



A T C C D A 2 & S I A C D

User Operating Manual



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 used near water, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool etc.
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.

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Introduction

Welcome. In selecting ATC you have chosen an example of the finest audio engineering available. ATC was founded on a principle of engineering excellence, and that principle still defines our products today. Given the right opportunities, ATC products will deliver exceptional audio performance, but the opportunities will only arise from careful and thoughtful installation and use. Please read the following manual fully. It will help you understand the product and to realise its full potential. We are happy to answer questions and offer advice on any issues that arise through installation or use of ATC products. Contact details can be found at the back of this manual.

ATC was founded in London in 1974 by Australian emigre Bill Woodman, who still heads the company today. An enthusiastic pianist and engineer he was naturally drawn to loudspeaker design and after a period working at Goodmans, where many of the names that went on to found British loudspeaker companies began their careers, he struck out on his own. The premise on which ATC began is a simple one, and one that in many respects is still true today: hi-fi loudspeakers tend to be detailed and accurate but of limited dynamic range, while professional monitor speakers tend to express the opposite character. ATC products were designed from the outset to offer the best of both. It's an easy concept to describe, but surprisingly difficult to engineer.

The difficulty inherent in designing such loudspeakers is one of scale. Hi-fi levels of accuracy and detail call for lightweight moving parts and delicate engineering. Professional monitor levels of performance however demand far more robust components engineered to survive the rigours of high level use for extended periods. The only way to combine the two is through precision engineering of a class and scale more often associated with aerospace or motorsport. But the results are worth the effort and the cost. ATC loudspeakers, with their unique in-house designed drivers, combine the best of hi-fi and professional to devastating effect.

ATC has become synonymous with active systems. Choosing to offer active loudspeakers (where the passive crossover network is replaced by active filters and multiple power amplifiers) is simply a result of the uncompromising attitude to loudspeaker design. While passive systems still have their place, and ATC engineering skills can still bring remarkable results from them, "active" is a fundamentally better solution to the problems posed by accurate, high level music reproduction. The ATC instinct is always for the better solution. Not cheaper, not quicker, but better.

It was the development of active loudspeakers that first brought ATC into electronics design and engineering. Active speakers demand multiple power amplifiers so ATC from the mid 1980s became not just a loudspeaker manufacturing company but an electronics manufacturer too. The further step from electronics for active speakers to a range of stand-alone amplifier products was natural and now means that ATC engineering is available from the recording desk or CD player output to the ears.

From modest beginnings 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, studios and musicians across the world that understand and value the engineering that goes into an ATC product - and the sound that comes out.

Generic Information

The information in the following Sections is common to all ATC electronics products. We recommend that you read this page, and the safety warnings that proceed it, before continuing to read the pages dedicated to your specific ATC product.

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 20 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 CDA2 and SIACD 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 and SIACD, but they are not intended to be user replaceable.

The mains power supply fuse for the CDA2 and SIACD is located on the rear panel. Should a 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 Amplifier should be returned to ATC for service.

Remote Handsets

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

Use the handset On/Reset button to switch the CDA2 or SIACD into active mode and the Standby button to return the unit to standby mode. Monitor and record selection can be made by pressing the desired Monitor or Record button. The SIACD front panel source indicators will illuminate but rotary controls will not rotate.

Volume is controlled through the handset Level + and Level – buttons. The SIACD front panel level control will rotate in response to handset level commands. The handset Mute function operates in exactly the same way as the front panel control.

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 require direct line of sight between the handset and the unit front panel. Correct operation of the handset on the CDA2 and SIACD is indicated by illumination of a red indicator on the left hand side of the front panel as handset commands are received.

The SCA R2 is illustrated and described on Page 12 of this manual.

Care and Maintenance

ATC use high technology material finishes in all 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.

