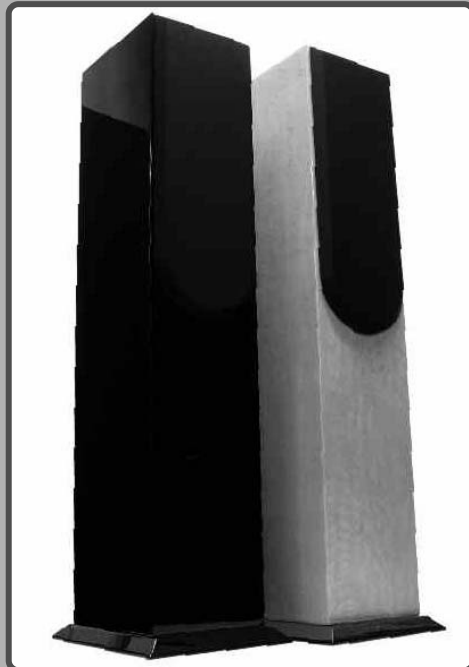


# ROKSAN

*Caspian*

**FR-5**

**M SERIES - 1**



Full Range Loudspeaker

USER MANUAL

## **ROKSAN AUDIO LIMITED**

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Congratulations on your purchase of the ROKSAN Caspian **FR-5** Loudspeaker. This Loudspeaker is designed and manufactured to the highest specification and rigorously tested to offer you many years of trouble-free pleasure.

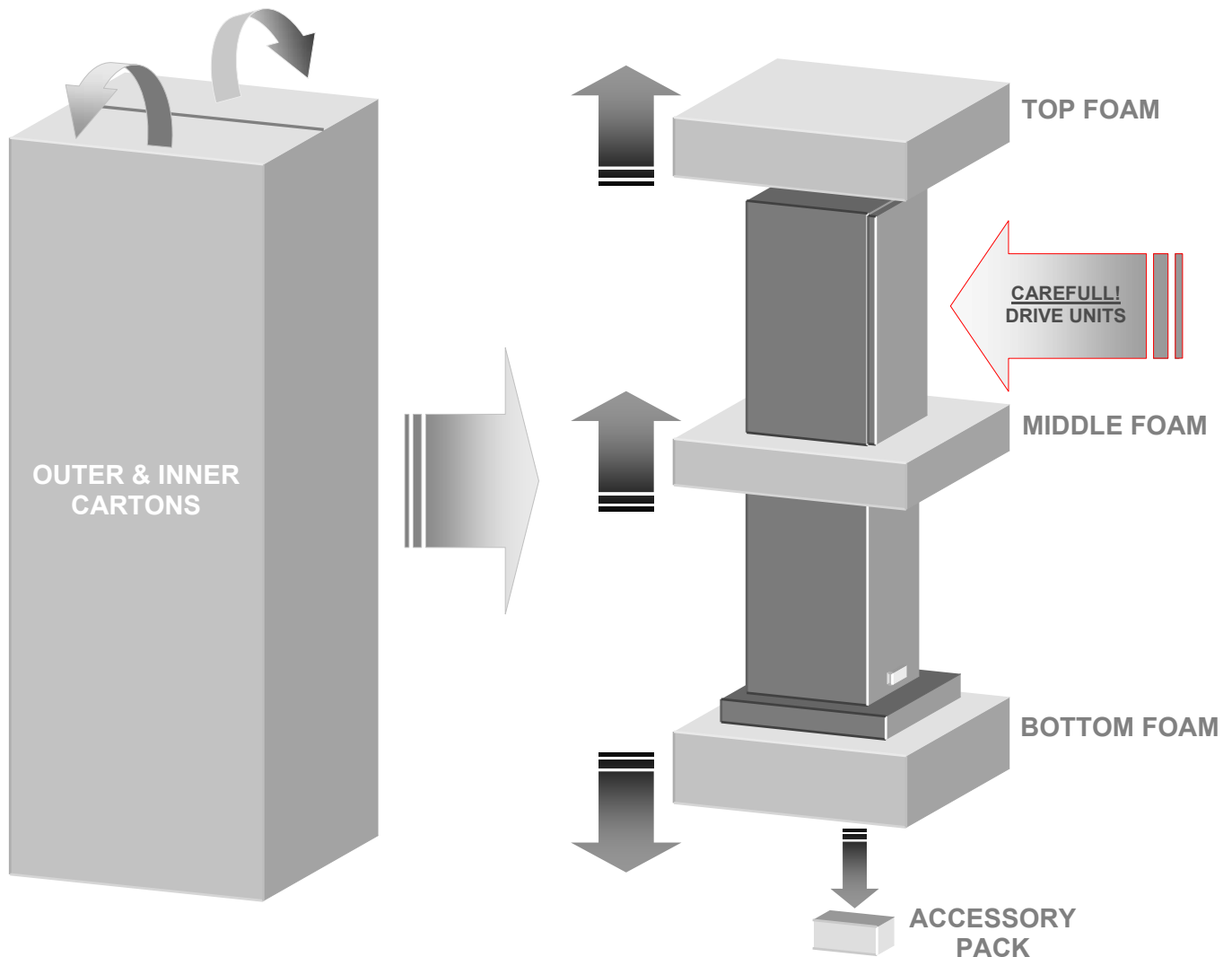
Your **FR-5** Loudspeakers are an integral part of your hi-fi system. Their correct installation, set-up and operation will have a profound influence on the sonic performance of the entire hi-fi installation.

