

C D A 2 M k 2



# C D A 2 M k 2 compact disc pre-amplifier, D A C

**In selecting ATC you have chosen an example of the finest audio engineering available. ATC has always kept steadfastly to its founders' aim of building, mostly by hand, studio and hi-fi electronics and loudspeakers which employ the most effective of modern engineering principles. That has meant striving to make products as near perfection as it is possible to make them. In order to get the very best from ATC equipment careful and thoughtful installation is essential, so please read the manual fully to understand your ATC purchase and realize the very best performance it has to offer. Please contact ATC with any questions or issues that arise during installation or use and we will do our very best to help.**

ATC (Acoustic Transducer Company) was founded in London in 1974 by Australian Billy Woodman who still heads the company today. An enthusiastic jazz pianist and engineer he was naturally drawn to loudspeaker design. ATC's reputation for the design and manufacture of unique high performance loudspeaker drive units is legendary with new concepts of design evolving and being perfected continually since its inception in 1974. The same is true of ATC's equally innovative and successful high performance audio electronic products. It all started in 1982 with the EC23, a stereo, 3-way electronic crossover incorporating phase correction and momentary gain reduction – features that are incorporated in all ATC active loudspeaker systems to this day. The EC23 was the controller for all large ATC active loudspeakers right up to the development in 1996 of the SPA24-850, a stand-alone stereo Ampack for the control and amplification of SCM200 and SCM300 monitors.

But it was the development of the SCM50A active 3-way monitor in 1985 that changed everything.

An aluminium plate and heatsink that bolted straight into the back of the loudspeaker cabinet onto which three power amplifiers were mounted: 200W bass, 100W mid-range and 50W high frequency, incorporating phase correction and momentary gain reduction. This technology is why all ATC active monitors have a flat magnitude response, an excellent minimum phase response and are factory set to prevent the amplifiers from clipping when driven hard. There is nothing else that sounds better or offers such great value.

ATC designed and developed its first stand-alone hi-fi electronic product through the necessity of the ongoing quest for the best possible performance money can buy. Few pre-amplifiers available could drive the long lengths of cable necessary from the listening position to the active loudspeakers at the end of the room and hence the SCA2 pre-amplifier was developed in 1996 with its exceptional audio performance, transparency and current drive ability. ATC today has a broad pallet of high performance audio electronic products from the CA2 pre-amplifier to the exquisite P6 power amplifier.

Extending this formidable range of audio electronic products is the CDA2 Mk2 – the second generation of ATC's integrated compact disc player/pre-amplifier offering all the performance of the CA2 pre-amplifier plus a built-in CD transport, a high resolution asynchronous USB interface and a premium AKM stereo 32-bit DAC having very low distortion at -112dB. The new CDA2 Mk2 has truly exceptional performance and features.

ATC has grown to become one of the very few manufacturers successful across both domestic and professional audio. By selecting ATC you join a group of music lovers, professional audio engineers, educators, studios and musicians across the world that understand the value of the engineering that goes into every ATC product.



## Safety Warnings

1. Read instructions – all the safety and operating instructions should be read before the appliance is operated.
2. Retain these instructions – the safety and operating instructions should be retained for future reference.
3. Heed warnings – all warnings on the appliance and in the operating instructions should be adhered to.
4. Follow instructions – all operating and other instructions should be followed.
5. Water and moisture - the appliance should not be exposed to dripping or splashing and no objects such as vases, should be placed on the appliance.
6. Ventilation – the appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings. Similarly, the appliance should not be built into an installation, such as a bookcase or cabinet, that may impede the flow of air through the ventilation openings.
7. Heat – the appliance should be situated away from heat sources such as radiators, stoves or other appliances that produce heat.
8. Power sources – the appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
9. Power cord protection – power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit the appliance.
10. Cleaning – the appliance should be cleaned only as recommended by the manufacturer.
  11. Unattended periods – the power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
  12. Object and liquid entry – care should be taken so that objects and liquids do not fall into the appliance.
  13. Damage requiring service – the appliance should be serviced by qualified service personnel when:
    - i. the power supply cord or the plug has been damaged
    - ii. objects have fallen or liquid has been spilled into the appliance
    - iii. the appliance has been exposed to rain or other serious liquid exposure
    - iv. the appliance does not appear to operate normally or exhibits a marked change in performance
    - v. the appliance has been dropped or the cabinet damaged
14. Servicing – the user should not attempt to service the appliance beyond those measures described in the operating instructions. All other servicing should be referred to qualified service personnel.
15. Grounding or polarisation – precautions should be taken so that grounding or polarisation means for the appliance are not defeated.

## Generic Information

The information in the following sections is common to all ATC electronics products. We recommend that you read this along with the safety warnings opposite before continuing to read the pages dedicated specifically to the CDA2 Mk2 unit.

**Installation:** ATC equipment has been designed to be free standing either within an equipment stand or simply on a convenient item of furniture. There are no special ventilation requirements (but please see notes on amplifiers below). It is recommended that at least 100mm (4 inches) clearance be left behind a unit for plugs and cables.

ATC equipment has been designed to remain powered-up in standby mode unless it is to be unused for a long period of time. Power dissipation will make the unit warm to the touch in either standby or operational mode. Temperature stability will be reached after approximately three hours from mains switch-on. Full audio performance is available immediately.

