

DU 50EN

USER MANUAL
MANUALE D'USO

STEEL WALL-MOUNT
LOUDSPEAKER IN
COMPLIANCE WITH
EN 54-24 STANDARD

DIFFUSORE ACUSTICO
IN ACCIAIO DA PARETE
CONFORME ALLA
NORMA EN 54-24



**IMPORTANT NOTES**

Before connecting and using this product, please read this instruction manual carefully and keep it on hand for future reference. This 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.

SAFETY AND OPERATING PRECAUTIONS

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

2. Loudspeaker lines (amplifier outputs) can have a sufficiently high voltage (i.e. 100-70 V) to involve a risk of electrocution: never install or connect this loudspeaker when the line is alive.

3. Make sure all connections have been made correctly and the loudspeaker input voltage is suitable for the amplifier output.

4. Protect loudspeaker lines from damage. Make sure they are positioned in a way that they cannot be stepped on or crushed by objects.

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

6. 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 loudspeaker does not function (or works in an anomalous way).
- The cable has been damaged.
- Objects or liquids have got into the unit.
- The loudspeaker has been damaged due to heavy impacts or fire.

7. Should the loudspeaker emit any strange odours or smoke, remove it from the line after having immediately switched the amplifier off.

8. 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 loudspeaker 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.

IMPORTANT NOTES

9. RCF S.p.A. strongly recommends this product is only installed by professional qualified installers (or specialised firms) who can ensure a 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.

10. Mechanical and electrical factors need 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 necessary to wear ear plugs or protective earphones.

See the technical specifications in the instruction manual for the maximum sound pressure the loudspeaker is capable of producing.

12. To ensure a correct sound reproduction, loudspeaker phase is to be respected (loudspeakers are connected respecting the amplifier polarity). This is important when loudspeakers are installed adjacent one another, for instance, in the same room.

13. To prevent inductive effects from causing hum, noise and a bad system working, loudspeaker lines should not be laid together with other electric cables (mains), microphone or line level signal cables connected to amplifier inputs.

14. The loudspeaker cable shall have wires with a suitable section (twisted, if possible, to reduce inductive effects due to surrounding electro-magnetic fields) and a sufficient electrical insulation. Refer to local regulations since there may be additional requirements about cable characteristics.

15. Install this loudspeaker far from any heat source.

16. Do not use solvents, alcohol, benzene or other volatile substances for cleaning the external parts of this product. Use a dry cloth.

RCF S.P.A. THANKS YOU FOR PURCHASING THIS PRODUCT, WHICH HAS BEEN DESIGNED TO GUARANTEE RELIABILITY AND HIGH PERFORMANCE.

DESCRIPTION



DU 50EN is a steel wall-mount loudspeaker in compliance with the EN 54-24 standard, designed to be used in sound systems for emergency purposes (evacuation messages, paging and background music). The 4.5" full-range loudspeaker is protected by a steel body.

The loudspeaker is provided with:

- A multitap transformer for connection to 100V / 70V constant voltage lines.
- 2 ceramic terminal strips for input / output antifiame cables.
- A thermal fuse.

INSTALLATION



WARNING: MAKE SURE THAT THE LOUDSPEAKER IS INSTALLED IN A STABLE AND SECURE WAY IN ORDER TO AVOID ANY CONDITIONS THAT MAY BE DANGEROUS FOR PERSONS OR STRUCTURES.

ENSURE THE SUPPORT SURFACE (E.G. WALL, ETC.) HAS THE NECESSARY MECHANICAL CHARACTERISTICS TO SUPPORT THE LOUDSPEAKER WEIGHT.

BEFORE INSTALLING THE LOUDSPEAKER, CAREFULLY CHECK ALL COMPONENTS TO BE USED AND MAKE SURE THERE IS NO DAMAGE, DEFORMATION, CORROSION AND/OR MISSING OR DAMAGED PARTS THAT COULD REDUCE THE SAFETY OF THE INSTALLATION.

IN OUTDOOR USE, AVOID INSTALLING THE LOUDSPEAKER IN PLACES EXPOSED TO HARSH WEATHER CONDITIONS.

Remove the loudspeaker front part from the back by unscrewing the 3 lateral screws, then fix the loudspeaker rear part to the chosen point of the wall / ceiling through 4 wall-plugs (not included).

