Ventus self-powered series

Bassreflex-Subwoofer

Manual

TENNAX

AUDIOTECHNIK DEUTSCHLAND

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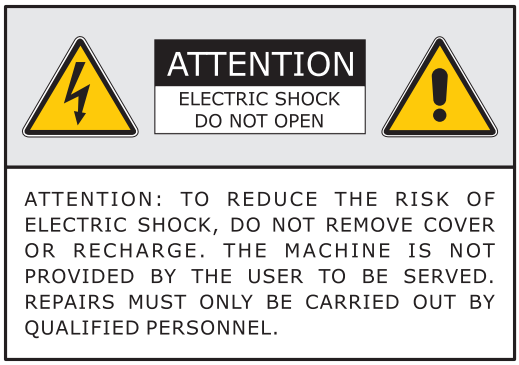
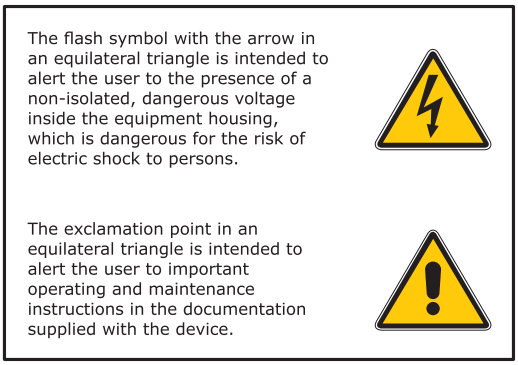
Ventus self-powered series

Manufacturer‘s declaration

Safety Instructions Active Electronics





Read these instructions.

Observe all warning instructions.

Follow all operating instructions.

To prevent fire hazard or risk of electric shock, do not use this device in the rain or in moist environments. Do not operate the unit nearby the water.

Clean the unit only with a dry cloth.

Observe the instructions from the manufacturer for the mounting of the unit.

Do not mount the unit in the proximity of heat sources, such as heating units, herds or other heat radiation devices.

Install the power cable at places where it cannot be damaged, especially at the sites of the socket, extension cables and where it leaves the unit.

Never remove the safety device from the two terminal or grounding-type plug. A two-pin plug has two different plug contact widths. An earth plug has two plug contacts and a third contact for earthing. The wider plug contact or additional earth contact is for your safety. If the supplied plug size does not fit in your socket box, please consult an electrician for exchanging the socket box.

Only use additional devices/accessory parts, that meet the manufacturer‘s instructions.

Pull the power plug out in case of storm or when you do not use your device for a longer period.

All maintenance works must be performed by qualified service staff. Maintenance is required when the unit has been damaged, objects or fluids have leaked or fallen inside, when the unit was exposed to rain or humidity, or in case of malfunctioning or when it has fallen on the floor.

General Safety Instructions:
Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. Persons with cardiac pacemakers must maintain a safe distance.

The minimum recommended safety clearance is 1 m.

Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 90 dB SPL) can cause hearing damage if people are exposed to it over a long period.

All connected cables must be laid in such a way that they cannot be crushed by objects and that nobody can step on them! Replace damaged cables immediately and do not use them!

Use only accessory parts specified by TENNAX or original accessory parts from TENNAX. Check all cabinets and accessories regularly for wear and replace them if necessary.

Do not set up the loudspeakers in places where they are permanently exposed to moisture, dust, dirt or direct sunlight.

Care
Wipe the surface of loudspeakers only with a damp cloth and pure water. In case of heavy pollution, repeat the above procedure several times if necessary. Do not use any chemical additives or aggressive detergents, as these may harm and damage the surfaces.

Transport and storage
When transporting and storing the unit, it is important to ensure that the surface and front grill of the loudspeaker are not damaged. Moisture can penetrate through exposed wood surfaces and cause the wood to swell. A bent or broken front grill will no longer adequately protect the sensitive speaker membranes. In addition, appreciable dust deposits may considerably impair the functionality of a loudspeaker membrane. For this reason, the loudspeakers should be transported and stored in a safe, careful, dry and largely dust-free manner.

