

OWNER MANUAL

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A
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V6
V10
V35
V45
V218-S
V221-S

'VMAX' SERIES
LOUDSPEAKERS



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**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.

WARNING: To prevent the risk of fire or electric shock, never expose this loudspeaker to rain or humidity and also dust.

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 to involve a risk of electrocution: never install or connect this loudspeaker when amplifiers are switched on.

3. Make sure all connections have been made correctly and the loudspeaker input 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 are inside the loudspeaker.**
- **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 (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.

IMPORTANT

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.

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.

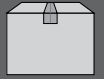
14. The loudspeaker cable shall have wires (twisted, if possible, to reduce inductive effects due to surrounding electro-magnetic fields) with a suitable section and a sufficient electrical insulation. Refer to local regulations since there may be additional requirements about cable characteristics.

15. Do NOT connect the loudspeaker low impedance (8Ω) input to 70 / 100 V constant voltage lines.

16. Install this loudspeaker far from any heat source.

17. Do not overload the loudspeaker with too much power.

18. 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.

The 'VMAX' series includes a range of high quality 2-way passive loudspeakers and two subwoofers. It is based on the RCF exclusive 'Coverage Matching Design' technology, that helps guarantee an optimal transition between the high frequency horn polar pattern and the low frequency woofer directivity.

This manual covers 6 models of the series:

- **V6 TWO-WAY LOUDSPEAKER**
6" woofer (1.8" voice coil) and 1" driver (1.7" voice coil)
- **V10 TWO-WAY LOUDSPEAKER**
10" woofer (2.5" voice coil) and 1.4" driver (2.5" voice coil)
- **V35 TWO-WAY LOUDSPEAKER**
15" woofer (4" voice coil) and 1.4" driver (3" voice coil)
- **V45 TWO-WAY LOUDSPEAKER**
2x15" woofer (4" voice coil) and 1.4" driver (4" voice coil)
- **V218-S SUBWOOFER**
2x18" woofer (4" voice coil)
- **V221-S SUBWOOFER**
2x21" woofer (4,5" voice coil)

VMAX are carefully assembled in Italy (in our main factory) and include RCF woofers and drivers that are the best of the most recent technology about transducers.

V35 and V45 loudspeakers are equipped with protection for the driver. It is also possible to choose the "bi-amp" mode (an amplifier for low frequencies and another one for high frequencies) by using an external crossover.

All cabinets are made of Baltic birch plywood (heavy duty painted) and allow different installation options.

The steel front grilles are protected with a robust double mesh polyester clothing. The front RCF logo is easily rotatable.

The cabinet shape will allow V35 model to be used in the standard configuration as well as in stage monitor.

At the bottom of V6, V10 and V35 a rugged steel pole mount has been installed.

All models have two Neutrik Speakon NL4 connectors (audio input and parallel link output).

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.

'VMAX' series loudspeakers are designed for indoor use only. If installed outdoor, loudspeakers shall be protected against water.

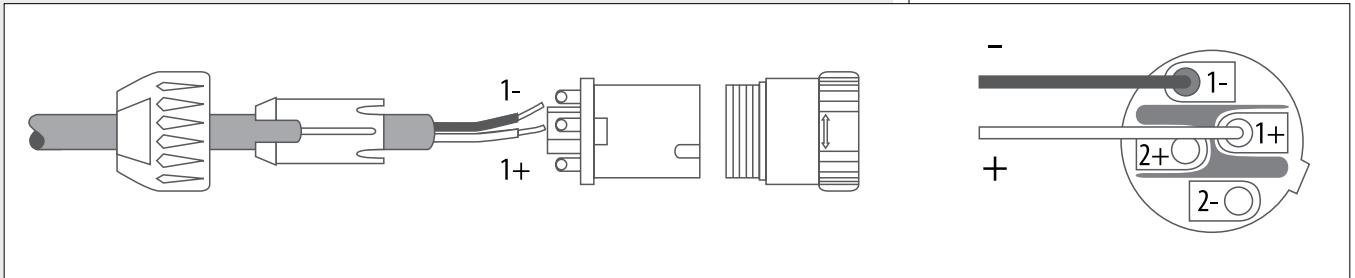
V35 and V45 Models

On each rear panel:

- A switch to select either 'FULL RANGE' (one amplifier and use of the internal crossover) or 'BI-AMP' (bi-amplification and external crossover)
- 2 sockets (input and output, linked in parallel) for 'Neutrik Speakon NL4' (4-pole) plugs.