Warranty and 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. This guarantee does not limit your statutory rights. ATC can be contacted at:

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Web: www.atcloudspeakers.co.uk

CDA2

Description

The CDA2 Stereo CD preamplifier has been designed to partner ATC active, and with an appropriate Power Amplifier, passive loudspeaker systems. It incorporates 2 line-level analogue stereo inputs on RCA phono sockets, together with a 3.5mm Jack socket input, an internal CD Player system, 2 digital SPDIF Optical Toslink inputs and 2 digital SPDIF Coaxial inputs on RCA phono sockets. 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 1/4" jack socket.

Selection of CDA2 inputs is achieved via an input push button mounted on the front panel, the selected input being shown in the display window. Output volume is adjusted by a precision motorised potentiometer. Standby is accessible by a push button on the front panel, 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.

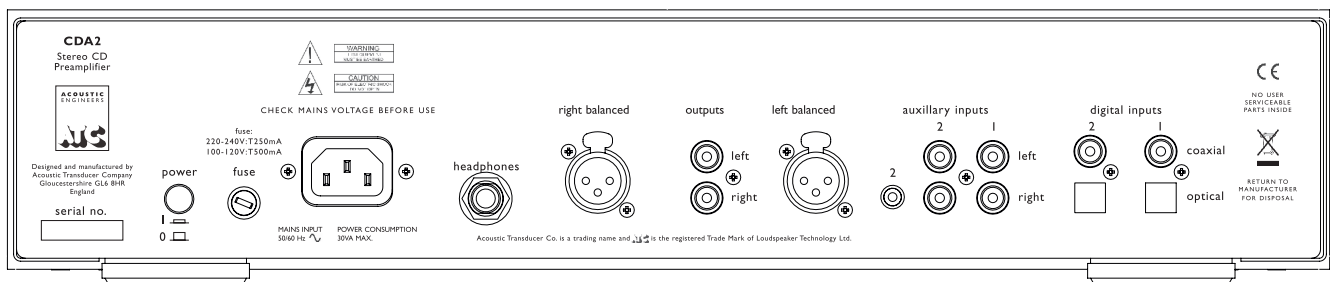
Inputs

The CDA2 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.

The input sockets are illustrated in Diagram 1.

Diagram 1 - CDA2 rear panel and connection sockets



Outputs

The CDA2 rear panel illustrated in Diagram 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). Diagram 2 illustrates the XLR output pin arrangement. Diagram 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.

Diagram 2 - output socket pins

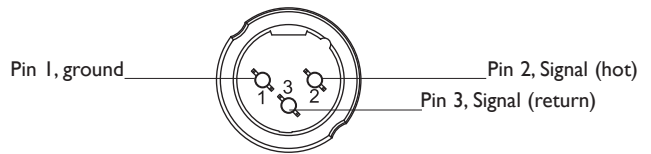


Diagram 3 - balanced cable

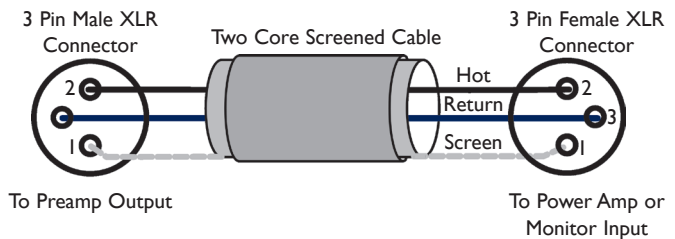
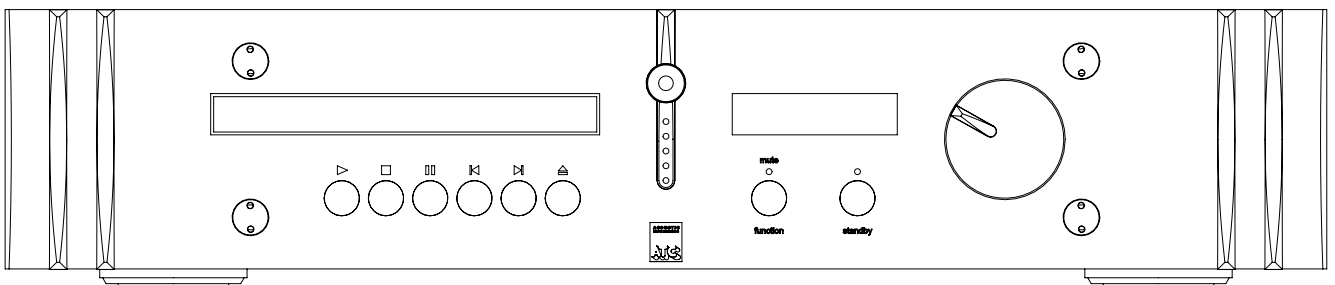


