

P2110-T - P3115-T - P6215

P SERIES LOUDSPEAKER SYSTEMS DIFFUSORI SERIE P



User manual
Manuale d'uso

the rules of sound

RCF

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SPECIFICATIONS

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 loudspeaker to rain or humidity and dust, but the case this has been expressly designed and made to get a suitable IP protection grade (indicated in the product specifications).

**IMPORTANT
NOTES**



SAFETY 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 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 (in a constant voltage system) or its impedance 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 / fire.

7. Should the loudspeaker emit any strange odours or smoke, **remove it from the line after having 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.

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

12. To ensure a correct musical 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.

OPERATING PRECAUTIONS

- Install this loudspeaker far from any heat source.
- Do not overload this product for extended periods of 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.
- If the speaker is used in particularly cold places, drive it with a low signal for 5-10 minutes before using it at maximum power.

RCF S.p.A. would like to thank you for purchasing this product, which has been designed to guarantee reliability and high performance.

DESCRIPTION

P series loudspeaker systems belong to the “**RCF ACUSTICA**” line for fixed indoor installation, but also outdoor (IP 55 protection) if installed as sealed box (by covering the reflex ports with the suitable plugs).

Their cabinets are made of UV stabilized plastic resin and their shape allows both single installations and arrays / clusters (with optional accessories).

Their front grilles are made of aluminium. Yoke U brackets are made of stainless steel.

INSTALLATION NOTES

Loudspeakers are to be install by qualified personnel, respecting all safety standards.

Loudspeakers are to be installed securely.

Make sure the support structure (walls / ceilings) has the necessary mechanical characteristics for the loudspeaker weight, without the risk of a fall that could damage things or cause an injury.

Use attachments elements suitable for walls / ceilings (e.g. screw anchors for bricks, screw anchors for concrete, etc.).

After connecting a loudspeaker, insulate its unused wires!

SEALED OR VENTED (BASS-REFLEX) BOX

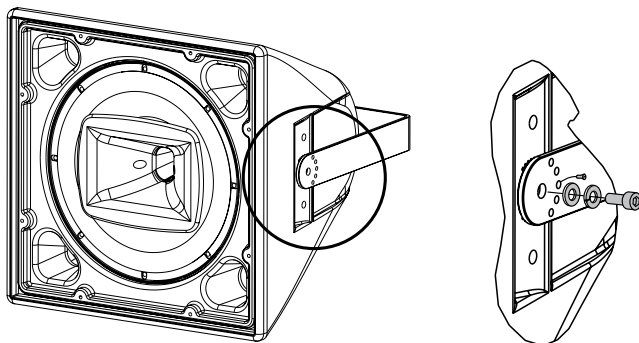
As default, P series loudspeakers are vented boxes (bass-reflex).

Yet, every loudspeaker can be adapted as a sealed box (in order to get IP 55 protection) by proceeding as following:

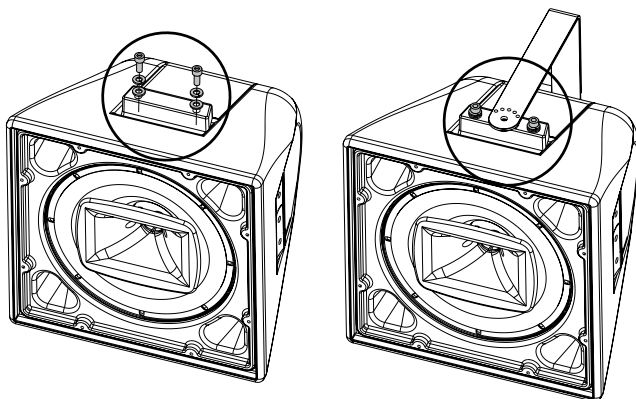
- Take off the loudspeaker front grille by removing the eight screws.
- Cover the four reflex ports (the holes) by using the dedicated plugs (to be fixed with three threadforming screws).
- Re-mount the loudspeaker grille.

SINGLE LOUDSPEAKER INSTALLATION

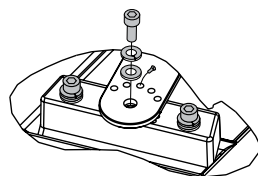
a) Horizontal U bracket installation: fix the loudspeaker to the U bracket by tightening the two bolts (M8 on P 2110-T, M10 on P 3115-T and P 6215) into the two loudspeaker central holes. Before tightening the two bolts, adjust the loudspeaker tilt and then (when you are sure of the proper angle) fix that position through thread-forming screws into the U bracket little holes next to the central hole for bolts. **Note: do NOT tilt the loudspeaker upwards!**



b) Vertical U bracket installation: put the two shims on the loudspeaker and fix them by tightening two pairs of bolts (M8 on P 2110-T, M10 on P 3115-T and P 6215). Then fix the loudspeaker to the U bracket by tightening other two bolts into the two loudspeaker central holes. Before tightening the last two bolts, adjust the loudspeaker horizontal aiming angle and then (when you are sure of the proper angle) fix that position through thread-forming screws into the U bracket little holes next to the central hole for bolts.



Note: it will be possible to remove a pair (only) of lateral bolts (used to fix the two shims) if a particular horizontal aiming angle is required"



ARRAY / CLUSTER INSTALLATION

Please refer to the optional accessory user's manual.

CONNECTIONS

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) in order 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.

If the loudspeaker is installed outdoor (and IP 55 protection grade is required), all electrical connections shall be put into weatherproof boxes / wall niches.

CONSTANT VOLTAGE SYSTEMS 100 V (P 2110-T and P 3115-T only)

Connect the loudspeaker common BROWN wire to line coming from the amplifier common output “-”, “0”, “COM” or “b”.