'FULL RANGE' MODE



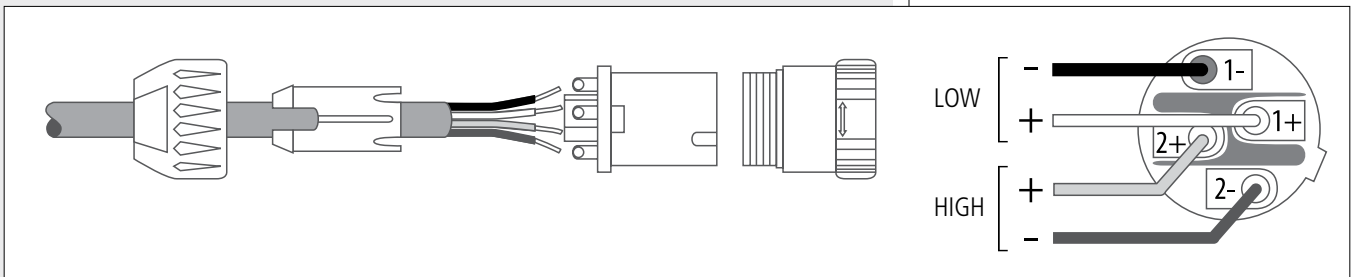
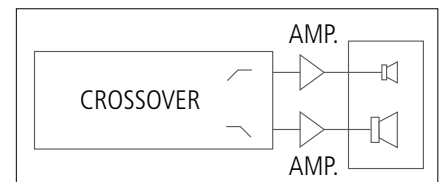
The impedance value of V35 is 8 Ω; V45 is 4 Ω

Connect the positive wire (amplifier '+' output) to the pin 1+ of the SPEAKON connector. Connect the negative wire (amplifier '-' output) to the pin 1- of the SPEAKON connector. The pins 2+ and 2- are not used.

'BI-AMP' MODE

Two amplifiers are necessary (one for low frequencies, one for high frequencies) and an external crossover.

See in the specification table the impedance of each way, the handling power and the



suggest crossover frequency.

Connections:

- Low frequency amplifier + output to the pin 1+ of the SPEAKON connector
- Low frequency amplifier - output to the pin 1- of the SPEAKON connector
- High frequency amplifier + output to the pin 2+ of the SPEAKON connector
- High frequency amplifier - output to the pin 2- of the SPEAKON connector.



V218-S, V221-S

On each rear panel:

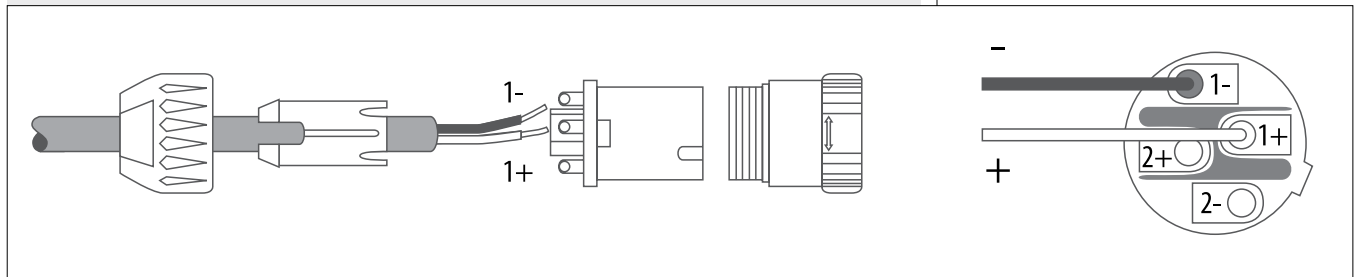
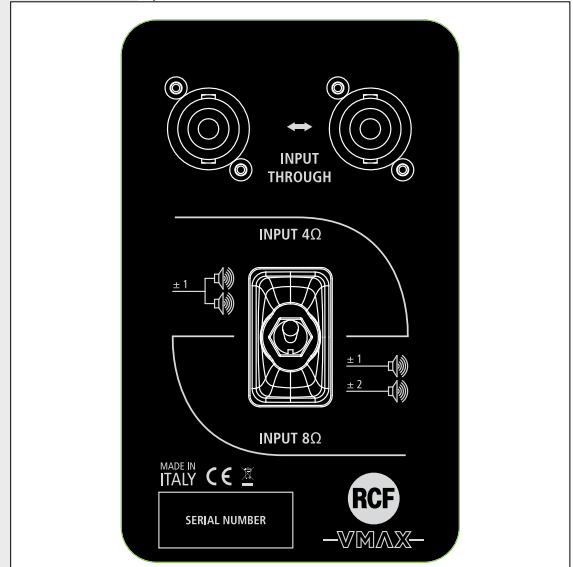
- A switch to select either 'PARALLEL' (one amplifier for two woofers in parallel) or "SINGLE" (one amplifier for one woofer)
- 2 sockets (input and output, linked in parallel) for 'Neutrik Speakon NL4' (4-pole) plugs.