Please read the contents of this manual thoroughly. It will help you to understand your hi-fi equipment better and enhance your listening pleasure.

This manual is divided into the following sections:

- Safety Instructions (*Accompanying card*)
- Introduction
- Cautions
- Installation
- Setup
- Operation
- Troubleshooting
- Guarantee
- Specifications
- Notes

## UNPACKING



Included in the packing of your Caspian **FR-5** Loudspeakers you will find:

- One spike accessory pack and spirit level in one marked loudspeaker carton
- One information pack and warranty card

After unpacking please retain **all** packing materials. Correct packing is necessary for future transportation of your Caspian **FR-5** Loudspeakers.

## **MAINTENANCE**

To maintain the appearance of the FR-5 loudspeaker as new, occasionally wipe the cabinet surface with a lightly dampened soft cloth or chamois leather. Quality wax based furniture polish may be used but you should experiment with the least obvious surface such as the back vertical plane (where the terminal panel is) to avoid any potential damage to the high quality finish.



### **DO NOT**

**wipe or press on the tweeter dome or the woofer cone as this may cause permanent damage to the drive units**



**Avoid use of abrasives or solvents**

## **CAUTIONS**

## **Caspian FR-5 Loudspeaker**

Your Caspian **FR-5** Loudspeakers are high quality audio devices, therefore care must always be taken to transport, position and operate the units correctly.

DO NOT expose the loudspeakers to extreme climatic conditions such as excessive cold, heat, sunlight, rain humidity or water etc...

DO NOT attempt to install the loudspeakers until you have read and understood all the necessary operational parameters and installation instructions regarding your Caspian **FR-5** Loudspeakers.

DO NOT make any connections between the amplifier and the loudspeakers while the amplifier is on. (Always refer to the amplifier user manual)

Caspian **FR-5** Loudspeakers contain no user serviceable parts. **Do Not remove any drive units/panels or attempt to service the loudspeakers yourself. *Unauthorised servicing will void the warranty.***

**ROKSAN Caspian FR-5 Loudspeaker - Front & Rear View**

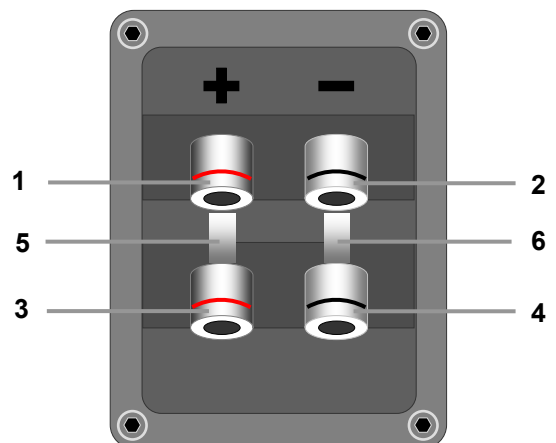


- 1. High frequency Tweeter
- 2. Low frequency Woofer (one)
- 3. Low frequency Woofer (two)
- 4. Loudspeaker Grille

- 5. Rear firing Port
- 6. Product label
- 7. Speaker terminal panel
- 8. Speaker Plinth

