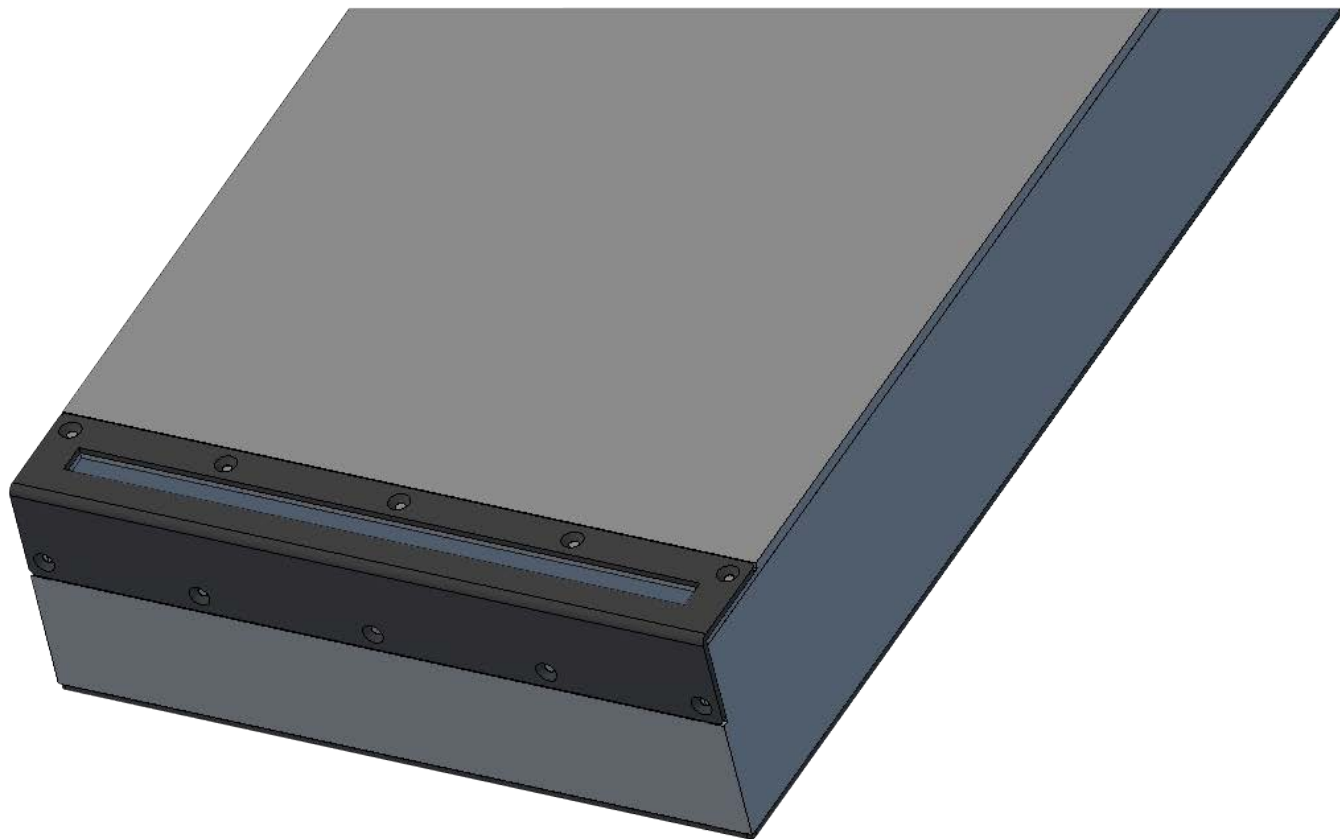

User guide

ALF120

Subwoofer



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Caution

Read this section before operating your unit

To ensure optimal performance, please read this guide carefully and keep in a safe place for future reference.

Install this product in a cool, dry, clean place - away from direct sunlight and heat sources, vibration, dust and moisture.

Do not expose this unit to sudden temperature changes or locate it in an environment with high humidity. This is to prevent condensation forming inside which may cause damage to the unit.

Do not clean this unit with chemical solvents as this may damage the finish. Use a clean, dry or damp cloth.

Do not attempt to modify or repair the unit.

Contact your distributor or manufacturer if a fault should occur.

Ensure that any fixing structures will support the weight of this product.

The ALF120 is a large item. Two people are recommended to handle the ALF120 during installation.



WARNING: No attempt should be made to install this product within existing building structures unless you are



certain no electric cables, water pipes, gas pipes or supporting joists will be cut through.

Repair

In the unlikely event that your ALF120 needs repair work, contact your supplier or your local distributor.

Introduction

Applications with in-wall speakers

The Amina ALF120 is a passive subwoofer designed to partner the range of Amina in-wall panel speaker systems in applications such as home cinema systems and large room, high pressure stereo systems.

The adjustable outlet vent enables the ALF120 to be operated vertically (usually within a wall) or horizontally.

