

# OWNER MANUAL

**NX 10-SMA**  
**NX 12-SMA**  
**NX 15-SMA**

PROFESSIONAL ACTIVE  
SPEAKER SYSTEMS





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

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

## 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. This unit is CLASS I construction, so it must be connected to a MAIN 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.**

## WARNING



## IMPORTANT



**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.

**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**

- 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.

**IMPORTANT NOTES**



The NX Series - a new line of active loudspeakers specifically designed to be the everyday tool for rental companies and professional musicians. With its ultra compact design and choice of formats, together with high output levels, NX Series is the answer to a wide variety of production requirements.

The NX is reliable, easy to use and versatile: for every rental company, musician, venue and audio/visual provider, this high-performance self-powered speaker system offers a degree of simplicity unmatched by traditional amp and speaker PA systems.

NX Series is a practical solution for high intelligibility speech and audio applications, covering infill or delay, production studios, presentations and high power music sound reinforcement with or without subwoofers. A key requirement for everyday audio systems, delivering simple 'plug and play' solutions, without compromising performance and portability.

Legendary RCF transducer technology coupled with state of the art digital amplification topology resulting in a perfectly optimised loudspeaker series. The NX Series provides high end audio coverage even at extreme sound pressure levels, unmatched reliability and acoustic compatibility across the whole series.

The NX Series offers a wide range of practical mounting hardware, to cover all aspects of system integration, which assist in the overall simple and effortless system set-up, redefining the high performance portable PA.

The NX Series monitoring systems feature light weight **coaxial neodymium transducers** in order to guarantee a better performance and make for easier transportation.

The coaxial design guarantee the maximum vocal integrity and feedback rejection.

All Compression drivers and woofers 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 NX Series two-way speakers are equipped with a new generation **Digital Amplifiers**. The result of this is very high output, extremely low distortion and an incredible natural sound.

Each amplifier presents both XLR and jack inputs, XLR output link, volume, EQ Mode (**FREEFIELD, FLOOR**), MIC/LINE sensitivity switch, Neutrik Powercon input and link connector.

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 familiar ergonomics and is the result of extensive combined functional and acoustic research.

The NX coaxial system cabinets are manufactured in **Baltic birch plywood** and are designed to dampen down vibrations even at maximum volume settings. The reflex porting has been designed to offer a the efficiency in the bass vocal range.

The models are equipped with a side aluminium handle with rubber handgrip for greater portability; a special side design of the cabinet helps the precise repositioning of the monitor on the stage.

A rugged steel pole mount has been installed on a side; in combination with the FREEFIELD equalisation gives the possibility of using the monitor in a pole stand configuration.

## NX SERIES TOURING AUDIO SOLUTIONS

### COMPONENTS

### AMPLIFIERS

### CABINETS



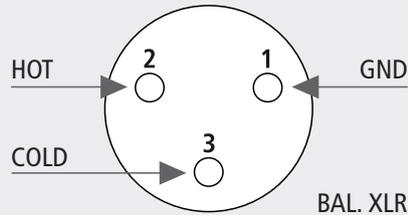
- 1 JACK/FEMALE XLR INPUTS (BAL/UNBAL). The system accepts jack or XLR input connectors. These balanced inputs can be used to connect balanced or unbalanced microphones or audio sources at line level. The balanced connector is connected in parallel and can be used to send the audio signal to other amplified speakers, recorders or supplementary amplifiers.
- 2 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 orange. It is okay if the limit LED blinks occasionally. If the LED blinks frequently or lights continuously, turn down the signal level.
- 3 SIGNAL LED. The signal indicator lights green if there is signal present on the main XLR input.
- 4 POWER STATUS LED. This green led is ON when the speaker is connected to the main power supply and the ON/OFF is in ON position.
- 5 MALE XLR SIGNAL OUTPUT. The output XLR connector provides a loop through for speakers daisy chaining.
- 6 VOLUME CONTROL. Adjust the amplifier volume. This control does not affect the "Link" - "Input - Link" output level.
- 7 FREEFIELD/FLOOR SWITCH. Set a specific equalisation for stage monitor position or in case of pole mount or free field application.
- 8 INPUT SENSITIVITY SWITCH. Position the switch in LINE to use a line level source (0 dB) or MIC to use a microphone source.
- 9 NEUTRIK POWERCON AC IN-OUT SOCKET. IN-OUT AC Powercon Sockets.
- 10 POWER MAIN SWITCH. The power switch turns the AC power ON and OFF.

