



PA 180 SW

Subwoofer Serie VISION
VISION Series Subwoofer
Subwoofer Série VISION
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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 180SW** bass-reflex subwoofer is particularly suitable for reinforcing the low frequency range in systems using the **VISION** Series speaker systems. An 18" woofer with 4" voice coil, together with an exclusive reflex loading system, ensure a particularly extended low frequency response. Using the **PA 180SW** in combination with the **DP 260** digital processor makes it possible to couple the subwoofer with satellite speakers of the **VISION** Series to create high performance two- and three-channel sound systems.

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.**

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 subwoofer.
- 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 1, pag. 17.
- 4) Apply an anti-loosening liquid on the threaded part of the 3 adapters.
- 5) Screw the three eyebolt/adaptor assemblies into the 3 **M10** threaded inserts on the top of the subwoofer (Fig. 1, pag. 17), placing the lock washer between the two elements.

INSTALLATION USING OTHER ACCESSORIES

The subwoofer cabinet has 12 **M10** threaded inserts (ref. A - Fig. 2, 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.

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.

The connection panel of the subwoofer has two Neutrik Speakon® connectors which are connected in a different way depending on the operating mode selected (see "EXCLUDING THE FILTER"), as shown in Tables 1 and 2 and in Figures 3 and 4, page 18. A male **NL4FC** model Neutrik Speakon® connector must be inserted in each socket, connected as shown in Figure 5, page 19. The method for inserting the Neutrik connector in the corresponding socket is shown in Figure 6, page 19.

Table 1

SUBWOOFER WITH FILTER ACTIVATED FOR PASSIVE SYSTEMS		
"SPEAKON®" connector	Function	Connector pin connection
IN/PASSIVE	Input for extended range audio signal, to be connected to the amplifier	1+/1-: extended range audio signal 2+/2-: not used
OUT/PASSIVE	Audio signal output filtered by means of the subwoofer filter, to be connected to a speaker of the VISION Series (PA 121, PA 152, etc.)	1+/1-: extended signal filtered 2+/2-: not used

Table 2

SUBWOOFER WITH FILTER EXCLUDED FOR MULTI-AMPLIFIED SYSTEMS		
"SPEAKON®" connector	Function	Connector pin connection
IN-OUT/AMP	Input or output for audio signal. When used as input, it is connected to the amplifier, when used as output, it is connected to another subwoofer in parallel.	1+/1- : extended range audio signal (input or output) 2+/2- : not used

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. 5, 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.

EXCLUDING THE FILTER

By removing the subwoofer's connection panel and changing the position of an internal connector, the filter can be excluded and the loudspeaker can be driven directly to create a multi-amplified system (Fig. 4, 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.

Two- or three-channel multi-amplified systems enable the maximum performance of the **PA 180SW**, as the use of a digital processor (e.g. the RCF DP 260 processor) ensures that the subwoofer loudspeaker is driven with an amplifier dedicated to the low frequencies.

To change the subwoofer operating mode, proceed as follows (fig. 7, pag. 19):

1. Loosen the 6 screws that attach the subwoofer connector panel.
2. Remove the panel and locate connector **"A"** on the inner side.
3. Disconnect connector **"A"** and insert it in the female connector **"B"** or **"C"** according to the operating mode desired.
4. Re-fit the subwoofer connector panel.

Figure 8, page 20 shows diagrams of the two possible subwoofer configurations.

SPECIFICATIONS

Type of speaker	Bass reflex
Loudspeakers	1 woofer, diameter 450 mm (18"), with water-repellent exponential profile diaphragm in cellulose pulp, and coil diameter 100 mm (4")
Sensitivity	106 dB SPL 1W/1m
Maximum sound pressure	137 dB / 1m
Applicable power	600 W
Musical power	1200 W
Peak power	6000 W
Nominal impedance	8 Ω
Frequency response	35 - 150 Hz \pm 3 dB
Tuning frequency	35 Hz
Crossover frequency	120 Hz
Type of filter	12 / 6 dB/oct.
Cabinet material	Multi-layer wood
Finish	Scratchproof paint
Connectors	Two 4-pin Speakon® connectors
Anchoring and threaded inserts	12 M10 threaded inserts
Dimensions	796 x 596 x 603 mm
Internal volume	240 l
Weight	50 kg

* Speakon® is a trademark of Neutrik