

OWNER MANUAL

SUB 8006-AS
SUB 8005-AS
SUB 8004-AS

HIGH OUTPUT ACTIVE
SUBWOOFERS





ENGLISH

4

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped



**SAFETY PRECAUTIONS**

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

IMPORTANT

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.

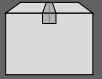
WARNING: To prevent the risk of fire or electric shock, never expose this product to rain or humidity.

IMPORTANT NOTES



WARNING





Evolution in technology, revolution in sound.

The RCF Team 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 groundbreaking 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 which not only stabilize the amplifier during transportation but also assist in the heat dissipation.

The new loudspeaker design looks aggressive whilst retaining perfect ergonomics and is the result of extensive combined functional and acoustic research.

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. Rugged steel pole mount has been installed in all models.

The SUB 8006-AS, SUB 8005-AS, SUB 8004-AS are high power, high output active subwoofer systems that set a new standard in professional sound reinforcement.

Each transducer has been specifically designed for the application. The woofer provides large excursion and very light weight.

The woofers features:

- lightweight, high force, magnet assembly;
- 100 mm diameter, 30 mm length, inside-outside copper voice coil (115 mm the 21")
- silicon reinforced double spiders;
- carbon fiber doped, water resistant treated cone;
- hyper-venting ventilation system for minimum power compression.

The input section provides:

- In/Out XLR connectors;
- crossover Output XLR connector;
- system sensitivity control (linear potentiometer) (-2 dBu ~ +10 dBu);
- crossover set-up;
- deep-punch set-up;
- delay set-up rotary switch;
- cardioid set-up switch;
- 3 status LEDs.

The amplifier section features:

- 1250 Watt Digital amplifier modules (2 X SUB 8006-AS);
- powercon AC input connector;
- vibrostop floating aluminum panel.

COMPONENTS

AMPLIFIERS

CABINETS

SUB 8006-AS, SUB 8005-AS, SUB 8004-AS HIGH OUTPUT SUBWOOFERS



SUB 8006-AS



SUB 8004-AS
SUB 8005-AS

- 1 MAIN SIGNAL XLR INPUT (BAL/UNBAL). The system accept female XLR input connectors and line-level signals from a mixing console or other signal source.
- 2 SIGNAL LINK XLR OUTPUT. The output XLR male connector provides a loop trough for speakers daisy chaining.
- 3 XOVER SIGNAL OUTPUT. The output XLR male connector provides a crossover high passed signal (24 dB/octave) for satellites speakers.
- 4 INPUT SENSITIVITY. Controls the overall signal level at the input to the power amplifier. The control ranges from $+\infty$ dBu (maximum attenuation) to the -2 dBu – MAX sensitivity (maximum input gain). The centre detent is $+4$ dBu (nominal level required to drive the amplifier at maximum power).
- 5 DEEP - PUNCH. This switch provides a DEEP equalisation (flat response down to 30 Hz) or a PUNCH equalisation with a boosted equalisation at 70 Hz.
- 6 XOVER 90/120 HZ. Provides 24 dB/octave low-pass filtering at 90 Hz if released, at 120 Hz if pressed. The same crossover frequency in high-pass is available from XOVER OUTPUT XLR.
- 7 TIME DELAY ENCODER. This encoder provides a time delay setting expressed in meters.

- 8 POWER INDICATOR.** Power on indicator. When the power cord is connected and the power switch is turned on this indicator lights green.
- 9 SIGNAL INDICATOR.** The signal indicator lights green if there is signal present on the main XLR input.
- 10 LIMITER INDICATOR.** The amplifier has a built in compressor/limiter circuit to prevent clipping of the amplifiers or overdriving the transducers. When the compressor is active the led is blinking yellow. When the soft clipping circuit is active the LED blinks orange. It is okay if the limit LED blinks occasionally. If the LED blinks frequently or lights continuously, turn down the signal level. The amplifier has a built in RMS limiter. If the RMS limiter is active the LED lights red. The RMS limiter has the purpose to prevent damages the transducers. The speaker shall never be used with the limit indicator red, continuously. Continuous operation with the RMS protection active can cause damages to the speaker.
- 11 PHASE SWITCH.** This switch reverse the phase of the output signal.
- 12 CARDIOID SET-UP SWITCH.** This switch provides a special equalisation and delay setting to create a cardioid pattern when the system is used in conjunction with two other sub 8006-AS modules.
- 13 POWER MAIN SWITCH.** The power switch turns the AC power ON and OFF. Make sure that the sensitivity is set to $+\infty$ dBu when you turn on the speaker.
- 14 AC POWERCON RECEPTACLE.** RCF SUB series uses a POWERCON locking 3-pole AC mains. Always use the specific power cord provided in the package.
- 15 AC POWER OUTPUT LINK.** Models SUB8004-AS and SUB8005-AS are provided with an AC Power Link Output. Make sure the correct current consumption is used, as indicated on the product data label

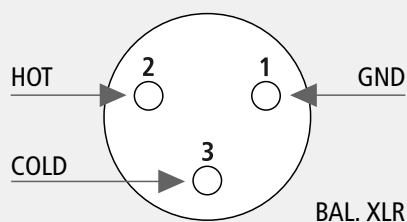
WARNING: the PowerCon connector is used to disconnect the system from the power supply network. It shall be easily accessible after the installation and during the use of the system.