Diagram 3 - CDA2 front panel and controls



Operation

Once connected to mains power and powered up from the rear panel mains switch, the CDA2 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 6 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.

Specifications

Pre-Amplifier

Maximum Output Level:	Phono 9.2V r.m.s. XLR 18.4V r.m.s.
Line Input Sensitivity:	640mV (for 2V output)
Input Impedance:	13k8 Ohms
Output Impedance:	10 Ohms
Frequency Response:	< 2Hz – > 280kHz (@ -3dB)
Total Harmonic Distortion:	1kHz <0.001% (-100dB) 10kHz <0.0015% (-96 dB) 50kHz <0.002% (94dB)
Crosstalk:	>90dB (10Hz – 20kHz)
S+N/N Ratio:	> 97dB (Wide band) > 105dB (DIN) > 110dB (IEC "A")
Overload Capacity:	13dB
Absolute Phase:	Phono Zero Degrees XLR Zero Degrees, Pin 2 Hot
XLR CMRR:	>60dB (100Hz – 10kHz)

CD Player

Distortion:	1kHz <0.002% (-94dB) 10kHz <0.003% (-90dB)
Frequency Response (+/- 0.1 dB):	20Hz – 20kHz
S+N/N Ratio:	>100dB (IEC "A")

Digital Inputs

Distortion:	1kHz <0.003% (-90dB) 10kHz <0.005% (-86dB)
Frequency Response (+/- 0.1 dB):	20Hz – 20kHz
S+N/N Ratio:	>96dB (IEC "A")
Word Lengths Supported:	16 – 24 Bit
Sample Rates Supported:	44.1kHz, 48kHz, 88.2kHz, 192kHz

Mains Power

Voltage:	115/230V AC 50/60Hz (internally selectable). 100v AC via dedicated transformer. Mains voltage selection is to be carried out by ATC only.
Maximum Power Consumption:	30VA

Physical

Dimensions:	90 x 445 x 330mm / 3.54 x 17.52 x 12.99" (H x W x D)
Weight:	7.1kg/15.7lbs

E. & O.E. The policy of Loudspeaker Technology Ltd. is that of continuous design and development. We reserve the right to change specifications without prior notice.

SIACD

Description

The SIACD integrated amplifier/DAC/CD Player has been designed to partner ATC passive loudspeaker systems and also other manufacturer's loudspeaker systems. It is designed as a simple yet versatile one-box solution for D-A conversion, CD playback, pre and power amplification duties.

It incorporates an internal CD player system, 2 x stereo line level inputs on RCA phono sockets, together with a front panel mounted 3.5mm Jack socket input, 1 x digital SPDIF optical Toslink input, 1 x digital SPDIF coaxial input on an RCA phono socket, and a USB digital audio input on a USB-B socket. There is a single pair of stereo power amp outputs on 4mm binding posts, a stereo line level output on RCA phono sockets, and a front panel mounted headphone output on a 6.35mm/0.25" jack socket.

Amplifier mains power is connected and controlled via a connector and push button on the rear panel. Input selection is achieved via a front panel push button, and output volume adjustment via a precision potentiometer.

All SIACD functions are duplicated on the included ATC SCA R2 remote control handset.

Inputs

The preamp/DAC stage features two line level stereo analogue inputs, and three digital inputs. Both analogue inputs are equipped with rear panel mounted, RCA/phono sockets and are labelled aux 1 and aux 2. The aux 2 input also features a front panel mounted 3.5mm jack input for simple connection to portable music players. The front panel mounted 3.5mm jack input is a switched type, and any connections made to it will override connections made to the aux 2 rear RCA phono sockets.

