

naim
WORLD CLASS HI FI

OWNERS MANUAL

Speakers: SL2, allæ, Ariva, axent, axess, n-SATS, n-CENT, n-SUB.

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IMPORTANT

In order to comply with current European safety regulations it is essential that the Naim loudspeaker connectors supplied with amplifiers and loudspeakers are used.

Do not under any circumstances allow anyone to modify your Naim equipment without first checking with the factory, your dealer, or your distributor. Unauthorised modifications will invalidate your guarantee.

For your own safety do not under any circumstances open Naim equipment without first disconnecting it from the mains.

Warning: an apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.

Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable. To disconnect the equipment from the mains remove the mains plug from the mains outlet.

The following label is attached to all mains powered equipment:



NOTE

This equipment has been tested and found to comply with the relevant EMC and Safety Standards, and, where applicable, also complies with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your Naim dealer or an experienced radio/TV technician for help.

Introduction

Naim Audio products are conceived with performance as the top priority. Careful installation will help ensure that their full potential is achieved. This manual covers the SL2, allæ, Ariva, axent, axess, n-SATS and n-CENT loudspeakers and the n-SUB active sub-woofer. It begins with general installation notes and statutory safety warnings for all Naim Audio products. Product specific information begins in Section 5.

1 Equipment Installation

Normally your Naim Audio equipment will have been installed by the dealer who sold it to you - even if you live outside their immediate vicinity. In any event however your dealer is responsible for making sure that the system performs as it should. Information given here is not intended to reduce this responsibility in any way.

2 Connections

It is important for both safety and performance that the standard cables supplied are not modified.

2.1 Interconnect Cables

If options are available with your equipment and installation, DIN interconnect sockets should be used in preference to RCA Phono sockets. One end of each Naim interconnect cable is marked with a band to establish its correct orientation. The band denotes the end that connects to the signal source.

Interconnect plugs and sockets should be kept clean and free from corrosion. The easiest way to clean them is to switch off the equipment, pull the plugs out of their sockets, and push them back in again. Contact cleaners and "enhancers" should not be used as the film they tend to deposit may degrade the sound.

2.2 Loudspeaker Cables

Loudspeaker cables are vitally important and your dealer should make them up to suit your installation. The cables should each be at least 3.5 metres long and of equal length. The recommended maximum is normally 20 metres although longer cables may be viable with some Naim amplifiers. Contact your dealer or Naim Audio for advice.

Many Naim amplifiers are designed only to work with Naim loudspeaker cable and using alternatives may degrade the performance or even damage the amplifier. Naim loudspeaker cable is directional and should be oriented so that the printed arrow points towards the speakers. The amplifier/loudspeaker connectors supplied are designed to make a robust electro-mechanical connection and to comply with European safety regulations. They should be used in preference to alternatives.

3 Mains Power Connection

Where fused plugs are used 13 amp fuses should be fitted. Fuses of a lower rating will fail after a period of use. Do not wire voltage dependent resistors or noise suppressors into mains plugs. They degrade the mains supply and the sound.

3.1 Mains Plug Wiring

In some territories a mains plug may need to be fitted to the supplied mains lead. As the colours of the wires in the mains lead may not correspond with the coloured markings identifying the terminals in the plug proceed as follows:

The wire which is coloured **GREEN-AND-YELLOW** must be connected to the terminal in the plug which is marked by the letter **E** or by the safety earth symbol or coloured **GREEN** or **GREEN and YELLOW**.

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

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

3.2 Non-rewirable Mains Plugs

If a non-rewirable plug is cut from a mains lead (for whatever purpose) the plug **MUST** be disposed of in a way to render it totally useless. Considerable shock hazard exists if the cut-off plug is inserted into a mains outlet.

3.3 Mains Circuits and Cables

A hi-fi system usually shares a mains circuit with other household equipment some of which can cause distortion of the mains waveform. This distortion can in turn lead to a mechanical hum from power amplifier and power supply transformers. Naim transformers are large in size with heavy gauge windings, making them relatively sensitive to such distortion, and it may be necessary to take account of transformer hum when siting your equipment.

Transformer hum is not transmitted through the speakers and has no effect on the performance of the system; however, a separate mains circuit may reduce it. Such a circuit (ideally with a 30 or 45 Amp rating) will also improve system performance. Advice on the installation of a separate mains circuit should be sought from a qualified electrician.

Do not substitute alternative mains leads and plugs to those supplied. They are selected to offer the best possible performance.

Introduction

4 General Installation

Naim equipment is designed to offer the finest performance possible avoiding compromise wherever practical. This can lead to circumstances that may be unfamiliar. The notes that follow contain advice specifically related to Naim equipment as well as more general warnings about the use of domestic audio products. Please read them carefully.

4.1 Siting The Equipment

In order to reduce the risk of hum audible from the loudspeakers, power supplies and power amplifiers should be located a reasonable distance away from other equipment. The maximum separation distance for connected equipment is that allowed by the standard interconnect lead.

Some Naim equipment is extremely heavy. Check the weight of the equipment prior to lifting and if necessary use more than one person so that it can be moved safely. Ensure that your equipment rack or table can easily support the weight and is stable.

Some speakers and stands are intended to be used with floor spikes fitted. Care should be taken when siting and moving them to avoid personal injury or damage to cables and surfaces. Floor protectors are available from your local dealer or distributor to protect non carpeted floors.

4.2 Switching On

Source components and power supplies should be switched on before the power amplifiers. Always switch amplifiers off and wait a minute before connecting or disconnecting any leads. Always use the power switch on the product rather than a mains outlet switch.

A “thump” may be heard from the loudspeakers as power amplifiers are switched on. This is normal, will not cause any loudspeaker damage and does not point to any fault or problem. A mild “pop” may also be heard shortly after power amplifiers are switched off.

4.3 Running In

Naim equipment takes a considerable time to run in before it performs at its best. The duration varies, but under some conditions the sound may continue to improve for over a month. Better and more consistent performance will be achieved if the system is left switched on for long periods. It is worth remembering however that equipment left connected to the mains can be damaged by lightning.

4.4 Radio Interference

In some circumstances, depending on where you live and the earthing arrangements in your home, you may experience radio frequency interference. Controls on broadcasting in some territories allow very high levels of radio frequency radiation and both the choice and exact siting of equipment may be critical. Susceptibility to radio frequency interference is related to the wide internal bandwidth necessary for high sound quality. Systems incorporating moving coil phono preamplifiers and

active crossovers are more likely to suffer. A radio frequency filter kit is available for some Naim equipment but sound quality will be progressively compromised as more elements of the kit are fitted. In situations of extreme radio interference Naim equipment may be unsuitable.

4.5 Non-standard Cables

Use of non-standard speaker cables or interconnects may invalidate your guarantee.

4.6 Lightning Precautions

Your Naim hi-fi system can be damaged by lightning. Power amplifiers are particularly at risk and should be turned off and disconnected from the mains when there is risk of lightning strike. For complete protection all mains plugs and any aerial cables should be disconnected when not in use.

4.7 Liquid Precautions

Equipment must not be exposed to dripping or splashing and no objects filled with liquid, such as vases, should be placed on the equipment.

4.8 Equipment Fuses

Mains powered Naim Audio equipment is fitted with a mains input fuse on the rear panel adjacent to the mains input socket. Replace it if necessary only with the spare fuse supplied or with identical fuses. Repeated failure of this fuse points to an equipment or system fault that should be investigated by your dealer or at the factory by Naim itself.

4.9 Problems?

Consumer protection varies from country to country. In most territories a dealer must be prepared to take back any equipment he has sold if it cannot be made to work satisfactorily. A problem may be due to a fault in the system or its installation so it is essential to make full use of your dealer's diagnostic skills. Please contact your local distributor, or Naim Audio directly, if any difficulties cannot be resolved.

Some Naim equipment is made in special versions for different territories and this makes it impracticable to arrange international guarantees. Please establish the local guarantee arrangements with your dealer. Contact Naim Audio directly for help and advice if necessary.

4.10 Repairs and Updates

It is essential that repairs and updates are only carried out by an authorised Naim dealer or at the factory by Naim itself. Many components are custom made, tested or matched and appropriate replacements are often unobtainable from other sources.

Direct contact to Naim for service or update information should be made initially through the Service Department:

Tel: +44 (0)1722 332266
Email: service@naim-uk.com

Please quote the product serial number (found on its rear panel) in all correspondence.

SL2

5 Introduction and Positioning

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before unpacking, installing and using the loudspeakers. Please also retain the packaging for future use.

The performance of any loudspeaker will be influenced by the room and position in which it is located. Even small changes of loudspeaker position can significantly influence the sound. Choose a site where the loudspeakers can be located between 1.2m and 4m apart (4ft and 13ft), clear of room corners, and where each loudspeaker is between 10cm and 45cm (4" and 18") away from a solid rear wall. The distance between the speakers and the rear wall is the aspect of positioning most likely to require adjustment as you become familiar with the characteristics of the loudspeakers in your room.

The **SL2** is not magnetically shielded and should be kept well away from CRT displays. Should a display suffer picture distortion caused by the proximity of an **SL2** contact your dealer or installer for advice.

Loudspeakers, like many hi-fi components, will take time to stabilise and "run-in" and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise **SL2** positioning until the system has been operating for at least one week.

5.1 Unpacking SL2

To minimise the risk of accident and damage, **SL2** components should be removed from the packaging one speaker at a time and in the following order. Components referred to in the following paragraphs can be identified through Diagram 5.3.

Remove the central packing piece and **Tweeter Suspension Assembly**. Separate the two and place the **Tweeter Suspension Assembly** to one side.

