azur 540C/640C V2.0

Compact disc player

User's manual

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INTRODUCTION

Thank you for purchasing this Cambridge Audio Azur range CD player. These version 2 models are part of our commitment to the on-going development of the Azur range. We hope that you will appreciate the results and enjoy many years of listening pleasure from them.

As with previous Azur CD players, both the 540C V2.0 and 640C V2.0 make use of a custom Cambridge Audio servo solution and transport, at the heart of which is a VLSI (Very Large Scale Integration) circuit which dynamically adjusts in real time the focusing, tracking and output level of the laser for the maximum retrieval of digital information. To ensure the very best performance there are also multiple separate power supplies for the D/A converter circuitry, audio filters, clocks and other stages, as well as extensive use of low impedance film capacitors.

For the Version 2 models, we have significantly upgraded and improved the Digital to Analog stages as well as the anti-aliasing filters for even better sound quality and have added features that allow these products to be used in Custom Install applications. All this proprietary engineering is housed within our low resonance, acoustically damped chassis. An Azur Navigator remote control is also provided, giving full remote control of your CD player in an attractive and easy to use handset.

About the 540C V2.0

The 540C V2.0 now employs a WM8740 24 bit/192 kHz capable Digital to Analog converter from Wolfson Microelectronics. This very high quality part is coupled to a new three pole Double Virtual Earth Balanced filter design for very low noise and distortion. A new toroidal transformer is now fitted giving lower noise and less waveform distortion, for quieter PSU operation. Finally, to allow seamless integration with multi-room entertainment systems, a Control Bus input and output have been fitted, as has an IR emitter input.
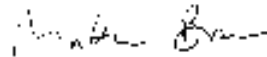
About the 640C V2.0

The 640C V2.0 now employs a *pair* of WM8740 24 bit/192 kHz capable Digital to Analog converter from Wolfson Microelectronics implemented in a dual differential configuration. As each channel has its own DAC to process

information, completely separate analog filter circuitry can be implemented. Moreover, because of the separation of left and right audio converters, the 640C V2.0 embraces a symmetrical layout. This ensures that both left and right channel circuitry operate identically, ensuring the 640C V2.0 delivers fantastic sound-staging and stereo imaging properties. The dual differential configuration also offers better signal-to-noise ratios and exceptionally low distortion characteristics in part from the use of a new version of our proprietary Double Virtual Earth Balanced filters.

The 640C V2.0 features a new Four Pole Dual Differential Double Virtual Earth Balanced topology. This means the DAC for each channel features two fully balanced outputs each of which are then summed in a 3rd order virtual earth balanced filter stage, then a further 1st order balanced filter stage sums the balanced outputs of the earlier filter stages. This double balanced configuration largely rejects noise and distortion products present in the DACs and filters and provides an unprecedented level of performance. As with the 540C V2.0, a new toroidal transformer is now fitted giving lower noise and less waveform distortion for quieter PSU operation. Control Bus input/output and IR emitter input have also been fitted for Custom Install use.

Your V2.0 CD player can only be as good as the system it is connected to. Please do not compromise on your amplifier, speakers or cabling. Naturally we particularly recommend amplification from the Cambridge Audio Azur range, which have been designed to the same exacting standards as our CD players. Your dealer can also supply excellent quality Cambridge Audio interconnects to ensure your system realises its full potential.

Now we invite you to sit back, relax and enjoy!

Matthew Bramble
Technical Director

Cambridge Audio

SAFETY PRECAUTIONS

Checking the Power Supply Rating

For your own safety please read the following instructions carefully before attempting to connect this unit to the mains.

Check that the rear of your unit indicates the correct supply voltage. If your mains supply voltage is different, consult your dealer.

This unit is designed to operate only on the supply voltage and type that is indicated on the rear panel of the unit. Connecting to other power sources may damage the unit.

This equipment must be switched off when not in use and must not be used unless correctly earthed. To reduce the risk of electric shock, do not remove the unit's cover (or back). There are no user serviceable parts inside. Refer servicing to qualified service personnel. If the power cord is fitted with a moulded mains plug the unit must not be used if the plastic fuse carrier is not in place. Should you lose the fuse carrier the correct part must be reordered from your Cambridge Audio dealer.