Use the drill template available inside the manual (page 11).

Do not use this loudspeaker with its front upwards (in order to avoid malfunctions) and in tropical climate. It shall not be exposed to dripping or splashing.

The system needs to be correctly dimensioned to get an uniform acoustic coverage and sufficient sound pressure levels (in order to get the best speech intelligibility).

Connect all cables as described in the next manual section, then fix the loudspeaker front part to the back by screwing the 3 screws (previously removed).



WARNING: LOUDSPEAKER CONNECTIONS SHOULD BE ONLY MADE BY QUALIFIED AND EXPERIENCED PERSONNEL HAVING THE TECHNICAL KNOW-HOW OR SUFFICIENT SPECIFIC INSTRUCTIONS TO ENSURE THAT CONNECTIONS ARE MADE CORRECTLY AND TO PREVENT ANY ELECTRICAL DANGER.

TO PREVENT ANY RISK OF ELECTRIC SHOCK, DO NOT CONNECT LOUDSPEAKERS WHEN THE AMPLIFIER IS SWITCHED ON. BEFORE TURNING THE SYSTEM ON, CHECK ALL CONNECTIONS AND MAKE SURE THERE ARE NO ACCIDENTAL SHORT CIRCUITS. THE ENTIRE SOUND SYSTEM SHALL BE DESIGNED AND INSTALLED IN COMPLIANCE WITH THE CURRENT LOCAL LAWS AND REGULATIONS REGARDING ELECTRICAL SYSTEMS.

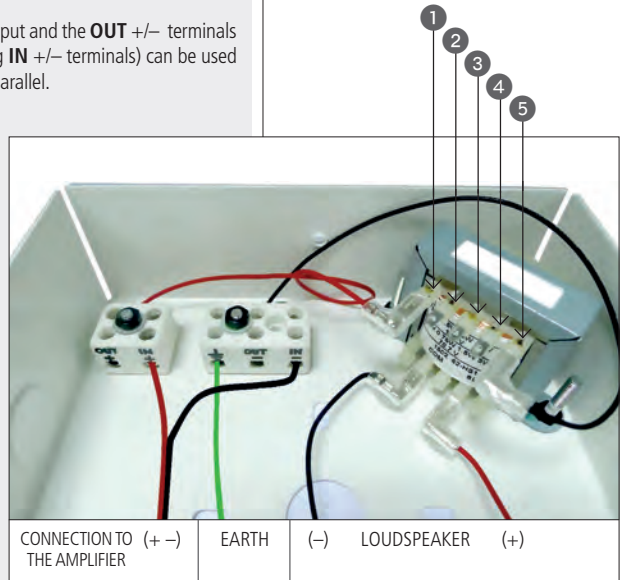
This loudspeaker can be connected to a 70 V / 100 V constant voltage line.

Connections with the audio line are made by using the two internal ceramic terminal strips.

The **IN +/-** terminals are used for audio signal input and the **OUT +/-** terminals (that are directly connected to the corresponding **IN +/-** terminals) can be used as an output to link additional loudspeakers in parallel.

- 1 Set the power on the transformer (according to the line voltage):
 - leave the black wire (coming from the terminal strip) connected to the transformer COM (5) pin;
 - connect the other wire to the transformer pin (1 – 2 – 3 – 4) marked with the chosen power.

Trasf. pin	POWER (100 V)	POWER (70 V)
1	0.75 W	0.375 W
2	1.5 W	0.75 W
3	3 W	1,5 W
4	6 W	3 W
5	COM	

