

Reflect 5, Reflect 6, Reflect 8

Passive Speaker

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04.04.2025, ID: 508920 etc. (V2)

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## 1 General information

This document contains important instructions for the safe operation of the product. Read and follow the safety instructions and all other instructions. Keep the document for future reference. Make sure that it is available to all those using the product. If you sell the product to another user, be sure that they also receive this document.

Our products and documentation are subject to a process of continuous development. They are therefore subject to change. Please refer to the latest version of the documentation, which is ready for download under <u>www.thomann.de</u>.

## 1.1 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this document.

Signal word	Meaning	
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.	
WARNING!	This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.	
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.	
Warning signs	Type of danger	
	Warning – suspended load.	
$\triangle$	Warning – danger zone.	

# 2 Safety instructions

#### Intended use

This device is designed for sound reinforcement. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

#### **Safety instructions**



#### DANGER!

#### Risk of injury and choking hazard for children!

Children can suffocate on packaging material and small parts. Children can injure themselves when handling the device. Never allow children to play with the packaging material and the device. Always store packaging material out of the reach of babies and small children. Always dispose of packaging material properly when it is not in use. Never allow children to use the device without supervision. Keep small parts away from children and make sure that the device does not shed any small parts (such knobs) that children could play with.



#### WARNING!

#### Possible hearing damage due to operating the device at a high volume!

The device can produce volume levels that, when operated at a high volume, may cause temporary or permanent hearing impairment. Over an extended period of time, even levels that seem to be uncritical can cause hearing damage. Avoid operating the device at excessively high volumes over an extended period of time. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment. If this is not possible, keep a greater distance or use adequate ear-muffs.



#### NOTICE!

#### Damage to the device if operated in unsuitable ambient conditions!

The device can be damaged if it is operated in unsuitable ambient conditions. The device is suitable for outdoor use. Only operate the device within the ambient conditions specified in the "Technical specifications" chapter of this user manual. Use high-quality cables suitable for outdoor use for all connections. Avoid operating it in environments subject to direct sunlight, heavy pollution and strong vibrations. Avoid operating it in environments with strong temperature fluctuations. If temperature fluctuations cannot be avoided (for example after transport in low outside temperatures), do not switch on the device immediately. Never immerse the device in water. Avoid operating it in environments with direct water contact (e.g. ponds, fountains, etc.). Never move the device to another location while it is in operation. In environments with increased dirt levels (for example due to dust, smoke, nicotine or mist): Have the device cleaned by qualified specialists at regular intervals to prevent damage due to overheating and other malfunctions.

## 3 Features

# Reflect 5 (item no. 508920, 508921)

- Configuration:  $1 \times 1$ " tweeter,  $1 \times 5.25$ " woofer
- OBE technology (Optimal Bass Enhancement Radiator)
- Transformer for 100 V/70 V (3.75 W/7.5 W/15 W/30 W/8 Ω)
- Pluggable screw terminal connections
- Mounting bracket included
- Weatherproof thanks to International Protection Rating IP66
- Housing colour: black (item no. 508920), white (item no. 508921)

# Reflect 6 (item no. 508922, 508923)

- Configuration:  $1 \times 1$ -inch tweeter,  $1 \times 6.5$ -inch woofer
- OBE technology (Optimal Bass Enhancement Radiator)
- Transformer for 100 V/70 V (5 W/10 W/20 W/40 W/8 Ω)
- Pluggable screw terminal connections
- Mounting bracket included
- Weatherproof thanks to International Protection Rating IP66
- Housing colour: black (item no. 508922), white (item no. 508923)

# Reflect 8 (item no. 508924, 508925)

- Configuration:  $1 \times 1.1$ -inch tweeter,  $1 \times 8$ -inch woofer
- OBE technology (Optimal Bass Enhancement Radiator)
- Transformer for 100 V/70 V (6.25 W/12.5 W/25 W/50 W/8 Ω)
- Pluggable screw terminal connections
- Mounting bracket included
- Weatherproof thanks to International Protection Rating IP66
- Housing colour: black (item no. 508924), white (item no. 508925)

## 4 Installation

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.



#### WARNING!

### Risk of injury due to improper installation!

Improper mounting can lead to serious injuries and significant damage to property.

When installing and operating, make sure to follow the standards and regulations that apply in your country. In Germany, this is DGUV regulation 17 "Staging and Production Facilities for the Entertainment Industry".

Ensure that speakers are only mounted by trained specialists.