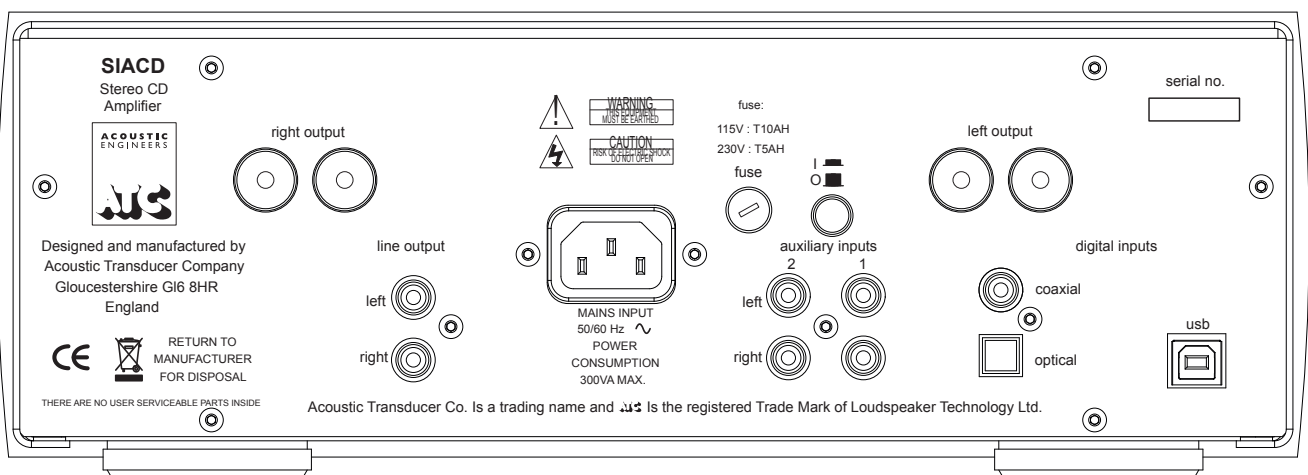
The signal is present on the centre conductor of an unbalanced input and the signal return is made via the screened outer. The tip of a 3.5mm jack plug carries the left channel, the ring carries the right channel and the body is the signal return for both left and right channels. If there is any hum present on the inputs, this must be traced to the source and not suppressed by the removal of screens or earths. Removal of the screen on an unbalanced input will result in uncontrollably loud hum.

All the analogue inputs are line level sensitivity and are electrically identical, meaning that a line level signal from any source can be connected to any input.

The Digital USB and SPDIF inputs are mounted on the rear panel. Connection to the Digital inputs can be either Coaxial via RCA phono plugs, Optical via Toslink connectors or USB via a USB-B plug. Digital audio over USB is not as tolerant of long cable lengths as other digital audio connections. Typically, 3m or 10 feet is the longest cable length that is recommended.

The input sockets are illustrated in Diagram 4.

Diagram 4 - SIACD rear panel and connection sockets



Outputs

The SIACD rear panel, as illustrated in Diagram 4 carries the power amplifier outputs for connection to loudspeakers, and also a preamp stereo line level output for connection to additional ancillary equipment eg. power amp or a separate zone in the home. The headphone output, via a 6.35mm/0.25" jack is front panel mounted and is illustrated in Diagram 5.

Connections to loudspeakers are made via the two pairs of proprietary ATC loudspeaker terminals. The positive terminal is marked with a red trim and the negative terminal is marked with a black trim. The left and right channels are clearly marked and correspond to the left and right inputs. The loudspeaker cable used for connection between the amplifier outputs and the loudspeakers will usually have some identification of the positive conductor; usually a red mark, but sometimes a moulded stripe on the insulation. Care must be taken that both the left and right loudspeakers are connected with correct polarity. If the pair of loudspeakers are connected out of phase, the result will be a serious lack of low frequency output and a very wide stereo image with no defined phantom centre.