Remove the card shield containing the **Grille**. Place the **Grille** to one side. Also remove the card packing piece that protects the curved top of the **Upper Cabinet**.

Carefully lift the **Upper Cabinet** out of the carton and place it to one side. Take care not to damage either the drive unit or the aluminium plate on the underside of the cabinet.

Now lift the **Lower Cabinet**, together with its foam end-caps out of the carton. Stand it on the floor, **plinth** lowermost, and remove the top foam end-cap. Turn the cabinet upside down being careful not to damage the aluminium plate. Finally remove the sprung foam end-cap by pulling its sides outward and lifting it over the plinth.

5.2 Assembling and Installing SL2

Stage 1

With each **Lower Cabinet** upside down the floor spikes can be fitted. Screw a spike and lock-nut into each threaded hole in the plinth. If the loudspeakers are to stand on a thick carpet, leave a generous length of spike protruding past the lock-nut. If they are to stand on thinly carpeted or plain floor, the spike length should be reduced. In either case, best results will be achieved when the spike length is set to the minimum required for the spike lock-nuts to sit just above the carpet pile.

Stage 2

Take each **Tweeter Suspension Assembly** in turn and offer it up to the **Tweeter Mounting Points** on the rear of each Plinth. Attach

it using the bolts and allen key supplied. The **Tweeter Suspension Assembly** should be fixed as close to vertical as possible. Use the back of the **Lower Cabinet** as a guide.

Now move each **Lower Cabinet** with the **Tweeter Suspension Assembly** attached into the appropriate position. Take care not to place them so close to the wall that the rear spikes foul any carpet gripper that may be fitted. Also leave some space for final adjustment of the **Tweeter Suspension Assembly** and for the connecting cables.

Adjust the spikes so that the cabinets are upright (a small spirit level will help) and do not rock. Tighten the lock-nuts with an appropriate spanner. Check again, once the lock-nuts are tightened, that the cabinets do not rock on the spikes.

Note: *With thick carpet and underlay it can be difficult to ensure that the spikes are resting on the floor. Small slits cut into the carpet once the loudspeaker position is finalised will help.*

Note: *If you intend to install the SL2 on a non-carpeted floor the spikes should be used in conjunction with Naim Floor Protectors (see Diagram 5.4) and set up so that just the tip extends beyond the lock nut. Your retailer or distributor will be able to supply Floor Protectors.*

Stage 3

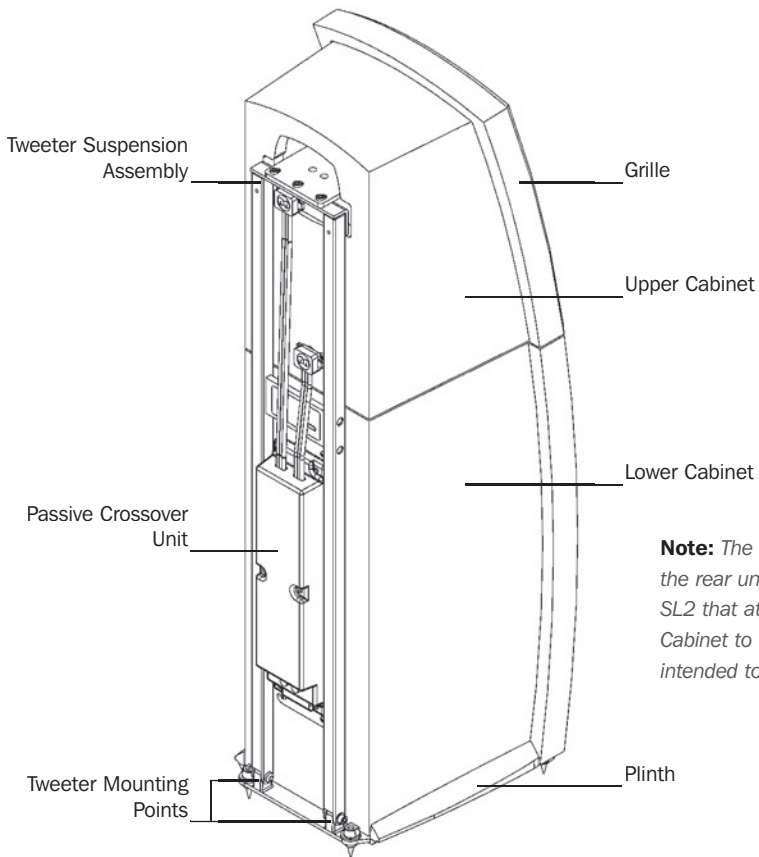
The pack containing this manual also contains **Cabinet Interface Pins** and **Cabinet Spacers**. Fit a **Pin** and a **Spacer** to the three holes in the aluminium top surface of each **Lower Cabinet**.

There are two holes at the front and one at the back. Spare **Pins** and **Spacers** are included in the pack. The **Pins** should be a loose fit in the holes. See Diagram 5.5

Now take each **Upper Cabinet** in turn and carefully lower it onto the appropriate **Lower Cabinet** locating the **Pins** in the corresponding holes on its underside. At the same time as each **Upper Cabinet** is lowered onto each **Lower Cabinet**, the tweeters must be inserted through the apertures of the **Upper Cabinets**. The loose fit of the **Pins** allows some adjustment of the alignment of the two cabinets. See Diagram 5.6

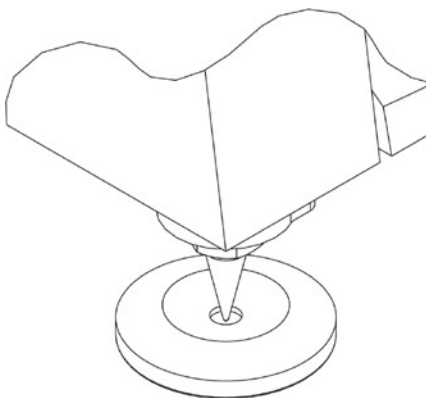
SL2

5.3 SL2 Components



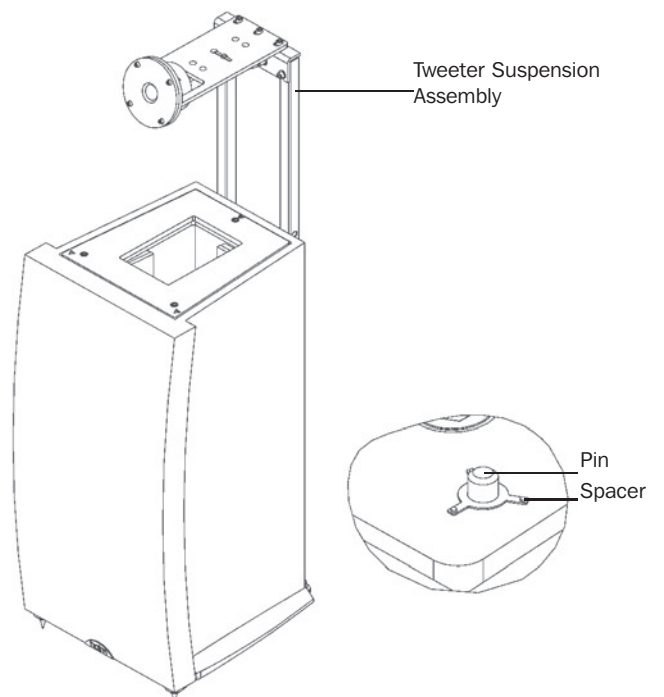
Note: The metal bar across the rear underside of the SL2 that attaches the Lower Cabinet to the Plinth is intended to be slightly loose.

5.4 Floor Protectors



Naim Floor Protectors can be used to if the SL2 is to be installed on a non-carpeted floor.

5.5 SL2 Assembly



SL2

It is vitally important for correct operation of SL2 that the **Upper Cabinets** are located properly on the **Lower Cabinets**, that the **Pins** are in place and that the two cabinets only touch via the spacers.

The alignment of the Tweeter within the Upper Cabinets can be adjusted via either the two bolts connecting the Tweeter Suspension Assembly to the Plinth or the four screws that attach the **Tweeter Adjustment Panel** around the front face of the Tweeter. If the four adjustment panel bolts are loosened they should be re-tightened as securely as possible. As well as being adjusted to sit centrally when viewed from the front, and flush with the front panel, the Tweeter must oscillate freely without touching any part of either cabinet.

Finally fit a **Grille** to each **SL2** by aligning it with the top of the **Lower Cabinet** before pushing it gently against the fixing tape on the **Upper Cabinet**. The lower edge of the **Grille** should not

touch the **Lower Cabinet**. The card spacing jig packed with this manual can be used to support the bottom edge of the **Grille** as it is fitted. Seen from the side, the **Grille** should continue the curved form of the front of the **Lower Cabinet**.

5.7 Connection

If the loudspeakers are to be used with Naim amplification, Naim loudspeaker cable will produce the best results and is necessary with some amplifiers. Cable lengths to both loudspeakers should be equal and be between 3.5 metres and 20 metres (11.5ft and 66ft). Your local retailer will be able to make up cables of the appropriate length.

