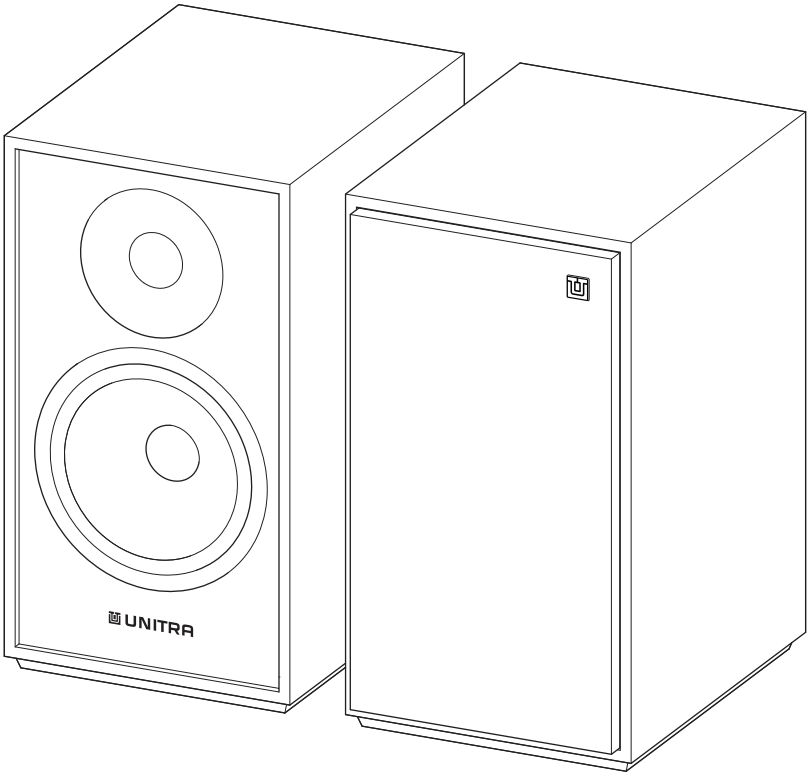
UNITRA

ZGB-401

BASS REFLEX LOUDSPEAKER

User Manual



Contents

Manufacturer **3**
About this document **4**
Symbols used in this manual 4
Safety 4
Acronyms, abbreviations, and technical terms 4
Content of the package **5**
Connections **5**
Standard connection 10
Bi-wired connection 11
Bi-amp connection 12
Break-in period **13**
Positioning of the loudspeakers **13**
Bass reflex port bung 15
Maintenance **16**
Troubleshooting **17**
Technical specifications **18**
Disposal **18**
Appendixes **19**
Frequency response chart 19
Impedance chart 20

Manufacturer

Unitra sp. z o.o.
Przejazdowa 2b,
02-496 Warsaw, Poland
website: www.unitra.com

UNITRA

About this document

Thank you for purchasing this Unitra product.

To ensure proper operation, read this manual carefully and operate the device in accordance with the instructions contained in it. Please keep this manual for future reference after reading it.

Symbols used in this manual

	**WARNING**	Describes precautions to be followed to avoid the possibility of serious injury or even death.
	**CAUTION**	Describes precautions to be followed to avoid injury.
	NOTICE	Describes precautions to be followed to avoid malfunction or damage to the product.
	NOTE	Describes supplemental information about the product.

Safety



WARNING

Carefully read the Safety Brochure before use and keep it for future reference.

Acronyms, abbreviations, and technical terms

HPF	High-pass filter
LPF	Low-pass filter
Ohm	Electrical resistance unit
RMS	Root Mean Square
RCA	Connector type introduced by the Radio Corporation of America

Content of the package

Make sure that the following elements are included in the package:

- Device (ZGB-401 Bass Reflex Loudspeaker)
- Connector bridge
- Bass reflex port bung
- User Manual (this book)
- Safety Brochure
- Warranty Card

Connections

The Device has an option for bi-wiring and bi-amping connections. If you plan such connections, remove the connector bridge. p. 11.

Types of speaker connections

WARNING

Do not remove the knob or loosen it excessively. The knob can fall off and there is a choking hazard for children.