'PARALLEL' MODE

The impedance value of loudspeaker is 4 Ω.

Connect the positive wire (amplifier '+' output) to the pin 1+ of the SPEAKON connector. Connect the negative wire (amplifier '-' output) to the pin 1- of the SPEAKON connector.

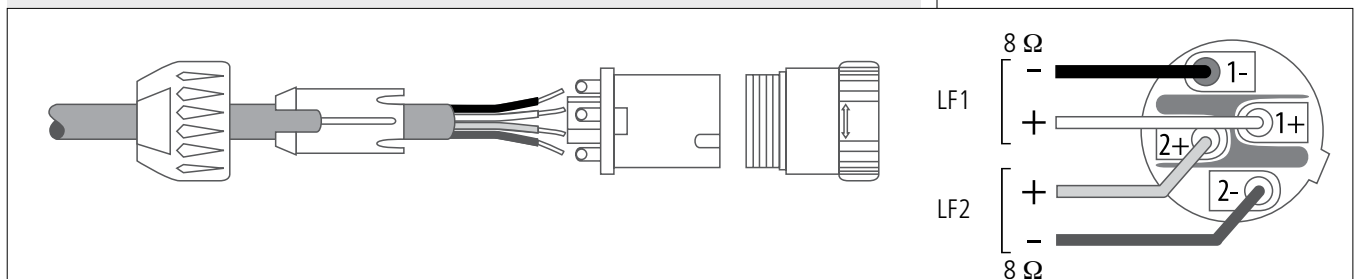
The pins 2+ and 2- are not used.



'SINGLE' MODE

Two amplifiers are necessary (one for woofer 1, one for woofer 2).

See in the specification table the impedance of each way, the handling power and the suggest crossover frequency.



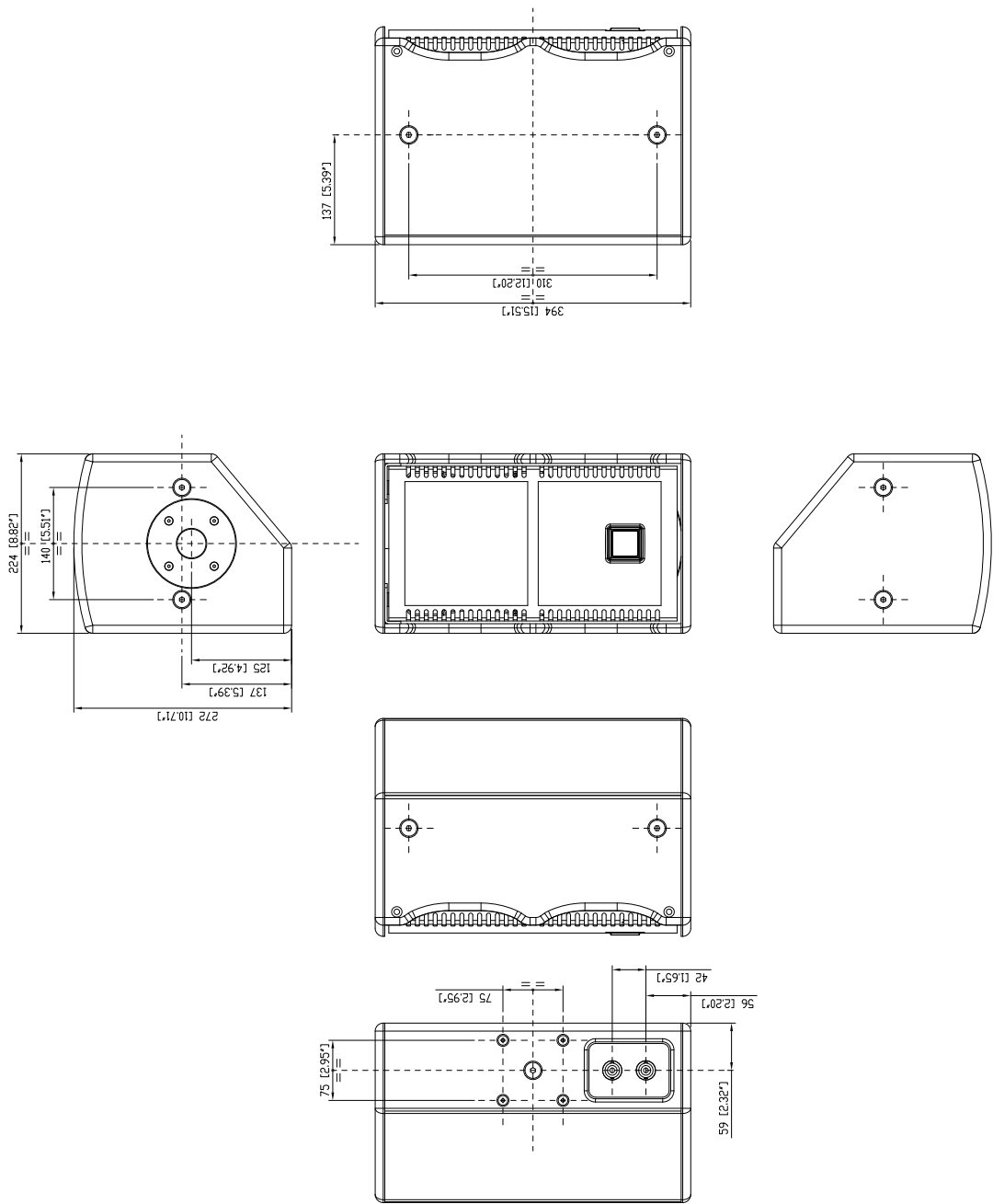
Connections:

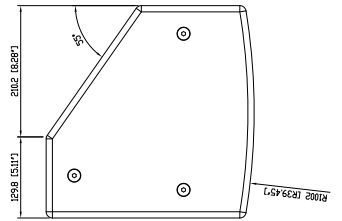
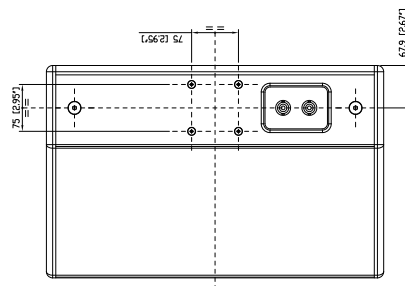
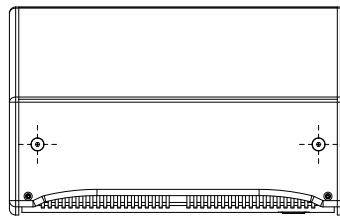
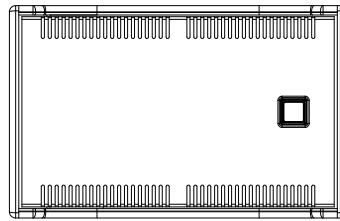
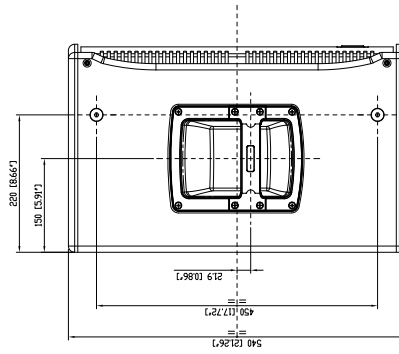
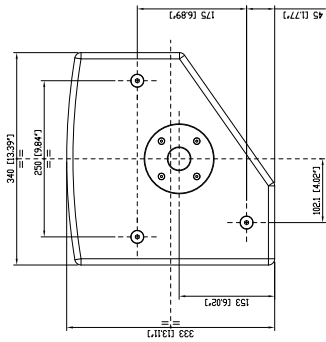
- Low frequency amplifier + output to the pin 1+ of the SPEAKON connector
- Low frequency amplifier - output to the pin 1- of the SPEAKON connector
- Low frequency amplifier + output to the pin 2+ of the SPEAKON connector
- Low frequency amplifier - output to the pin 2- of the SPEAKON connector.