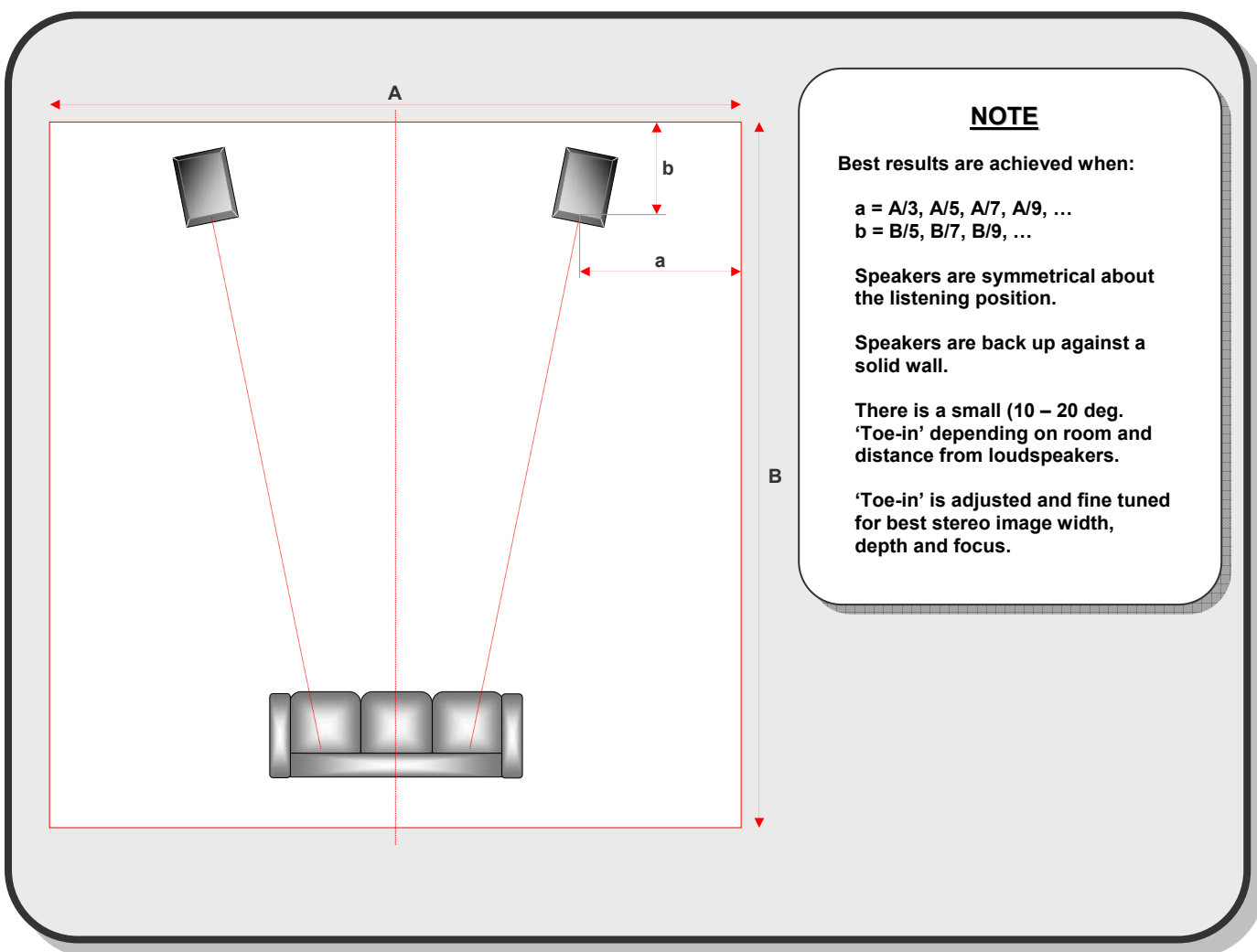
**ROKSAN Caspian FR-5 Loudspeaker – Speaker Terminal View**

- 1. Tweeter Input terminal (+ve)
- 2. Tweeter Input terminal (-ve)
- 3. Woofer Input terminal (+ve)
- 4. Woofer Input terminal (-ve)
- 5. Tweeter / Woofer +ve 'Jump-bar' (removable)
- 6. Tweeter / Woofer -ve 'Jump-bar' (removable)



One of the most important aspects of any loudspeaker installation is the positioning of the loudspeakers in the listening room. The art of loudspeaker positioning is to find the best compromise between sonic performance and domestic constraints in order to achieve optimum listening conditions. It may be necessary to slightly rearrange the layout of the furniture in your room. See below for general rules on setting up loudspeakers in a room.

As a rule, the loudspeakers should be positioned about 2 metres apart and symmetrical in relation to the central listening position. Both speakers should be in similar acoustic environment, for example, only one speaker should not be in an alcove. Avoid placing speakers in the room corners as this will result in a 'boomy' sound. The position of the loudspeakers relative to the rear wall and the amount of 'toe-in' are covered later as these are matters for fine tuning once the system is working. A rear space of around 200mm and about 15 degrees of 'toe-in' are good starting points.



### **NOTE**

Best results are achieved when:

$$a = A/3, A/5, A/7, A/9, \dots$$
$$b = B/5, B/7, B/9, \dots$$

Speakers are symmetrical about the listening position.

Speakers are back up against a solid wall.

There is a small (10 – 20 deg. 'Toe-in' depending on room and distance from loudspeakers.

'Toe-in' is adjusted and fine tuned for best stereo image width, depth and focus.

**NOTE:**

To assist setup, do not fit the speaker spikes yet. This will be done after the optimum position/location of the speakers in the room is established.