ATC preamplifiers should be located as close to the source components as practically possible to minimise the cable length. The outputs however are capable of driving up to 50 metres of good quality cable; therefore it is practical to locate the preamplifier a distance away from the monitor or power amplifier(s).

ATC power amplifiers and integrated amplifiers should ideally be located to minimise the cable lengths from both the source

components and the loudspeakers. Use of loudspeaker cables in excess of 10 metres should be avoided if possible to prevent a possible degradation in sound quality. Care must be taken to ensure that ventilation holes in the top and bottom covers are not obscured. Please contact ATC if the amplifier is to be mounted in an enclosed area.

**Mains Connection:** The mains voltage to be used with the CDA2 Mk2 is displayed on the rear panel. The mains cable has been specifically supplied to comply with local statutory safety approvals and alternatives should not be substituted. If you intend to use your unit in an alternative territory, please contact ATC for advice. ATC equipment MUST be earthed. Do not remove the earth wire in the mains plug.

**Fuses:** Mains power supply fuses are fitted within the CDA2 Mk2, but they are not intended to be user replaceable. The mains power supply fuse for the unit is located on the rear panel. Should the unit fail to switch on when the power switch is operated, the fuse should be inspected. PLEASE ENSURE THAT THE UNIT IS DISCONNECTED FROM THE MAINS SUPPLY BEFORE INSPECTING OR REPLACING A FUSE. Lift out the fuse holder cover using a small screwdriver, remove the fuse and inspect it for damage. Fuses most often fail due to a serious electrical fault. Only replace fuses with the same type as that suspected to be blown. All fuses are 20mm "Type T anti surge". The fuse rating is printed on the rear panel adjacent to the fuse. If a replacement fuse also fails then the unit should be returned to ATC for service.

## 1 : CDA2 Mk2 – Description

The CDA2 Mk2 Stereo CD Pre-Amplifier-DAC has been designed to partner ATC active, and with an appropriate power amplifier, passive loudspeaker systems. It incorporates two line-level analogue stereo inputs on RCA phono sockets, together with a 3.5mm Jack socket input, an internal CD Player system, digital S/PDIF optical TosLink and coaxial inputs and a USB 2.0 interface. A main line level stereo output on RCA phono sockets, true differential left and right outputs on XLR sockets and a headphone output on a ¼" jack socket. components and the loudspeakers. Please contact ATC if the amplifier is to be mounted in an enclosed area.

## 2 : Inputs

Selection of CDA2 Mk2 inputs is achieved via an input push button mounted on the front panel, the selected input being shown in the display window.

The CDA2 Mk2 will accept unbalanced RCA phono style input plugs on Analogue inputs 1 and 2. Analogue input 2 will also accept a 3.5mm stereo jack plug. The signal on unbalanced phono inputs is present on the centre conductor and the signal return is made via the screened outer. The ring of a 3.5mm stereo jack input plug carries the right channel signal, the tip carries the left channel and the body is the signal return for both left and right channels. If there is any hum present on the output this must be traced to its source and not suppressed by the removal of screens and earths. Removal of the screen on an unbalanced input will result in uncontrollably loud hum.

Connection to the Digital Inputs can be either Coaxial via RCA phono style input plugs or Optical via TosLink connectors. A computer running Windows or MAC OSX Operating Systems can be connected directly to the CDA2 Mk2 via the rear panel mounted USB type B socket. Operation with MAC OSX is driverless. Machines running windows require installation of a proprietary driver, available from the ATC website.

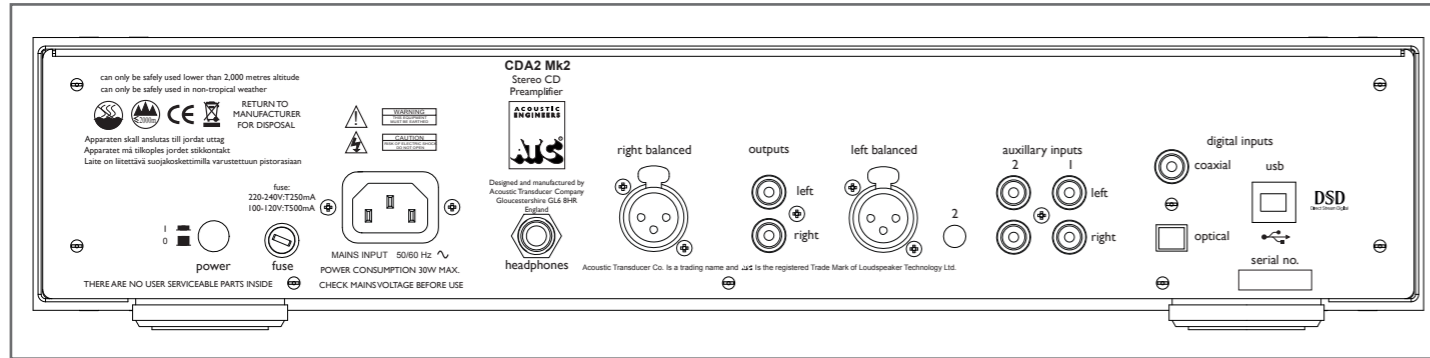
The input sockets are illustrated overleaf in **Fig. 1**.

