

ROKSAN

Caspian

M SERIES - 1

Stereo Power Amplifier

USER MANUAL



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Congratulations on your purchase of the ROKSAN Caspian Power Amplifier. This amplifier is designed and manufactured to the highest specification and rigorously tested to offer you many years of trouble-free pleasure.

Your Caspian Power Amplifier is the engine of your hi-fi system. Its 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 Power Amplifier you will find:

- One mains lead fitted with the correct mains power plug for your country
- One information pack and warranty card

After removing these items please retain **all** packing materials. Correct packing is necessary for future transportation of your Caspian Power Amplifier.

MAINTENANCE

After disconnecting the amplifier from the mains supply, the cabinet and front panel may be cleaned with a lightly dampened soft cloth or chamois leather. **Avoid using abrasives or solvents.**

EU DIRECTIVES

This product is designed to comply with the legal provisions of EU Directives 89/3336/EC and 72/23/EC. The standards which have been applied are those which were in force at the time of the introduction of this product.

This product bears the CE mark.



This product is compliant to EN 60065.

This product must be earthed. Please ensure that other equipment connected to it is earthed according to the manufacturer's instructions.

AC MAINS SUPPLY

Your Caspian Power Amplifier is set to operate from a fixed supply voltage which is marked on a label next to the mains input plug. Before connecting the mains lead please check that your mains supply corresponds to this label as below:

230V Products	Voltage Range: 220V – 240V
115V Products	Voltage Range: 100V – 120V
100V Products	Voltage Range: 90V – 110V

The mains lead supplied with this product has an IEC mains socket which plugs into the IEC connector on the unit's rear panel. The other end is normally attached to the appropriate mains plug for your country. In the UK this is the standard UK13A plug.

This plug should ordinarily not be removed from the lead. If you *do* remove it, please dispose of it safely so that it cannot be plugged into a mains socket whilst in a potentially dangerous condition. We suggest that you obtain from your dealer a complete replacement lead.

Should you move to another area where either the mains voltage or the mains plugs are different from those as supplied with your Power Amplifier, please contact the appointed ROKSAN distributor for assistance.

Please observe correct mains polarity at all times.

The Power Amplifier mains fuse is located on the rear panel next to the IEC mains connector. This must only be replaced by the fuse of the type and rating as described on the fuse rating label on the rear panel of the unit.

If the equipment is likely to be unused for some time, unplug it from the mains supply.

GENERAL CAUTIONS**FCC WARNING**

This equipment may generate or use Radio Frequency energy. The user may lose the right to operate this equipment if unauthorised modifications are made.

INTERFERENCE

Properly installed, this unit should not cause harmful interference to radio communications, There is, however, no guarantee that such interference will not occur in a specific installation. If interference arises (which you can determine by switching the unit off and on) you could try to remedy this problem by the following:

- Re-orient or re-locate the receiving antenna
- Increase the distance between the Power Amplifier and receiver
- Connect the unit to a different mains circuit from that of the receiver
- Consult your ROKSAN appointed dealer or an experienced Radio/TV technician for help and advice

LOCATION

Your Caspian Power Amplifier should be located in a well ventilated area and kept away from sources of heat, dust, humidity and direct sunlight.

The Power Amplifier may be positioned either as a free standing unit or alongside another audio/video product. Never place the Power Amplifier on carpet or any surface likely to hinder normal ventilation. Never allow liquids or other objects to fall into the unit.

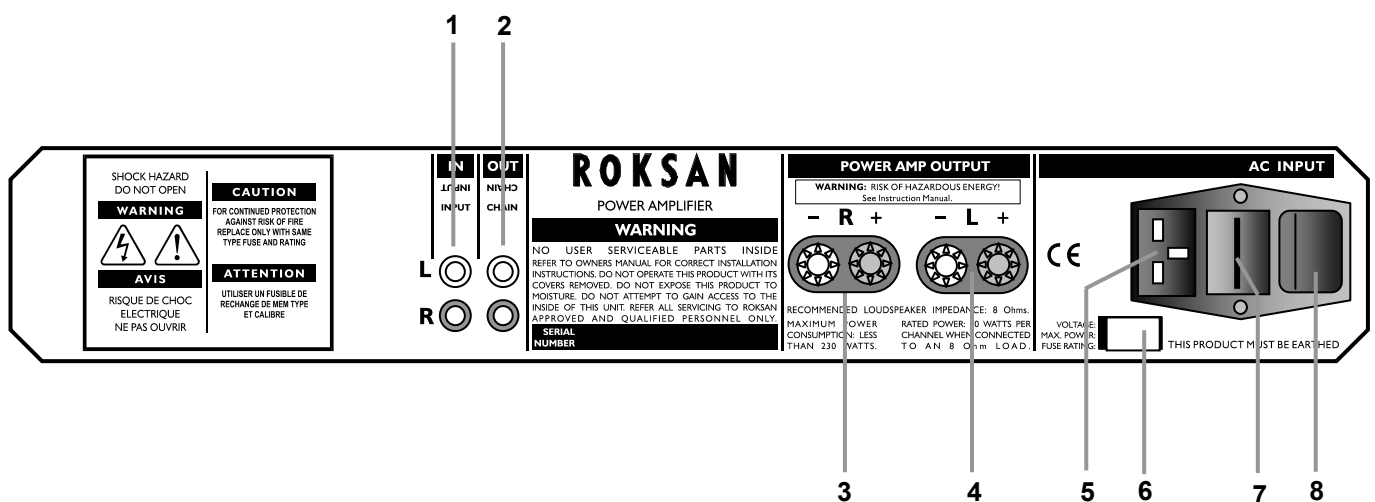
This unit contains no user serviceable parts. **Do Not remove any panels or attempt to service it yourself. Unauthorised servicing will void the warranty.**

