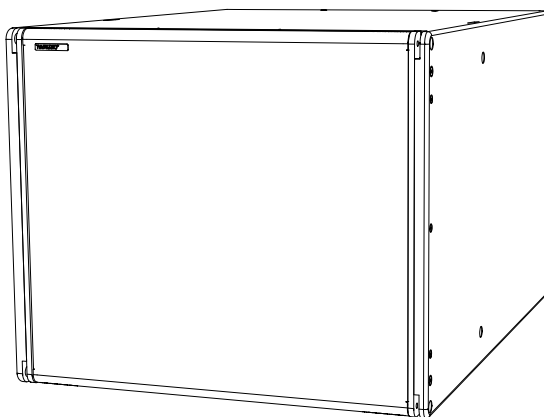


VERA S32i

Operation manual



Introduction

Thank you for choosing a high-quality product “MADE IN GERMANY” from the brand TWAUDIO.

The VERA S32i is a compact, flyable subwoofer belonging to the VERA20i series. It is equipped with an 18” driver in the front and a 14” driver rearwards. Both long throw high-performance drivers are optimally aligned. Various operating modes and the resulting coverage variations allow for extremely flexible solutions. Depending on the selected preset, it can be used in Cardioid, Endfire or Omni mode.

Cardioid mode is optimized for maximum attenuation of the rearward sound dispersion, achieving attenuation greater than 15 dB over the entire frequency range. The end-fire mode is optimized for maximum sound pressure at the front while also providing partial rearward sound dispersion.

The advantages are obvious: Thanks to directivity control, subwoofer performance is more solid and musical, especially in environments with significant natural reverb. Performers on stage and those behind the stage are spared from excessive bass levels.

The compact and appealing design of the enclosure allows a subtle presentation of the VERA S32i. Especially when sightlines have to be considered or an array needs to be fitted unobtrusively within the architectural surrounding.

The fully integrated, nearly invisible installation four-point rigging hardware support the discreet optical aspect. A special feature is the logarithmic scaling of the intermediate angles between angles. It enables angles smaller than one degree to achieve a more accurate directivity of the upper array elements over a longer distance. In addition costs for expensive pins and additional frames between subwoofer and tops do not apply.

If you lend your product to another party, inform that party of the safety-related operating procedures and hand over this assembly guide. If you require additional copies of this manual, you can obtain them free of charge from TWAUDIO or download them from www.twaudio.de

Instructions in this user manual

Strictly adhere to the instructions contained in this operating manual that are marked as follows:



This symbol in combination with the signal word “Warning” identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to serious injury or even death.



This symbol in combination with the signal word “Warning” identifies a potentially hazardous situation for persons with a pacemaker. Failure to comply with this safety instruction can lead to serious injury or even death.



This symbol in combination with the signal word “Caution” identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to light or moderate injury.



This symbol in combination with the signal word “Note” identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to product damage.



This symbol in combination with the signal word “Tip” identifies additional information or notes that will simplify working with TWAUDIO products on the basis of practical experience.

Notes on the products

Read manual before use!

Before using the device, carefully read the operating manual and keep it with the VERAS32i loudspeaker.

General information

Operation manual: OM-VERAS32i
Version 2.0 en, 01/2022
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All information contained in this operating manual was correct to the best of our knowledge at the time of printing.

Quality warranties or assurance of suitability for a certain type of use based on the technical specifications, dimensions and weights are not granted by TW AUDiO.

TW AUDiO also shall not assume liability for any secondary damage (property damage and/or personal injury) nor for the failure to comply with this operating manual!

TW AUDiO reserves the right to update this document based on recent developments.

TW AUDiO INTERNATIONAL GmbH
Osterholzallee 140-2
71636 Ludwigsburg (Germany)

Phone : + 49 (0) 71 41-48 89 89 0
Fax: + 49 (0) 71 41-48 89 89 99
E-Mail: info@twaudio.de
WWW: www.twaudio.de

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1. Safety | Intended use

Please adhere to the following safety instructions to avoid risks when operating loudspeakers.

The VERA S32i loudspeaker was developed for use in professional sound systems. The loudspeaker may only be used by trained and qualified personnel.

Note the operating modes described in this operating manual. Other uses are not permissible.

Damage caused by improper use is not covered by TW AUDIO.