**CONNECTING LOUDSPEAKER CABLES**

*Conventional*

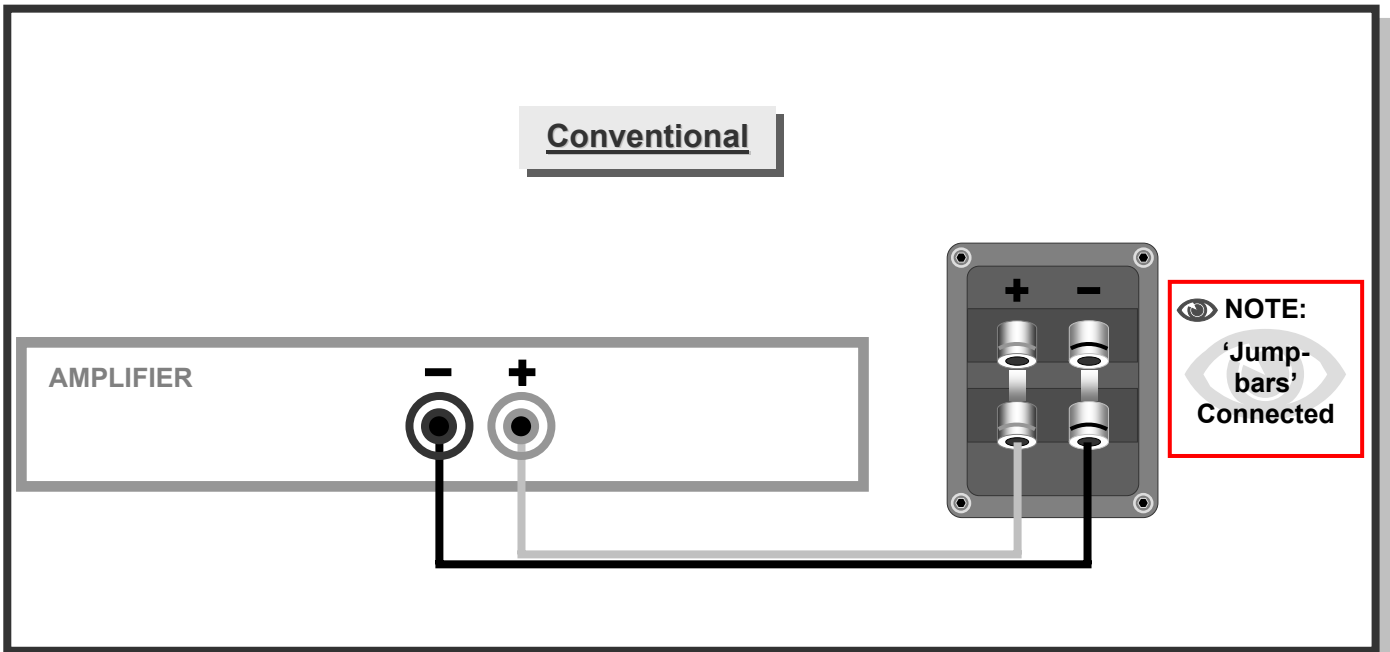
Please refer to rear terminal panel view on Page 4. There are two sets of terminals the upper set corresponds to the tweeter and the lower to the woofers. There is a small illustration printed on the rear label for your reference. The Caspian **FR-5** Loudspeaker comes supplied with a set of two removable 'jump-bars' already connected. To connect the loudspeaker conventionally, simply attach your speaker cable to the lower set of terminals marked 'woofer'. Make sure that both loudspeakers of the pair are connected in the correct polarity with respect to the output terminals of your amplifier:

	<b>RIGHT</b>	➔	<b>RIGHT</b>	and	<b>LEFT</b>	➔	<b>LEFT</b>
<i>and</i>	<b>RED</b>	➔	<b>RED</b>	and	<b>BLACK</b>	➔	<b>BLACK</b>
<i>or</i>	<b>+ve</b>	➔	<b>+ve</b>	and	<b>-ve</b>	➔	<b>-ve</b>

**IMPORTANT NOTE:**

Always switch the **Amplifiers OFF** before attempting to connect or disconnect the speaker cables to/from your loudspeakers. Failure to do this may cause permanent damage to the amplifier and/or the loudspeakers.

