

**RCF**

**HD210/T**

**HD310/T**

**HD410/T**

- **HORN SPEAKERS WITH DYNAMIC DRIVER UNIT**
- **DIFFUSORI A TROMBA CON UNITÀ DINAMICA**



- **INSTALLATION AND OPERATION MANUAL**
- **MANUALE D'INSTALLAZIONE E D'USO**

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).

### 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.**

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

The **HD 210/T • HD 310/T • HD 410/T** are compact, lightweight and watertight horn speakers. They are designed to provide high efficiency and characterized by the high intelligibility of the reproduced sound with low distortion. The built-in line transformer makes it possible to connect the horn loudspeaker to both 70 and 100 V constant voltage lines, and select the delivered power by means of a rotary dial on the rear cover.

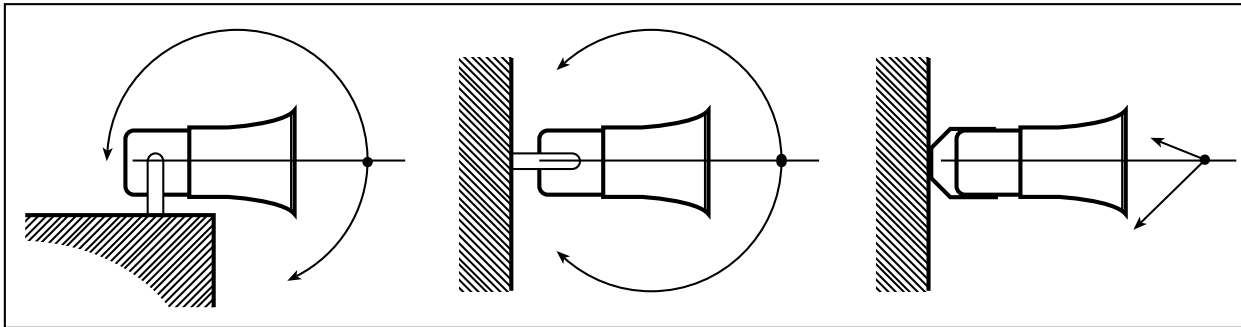
## INSTALLATION

### CAUTION

- Make sure that the speaker is installed in a stable and secure way in order to avoid any conditions that may be dangerous for people or structures.
- Use attachment systems (screws, screw anchors, etc.) that are suitable for the type of structure that will support the speaker (e.g. walls made of brick, concrete, wood, etc.).



The speaker can be installed both indoors and outdoors. It is equipped with a bracket for attachment to the support structure using the holes on the base. By rotating the speaker body, you can aim it to the desired direction.





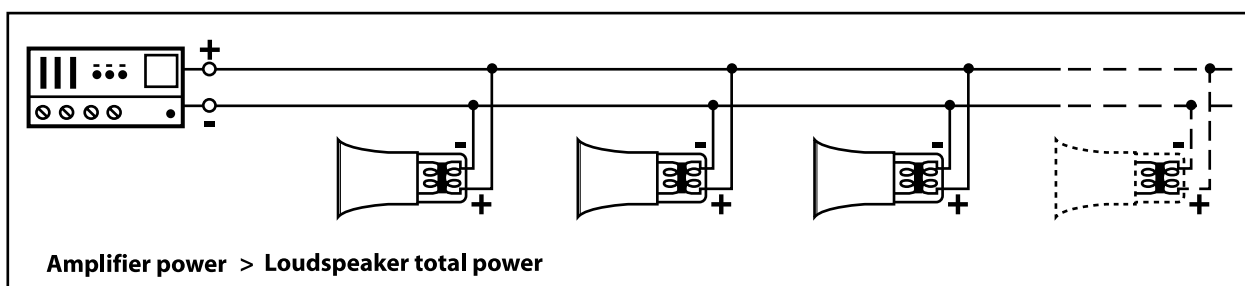
## CONNECTIONS

CONNECTIONS TO THE LOUDSPEAKER LINE ARE MADE BY USING THE 2 WIRE CABLE COMING OUT FROM THE LOUDSPEAKER REAR SIDE.

- 1) Connect the conductor of the audio line that leads from the amplifier terminal marked "0" or 'COW to the **BLACK** conductor of the speaker input cable.
- 2) Connect the conductor of the audio line that leads from the amplifier terminal marked "70V" or "100V" to the **RED** conductor of the speaker input cable.
- 3) Select the output power as described in the section below.