The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated '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 instructions in the service literature relevant to this appliance.

This product complies with European Low Voltage (73/23/EEC) and Electromagnetic Compatibility (89/336/EEC) Directives when used and installed according to this instruction manual. For continued compliance only Cambridge Audio accessories should be used with this product and servicing must be referred to qualified service personnel.

The crossed-out wheeled bin is the European Union symbol for indicating separate collection for electrical and electronic equipment. This product contains electrical and electronic equipment which should be reused, recycled or recovered and should not be disposed of with unsorted regular waste. Please return the unit or contact the authorised dealer from whom you purchased this product for more information.

Plug Fitting Instructions (UK Only)

The cord supplied with this appliance is factory fitted with a 13 amp mains plug fitted with a 3 amp fuse inside. If it is necessary to change the fuse, it is important that a 3 amp one is used. If the plug needs to be changed because it is not suitable for your socket, or becomes damaged, it should be cut off and an appropriate plug fitted following the wiring instructions below. The plug must then be disposed of safely, as insertion into a 13 amp socket is likely to cause an electrical hazard. Should it be necessary to fit a 3-pin BS mains plug to the power cord the wires should be fitted as shown in this diagram. The colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug. Connect them as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter 'N' or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter 'L' or coloured RED.

The wire which is coloured GREEN/YELLOW must be connected to the terminal which is marked with the letter 'E' or coloured GREEN.

If your model does not have an earth wire, then disregard this instruction.

If a 13amp (BS 1363) plug is used, a 3amp fuse must be fitted, or if any other type of plug is used a 3amp or 5amp fuse must be fitted, either in the plug or adaptor, or on the distribution board.
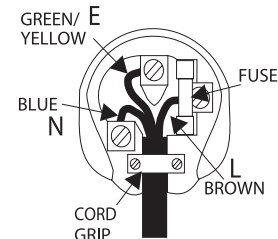
IMPORTANT SAFETY INSTRUCTIONS

Please take a moment to read these notes before installing your Azur CD player, they will enable you to get the best performance and prolong the life of the product. We advise you follow all instructions, heed all warnings and keep the instructions for future reference.

The unit is of Class 1 construction and must be connected to a Mains socket outlet with a protective earthing connection.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

The unit must be installed in a manner that makes disconnection of the mains plug from the mains socket outlet (or appliance connector from the rear of the unit) possible.

This unit must be installed on a sturdy, level surface.

The unit requires ventilation. Do not situate it on a rug or other soft surface and do not obstruct any air inlets or outlet grilles.

Do not place in a sealed area such as a bookcase or in a cabinet. Any space open at the back (such as a dedicated equipment rack) is fine however.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

WARNING - To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture. This unit must not be exposed to dripping or splashing water or other liquids. No objects filled with liquid, such as vases, shall be placed on the unit. In the event, switch off immediately, disconnect from the mains supply and contact your dealer for advice.

To clean the unit, wipe its case with a moist, lint-free cloth. Do not use any cleaning fluids containing alcohol, ammonia or abrasives. Do not spray an aerosol at or near your CD player.

Ensure that small objects do not fall through any ventilation grille. If this happens, switch off immediately, disconnect from the mains supply and contact your dealer for advice.

Do not route the power cable so that it can be walked upon or damaged by other items near it.

If you do not intend to use this unit for a long period, switch it to Standby and unplug it from the mains socket. Also unplug the unit during lightning storms.

Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as a damaged power-supply cord or plug, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

If you have checked the Troubleshooting guide in the manual with no improvement, do not attempt to repair, disassemble or reconstruct the unit. A serious electric shock could result if this precautionary measure is ignored.

Important Note

This unit has been designed to play compact discs, recordable CDs and rewritable CDs bearing the identification logo shown here. No other discs can be used.