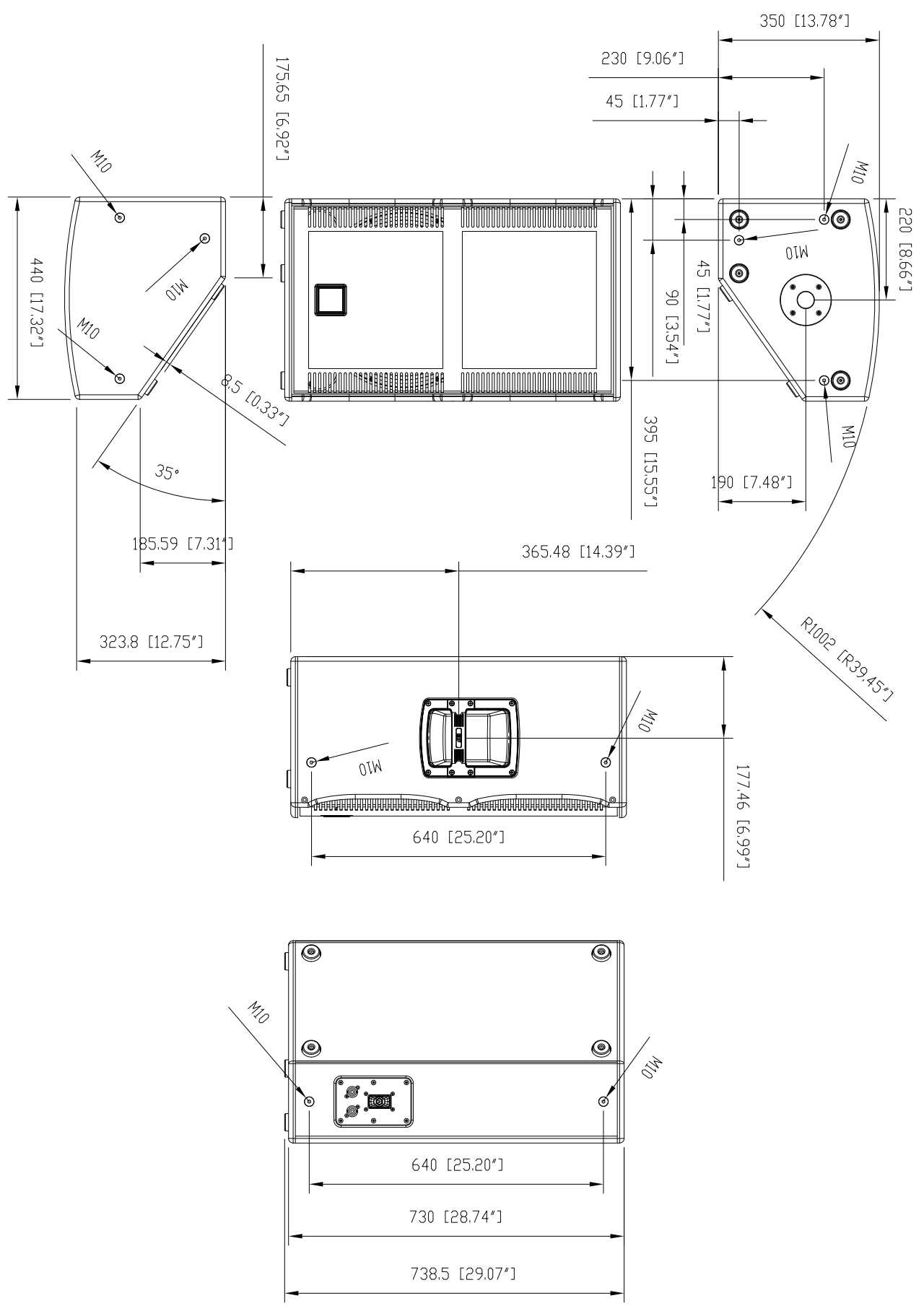


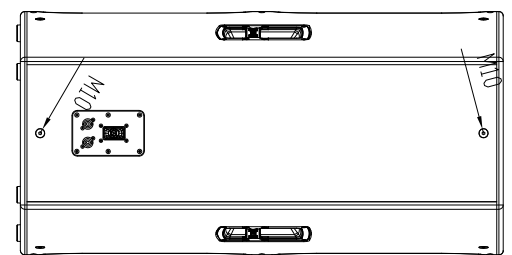
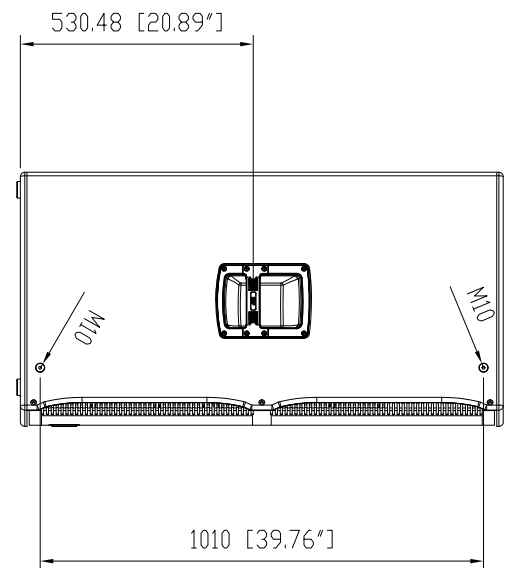
