

# **Paveosub-112sp**

Bass reflex subwoofer



Herzlichen Dank,  
dass Sie ein Voice-Acoustic Produkt gekauft haben.  
Seit dem Jahr 2006 entwickeln wir unsere Produkte  
in der Überzeugung, dass es auf die Details ankommt.  
Wir wünschen Ihnen viel Freude mit diesem Produkt.

Thank you very much,  
for purchasing a Voice-Acoustic product.  
Since 2006 we have been developing our  
products in the firm belief that details matter.  
May we wish you a lot of pleasure with this product.

Muchas gracias  
por haber comprado un producto de Voice-Acoustic.  
Desde el año 2006 estamos desarrollando nuestros productos  
estando convencidos, que son los detalles que cuentan.  
Le(s) deseamos mucha alegría usando este producto.

Merci beaucoup  
d'avoir acheté un produit Voice-Acoustic.  
Depuis 2006, nous développons des produits  
avec la ferme conviction que les détails comptent.  
Nous vous souhaitons beaucoup de plaisir à utiliser ce produit.



## Introduction

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## Working with Paveosub-112sp

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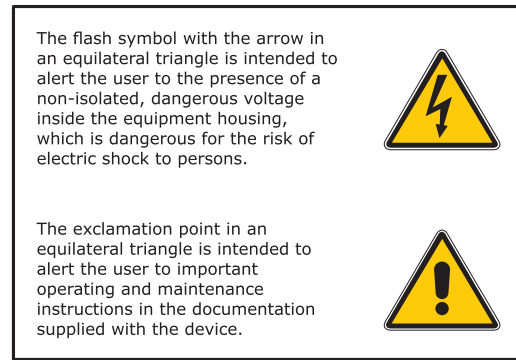
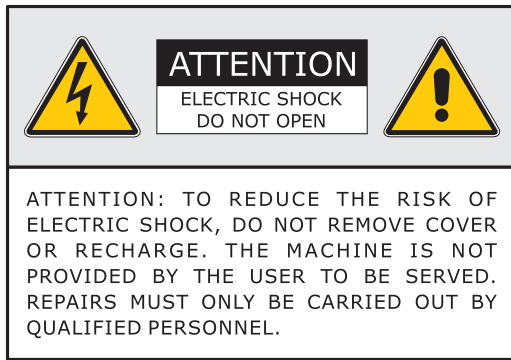
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## Safety Instructions Active Electronics



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 Voice-Acoustic or original accessory parts from Voice-Acoustic. 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 Voice-Acoustic:

- Transport cover for Paveosub-112 (Art.-Nr. 501121000)
- Detachable wheelboard for Paveosub-112 (Art.-Nr. 501124000)