## 3 : Digital Inputs

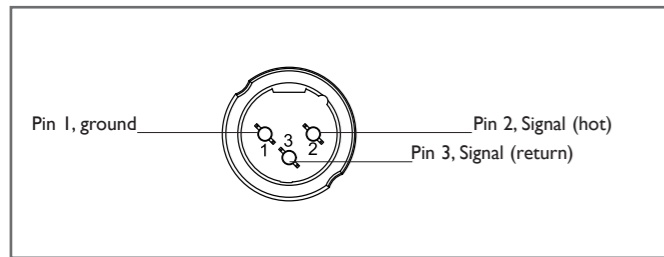
The S/PDIF input on the CDA2 Mk2 supports 16bit and 24bit PCM audio with the following sample rates: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 192kHz\*. \* 192kHz supported via coaxial input only.

The USB 2.0 interface supports 16bit, 24bit and 32bit PCM audio with the following sample rates: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, 384kHz.

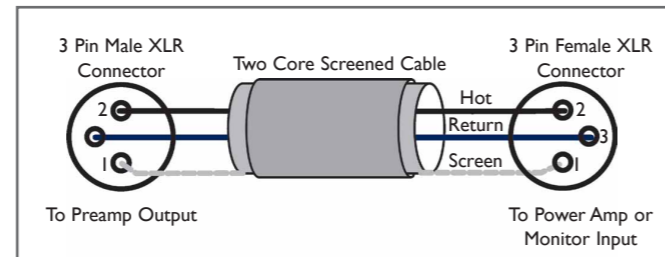
DSD playback is available over USB only. The following sample rates are supported: Mac OSX: DSD64 (2.8MHz), DSD128 (5.6MHz) Windows: DSD64 (2.8MHz), DSD 128 (5.6MHz), DSD256 (11.2MHz).



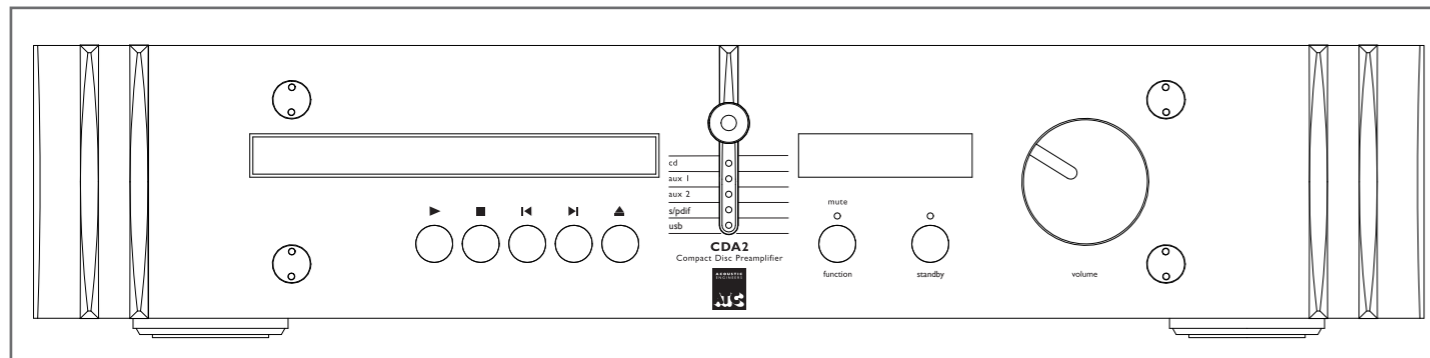
**Fig. 1 Rear Panel Input and Output Sockets**



**Fig. 2 XLR Output Pin Arrangement**



**Fig. 3 XLR Cable Arrangement to Balanced Inputs**



**Fig. 4 Front Panel and Controls**

#### 4 : Outputs

The CDA2 Mk2 rear panel illustrated in **Fig. 1** carries sockets for main left and right output and an output for stereo headphones. Use of the headphone jack will mute the output from the main stereo output. Connections to the main output may be by RCA phono plugs or XLR plugs. Connections to the XLR output sockets follow the convention of pin 1 to ground, pin 2 to signal “hot” and pin 3 to signal return “cold”. When connecting to equipment with XLR (balanced) inputs, the connectors should be wired pin for pin (i.e. 1 to 1, 2 to 2, and 3 to 3).

**Fig. 2** illustrates the XLR output pin arrangement.

**Fig. 3** illustrates the cable arrangement for connection to balanced Inputs. Cables of up to 50 metres in length may be connected to the main stereo outputs.

#### 5 : Operation

**Standby** is accessible by a push button on the front panel (**Fig. 4**) and is indicated by a red LED above the button. Above the input selector switch is another red LED to indicate that the output has been muted. Mains power is applied from a rear panel mounted push button.