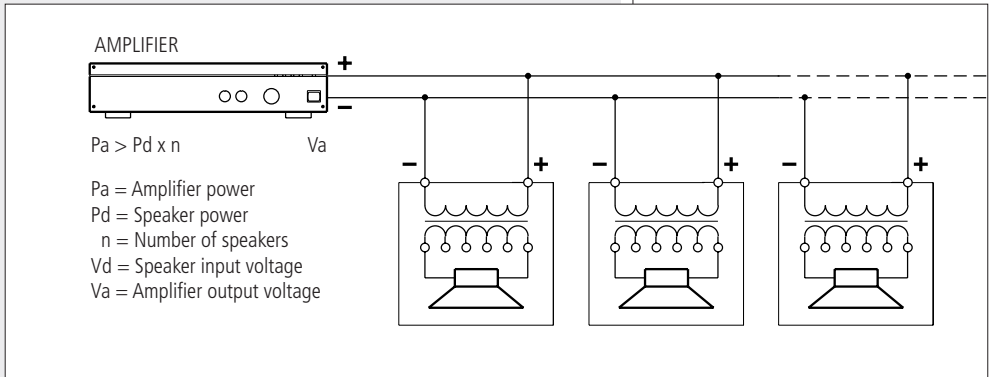


- 2 Connect the negative conductor (-) of the audio line (which comes from the amplifier terminal marked -, 0, COM or B) to the loudspeaker input **IN -**.
- 3 Connect the positive conductor (+) of the audio line (which comes from the amplifier terminal marked +, 100 V, 70 V or A) to the loudspeaker input **IN +**.
- 4 Follow the same logic to connect the **OUT +/-** terminals, that can be used to link additional loudspeakers in parallel.
- 5 Connect the earth conductor to the terminal strip contact marked with the earth symbol.

NOTES ABOUT CONSTANT VOLTAGE SYSTEMS



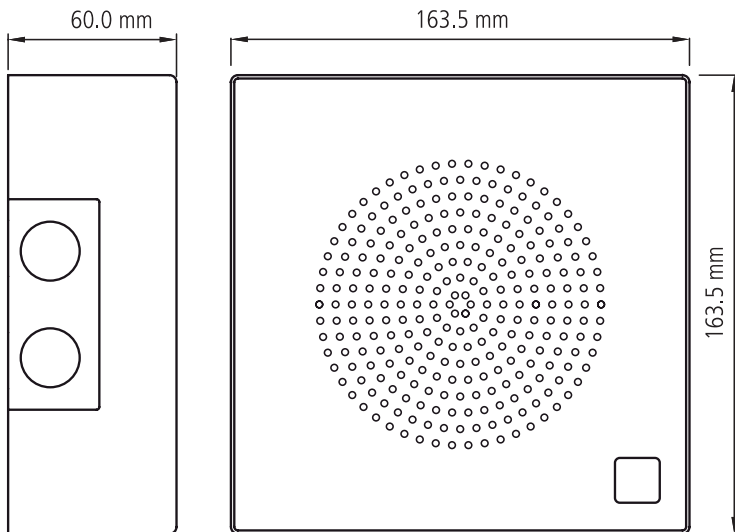
- The loudspeaker input voltage (V_d) shall correspond to the amplifier output voltage (V_a).
- The sum of nominal power values ($P_d \times n$) of all loudspeakers connected to the line shall not exceed the amplifier power (P_a).
- Make sure all loudspeakers are connected in phase to ensure a correct sound reproduction.