Operation

Once connected to the mains power and powered up using the rear panel mains switch, the SIACD will assume the input selected when the unit was last turned off. Alternative inputs may be selected by pressing the Input push button on the front panel. The Input selected will be illuminated on the display.

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

Output level is controlled by the rotary Volume control on the front panel, the position of which is indicated by the black pointer. Clockwise rotation will increase the output level. It is good practice to lower the volume setting before switching on the unit or any associated equipment, or while changing the input selection or changing connections from/to the outputs/inputs.

CD player commands are entered by 6 push buttons on the front panel. Commands, functions or selections are shown in the display window.

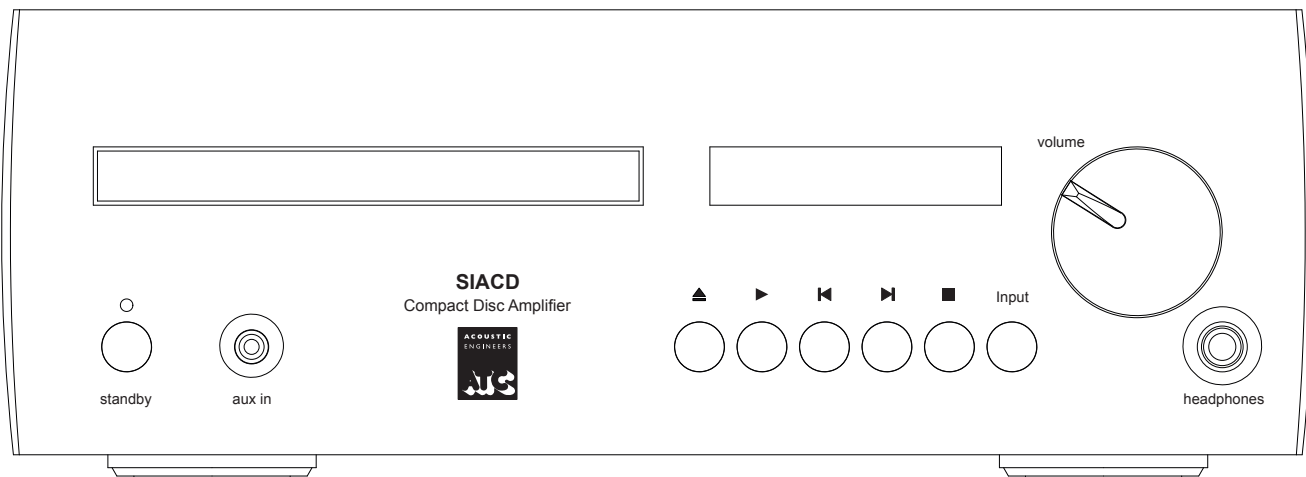
All the above commands are duplicated on the ATC remote control.

A headphone output is provided via a front panel mounted 6.35mm/0.25" jack socket and will drive a very wide range of popular headphones. When headphones are connected, the signal to the power amplifier and pre amplifier outputs is muted.

The stereo line level output on the rear panel can be used to drive an additional power amplifier or zone.

Excessively high operating temperatures are potentially very damaging. The SIACD heatsink is fitted with a 60°C thermal switch and if the heatsink temperature exceeds this limit, the unit will shut down. Excessive operating temperature is only likely if the load is too great (speaker impedance too low) or, if the ventilation is not adequate. It will only be possible to restart the unit after enough time has passed that the heatsink temperature has fallen well below the 60°C threshold.