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

## Warranty

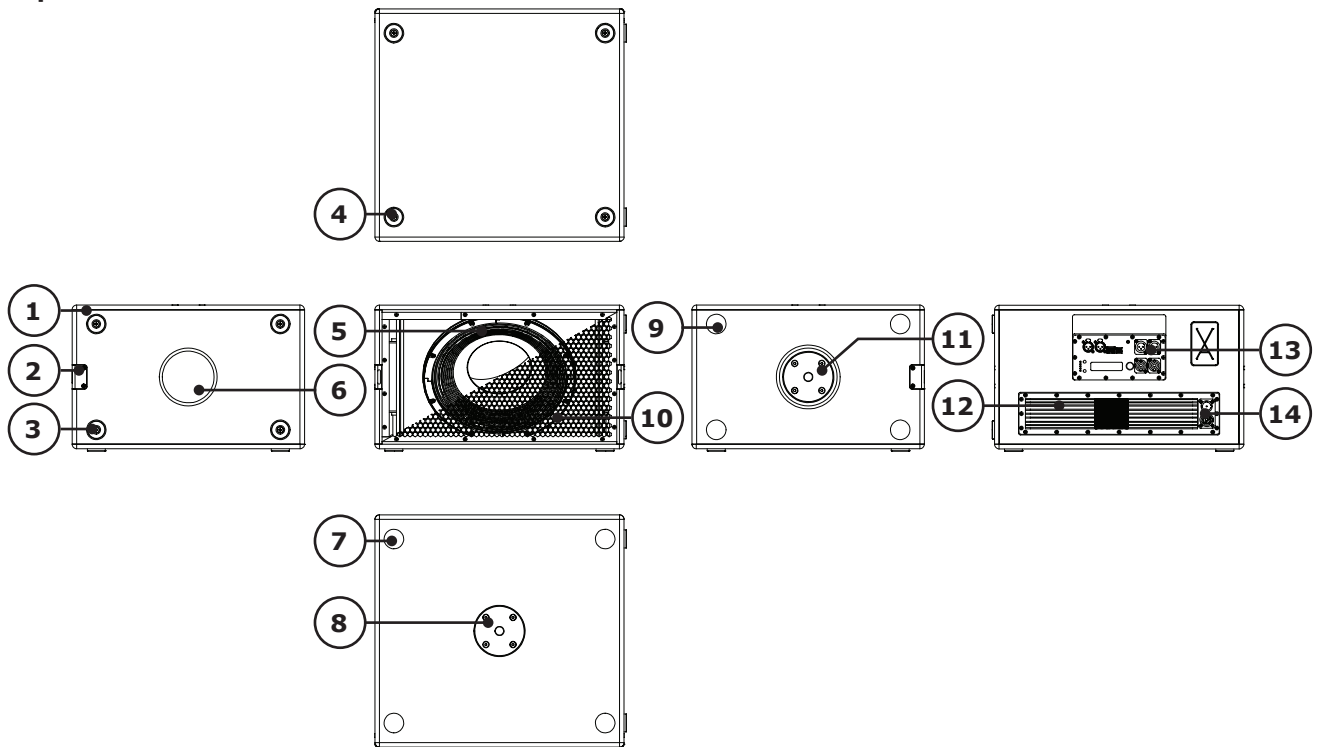
The warranty period is 24 months from date of delivery.

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 Voice-Acoustic headquarters in Dörverden. In case of remedy of defects, the buyer shall bear all costs resulting from transportation of the goods to Voice-Acoustic 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 Voice-Acoustic. In case of self remedy by the ordering party the warranty given by Voice-Acoustic becomes void.

Warranty doesn't apply to parts of wear and tear, such as threaded points, M20 flanges, lashing rings, rubber feet and the SpeakON® connectors.