ROKSAN Caspian Power Amplifier- Front Panel View



1. Manual Mode Button
2. Manual Mode Indicator
3. Auto Mode Indicator
4. Auto Mode Button

ROKSAN Caspian Power Amplifier - Rear Panel View



1. Power Amp Input
2. Chain Output
3. Right Speaker Output
4. Left Speaker Output
5. AC Mains Input
6. Voltage & Fuse Label
7. AC Mains Fuseholder
8. AC Mains Power Switch

CONNECTING MAINS POWER

Please refer to rear panel view on Page 4. The moulded IEC connector of the supplied mains lead should be plugged into the socket (5) on the rear of the unit first and then plugged into the mains supply. The Mains power switch (8) is on the rear panel of the Power Amplifier. This switch is normally left on. If the unit is likely to be unattended for a long period, switch it off and unplug the mains lead from the wall.

SIGNAL CONNECTIONS

Signal Input connections:

Input sockets are RCA Phono Sockets and should be connected according to the standard convention – Right Channel – Red; Left Channel – White or Black.

Connecting a Preamplifier:

Connect the Preamplifier Output to the INPUT IN Sockets (1) on the rear panel of the Caspian Power Amplifier.

Chain Connecting Multiple Amplifiers:

If there are no extra 'PRE OUT' sockets available for connection to further power amplifiers; connect the CHAIN OUT Sockets (2) on the rear panel of the first Caspian Power Amplifier to the INPUT IN Sockets of the second unit, and so on. Several amplifiers can operate together in this way.

Bi-amping with the Caspian Integrated Amplifier:

Connect the PRE 1 or 2 OUT Sockets on the rear panel of the Caspian Integrated Amplifier to the INPUT IN Sockets (1) of the Caspian Power Amplifier (See diagram on Page 6).

IMPORTANT NOTE: For optimum performance it is recommended to use high quality inter-connect cables such as ROKSAN **HDC-02A** high definition analogue Cable.

LOUDSPEAKER CONNECTIONS

The right and left loudspeakers are connected to the amplifier via the rear panel binding posts (3) and (4) respectively. There are two basic types of cable –

- **Figure 8 cable** has two insulated conductors which lie parallel, either side by side, or spaced by insulation.
- **Overall sheathed cable** has both conductors insulated and enclosed in an overall plastic sheath.

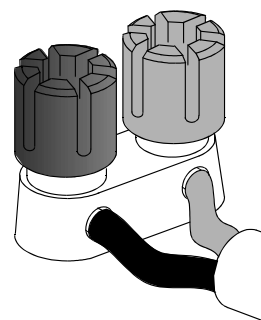
Carefully remove any overall sheath or split the figure 8 cable to a depth of about 75mm (3").

Carefully strip the insulation on each wire to a depth of about 12mm (1/2") exposing the bare core. If the conductor is stranded, twist the strands together on each conductor.

Unscrew the binding post. There is a cross-hole about 5mm from the panel end of the binding post. Insert the bared conductor through the hole and tighten the binding post securely making sure that there are no loose strands or bare ends protruding through the post.