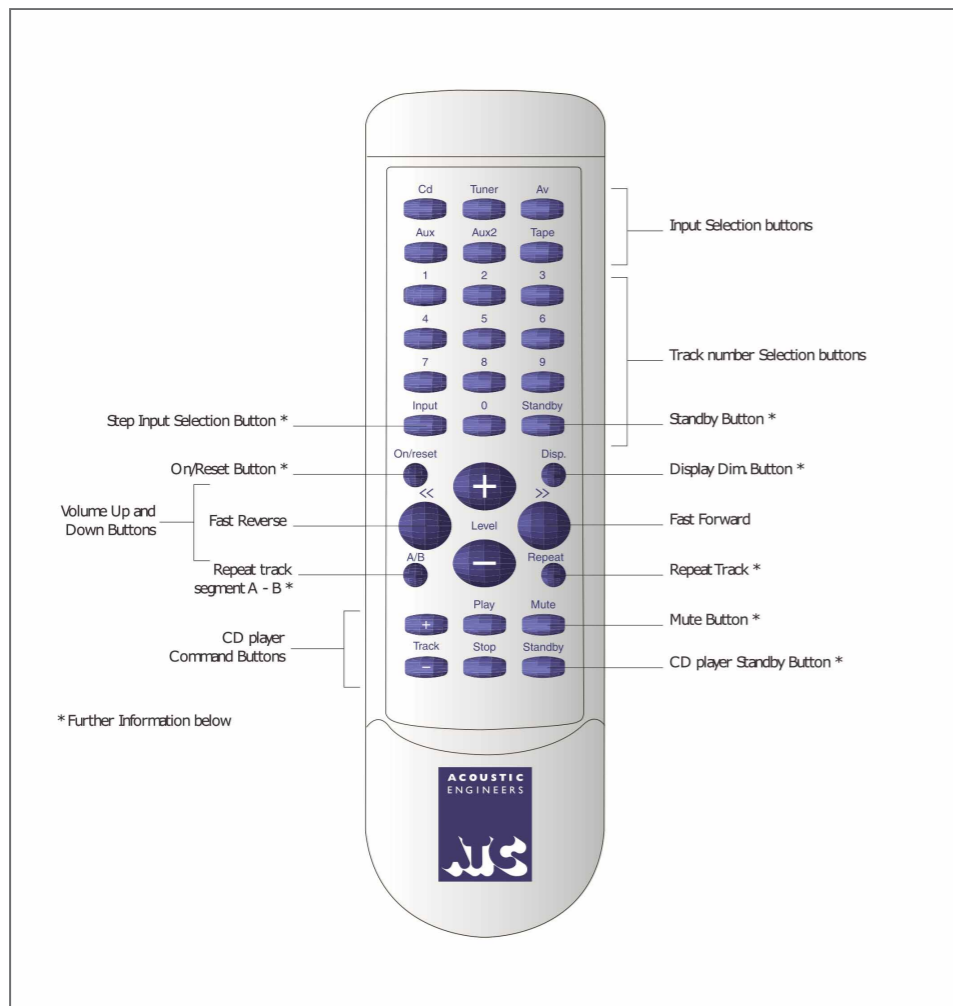
Once connected to mains power and powered up from the rear panel mains switch, the CDA2 Mk2 will assume the Input selected when the unit was last turned off. Alternative Inputs may be selected by pressing the Input push button. The Input selected will be shown in the Display window.

Pressing the Standby button on the front panel will place the unit into standby; the standby indicator above the standby button will glow RED.

**Output level** is controlled by the rotary Volume control on the front panel, the position of which is indicated by a black pointer. Rotating the control clockwise will increase the output level. It is good practise to lower the volume setting before switching on the unit or any associated equipment, or while changing the input selection.

**CD player commands** are entered by 5 push buttons on the front panel below the disc tray. Commands, functions and disc information are all shown in the display window.

All of the above commands, functions or selections are duplicated on the ATC R2 Remote Control. See **Fig.5** overleaf.



**Fig. 5 ATC SCA R2 Remote Control Handset**

## 6 : Remote Control Handset

The CDA2 Mk2 is supplied with an ATC SCA R2 remote handset. Provided that the CDA2 Mk2 is connected to the mains power and its rear panel power switch is on, the handset provides for remote operation of all functions.

The red indicator on the handset will flash as functions are operated. Failure of this indicator points to exhaustion of the handset battery. The battery should be replaced, and the old battery disposed of, by your local dealer or distributor.

Reliable operation of the remote handsets requires a direct line of sight between the handset and the unit front panel.

**Volume:** is controlled through the handset Level + and Level - buttons. The CDA2 Mk2 front panel level control will rotate in response to handset level commands.

**Step Input selection:** Each press of the Input button will select the next input. The input selected will be displayed in the Display window.

**On/Reset:** This button is for use on other ATC equipment.

**Repeat track segment A - B:** The first press of the button marks the start of the track segment to be repeated. The Display will show A -. A second press of the button marks the finish of the track segment to be repeated. The Display will show A - B, and the track will be replayed continuously from A to B, unless Stop is pressed. A third press of the button will cancel A - B repeat.

**Standby:** The Standby button will place the complete unit in Standby. Standby is indicated by a Red LED illuminating above the Front panel Standby button.

**Display Dim:** Pressing the Dim button will brighten the display for a period of approximately 3 seconds. When the USB input is selected the Dim button will display the type of data (PCM or DSD) and upon a second press the sample rate will be displayed.

**Repeat Track:** The first press of the button will repeat the entire disc. RPT A will be shown in the Display.

A second press of the button will repeat the particular track selected. RPT B will be shown in the Display.

A further press of the button will cancel Repeat functions.

**Mute:** Pressing the Mute button will mute the output from the unit but not the headphones. The Mute LED above the Mute button will illuminate.

**CD Player Standby:** When the CD player Standby button is pressed, only the CD player will be placed in standby. Standby is shown in the Display window if CD input is selected, all other inputs function and display as normal.

When playing high resolution audio from any laptop/PC, all programs other than the audio playback software should be closed.

USB cables longer than 1m should be avoided.

A computer with a 2.7GHz Intel Core i5 CPU or equivalent and 4 GB RAM is recommended, particularly for playback of DSD content and PCM files with high samples rates.