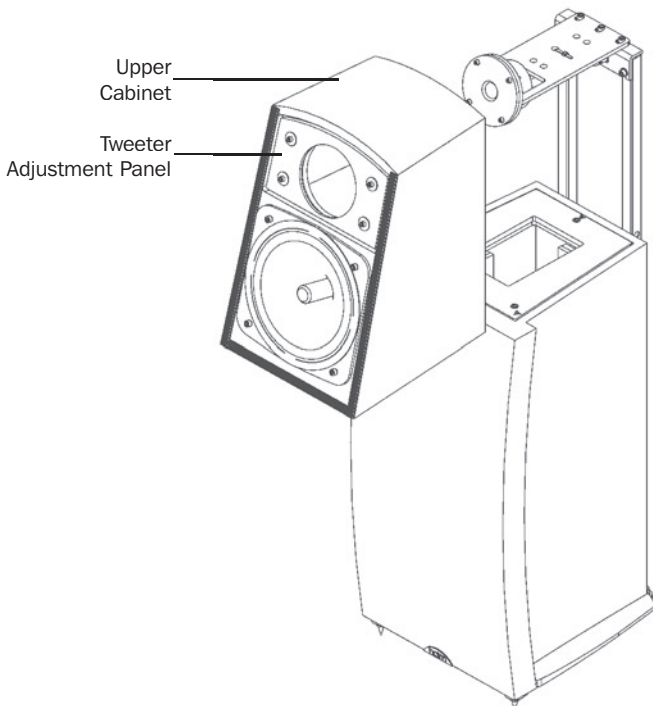
If the **SL2** is to be used in an active system, speaker cables with their custom Naim plugs should be connected to the appropriate input sockets on the back of the **Tweeter Suspension Arm** (HF) and **Upper Cabinet** (LF). Ensure that each positive plug - identified by a rib on the side of the cable and a tag marked "pos" on the side of the connector body - is inserted to the red input sockets.

If the **SL2** is to be used in a passive system, the **Passive Crossover Units** must be mounted to the back of each **Lower Cabinet**. Screws and decoupling grommets are supplied in the pack that contains the passive crossovers. Tighten the screws so that the screw heads just touch the decoupling grommets without compressing them.

The output cables from the **Passive Crossover Units** must be connected to the input sockets on the back of the speaker, the longer cable to the sockets on the back of each **Tweeter Suspension Assembly** and the shorter cable to the sockets on each **Upper Cabinet**. The cables should be dressed such that they do not touch any other **SL2** component and such that the output plugs align naturally with input sockets. Stress in the cables will interfere with the decoupling between **SL2** components.

Finally the amplifier output speaker cables, with their custom Naim plugs, should be connected to the input sockets on the back of the **Passive Crossover Units**. Ensure that each positive plug - identified by a rib on the side of the cable and a tag marked "pos" on the side of the connector body - is inserted to the red input sockets.

5.6 SL2 Assembly



SL2 Specification

Frequency Response:	30Hz - 20kHz
Sensitivity:	88dB/1W/1m
Power Handling:	150 Watts (music programme)
Impedance:	6Ω (nominal)
Dimensions (H x W x D):	1027 x 282 x 310mm
Weight (unpacked):	25.4kg
Standard Finishes:	Cherry, Maple, Black

6 Introduction and Positioning

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before installing and using the loudspeakers. Please also retain the packaging for future use.

The performance of any loudspeaker will be influenced by the room and position in which it is located. Even small changes of loudspeaker position can significantly influence the sound. Choose a site where the loudspeakers can be located between 1.2m and 4m apart (4ft and 13ft), clear of room corners, and where each loudspeaker is between 10cm and 45cm (4" and 18") away from a solid rear wall. The distance between the speakers and the rear wall is the aspect of positioning most likely to require adjustment as you become familiar with the characteristics of the loudspeakers in your room.

The **allæ** is not magnetically shielded and should be kept well away from CRT displays. Should a display suffer picture distortion caused by the proximity of **allæ** contact your dealer or installer for advice.

Loudspeakers, like many hi-fi components, will take time to stabilise and "run-in" and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise **allæ** positioning until the system has been operating for at least one week.

6.1 Installation

Stage 1

Each **allæ** loudspeaker comprises two separate cabinet components, the **Upper Cabinet**, containing the bass/mid driver, and the **Lower Cabinet**, containing the tweeter. These Components can be identified through diagram 6.3.

To begin installation, first fit the floor spikes and lock-nuts to the base of each **Lower Cabinet plinth**. The cabinets can safely be turned upside-down to aid fitting the spikes. If the loudspeakers are to stand on a thick carpet, leave a generous length of spike protruding past the lock-nut. If they are to stand on thinly carpeted or plain floor, the spike length should be reduced. In either case, best results will be achieved when the spike length is set to the minimum required for the spike lock-nuts to sit just above the carpet pile or floor surface.

Note: *The metal bar across the rear underside of the allæ that attaches the Lower Cabinet to the Plinth is intended to be slightly loose.*

With the floor spikes fitted, each **Lower Cabinet** can be placed in the appropriate position. Take care not to place the loudspeakers so close to the wall that the rear spikes foul any carpet gripper that may be fitted. With the cabinets in position, adjust the spikes so that the cabinets are upright (a small spirit level will help) and do not rock. Tighten the lock-nuts with an appropriate spanner. Check again, once the lock-nuts are tightened, that the cabinets do not rock on the spikes.

Note: *With thick carpet and underlay it can be difficult to ensure that the spikes are resting on the floor. Small slits cut into the carpet once the loudspeaker position is finalised will help.*

Note: *If you intend to install the allæ on a non-carpeted floor the spikes should be used in conjunction with Naim Floor Protectors (see Diagram 6.4) and set up so that just the tip extends beyond the lock nut. Your retailer or distributor will be able to supply Floor Protectors.*

Stage 2

The pack containing this manual also contains six small **Precision Interface Pins (PIPS)**. Fit three **PIPS** in the three holes in the top surface of each **Lower Cabinet**. There are two holes at the front and one at the back. The **PIPS** should be a loose fit in the holes.

Take each **Upper Cabinet** in turn and carefully lower it onto the appropriate **Lower Cabinet** locating the **PIPS** in the corresponding holes on its underside. The loose fit of the **PIPS** allows some adjustment of the alignment of the two cabinets.

Stage 3

Remove the protective tape from the high frequency drivers mounted in the front of each **Lower Cabinet**. Fit the grilles to the front of each **Upper Cabinet** by locating the grille studs in the corresponding holes in the cabinet.

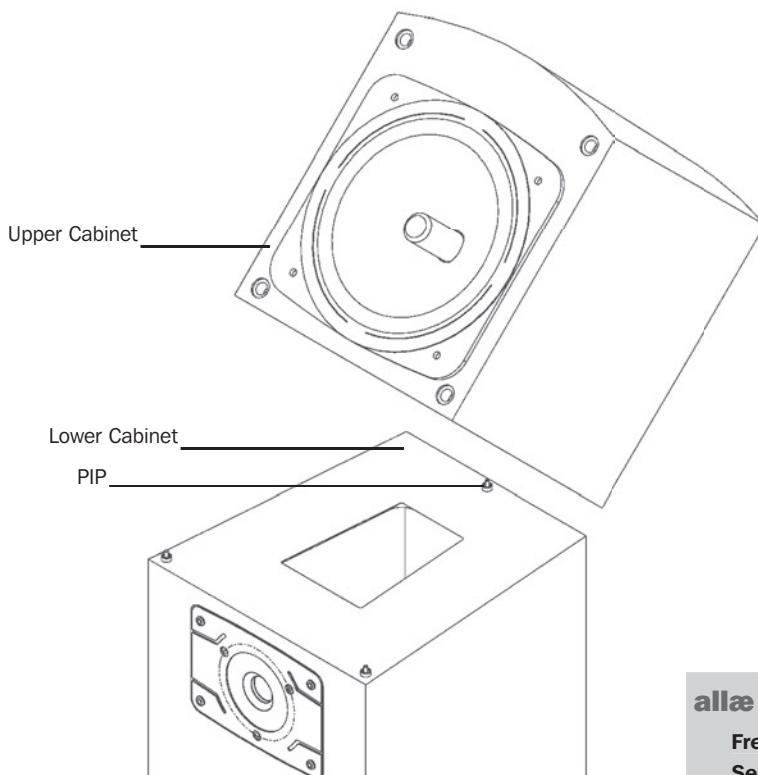
6.2 Connection

If the loudspeakers are to be used with Naim amplification, Naim loudspeaker cable will produce the best results and is necessary with some amplifiers. Cable lengths to both loudspeakers should be equal and be between 3.5 metres and 20 metres (11.5ft and 66ft). Your local retailer will be able to make up cables of the appropriate length.

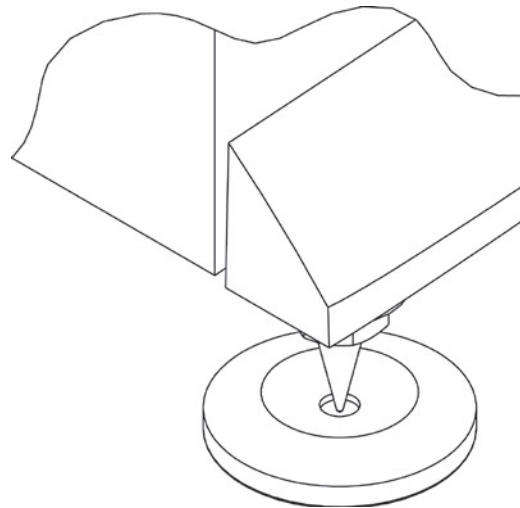
Connect the cables from the passive crossover units mounted on the back of the **Lower Cabinets** to the input sockets on each cabinet. Each longer cable should be connected to the sockets on the back of the **Upper Cabinets** and each shorter cable to the sockets on the back of the **Lower Cabinet**. Finally connect the amplifier output speaker cables with their custom Naim plugs to the input sockets on the back of the passive crossover units. Ensure that each positive plug - identified by a rib on the side of the cable and a tag marked "pos" on the side of the connector body - is inserted to the red input sockets.