The following accessory parts for transport and storage are available from TENNAX:

- Transport cover for Ventus-12, 15, 18 (sp) (Item no. 5T1121000, 5T1151000, 5T1181000)
- Detachable wheelboard for Ventus-12, 15, 18 (sp) (Item no. 5T1124000, 5T1154000, 5T1184000)

Note: *The original packaging is unsuitable as permanent storage and transport packaging!*

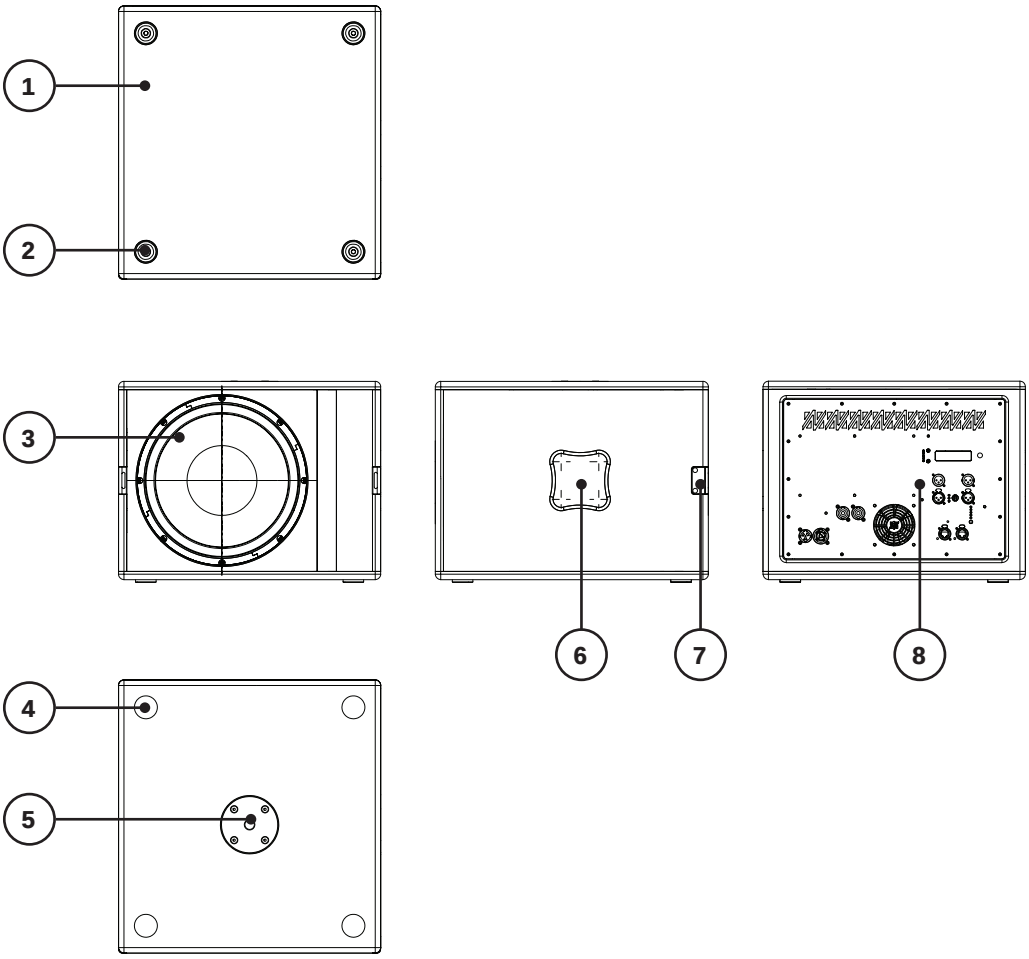
Warranty
The warranty period is 24 months from date of delivery.

On our choice we will eliminate any lack of conformity with repair or with replacement of the faulty goods. The place of performance for warranty services is TENNAX headquarters in Dörverden. In case of remedy of defects, the buyer shall bear all costs resulting from transportation of the goods to TENNAX headquarters in Dörverden.

The ordering party is not entitled to remedy the defect by itself or to organise a replacement and to charge such activities to TENNAX. In case of self remedy by the ordering party the warranty given by TENNAX becomes void.

Warranty doesn’t apply to parts of wear and tear, such as threaded points, such as threaded points, flying tracks, tilting pole socket, rubber feet and the SpeakON® connectors.