### Supported Operating Systems

**Windows 7, 8 and 10:** Windows 7 is recommended for best performance when using Microsoft Windows.

Specific drivers are required for high resolution audio playback over USB2.0. Please download the appropriate driver from the CDA2 Mk2 product page on the ATC website:

**Mac OS X El Capitan and above:** No driver is required when using Mac OS X. For best performance Mac OS X El Capitan is recommended.

### Recommended Audio Playback Software

Choice of playback software in both Mac OS X and Windows is vast. The CDA2 Mk2 was developed and tested with JRiver Media Centre 22 on both Mac OS X and Windows 7 operating systems and it is recommended that for best performance this version of JRiver is used.

It is critical for best performance that JRiver MC22 is set as per **Figs. 6 - 9** (Windows) and **Figs. 10 - 12** (Mac).

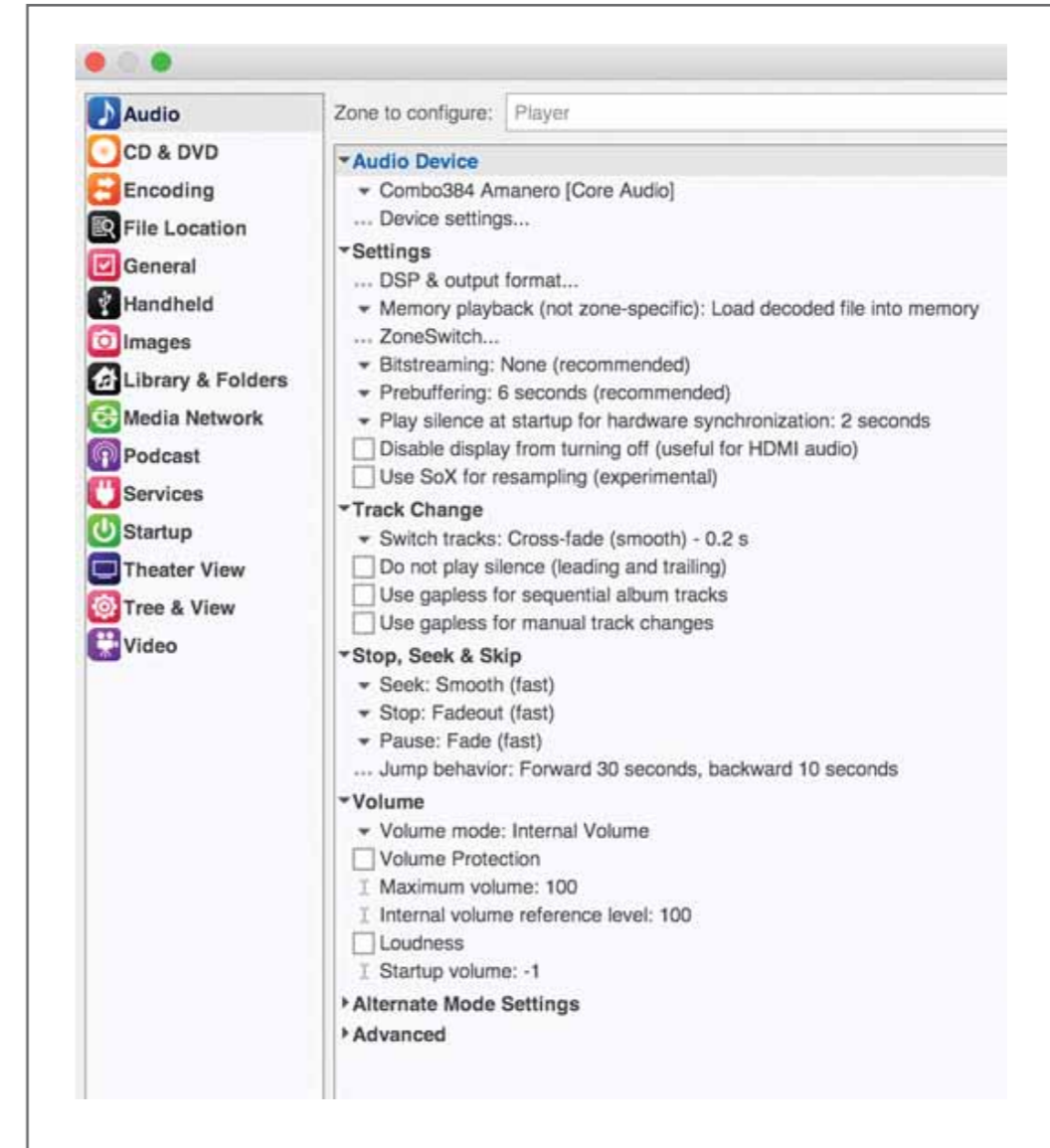
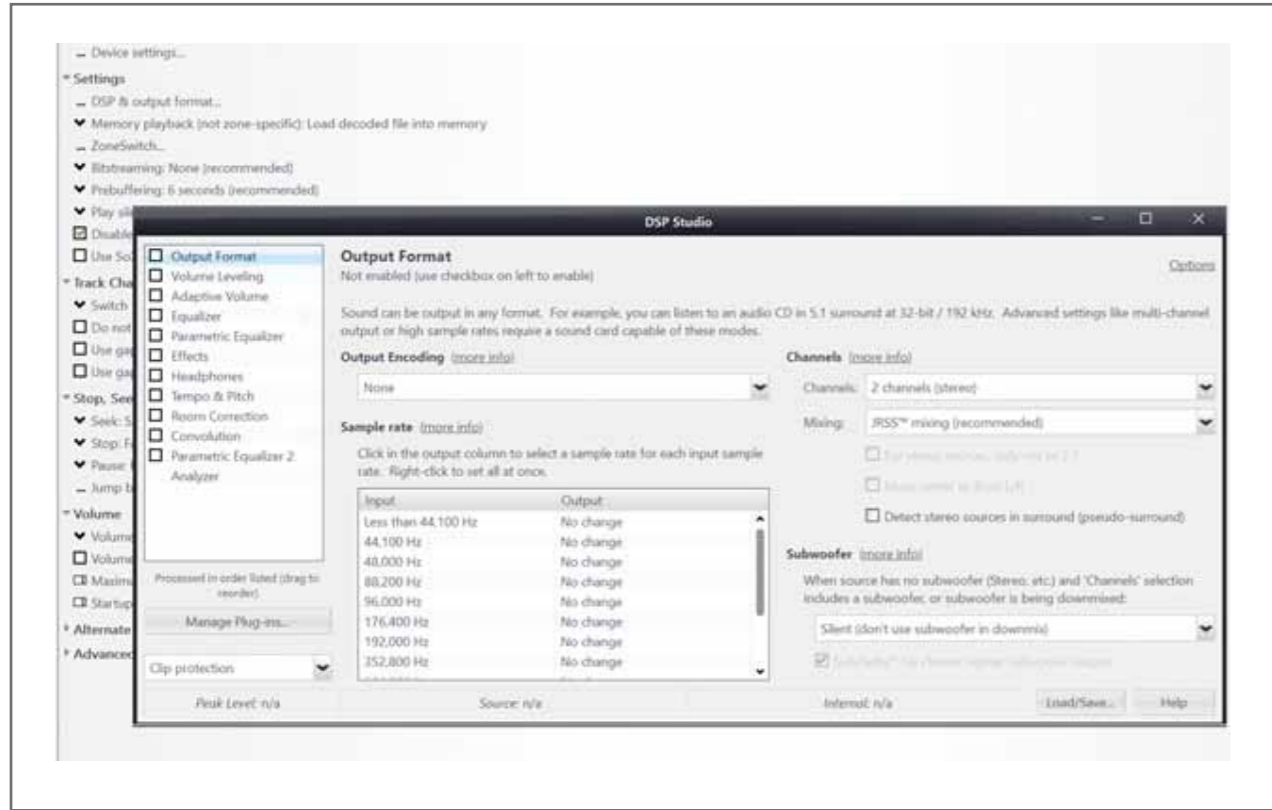