Applications with free-standing speakers

The ALF120 can also be installed to partner conventional free-standing loudspeakers. Home Cinema systems may benefit particularly from the space saved by the use of concealed subwoofers.

Choosing an amplifier

The ALF120 is a passive subwoofer and therefore requires an external amplifier to drive it. For applications with both in-wall and free-standing speakers, the ALF120 must be driven by an amplifier that includes bass equalisation.

The Amina A100Q four channel amplifier is recommended as it includes equalisation responses that will match the response of the ALF120 to each model of Amina in-wall speaker and which can also be customised to match free-standing speakers.

The four channels may be used to drive up to four ALF120 subwoofers or a system of panels and subwoofers.

Unpacking

Unpack the unit.

Retain this User Guide. If you pass the unit on to a third party make sure you pass on the User Guide.

Retain the packaging. If you dispose of it, do so having regard to any recycling regulations in your area.

Contents

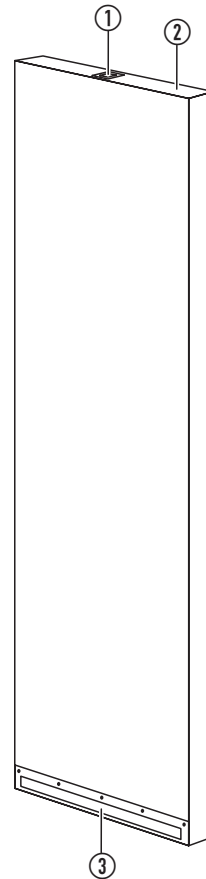
The carton should contain:

- ALF120 subwoofer
- 48 x felt pads
- 4 x feet
- Outlet gasket

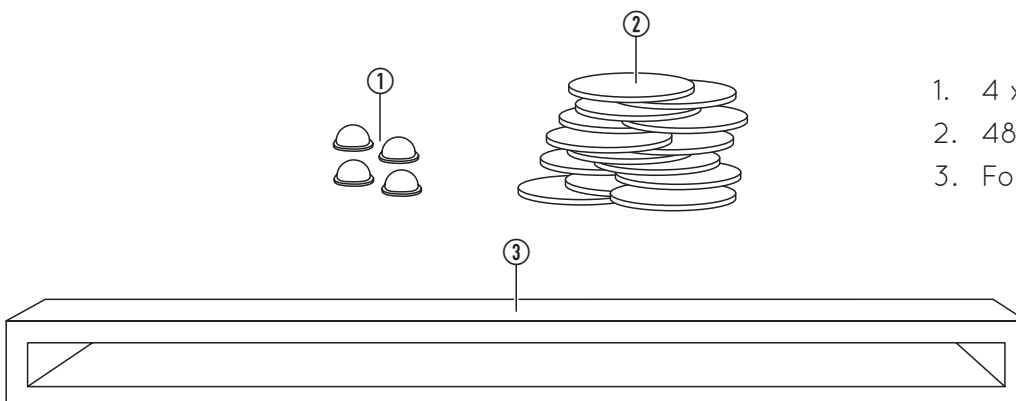
If any items are missing or damaged, contact your supplier immediately.

Subwoofer

1. Terminal panel
2. Cabinet
3. Outlet port



Accessories



1. 4 x Rubber feet
2. 48 x Felt pads
3. Foam gasket

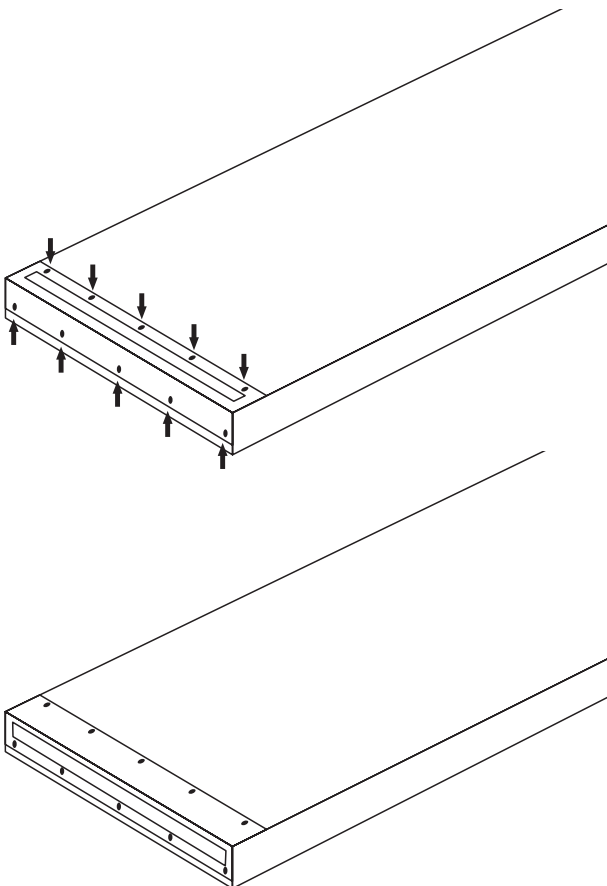
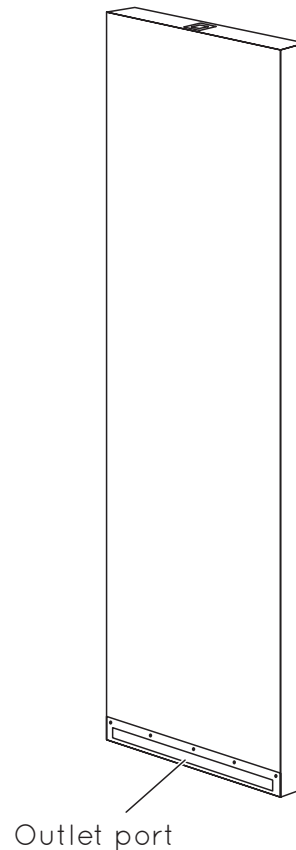
Outlet port

