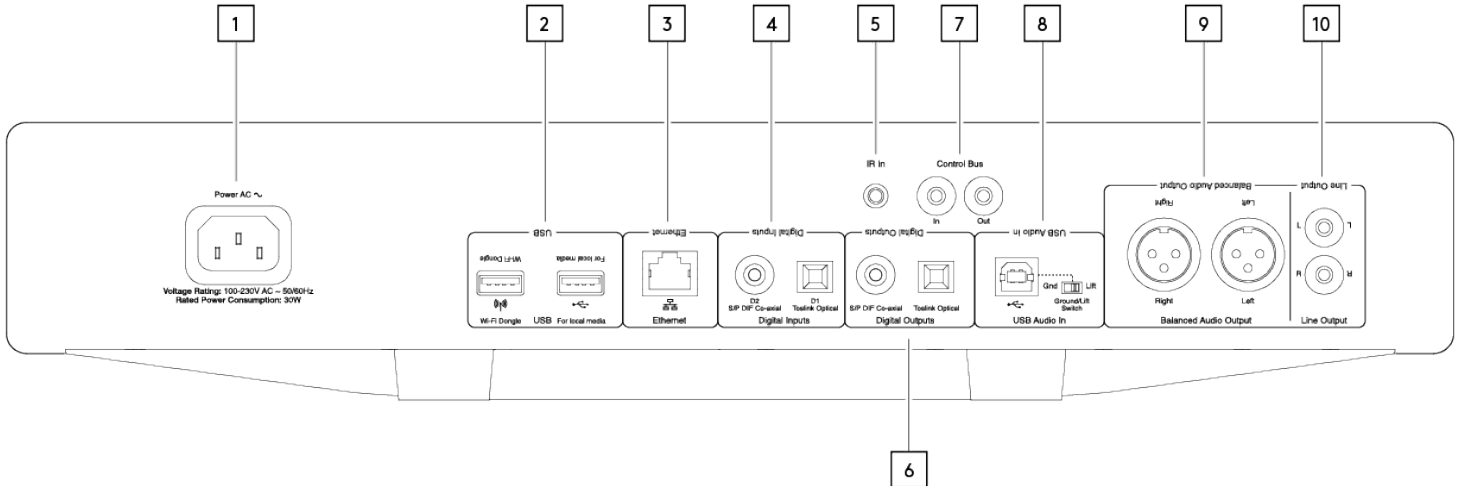
Press to return to the previous menu.

12. Navigation/Select (rotary dial)

Rotate to scroll and navigate around the menus. Press to accept the item/function shown on the display.

Rear panel connections

Last updated: March 18, 2022 01:33. Revision #3541



1. AC power socket

2. USB sockets

Pre-fitted Wi-Fi dongle and connection for USB HD/flash disk or optional BT100 Bluetooth audio receiver.

The USB ports are not intended for connection to Apple mobile devices, no functionality, charging or otherwise, is supported.

The Wi-Fi dongle is pre-fitted. Please leave connected. Your unit will automatically default to an Ethernet connection if one is made. If you are using this CXN v2 with Wi-Fi please make sure your unit is positioned within range of your wireless router.

Important note:

Do not connect/disconnect the Wi-Fi dongle when the unit is on.

3. Ethernet

4. Digital inputs

5. IR (Infra-Red) emitter in

6. Digital outputs

7. Control bus

For connection to other CX series products. Features vary according to other product functionality.

8. USB audio in

For connecting to PC/MAC computers.

Ground lift switch

Enable 'Lift' to eradicate hum noise through the speakers.

9. Balanced audio output

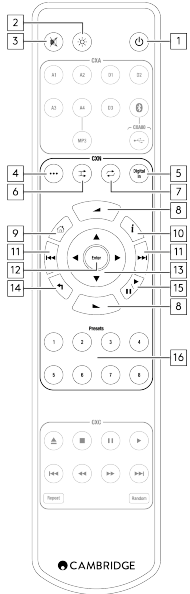
For use with XLR connections.

