

# OWNER MANUAL

**SUB 9007-AS**  
**SUB 9006-AS**  
**SUB 9004-AS**

ACTIVE  
HIGH POWER  
SUBWOOFERS





1. All the precautions, in particular the safety ones, must be read with special attention, as they provide important information.

2. Power supply from mains

- a. The mains voltage is sufficiently high to involve a risk of electrocution; install and connect this product before plugging it in.
- b. Before powering up, make sure that all the connections have been made correctly and the voltage of your mains corresponds to the voltage shown on the rating plate on the unit, if not, please contact your RCF dealer.
- c. The metallic parts of the unit are earthed through the power cable. An apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.
- d. Protect the power cable from damage; make sure it is positioned in a way that it cannot be stepped on or crushed by objects.
- e. To prevent the risk of electric shock, never open this product: there are no parts inside that the user needs to access.

3. Make sure that no objects or liquids can get into this product, as this may cause a short circuit.

This apparatus shall not be exposed to dripping or splashing. No objects filled with liquid, such as vases, shall be placed on this apparatus. No naked sources (such as lighted candles) should be placed on this apparatus.

4. Never attempt to carry out any operations, modifications or repairs that are not expressly described in this manual.

Contact your authorized service centre or qualified personnel should any of the following occur:

- **the product does not function (or functions in an anomalous way).**
- **The power cable has been damaged.**
- **Objects or liquids have got in the unit.**
- **The product has been subject to a heavy impact.**

5. If this product is not used for a long period, disconnect the power cable.

6. If this product begins emitting any strange odours or smoke, switch it off immediately and disconnect the power cable.

7. Do not connect this product to any equipment or accessories not foreseen.

For suspended installation, only use the dedicated anchoring points and do not try to hang this product by using elements that are unsuitable or not specific for this purpose. Also check the suitability of the support surface to which the product is anchored (wall, ceiling, structure, etc.), and the components used for attachment (screw anchors, screws, brackets not supplied by RCF etc.), which must guarantee the security of the system / installation over time, also considering, for example, the mechanical vibrations normally generated by transducers.

To prevent the risk of falling equipment, do not stack multiple units of this product unless this possibility is specified in the user manual.

**8. RCF S.p.A. strongly recommends this product is only installed by professional qualified installers (or specialised firms) who can ensure correct installation and certify it according to the regulations in force.**

**The entire audio system must comply with the current standards and regulations regarding electrical systems.**

9. Supports and trolleys.

The equipment should be only used on trolleys or supports, where necessary, that are recommended by the manufacturer. The equipment / support / trolley assembly must be

IMPORTANT



moved with extreme caution. Sudden stops, excessive pushing force and uneven floors may cause the assembly to overturn.

**10.** There are numerous mechanical and electrical factors to be considered when installing a professional audio system (in addition to those which are strictly acoustic, such as sound pressure, angles of coverage, frequency response, etc.).

**11.** Hearing loss.

Exposure to high sound levels can cause permanent hearing loss. The acoustic pressure level that leads to hearing loss is different from person to person and depends on the duration of exposure. To prevent potentially dangerous exposure to high levels of acoustic pressure, anyone who is exposed to these levels should use adequate protection devices. When a transducer capable of producing high sound levels is being used, it is therefore necessary to wear ear plugs or protective earphones. See the manual technical specifications to know the maximum sound pressure level.

#### IMPORTANT NOTES

To prevent the occurrence of noise on line signal cables, use screened cables only and avoid putting them close to:

- **Equipment that produces high-intensity electromagnetic fields.**
- **Power cables.**
- **Loudspeaker lines.**

#### IMPORTANT NOTES



## OPERATING PRECAUTIONS



#### OPERATING PRECAUTIONS

- **Place this product far from any heat sources and always ensure an adequate air circulation around it.**
- **Do not overload this product for a long time.**
- **Never force the control elements (keys, knobs, etc.).**
- **Do not use solvents, alcohol, benzene or other volatile substances for cleaning the external parts of this product.**

#### IMPORTANT NOTES

Before connecting and using this product, please read this instruction manual carefully and keep it on hand for future reference. The manual is to be considered an integral part of this product and must accompany it when it changes ownership as a reference for correct installation and use as well as for the safety precautions. RCF S.p.A. will not assume any responsibility for the incorrect installation and / or use of this product.