Fig. 6 JRiver MC 22 settings in Windows

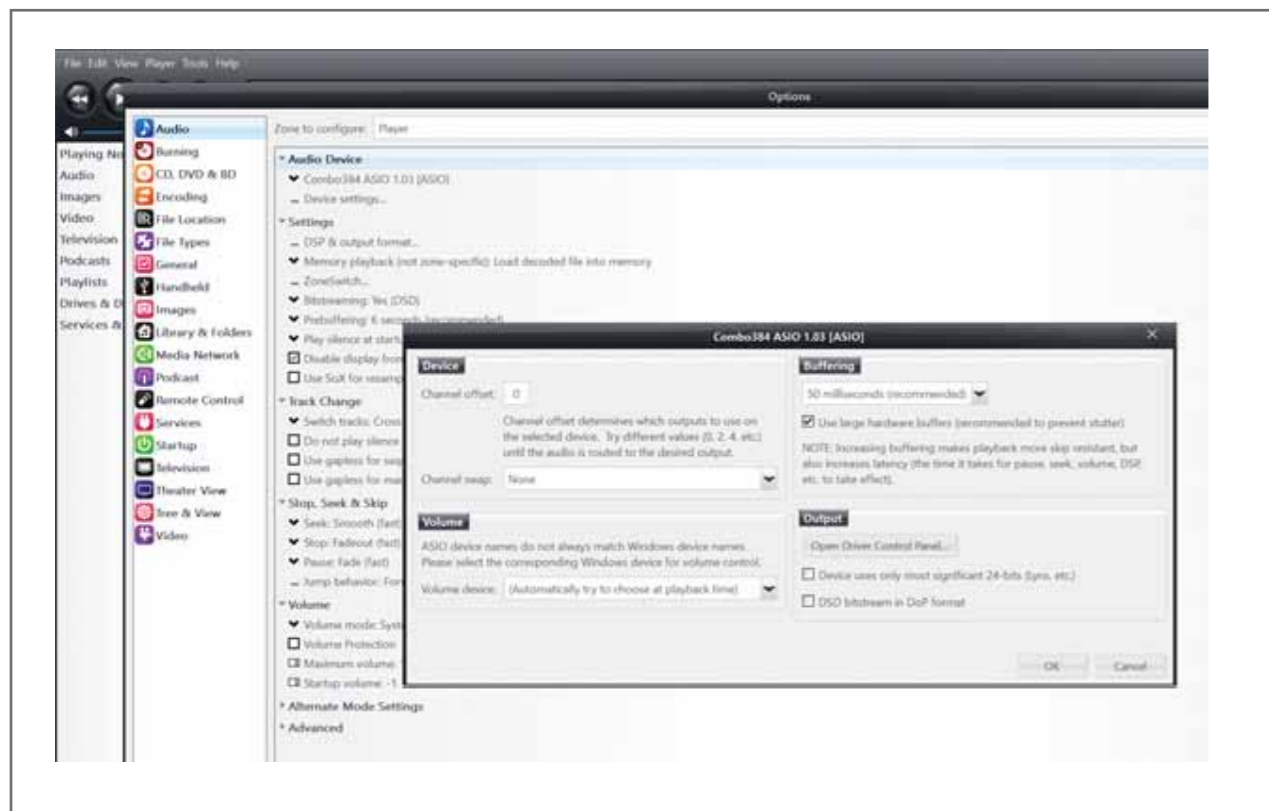




**Fig. 7 JRiver MC 22 settings – Windows:**  
 Disabling “Output Format” will ensure the files reach the CDA2 Mk2 without conversion in JRiver