Choose between the loudspeaker BLACK wire (full power) or the GREY wire (half power) and connect it to the 100 V line coming from the amplifier output “100 V”, “+” or “a”.

NEVER use the loudspeaker BLUE wire.

100V =  **Black**

0 =  **Brown**

P 2110-T 100 V – 60 W (166 Ω)

P 3115-T 100 V – 120 W (83 Ω)

100V =  **Grey**

0 =  **Brown**

100 V – 30 W (333 Ω)

100 V – 60 W (166 Ω)

Note: if the line is 70 V (instead of 100 V), the total delivered power will be halved (P 2110-T: 30/15 W; P 3115-T: 60/30 W).

LOW IMPEDANCE CONNECTION (Do NOT do it with 100 V lines)

Connect the loudspeaker BROWN wire to the amplifier output “-”.

Connect the loudspeaker BLUE wire to the amplifier output “+”.

+ =  **Blue**

- =  **Brown**

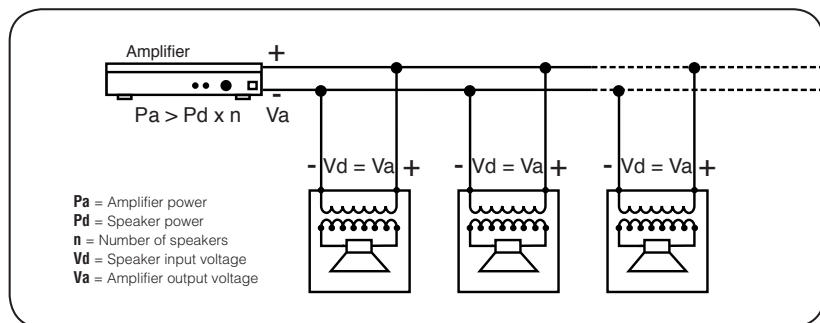
P 2110-T 16 Ω (200 W)

P 3115-T 16 Ω (300 W)

P 6215 8 Ω (600 W)

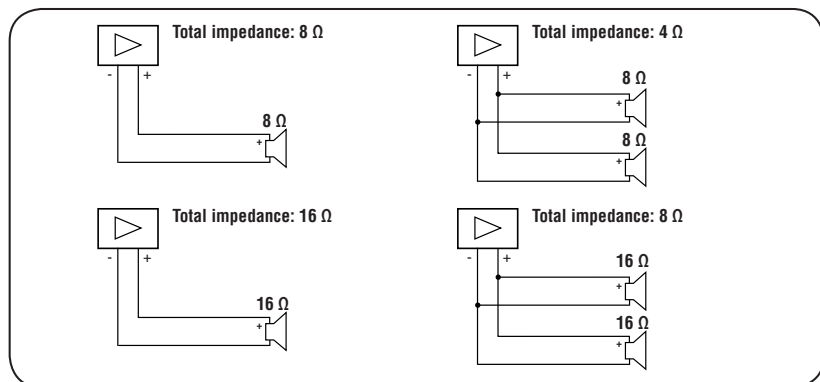
NOTES ABOUT CONSTANT VOLTAGE SYSTEMS

- The loudspeaker input voltage (V_d) must 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 must not exceed the amplifier power (P_a).
- Make sure all loudspeakers are connected in phase to ensure a correct audio reproduction.



NOTES ABOUT LOW IMPEDANCE CONNECTIONS

- The total loudspeaker impedance must not be lower than the amplifier output impedance.
- Note:** a loudspeaker total impedance equal to the amplifier output one permits to get the maximum deliverable power (but an higher loudspeaker impedance entails less power).
- The total loudspeaker power shall be adequate for the maximum deliverable power of the amplifier.
 - The loudspeaker line shall be short (for long distances, it may be necessary to use cables with large cross-section wires).



OTHER NOTES

- 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 cables, microphone cables or others, in order to avoid inductive phenomena may cause hum or noises.
- Use loudspeaker cables with twisted wires to reduce hum caused by inductive effects due to coupling with electromagnetic fields.
- Do NOT connect loudspeaker low impedance (8 / 16 Ω) inputs to 100 V constant voltage lines.

SPECIFICATIONS

Type _____	two way coaxial, bass-reflex or (IP 55) sealed box
Cabinet material _____	UV stabilized "Rotomould" plastic resin
	Front grille made of aluminium
U bracket material _____	stainless steel

P 2110-T

Loudspeakers _____	10" woofer, horn loaded (90° x 40°, coaxial) 1" neo driver
Frequency response (-3 dB) _____	120 Hz ÷ 20 kHz
RMS power _____	200 W (16 Ω input); 60 W – 30 W (100 V input)
Sensitivity _____	95 dB (1 W, 1 m)
Dimensions (w, h, d) _____	350 mm, 350 mm, 320 mm
Net weight _____	13.5 kg

P 3115-T

Loudspeakers _____	15" woofer, horn loaded (90° x 60°, coaxial) 1" neo driver
Frequency response (-3 dB) _____	100 Hz ÷ 20 kHz
RMS power _____	300 W (16 Ω input); 120 W – 60 W (100 V input)
Sensitivity _____	98 dB (1 W, 1 m)
Dimensions (w, h, d) _____	463 mm, 463 mm, 433 mm
Net weight _____	19.4 kg

P 6215

Loudspeakers _____	15" woofer (3.5" voice coil), horn loaded (60° x 60°, coaxial) 1.4" neo driver
Frequency response (-3 dB) _____	120 Hz ÷ 20 kHz
RMS power _____	600 W (8 Ω input)
Sensitivity _____	100 dB (1 W, 1 m)
Dimensions (w, h, d) _____	463 mm, 463 mm, 433 mm
Net weight _____	19.2 kg

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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the rules of sound

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