If the **allæ** is to be used in an active system the passive crossover units should be removed and the **Upper Cabinet** (LF) and **Lower Cabinet** (HF) input sockets connected via loudspeaker cables with custom Naim plugs directly to the appropriate power amplifier.

6.3 allæ Components



6.4 Floor Protectors



Naim Floor Protectors can be used to if the **allæ** is to be installed on a non-carpeted floor.

allæ Specification

Frequency Response:	30Hz - 20kHz
Sensitivity:	88dB/1W/1m
Power Handling:	150 Watts (music programme)
Impedance:	6Ω (nominal)
Dimensions (H x W x D):	940 x 240 x 280mm
Weight (unpacked):	17.6kg
Finishes:	Cherry, Maple, Black

7 Introduction and Positioning

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before installing and using the loudspeakers. Please also retain the packaging for future use.

The performance of any loudspeaker will be influenced by the room and position in which it is located. Even small changes of loudspeaker position can significantly influence the sound. Choose a site where the loudspeakers can be located between 1.2m and 4m apart (4ft and 13ft), clear of room corners, and where each loudspeaker is between 10cm and 60cm (4" and 24") away from a solid back wall. It is not necessary to angle the loudspeakers inwards towards the listening position.

The distance from the back wall is the aspect of positioning most likely to require adjustment as you become familiar with the characteristics of the loudspeakers in your room. Further from the wall the speakers will generate less low frequency energy.

The **Ariva** is not magnetically shielded and should be kept well away from CRT displays. Should a display suffer picture distortion caused by the proximity of **Ariva** contact your dealer or installer for advice.

Loudspeakers, like many hi-fi components, will take time to stabilise and "run-in" and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise **Ariva** positioning until they have been operating for at least one week.

7.1 Installation

Stage 1

Each **Ariva** loudspeaker comprises a separate **plinth** and **cabinet**. These components can be identified from the diagrams opposite.

To begin installation, first fit four **floor spikes** and **lock-nuts** to the underside of each **plinth**. Leave just enough spike length extending below the lock nut to account for the thickness of carpet and underlay. Best results will be achieved when the spike length is set to the minimum required for the lock-nuts to sit just above the carpet pile. Do not fully tighten the lock-nuts at this stage.

Note: *If you intend to install the Ariva on a non-carpeted floor the spikes should be used in conjunction with Naim Floor Protectors (see Diagram 7.3) and set up so that just the tip extends beyond the lock nut. Your retailer or distributor will be able to supply Floor Protectors.*

With floor spikes fitted, but not tightened, place each plinth on the floor in the intended loudspeaker position. Use the supplied allen key, via the access hole in the top surface of the plinth (see Diagram 7.3), to adjust each spike so that the plinth is both level and does not rock. Use a spirit level to confirm the plinth is level and tighten each lock-nut using a 10mm spanner.

Note: *With thick carpet and underlay it can be difficult to ensure that the spikes are resting on the floor. Small slits cut into the carpet once the loudspeaker position is finalised will help.*

Stage 2

Each plinth is fitted with three upward facing decoupling domes. These domes locate in to the corresponding spherical recesses in the underside of the Ariva cabinets. To complete the Ariva installation carefully line-up and lower each cabinet on to its plinth so that it locates securely (see Diagram 7.4).

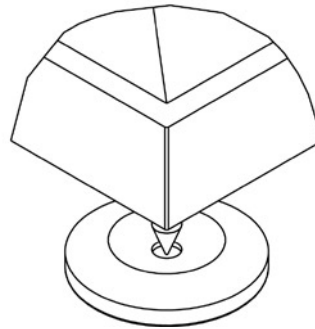
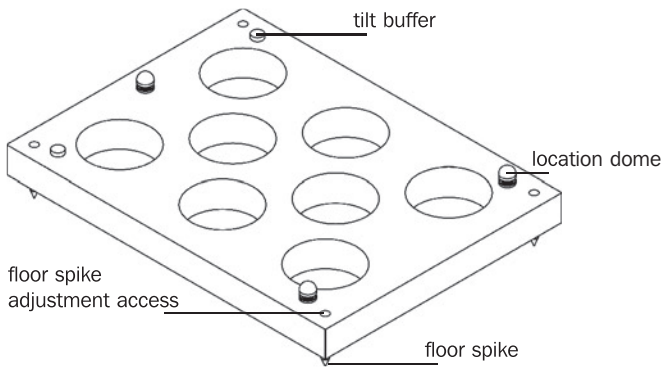
7.2 Connection

If the loudspeakers are to be used with Naim amplification, Naim loudspeaker cable will produce the best results and is necessary with some amplifiers. Cable lengths to both loudspeakers should be equal and be between 3.5 metres and 20 metres (11.5ft and 66ft). Your local retailer will be able to make up cables of the appropriate length.

Connect the loudspeaker cables with their custom Naim plugs to the input sockets located on the rear of each Ariva cabinet. Ensure that each positive plug - identified by a rib on the side of the cable and a tag marked "pos" on the side of the connector body - is inserted to the red input sockets.

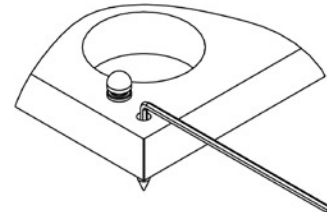
Ariva

7.3 Plinth Installation

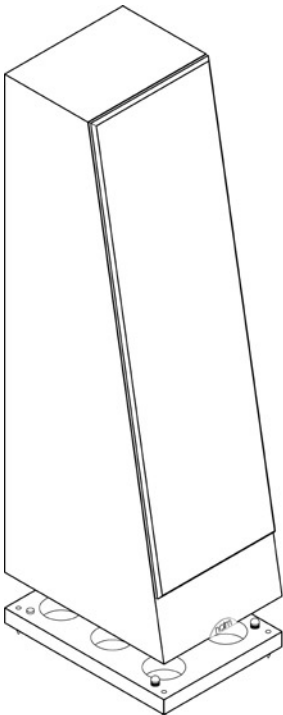


Naim Floor Protectors can be used if the Ariva is to be installed on a non-carpeted floor.

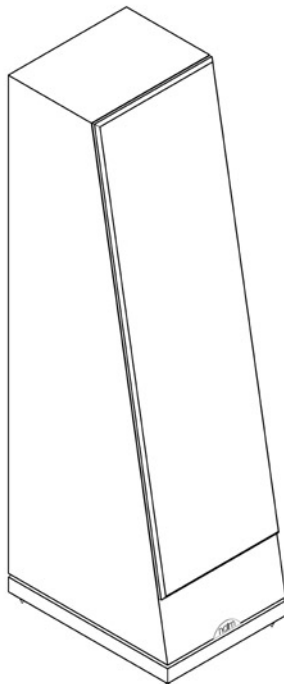
Use the supplied allen key via the access hole in the top surface of the plinth to adjust the spikes.



7.4 Cabinet to Plinth Assembly



Lower the cabinet on to the plinth.



Plinth and cabinet to line-up.

Ariva Specification

Frequency Response:	35Hz - 20kHz
Sensitivity:	90dB/1W/1m
Power Handling:	150 Watts (music programme)
Impedance:	4Ω (nominal)
Dimensions (H x W x D):	880 x 230 x 310mm
Weight (unpacked):	18.6kg
Finishes:	Cherry, Maple, Black

axent, axess

8 Introduction and Installation

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before installing and using the loudspeakers. Please also retain the packaging for future use.

The performance of any loudspeaker will be influenced by the room in which it is located and even small changes of loudspeaker position can significantly influence the sound. Alignment with the listening position and proximity to room boundaries will in particular influence the subjective performance. The position of a centre channel loudspeaker tends to be influenced by the type and location of the associated video screen. However, the influence of the room boundaries and alignment to the listening position should still be taken into account.

The **axent** and **axess** are designed to reproduce full bandwidth, full power signals and are intended to be positioned centrally just below the screen. If the location of the loudspeaker results in too much bass some adjustment of low frequency equalisation via the AV processor may be necessary.

Best results from **axent** and **axess** are likely to be gained if they are directly coupled to the floor via a rigid, spiked stand. Both speakers are equipped with spike location pads on the underside to help enable such mounting. If however the screen stand is also to carry the speaker it is advisable to at least decouple the screen, perhaps with compliant pads, so that vibration from the speaker does not disturb the picture.

The **axent** and **axess** are magnetically shielded. However, the extreme sensitivity of some CRT tubes to low levels of magnetic flux may mean that, in rare cases, the shielding may not be sufficient. Should your screen suffer picture distortion caused by the proximity of a centre speaker contact your dealer or installer for advice.

Loudspeakers, like many hi-fi components, will take time to stabilise and “run-in” and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise **axent** and **axess** positioning until they have been operating for at least one week.

8.1 Connection

If the **axent** or **axess** are to be used with Naim amplification, Naim loudspeaker cable will produce the best results and is necessary with some amplifiers. Cable length should be between 3.5 metres and 20 metres (11.5ft and 66ft). Your local retailer will be able to make up cables of the appropriate length.

Connect the loudspeaker cables with their custom Naim plugs to the input sockets located on the rear of the enclosure. Ensure that the positive plug - identified by a rib on the side of the cable and a tag marked “pos” on the side of the connector body - is inserted to the red input socket.