Loudspeakers generate an electromagnetic field. Persons with pacemakers are not permitted to remain in the immediate vicinity of loudspeakers as the electromagnetic fields can cause pacemakers to malfunction.



When working with heavy loads exceeding 20 kg (44 lbs.), use suitable aids (dollies, hoisting slings, etc.). Multiple persons may be required depending on the situation.

Ensure that the units are in a stable position and are firmly attached. A falling loudspeaker can result in serious personal injury and property damage.

When using and assembling TWAUDIÖ loudspeakers, only use materials specified by TWAUDIÖ. These tasks must be performed by qualified personnel. Adhere to the applicable safety regulations.



When setting up loudspeakers, ensure that they are not exposed to the following ambient conditions:

- Direct sunlight
- Humidity
- Jolting
- Dust



Keep away from the immediate vicinity of loudspeakers that are operated at high sound pressure levels. These loudspeaker systems are capable of endangering your health. Sound levels beginning as low as approximately 90 dB SPL can lead to long-term hearing impairment.



Avoid:

- Feedback
- Distorted signals (clipping) and
- Peaks resulting from switching on devices, plugging in devices or unplugging devices during operation.

Such signals can lead to loudspeaker overload and ultimately to loudspeaker failure.



Ensure that the loudspeaker is not exposed to permanent thermal overloads. Thermal overloads may cause a fire and result in serious personal injury and property damage.

Note that TW AUDiO does not provide a warranty for damage that can be attributed to this type of overload and therefore cannot be held liable for any secondary damage.



A permanent magnetic field is present in the immediate vicinity of loudspeakers. Ensure that objects which react sensitively to magnetic fields are not located in the immediate vicinity of the loudspeaker. In particular, this applies to magnetic storage media, magnetic stripe cards such as debit cards and CRT displays. A distance of approximately one meter is sufficient to avoid damage.



Check loudspeakers and accessory parts regularly for visible wear. This is essential to ensure continuing fault-free operation. Worn parts should be replaced immediately. Spare parts are available from TWAUDI.O.

