

KAM

INSTRUCTION MANUAL

EXTREME R SERIES

Professional high power speakers

M A N U A L V E R S I O N 2 . 0
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Professional high power portable speakers

Outstanding high power sound reproduction with deep powerful bass

Superb mid high audio reproduction through HQ titanium compression horns

Extremely tough cabinet construction and injection moulded front panels

Available in 12 inch, 15 inch and twin 15 inch full range with
complimentary 15 inch and 18 inch bass bins

For the latest instruction manual updates and information on the entire Kam range visit:

www.kam.co.uk

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If this product is ever no longer functional please take it to a recycling plant for environmentally friendly disposal.

Due to continuous product development, specifications and appearance are subject to change.

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Thank you for purchasing this product, we are sure that it will serve you for many years to come. To optimise the performance of this product, please read these operating instructions carefully to familiarise yourself with the basic operations of this unit. After you have read the instructions, please retain them for future reference. This unit has been tested at the factory before being shipped to you.

To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or moisture. To prevent a fire hazard, do not expose the unit to any naked flame sources. Unplug this apparatus during lightning storms or if it is unlikely to be used for long periods of time. When installing the unit, please ensure you leave enough space around the unit for ventilation. Slots and openings in the unit are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. To prevent fire hazard, the openings should never be blocked or covered. Always handle the power cable by the plug. Never pull out the plug by pulling on the cable. Never touch the power cable when your hands are wet as this could cause an electric shock. Do not tie a knot in the cable. The power cable should be placed such that it is not likely to be stepped on. A damaged power cable can cause a fire or give you an electrical shock. Check the power cord periodically, if you ever find that it is damaged, replace it before using the unit again. Contact your retailer for a replacement. The voltage of the available power supply differs according to country or region. Be sure that the supply voltage of the area where this unit is to be used meets the required written on the unit.



The lightning flash symbol inside a triangle is intended to alert the user to the presence high voltage within the unit's enclosure that may be of sufficient power to constitute a risk of electrical shock to persons. Caution: to prevent the risk of electric shock, do not attempt to open the unit. No user-serviceable parts inside. Refer all servicing to qualified service personnel. The exclamation mark inside a triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance. Any modification carried out on the unit may invalidate the unit's warranty.

Select the installation location of your unit carefully. Do not use the unit where there are extremes in temperature (below 41°F / 5°C or exceeding 95°F / 35°C). Unpacking and safety: Please unpack your new product carefully, your new product should reach you in perfect condition. Please check that no damage has occurred during transit. If any damage is found, do not operate your unit. Please contact the retailer you purchased it from immediately. Always disconnect the unit from the mains supply when carrying out any servicing or cleaning of the unit. The serial number for this equipment should be located on the rear or underside of the unit. Please make a note of this number as you will need it for your warranty, it is a good idea to keep a copy of the serial number for your own records.

OVERVIEW

Kam believe in giving you products with the features and performance you want at a price you can afford and the Extreme R Speaker Series is living proof of our commitment to meeting that goal. The Extreme R range combines high quality components with rugged construction and superb styling to deliver products that sound and look great and are built to last. We have enjoyed our work in creating them, we are proud of what we have achieved and hope you enjoy using them.

Extreme R12 / R15 / R215 These are two way, full frequency passive loudspeakers and they need to be connected to an external amplifier. They are ideal for use in conjunction with Kam amplifiers but can be used with any suitably powered amplifier.

What sort of amplifier is right for your speakers? So that you get the best sound and avoid unnecessary damage to your Extreme R Series speakers it is important that you only use them with an appropriate amplifier.

Your speakers have a maximum power rating;

Extreme R12 can tolerate a 250W RMS or 500W Peak signal @ 8 Ohms.

Extreme R15 can tolerate a 350W RMS or 700W Peak signal @ 8 Ohms.

Extreme R215 can tolerate a 550W RMS or 1100W Peak signal @ 4 Ohms.

Extreme R15S can tolerate a 400W RMS or 800W Peak signal @ 8 Ohms.

Extreme R18S can tolerate a 500W RMS or 1000W Peak signal @ 8 Ohms.

These figures are there to guide you in your choice of amplifier. If you use an amplifier which is too powerful or not powerful enough you could damage either your amplifier or your speakers so you need to find an amplifier with a stated maximum power output that is just right for your speakers.

About Bridging Throughout this user guide we refer to using 'multiple amplifiers' to drive systems rather than specifying how many amplifiers you might need to use. This is because when configuring PA systems there are often several different ways to employ professional power amplifiers. Most amplifiers are rated as delivering a specified amount of power to two audio channels. However many are also able to run in 'bridge mode' where you devote all of the power of an amplifier to amplifying just one channel. So in some circumstances it may be appropriate to use two amplifiers running in bridge mode and connected in parallel to amplify a stereo audio signal. It may also be appropriate to use a single amplifier running in bridge mode to drive a single sub bass speaker in some configurations. Please refer to the documentation for your amplifier to assess whether it will operate in bridge mode.

Connection types Your speakers have two different types of connection on the back; 'speakeron type' (pro multi-pole speaker connections) and 1/4" jack sockets. These connections are there to give you a choice of which connection type to use. You cannot use both inputs at the same time. The left set is marked 'input' - these are the ones you use to connect the speakers to your amplifier. The right is marked 'thru' - as the name suggests, this simply feeds the input signal directly through the speaker so that you can connect another speaker 'in series' to the same amplifier.