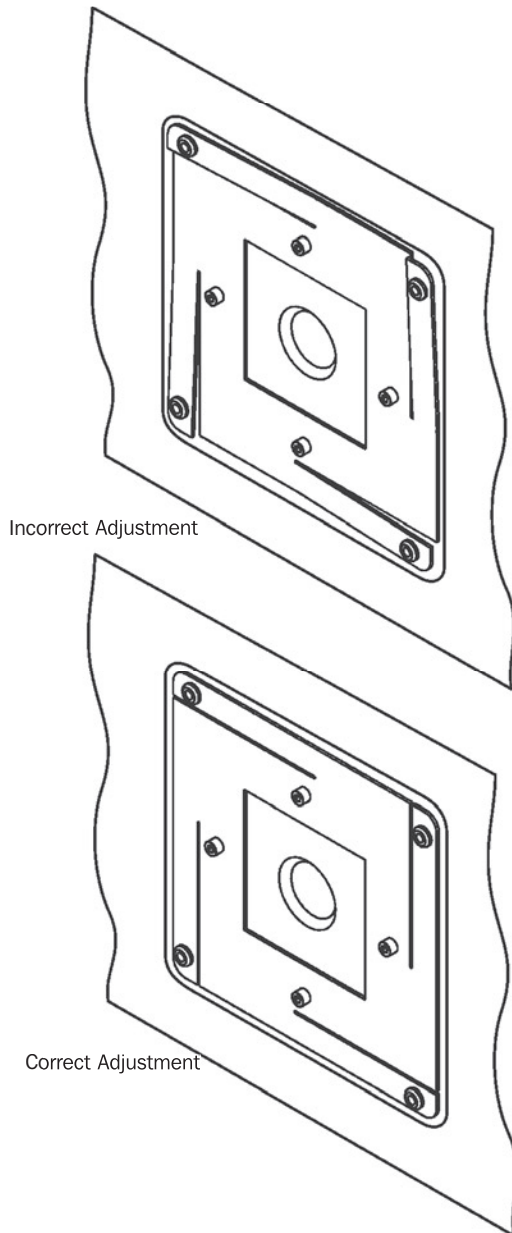
8.2 Tweeter Adjustment

The **tweeter** is mounted on an adjustable suspension plate. It is important both that the tweeter “bounces” freely on the plate and that it is held in line with the front panel of the enclosure.

If the tweeter does not bounce or it is not held in the correct position (i.e. the plate appears bent), the plate can be adjusted. Carefully remove, one at a time, the appropriate fixing screws and gently bend the appropriate arm or arms of the plate to correct the bend. Replace the screws, tightened as lightly as possible to ensure security, and re-test the “bounce”. Repeat the exercise if necessary. Diagram 8.3 opposite illustrates the tweeter suspension plate correctly and incorrectly adjusted.

axent, axess

8.3 Tweeter Adjustment



axent Specification

Frequency Response:	40Hz - 20kHz
Sensitivity:	89dB/1W/1m
Power Handling:	150 Watts (music programme)
Impedance:	6Ω (nominal)
Dimensions (H x W x D):	175 x 940 x 440mm
Weight (unpacked):	27.4kg
Finishes:	Cherry, Maple, Black

axess Specification

Frequency Response:	45Hz - 20kHz
Sensitivity:	89dB/1W/1m
Power Handling:	150 Watts (music programme)
Impedance:	6Ω (nominal)
Dimensions (H x W x D):	175 x 536 x 451mm
Weight (unpacked):	16.6kg
Finishes:	Cherry, Maple, Black

n-SATS

9 Introduction and Installation

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before installing and using the loudspeakers. Please also retain the packaging for future use.

n-SATS are primarily intended to be used in home theatre and multi-channel audio surround channel applications located behind or adjacent to the listening position. **n-SATS** can also be used as main speakers in small-scale conventional stereo audio systems. In either application best results will be achieved if **n-STAND** floor-stands are used.

Like any loudspeakers the performance of **n-SATS** will be influenced by the room and position in which they are located. Even small changes of position can significantly influence the sound. Choose a site where they can be located between 1.2m and 4m apart (4ft and 13ft), clear of room corners, and where each loudspeaker is between 5cm and 60cm (2" and 24") away from a solid back wall. It is not necessary to angle the loudspeakers inwards towards the listening position.

The distance from the back wall is the aspect of positioning most likely to require adjustment as you become familiar with the characteristics of **n-SATS** in your room. The use of floor-stands rather than wall brackets provides more opportunity for positioning adjustment. Further from the wall the speakers will generate less low frequency energy.

n-SATS are magnetically shielded. However, the extreme sensitivity of some CRT displays to low levels of magnetic flux may mean that, in rare cases when **n-SATS** are located relatively close to a display, the shielding may not be sufficient. Should a display suffer picture distortion caused by the proximity of **n-SATS** contact your dealer or installer for advice.

Loudspeakers, like many hi-fi components, will take time to stabilise and "run-in" and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise positioning until they have been operating for at least one week.

9.1 n-STAND Installation

The **n-STAND** is a dedicated floor-stand for **n-SATS**. It must not be used to support any other loudspeaker.

To begin **n-STAND** installation, first attach each base to an upright with the four small cap-head screws using the allen key supplied (see Diagram 9.3). Once the stand uprights and bases are securely attached, fit four **floor spikes** and **lock-nuts** (see Diagram 9.3) to the underside of each **base**. Leave just enough spike length extending below the lock nut to account for the thickness of carpet and underlay. Best results will be achieved when the spike length is set to the minimum required for the lock-nuts to sit just above the carpet pile. Do not fully tighten the lock-nuts at this stage.

Note: *If you intend to install the n-STAND on a non-carpeted floor the spikes should be used in conjunction with Naim Floor Protectors (see Diagram 9.3) and set up so that just the tip extends beyond the lock nut. Your retailer or distributor will be able to supply Floor Protectors.*

With floor spikes fitted, but not tightened, place each stand on the floor in the intended loudspeaker position. Use the supplied allen key via the access holes in the base to adjust each spike so that the plinth is both level and does not rock. Use a spirit level to confirm the plinth is level and tighten each lock-nut using a 10mm spanner.

Note: *With thick carpet and underlay it can be difficult to ensure that the spikes are resting on the floor. Small slits cut into the carpet once the loudspeaker position is finalised will help.*

Mounting lugs must be attached to the rear of **n-SATS** before they can be mounted on **n-STANDS**. First remove the two button-head screws on the rear of each **n-SATS** using the supplied 3mm allen key. Replace the button-heads with the supplied mounting lugs and cap-heads. Tighten the cap-head screws with the allen key (see Diagram 9.4).

With the mounting lugs fitted, **n-SATS** can be lowered onto **n-STANDS** so that the lugs engage with the stand cradle. A central grub screw in the stands can be adjusted to ensure that the **n-SATS** sits vertically (see Diagram 9.4).

Note: *An n-SERIES wall bracket is available that enables n-SATS to be wall mounted. Contact your dealer or local distributor for more information.*

9.2 Connection

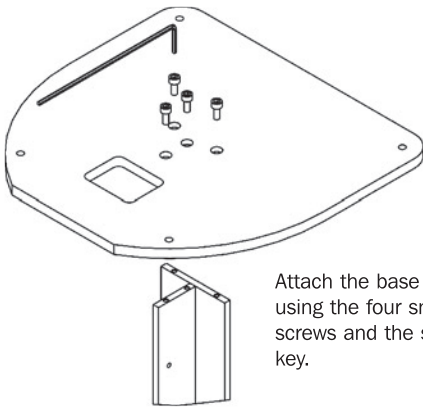
If **n-SATS** are to be used with Naim amplification, Naim loudspeaker cable will produce the best results and is necessary with some amplifiers. Cable length should be between 3.5 metres and 20 metres (11.5ft and 66ft). Your local retailer will be able to make up cables of the appropriate length.

Connect the loudspeaker cables with their custom Naim plugs to the input sockets located on the rear of the enclosures. Ensure that the positive plug - identified by a rib on the side of the cable and a tag marked "pos" on the side of the connector body - is inserted to the red input socket.

The **n-STAND** incorporates optional cable dressing pins that enable the loudspeaker cable to be routed down the stand upright and dressed in place. This is illustrated in Diagram 9.4

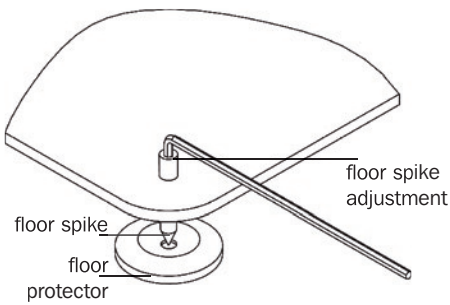
n-SATS

9.3 n-STAND Construction



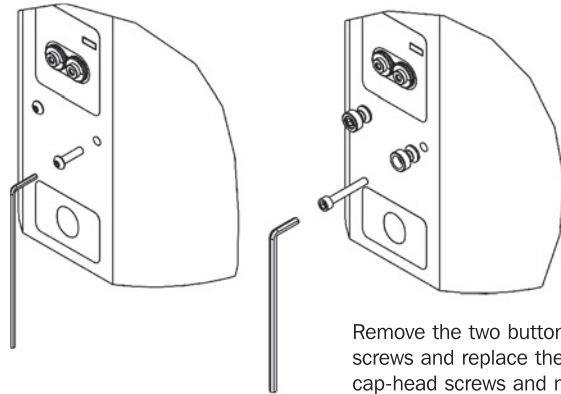
Attach the base to the upright using the four small cap-head screws and the supplied allen key.

Use the supplied allen key to adjust each floor spike from the top. Tighten the lock-nuts once the stand is level.