The XLR connectors use the following AES standard:

PIN 1 = GROUND (SHIELD)

PIN 2 = HOT (+)

PIN 3 = COLD (-)



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.

The delay is expressed in meters.

To set the system time delay rotate to the wanted delay setting. When using multiple subwoofers set carefully all the subwoofers in the same group to the exact same delay. 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,...).

WARNING



CONNECTIONS

BEFORE TURNING ON THE SPEAKER

TIME DELAY SETTING

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,...).

It is possible to stack HDL 20-A:

- on top of SUB 8006-AS (vertical or horizontal position)
- on top of SUB 8005-AS (horizontal position)
- on top of SUB 8004-AS (horizontal position)

It is possible to stack HDL 10-A:

- on top of SUB 8006-AS (vertical or horizontal position)
- on top of SUB 8005-AS (vertical or horizontal position)
- on top of SUB 8004-AS (vertical or horizontal position)

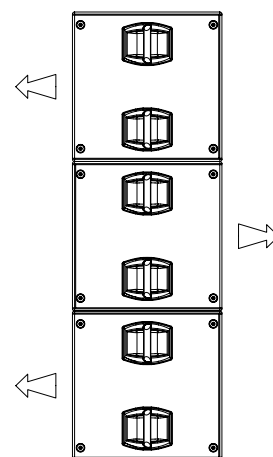
It is possible to stack NXL23-A

- on top of SUB 8006-AS (horizontal position)
- on top of SUB 8005-AS (horizontal position)

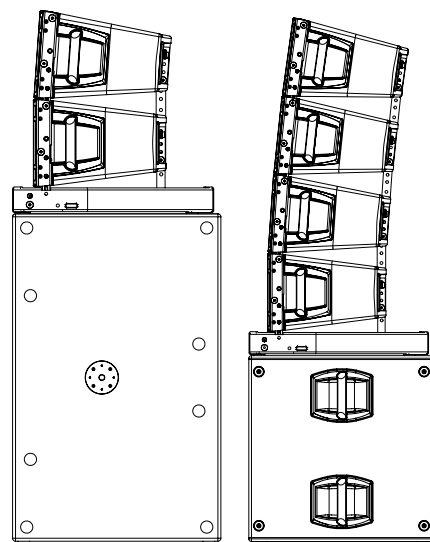
It is possible to stack NXL24-A on top of SUB 8004-AS, SUB 8005-AS, SUB 8006-AS

Always stack the systems using the HDL 20-A, HDL 10-A, NXL 23-A fly bar and the locking accessory (part number 13360231).

CARDIOID SET-UP



STACKING



INSTALLATION



WARNING: Never suspend SUB Series subwoofers by their handles. Handles are intended for transportation, not for rigging.

WARNING: 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.

INTERNAL FUSE SETTINGS

220-240V FUSE T 6.3 A H 250 V (2 X SUB 8006-AS)

100-120V FUSE T 10 A H 250 V (2 X SUB 8006-AS)

WARNING



WARNING



**SUB 8006-AS,
SUB 8005-AS,
SUB 8004-AS
INTERNAL FUSE**

SUB 8006-AS, SUB 8005-AS, SUB 8004-AS ACCESSORIES



The following accessories are separately available:

13360029 AC WK SW
SWIVEL WHEELS KIT



13360029 AC WK FX
FIXED WHEELS KIT



13360231 AC CONNECTION SUB 8006-AS
ACCESSORY TO LOCK FLY BAR



13360138 AC POWER CABLE 6XTTL55
POWER CABLE
1 piece for EVERY 6 pieces of SUB8006-AS



13360145 AC POWER BOX 6XTTL55
EUROPEAN STAGE BOX TO POWER 6 SUB 8006-AS
Full compatibility with Socapex SL 419 Series



13360146 AC POWER EXTENSION TTL55
POWER EXTENSION CABLE
20 meters AC power extension cable – Full compatibility with Socapex SL 419 Series



SPECIFICATIONS



	SUB 8006-AS	SUB 8005-AS	SUB 8004-AS
ACOUSTIC DATA			
Operating frequency range	30 - 120 Hz	27 - 120 Hz	30 - 120 Hz
Max SPL	141 dB	137 dB	136 dB
Crossover point	90 Hz / 120 Hz	90 Hz / 120 Hz	90 Hz / 120 Hz
TRANSDUCERS			
Low frequency	2 x 18" woofer, 4.0" v.c.	21" woofer, 4.5" v.c.	18" woofer, 4.0" v.c.
AMPLIFIERS			
	2 x 1250 Watt	1250 Watt	1250 Watt
CONNECTIONS			
Signal input/output	XLR male/female		
Power input/output	Powercon male		
CONTROLS			
DSP Controls	Sensitivity Control (-2 dBu ~ +∞ dBu) Deep, Punch, X-over selection Delay set-up Cardioid setting Phase switch		
DSP PROCESSING			
	High pass, low pass, equalisation Crossover output processing Fast limiter, dynamic compressor RMS limiter		
PHISICAL SPECIFICATIONS			
Dimensions (w, h, d)	709 x 1109 x 700 mm	825 x 600 x 805 mm	700 x 557.5 x 700 mm
Net weight	90 Kg	66,6 Kg	51 Kg
Cabinet material	Baltic birch plywood	Baltic birch plywood	Baltic birch plywood
Hardware	4 x die cast handles	4 x die cast handles	2 x die cast handles



www.rcf.it

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