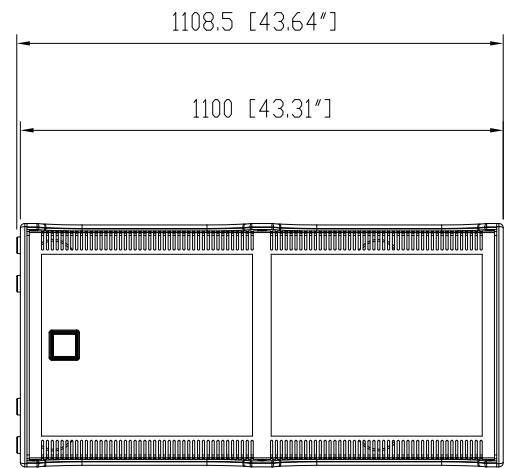
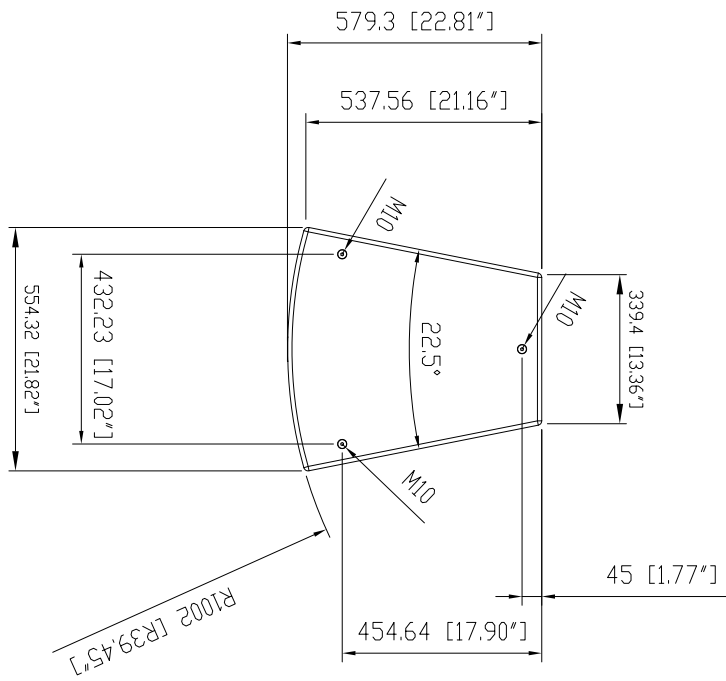
CABINET: birch plywood COLOUR: black