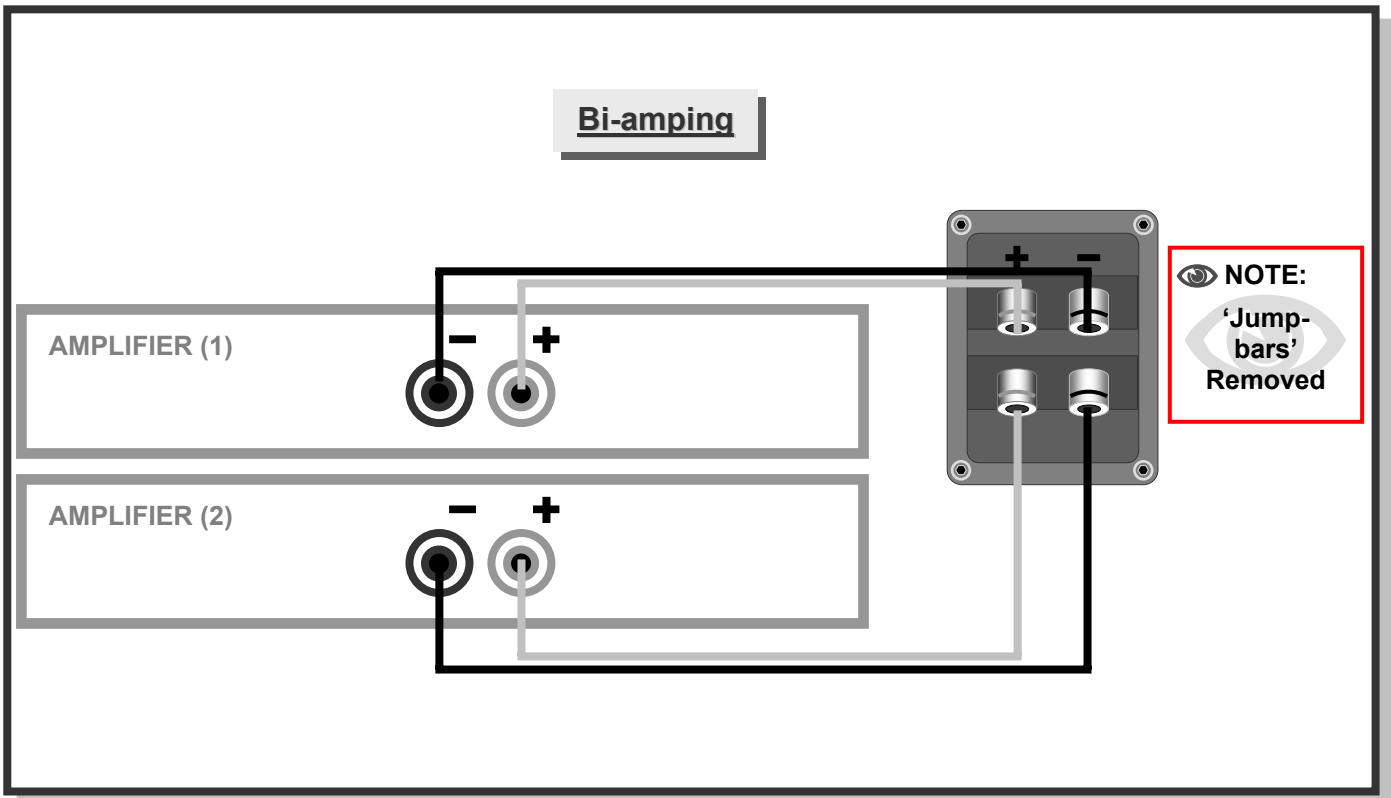
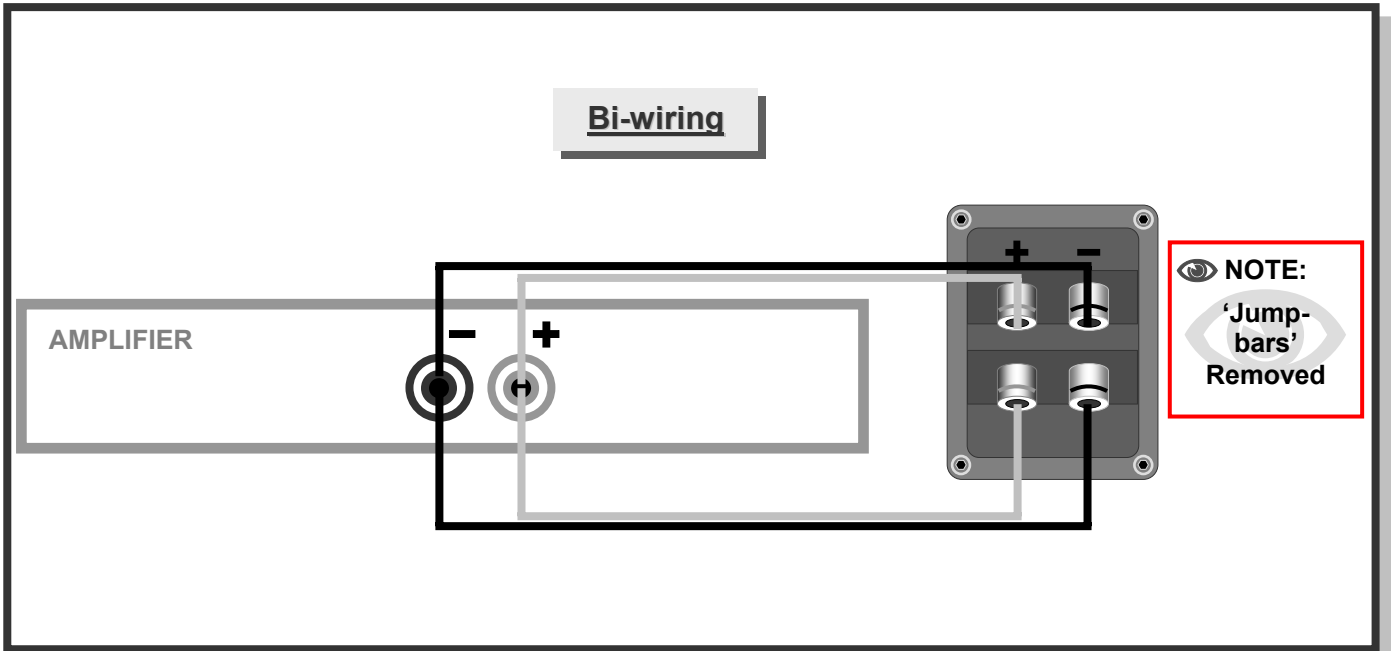
**Conventional**