The bass sound from the ALF120 exits through the outlet port slot at the base of the front of the cabinet. The outlet port is placed in this position to allow discreet in-wall installation. The slot in the wall that aligns with the outlet port is positioned low down, close to the floor.

In-room installations are also possible where the ALF120 can be concealed under, behind or within furniture. In cases where the ALF120 may be installed laid flat, the position of the outlet port may be moved from the supplied position at the base of the tall, front face of the cabinet (shown on the right) to the end face of the cabinet.

Re-positioning the outlet port

- Lay the ALF120 on its back face.
- Undo the ten screws (arrowed) securing the outlet port.
- Rotate the outlet port to position it at the end of the cabinet.
- Re-fit the screws.



In-wall installation

Non-directional sound

The low frequency bass sound from the ALF120 is not directional. This helps when choosing a location as the ALF120(s) can be located away from the in-wall speakers if necessary.

In-wall locations

The ALF120 can be mounted in-wall, providing that the stud wall is constructed from 5" timber which gives an internal depth for installation of the ALF120 of 121mm.

The drawing below shows the critical dimensions when installing the ALF120 in-wall.

When installing the ALF120 where there is an existing 4" stud wall, the recommended option is to dismantle the wall and re-construct it with 5" timber to create the correct depth for the ALF120. Where it is not possible to re-construct the complete wall, sections may be built out with 5" stud to accommodate the ALF120(s).

The instructions and illustrations that follow give general advice and guidance for installation in a 5" stud wall. Each building and location may require a slightly different approach to preparing the cavity and making good the wall afterwards.

Vibration

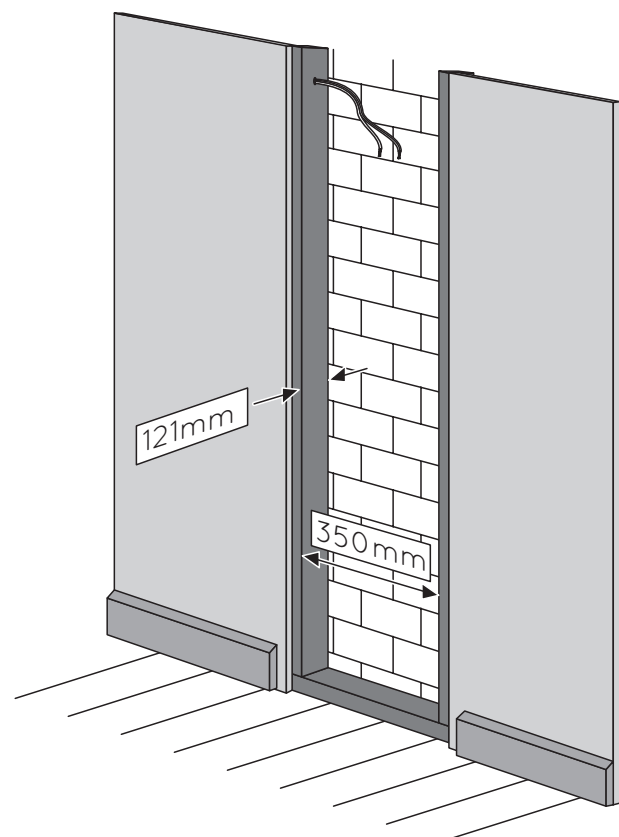
During installation, remember that the ALF120 produces deep bass sound that can excite vibration in pipes and wires within the wall and also in wall fitted items such as lights.

It is good practice to securely fix wiring and pipes that run in cavities close to an ALF120 or to wrap them in adhesive foam to reduce the possibility of vibration.

Preparing the wall cavity

When preparing a wall cavity for the ALF120, consider the following points -

- Is the cavity the correct size?
It is important to keep to the recommended dimensions to avoid fit problems. If the cavity is too small there may be difficulties making the ALF120 fit or making good the wall. If the cavity is too large and the ALF120 is a loose fit in the wall, you may encounter vibration problems.
- Have you routed the wiring to the cavity?
The wiring should enter the cavity above the terminal panel positioned on top of the ALF120. 2.5mm² (14AWG) stranded cable is recommended.