NOTE: connecting speakers in 'series' in this way changes their 'impedance'.

On the back of your amplifier you will find a set of connections marked either 'speakers' or 'output'. The type of connections you will find will vary according to the type of amplifier you have. You may need to consult your amplifier's user manual to find out what type of speaker output connections your amplifier has and how you should connect your speakers. You will need an appropriate speaker cable to connect your speakers to your amplifier. Each cable will need to have a speakeron type or 1/4" jack plug correctly attached at one end and the appropriate connection type for your amplifier at the other.

The Speakeron type connections on your Extreme R Series speakers are all wired +1/-1. It is important that you use cable that is configured in this way. Always ensure that the amplifier has its volume controls turned to zero and that its mains power is switched off when making connections.

CONNECTING YOUR EXTREME R BASS SPEAKERS

Connection types The Extreme R 15S and 18S also offer both speakeron type and 1/4" jack sockets marked input and a 1/4" jack through as described above. However the way you approach connecting sub bass speakers is a little different from connecting full range speakers. These are the main ways people approach employing sub bass speakers and they are described below.

1. Using a single Sub in addition to a pair of full range speakers - in 'Parallel' - using multiple amplification.

It is common to use a pair of full range speakers (e.g. Extreme R 12, 15 or 215) as a full range system for a small venue. Working in a medium size venue might demand a little more power or you might simply prefer the sound of a system with more low frequency power so it is common to add just one additional sub to a pair of full range speakers. This requires separate amplification for the sub.

2. Using a pair of subs & a pair of full range speakers - in 'Parallel'

To configure a system for a somewhat larger venue you might wish to employ a pair of Subs and a pair of full range satellite speakers. This can be done in parallel using multiple amplifiers or in series with all the speakers connected to a single amplifier. To achieve a parallel system you will need separate amplifiers; one to drive the satellite speakers and one to drive the subs. Configuring a system of this type also requires a crossover. Take the master output feed from your mixer into the crossover and then connect the appropriate outputs (as described in its user manual) from the crossover to the inputs of each amplifier.

3. Using a pair of subs and a pair of full range speakers - using the sub's 'Through' connections

1. Connect the speaker level output from your amplification to the 'Input' of each of the subs.

2. Connect a cable between the 'Thru' connection of each sub and the 'Input' of each of the satellites.

Configuring a system of this type does not require a crossover because the Extreme R subs already have a crossover built in. When an audio signal arrives at the sub input it is immediately split by the crossover. The low frequencies are delivered to the driver of the sub. The mid / high frequencies are sent to the 'thru' connections. Even though the crossover splits the signal before it gets to the driver you are still effectively connecting two speakers and two sets of drivers to the output of a single amplifier... so all the laws of impedance and series connection still apply. So although this system configuration requires only one amplifier it needs to be a powerful one. To achieve the potential 96dB+ listening levels you will need an amplifier that can deliver as much as 1400W per channel into 4 Ohms.

Technical specifications

Kam Extreme R12

Frequency response: **60Hz-20kHz**
Peak power handling: **500 watts**
Program power handling: **250 watts**
Nominal impedance: **8 Ohms**
Sensitivity (1w/1m): **97dB**
Connections: **Speakeron input, ¼ inch jack input and thru**
Low frequency: **12 inch woofer**
High frequency: **34mm titanium compression driver**
Dimensions (HxWxD): **606 x 403 x 450mm**
Weight: **20.5kgs**

Kam Extreme R15

Frequency response: **50Hz-20kHz**
Peak power handling: **700 watts**
Program power handling: **350 watts**
Nominal impedance: **8 Ohms**
Sensitivity (1w/1m): **97dB**
Connections: **Speakeron input, ¼ inch jack input and thru**
Low frequency: **15 inch woofer**
High frequency: **34mm titanium compression driver**
Dimensions (HxWxD): **725 x 481 x 507mm**
Weight: **28kgs**

Kam Extreme R215

Frequency response: **45Hz-20kHz**
Peak power handling: **1100 watts**
Program power handling: **550 watts**
Nominal impedance: **4 Ohms**
Sensitivity (1w/1m): **99dB**
Connections: **Speakeron input, ¼ inch jack input and thru**
Low frequency: **dual 15 inch woofers**
High frequency: **34mm titanium compression driver**
Dimensions (HxWxD): **1138 x 481 x 507mm**
Weight: **40kgs**

Kam Extreme R15S

Frequency response: **45Hz-500Hz**
Peak power handling: **800 watts**
Program power handling: **400 watts**
Nominal impedance: **8 Ohms**
Sensitivity (1w/1m): **96dB**
Connections: **Speakeron input, ¼ inch jack input and thru**
Low frequency: **15 inch woofer**
Dimensions (HxWxD): **495 x 560 x 500mm**
Weight: **25kgs**

Kam Extreme R18S

Frequency response: **40Hz-500Hz**
Peak power handling: **1000 watts**
Program power handling: **500 watts**
Nominal impedance: **8 Ohms**
Sensitivity (1w/1m): **97dB**
Connections: **Speakeron input, ¼ inch jack input and thru**
Low frequency: **18 inch cast aluminum frame woofer**
Dimensions (HxWxD): **680 x 607 x 613mm**
Weight: **33kgs**

Due to continuous product development, specifications and appearance are subject to change.