#### WARNING!

#### Risk of injury from falling speakers that were inadequately secured!

If speakers are not properly secured when mounted, they can cause severe injury and considerable damage by falling.

Always secure portable sound systems (speakers) with two independent safety devices, for example with safety cables.



#### NOTICE!

#### Possible property damage to adjacent devices due to magnetic fields.

Speakers generate a static magnetic field. This magnetic field can affect other neighbouring units and in unfavourable cases damage them.

Ensure that speakers are always a sufficient distance away from sensitive equipment that may be affected by an external magnetic field.



#### NOTICE!

#### Damage to a switched-on amplifier by connecting the device!



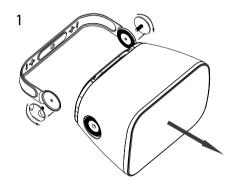
If the device is connected to an amplifier that is switched on, the amplifier may be damaged.

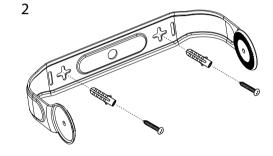
Ensure that the amplifier to which you want to connect the device is switched off before you connect the device.

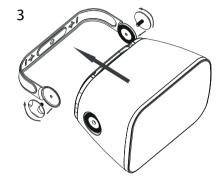
#### 4.1 Installation

#### **Wall mounting**

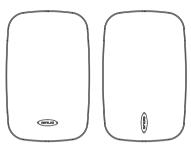
The following illustration shows how the supplied mounting bracket can be attached to the wall. Check the condition of the substrate and use suitable fastening material (not included).





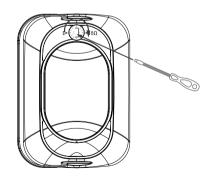


#### Logo alignment



In order to adapt the attached logo on the front grille to the alignment of the speaker, remove the inserted front grille and use a screwdriver to open the logo screw. Align the logo and tighten the screw. Put the front grille back on the speaker.

## 4.2 Power tap



Use the selector switch on the rear of the device to select the setting for the power tap. The following table shows the possible settings:

Reflect 5 (item no. 508920, 508921)	Reflect 6 (item no. 508922, 508923)	Reflect 8 (item no. 508924, 508925)
3.75 W/7.5 W/15 W/30 W/8 $\Omega$	5 W/10 W/20 W/40 W/8 Ω	6.25 W/12.5 W/25 W/50 W/ 8 Ω

The selection of the power tap defines the maximum output level of a speaker. This means that different sound zones can be implemented by setting different power taps on one amplifier channel. Note that this is not possible with low-impedance operation (8  $\Omega$ ).

## 4.3 Tips for handling installation speakers

You should always mount the speakers so that their sound signals can reach the audience unhindered. During assembly, ensure that the assembly surface has a sufficient load-bearing capacity.

Always observe the technical data of the connected speakers and ensure sufficient amplifier power.

If the speakers are connected as a 100 V system, only the power of all speakers to be connected must be added up; the individual impedances are irrelevant. The maximum output volume of individual speakers can be influenced by adjustable power taps. This allows different sound zones to be implemented on only one amplifier channel. The amplifier power should be about 20% above the total power of all connected speakers to compensate for transformer losses. Due to the high voltage, audio signals can also be transmitted hundreds of meters via thin cables without much loss.

If you use speakers with a low impedance, you must also pay attention to the individual impedances of the speakers in addition to the load capacity. The overall impedance of the connected speakers must not be lower than the minimum output impedance of the amplifier. If multiple speakers are used on one amplifier channel, different output levels of the speakers are not possible. Different sound zones can only be implemented using multiple amplifier channels. The maximum RMS output power of the amplifier can be up to 50% higher than the total load capacity of the connected speakers. For low-impedance use, pay attention to high-quality cables with sufficient cable cross-section.

Note that the combination of a 100 V system and a low-impedance system on an amplifier channel is not possible.

If you notice distortion during operation, either the amplifier or the speaker is overloaded. This may permanently damage the amplifier or the speaker. Always reduce the volume as soon as you notice any distortion.