Components

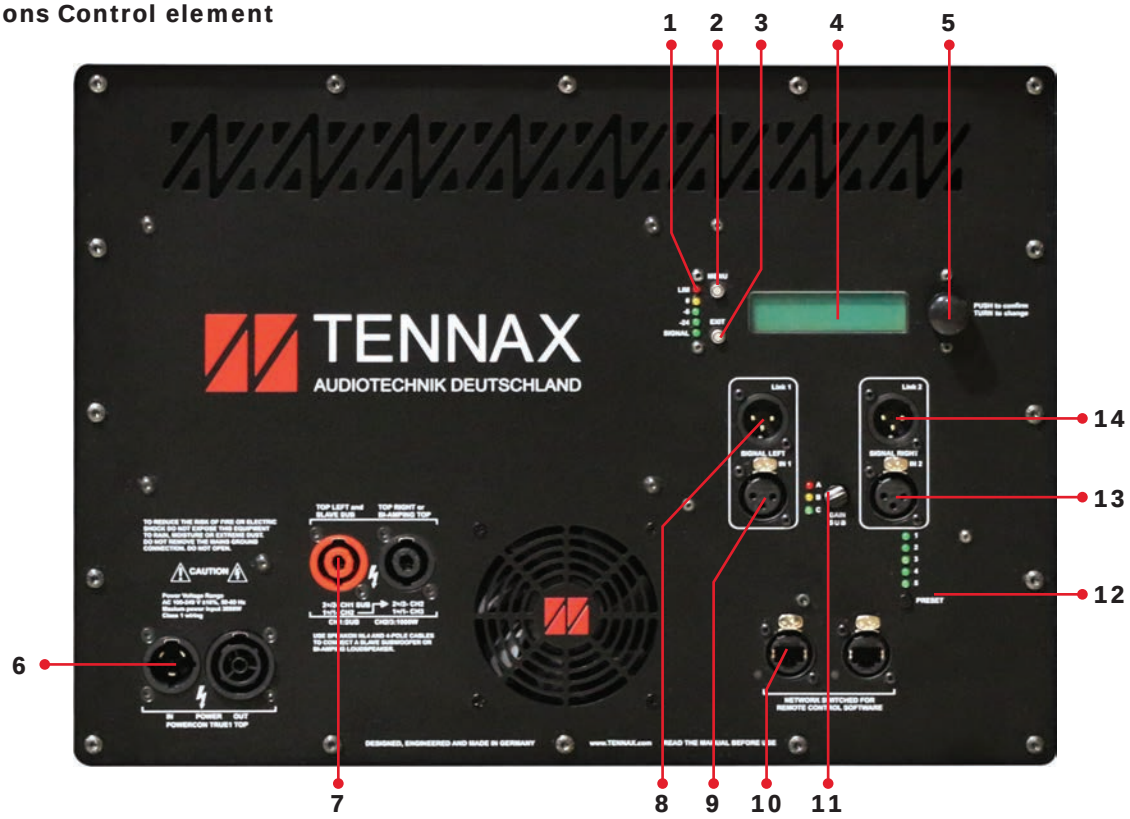


Technical drawing from Ventus-12sp

01. 15 mm multiplex housing, surface polyurea coating.
02. 4 x rubber feet on the underside.
03. 12", 15" or 18" woofer.
04. 4 x stacking troughs in the upper side.
05. M20 Mounting flange for spacer rod.
06. Handles on both sides in the side walls.
07. Butterfly holders on both sides for front wheelboard.
08. Amplifier module with operating module (connections, see page 6).

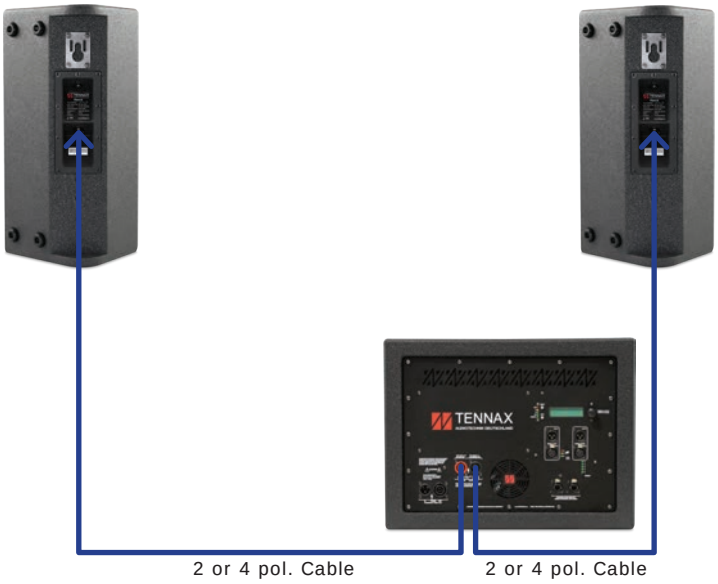
Without illustration: Front grille 1 mm with 10 mm acoustic foam.