**NOTE:**

For optimum performance it is recommended to use high quality cables such as **ROKSAN HDC-02S** High Definition Speaker Cable. Many speaker cables such as the ROKSAN HDC-02S are directional. Please observe this directionality. **DO NOT** use speaker cable with conductor size less than 16 AWG (1.6mm Diameter). The Binding posts accept conductor sizes up to 12 AWG.

Your Caspian **FR-5** Loudspeaker can easily be adapted to employ one loudspeaker cable for the tweeter and another for the woofers. This is achieved by removing the 'jump-bars' from the terminals and utilising each set of terminals accordingly:



## LOUDSPEAKER SPIKES

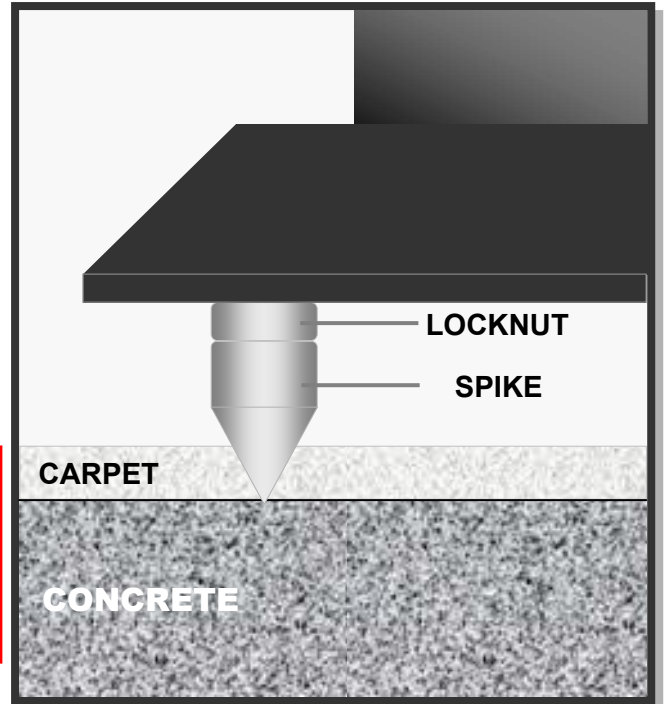
In order to realise the full potential of your Caspian **FR-5** Loudspeaker system, it is necessary to locate each of the loudspeakers as rigidly as possible on the ground. Using the supplied set of spike feet, image stability, transparency, definition and attack of the sound will improve as the loudspeakers are rigidly coupled to ground. Three most common setups are described below.

### Concrete Floor

If you have a carpeted floor on concrete, the spikes should be used with their pointed end facing downwards, piercing the carpet and making contact with the concrete surface. Adjust the spikes so that the loudspeaker is level with respect to the floor. (horizontally & vertically) Use the supplied spirit level for accurate levelling of the FR-5 loudspeakers. Try to ensure that both loudspeakers are aligned to more or less the same height. Check the loudspeaker is not 'rocking' by pushing down on opposite corners of the top of the loudspeaker. Adjust the corresponding spike on the bottom to prevent any 'rocking'. Once you are satisfied with the rigidity and level, tighten up the lock-nuts.

#### NOTE:

Please note there are **NO** items such as electrical cables, piping etc. immediately under the carpet/floor where the spike positions are.