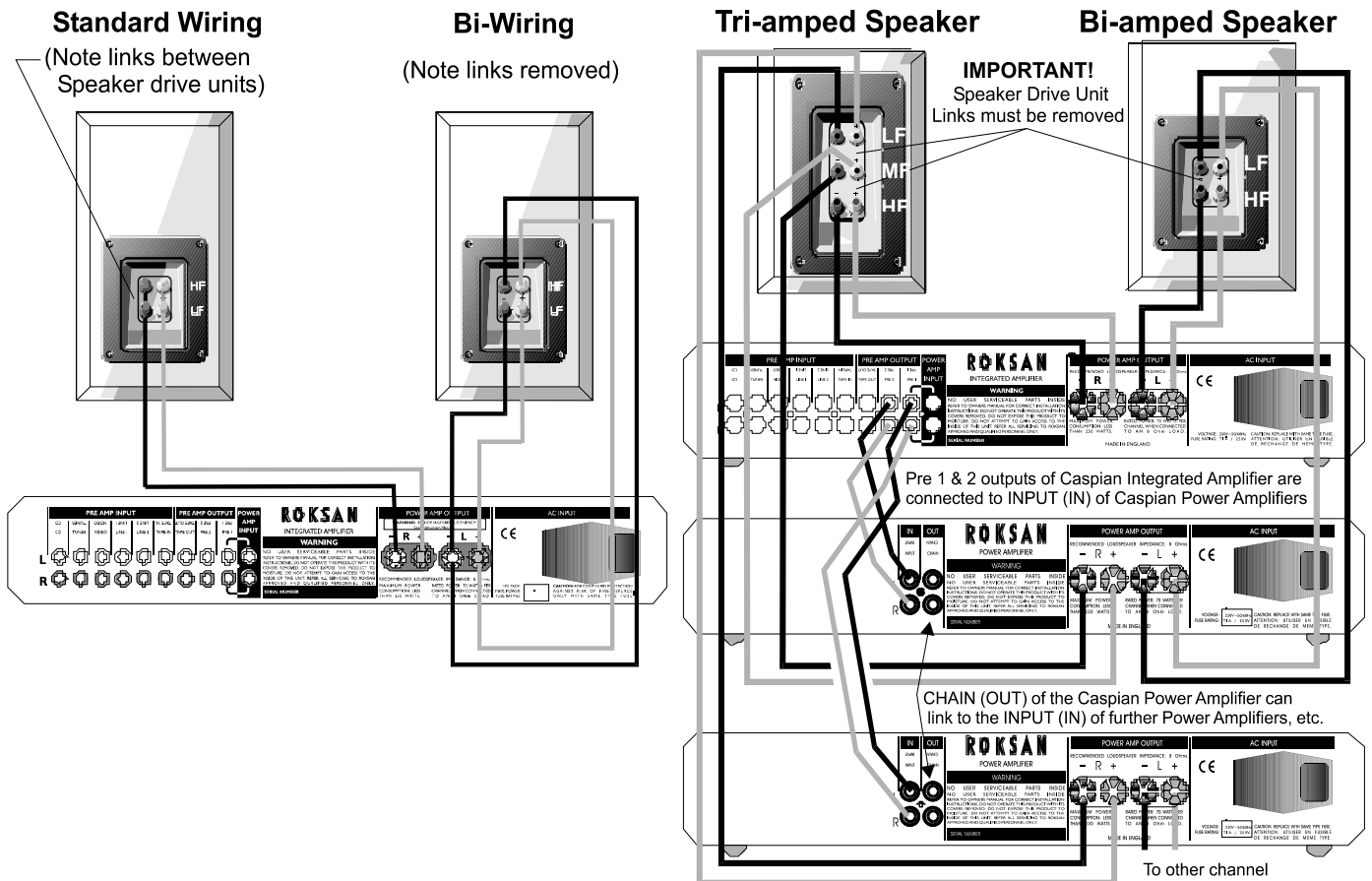
Carefully observe polarity ensuring that the RED (+) speaker terminal is connected to the RED (+) amplifier terminal and the BLACK (-) speaker terminal to the BLACK (-) amplifier terminal.

When both left and right channels are connected to their respective speakers the amplifier is ready for use.



IMPORTANT NOTE: For optimum performance it is recommended to use high quality cables such as ROKSAN **HDC-02S** high definition Loudspeaker 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.

MULTI-WIRING AND MULTI-AMPING



Multi-Amping The Loudspeakers

Operation

If the Loudspeakers utilise more than one drive unit with individual input terminals, for example a Tweeter and a Woofer, then the loudspeaker performance will benefit from Bi-Amping. Dedicating one amplifier to the Tweeter and another to the Woofer isolates them from each other hence reducing distortion and increasing reserved power. Speakers work far better with most amplifiers when Multi-Amped than using one yet more powerful amplifier. *Note: Bi-Wiring reduces the impedance seen by the Woofer and the Tweeter and is a first step towards Bi-Amping.*

OPERATION

Caspian Power Amplifier

Please refer to the front and rear panel views on page 4.