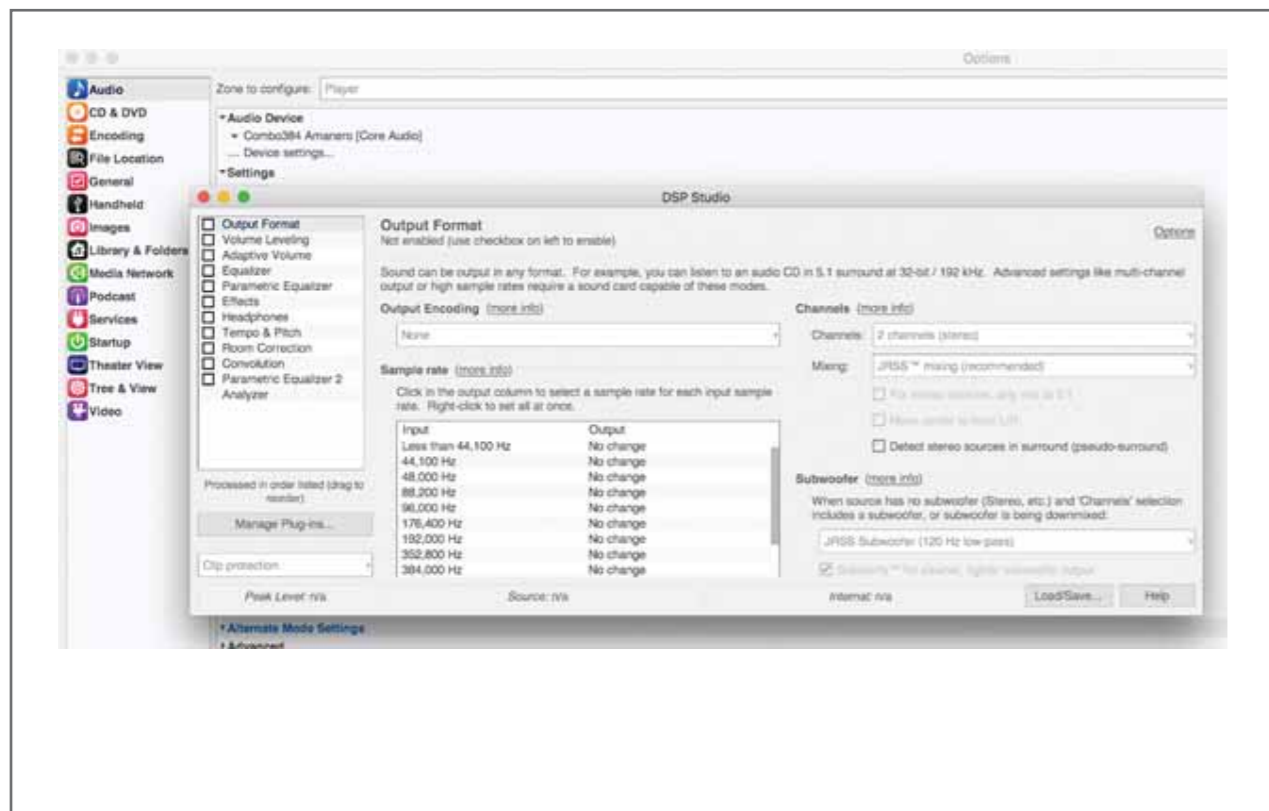
**Fig. 8 JRiver MC 22 settings – Windows:**  
 When playing DSD files, “Bitstreaming” should be set to “Yes(DSD)”