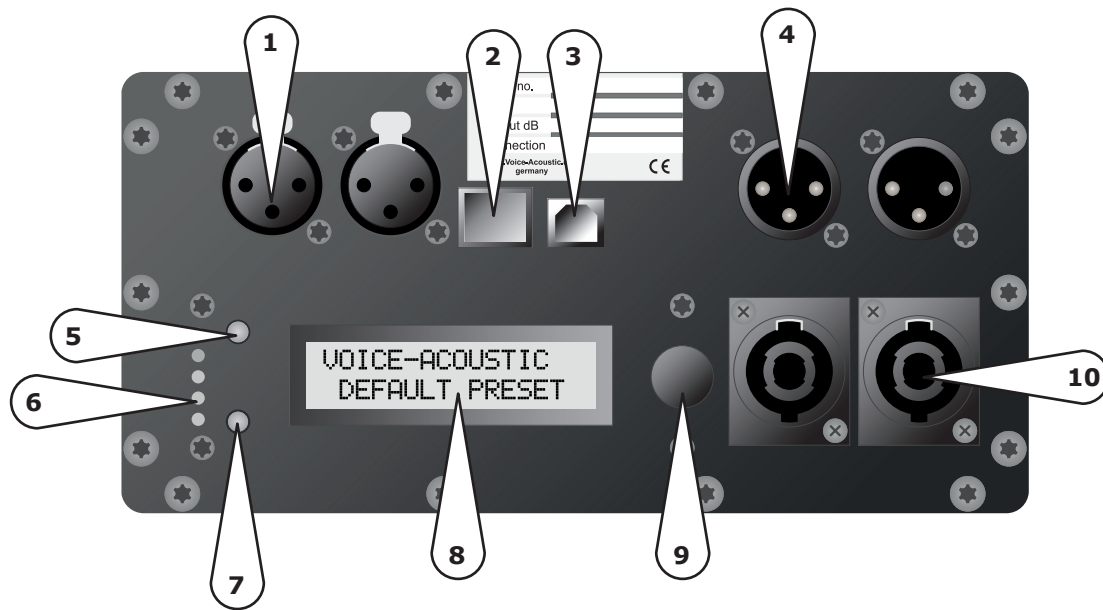
## Components



1. 30 und 15 mm multiplex cabinet, Warnex textured paint finish
2. Butterfly holders on both sides for front wheelboard
3. 4 x rubber feet on the side (only included for installations on request)
4. 4 x rubber feet on the underside
5. 12" Neodym long excursion woofer
6. Recessed grips on both sides
7. 4 x stacking troughs in the upper side
8. M20 Mounting flange for spacer rod
9. 4 x stacking troughs in the side wall for vertical stacking.
10. Front grille 1 mm with 10 mm acoustic foam
11. M20 mounting flange for spacer rod in the side recessed grip
12. Amplifier module with cooling fins and fan
13. Control element\* with type plate and serial number
14. powerCON TRUE1 connectors

\*For equipment and functions see Voice-Acoustic-Control operating manual.

## Connections Control element



### 01. Analog input

2 x separate 3-Pin connector for Audio-input. Each input is a symmetric XLR-connector

### 02. Ethernet connection

RJ45 jack for network connection.

### 03. Standard USB Jack Type B

The unit can be connected to the PC via a traditional USB-cable.

### 04. Analog output

2 x separate 3-Pin connector for Audio-output. Each output is a symmetric XLR-connector

### 05. Button top

To enter the system menu and browse between the configuration functions.

### 06. Peak Level LEDs

Displays the current PEAK level in 5 levels: -18 dB, -12 dB, -6 dB (green), -3 dB (yellow), Limit (red).

### 07. Button bottom

To leave the system menu or the configuration functions.

### 08. LCD Display

Background lit double-space 16-Segment LCD Display, for all important edition parameters.

### 09. Encoder wheel

The encoder wheel is used for changing the parameter values. By pressing you can select several parameter values and set these with a dial function.

### 10. Speaker outputs

The 4-pin speak-on jacks have dual functions. For the self-powered loudspeakers and both output jacks 10 and 11 the bass channel is assigned to configuration 2+/2- (Amplifier channel 1, Input Routing XLR 1 and 2 = Monosum). For the left speak-on jack 10 the amplifier channel 2 is connected to configuration 1+/1- (Input Routing XLR 1 left). For the right speak-on jack 11 the amplifier channel 3 is connected to configuration 1+/1- (Input Routing XLR 2 right).

With a 4-pin cable the bass channel can be positioned on 2+/2- and the top channel on 1+/1-. The non-activated Voice-Acoustic Bases are always connected to 2+/2- and the passive tops to 1+/1-, so only a daisy-chain is required for the 4-pin cable, which has always the correct connection, receiving each loudspeaker the corresponding amplifier channel.

