




PA 121 • PA 152

Diffusori Serie VISION
VISION Series Speaker Systems
Enceintes Série VISION
Lautsprecherboxen Serie VISION
Difusores Serie VISION

IMPORTANT

- **Before connecting and using the speaker, please read the instructions in this manual carefully and keep it for future reference.**
- *This manual is to be considered an integral part of the product, and must always accompany the speaker when it changes ownership in order to allow the new owner to know the methods of installation and use as well as the safety rules.*
- *RCF will not assume any responsibility for incorrect installation of the speaker.*

SAFETY PRECAUTIONS

1. **Please read the notes preceded by the symbol  with special attention**, as they provide important safety information.
2. Never apply power values to the speaker higher than those indicated in the section "SPECIFICATIONS".
3. Never attempt to make repairs that are not described in this manual, but contact the **RCF SERVICE CENTRE**.
4. Use the speaker only with trolleys, supports, or other accessories specified by **RCF** or supplied with the product.
5. Only install the speaker using the accessories indicated by **RCF**.
6. **Flying installation of the speaker must be carried out by qualified personnel, respecting all the safety standards.**
7. Because the speaker can produce high levels of acoustic pressure which may damage the hearing, we recommend that the volume be regulated carefully.

OPERATING PRECAUTIONS

- Do not use solvents, alcohol, benzene, or other volatile substances to clean the external parts of the speaker.

DESCRIPTION

The **PA 121** and **PA 152** two-way bass-reflex speakers have been specially designed for permanent installations, where they can be used in both passive systems and biamplified systems. The characteristics of the loudspeakers make the **PA 121** and **PA 152** particularly suitable as both full-range speakers and satellite speakers. Coupled with the **PA 180 SW** subwoofer and the **DP 260** digital processor, they can be used to create high performance two- or three-channel sound systems. The speaker cabinet in plywood wood is extremely sturdy.

INSTALLATION

 **CAUTION**

- **Install the speaker in a stable and secure way, in order to prevent any dangerous conditions for people or structures.**
- *To prevent the risk of falling, never stack the speakers.*
- *Before suspending the speaker, carefully check all the components to be used, which must not show any damage, deformation, corrosion or missing or damaged parts that could jeopardize the safety of the installation.*
- *In outdoor use, avoid installation in places that are subject to harsh weather.*

FLOOR INSTALLATION

The **PA 121** and **PA 152** speakers can be set directly on the floor. Thanks to their trapezoidal shape, several speakers can be grouped together to obtain a cluster configuration (Fig. 1-2, pag. 17), which makes it possible to have different angles of coverage and sound pressure levels.

FLYING INSTALLATION

 **CAUTION**

- **Flying installation of the speaker must only be carried out by qualified personnel, fully respecting all the safety standards.**
- *Before hanging the speaker, carefully make all the calculations necessary to ensure that all the components are used within their nominal work load limits. Remember that the weakest component determines the safety level of the entire installation.*
- *Tensile stress tests carried out on the hooking points of the top panel of the speaker (M10 inserts) have shown that they can support a load of xxx kg. Considering a safety factor of 7 to 1, the resulting load is xx kg: never apply an overall traction load greater than xx kg on the hooking points of the top of the speaker!*
- *Do not tighten the eyebolts excessively, so as not to risk damaging the threaded inserts.*
- *Do not hang the speaker using only one or two of the hooking points on the top of the speaker.*
- *To hang the speaker, use all the hooking points on the top panel of the speaker, and keep in mind that it is forbidden to make an installation in which the weight of the speaker is not equally distributed over the hooking points.*

To hang the speaker, use three **PA-A1** eyebolts (code no. 133.20.096), installed as described below.

- 1) Remove the screws that occupy the three **M10** threaded inserts on the top of the speaker.
- 2) Apply an anti-loosening liquid on the threaded part of the 3 eyebolts.

- 3) Screw the 3 eyebolts into the special adapters supplied, as shown in Figure 3, pag. 17.
- 4) Apply an anti-loosening liquid on the threaded part of the 3 adapters.
- 5) Screw the three eyebolt/adapter assemblies into the 3 **M10** threaded inserts on the top of the speaker (Fig. 3, pag. 17), placing the lock washer between the two elements.

INSTALLATION USING OTHER ACCESSORIES

The speaker cabinet has 12 **M10** threaded inserts (ref. A - Fig. 4, pag. 17), which can be used for attaching accessories for installing the speaker in various ways. To see the updated range of accessories available, contact your nearest RCF dealer.

ROTATING THE LOGO ON THE GRILLE

When the speaker is positioned horizontally, it is possible to rotate the logo on the front grille to adapt it to the new position.

- 1) Remove the front metal grille of the speaker by unscrewing the screws in view.
- 2) Loosen the nut that secures the logo to the grille.
- 3) Rotate the logo and tighten the nut.
- 4) Re-fit the front metal grille.