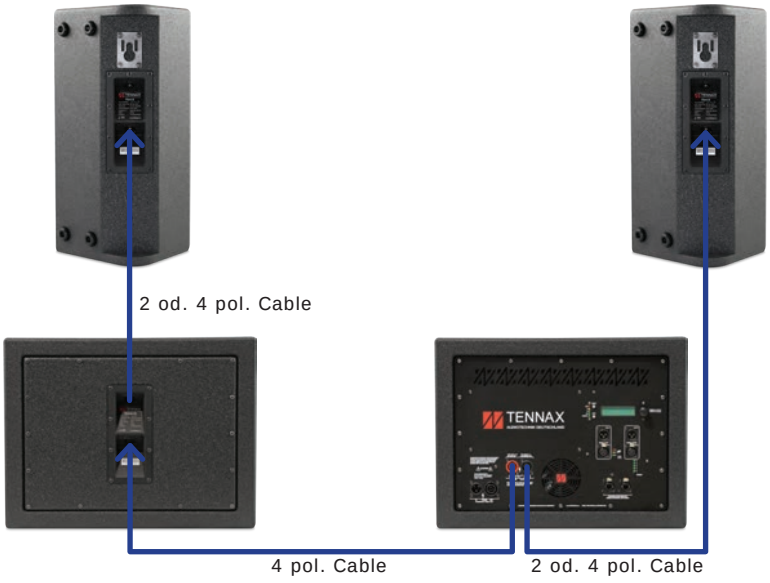
Connections Control element

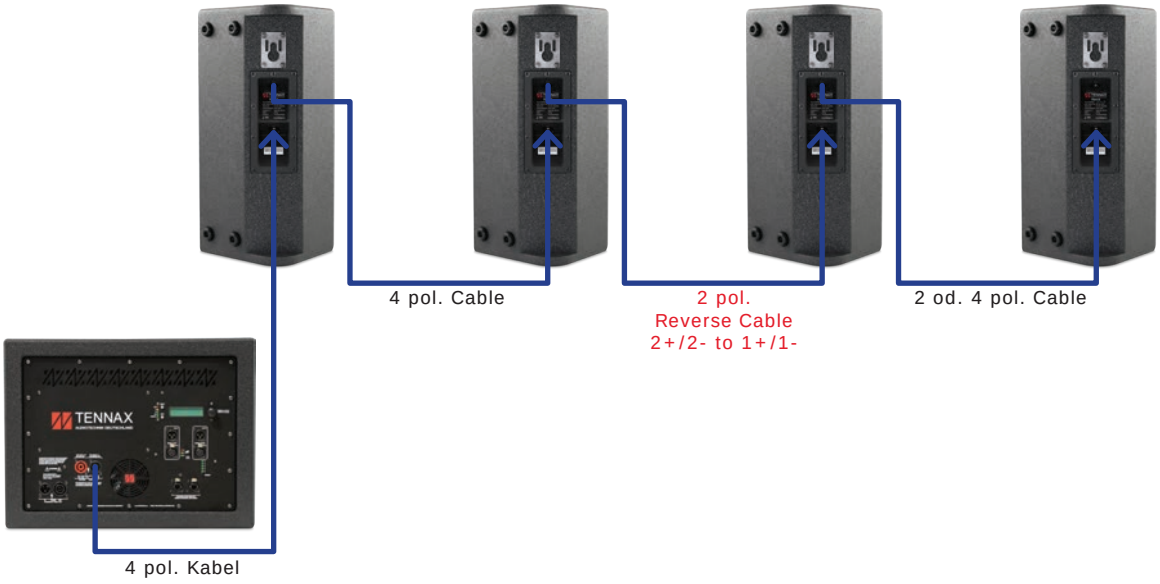


01. Peak Level LEDs indicate in 5 levels: -18 dB, -12 dB, -6 dB (green), -3 dB (yellow), Limit (red).
02. Button at the top to open the system menu and navigate between configuration functions there.
03. Button at the bottom to exit the system menu or the configuration functions.
04. Background lit double-space 16-segment LCD display.
05. Encoder wheel for changing parameter values. You can select different parameter values by pressing and adjust them by turning the wheel.
06. powerCON TRUE1 IN and OUT connections.
07. The 4-pin Speakon sockets are double-connected. With the self-powered subwoofers, the bass channel (2.600 W) is assigned to 2+/2- and the left top channel (1,000 W) to 1+/1- on the left red output socket. With a 4-pin cable, the bass channel can thus be set to 2+/2- and the top channel to 1+/1-.
    The non-active TENNAX basses are always wired to 2+/2- and the passive tops to 1+/1-, so that the 4-pole cables only need to be looped through and are always wired correctly and each loudspeaker receives its intended power amp channel.
    The right top channel (1.000 W) is connected to the right black Speakon socket on assignment 1+/1- and the left top channel is cross-linked on assignment 2+/2-. Due to the double assignment with both top channels, this Speakon socket can be used for the connection of bi-amping loudspeakers. In addition, it is also possible to tap both stereo top channels via this Speakon socket and transmit them via a 4-pin cable. Between the top(s) that receive the left output signal and those that receive the right output signal, a reversible cable must then be placed that is assigned to 2+/2- on the primary side and 1+/1- on the secondary side.
08. Separate 3-pin balanced XLR connector for analog audio input. Left signal.
09. Separate 3-pin balanced XLR connector for analog audio output. Left signal.