The figure shows a typical application example. To facilitate the "phase" connection of the speaker, we recommend that you use bipolar cables with markings that distinguish the polarity (e.g. insulation of different colours, conductors of different colours, etc.). In creating the sound system at constant voltage, keep the following rules in mind:

- 1) The input voltage of the speaker must correspond to the voltage selected on the amplifier output.
- 2) The sum of the nominal power values of all the speakers connected must not exceed that of the amplifier.

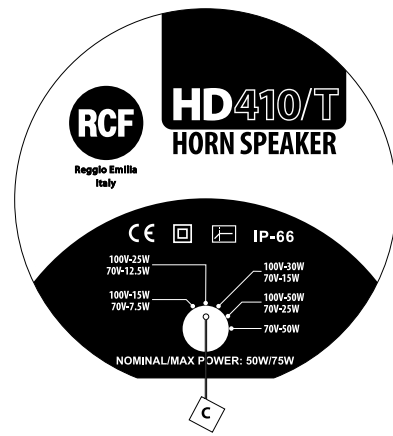
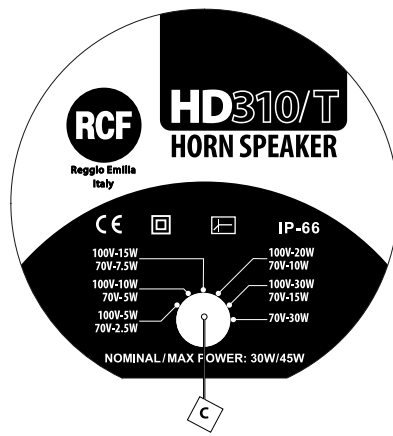
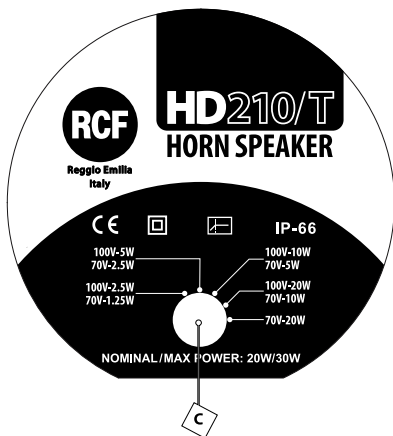


## IMPORTANT NOTES

- Two output power values can correspond to a single position of the commutator: one value is related to the line voltage of 100 V, and the other to the line voltage of 70 V. Pay attention not to confuse the two values.
- In order to protect the electrical contacts of the commutator and ensure their durability, we recommend that you change the power value with the system switched off (no sound programme being diffused), or with the amplifiers adjusted to low volume.
- To prevent breakdowns or malfunctions, **do not turn the commutator to the "70 V" max power** (last setting turning clockwise) position when the speaker is connected to lines.

## SPECIFICATIONS

	HD 210/T	HD 310/T	HD 410/T
Type	20 W - Round, with driver unit and transformer	30 W - Round, with driver unit and transformer	50 W - Round, with driver unit and transformer
Nominal/maximum power	20 / 30 W	30 / 45 W	50 / 75 W
Input voltage	100 / 70 V	100 / 70 V	100 / 70 V
Frequency response	300 - 9.000 Hz	240 - 10.000 Hz	180 - 7.000 Hz
Maximum sound pressure	121 dB	123 dB	130 dB
Angle of coverage	70°	80°	90°
Sensitivity (1W/1m)	108 dB	108 dB	112 dB
Dimensios	Ø 212 x 290 mm	Ø 310 x 315 mm	Ø 410 x 385 mm
Weight	2.2 kg	3.1 kg	4.1 kg
Weather protection	IP 66	IP 66	IP 66
Low frequency out of range protection	High pass filter 6 dB/oct.	High pass filter 6 dB/oct.	High pass filter 6 dB/oct.
Working temperature °C	-25° / +70°	-25° / +70°	-25° / +70°
Colour	RAL 7035	RAL 7035	RAL 7035
Mounting hardware	"U" Bracket stainless steel	"U" Bracket stainless steel	"U" Bracket stainless steel
Connection cable	length 1 m	length 1 m	length 1 m
Flare material	alluminium	alluminium	alluminium
Plastic parts	ABS UL- 94HB; UV Stabilized	ABS UL- 94HB; UV Stabilized	ABS UL- 94HB; UV Stabilized



### SELECTING THE OUTPUT POWER

Using the commutator "C" on the back of the speaker, you can select the output speaker power from different values. Use a flat screwdriver to turn the dial until the index is positioned in correspondence with the desired output power indicated on the plate.

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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