CONNECTIONS

CAUTION

- For connecting the speaker, use only **qualified and experienced personnel** having sufficient technical knowledge or specific instructions for making the connections correctly and thus **preventing electrical dangers**.
- To prevent the risk of electrical shock, **do not make connections with the amplifier switched on**.
- Before driving the speaker, **check to make sure that all the connections have been made correctly** to prevent accidental short circuits from causing dangerous electrical sparks.
- The entire sound system must be designed and installed in compliance with the current standards and regulations regarding electrical systems.

On the connection panel situated on the bottom of the speaker, there are two Neutrik Speakon® connectors. One socket is for the audio signal input, and the second socket can be used as an output for parallel connection of another speaker (Fig. 5, pag. 18). A male **NL4FC** model Neutrik Speakon® connector must be inserted in each socket, connected as shown in Fig. 7, pag. 19 (passive systems) or Fig. 8, pag. 19 (bi-amplified systems). The method for inserting the Neutrik connector in the corresponding socket is shown in Figure 9, page 19.

IMPORTANT NOTES

- To ensure correct musical reproduction, you should make a **“phase”** connection, in which the polarity of the amplifier output corresponds to the polarity of the speaker input (see Fig. 7-8, pag. 19).
- When connecting multiple speakers in parallel, pay particular attention to the total load impedance, which **must never be lower than the load impedance of the amplifier output**, so as not to risk causing serious damage to the amplifier.

INTERNAL OPERATING MODE SELECTOR

By removing the connection panel of the speaker and changing the position of an internal connector, the speaker can be configured to operate in passive systems (Fig. 5, pag. 18) or bi-amplified systems (Fig. 6, pag. 18). The operating mode selected is shown by the circular indicators on the connection panel, with the selected mode indicated by the colour white.

In passive systems, the speaker operates with only one amplifier and without any signal processors. Bi-amplified systems enable the maximum loudspeaker performance, where a signal processor (e.g. the RCF DP 260 processor) is used with the speakers, which are driven with two separate amplifiers for the low and high frequencies.

CAUTION

- When the bi-amplified function is selected, the passive filters of the speaker are completely excluded.

To change the speaker operating mode, proceed as follows:

1. Loosen the 6 screws that attach the speaker connector panel.
2. Remove the panel and locate connector **“A”** on the inner side (Fig. 10, pag. 20).
3. Disconnect connector **“A”** and insert it in the female connector **“B”** or **“C”** according to the operating mode desired, as shown in Figure 10, page 20.
4. Re-fit the speaker connector panel.

Figure 11, page 20 shows diagrams of the two possible speaker configurations.

PA 121 SPECIFICATIONS

| | |
|--|---|
| Type of speaker | Two-way bass reflex |
| Loudspeakers | 1 woofer, diameter 300 mm (12") 1 compression tweeter, horn-loaded |
| Sensitivity | 100 dB SPL 1W/1m |
| Maximum sound pressure | 127 dB / 1m |
| Applicable power | 300 W |
| Musical power | 600 W |
| Peak power | 1200 W |
| Applicable power to low frequency section | 220 W |
| Applicable power to high frequency section | 30 W |
| Nominal impedance | 8 Ω (8 Ω - low frequ. section / 8 Ω - high frequ. section) |
| Frequency response | 65 - 18,000 Hz \pm 3 dB |
| Tuning frequency | 60 Hz |
| Crossover frequency | 2000 Hz |
| Type of filter | 12 / 12 dB/oct. |
| Angle of coverage | 90° x 75° |
| Cabinet material | Multi-layer wood |
| Finish | Scratchproof paint |
| Connectors | Two 4-pin Speakon® connectors |
| Anchoring and threaded inserts | 12 M10 threaded inserts |
| Dimensions | 384x637x390 mm |
| Internal volum | 55 l |
| Weight | 28 kg |

* Speakon® is a trademark of Neutrik

PA 152 SPECIFICATIONS

| | |
|--|--|
| Type of speaker | Two-way bass reflex |
| Loudspeakers | 1 woofer, diameter 380 mm (15") 1 compression tweeter, horn-loaded |
| Sensitivity | 98 dB SPL 1W/1m |
| Maximum sound pressure | 128 dB / 1m |
| Applicable power | 500 W |
| Musical power | 1000 W |
| Peak power | 2000 W |
| Applicable power to low frequency section | 500 W |
| Applicable power to high frequency section | 50 W |
| Nominal impedance | 8 Ω (8 Ω - low frequ. section / 16 Ω - high frequ. section) |
| Frequency response | 55 - 20,000 Hz \pm 3 dB |
| Tuning frequency | 55 Hz |
| Crossover frequency | 1600 Hz |
| Type of filter | 12 / 12 dB/oct. |
| Angle of coverage | 60° x 40° |
| Cabinet material | Multi-layer wood |
| Finish | Scratchproof paint |
| Connectors | Two 4-pin Speakon® connectors |
| Anchoring and threaded inserts | 12 M10 threaded inserts |
| Dimensions | 505x758x457 mm |
| Internal volume | 96 l |
| Weight | 44 kg |

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These instructions have been carefully written and thoroughly checked. With the aim of improving our products, RCF reserves the right to make aesthetic or functional modifications without prior notice. RCF assume no responsibility for any inaccurate information herein.