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

10. Line output

Remote control

Last updated: March 18, 2022 01:34. Revision #3545



1. Standby/On

2. Display brightness

3. Mute

(Pre-amp mode)

4. (More)

When playing from UPnP sources, this button displays queued tracks and options.

5. Digital input

6. Random

7. Repeat

8. Volume

(Pre-amp mode)

9. Home menu

10. Info

Toggles between display information.

11. Skip

Skips between tracks.

12. Enter

13. Navigation

14. Return

15. Play/Pause

16. Presets

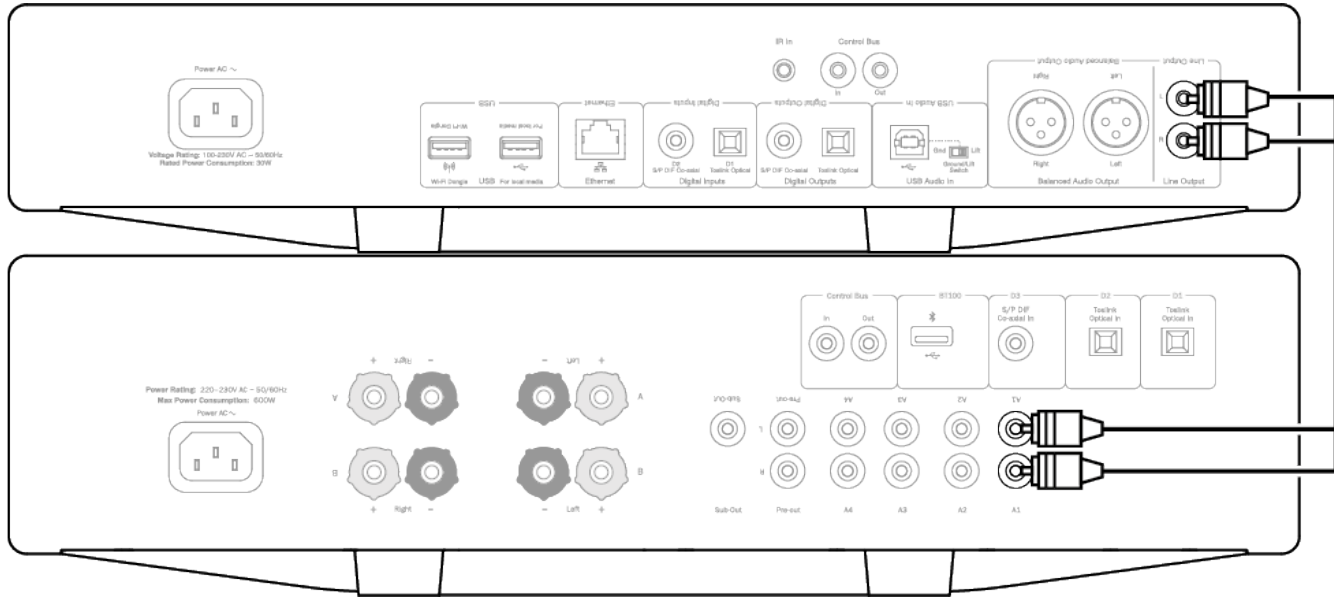
Recalls stored 1 - 8 presets.

Getting connected

Last updated: March 18, 2022 02:03. Revision #3544

Basic audio connections

Switch the power off before making any connections.