Diagram 5 - SIACD front panel and connection sockets

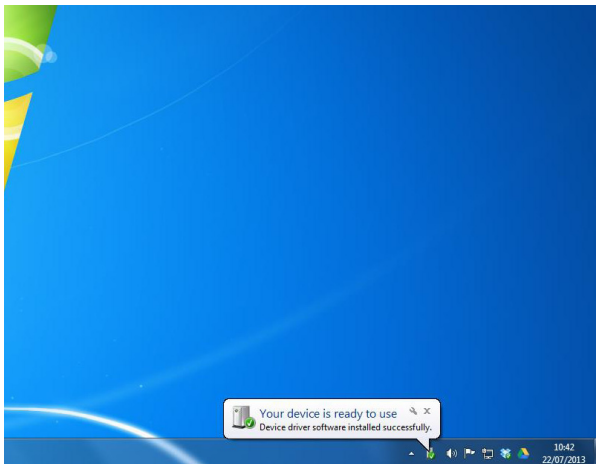


Operation – USB Audio

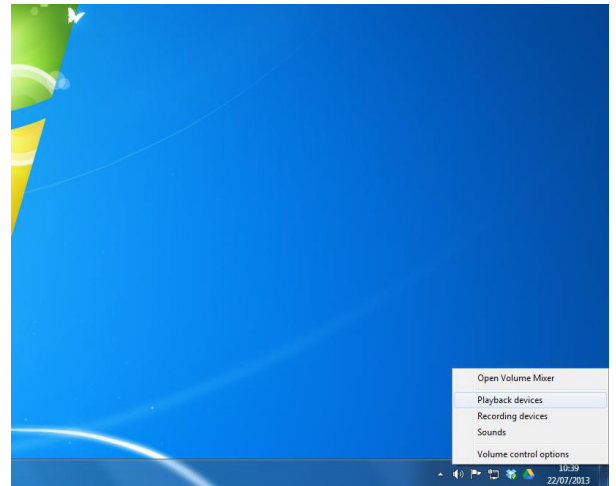
The USB input provides the facility to connect directly to a desktop or laptop device in order to playback digital audio stored on that device. The USB connection only provides a digital input to the SIACD. There is no facility to control the partnering device from the SIACD. The input is compatible with word lengths up to 16 bits and sample frequencies up to 48kHz. To playback high resolution audio files using the SIACD the coaxial or optical SPDIF inputs will need to be used.

In order for a desktop or laptop to playback audio via the SIACD, it has to be setup as a Playback Device from the desktop or laptop in question. Windows will automatically set the SIACD as your default playback device when connected. If this doesn't happen automatically then please follow the steps below:

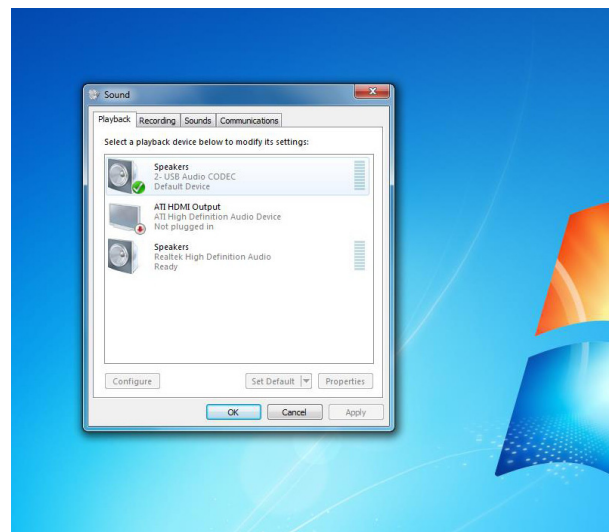
1. Connect the partnering Windows device using a suitable USB cable. It is not necessary to power up the SIACD.
2. Once connected, the device should recognise the USB audio input and install the necessary drivers automatically. A message will appear on the partnering device's screen to notify successful connection and installation.



3. The SIACD now needs to be selected as the default playback device within the desktop or laptop's audio device settings. Right click on your speaker icon in the Taskbar and select "Playback Devices".



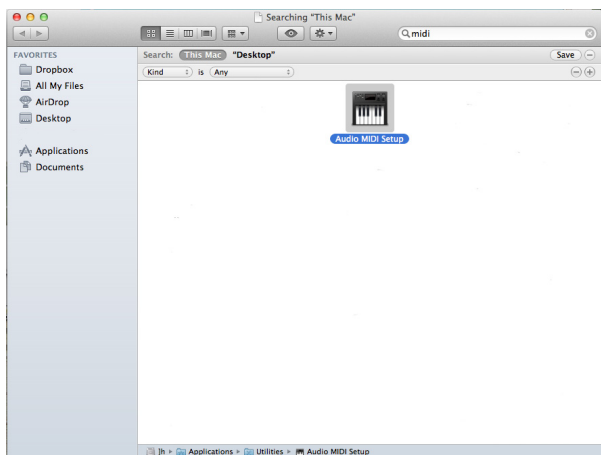
4. Select "Speakers – USB Audio CODEC" as your default device.