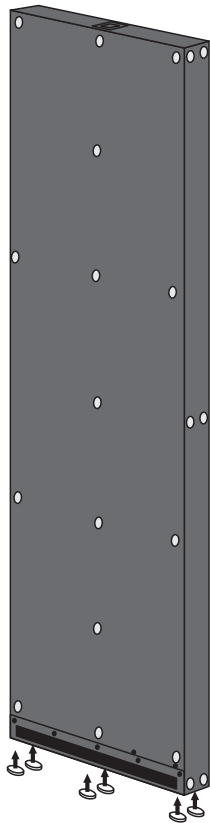
In-wall installation

Preparing the ALF120

A pack of felt pads are supplied with the ALF120. These must be fitted to the ALF120 when wall-mounted to reduce bass sound coupling into the walls and floor.

- Fix six felt pads to the underside of the cabinet.
- Fix fifteen felt pads to each of the front and back surfaces
- Fit six felt pads to each of the side surfaces of the cabinet

The drawing below shows the correct locations for the pads.

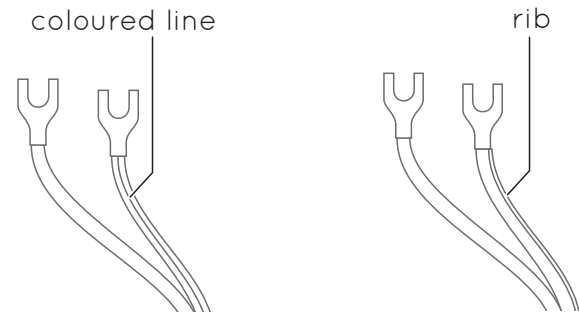


Connecting the ALF120

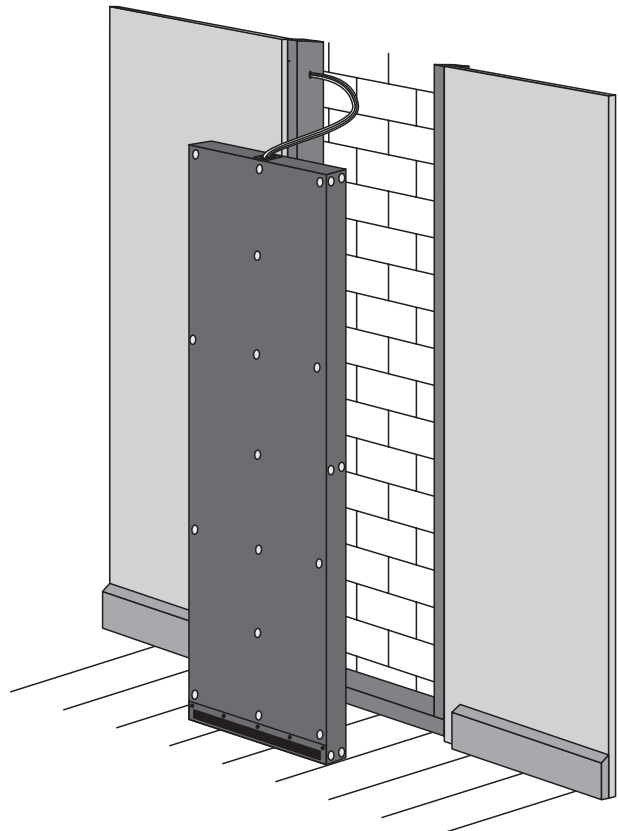
Once the pads are fitted the ALF120 is ready to be connected.

- Position the ALF120 close to the wall.
- Cables will be marked with a coloured line or have a moulded rib on one edge.

By convention this wire is the + (positive) wire. The unmarked wire is the - (negative) wire.



- Connect the cable(s) to the terminal panel, observing polarity.

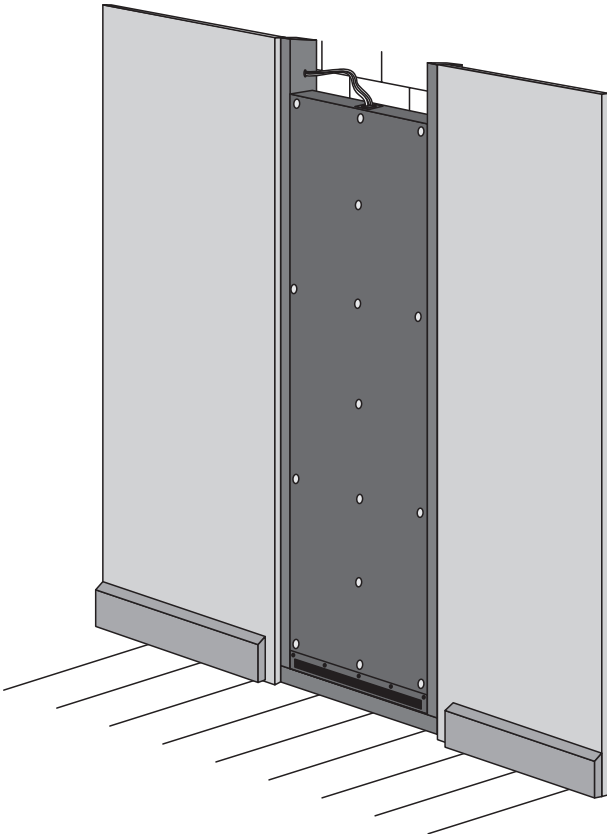


In-wall installation

Fitting the ALF120 into the wall

- Brush any dust out of the wall cavity.
- Carefully lift the ALF120 into the wall cavity.