## Technical data

<b>Components</b>	1 x 12" Neodym long excursion woofer (LF) with 4" voice coil
<b>Lower cut-off frequency</b>	35 Hz (- 10 dB) 41 Hz (- 3 dB)
<b>Coverage range (h x v)</b>	Omnidirektional
<b>Powerhandling</b>	1.000 W AES / 2.000 W program / 4.000 W peak an 8 Ω
<b>Sound pressure</b>	129 dB SPL AES / 131 dB SPL program / 134 dB SPL peak
<b>Dimensions / Weight</b>	300 (h) x 520 (w) x 485 (d) mm / 23,1 kg

## Integrated 3-Way Amplifier Modul

<b>Power output CH1</b>	2.400 W/4 Ω, 1.580 W/8 Ω, 800 W/16 Ω
<b>Power output CH2 and CH3</b>	800 W/4 Ω, 450 W/8 Ω, 200 W/16 Ω
<b>Amplifier gain</b>	CH1 32 dB, CH2/3 26 dB
<b>Signal-to-noise ratio</b>	>120 dB (20 - 20.000 Hz, 8 Ω)
<b>Damping factor</b>	>1.000 (8 Ω, 1 kHz)
<b>Distortion</b>	THD+N < 0,05 % (20 - 20.000 Hz, 8 Ω )

## Integrated Loudspeaker Management System

<b>Manual hand operation</b>	2 button and 1 x digital encoder-wheel
<b>Operable language</b>	Selectable between English, German, France, Spain
<b>Software connection</b>	Bi-directional connection in real time via USB, Ethernet
<b>Controllable units about software</b>	Up to 128 self-powered Speaker & HDSP-amplifier in one network
<b>DSP preset memory quantity</b>	80 Presets
<b>Processor</b>	64 bit, 96 kHz sample rate
<b>Dynamic range input</b>	120 dB
<b>Maximum input level</b>	+ 23 dB
<b>Latency</b>	0,5 ms
<b>Routing</b>	2-input signals can mix together in one loudspeaker
<b>EQ filter</b>	10 parametric filter each In- and Output
<b>X-Over</b>	Butterworth, Bessel, Linkwitz-Riley
<b>Limiter</b>	In each Input and Output



## Setup

The Paveosub-118sp is designed for stationary operation. Ensure that the subwoofer is in a secure position to prevent personal injury and property damage.

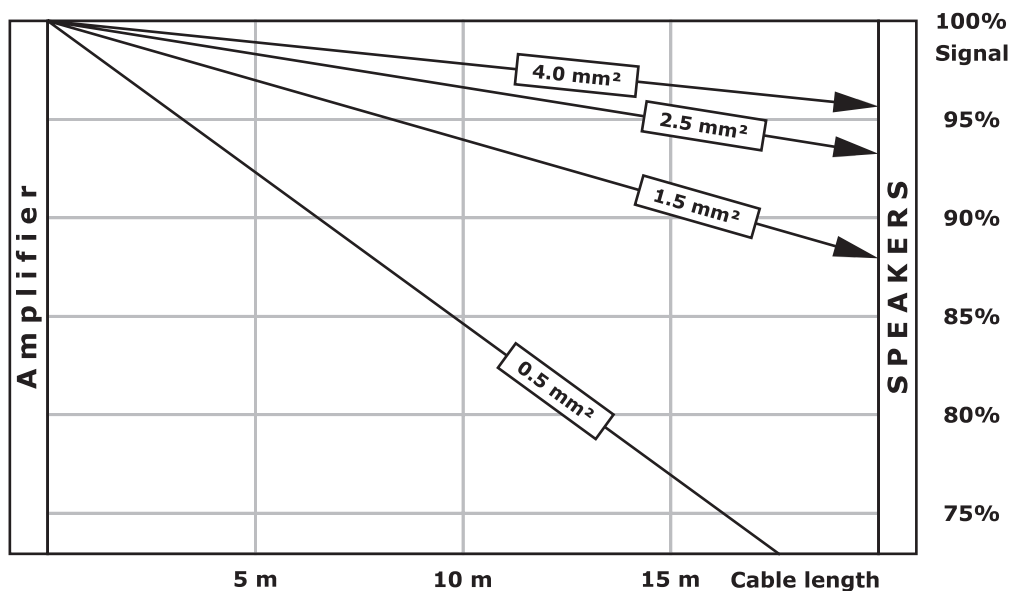
## Connecting cables

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 ( $\Omega$ ) seen by the amplifier. The total impedance of loudspeakers connected in parallel must not drop below the minimum operating impedance of the amplifier.