2. Overview

2.1 Components

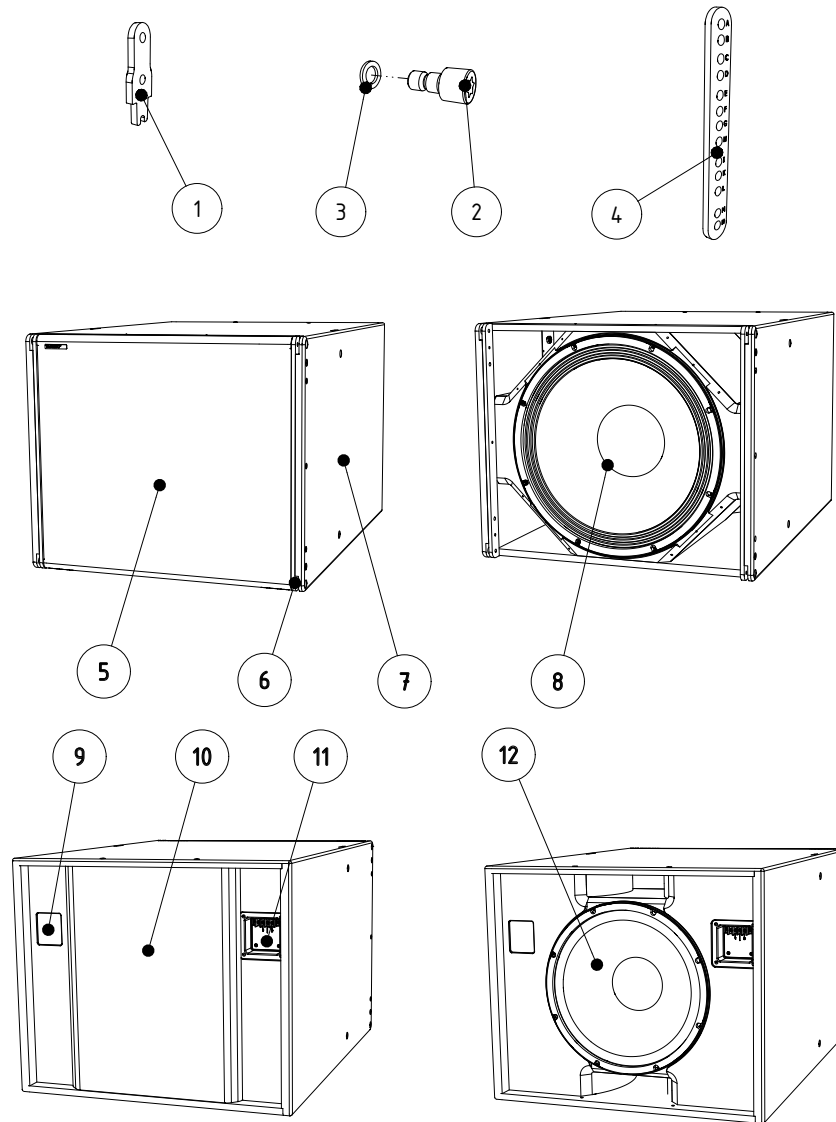


Figure 2.1 - Overview

1. Splay link (2 pieces) – enclosed separately
2. Hexagon socket head cap screw M8x16-12.9 (9 pieces) – enclosed separately
3. Lock washer VS-8-1.4301 (9 pieces) – enclosed separately
4. Bracket (2 pieces) – enclosed separately
5. Front grill
6. Rigging tracks (2 pieces)
7. 15 mm Multiplex enclosure - Warnex textured paint surface
8. 18" cone driver (front)
9. Type label
10. Rear grill
11. Standard i-series screw terminal
12. 14" cone driver (rear)

2.2 Operation modes

The VERA S32i can be operated in one of two modes. The operating mode is selected by choosing the preset in the system amplifier.

2.2.1 Cardioid

In Cardioid mode, the focus is on maximum sound pressure reduction behind the loudspeaker setup, with partial forward-facing level addition.

The rear speaker produces an inverted signal to cancel out sound components on the back. This results in a sound pressure level reduction of about 20 dB over a wide frequency range. Depending on the distance between the loudspeakers and their transit time difference, there will be a frequency-dependent sound pressure level addition of up to 3 dB in front of the loudspeaker arrangement. By adjusting the transit time difference between the two individual drivers, a different dispersion pattern – e.g. hypercardioid – can be achieved.

2.2.2 Endfire

In Endfire mode, the focus is on maximum forward-facing sound pressure level addition, with partial reduction to the rear.

To achieve this, the front loudspeaker's signal is delayed so that its signal is in phase with the rear loudspeaker in the direction of sound. This results in a sound pressure level addition of about 6 dB over a wide frequency range. Depending on the speaker distance, there is a frequency-dependent sound pressure level reduction on the rear side. The strongest cancellation is to be expected at the frequency whose wavelength corresponds to four times the driver spacing.



Never change the preset during active operation. Operating with an incorrect preset can damage parts of the loudspeaker.

3. Technical specifications

3.1 Data sheet

Drivers	1x 18" LF front / 1x 14" LF rear
Frequency response	38 - 120Hz
Power handling (program/Peak)	2400 / 4800W 18" 1400 / 2800W 14"
Impedance	8Ω 18" / 8Ω 14"
Max. SPL / 1 m	134 dB
Dimensions (h x w x d)	500 x 600 x 800mm [19.69 x 23.62 x 31.5 in]
Weight	55,6kg [122,6lbs]
Surface	Warnex textured paint