If there are any problems with the fit of the ALF120 in the cavity, now is the time to resolve them.



- Check that the front of the cabinet lays within the front line of the adjacent wooden studs.

If the cabinet protrudes beyond the studs, the wall-board will interfere with the front of the cabinet when installed.

Testing the ALF120

At this point the ALF120 should be fully tested.

CAUTION! The ALF120 must only be tested with a DSP equipped amplifier such as the Amina A100Q that can be programmed to include frequency correction for the ALF120.

Using a wideband amplifier with no equalisation may permanently damage the ALF120.

- Connect the amplifier to the cable from the ALF120.
- Disconnect any other system speakers.
- Play a signal with high bass content.
- Increase the volume level and listen carefully for vibration or other noises.
- If you hear any vibration or noises locate the source of these and rectify the problem.
- Connect up the system in-wall or free-standing speakers.
- Test the complete system to confirm that the sound from the subwoofer integrates well with the other speakers.

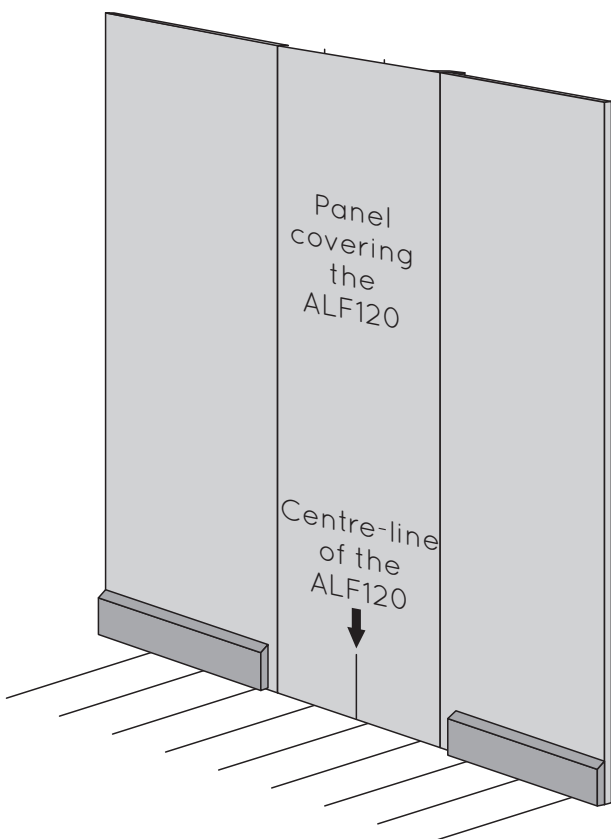
In-wall installation

Making good the wall

Preparing the wall panel

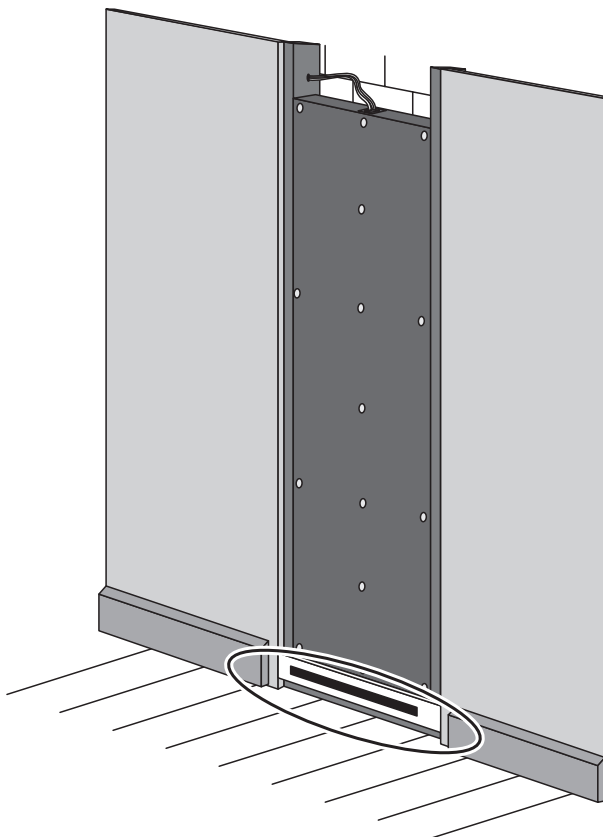
The wall may be a new build or you could have opened a cavity in an existing wall to install the ALF120. In either case it is now necessary to build/re-build the wall to complete the installation.