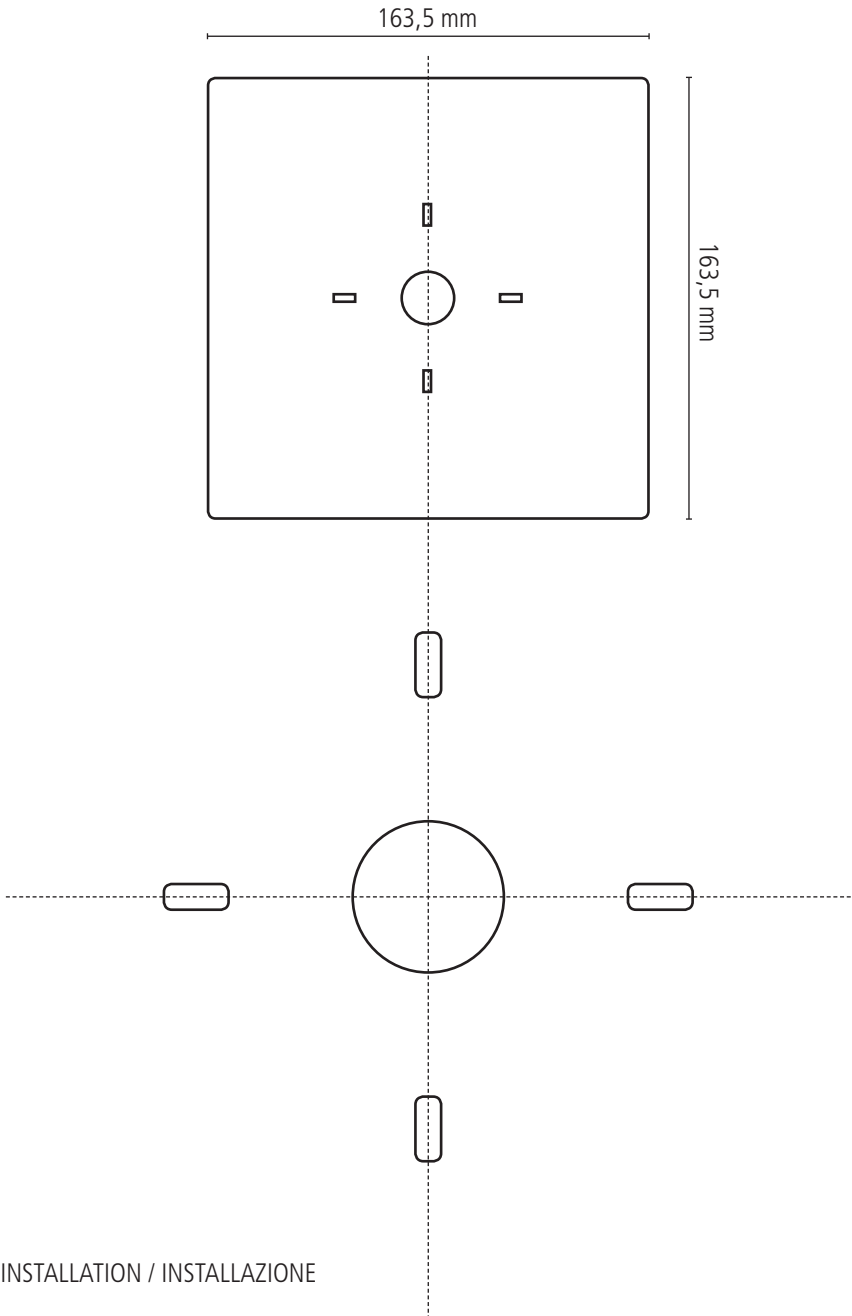
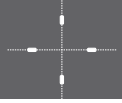


- Always use cables having wires with an adequate cross-section, considering the cable length and the total loudspeaker power.
- Loudspeaker lines must be kept separated from mains cable, microphone cables or others, in order to avoid inductive phenomena may cause hum or noises.
- Use loudspeaker cables having twisted wires to reduce hum caused by inductive effects due to coupling with electromagnetic fields.



INPUT VOLTAGE:	100 V – (70 V)
POWER (SELECTABLE):	6 W – 3 W – 1.5 W – 0.75 W (power values are halved at 70 V)
INPUT IMPEDANCE:	1.67 k Ω (6 W) – 3.33 k Ω (3 W) 6.67 k Ω (1.5 W) – 13.33 k Ω (0.75 W)
FREQUENCY RESPONSE:	190 Hz \div 11 kHz (–10 dB)
SENSITIVITY:	90 dB (1 W, 1 m)
MAX. SOUND PRESSURE LEVEL:	88 dB (6 W, 4 m)
COVERAGE ANGLE (– 6 dB):	hor.: 180° (500 Hz), 175° (1 kHz), 120° (2 kHz), 65° (4 kHz) vert.: 180° (500 Hz), 175° (1 kHz), 120° (2 kHz), 65° (4 kHz)
TRANSDUCER:	4.5"
DIMENSIONS:	163.5 mm (w), 163.5 mm (h), 60 mm (d)
BODY MATERIAL:	steel
COLOUR:	white, RAL 9010
CONNECTORS:	ceramic terminal strips
NET WEIGHT:	2 kg (4.4 lb)
OPERATING TEMPERATURE:	–30 \div +60 °C (–22 \div +140 °F)





INSTALLATION / INSTALLAZIONE





Except possible errors and omissions.
RCF S.p.A. reserves the right to make modifications without prior notice.

Salvo eventuali errori ed omissioni.
RCF S.p.A. si riserva il diritto di apportare modifiche senza preavviso.

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