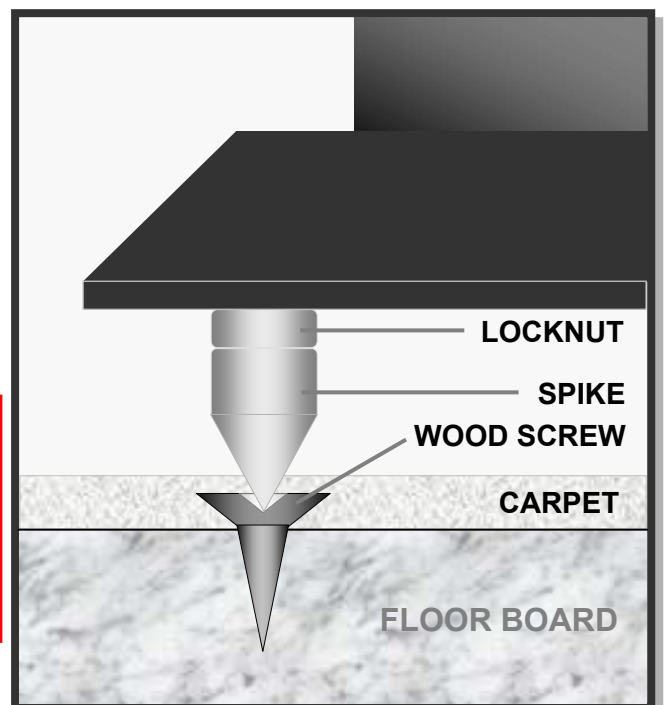
### Carpeted Floor Boards

The procedure for carpeted room with floor boards is the same as for concrete floor. However, a more rigid mounting can be achieved by the following procedure.

After the speaker has been on the carpet for a little while, the spikes would make an impression on the surface of the carpet. By carefully removing the loudspeaker from its position without disturbing the spike impression on the carpet, four 'cross-head' wood screws can be fitted, one in each of these impressions. Remember to use large enough size screws to ensure good final rigidity of the loudspeaker cabinet relative to the floor boards.

#### NOTE:

Please note the screws should **NOT** be too long as these could go through the floor board and cause serious damage to any cable, structure or piping under the floor boards. It is equally important to ensure there are **NO** other items, electrical cables etc. under the carpet where the spike positions are.

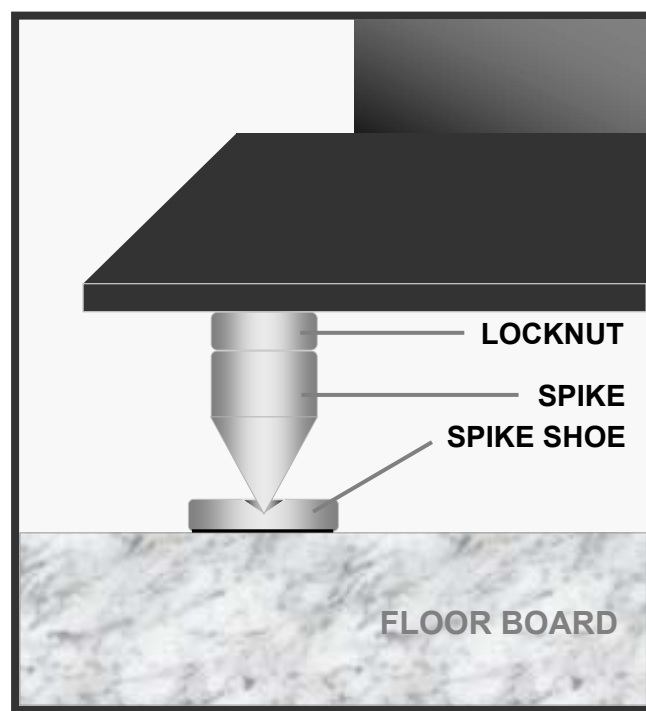


Adjust the spikes and level the speakers as outlined above.



To avoid any damage to the surface of plain floors (Marble, Wood flooring etc.), use the supplied spike shoes (rests). Place these on the floor surface with the spike point recess on top. Carefully place/position the spikes into the recesses and adjust the position of the speakers accordingly.

Adjust the spikes and level the speakers as outlined above.



## OPERATION

## Caspian FR-5 Loudspeaker

When all the connections to the loudspeakers have been made correctly, you can switch on your amplifier(s). Always ensure that the volume setting is at minimum before playing any music through your loudspeakers. Check if there is any audible 'hum' in the system by listening to the loudspeakers with out any music playing and gradually increasing the volume. If there is any 'hum' or 'buzz' consult your appointed ROKSAN dealer or distributor.

## FINAL POSITIONING

When setting-up or testing your Caspian **FR-5** Loudspeaker system, choose the music material that you know well and sit in the central listening position. Do not be surprised if initially the music sounds different to what you have been used to.