**WARNING:** to prevent the risk of fire or electric shock, never expose this product to rain or humidity.

#### IMPORTANT NOTES



#### WARNING





RCF always has the performer's needs at the forefront of the design in order to create new lines of speakers with renewed features, improved sound clarity and definition and even lighter weight systems.

Every detail of the Sub Series has been carefully studied in order to offer musicians and professionals the perfect tool to amplify their performance, night after night. High quality materials, precise manufacturing, careful assembly and extensive quality control procedures complete the ground-breaking design work of the RCF R&D team.

All transducers are precision built taking advantage of RCF's superior moulding, assembly technologies and a wealth of professional knowledge and experience dedicated to achieving extremely high standards.

All the transducers in Sub Series speakers feature high power magnets in order to guarantee the best performance and power handling.

Sub Series Subwoofers are equipped with a new generation of Digital Amplifiers. The result of this is very high output, extremely low distortion and an incredible natural sound.

The amplifier features a solid mechanical aluminium structure that not only stabilize the amplifier during transportation but also assist in the heat dissipation.

**The input section provides:**

- In/Out XLR connector
- Crossover Output XLR connector
- System sensitivity control
- Multiple crossover set-up
- Delay set-up
- Cardioid set-up
- 3 status LEDs

**The SUB 9007-AS, SUB 9006-AS power amplifier features:**

- 2 x 3600 Watt Digital amplifier modules
- Powercon AC input connector
- Vibrostop floating aluminum panel

**The SUB 9004-AS power amplifier features:**

- 2800 Watt Digital amplifier module
- Powercon AC input connector
- Vibrostop floating aluminum panel

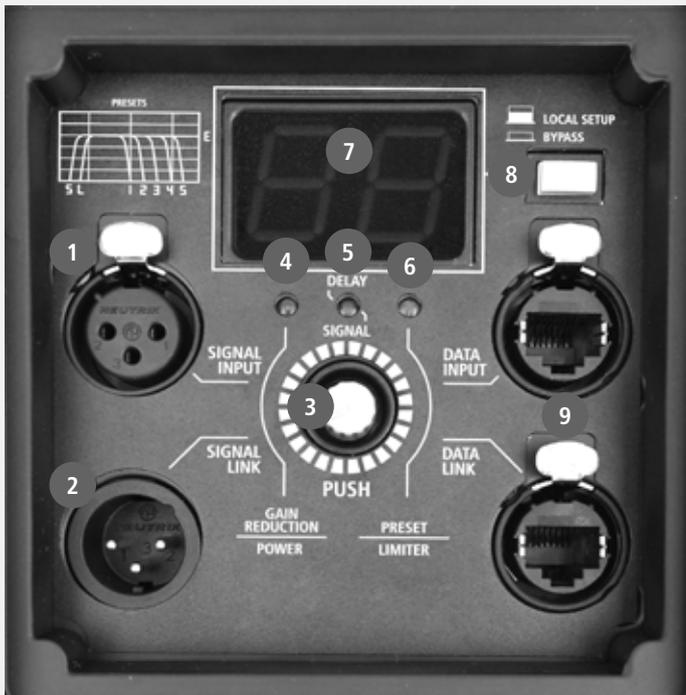
The Sub Series Subwoofer cabinets are built in birch plywood and are designed to dampen down vibrations even at maximum volume settings. The reflex porting has been resized to offer a better efficiency. The cabinets are equipped with ergonomically designed forged aluminium handles with rubber handgrip.