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REAR PANEL CONNECTIONS
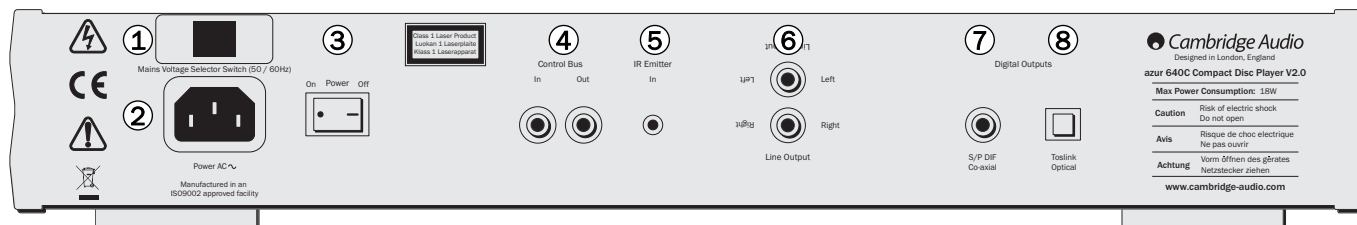
① Mains Voltage Selector Switch

Switches the mains voltage between 115V and 230V. For use by installer/dealer only.

② AC power socket

Once you have completed all connections to the amplifier, plug the AC power cable into an appropriate mains socket. Your compact disc player is now ready for use.

③ Power On/Off

Switches the unit on and off.

④ Control Bus

In - Allows un-modulated commands from multi-rooms systems or other components to be received by the unit.

Out - Loop out for control bus commands to another unit.

⑤ IR (Infra Red) Emitter In

Allows modulated IR commands from multi-room systems to be received by the unit. Commands received here are not looped out of the Control Bus.

⑥ Line Output

Use good quality interconnect cables from these sockets to any line level input on your amplifier.

⑦ S/P DIF Co-axial Digital output

For input to a separate DAC or digital recording machine. To obtain best results, use a high quality 75 ohm digital RCA interconnect cable (not one designed for normal audio use).

⑧ Toslink Optical Digital output

Use to connect to the input of a separate DAC or digital recording machine. Use a high quality TOSLINK fibre optic interconnect cable designed specifically for audio use.

FRONT PANEL CONTROLS
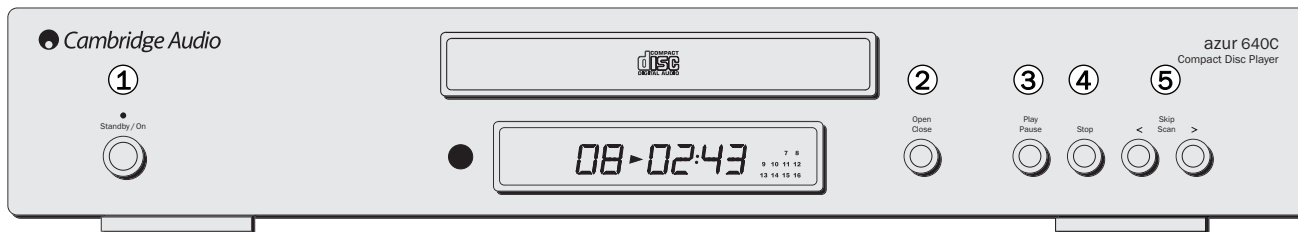
① Standby/On

Switches the unit between On and Standby mode. The blue LED indicates that it is On when bright and in Standby mode when dim.

② Open/Close

Allows you to open and close the disc tray thus making it possible to load a disc. Pressing *Play* will also close the tray and start the CD.

③ Play/Pause

Plays the disc and pauses play.

④ Stop

Stops the CD playing.

⑤ Skip/Scan

Allows for skipping between tracks and also searching within tracks. Press once to skip a track, press and hold to search within a track.

Note: The Skip/Scan function on the front panel is separated on the remote control. See the remote control section of this manual for more information.

REMOTE CONTROL

The 540C/640C V2.0 is supplied with an Azur Navigator remote control that operates both this CD player and Cambridge Audio Azur amplifiers. Insert the supplied AAA batteries to activate.

⏻ Standby/On

Switches the unit between On and Standby mode.

⏏ Open/Close

Opens and closes the disc tray.

① Numerical Track select

Press the number of the desired track. The track will then be played from the start of the track.

-/-- Track select

To select a track number greater than ten, press -/-- followed by the track number.

☼ Bright

Alters the brightness of the display backlight. There are three levels of brightness: Bright, Normal, and Off.