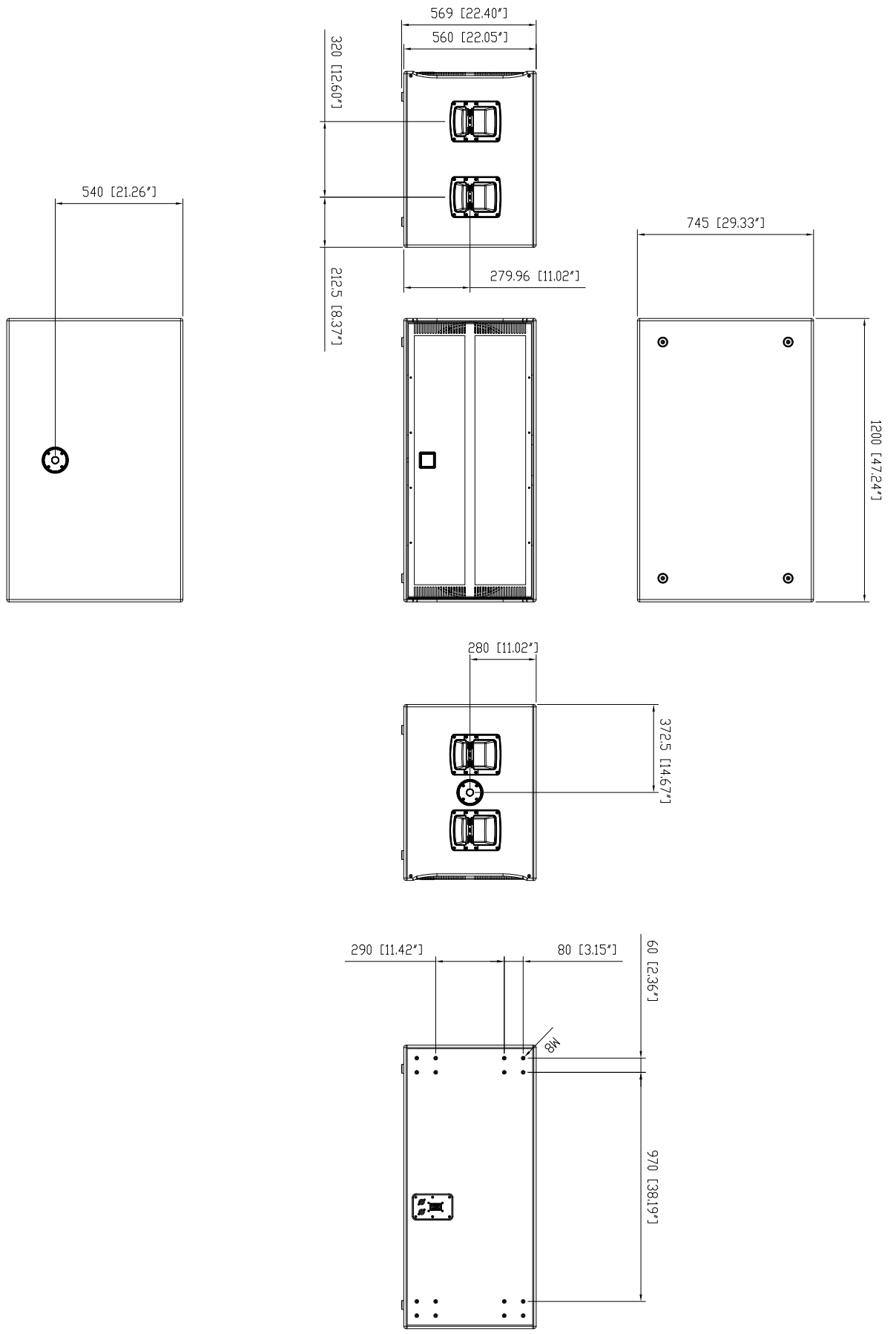
MODEL	V6	V10	V35	V45	V218-S	V221-S
IMPEDANCE ('full range')	8 Ω	8 Ω	8 Ω	4 Ω	4 Ω	4 Ω
RMS POWER, ("full-range")	200 W	350 W	900 W	1800 W	3000 W	4000 W
IMPEDANCES ("bi-amp")	8 Ω (LF) 8 Ω (HF)	8 Ω (LF) 8 Ω (HF)	8 Ω (LF) 8 Ω (HF)	4 Ω (LF) 8 Ω (HF)	8 Ω (LF1) 8 Ω (LF2)	8 Ω (LF1) 8 Ω (LF2)
AES POWERS ("bi-amp")	-	-	900 W (LF) 110 W (HF)	1800 W (LF) 140 W (HF)	1500 W (LF1) 1500 W (LF2)	2000 W (LF1) 2000 W (LF2)
CROSSOVER FREQUENCY	1.2 kHz	1 kHz	1.4 kHz	1.2 kHz		
FREQUENCY RESPONSE (-10 dB)	60 Hz ÷ 20 kHz	55 Hz ÷ 20 kHz	40 Hz ÷ 20 kHz	30 Hz ÷ 20 kHz	30 Hz ÷ 250 Hz	25 Hz ÷ 200 Hz
SENSITIVITY (1 W / 1 m)	94 dB	98 dB	97 dB	99 dB	99 dB	100 dB
PEAK SPL (1 m)	123 dB	130 dB	132 dB	137 dB	141 dB	143 dB
WOOFER	6" (1.8" v.c.)	10" (2.5" v.c.)	15" (4" v.c.)	2x15" (4" v.c.)	2x18" (4" v.c.)	2x21" (4.5" v.c.)
DRIVER	1" (1.7" v.c.)	1.4" (2.5" v.c.)	1.4" (3" v.c.)	1.4" (4" v.c.)	-	-
DISPERSION (hor. x vert.)	90° x 60°	90° x 60°	90° x 40°	90° x 40°	-	-
NETWEIGHT	9 kg	15 kg	31 kg	62.5 kg	78 kg	110 kg