SWITCHING ON

The Mains power switch (8) is located on the rear panel of the amplifier. This switch should be left ON for normal operation. If unattended for a long period, the Mains power should be switched OFF and the lead disconnected from the power supply.

When switched ON from the rear panel, your Caspian Power Amplifier runs a self-test and then enters Standby. The MANUAL Indicator Light (2) will glow GREEN.

MANUAL OPERATION

Press the MANUAL Button (1). The MANUAL Indicator Light will glow RED. The amplifier will now be operational. To return the amplifier to Standby, press MANUAL Button again. The MANUAL Indicator Light will glow GREEN.

AUTOMATIC OPERATION

Press the AUTO Button (4). The AUTO Indicator Light will glow RED and the amplifier will be operational. To go to Auto Standby, press AUTO Button again. The AUTO Indicator Light will glow GREEN.

When the amplifier is in Auto Standby, it will switch itself ON whenever an audio signal is applied to the inputs. If the amplifier does not receive a signal for approximately five minutes, it will switch itself back to Auto Standby.

With this facility the Caspian Power Amplifier is ideal for Multi-amping or in any application, (e.g. multi-room), where the amplifier is required to switch ON and OFF with the rest of the system with no loss of functionality.

KNOW YOUR CASPIAN

- When you first power up from the Mains Switch on the rear panel, the amplifier runs a self-test and then enters Standby and the MANUAL Indicator glows GREEN.
- During Standby, the power stage of the amplifier shuts down to reduce power consumption and heat.
- The AUTO and MANUAL Buttons toggle each other ON and OFF. In Auto Mode, pressing the MANUAL Button will set the amplifier to Manual Standby, and vice versa.
- If the amplifier detects an external fault, such as short-circuit on the loudspeaker leads, the amplifier will go to Standby. You can only bring the amplifier out of Standby when the fault is cured.
- If the amplifier overheats through overload or lack of ventilation, the Caspian will revert to Standby. When it has cooled down you will be able to bring it out of Standby.

In the unlikely event of an internal fault such as a power supply fault, the amplifier will go to permanent Standby.

TROUBLESHOOTING

Caspian Power Amplifier

If you suspect that your ROKSAN Caspian Power Amplifier is not operating properly, you should check all the connections carefully. Pay particular attention to speaker phasing and channel connections. Phono plugs should be fully inserted- a frequent cause of problems is that Phono plug surrounds do not make proper contact. 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.

SYMPTOM	LIKELY CAUSE	SUGGESTED REMEDY
No power	AC Mains lead not inserted properly Unit not switched ON at rear panel	Ensure AC Mains lead is fully inserted Switch unit ON at rear panel
No output on one or both channels	Amplifier in stand-by mode (MANUAL Indicator Light GREEN) Missing or bad input signal connection Incorrect speaker connection	Press MANUAL Button to set amplifier in operational mode (MANUAL Light RED) Check all input connections Check speaker output connections on rear panel
Poor speaker imaging, lack of Bass output	Over heating Loudspeakers connected out of phase	Allow amplifier to cool, increase ventilation or use at lower volume Check polarity of speaker connections (especially important if Multi-wiring, Multi-Amping)
Hum from speakers	Incorrect Grounding	Check Mains polarity and grounding on all connected equipment

GUARANTEE

Caspian Power Amplifier

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

Your ROKSAN Caspian Power Amplifier is 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 Power Amplifier

Input Impedance	38 k Ω
Input Sensitivity	700mV RMS
Signal Inputs	Left & Right channels
Signal Outputs	Chain Output L & R Channels
Power Outputs	Loudspeaker, L & R
Output Power	>85 Watts continuous, into 8 Ω both channels driven >120 Watts continuous, into 4 Ω both channels driven
Power Supply	330VA Ultra Low Noise Toroidal Transformer
Current Output	50 Amps Peak to Peak
Damping Factor	>140 (8 Ω)
Frequency response	-3dB, <1Hz – >100kHz
Gain	30.7dB
Harmonic Distortion	<0.003% 1kHz - 8 Ω <0.003% 1kHz - 4 Ω
Signal to Noise Ratio	>116dB (ref 70W, 8 Ω)
Power Source	100V – 120V 50Hz / 60Hz 220V – 240V 50Hz / 60Hz (via filtered mains inlet)
Power Consumption	< 230 W
Dimension	432 x 330 x 70 (W x D x H) mm 432 x 330 x 85 (including feet)
Weight	10 Kg

NOTES

Caspian Power Amplifier

Caspian Power Amplifier M series-1

Purchase Date

ROKSAN Retailer

Serial Number:

Day Month Year

Name:

Location:

Please keep a record for future reference