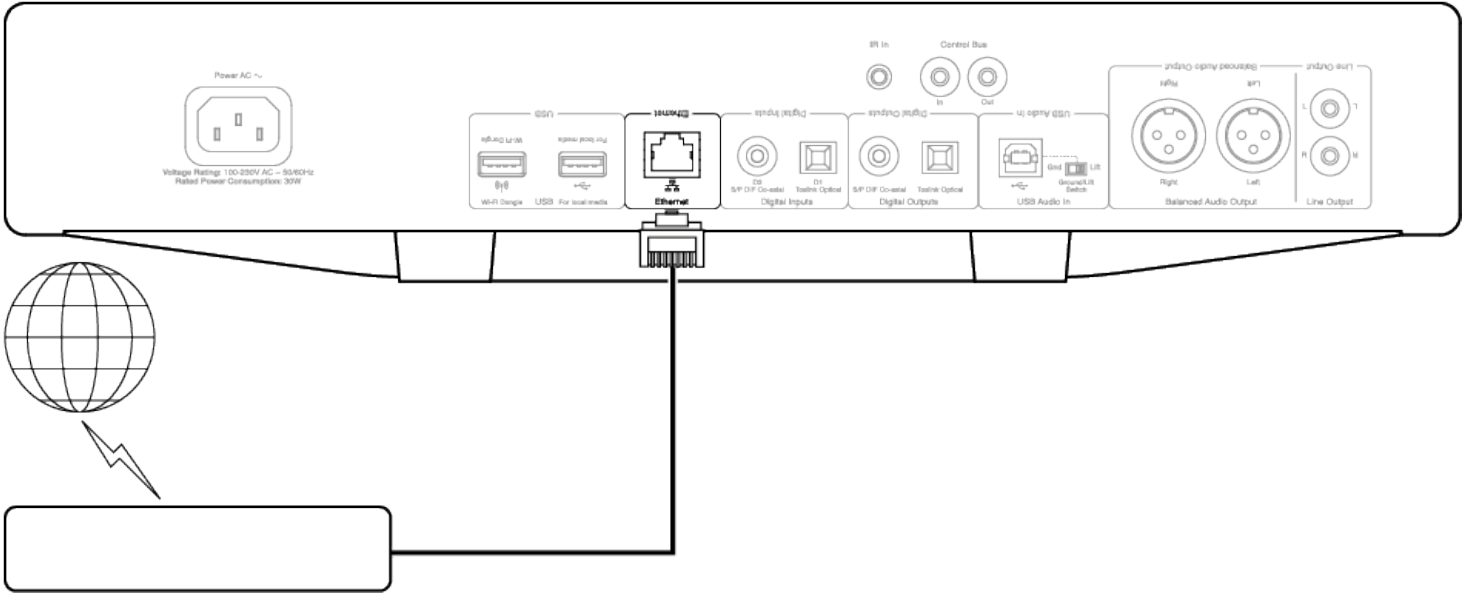


CXN v2/CXA

Network connections

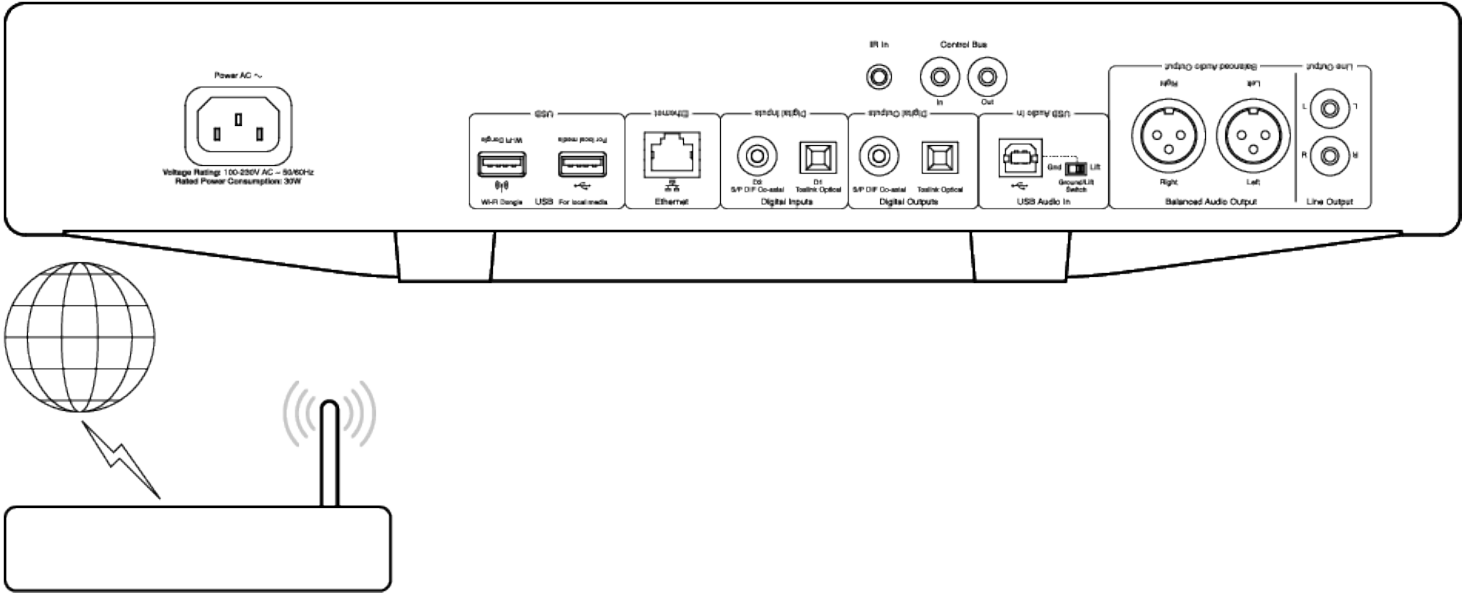
To use the UPnP media sharing feature, you will need either a wired Ethernet or Wi-Fi connection to your network. To use internet radio, Streaming Services or to receive product software updates you will also need a broadband internet connection. Use a wired connection for seamless playback of high-resolution 24-bit/176kHz and 24-bit/192kHz files.