Voice-Acoustic recommends to use the available 4 x 4 mm<sup>2</sup> Speakon cables for mobile use.

We recommend wiring the basses with at least 4 mm<sup>2</sup> 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

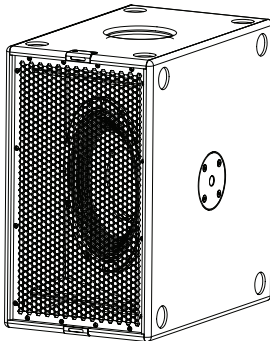
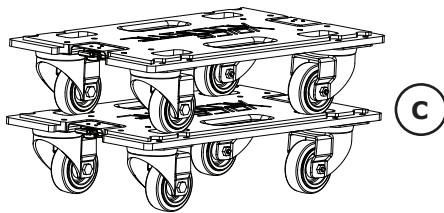
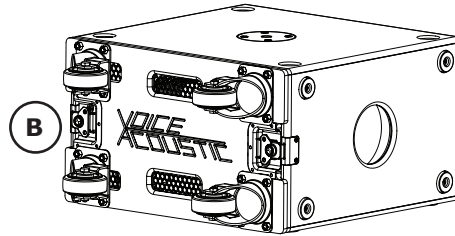
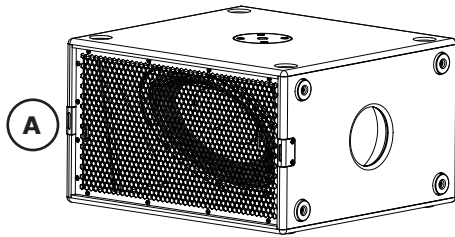
## Operation

The 12"chassis of the Paveosub-112sp is powered by one channel (1.580 W/8  $\Omega$ ) of the internal power amplifier module. 2 x 800 W/4  $\Omega$  are available for satellite or monitors. The woofer is in 8  $\Omega$ .

A Paveosub-112sp can power a second Paveosub-112 and power up to 4 additional speakers.

Make sure the appropriate preset is selected before connecting the speaker to the self-powered subwoofer.

Using the wrong preset can damage parts of the loudspeaker.



## Mounting and dismounting the wheelboard

For easy transport of the subwoofer and protection of the front grille, use the detachable wheelboard.

1. Place the wheelboard with the butterfly locks (A) on the butterfly holders (B) on the frontside.
2. Turn the two butterfly locks right until they are clicked into place.
3. Now the subwoofer can be placed on the wheels for transport.

**Note:** The wheelboard must not be mounted during operation, as the bass reflex port is closed and the chassis may be damaged!

1. To remove the wheelboard, tilt the subwoofer onto the four rubber feet.
2. Turn the two butterfly locks left until the wheelboard can be removed.

**Note:** The wheelboard has stacking troughs (C), so that several wheelboards can be stacked on top of each other!

## Standing operation

The Paveosub-112 can also be operated upright thanks to four additional rubber feet and stacking trays on the side walls.

A second M20 flange in the handle allows the use of spacer rods.

## Overview Accessories



Transport cover for Paveosub-112 (Art.-Nr. 501121000)



Detachable wheelboard for Paveosub-112 (Art.-Nr. 501124000)



M20 Speaker rod »Ring Lock« with a hand crank, high 920 - 1.520 mm (Art.-Nr. 999921340)



M20 Speaker rod extra high »Ring Lock«, high 1.100 - 1.800 mm (Art.-Nr. 999921368)



M20 Speaker rod, pure white, high 905 - 1.450 mm (Art.-Nr. 999921337)



M20 Speaker rod »short« 250 mm (Art.-Nr. 999921329)

## **Imprint**

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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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