## SUB SERIES

## COMPONENTS

## AMPLIFIERS

## CABINETS



- 1 FEMALE XLR INPUTS (BAL/UNBAL). The system accept XLR input connectors.
- 2 MALE XLR SIGNAL OUTPUT. The output XLR connector provides a loop through for speakers daisy chaining. The balanced connector is connected in parallel and can be used to send the audio signal to other amplified speakers, recorders or supplementary amplifiers.
- 3 SYSTEM SET UP ENCODER. Push the encoder to select a function (gain reduction, delay, preset). Rotate the encoder to select a value or a preset.
  - 4 GAIN REDUCTION LED. Pushing the encoder once the gain reduction indicator lights green. Then rotate the encoder to reduce the gain to the right level.  
POWER LED. This green led is ON when the speaker is connected to the main power supply.
  - 5 DELAY LED. Pushing the encoder twice the delay indicator lights green. Then rotate the encoder to delay the speaker. The delay is expressed in meters.  
SIGNAL LED. The signal indicator lights green if there is audio signal present on the main
  - 6 PRESET LED. Pushing the encoder three times the preset indicator lights green. Then rotate the encoder to load the right preset to the speaker.  
LIMITER LED. The amplifier has a built in limiter circuit to prevent clipping of the amplifiers or overdriving the transducers. When the soft clipping circuit is active the LED blinks RED. It is okay if the limit LED blinks occasionally. If the LED lights continuously, turn down the signal level.
- 7 SYSTEM SET UP DISPLAY. Display the system setting values. In case of RDNet active connection a rotating segment will light up.
- 8 RDNET LOCAL SETUP/BYPASS. When released the local setup is loaded and RDNet can only monitor the speaker. When switched the RDNet setup is loaded and bypass any speaker local preset.
- 9 RDNET IN/OUT PLUG SECTION. The RDNET IN/OUT PLUG SECTION features etherCON connectors for the RCF RDNet protocol. This allows the user to completely control the speaker using the RDNet software.



10 AC INPUT. Powercon locking 3-pole AC mains.

11 AC OUTPUT. Powercon locking 3-pole AC mains output.

**WARNING:** the Powercon connector is used to disconnect the system from the power supply network. It shall be easily accessible after the installation and during the use of the system.

**WARNING**



## THE REAR ENCODER CONTROL AND SPEAKER SETTING

Pushing the rear encoder it is possible to select the following three functions:

- input gain reduction
- speaker delay setting
- selection of a speaker preset

Pushing once the rear encoder the gain reduction LED will light up. Now rotating the encoder counter clockwise it will be possible to reduce the input gain. The gain reduction will be in steps of 0,1 dB for the first 10 dB and then in 1 dB steps. The maximum reduction is 99 dB.

### INPUT GAIN REDUCTION

Pushing a second time the rear encoder the delay LED will light up. Now rotating the encoder clockwise it will be possible to delay the signal output of the speaker. The delay is expressed in meter. The delay will be in steps of 0,1 m for the first 10 m and then in 1 m steps. The maximum delay will be 20 meter.

### SPEAKER DELAY SETTING

Pushing a third time the rear encoder the preset LED will light up. Now rotating the encoder clockwise it will be possible to select a preset. There are ten presets in four groups:

- INFRA SUBWOOFER (S)
- EXTENDED LOW (L)
- CARDIOID (SC, LC)
- LOW PASS EXCLUDED (SE, LE)

## SELECTION OF A SPEAKER PRESET

PRESETS								
INFRA SUBWOOFER		EXTENDED LOW		CARDIOID		LOW PASS EXCLUDED		
	HIGH PASS	LOW PASS		HIGH PASS	LOW PASS		HIGH PASS	LOW PASS
S1	20 Hz	50 Hz	L2	30 Hz	60 Hz	SC	20 Hz	50 Hz
S2	20 Hz	60 Hz	L3	30 Hz	70 Hz	LC	30 Hz	60 Hz
			L4	30 Hz	80 Hz			
			L5	30 Hz	90 Hz			
						SE	20 Hz	400 Hz
						LE	30 Hz	400 Hz