Connecting to a wired network



Connect a network cable (Category 5/5E straight-through Ethernet cable) between the CXN v2 and your router.

Connecting to a wireless network



It will need to be in the range of your wireless router.

Important note: Do not plug/unplug the wireless dongle when the unit is on.

On an iOS device go to Wi-Fi settings and select 'CXN v2'. Alternatively, connect the CXN v2 directly to the Wi-Fi network: Select your Wi-Fi network and then enter your password.

Note: Wi-Fi network passwords are case sensitive.

For further information on CXN v2 network settings please see the "Settings >> Network" section later in this manual.

Character entry


This is typically for:

- Wi-Fi network password.
- Searching for radio stations and content on UPnP servers.
- Customising the CXN v2's "friendly" name and digital input names.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9	<		=	>
+	-	_	!	?	@	#	\$	%	^	&	*	:	;	`	'	"	.	,	\
/	[]	{	}	()	~												
																		←	
✕																		←	

To enter text:

1. Use the front panel rotary encoder to scroll through each symbol.
2. Using the IR remote control, you can navigate horizontally and vertically.
3. Press Enter on the front panel or IR remote to select the highlighted character.

← deletes the last character selected (equivalent to the  button on the front panel or IR remote control).

✕ cancels the text entry process.

← submits the entered text.

Operating instructions

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Music library

The Music Library menu item lists all found UPnP servers and USB media devices.

There are many suitable UPnP server software packages available for PC and Mac. Stand-alone servers and Network Attached Storage (NAS) devices with built-in UPnP server capabilities are also available. Please see the set-up guides on our website at: www.cambridgeaudio.com/networksetup

Note: When using a UPnP server to share your media, the menu structure, search and selection criteria are determined by that server, not the CXN v2.

The CXN v2 does not scan entire USB storage devices to build an artist/track database. It is therefore recommended that audio files are stored in a structured way by artist and album to facilitate locating tracks.

Playing tracks and adding to the queue

Add individual tracks

Selecting an individual track will show the following menu:

- PLAY NOW
- PLAY NEXT
- ADD TO QUEUE - Add the track to the end of the queue.
- REPLACE QUEUE - Remove all queue items and replace with the new track.

Viewing the queue

To view the queue at any time press the '•••' (more) button.

You can jump playback to any point in the queue by navigating up/down the list and pressing Enter.

Editing the queue

Tracks can be removed from the queue by highlighting them with the navigator and pressing the Stop button.

To clear an entire queue, navigate to the bottom of the queue to highlight [Clear Queue] and press Enter.

Note: Switching the CXN v2 into standby will delete the queue.