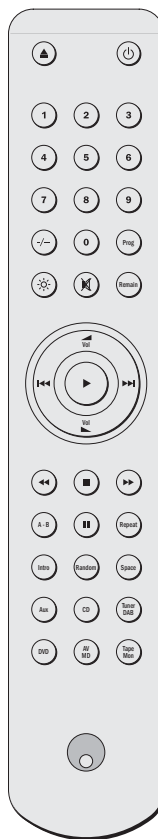## ▶ Play / ■ Stop / ❚❚ Pause

Press the relevant button to play, stop or pause the CD.

▶▶❙ Skip

Right Skip - press once to skip forward by one track on the CD. Press and hold to skip forwards through tracks.

Left Skip - press once to skip backward by one track on the CD. Press and hold to skip backwards through tracks.

▶▶ Search

Press and hold to search within the selected track. Right button to fast forward, left button to rewind.

Program, Remain, A-B, Repeat, Intro, Random, Space

Read the 'Operating Instructions' section of this manual for information on the functions of these buttons.

Please note that the following buttons will only operate a matching Cambridge Audio Azur amplifier:

◢ Volume

Increase or decrease the volume of the amplifier output.

◫ Mute

Mutes the audio on the amplifier. The Mute mode is indicated by the channel LED flashing. Press again to cancel mute.

Aux, CD, Tuner DAB, DVD, AV MD, Tape Mon

The six source select buttons are used to change the input source to the amplifier.

OPERATING INSTRUCTIONS

Loading and unloading discs

1. Press the *Standby/On* switch.

2. Press the *Open/Close* button.

3. When the disc tray has opened fully, place a disc carefully in the tray with the label side facing up.

4. To close the disc tray, press the *Open/Close* button again. When the tray, with a correctly loaded disc, is fully closed the disc will start turning automatically. After the CD player has read the disc it will be ready to play. Pressing *Play* will also close the tray and start playing the disc.

5. The disc tray can be opened at any time by pressing the *Open/Close* button. Only remove the disc after the tray has fully opened.

Note:

- Do not put anything except a Compact Disc into the tray, foreign objects may damage the mechanism.

- Do not force the tray by hand during the opening and closing operations.

- To avoid dirt and dust entering the mechanism, keep the disc tray closed.

- If the Compact Disc is seriously scratched or too dirty the player may not be able to read it or play it.

- Never load more than one disc into the disc tray at one time.

Normal disc play

1. Switch on your amplifier and set its input selector to the correct position. Adjust the volume control to a minimum.

2. Press the *Standby/On* switch.

3. Press the *Open/Close* button to open the disc tray, and load a disc.

4. Press the *Open/Close* button again to close the tray. The CD player will read the disc and enter Standby mode. Alternatively pressing *Play* will close the tray and start playing the disc.

5. Press the *Play* button. The disc will start playing from the beginning of the first track. When the last track has finished playing, the CD player will return to Standby mode.

6. To stop the disc at any point press the *Stop* button. Pressing the *Pause* button while the disc is playing will pause the disc. When the disc is paused the display will flash, play can be resumed by pressing the *Play* button again.

Locating a specific track

1. Ensure that a disc is loaded.

2. Pressing the right *Skip/Scan* (*Skip* on remote) button once will forward the CD by one track. Repeat as necessary.

3. Press *Play*. The disc will play to the end of the disc and then return to Standby mode.

4. Pressing the left *Skip/Scan* (*Skip* on remote) button will access the previous track.

OPERATING INSTRUCTIONS CONT.

Locating a particular point in a track

1. Ensure that the disc is playing the desired track.

2. Press and hold the right *Skip/Scan* button (*Search* on remote), the CD will then fast forward within the track.

3. Release the button when the desired time has been reached. Play will resume.

4. Press and hold the left *Skip/Scan* (*Search* on remote) button, the CD will then rewind within the track.

Repeating discs and tracks

1. Ensure that the disc is playing.

2. Press the *Repeat* button on the remote control. 'Repeat All' will appear on the display. The whole disc will now be repeated until the function is turned off.

3. To repeat a specific track press *Repeat* twice while the track is playing. 'Repeat' will appear on the display and the selected track will now be repeated until the function is turned off.