The XLR connectors use the following AES standard:

PIN 1 = GROUND (SHIELD)

PIN 2 = HOT (+)

PIN 3 = COLD (-)



On the back panel you will find all the controls, the signal and current inputs. In case is necessary to change the voltage please call your vendor or authorized RCF SERVICE CENTRE. This operation require the substitution of the fuse value and is reserved to an RCF SERVICE CENTRE.

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 amplifiers are equipped with a microprocessor to control the DSP and the amplifier. The correct switch on of the amplifier is ensured by an initialisation procedure; during this test stage the LEDS (Limiter, Signal and Power Status), located on the amplifier module, remain off for approx. 2 sec. At the end of the switch on procedure on the amplifier module the Ready green LED only remains steadily on.

In case of severe failure of the speaker, the LED on the front panel flashes several times and on the amplifier module, the Limiter red LED flashes. The speaker switches to "mute".

## CONNECTIONS

### BEFORE CONNECTING THE SPEAKER

### BEFORE TURNING ON THE SPEAKER

### TURNING ON THE SPEAKER

## INSTALLATION



A 35 MM socket for mounting the loudspeaker on a speaker stand is provided in the bottom of the cabinet.

PowerCon plug is used to disconnect device from MAIN power. This device shall remain readily accessible after the installation.

**WARNING:** Never suspend NX speakers by there handles. Handles are intended for transportation, not for rigging.

### WARNING



## FAILURE INDICATION AND SAFETY



The microprocessor is able to signal three different kinds of failure by flashing the "Limiter" red LED on the amplifier panel before the lighting up of the "Power status" green LED. The three types of failure are:

**1) WARNING:** a non severe error or auto-restart malfunction is detected and the performance of the speaker is not limited.

**2) LIMITATION:** an error is detected and the performance of the speaker is limited (the sound level is reduced by 3dB).

This does not affect the operation of the speaker since it continues to operate. However, it is necessary to call the service centre to solve the issue.

**3) FAILURE:** a severe malfunction is detected. The speaker switches to "mute".

#### Flashing Indication

1 or 2	Warning
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3 or 4	Limitation
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from 5 to 8	Failure
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In case of failure, the "Ready" green LED remains off.

## COOLING



Thermal control is provided by the internal microprocessor which, by means of two sensors, controls the temperature of the amplifier and of the power supply, avoiding overheating by limiting the overall volume.

In case of overheating ( $> 80$  degrees) the volume decreases proportionally to the temperature increase, making the change unnoticeable.

The correct volume and all the functions are automatically restored when standard operating temperatures are reached.

# SPECIFICATIONS



	NX 10-SMA	NX 12-SMA	NX 15-SMA
<b>ACOUSTICAL</b>			
<b>Frequency response</b>	60 - 20 kHz	50 - 20 kHz	50 - 20 kHz
<b>Max SPL</b>	127 dB	129 dB	130 dB
<b>Horizontal Coverage</b>	60°	60°	60°
<b>Vertical Coverage</b>	60°	60°	60°
<b>Crossover point</b>	1.700	1.700	1.600
<b>COAXIAL TRANSDUCERS</b>			
<b>Low frequency</b>	10" neo, 2.5" voice coil	12" neo, 2.5" voice coil	15" neo, 2.5" voice coil
<b>High frequency</b>	1" neo, 1.7" voice coil	1" neo, 1.7" voice coil	1" neo, 1.7" voice coil
<b>AMPLIFIER</b>			
<b>Total power</b>	400 Watt	700 Watt	700 Watt
<b>Low section</b>	300 Watt	500 Watt	500 Watt
<b>High section</b>	100 Watt	200 Watt	200 Watt
<b>CONNECTIONS</b>			
<b>Signal input/output</b>	Jack-XLR male / XLR female	Jack-XLR male / XLR female	Jack-XLR male / XLR female
<b>Power input/output</b>	Powercon Input / Output connectors	Powercon Input / Output connectors	Powercon Input / Output connectors
<b>Digital input</b>	2 way equalisation, crossover filtering Fast limiter RMS limiter	2 way equalisation, crossover filtering Fast limiter RMS limiter	2 way equalisation, crossover filtering Fast limiter RMS limiter
<b>PHYSICAL SPECIFICATIONS</b>			
<b>Dimensions (w, h, d)</b>	450 mm, 324 mm, 417 mm	550 mm, 324 mm, 417 mm	645 mm, 360 mm, 490 mm
<b>Net Weight</b>	14.5 Kg	16.5 Kg	19.5 Kg
<b>Colour</b>	Black	Black	Black



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