# 5 Technical specifications

## 5.1 Reflect 5 (item no. 508920, 508921)

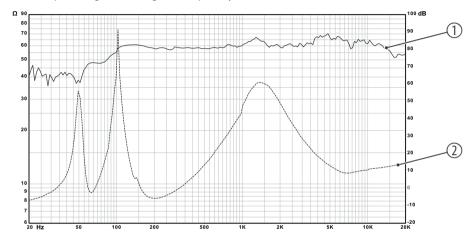


System	Passive 2-way speaker			
Configuration	Woofer	$1 \times 5.25$ " speaker (ferrite) with 1" voice coil		
	Tweeter	$1 \times 1''$ silk dome (neodymium) with $1''$ voice coil		
Input connections	Pluggable screw termi	Pluggable screw terminal		
Frequency range	100 Hz20 kHz, −3 dB			
Load capacity	RMS: 30 W			
	Peak: 60 W			
Power tap	3.75 W/7.5 W/15 W/30 W/8 Ω			
Sensitivity (1 W/1 m)	85 dB SPL			
Rated impedance	8 Ω			
Max. sound pressure level	103 dB SPL			
Max. short-term sound pressure level	90 dB SPL			

Beam angle $(H \times V)$	$100^{\circ} \times 70^{\circ}$		
International Protection Rating	IP66		
Colour	Black (item no. 508920), white (item no. 508921)		
Dimensions (W $\times$ H $\times$ D), with mounting bracket	258 mm × 163 mm × 188 mm		
Weight	2.75 kg		
Ambient conditions	Temperature range	0 °C40 °C	
	Relative humidity	20%80% (non-condensing)	

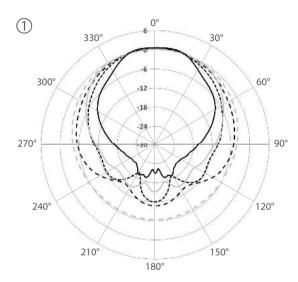
## Frequency response

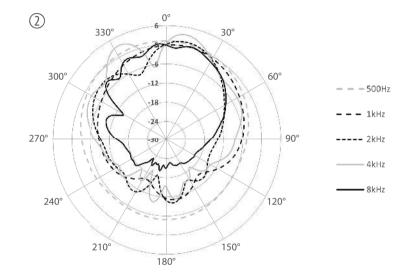
The following figure shows the course of the sound pressure level at 1 W/1 m (1) and of the impedance (2) depending on the signal frequency.



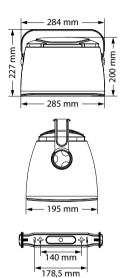
## **Polar pattern**

## (1) vertical, (2) horizontal





# 5.2 Reflect 6 (item no. 508922, 508923)

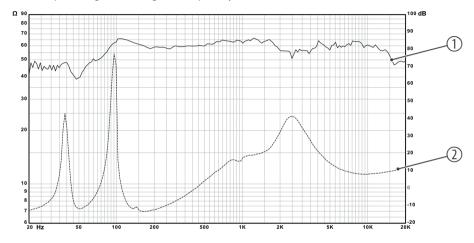


System	Passive 2-way speaker		
Configuration	Woofer	$1 \times 6.5$ " speaker (ferrite) with 1" voice coil	
	Tweeter	$1 \times 1''$ silk dome (neodymium) with $1''$ voice coil	
Input connections	Pluggable screw termi	nal	
Frequency range	90 Hz20 kHz, –3 dB		
Load capacity	RMS: 40 W		
	Peak: 80 W		
Power tap	5 W/10 W/20 W/40 W/8 Ω		
Sensitivity (1 W/1 m)	86 dB SPL		
Rated impedance	8 Ω		
Max. sound pressure level	105 dB SPL		
Max. short-term sound pressure level	90.3 dB SPL		
Beam angle $(H \times V)$	120° × 100°		

International Protection Rating	IP66		
Colour	Black (item no. 508922), white (item no. 508923)		
Dimensions (W $\times$ H $\times$ D), with mounting bracket	285 mm × 195 mm × 2	27 mm	
Weight	3.45 kg		
Ambient conditions	Temperature range	0 °C40 °C	
	Relative humidity	20%80% (non-condensing)	

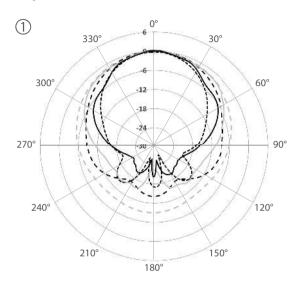
## Frequency response

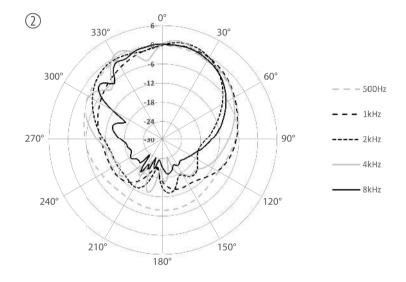
The following figure shows the course of the sound pressure level at 1 W/1 m (1) and of the impedance (2) depending on the signal frequency.