3.2 Connection diagram

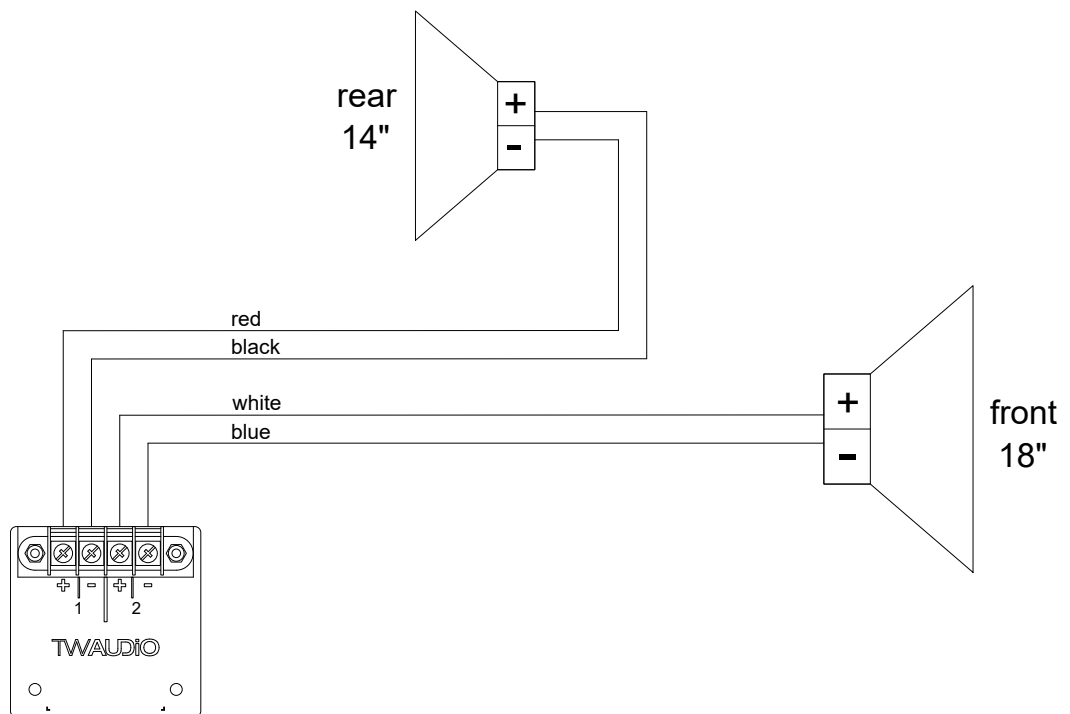


Figure 3.2 - Connection diagram

4. Commissioning

4.1 Setup

The VERAS32i loudspeaker is designed for array operation.



Make sure that all system structures are located on a firm, level surface and that the surface can bear the total weight!



Make sure the speakers are securely fastened to prevent personal injury and property damage.



TWAUDIÖ recommends using only the accessories specified by TWAUDIÖ for securing and mounting loudspeakers.

4.2 Rigging



Please refer to the VERARF600i manual for operating modes and set-up options.



Please note that the VERAS32i loudspeakers must be mechanically correctly connected with each other. This may only be done via the splay links and brackets (see figure 2.1 - pos.1 to pos.4)!



EASEFocus simulation software can be used to plan line arrays with VERAS32i loudspeakers. EASEFocus is available as a free download from the TWAUDIO website at www.twaudio.com.