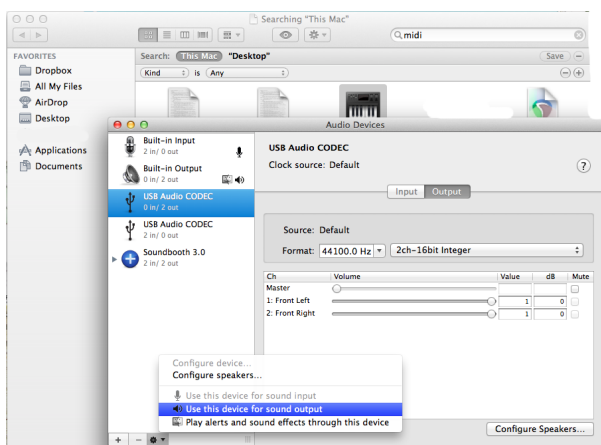
5. Audio will now play through the SIACD when the input is set to USB.

The SIACD USB will also work with the OSX operating system. The default audio playback device will need to be set manually. To do this, follow the steps below;

1. Connect the partnering OSX device using a suitable USB cable. It is not necessary to power up the SIACD.
2. Navigate to "Audio MIDI Setup". This can be done by pressing CMD + F and typing "midi" in the search field.



3. Select the USB Audio CODEC (0 in / 2 out) and in the settings drop down menu select "Use this device for sound output".



4. Audio will now play through the SIACD when the input is set to USB.

Specifications

Integrated Amplifier

Max. Power Output:	100W (Continuous Av. 8 Ohms, 1kHz, both channels driven)
Line Inputs:	Two, stereo (one with additional front panel 3.5mm jack)
Line Input Sensitivity:	640mV
Input Impedance:	13k8 Ohms
Line Outputs:	One, stereo
Line Output Impedance:	10 Ohms
Frequency Response:	< 2Hz – > 250kHz (@ -3dB)
Total Harmonic Distortion:	1kHz <0.0015% (-96dB) 10kHz <0.002% (-90dB)
Crosstalk:	>80dB (10Hz – 20kHz)
S+N/N Ratio:	> 100dB (Wide band) > 110dB (DIN) > 115dB (IEC "A")
Absolute Phase:	Phono Zero Degrees

CD Player

Distortion:	1kHz <0.002% (-94dB) 10kHz <0.003% (-90dB)
Frequency Response (+/- 0.1 dB):	20Hz – 20kHz (+/- 0.1dB)
S+N/N Ratio:	>100dB (IEC "A")

Digital Inputs – Coaxial & Optical

Distortion:	1kHz <0.003% (-90dB) 10kHz <0.005% (-86dB)
Frequency Response:	20Hz – 20kHz (+/- 0.1dB)
S+N/N Ratio:	>96dB (IEC "A")
Word Lengths Supported:	16 – 24 Bit
Sample Rates Supported:	44.1kHz, 48kHz, 88.2kHz, 96kHz, 192kHz

Digital Inputs – USB

Distortion:	0.005%
S+N/N Ratio:	>96dB (IEC "A")
Sampling Rate:	32kHz, 44.1kHz, 48kHz