### NOTE:

Your Caspian **FR-5** Loudspeaker system requires at least 48 hours of continuous music programme at reasonable volume to allow the various moving parts of the drive units and other component to 'burn-in'. After this period has elapsed, the bass will increase in weight, definition, extension speed and articulation whilst the treble will sound more open, coherent and tactile.

The **FR-5** Loudspeaker system will continue to improve in performance over the first few weeks of use and it is at this time you should finalise the placement of your loudspeakers.

At this stage try to analyse the sound objectively by listening to the overall balance and separation between various music instruments and voices, and to the stability of the 'sonic image' of your favourite music material or a good test album. After you have been listening for some time, begin to experiment with the positioning of the loudspeakers. Moving the loudspeakers away from the rear wall and more into the room will reduce the prominence of the low frequencies (bass) and improve the focus and the 3-dimensionality of the stereo image. Moving the loudspeakers closer to the rear wall will increase the prominence of the bass at the possible expense of degrading the focus of the stereo image.

Once you have found the position for a satisfactory tonal balance, try altering the angle of 'toe-in' of the loudspeakers. This will also affect the focus of the stereo image but it is highly dependent upon the acoustic environment of your room. The **FR-5** Loudspeakers will begin to 'disappear' as you approach the ideal position of the loudspeakers in your room.

For best results keep experimenting. This will increase your understanding of the way the loudspeakers interact with your room and improve the performance of your entire audio system.

 **NOTE:**

A final adjustment and leveling of the speakers/spikes should be carried out after the optimum position/location of the speakers in the room is established.

**TROUBLESHOOTING**

*C a s p i a n* **FR-5** Loudspeaker

If you suspect that your ROKSAN Caspian **FR-5** Loudspeakers are not operating properly, you should check all the connections carefully. Pay particular attention to speaker phasing and channel connections. Below are some commonly encountered problems with suggestions for possible cure. The list is not exhaustive: If you have any unresolved problems, please consult your appointed ROKSAN dealer or distributor.

<b>SYMPTOM</b>	<b>LIKELY CAUSE</b>	<b>SUGGESTED REMEDY</b>
No sound from one or both speakers	Speaker cables not connected properly 'Jump-bars' not connected properly  Amplifier not switched ON Volume set at minimum	Ensure proper connection of cables Check all connections and tighten the terminal binding posts Switch amplifier ON Increase volume
Poor stereo image (not focused/defined) and/or lack of Bass	Speaker cable connected out of phase  'Jump-bars' not connected properly	Check speaker and amplifier speaker terminals are connected to corresponding cable (check colours and/or markings) Check all connections and tighten the terminal binding posts
Hum from speakers	Incorrect Grounding	Check Mains polarity and grounding on all connected equipment

## GUARANTEE

## Caspian FR-5 Loudspeaker

There are no user-serviceable parts inside your Caspian **FR-5** Loudspeakers. If a fault should develop, refer any servicing to your appointed ROKSAN dealer, distributor or ROKSAN approved service agent.

Your ROKSAN Caspian **FR-5** Loudspeakers are guaranteed against any defect in materials and workmanship for a period of **two years** from the date of purchase.

This guarantee only becomes effective if the warranty card is validated by the ROKSAN retailer from whom the equipment was purchased and returned to ROKSAN within **28 days** of purchase.

This guarantee excludes:

1. Damage caused due to accident, misuse, neglect and incorrect installation, adjustment or repair.
2. Liability for damage or loss during transit from the retailer or purchaser to ROKSAN or its authorised distributor for the purposes of repair or inspection.

Carriage costs to ROKSAN shall be borne by the consignor.

All claims under this guarantee must be made through an authorised ROKSAN retailer.

If equipment returned for repair to ROKSAN is found on inspection to comply with the product specification ROKSAN reserves the right to make a charge for examination and return carriage.

**Unauthorised servicing will void this guarantee.**

## SPECIFICATIONS

## Caspian FR-5 Loudspeaker

Tweeter	25mm Coated Fabric Dome Magnetically Shielded & Ferro Fluid-cooled
Woofers	130mm Coated Paper (x2) Magnetically Shielded with 25mm Voice Coil
Input Sensitivity (1W, 1m)	87dB
Nominal Impedance	> 4Ω
Frequency response	32Hz – 20kHz (In Room Response) 43Hz – 20kHz (-6dB)
Nominal Power Handling	85 Watts
Peak Power Handling	135 Watts
Dimension	200 x 250 x 1000 (W x D x H) mm 250 x 315 x 1000 (with base)
Weight	35 Kg (each)

## NOTES

## Caspian FR-5 Loudspeaker

Caspian FR-5 Loudspeaker System

Serial Number: .....

Serial Number: .....

Purchase Date

Day ..... Month ..... Year .....

ROKSAN Retailer

Name: .....

Location: .....

*Please keep a record for future reference*



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**email [info@roksan.co.uk](mailto:info@roksan.co.uk)**