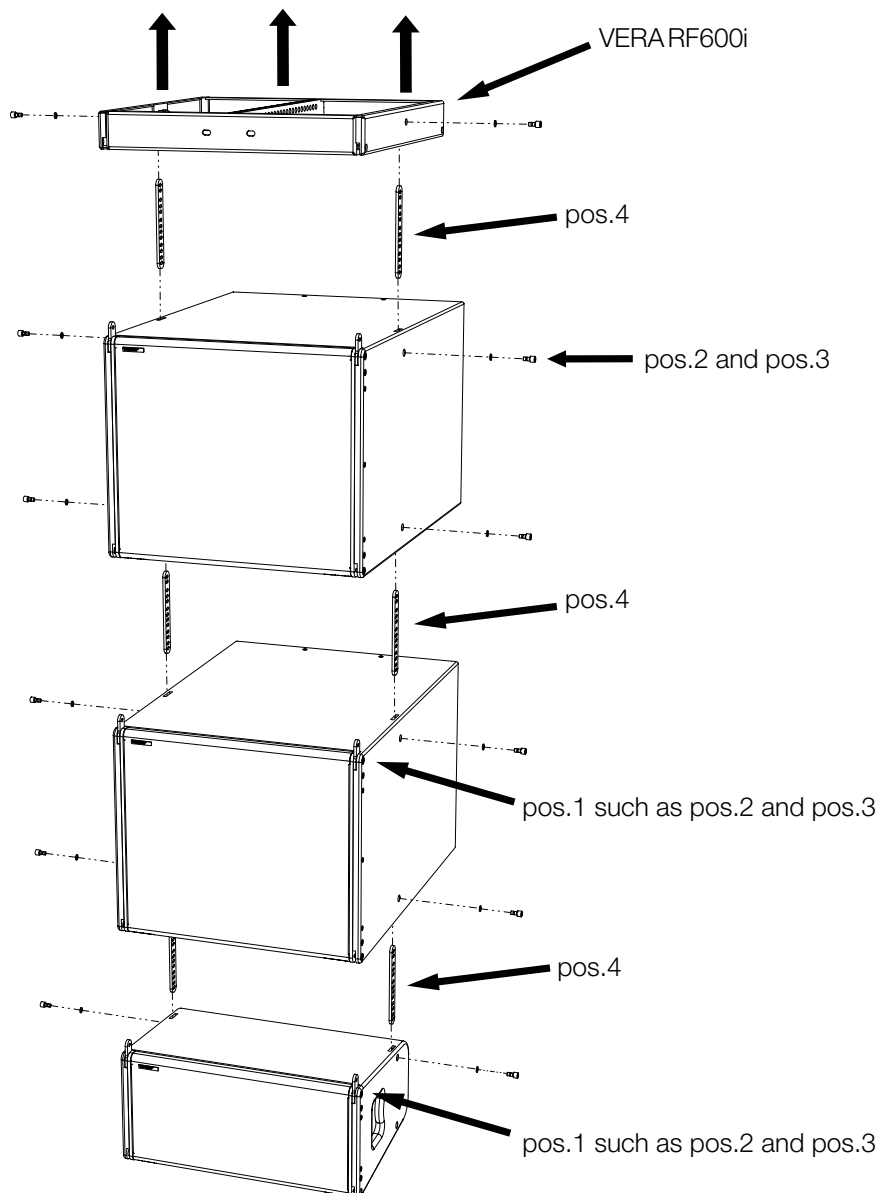


Figure 4.3.1 - VERAS32i vertical



Make sure that no multiple VERA S32i loudspeakers are flown horizontally!

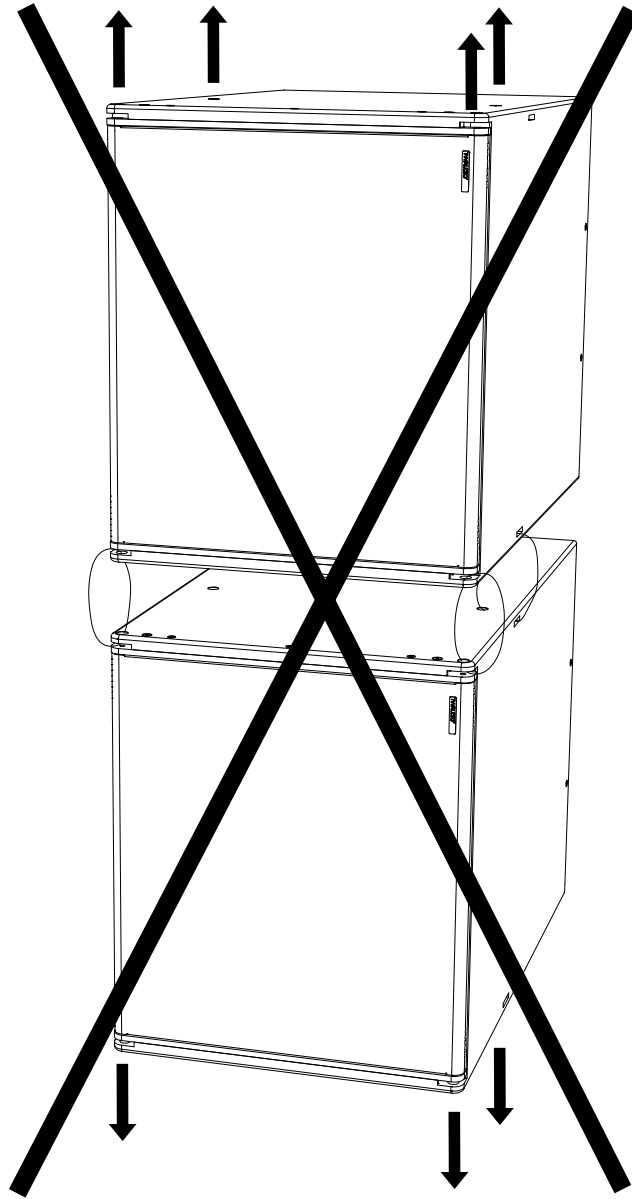


Figure 4.3.2 - improper use VERA S32i horizontal

4.3 Connection options

The VERAS32i loudspeaker is equipped as standard with the i-series screw terminal.



NOTE

As options there can be mounted a panel with cable gland (CG-option) or a panel with two built-in speakON® jacks (SO-option).