Mains Power

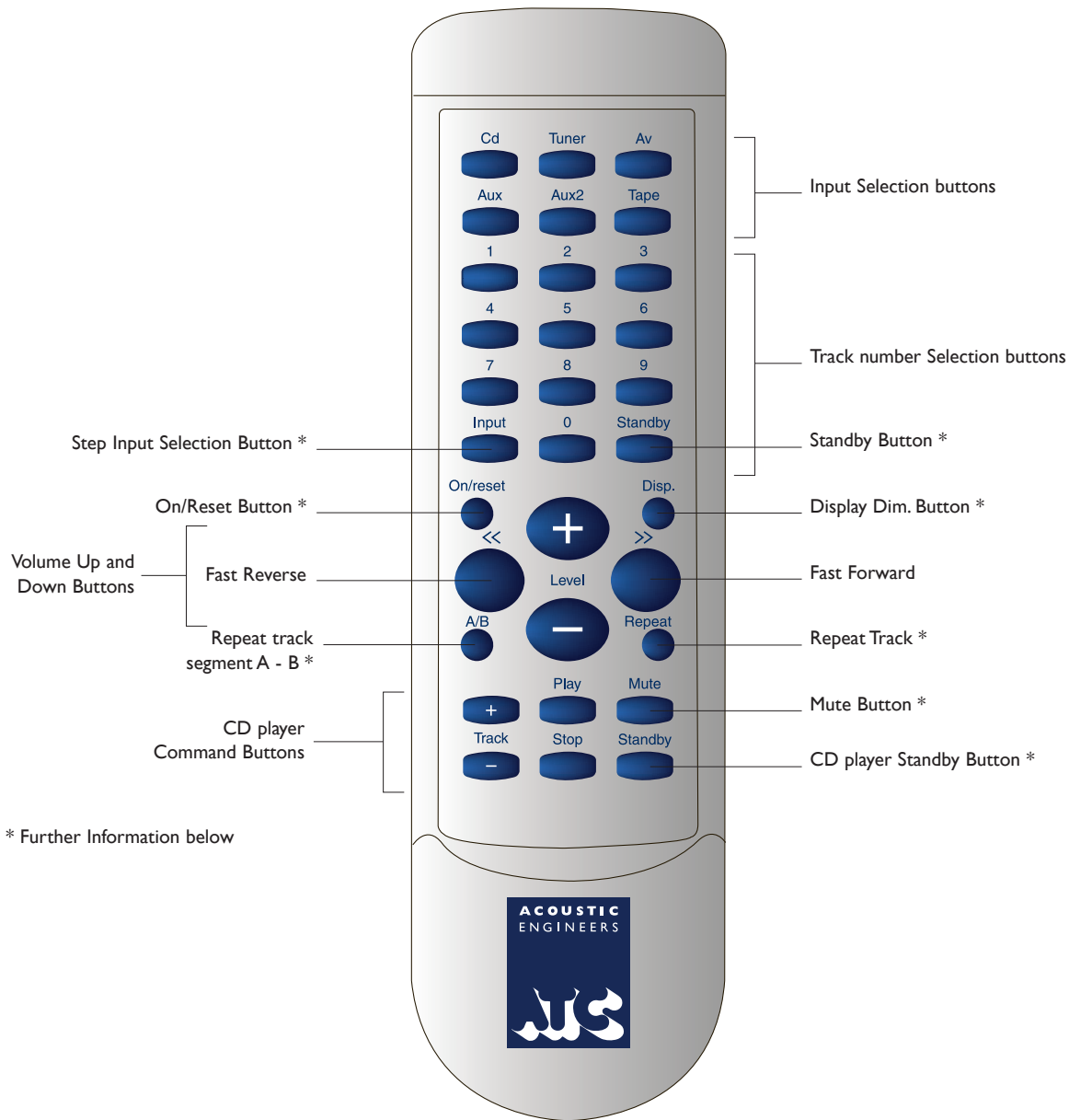
Voltage:	115/230V AC 50/60Hz (internally selectable). 100v AC via dedicated transformer. Mains voltage selection is to be carried out by ATC only.
Maximum Power Consumption:	300VA

Physical

Dimensions:	112 x 315 x 425mm / 4.41 x 12.40 x 16.73" (H x W x D)
Weight:	9.6kg/21.1lbs

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Diagram 6 - SCA R2 Remote Control



* Further Information below

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 sequentially step between three Display brightness's, Full, Low and Display off.

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

The 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.



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