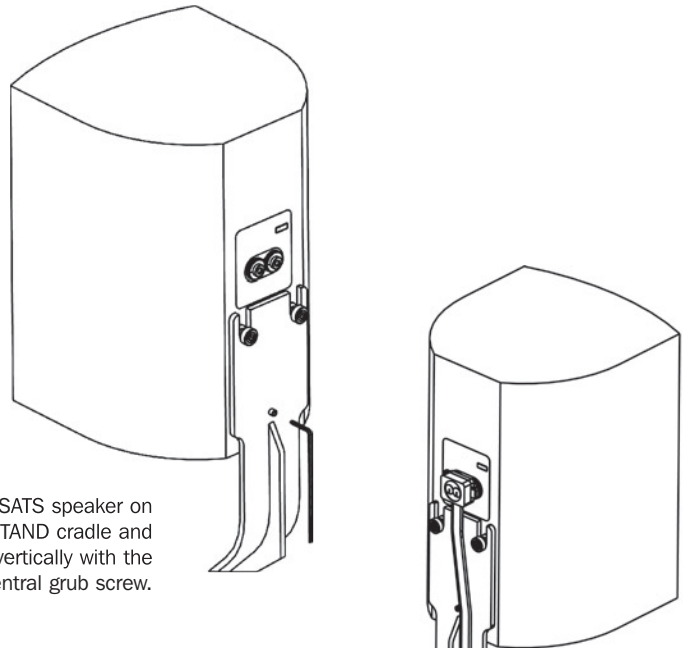


Naim Floor Protectors can be used to if the n-STAND is to be installed on a non-carpeted floor.

9.4 n-STAND Installation



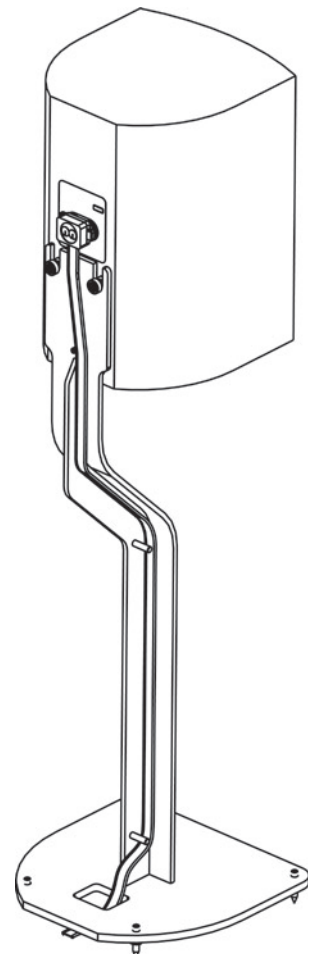
Remove the two button-head screws and replace them with cap-head screws and mounting lugs.



Lower the n-SATS speaker on to the n-STAND cradle and adjust to sit vertically with the central grub screw.

Route the speaker cable up the stand upright and dress with the dressing pins.

Note: Dressing the cables too tightly in the stand upright may degrade the n-SATS performance. Leave some slack - especially between the speaker terminals and the first dressing pin. A small improvement in n-SATS subjective performance may be perceived by leaving the loudspeaker cables undressed.



n-SATS Specification

Frequency Response:	50Hz - 20kHz
Sensitivity:	87dB/1W/1m
Power Handling:	100 Watts (music programme)
Impedance:	6Ω (nominal)
Dimensions (H x W x D):	285 x 200 x 208mm
Weight (unpacked):	5.5kg
Finishes:	Cherry, Maple, Black Lacquer

n-CENT

10 Introduction and Installation

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before installing and using the loudspeakers. Please also retain the packaging for future use.

The performance of any loudspeaker will be influenced by the room in which it is located and even small changes of loudspeaker position can significantly influence the sound. Alignment with the listening position and proximity to room boundaries will in particular influence the subjective performance. The position of a centre channel loudspeaker tends to be influenced by the type and location of the associated video screen. However, the influence of the room boundaries and alignment to the listening position should still be taken into account.

The **n-CENT** is designed to reproduce full bandwidth, full power signals and is intended to be positioned centrally just above or below the screen. If the location of the loudspeaker results in too much bass some adjustment of low frequency equalisation via the AV processor may be necessary.

Best results from the **n-CENT** are likely to be gained if it is directly coupled to the floor via a rigid, spiked stand. If the screen stand is however also to carry the **n-CENT** it is advisable to decouple it from the screen with the supplied adhesive rubber feet so that vibration from the speaker does not disturb the picture.

The **n-CENT** is magnetically shielded. However, the extreme sensitivity of some CRT tubes to low levels of magnetic flux may mean that, in rare cases, the shielding may not be sufficient. Should your screen suffer picture distortion caused by the proximity of a centre speaker contact your dealer or installer for advice.

Loudspeakers, like many hi-fi components, will take time to stabilise and “run-in” and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise positioning until it has been operating for at least one week.

10.1 Installation

The adhesive rubber feet supplied with n-CENT will reduce vibration transferred to other equipment. Use the template enclosed with this manual to fit the feet in position.

An n-SERIES wall bracket is available that enables n-CENT to be wall mounted. Contact your dealer or local distributor for more information.

Mounting lugs must be attached to the rear of the n-CENT before it can be attached to the wall bracket. First remove the two button-head screws on the rear of the n-CENT using the supplied 3mm allen key. Replace the button-heads with the supplied mounting lugs and cap-heads. Tighten the cap-head screws with the allen key.

With the mounting lugs fitted, the n-CENT can be lowered onto the wall bracket so that the lugs engage with the cradle. A central grub screw in the bracket can be adjusted to ensure that the n-CENT sits vertically.

10.2 Connection

If the **n-CENT** is to be used with Naim amplification, Naim loudspeaker cable will produce the best results and is necessary with some amplifiers. Cable length should be between 3.5 metres and 20 metres (11.5ft and 66ft). Your local retailer will be able to make up cables of the appropriate length.

Connect the loudspeaker cables with their custom Naim plugs to the input sockets located on the rear of the enclosure. Ensure that the positive plug - identified by a rib on the side of the cable and a tag marked “pos” on the side of the connector body - is inserted to the red input socket.

n-CENT Specification

Frequency Response:	50Hz - 20kHz
Sensitivity:	87dB/1W/1m
Power Handling:	120 Watts (music programme)
Impedance:	6Ω (nominal)
Dimensions (H x W x D):	160 x 430 x 300mm
Weight (unpacked):	10.0kg
Finishes:	Cherry, Maple, Black Lacquer

n-SUB

11 Introduction

Naim loudspeakers are precision acoustic instruments that will only achieve optimal performance if installed and set up carefully. Please read these instructions before installing and using the n-SUB. Please also retain the packaging. The n-SUB is very heavy and care should be taken when lifting or moving it. Do not connect the n-SUB to the mains wall socket until all other connections are made. Take great care when moving and handling the n-SUB that cables are not damaged by its floor spikes.

The **n-SUB** is an active sub-woofer primarily intended to be used in conjunction with **n-SATS** and the **n-CENT** in home theatre and multi-channel audio applications. The **n-SUB** can also be used however with **n-SATS** in a stereo satellite/sub-woofer (2.1) loudspeaker system.

A variety of **n-SUB** set up parameters can be defined and stored as presets. These enable **n-SUB** performance to be adjusted for different programme material types, personal preferences and listening levels etc (i.e Stereo or AV setups). Up to six presets can be stored. Preset selection or real-time adjustment of **n-SUB** can be carried out from either its control panel or the remote handset.

Loudspeakers, like many hi-fi components, will take time to stabilise and “run-in” and can be expected to improve with use even over a period of weeks. For this reason it is prudent not to finalise positioning until they have been operating for at least one week.

11.1 n-SUB Installation

11.1.1 n-SUB Positioning

In principle there is significant freedom of position of a sub-woofer in a listening room. In practice, however, the performance of the **n-SUB** will be fundamentally influenced by the room and position in which it is located. Small changes of position, or the resonant characteristics of items in the immediate vicinity of the **n-SUB**, can significantly influence its performance.

Initially choose a site for the **n-SUB** along one of the walls of the listening room well away, but not equi-distant, from the corners. It is not necessary that the **n-SUB** be positioned along the same wall as the main loudspeakers. Locate the **n-SUB** such that its control panel is facing out from the wall. Leave a gap of between 100mm (4”) and 150mm (6”) between the rear panel (driver panel) and the wall. Choose a solid, rather than a partition, wall and keep the **n-SUB** clear of any significant resonant objects - large furniture panels, heating radiators, etc.

The **n-SUB** is not magnetically shielded and should be kept a minimum of 2m away from CRT displays (plasma, LCD or DLP displays are not affected). Should a display suffer picture distortion caused by the proximity of the **n-SUB** contact your dealer or installer for advice.

The **n-SUB** amplifier is cooled by air flow entering through perforations in its underside and exiting through a vent above the display window. This air flow must not be restricted.

A cable clamp is supplied in the pack containing this manual intended to hold the mains cable in position and to help prevent it from being damaged by floor spikes. It can be fitted as appropriate in any of the 3 positions shown in Diagram 11.9 depending on the positioning of the **n-SUB** relative to the wall and mains socket.

11.1.2 n-SUB Floor Spikes

With the initial position decided begin **n-SUB** installation by fitting the four **floor spikes** and **lock-nuts** to the underside of the enclosure. Adjust the spike length to hold the **n-SUB** at least 20mm above the floor covering

Note: *If you intend to install the n-SUB on a non-carpeted floor the spikes should be used in conjunction with Naim Floor Protectors (see Diagram 11.8). Your retailer or distributor will be able to supply Floor Protectors.*

With the floor spikes fitted, but not tightened, place the **n-SUB** on the floor in the intended position. Adjust the spikes so that the **n-SUB** does not rock and is level. Tighten each lock-nut using a 10mm spanner.

