

**USER MANUAL
MANUALE D'USO**

CS 6520EN

- WEATHERPROOF SOUND COLUMN LOUDSPEAKER IN COMPLIANCE WITH EN 54-24 STANDARD
- COLONNA SONORA RESISTENTE AGLI AGENTI ATMOSFERICI E 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 (wall plugs, 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.

Make sure loudspeaker lines are not shorted before turning the amplifier on.

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



CS 6520EN is a 20 W weatherproof sound column loudspeaker that is in compliance with EN 54-24 standard.

Main features:

- Extruded aluminium housing.
- It can be installed both indoors and outdoors, thanks to its IP 66 protection grade.
- Equipped with transformer for 100 V / 70 V constant voltage lines.
- Internal power setting.
- Ceramic terminal strips to link both input and output cables.
- Internal thermal fuse.
- Swivel bracket for wall mounting.
- Colour: white.

CONNECTION

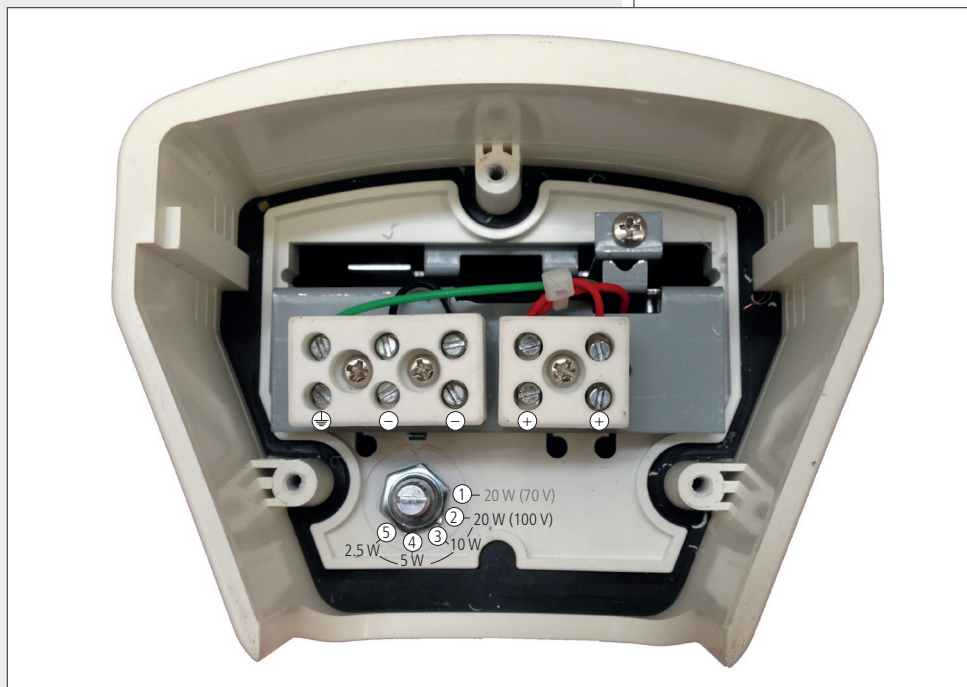


WARNING: loudspeaker connections should be only made by qualified and experienced personnel having the technical know-how or sufficient specific instructions to ensure that connections are made correctly and to prevent any electrical danger.

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.





Connections with the audio line are made by using the internal ceramic screw terminal strip (it is necessary to remove the bottom cover by loosening its three screws). The + / - terminals allow to connect both input and output cables (to link other loudspeakers in parallel).

1. Set the power by rotating the switch with a screwdriver.

| SWITCH POSITION | POWER (100 V) | POWER (70 V) |
|-----------------|---------------|--------------|
| 1 | Do not use! | 20 W |
| 2 | 20 W | 10 W |
| 3 | 10 W | 5 W |
| 4 | 5 W | 2.5 W |
| 5 | 2.5 W | 1.25 W |

2. Insert cables through the two rear hexagonal cable glands.
3. Connect the positive wire of the 100 / 70 V line to the loudspeaker + input.
4. Connect the negative wire of the 100 / 70 V line to the loudspeaker - input.
5. If necessary, connect in the same way the output cable to link other loudspeakers in parallel.
6. Connect the earth wire (to the input with the green wire).



NOTA: 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.