10. Network switch for network connection.
11. Manuelle GAIN SUB Auswahl in drei Stufen
12. Manual selection presets favorites
13. Separate 3-pin balanced XLR connector for analog audio input. Right signal.
14. Separate 3-pin balanced XLR connector for analog audio output. Right signal.

Connection diagrams







Technical data

Ventus-12/12sp

Components	1 x 12“ woofer (LF) with 4“ voice coil
Lower cut-off frequency	37 Hz (- 10 dB) 46 Hz (+/- 3 dB)
Coverage range (h x v)	Omnidirektional
Powerhandling	1.000 W AES / 2.000 W program / 4.000 W peak at 8 Ω
Sound pressure	126 dB SPL AES / 129 dB SPL program / 132 dB SPL peak
Dimensions / Weight	368 (h) x 480 (w) x 500 (d) mm / 30,2 kg
Finish	Polyurea coating in RAL 9005

Ventus-15/15sp

Components	1 x 15‟ woofer (LF) with 4‟ voice coil
Lower cut-off frequency	34 Hz (- 10 dB) 43 Hz (+/- 3 dB)
Coverage range (h x v)	Omnidirektional
Powerhandling	1.000 W AES / 2.000 W program / 4.000 W peak at 8 Ω
Sound pressure	127 dB SPL AES / 130 dB SPL program / 133 dB SPL peak
Dimensions / Weight	438 (h) x 580 (w) x 540 (d) mm / 33,6 kg
Finish	Polyurea coating in RAL 9005

Ventus-18/18sp

Components	1 x 18‟ woofer (LF) with 4‟ voice coil
Lower cut-off frequency	28 Hz (- 10 dB) 34 Hz (- 3 dB)
Coverage range (h x v)	Omnidirektional
Powerhandling	1.200 W AES / 2.400 W program / 4.800 W peak at 8 Ω
Sound pressure	130 dB SPL AES / 133 dB SPL program / 136 dB SPL peak
Dimensions / Weight	580 (h) x 580 (w) x 780 (d) mm / 50,0 kg
Finish	Polyurea coating in RAL 9005

Integrated 2-Way Amplifier Modul

Power output CH1	2.600 W/ 8 Ω, 2.200 W/ 4 Ω (270 V/ 50 A peak)
Power output CH2	750 W/ 8 Ω, 1.000 W/ 4 Ω, 750 W/ 2 Ω (135 V / 50 A peak)
Power Supply	Universal input, regulated Switch Mode with PFC
Nominal Voltage	100-240 V AC @ 50/ 60 Hz
Operating Voltage	85-264 V AC
Current consumption	1/8 Max. Output Power @ 4 Ω, 230 V / 2,6 A rms, AC Current Avg. Nominal 6 A 1/8 Max. Output Power @ 4 Ω, 115 V / 5,2 A rms, AC Current Avg. Nominal 6 A