Note: *With thick carpet and underlay it can be difficult to ensure that the spikes are resting on the floor. Small slits cut into the carpet once the loudspeaker position is finalised will help.*

11.2 n-SUB Connections

The **n-SUB** carries a comprehensive set of signal and control connections appropriate for integration with a variety of system types and installations. The connection sockets (and mains power input socket) can all be found on the underside of the enclosure and are illustrated in Diagram 11.6. The **n-SUB** can be turned up-side-down to aid access to the sockets.

DO NOT CONNECT n-SUB TO THE MAINS WALL SOCKET UNTIL ALL CONNECTIONS ARE MADE AND IT IS RETURNED TO AN UPRIGHT POSITION. TAKE GREAT CARE WHEN RETURNING THE n-SUB TO THE UPRIGHT POSITION THAT CABLES ARE NOT DAMAGED BY THE FLOOR SPIKES.

11.2.1 n-SUB Inputs

The **n-SUB** provides one mono and one stereo line level input on RCA Phono sockets along with one stereo set of “speaker-level” 4mm input sockets.

The mono line level input should be used for AV systems where an AV processor provides a mono sub-woofer (LFE) output.

The stereo line level input should be used when only an auxiliary stereo output is available from, for example, a preamplifier. The stereo channels are combined to mono within the **n-SUB**.

Note: *Do not use an amplifier “tape output” to connect to Input 2. The volume level from tape outputs does not vary with volume control position.*

n-SUB

Note: A special 4-pin DIN to stereo RCA Phono Plug lead is required for connection to Naim preamplifiers (usually via the preamplifier power supply). It incorporates resistors in the signal path to protect the preamplifier from the high capacitance inherent in the necessarily long lead.

Connect to the speaker level inputs using Naim speaker plugs via cables connected to the main (front left and right) speaker terminals. The stereo channels are combined to mono within the **n-SUB**. Speaker terminal “piggy-back” connectors and appropriate made-up cables will be available from your local Naim dealer or distributor.

USE OF THE SPEAKER LEVEL INPUTS WITH A NAIM NAP 500, OR ANY OTHER “BRIDGED” POWER AMPLIFIER, REQUIRES SPECIAL CONNECTION CABLES. CONTACT YOUR DEALER OR LOCAL DISTRIBUTOR FOR MORE INFORMATION.

Note: The decision to use either the line level or speaker level inputs when the **n-SUB** is not connected via an AV decoder can be made on the grounds of sound quality. It is impossible to predict which option will sound best in a particular system and installation, however the speaker level option, by virtue of higher signal levels being more robust over long lead lengths, is potentially superior.

Input sockets can be selected either directly from the **n-SUB** control panel or included in a setup preset. See Section 11.3.

An RC5 control input is also provided on the **n-SUB** connection panel. This input can be used for wired remote control if the **n-SUB** is to be used out of line-of-sight in an installed audio system or if the **n-SUB** is one of a daisy-chained group.

11.2.2 n-SUB Outputs

The **n-SUB** is fitted with a mono signal output and an RC5 control output, both on RCA Phono sockets. These output sockets are intended to enable “daisy-chaining” of one or more **n-SUBs** in systems where multiple sub-woofers are required. If these sockets are used take care to ensure that they are connected correctly.

11.2.3 Earth Terminal

An external earth (ground) terminal and earth selection switch are fitted to the underside of the **n-SUB**. Use of the earth terminal may help alleviate audible hum from earth loops by disconnecting the signal and mains earths. If hum is a problem, connect the earth terminal with a single cable to the preamplifier earth terminal and move the switch to the “External” position.

Note: Do not switch the earth selection to External without an external earth connected.

11.3 n-SUB Configuration and Operation

With all input and output connections made and the **n-SUB** positioned appropriately it is ready for configuration and operation.

Note: The **n-SUB** may be configured and operated from either its control panel or from the remote handset, however the handset provides enhanced functionality and direct access to gain and display control.

To select and adjust a parameter use the handset **mode** ▲ or **mode** ▼ keys (control panel: **mode**) to select. Once a parameter

is selected use the handset **up** or **down** keys (control panel: **up** or **down** buttons) to adjust.

The handset and control panel **mute** function mutes and restores the **n-SUB** output.

The handset **gain** ▲ and **gain** ▼ keys provide direct control of **n-SUB** volume level. The handset **disp** key switches the control panel display on and off. The handset **info** key scrolls through and displays the parameter settings for the currently selected preset.

Note: Multiple daisy-chained **n-SUBs** should be initially configured from each control panel rather than from the remote handset. This removes the possibility of handset commands intended for one **n-SUB** changing a previously defined configuration for another. Section 11.4.5 covers the configuration of multiple **n-SUBs**, and the use of Lock Mode, in more detail.

11.3.1 n-SUB Presets

When first switched on from the control panel power button the display will show **P1** and the **preset** mode indicator will illuminate. **P1** indicates that preset **P1** is loaded.

Note: If the **n-SUB** has not been previously used, all presets will contain the same default settings and values. If the **n-SUB** has been previously used some values and settings may vary from the defaults. To restore the factory defaults across all presets, press and hold the handset **disp** key for six seconds or switch the **n-SUB** off and then on while pressing the control panel **mute** button.

n-SUB presets contains a value or setting for each of the six variable parameters. These are **gain**, low pass filter frequency (**freq**), **invert**, **input**, **lock**, and **label**. The function of each is described in Section 11.4.1 to Section 11.4.6.

To save a configuration preset once each parameter has been adjusted use the handset **mode** ▲ or **mode** ▼ keys (control panel: **mode**) to select **save**, then use the handset **up** or **down** keys (control panel: **up** or **down** buttons) to select a preset number (**1** to **6**). Save the preset by pressing the handset **save** or **mode** ▲ keys (control panel: **mode** button). If the preset selected as the save location is the currently selected one it will be displayed with dashes either side (-3-).

Note: The handset **save** key can be used at any time to modify an existing preset following a parameter adjustment. Simply press and hold **save**.

To reset the currently selected preset to the factory default parameter values select **save** as described above and press and hold the handset **disp** key for six seconds.

11.4 n-SUB Configuration Parameters

11.4.1 Gain

Gain sets the volume level of the **n-SUB**. The adjustment range is **10** to **99** and the factory default setting is **40**. See Section 11.5 for further guidance on setting this parameter.

11.4.2 Freq

Freq sets the upper filter frequency. This should generally be set as appropriate for the type of system and satellite speakers the **n-SUB** is to be integrated with. The adjustment range is **20Hz** to

n-SUB

250Hz and the factory default setting is **60Hz**. See Section 11.5 for further guidance on setting this parameter.

11.4.3 Invert

Invert switches (inverts) the acoustic phase (polarity) of the **n-SUB**. Inverting phase can be of value when deciding on the optimum position for a sub-woofer. It is worth experimenting with phase inversion before ruling out a particular sub-woofer position for reasons of poor integration with the satellite speakers. The options are **yes** or **no** and the factory default setting is **no**.

11.4.4 Input

Input selects one of the three **n-SUB** inputs described in Section 11.2.1. The options are **AV**, **AMP** or **AUX** and the factory default setting is **AV**.

11.4.5 Lock

Lock mode prevents **n-SUB** parameters other than gain, mute and preset selection from being changed, thus ensuring that inadvertent adjustments are not made and that daisy-chained **n-SUB** arrays remain synchronised.

To lock a single **n-SUB** use the handset **mode ▲** or **mode ▼** keys (control panel: **mode**) to select lock followed by the handset **up** or **down** keys (control panel: **up** or **down** buttons) to select **1**. When lock mode is active the lock indicator remains illuminated.

Note: Settings cannot be adjusted from the control panel when lock mode is operational.

With multiple **n-SUBs**, lock mode must be configured from the control panel for each **n-SUB** in turn. Use the control panel **mode** button to select **lock**, followed by the **up** or **down** buttons to select a different lock number, from **1** to **5** for each **n-SUB**.

Note: While there is no technical limit on the number of **n-SUBs** that can be daisy-chained, six is the recommended practical maximum.

Once an **n-SUB** has been allocated a lock number it can be temporarily unlocked for adjustment (and re-locked) by pressing and holding the appropriate handset **numeric** key (control panel: press and hold the **mode** button). The lock indicator will flash to indicate that it is temporarily unlocked.

Note: Individual locking and unlocking enables subsequent adjustments to specific daisy-chained **n-SUBs** to be made without changing the settings of the other **n-SUBs**.

To permanently unlock an **n-SUB** it must first be temporarily unlocked, then the handset **mode ▲** or **mode ▼** keys (control panel: **mode**) used to select **lock**, followed by the handset **up** or **down** keys (control panel: **up** or **down** buttons) to select **OFF**.

11.4.6 Label

A three character alpha-numeric display label can be defined for each **n-SUB** preset. Use the handset **mode ▲** or **mode ▼** keys (control panel: **mode**) to select **label**, followed by the handset **mute** key to select the character position and the **up** or **down** keys (control panel: **up** or **down** buttons) to select an alpha-numeric character.

11.5 n-SUB Gain, Filter Frequency and Polarity

Setting **n-SUB gain**, filter (**freq**) and polarity (**invert**) parameters will require some careful listening and experimentation if optimum subjective performance is to be achieved. Try to put yourself in the position of the film sound designer or music mix engineer and aim for a sound that is consistent, well balanced and free of undue bass or midrange emphasis. It may be useful to listen with and without the **n-SUB** by using its **mute** function.