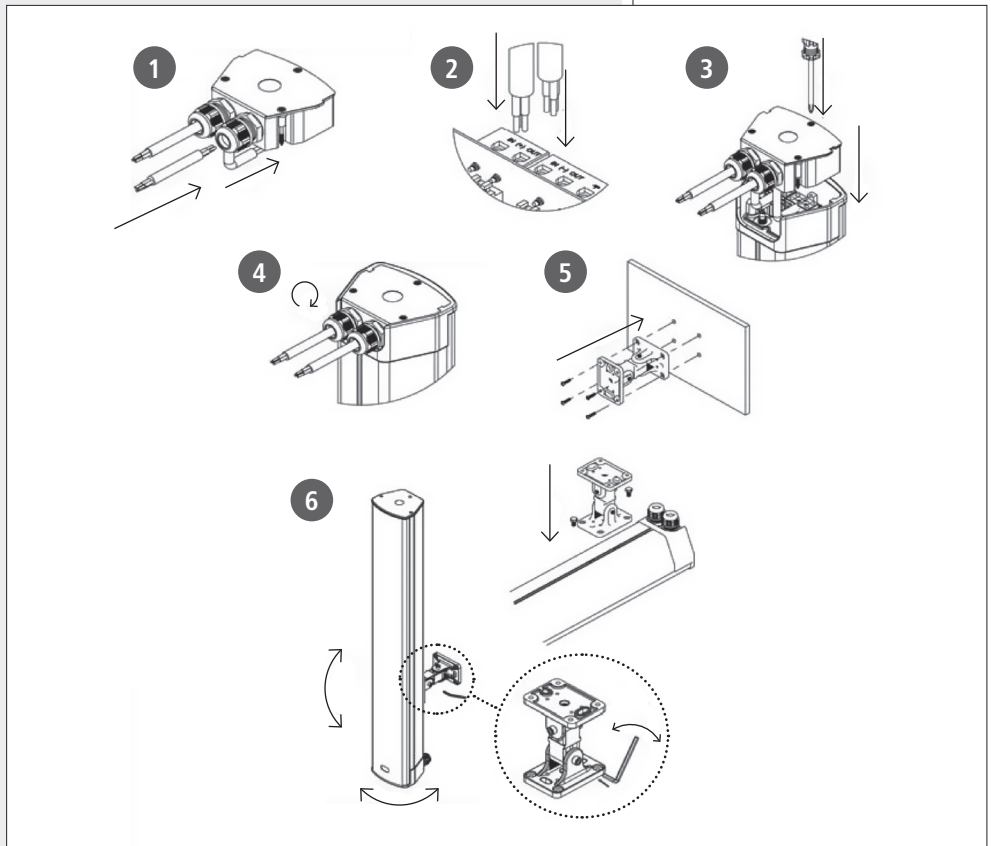
Ensure the support surface (the wall) has the necessary mechanical characteristics to support the loudspeaker weight.

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.

This loudspeaker can be installed both indoors and outdoors.

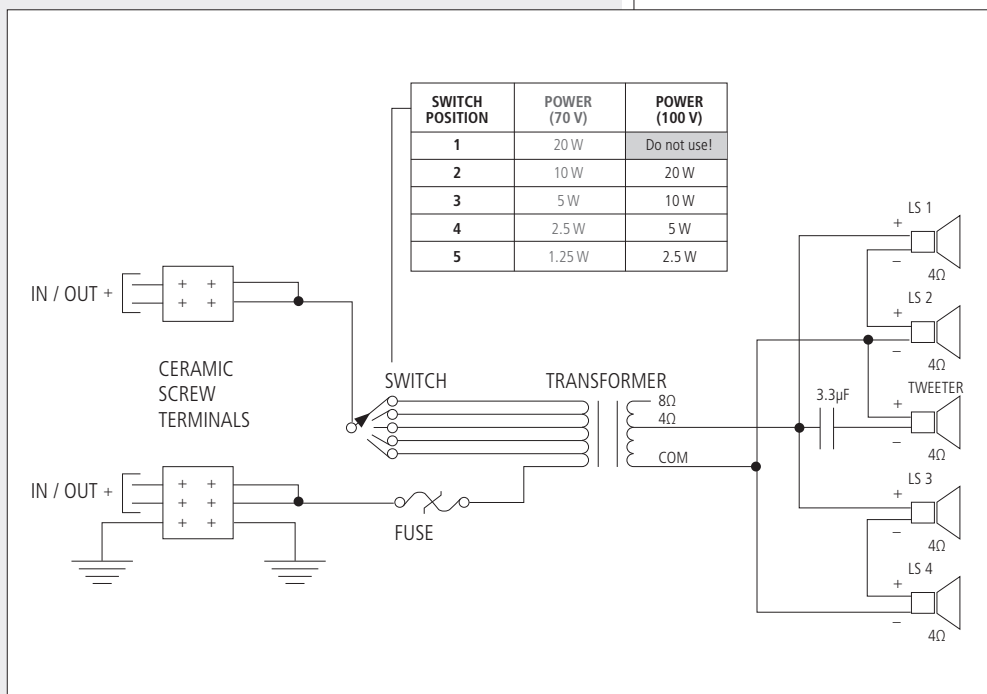
Sound column positioning needs a preliminary study in order to get the optimal performance.

In any case, a good result can be indicatively achieved if the distance from the sound column bottom and the floor should be at least 1.5 metres from the floor for a seated audience (or 1.7 m for a standing audience). Tilt sound columns downwards if necessary.