- Cut the section of wall board that will cover the ALF120.
- Offer up the cut wall panel in the position where it will cover the ALF120.
- Mark up the position of the centre line of the ALF120.



Fitting the gasket

- Lift off the wall panel and place the gasket in the position shown at the base of the ALF120.



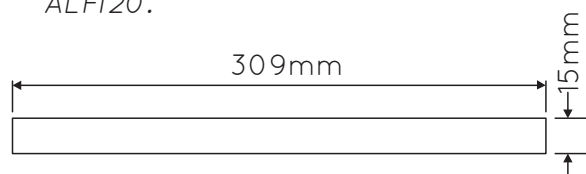
In-wall installation

Making good the wall

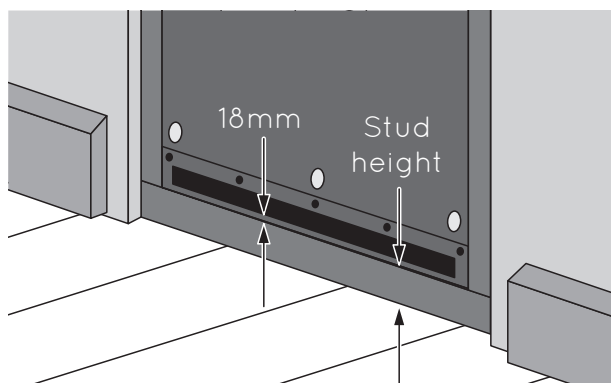
Cutting the outlet slot

- Mark up the position of the outlet slot using the dimensions shown in the drawings below.

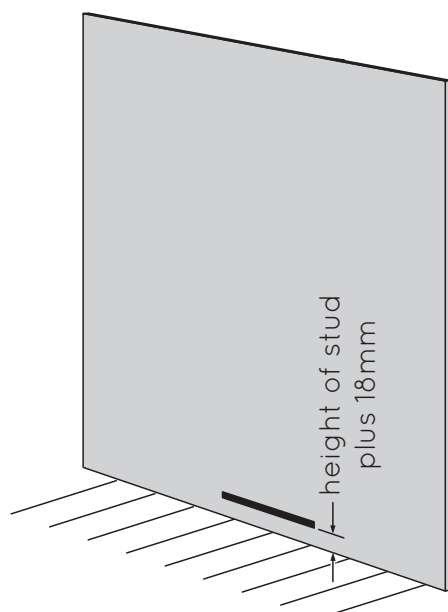
The slot must be 309mm wide x 15mm tall, located on the centre-line of the ALF120.



- The bottom edge of the slot sits 18mm above the stud under the ALF120.

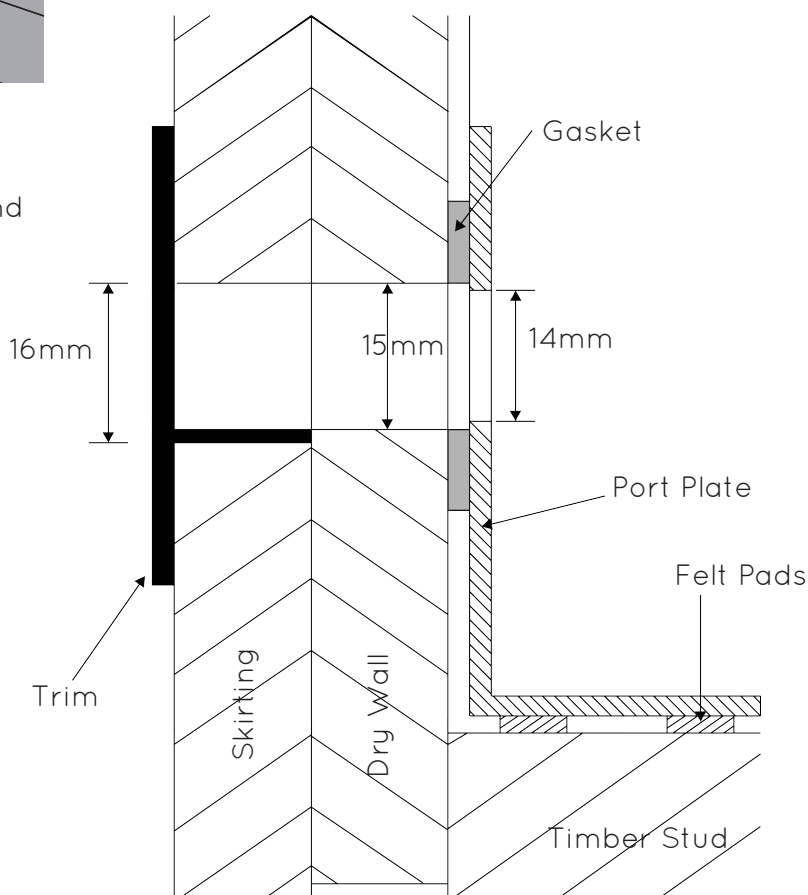
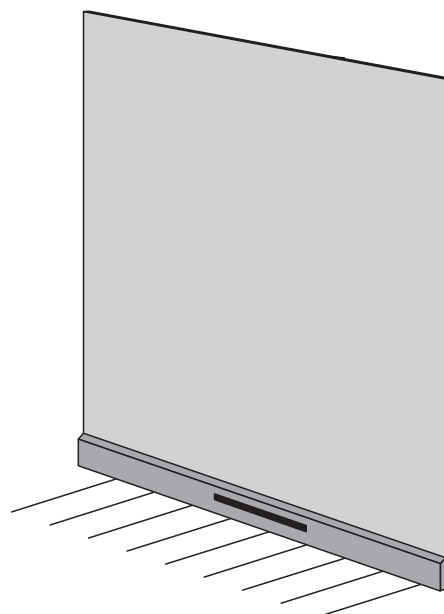