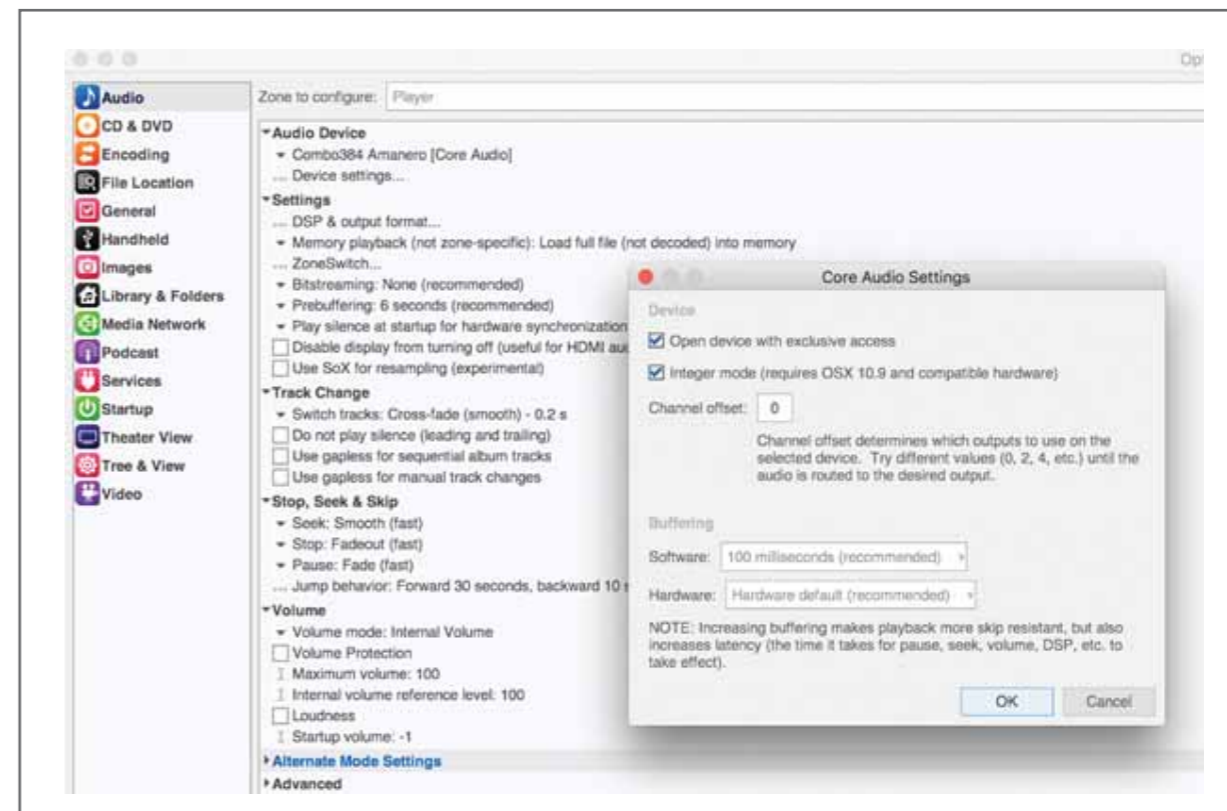
**Fig. 9 JRiver MC 22 settings – Windows:**  
 When playing DSD files, “Device Settings” should be as shown as above



**Fig. 10 JRiver MC 22 settings in Mac OS X**



**Fig. 11 JRiver MC 22 settings – Mac OS X:**  
 Disabling “Output Format” will ensure the files reach the CDA2 Mk2 without conversion in JRiver



**Fig. 12 JRiver MC 22 settings – Mac OS X:**  
 When playing DSD files, “Bitstreaming” should be set to “Yes(DSD)”

## 8 : Specifications

### PRE-AMPLIFIER

**Frequency Response (-3dB)** < 2 Hz - > 280 kHz

**Distortion (1kHz)** <0.0008% / 102dB

#### Input sensitivity for 2V Output:

**Aux inputs** 600mV  
**3.5mm inputs** 400mV

#### Maximum Output Level:

**Phono** 9.2V r.m.s  
**XLR** 18.4V r.m.s.

**Overload Capacity** 13dB

**Input Impedance** 14k Ohms

**Output Impedance** 10 Ohms

#### S+N/N Ratio:

**Wide Band** >96dB  
**DIN** >108dB  
**IEC “A”** >112dB

#### Absolute Phase:

**Phono** Zero Degrees  
**XLR** Zero Degrees, Pin 2 Hot

**Output XLR CMRR (100Hz - 10kHz)** >60dB

### CD PLAYER

#### Distortion:

**1kHz** < 0.0015% (-96dB)  
**10kHz** < 0.003% (-90dB)

**Frequency Response (20Hz-20kHz)** +/- 0.2dB

### DIGITAL INPUTS Optical and Coaxial

**Distortion** <0.001% at all supported sample rates  
44.1kHz, 48.0kHz, 88.2kHz, 96.0kHz, 192.0kHz\*  
\* 192kHz supported via coaxial input only

### DIGITAL INPUTS USB

**Distortion** <0.001% at all supported sample rates  
44.1kHz, 48.0kHz, 88.2kHz, 96.0kHz, 176.4kHz,  
192.0kHz, 352.8kHz, 384kHz

### SUPPORTED WORDLENGTHS

**Optical and Coaxial :** 16bit and 24bit

**USB :** 16bit, 24bit and 32bit

### DSD

**Frequency Response -1dB :** < 10Hz – 50kHz

#### Supported DSD Rates :

**Windows** DSD64, DSD128 and DSD256  
**MacOS** DSD64 and DSD128

### PHYSICAL

**Dimensions (HxWxD) :** 90 x 445 x 330mm (3.5" x 17.5" x 13")

**Weight :** 7kg / 15.4lbs

## 9 : Care & Maintenance

ATC uses high technology material finishes in all of its products. The surfaces are durable and with a little care can be kept as good as new even under conditions of heavy use. Normally a dry duster is all that is required to keep the finishes clean. Heavy soiling can be cleaned using a slightly moistened cloth with a non-abrasive household cleaner.

## I 0 : Warranty & Contact

All ATC products are guaranteed against any defect in materials or workmanship for a period of two years from the date of purchase.

Within this period we will supply replacement parts free of charge provided that the failure was not caused by misuse, accident or negligence.

Purchasers who complete and return the Warranty Card will have their warranty period extended up to a period of six years\* from the date of purchase.

\* TWO years only on CD mechanism.

This guarantee does not limit statutory rights.



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