4. Press *Repeat* again to turn off the repeat function.

Playing tracks in a random order

1. Ensure that a disc is loaded and the player is in Standby mode.

2. Press the *Random* button on the remote control. 'Random' will appear on the display.

3. Press *Play*. The CD Player will now play the entire disc in a random order.

4. Press *Random* to exit Random function. The disc will continue playing to the end in the correct order.

5. Press the *Stop* button at any time to stop the disc.

Using the Intro function

1. Ensure that a disc is loaded. The player can be in Standby mode or playing.

2. Press *Intro* on the remote control. If the player is in Standby mode it will automatically play the first ten seconds of each track and then return to Standby mode. If a disc is being played when *Intro* is pressed the player will progress to the next track and play the first ten seconds of any remaining tracks.

3. Press *Intro* again at any time to enter normal play mode.

Using the A-B function

1. Ensure that the disc is playing, press *A-B* on the remote control. This will allow you to continuously repeat a specific section of a track.

2. Press the *Repeat* button on the remote control at the beginning of the section you want to loop. The A-B icon will be displayed and the player will memorise the time A-B was pressed.

3. Press *A-B* again at the end of the section that you want to loop. The player will now continuously repeat the selected section.

4. Press *A-B* again to return to normal play mode.

Using the Remain function

1. Ensure that the disc is playing.

2. Press the *Remain* button on the remote control once to display the time remaining on the track playing.

3. Press *Remain* a second time to show remaining number of tracks and total disc time remaining.

4. Press *Remain* again to return to normal play mode.

Using the Space function

1. Ensure that a disc is loaded. The player can be in Standby mode or playing.

2. Press *Space* on the remote control. 'Space' will appear on the display and a four second gap will be put between each track played.

Programming disc play

1. Ensure that a disc is loaded and the player is in Standby mode.

2. Press *Program* on the remote control. The Program set-up will appear in the display.

3. Using the *Skip/Scan* (*Skip* on the remote) buttons, skip to the track number that you want to program as your first track.

4. Press *Program*. The desired track is now entered and the program number increases by one.

5. Repeat steps three and four until all your desired tracks are entered.

6. Press *Play*. The programmed tracks will play.

7. You can use the Skip and Search functions on your remote control to move through your programmed selection in the same way as normal playback.

8. Pressing *Stop* once will stop play and pressing *Stop* twice at any time will wipe the program and return the player to stopped mode.

CUSTOM INSTALLATION (C.I.) USE

The 540C V2.0 and 640C V2.0 feature a Control Bus input/output that allow un-modulated remote control commands (positive logic, TTL level) to be received electrically by the unit and looped to another unit if desired. These control commands are typically generated by custom installation (multi-room) systems or remote IR receiver systems.

An IR Emitter Input is also provided that allows modulated IR remote control commands to be received electrically by the unit. Commands on this input operate the unit only and are not looped out demodulated on the Control Bus Output.

This feature is useful for multi-room systems (such as the Cambridge Audio Incognito multi-room system) which feature routed I.R. emitter outputs. Instead of using window emitters stuck over the CD players front panel IR receiver, a mono 3.5mm mini-jack to 3.5mm mini-jack lead can be used for a more reliable electrical connection.

In addition the units feature 'direct' IR/Control codes as well as toggle codes for many of their features to simplify programming custom installation systems. Special direct On / Off commands can be accessed on the supplied remote control for teaching into C.I. systems as follows:

1. Press and hold the Standby button. The remote first generates it's standby (toggle) command. Keep the button held down, after 12 seconds a CD player "On" command will be generated. If the button is kept held down for a further 12 seconds, a CD player "Off" command is generated.

A full code table for this product is available on the Cambridge Audio website at **www.cambridge-audio.com**.

TROUBLESHOOTING

There is no power

Ensure the AC power cord is connected securely.
Ensure the plug is fully inserted into the wall socket and is switched on.
Check fuse in the mains plug or adaptor.

The player will not read the disc

Check the disc is not loaded upside down.
Check that the disc is not too scratched or dirty.

There is no sound

Ensure that the amplifier is set correctly.
Check that the interconnects are inserted correctly.