The 'Now Playing' screen

Pressing the  button will cycle through:

- Combination of track/stream info plus album/station art.
- Just album/station art.
- Just track/stream info.

Album art and radio station logos may also be displayed if available. For USB Media the Album art needs to be in the same folder as the track.

Album art file format

Album art images are supported in .png and .jpg file formats only. Images can have any name, but images named Folder.png or Folder.jpg take precedence. Images embedded into tracks are not supported.

Playlists

The CXN v2 supports various playlist formats:

- ASX (Microsoft® playlist format)
- M3U
- PLS

For permanent storage of favourite media selections, it is recommended to use suitable software to create playlists. These can then be accessed by the CXN v2 from USB storage devices or UPnP servers that support playlist serving. It is not currently possible to save playlists created on the CXN v2.

Inputs

USB audio

The CXN v2 USB Audio input is intended to connect directly to a PC or Mac computer. The default CXN v2 configuration is USB Audio profile 1.0 which works with nearly all common operating systems and computer types without needing additional drivers. In this configuration sample rates from 16-bit/44.1kHz to 24-bit/96kHz are supported. For more details on USB Audio, see our online guides at: www.cambridgeaudio.com/USB-audio.

D1-D2

The two digital inputs are capable of receiving stereo PCM audio with sample rates up to 24-bit/192kHz.

Bluetooth

The optional Cambridge Audio BT100 Bluetooth dongle can be connected into any available USB socket.

StreamMagic app - Setup

Last updated: October 25, 2021 01:25. Revision #3547

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/streammagic>

Google Home / Chromecast built-in

Last updated: March 18, 2022 01:49. Revision #3548

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.

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

AirPlay

Last updated: March 18, 2022 01:50. Revision #3549

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 up from the bottom edge of any 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.

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Settings

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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.

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.

Automatic Power Down

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

USB Audio Class

This sets the USB Audio Class for the USB Audio input.

USB Audio Class 1.0 (default) works with USB 1.1 ports and supports up to 24-bit/96kHz.

USB Audio Class 2.0 requires a USB 2.0 port and can support up to 32-bit/384kHz (asynchronous) and up to DSD-256. Depending on your PC or laptop you may require an additional driver.

For more info about USB Audio see our [online guide](#).

Roon Ready DSD

Roon Ready DSD mode for the digital outputs.

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.

Pre-amp

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

For more information see our [FAQ](#).

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.

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

Factory Reset

This will return your player to its factory settings.

You can also do this from the info screen.

Note: Your network player must be connected to the internet to carry out firmware updates. It is recommended that you keep your network player connected to ensure optimal performance.

Technical specifications

Last updated: October 25, 2021 01:29. Revision #3551

D/A CONVERTERS

Dual Wolfson WM8740 24-bit DACs

ANALOGUE FILTER

2-Pole Dual Differential Bessel Double Virtual, Earth Balanced

THD @ 1kHz 0dBfs

<0.001% 24-bit (at volume set to full)

THD @ 1kHz -10dBfs

<0.001% (at volume set to full)

THD @ 20kHz 0dBfs

<0.002% (at volume set to full)

FREQUENCY RESPONSE

20Hz-20kHz +/- 0.1dB *

SIGNAL TO NOISE RATIO

-112dBr (at volume set to full)

TOTAL CORRELATED JITTER

< 130pS

CROSSTALK @ 1kHz

< -100dB

CROSSTALK @ 20kHz

< -90dB

DIGITAL OUTPUTS

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

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

AUDIO FORMATS

WAV containing uncompressed, PCM 16-24 bit 32-192kHz, FLAC containing losslessly compressed, PCM 16-24 bit 32-192kHz, Apple Lossless (ALAC) containing losslessly compressed PCM 16-24 bit 32-192kHz, AIFF containing uncompressed, PCM 16-24 bit 32-192kHz, 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.

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, Amazon Music, RoonReady.