- Check that the slot aligns with the opening at the base of the ALF120.
- The wall can now be made good and plastered.



Skirting

- Cut a section of skirting (where used) and repeat the process to cut a slot of the same size in the same position.
- Fit the skirting to complete the installation.



Free-standing

Vertically

In some rooms it may be possible to stand the ALF120 vertically behind furniture. If you are considering this arrangement, always check the following points -

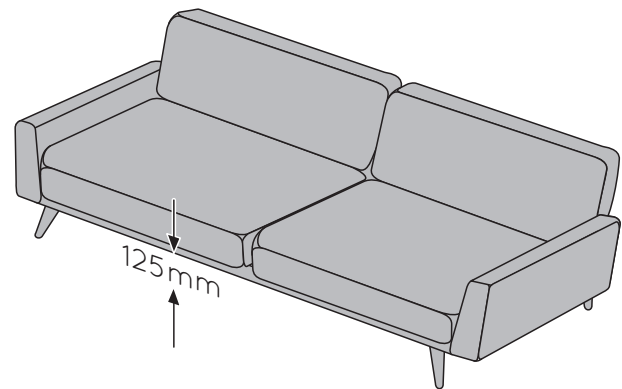
- Fit felt pads the end of the cabinet that stands on the floor.
- The outlet port must vent into free air and not be obstructed by a wall or furniture.
- Ensure that the ALF120 is secured to a fixed surface, such as bracketed to a wall, to ensure there is no danger of it toppling and causing damage or injury.
- Ensure that the cable(s) to the amplifier are fixed to stable surfaces and will not be a trip hazard.

Horizontally

The ALF120 is also suitable for horizontal use, laid on its back underneath furniture.

If you are considering this arrangement, always check the following points -

- Fit the feet to the back of the cabinet that stands on the floor.
- In horizontal installation the acoustic port must be set at the end of the cabinet and must not be obstructed.
- Check that a clearance greater than 125mm from the floor exists to accommodate the ALF120.



- Ensure that the cable(s) to the amplifier are fixed to stable surfaces and will not be a trip hazard.
-

Amplifier

Connection

- Connect the free end of the cable(s) to the amplifier speaker terminals.
- Ensure that the amplifier is set to operate with the correct equalisation for an ALF120.

The ALF120 will only integrate correctly with the system speakers if the amplifier is set with the correct equalisation for the ALF120.

Phase

When setting up any a speaker system that includes the ALF120, it is advisable to experiment with connecting the ALF120 in reverse phase with respect to the other system speakers.

- To do this, take a seat in a good listening position and play a short passage of music which includes some bass energy.
- Reverse the + and - wires where they connect to the amplifier.
- Repeat the listening test with the same passage of music.

Reverse-phase connection can result in better integration and slightly higher sound pressure level through “cross-over” region.

- Repeat the listening test until you can determine the best phase setting.