Furthermore, a blind cover option is available.

All connection options are only available in black colour.



NOTE

More information about the different connection options can be found in the respective operating instructions in the download area on the homepage of TW AUDIO.

4.4 Operation

Operation of the VERAS32i speaker requires a DSP-Controller. For this purpose, only presets developed by TWAUDIÖ are recommended. The TWAUDIÖ system racks are ideally suited for this purpose.



NOTE

Before connecting the loudspeaker to the amplifier, ensure that the right preset has been loaded.

Using a wrong, out dated or a preset not provided by TWAUDIÖ can lead to destruction of the speaker.



NOTE

Make sure that the amplifier's specifications meet the requirements. Using an amplifier that doesn't meet the specifications can destroy the loudspeaker.

Please note the technical data in section 3.1 on page 9.

4.5 Connecting the cable

To create a cable connection with an amplifier rack from TWAUDIÖ, proceed as follows.



NOTE

Ensure that the cable cross sectional area is sufficient (at least 1.5 mm²) to avoid power losses. TWAUDIÖ recommends using the loudspeaker cables available from TWAUDIÖ.

When connecting the cables to the loudspeaker, ensure that polarity (+/-) and pin assignment (1/2) are correct. Incorrect connection can lead to a significant change in the loudspeaker's sound characteristics and may damage the driver.

The pin connections of the VERA S32i loudspeaker can be found in section 3.2 ("Connection diagram") on page 9.

The internal wiring of the VERAS32i loudspeaker allows for parallel connection of multiple loudspeaker units.

Please note that parallel connections will decrease the total impedance of your loudspeaker configuration.

The total impedance and the resulting power of the speaker configuration must match the output power of the amplifier.

5. Transport and Storage

Due to the VERAS32i loudspeaker weighing over 40 kg [88lbs.], three persons are required to handle and transport the unit.



Ensure that the front grill of the loudspeaker is not damaged during transport and storage. Moisture can penetrate exposed wood surfaces and cause the wood to swell. A bent or broken front grill will no longer adequately protect the sensitive driver membranes.

In addition, larger dust deposits can significantly affect the functionality of a speaker membrane. This is why the product should be transported and stored in a safe, careful, dry and largely dust-free manner.

6. CE Conformity Declaration

Copy and translation of the original CE Conformity Declaration:



We hereby declare that the below-referenced components by virtue of their design and construction, and in the configuration placed on the market by us, satisfy the safety and health requirements of the applicable EC directives. This declaration becomes invalid in case of modifications that have not been approved by us.

This declaration applies to the following components

- VERAS32i

as well as all model variants based on these, provided that they correspond to the original factory models and have not been technically modified in any way.

Applicable directives:

- 2001/95/EG
- 2011/65/EU

Applicable national standards and technical specifications:

- DIN EN 18800
- DIN EN ISO 12100
- DGUV Vorschrift 17 und 18
- EN 50581: 2013-02

Berlin, Germany, January 1st, 2021

A handwritten signature in black ink, appearing to read 'Wüstner', is positioned above the printed name 'Bernhard Wüstner'.

Bernhard Wüstner

7. Disposal

It is prohibited to dispose of used electrical equipment with household refuse.



All TW AUDiO INTERNATIONAL GmbH products are so-called B2B-products. This means that they are symbol shown here may only be disposed of by TW AUDiO.

The loudspeaker owner is legally responsible for proper disposal of used devices that do not bear this symbol. This pertains to all products delivered prior to March 29, 2010. Nevertheless, TW AUDiO will also be happy to assist you in this case.

If you have any question regarding the disposal of used devices, please contact us under the following telephone number:

+49 (0) 71 41 - 48 89 89 0

Thus, TW AUDiO is in strict compliance with the Waste Electrical and Electronic Equipment Directive (2012/19/EU) for the protection of our environment.

TW AUDiO is registered under the following WEEE-reg.-no. with the German National Register EAR as a B2B-manufacturer and distributor of electrical devices:

DE93295191

In countries outside of the European Union, comply with local regulations.

TW AUDiO INTERNATIONAL GmbH
Osterholzallee 140-2
71636 Ludwigsburg (Germany)

Phone: + 49 (0) 71 41-48 89 89 0

Fax: + 49 (0) 71 41-48 89 89 99

E-Mail: info@twaudio.de

WWW: www.twaudio.de