Note: Don't use the mute function rapidly and repeatedly in order to judge the **n-SUB's** contribution to the sound. Listen to a few minutes of material with the **n-SUB** operating and then repeat the same few minutes with it muted. Use a variety of programme material but make sure it has an adequate level of low bass.

11.5.1 AV System

When connected to an AV processor, such as the Naim AV2, the **n-SUB filter** should always be set at its maximum - **250Hz**. This is because the processor's sub-woofer (LFE) channel itself incorporates low pass filtering. **n-SUB gain** should be set such that low frequency effects do not dominate but integrate within the context of the film. Only use the **invert** function if it proves difficult to achieve a satisfactory result through adjusting the **gain**. If the **invert** function still results in no improvement, the **n-SUB** should be moved to an alternative location in the room.

Note: Ensure that the processor's "midnight" or "bass mix" functions are not operational when setting up the **n-SUB**.

Note: Different gain settings for music only and audio-visual programme material via an AV processor may be appropriate. Use the **n-SUB's** preset feature to save appropriate settings.

11.5.2 n-SUB with n-SATS - Stereo Music System

For **n-SUB** integration with one pair of **n-SATS** in a conventional stereo audio system, initially set the **filter** to **60Hz** (the default value). Optimum **n-SUB gain** will depend on the room acoustic and the position of the speakers within it. An **n-SUB** close to the listening position should, in theory, require less gain, however, if close to the listening position means the **n-SUB** is relatively distant from the walls, increased gain will likely be required. Aim to set the **gain** such that bass elements of the music are properly integrated. If bass subjectively draws attention to itself, the **n-SUB gain** is probably too high. Only use the **n-SUB's invert** function if it proves difficult to achieve a satisfactory result through adjusting the **gain**. If the **invert** function still results in no improvement the **n-SUB** should be moved to an alternative location in the room.

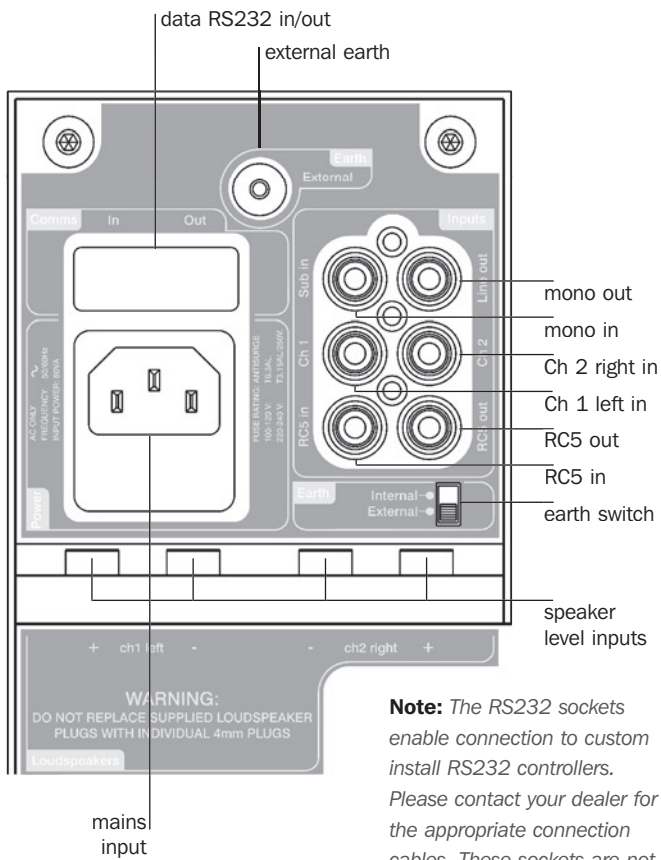
Once the **gain** is set, it may be worthwhile experimenting with small changes in **filter frequency** to fine tune the integration between **n-SUB** and **n-SATS**.

11.5.3 n-SUB with alternative speakers - Stereo Music System

Larger satellite loudspeakers than the **n-SATS** will most likely require the **n-SUB filter** to be reduced. For medium sized stand-mount loudspeakers begin with a setting of around **50Hz**. For floor-stand loudspeakers initially set the **filter** to around **40Hz**. **Gain** and **invert** should be set as described above.

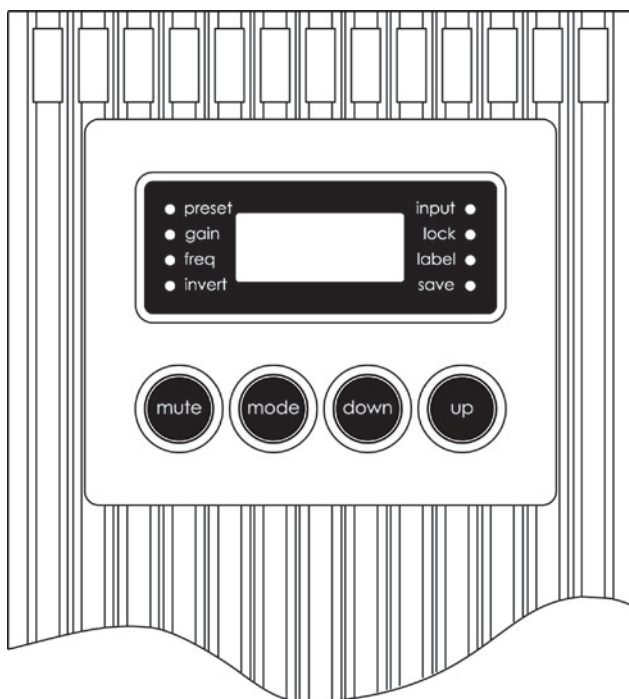
n-SUB

11.6 n-SUB Connection Panel

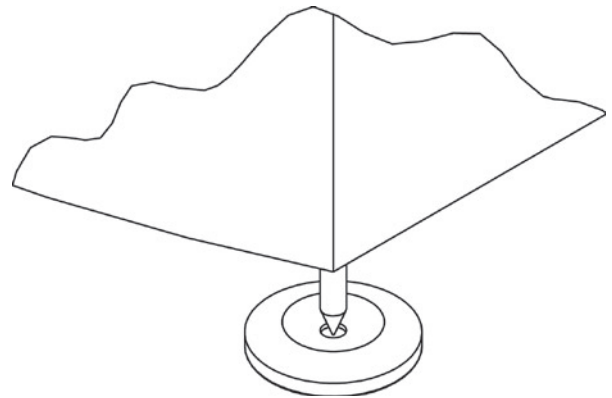


Note: The RS232 sockets enable connection to custom install RS232 controllers. Please contact your dealer for the appropriate connection cables. These sockets are not intended for direct connection to computer networks.

11.7 n-SUB Control Panel

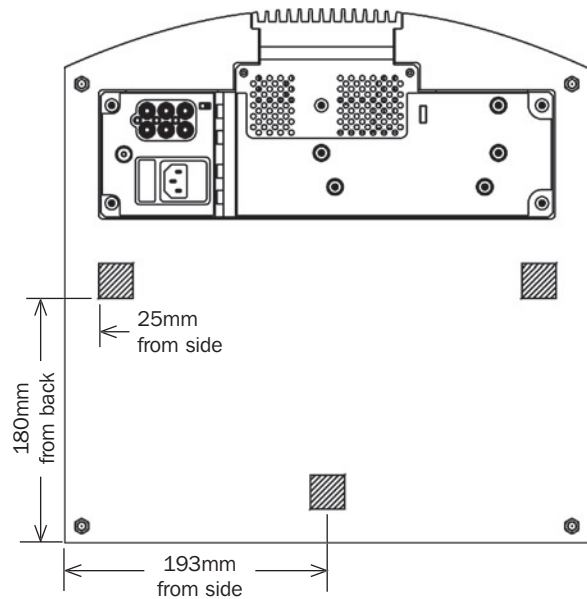


11.8 Floor Protectors



Naim Floor Protectors can be used to if the n-SUB is to be installed on a non-carpeted floor.

11.9 n-SUB Cable Clamp



Fit the supplied Cable Clamp as appropriate in one of the three positions shown by the cross-hatched squares .

n-SUB Specification

Inputs	2 x line level, 1 x speaker level
Frequency Response:	20Hz - 250Hz
Power Output:	350 Watts
Dimensions (H x W x D):	385 x 385 x 393mm
Weight (unpacked):	29.6kg
Finishes:	Cherry, Maple, Black Lacquer
Mains Supply:	100-120V or 220-240V, 50/60Hz

12 Declaration of conformity to appropriate standards

Manufacturer	Naim Audio Limited, Southampton Road, Salisbury, England, SP1 2LN
Products	SL2, allæ, Ariva, axent, axess, n-SATS, n-CENT, n-SUB
Safety	EN 60065
EMC	
Emissions Tested to:	EN 55013 - Sound and television broadcast receivers and associated equipment BS EN 61000-3-2: 2001 - Limits for harmonic current emissions (equipment input currents up to and including 16 A per phase)
Immunity Tested to:	EN55020 - Electromagnetic immunity of broadcast receivers and associated equipment
In accordance with:	CISPR 16-1 - Radio disturbance and immunity measuring apparatus CISPR 16-2 Methods of measurement of disturbances and immunity IEC 801-2 8kV (air gap) 4kV (contact) (performance criterion B) IEC 801-3 3V/m 20dB (performance criterion A) IEC 801-4 1kV (AC lines) 0.5kV (signal lines) (performance criterion B)