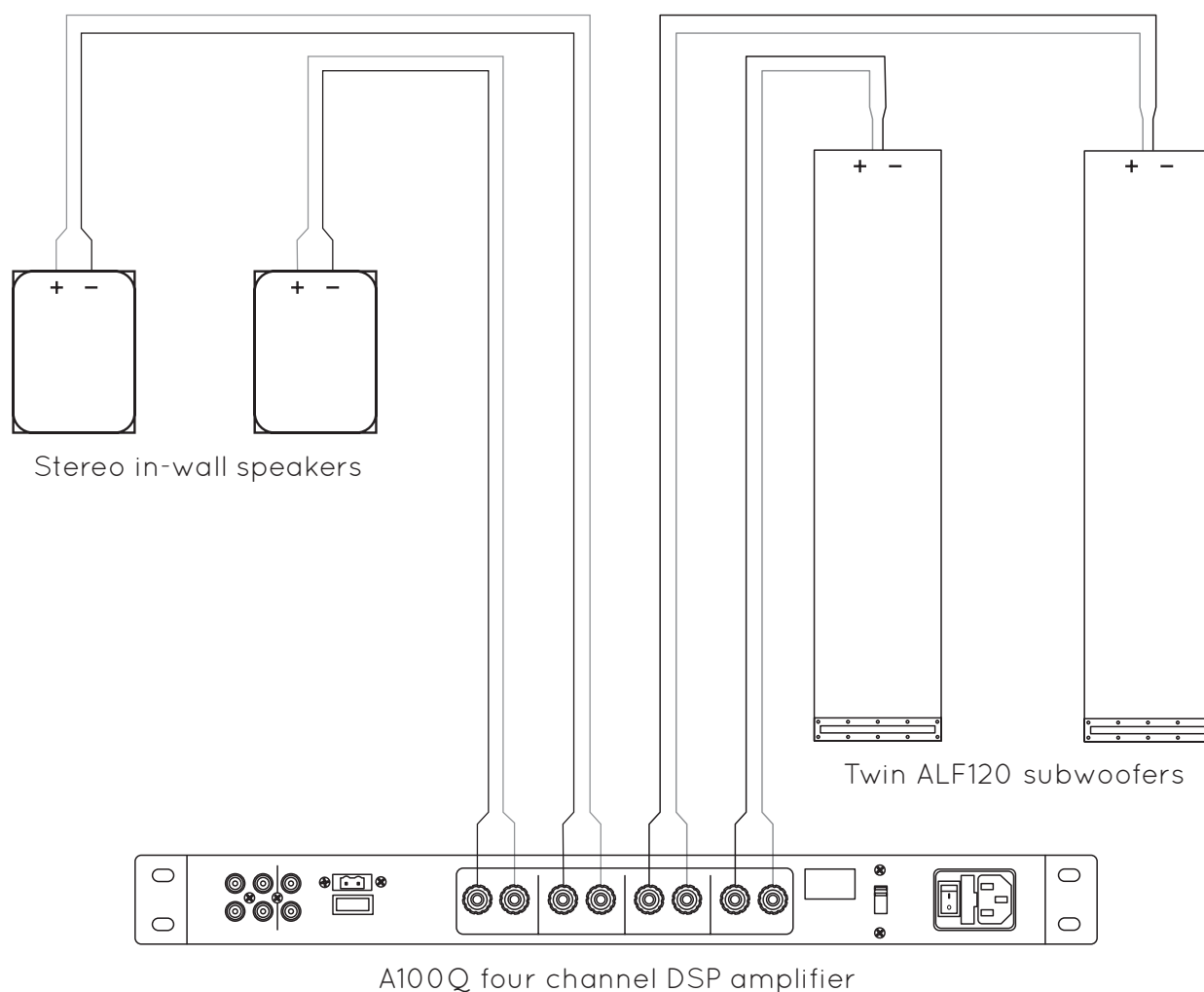
Using pink noise can be a good way of judging the difference between the in-phase and reverse-phase connections.

Connection schematic

The schematic on this page shows the wiring for a typical system set-up with twin ALF120 subwoofers, a stereo set of in-wall panel speakers and an A100Q amplifier to drive the complete system.

NOTE: The ALF120 must be driven by either an A100Q amplifier or an alternative DSP* amplifier with DSP program provided by Amina technical. The use of other amplifiers or DSP programs may result in damage to the ALF120.

*Digital signal processing



Troubleshooting

Symptom	Solution
No sound	The connections to the ALF120 are very simple, so check for a settings error or possible fault with the source or amplifier before investigating connections at the ALF120.
Imbalance between ALF120 and the system speakers	If the bass sound from the ALF120 is not in balance with the system speakers, check the subwoofer level settings in the DSP configuration software. Ensure that the DSP placement settings (corner, flat wall etc) have been correctly set.
Vibration (in-wall)	If the vibration occurs after completion of installation, disconnect the system speakers and run only the ALF120 (or just one ALF120 at a time where there are more than one). Use a slow frequency sweep (from a PC signal generator or test CD) to identify the problem frequency that excites the vibration. Set this frequency to excite the vibration continually, then locate the source by listening closely to the vibrating area. The source may be a loose wire or pipe in a cavity that should be tied down or foam wrapped, or a wall fitted item such as a light.

If you cannot resolve the problem, contact your supplier.

Specifications

Dimensions (H x W x D):	1605mm (63 ^{1/5} ") x 345mm (13 ^{1/2} ") x 118mm (4 ^{3/4} ")
Weight:	17.5kgs (38lbs 10oz)
Design:	DTL bass loading
Power Handling:	50W continuous
Nominal Impedance:	6 Ohms
Frequency Response:	27Hz - 120Hz (+/-6dB), 29Hz - 101Hz (+/-3dB),
Sensitivity:	96dB 1m/1W *
Maximum Short term SPL:	110dB @ 1m **
Connection:	3-Way binding post

* Quarter space loading.

** Quarter space (Pi) boundary loading.

Warranty

The ALF120 is designed to operate reliably for many years. Correctly installed and in accordance with these instructions, Amina warranties the ALF120 against defective materials and workmanship for a period of one year.





T E C H N O L O G I E S L t d

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