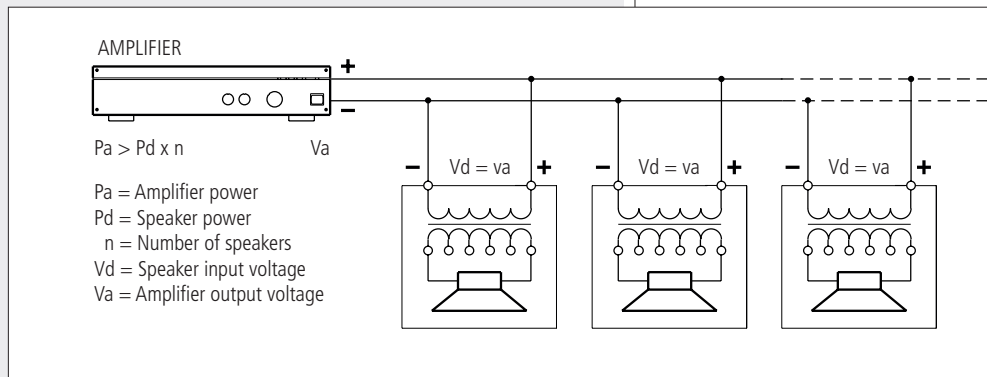
1. Insert cables through the two rear hexagonal cable glands.
2. Connect the loudspeaker as described in the previous 'Connection' manual section.
3. Refit the bottom cover by tightening its three screws.
4. Tighten the two hexagonal cable glands to fix cables.
5. Fix the swivel bracket to the wall with four screws / wall plugs.
6. Mount the loudspeaker to the swivel bracket, aim it to the listening area and then fix its position by tightening the swivel bracket bolts.

CIRCUIT DIAGRAM





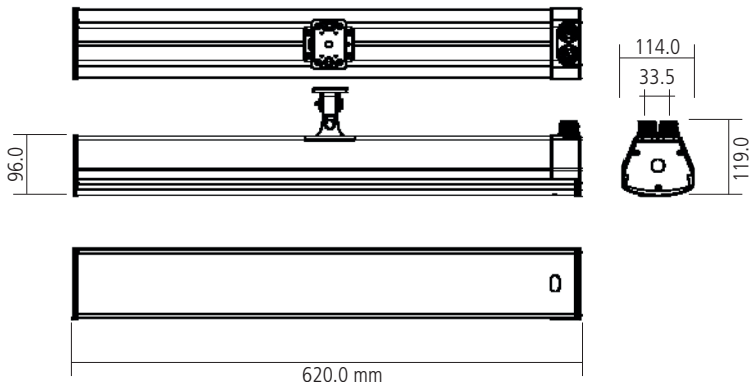
- The loudspeaker input voltage (V_d) shall correspond to the amplifier output voltage (V_a).
- The sum of nominal power values ($P_d \times n$) of all loudspeakers connected to the line shall not exceed the amplifier power (P_a).
- Make sure all loudspeakers are connected in phase to ensure a correct 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): | 20 W – 10 W – 5 W – 2.5 W (100 V) 20 W – 10 W – 5 W – 2.5 W – 1.25 W (70 V) |
| INPUT IMPEDANCE: | 250 Ω (20 W – 70 V) 500 Ω (20 W – 100 V / 10 W – 70 V) 1 kΩ (10 W – 100 V / 5 W – 70 V) 2 kΩ (5 W – 100 V / 2.5 W – 70 V) 4 kΩ (2.5 W – 100 V / 1.25 W – 70 V) |
| FREQUENCY RESPONSE (–10 dB): | 140 Hz ÷ 20 kHz |
| SENSITIVITY: | 92 dB (1 W, 1 m), 80 dB (1 W, 4m) |
| MAX. SOUND PRESSURE LEVEL: | 105 dB (20 W, 1 m), 93 dB (20 W, 4 m) |
| HORIZONTAL COVERAGE ANGLE (–6 dB): | 360° (500 Hz), 185° (1 kHz), 134° (2 kHz), 98° (4 kHz) |
| VERTICAL COVERAGE ANGLE (–6 dB): | 102° (500 Hz), 47° (1 kHz), 25° (2 kHz), 18° (4 kHz) |
| HOUSING MATERIAL: | extruded aluminium |
| GRILLE: | aluminium |
| COLOUR: | white (RAL 9003) |
| CONNECTION: | ceramic screw terminals |
| IP PROTECTION GRADE: | IP 66 |
| NET WEIGHT: | 4.5 kg (9.9 lbs) |
| OPERATING TEMPERATURE: | –30 ÷ +60 °C (–22 ÷ +140 °F) |
| DIMENSIONS | |





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EN 54-24:2008

Loudspeaker for voice alarm systems
for fire detection and fire alarm systems for buildings

CS 6520EN / CS 6940EN

Type B

DoP: 003_17

Other technical data: see operational manual.



Salvo eventuali errori ed omissioni.

RCF S.p.A. si riserva il diritto di apportare modifiche senza preavviso.

Except possible errors and omissions.

RCF S.p.A. reserves the right to make modifications without prior notice.

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