The disc is skipping

Check that the disc is not too scratched or dirty.
Ensure the player is on a firm surface and not subject to vibrations.

There is a hum coming from the speaker

Ensure that all cable connections are secure.

The remote handset will not function

Check that the batteries have not expired.
Ensure that nothing is blocking the remote sensor.

TECHNICAL SPECIFICATIONS

540C V2.0

D/A Converter	Wolfson WM8740 24-Bit/192kHz capable
Filter	3 Pole Double Virtual Earth balanced
Freq response (+/-0.2dB)	20Hz to 20kHz
THD @ 1Khz 0dBFs	< 0.0015%
THD @ 1Khz -10dBFs	< 0.0010%
THD @ 20Khz 0dBFs	< 0.0080%
IMD (19/20kHz) 0dBFs	< 0.0015%
Linearity @ -90dBFs	+/- 0.5dB
Clock deviation	+/- 10ppm
Stopband rejection (>24kHz)	> 90dB
S/N ratio, A weighted	> 100dB
Total correlated jitter	< 210pS
Crosstalk @1kHz	< -100dB
Crosstalk @20kHz	< -90dB
Output impedance	< 50ohms
Dimensions - H x W x D	70 x 430 x 310mm
Weight	4.6kg (10.1lbs)

640C V2.0

D/A Converter	Dual Wolfson WM8740 24-Bit/192kHz capable
Filter	4 Pole Dual Differential Double Virtual Earth balanced
Freq response (+/-0.1dB)	20Hz to 20kHz
THD @ 1Khz 0dBFs	< 0.0010%
THD @ 1Khz -10dBFs	< 0.0005%
THD @ 20Khz 0dBFs	< 0.0070%
IMD (19/20kHz) 0dBFs	< 0.0008%
Linearity @ -90dBFs	+/- 0.5dB
Clock deviation	+/- 10ppm
Stopband rejection (>24kHz)	> 90dB
S/N ratio, A weighted	> 104dB
Total correlated jitter	< 160pS
Crosstalk @1kHz	< -100dB
Crosstalk @20kHz	< -99dB
Output impedance	< 50ohms
Dimensions - H x W x D	70 x 430 x 310mm
Weight	4.6kg (10.1lbs)

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LIMITED WARRANTY

Cambridge Audio warrants this product to be free from defects in materials and workmanship (subject to the terms set forth below). Cambridge Audio will repair or replace (at Cambridge Audio's option) this product or any defective parts in this product. Warranty periods may vary from country to country. If in doubt consult your dealer and ensure that you retain proof of purchase.

To obtain warranty service, please contact the Cambridge Audio authorised dealer from which you purchased this product. If your dealer is not equipped to perform the repair of your Cambridge Audio product, it can be returned by your dealer to Cambridge Audio or an authorised Cambridge Audio service agent. You will need to ship this product in either its original packaging or packaging affording an equal degree of protection.

Proof of purchase in the form of a bill of sale or receipted invoice, which is evidence that this product is within the warranty period, must be presented to obtain warranty service.

This Warranty is invalid if (a) the factory-applied serial number has been altered or removed from this product or (b) this product was not purchased from a Cambridge Audio authorised dealer. You may call Cambridge Audio or your local country Cambridge Audio distributor to confirm that you have an unaltered serial number and/or you purchased from a Cambridge Audio authorised dealer.

This Warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of, or to any part of, the product. This Warranty does not cover damage due to improper operation, maintenance or installation, or attempted repair by anyone other than Cambridge Audio or a

Cambridge Audio dealer, or authorised service agent which is authorised to do Cambridge Audio warranty work. Any unauthorised repairs will void this Warranty. This Warranty does not cover products sold AS IS or WITH ALL FAULTS.

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Some countries and US states do not allow the exclusion or limitation of incidental or consequential damages or implied warranties so the above exclusions may not apply to you. This Warranty gives you specific legal rights, and you may have other statutory rights, which vary from state to state or country to country.

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 printing; however, Cambridge Audio's policy is one of continuous improvement, therefore design and specifications are subject to change without prior notice. If you notice any errors please feel free to email us at: support@cambridgeaudio.com

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azur 540C/640C V2.0

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