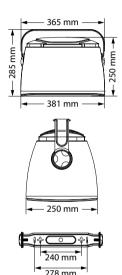
### **Polar pattern**

### (1) vertical, (2) horizontal





# 5.3 Reflect 8 (item no. 508924, 508925)

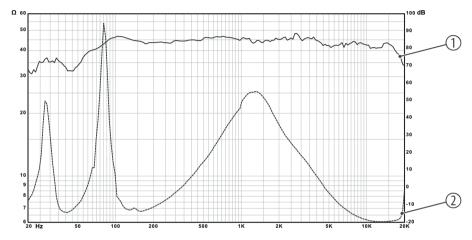


System	Passive 2-way speaker			
Configuration	Woofer	$1 \times 8$ " speaker (ferrite) with 1" voice coil		
	Tweeter	$1 \times 1.1$ " silk dome (neodymium) with 1" voice coil		
Input connections	Pluggable screw termi	Pluggable screw terminal		
Frequency range	80 Hz20 kHz, -3 dB			
Load capacity	RMS: 50 W			
	Peak: 80 W			
Power tap	6.25 W/12.5 W/25 W/50 W/8 Ω			
Sensitivity (1 W/1 m)	87 dB SPL			
Rated impedance	8 Ω			
Max. sound pressure level	106 dB SPL			
Max. short-term sound pressure level	90.3 dB SPL			
Beam angle $(H \times V)$	120° × 100°			

International Protection Rating	IP66	
Colour	Black (item no. 508924), white (item no. 508925)	
Dimensions (W $\times$ H $\times$ D), with mounting bracket	381 mm × 250 mm × 285 mm	
Weight	5 kg	
Ambient conditions	Temperature range	0 °C40 °C
	Relative humidity	20%80% (non-condensing)

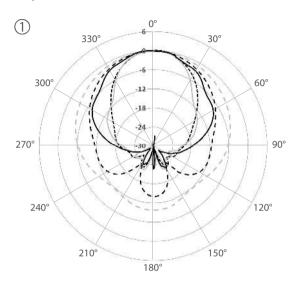
### Frequency response

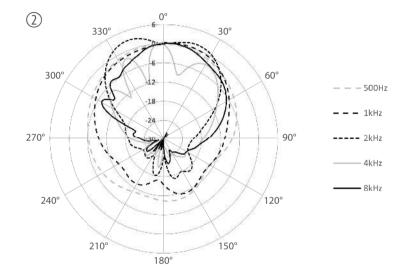
The following figure shows the course of the sound pressure level at 1 W/1 m (1) and of the impedance (2) depending on the signal frequency.



### **Polar pattern**

#### (1) vertical, (2) horizontal





## **Further information**

Design	Standard
Monitor inclination	No
Weatherproof	Yes
Housing material	Plastic
Stand flange	No
Connection	Phoenix clamp
Ways	2
Transformer	Yes
Housing/installation	Housing
Wall mount	Yes

# **6** Protecting the environment

#### Disposal of the packing material



Environmentally friendly materials have been chosen for the packaging. These materials can be sent for normal recycling. Ensure that plastic bags, packaging, etc. are disposed of in the proper manner.

Do not dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the instructions and markings on the packaging.



Observe the disposal note regarding documentation in France.

#### Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) as amended.

Do not dispose of your old device with your normal household waste; instead, deliver it for controlled disposal by an approved waste disposal firm or through your local waste facility. If in doubt, consult your local waste management facility. You can also return the device to a retailer if they offer to take the device back for free or if they are legally obliged to do so. When disposing of the device, comply with the rules and regulations that apply in your country. You can also return your old device to Thomann GmbH at no charge. Check the current conditions on <a href="https://www.thomann.de">www.thomann.de</a>.

Proper disposal protects the environment as well as the health of your fellow human beings. This is because the proper handling of old devices negates the potential negative effects of hazardous substances, and because it conserves resources by recycling them.

Also note that waste avoidance is a valuable contribution to environmental protection. Repairing a device or passing it on to another user is an ecologically valuable alternative to disposal. For example, use the classified ads of Thomann GmbH.

If your old device contains personal data, delete those data before disposing of it.