**S1.** INFRA SUBWOOFER. Linear preset with a 50 Hz low pass. The high pass is set at 20 Hz.

**S2.** INFRA SUBWOOFER. Linear preset with a 60 Hz low pass. The high pass is set at 20 Hz.

**L2.** EXTENDED LOW PRESET. Typical subwoofer preset. High pass preset at 30 Hz and Low pass at 60 Hz.

**L3.** EXTENDED LOW PRESET. Typical subwoofer preset. High pass preset at 30 Hz and Low pass at 70 Hz.

**L4.** EXTENDED LOW PRESET. Typical subwoofer preset. High pass preset at 30 Hz and Low pass at 80 Hz.

**L5.** EXTENDED LOW PRESET. Typical subwoofer preset. High pass preset at 30 Hz and Low pass at 90 Hz.

**SC.** CARDIOID PRESET. Cardioid Preset to be used in conjunction with S1 – S2 preset.

**LC.** CARDIOID PRESET. Cardioid Preset to be used in conjunction with L1 – L4 preset.

**SE.** LOW PASS EXCLUDED. Dedicated preset with 20 Hz High Pass and Low Pass excluded (moved to 400 Hz)

**LE.** LOW PASS EXCLUDED. Dedicated preset with 20 Hz High Pass and Low Pass excluded (moved to 400 Hz)

After the parameter settings the 2 digits display will flash one time. This represent saving all the preset values in the speaker memory.

Once saved, all the speaker settings are permanent. It is possible to turn off and turn on, the speaker will remember the last settings.

To reset the speaker to the original settings :

- **turn off the speaker**
- **keep the encoder pressed**
- **turn on the speaker**
- **the status yellow led will be blinking slowly, keep the encoder pressed**
- **the status yellow led will be blinking fast, now release the encoder**
- **the reset procedure is finished**

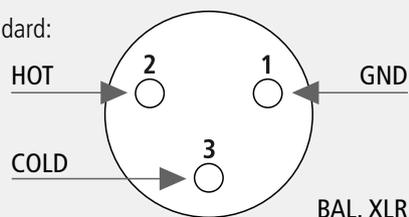
Using the RDNet IN/OUT connection it is possible to load in the speaker memory a dedicated user equalisation. The speaker reset procedure will cancel even this equalisation.

The XLR connectors use the following AES standard:

PIN 1 = GROUND (SHIELD)

PIN 2 = HOT (+)

PIN 3 = COLD (-)



## SAVING A SPEAKER PRESET

## SPEAKER RESET

## CONNECTIONS

At this point you can connect the power supply cable and the signal cable, but before turning on the speaker make sure that the volume control is at the minimum level (even on the mixer output). It is important that the mixer is already ON before turning on the speaker. This will avoid damage to the speakers and noisy "bumps" due to turning on parts on the audio chain. It is a good practice to always turn on speakers at last and turn them off immediately after the show. Now you can turn ON the speaker and adjust the volume control to a proper level.

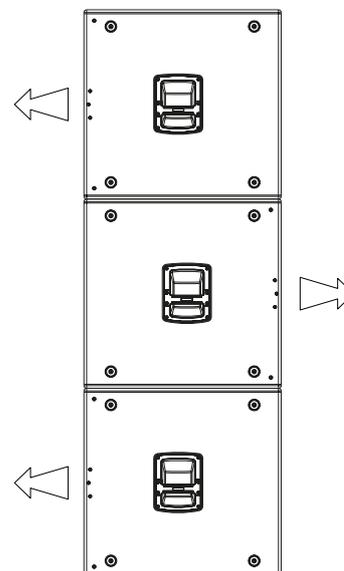
It is possible to create subwoofer cardioid systems using groups of three modules.

A group is made of three modules, the group shall be made as follow:

- 2 modules pointing in forward direction, cardioid switch released;
- 1 module pointing in backward direction, cardioid switch pressed;
- all 3 modules shall have the same settings (system delay, sensitivity, x-low cut, x-over, ...).

## BEFORE TURNING ON THE SPEAKER

### CARDIOID SET-UP



## INSTALLATION



**WARNING:** daisy chaining speakers always make sure that the maximum current requirement does not exceed the maximum admitted POWERCON current. In case of doubt call the closest RCF SERVICE CENTRE.

### WARNING



## SERVICE NOTE



The fuse settings/replacement shall be as follow:

**SUB 9006-AS and SUB 9007-AS: FUSE VALUE T 15 A H 250 V**  
**SUB 9004-AS: FUSE VALUE T 8 A H 250 V**

### VOLTAGE SETUP

(RESERVED TO THE RCF SERVICE CENTRE)



[www.rcf.it](http://www.rcf.it)

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