PLAYLIST

ASX (Microsoft® playlist format) M3U, PLS

WI-FI

IEEE 802.11 b/g or n (2.4GHz connection used only)

WI-FI ENCRYPTION

WEP, WPA, WPA2

ETHERNET

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

USB

3 x USB 1.1 current limited to 1A each

FILE SYSTEMS

FAT32, NTFS

MAINS INLET VOLTAGE

100-240 VAC (switch mode)

STANDBY CONSUMPTION

<0.5W

MAX POWER CONSUMPTION

30W

DIMENSIONS

85 x 430 x 305mm (3.4 x 16.9 x 12.2")

WEIGHT

4 Kg (8.8lbs)

* Steep filter disabled

iRadio/Streaming services are output as 16-bit data at the appropriate sample rate for the decompressed data. The sample rate will be 32kHz, 44.1kHz or 48kHz depending on the streams sample rate.

Incoming streams of less than 32kHz sample rate cannot be output over S/P DIF /TOSLINK.

For compressed streams the true resolution of the audio is of course limited by the encoding.

For Media content from local drives or UPnP this outputs in its native resolution of 16/24-bit, 32kHz 44.1kHz 48kHz or 96kHz with bit for bit transfer.

Troubleshooting

Last updated: March 18, 2022 02:05. Revision #3552

If you experience any trouble with your CXN v2, then you may find it useful to visit the help section on our webpage at:

<https://techsupport.cambridgeaudio.com/>

General Help guidelines:

If you have trouble connecting the CXN v2 to your network, these steps may help to resolve the problem:

- Confirm that a connected computer can access the Internet (i.e. can browse the web) using the same network.
- Check that a DHCP server is available, or that you have configured a static IP address on the CXN v2. You can configure a static IP address on the CXN v2 using the menu item 'Settings -> Network Config -> Edit Config', and then select 'No' for 'Auto (DHCP)'. DHCP is however the recommended method.
- Check that your network's firewall is not blocking any outgoing ports. As a minimum, the radio needs access to UDP and TCP ports 80, 554, 1755, 5000, 6000 and 7070.
- Check your access point does not restrict connections to a particular MAC addresses. You can view the radio's MAC address using the menu item 'Settings -> Network Config -> View Config -> MAC address'.
- If you have an encrypted Wi-Fi network, check that you have entered the correct key or passphrase into the CXN v2. Remember that text-format keys are case sensitive. If, when attempting to connect to an encrypted network, your CXN v2 displays: 'Wireless error' followed by a 5-digit number, then please ensure that you enter the correct passphrase for the network. If the problem persists, then you may need to consult your network configuration.

If your CXN v2 can connect to the network successfully, but is unable to play particular Stream Magic 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 located 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.
 - 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.
- If you have problems with UPnP playback always check the following:

- Ensure your chosen UPnP server software is capable of serving the file type you are trying to access. Some servers do not serve FLAC for instance.
- The CXN v2 can only play non DRM files. Files that have DRM controls cannot be played by the CXN v2. Some servers may be able to authorise and decrypt Microsoft Playsforsure before then serving the content to the CXN v2 but this operation is not guaranteed as it is purely a function of the server.
- If attempting to play 24-bit WAV or FLAC content note a wired Ethernet connection is normally required for reliable operation due to bandwidth considerations.
- Check the CXN v2 is capable of playing back the file type you are trying to access. WMA, AAC, MP3, Vorbis, FLAC and WAV can currently be played. The CXN v2 does not support ALAC, WMA Pro, WMA lossless, RAW, AU or other file types not mentioned.

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

- Check the CXN v2 is capable of playing back the file type you are trying to access. WMA, AAC, MP3, Vorbis, FLAC and WAV can currently be played.
- The CXN v2 does not support ALAC, WMA Pro, WMA lossless, RAW, AU or other file types not mentioned.
- For USB Media the CXN v2 can only play non DRM files. Files that have DRM controls cannot be played.
- 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 format.
- The way you organise your USB media affects the size of internal database the CXN v2 needs to build dynamically as you browse content. Good practice is to create folders for Artists within which you should have a sub folders for each Album which then containing the tracks for that Album. Libraries with thousands of tracks in one folder will progressively slow down the CXN v2s media browsing.

For all servicing, in or out of warranty, please contact your dealer.