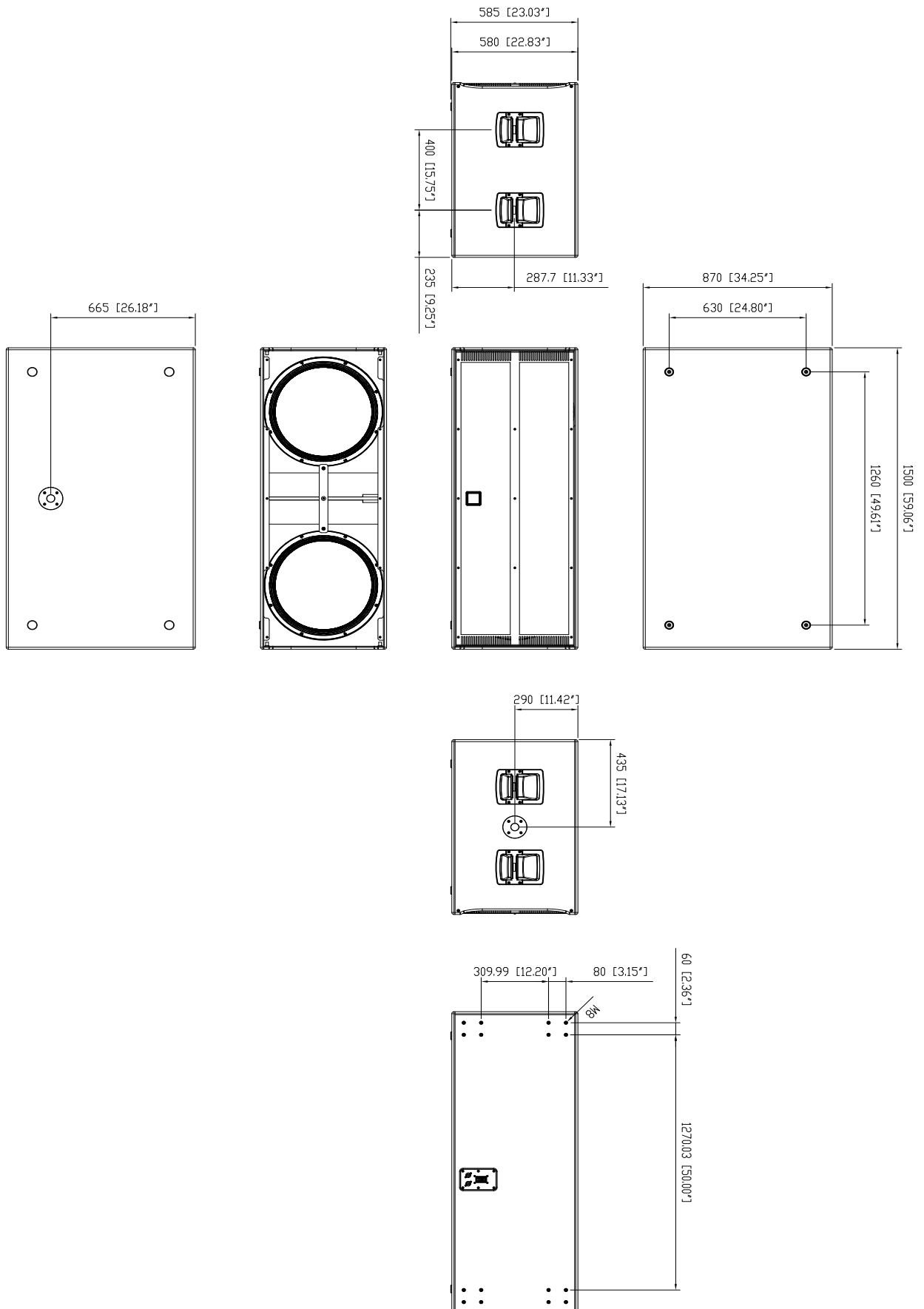












www.rcf.it



RCF SpA: Via Raffaello, 13 - 42124 Reggio Emilia > Italy
tel. +39 0522 274411 - fax +39 0522 274484 - e-mail: rcfservice@rcf.it