Integrated Loudspeaker Management System

Manual hand operation	2 button and 1 x digital encoder-wheel
Operable language	Selectable between English, German, France, Spain
Software connection	Bi-directional connection in real time via USB, Ethernet
Controllable units	Up to 128 self-powered Speaker & HDSP-amplifier in one network
Preset memory quantity	120 Presets
Processor	64 bit, 96 kHz sample rate
Dynamic range input	120 dB
Maximum input level	+ 23 dB
Latency	0,5 ms
Routing	2-input signals can mix together in one loudspeaker
EQ filter	10 parametric filter each In- and Output
X-Over	Butterworth, Bessel, Linkwitz-Riley
Limiter	In each Input and Output

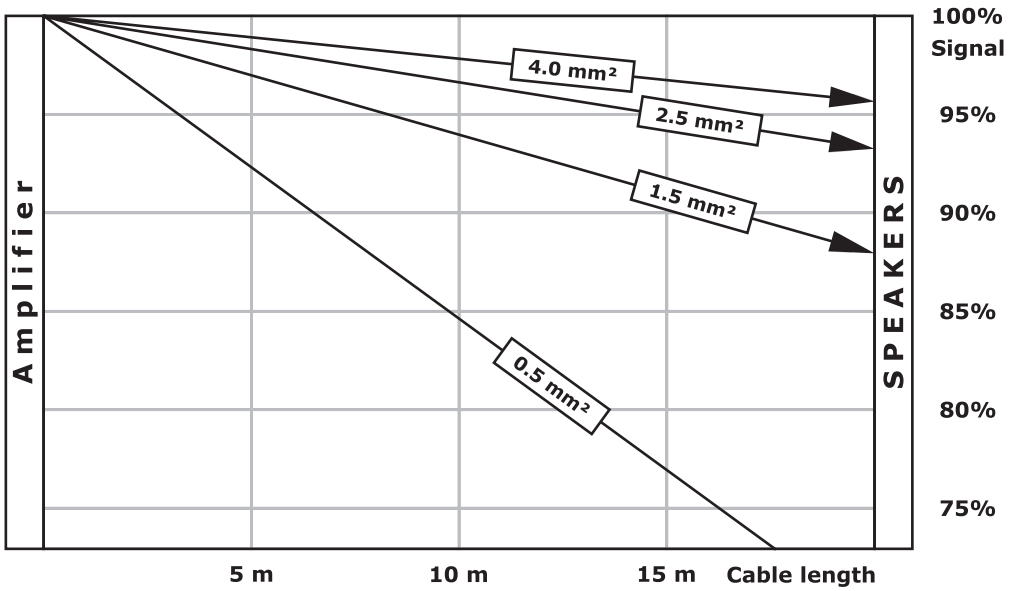
Setup
The Ventus self-powered series is designed for standing operation. Ensure that the loudspeakers are securely attached to prevent personal injury and damage of property.

Connecting cables
When connecting the cables to the loudspeaker, ensure that the polarity (+/-) and pin assignment (1/2) is correct. Incorrect connection results in a significant change in the loudspeaker sound characteristics and may damage the compression driver.

The two connection sockets on the back of the loudspeaker can be used to link multiple loudspeakers on a single amplifier. Note that parallel connection reduces the total impedance (Ω) seen by the amplifier. The total impedance of loudspeakers connected in parallel must not drop below the minimum operating impedance of the amplifier.

TENNAX recommends to use the available 4 x 4 mm² Speakon cables for mobile use.

We recommend wiring the basses with at least 4 mm² in installations. The cables of the tops in installations must be sufficiently dimensioned according to impedance, power and cable length.



Simplified display without consideration of loudspeaker impedances

Operation
The 12", 15" and 18" chassis of the Ventus-self-powered series are powered by one channel (2.600 W/ 8 Ω) of the internal power amplifier module. 2 x 1,000 W/ 4 Ω are available for satellites or monitors.

The woofers are designed in 8 Ω.

A second Ventus and up to 4 additional loudspeakers can be fed from one Ventus-sp.

Imprint

All specifications in this manual are based on information available at the time of publishing for the features and safety guidelines of the described products. Technical specifications, measurements, weights and properties are not guaranteed.

The manufacturer reserves the right to make technical modifications according to legal regulations stipulating the continual improvement of product features. For the safe operation of the unit, this manual and all other required information must be available to all users at the time of assembly and disassembly of the unit, and during operation. Assemble or operate the unit only after reading and understanding this manual, and keeping it at hand at all times at the site.

We are happy to receive your suggestions and proposals for the enhancement of this manual.

Please send us your ideas to the following address:

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