WARNING

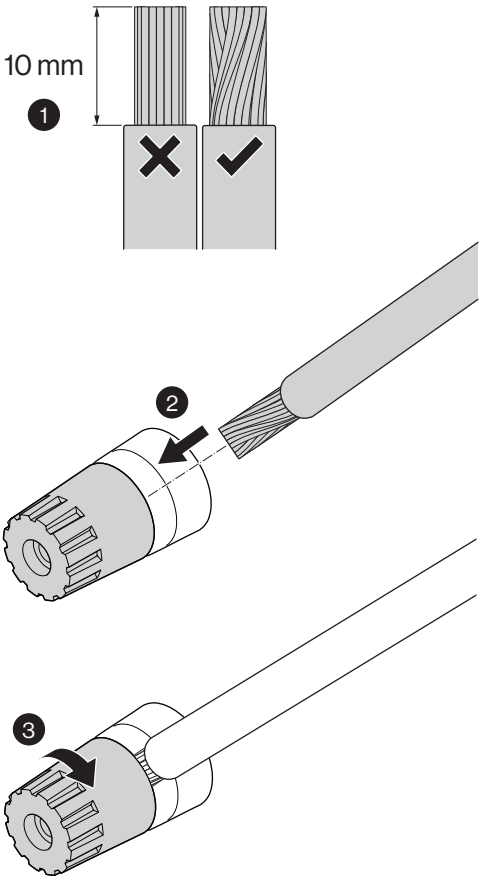
To reduce the risk of electric shock do not touch the speaker terminals when the devices are connected to an AC power source.

CAUTION

Make sure that the terminal and the connector contact area is the largest possible and the connections are not loose.

NOTE

All connectors must be connected to the correct terminals: L (left) to L, R (right) to R, "+" to "+", and "–" to "–". Incorrect polarity may result in poor bass performance and imaging.
For information regarding the connection procedure, refer to the user manual for your amplifier.



Connection with speaker cables

NOTICE

Do not let the bare speaker wires touch each other, nor any metal part. Otherwise, the Device and/or the amplifier may be damaged.

Step 1

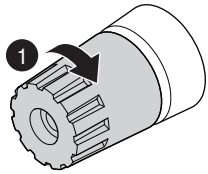
Remove approximately 10 mm of the insulation from the end of the speaker cable and twist the exposed wires tightly together to prevent short circuits.

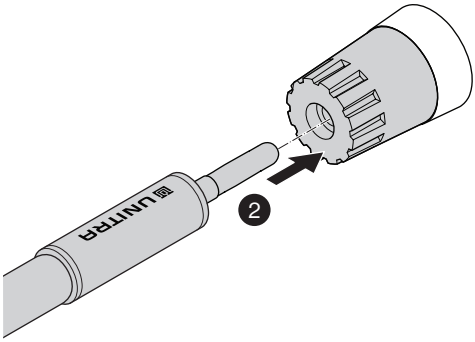
Step 2

Loosen the knob at the terminal and insert the wires, twisted in **Step 1**, into the side hole on the terminal.

Step 3

Tighten the knob.





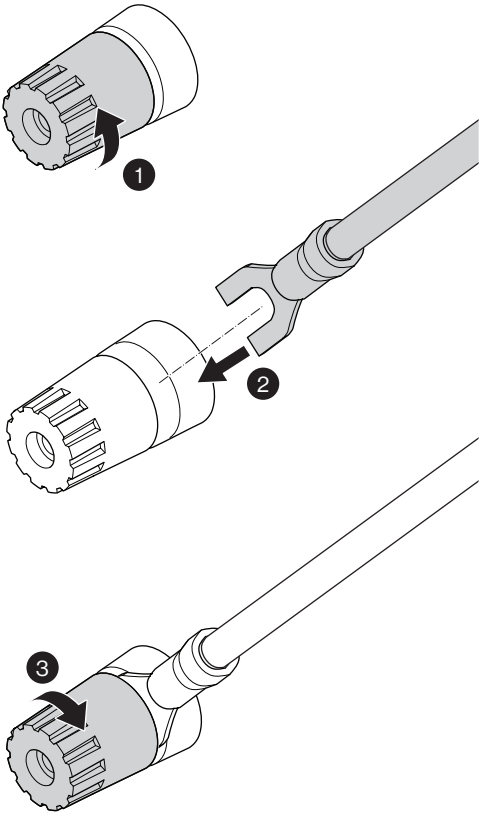
Connection with banana plug cables

Step 1

Tighten the knob at the speaker terminal.

Step 2

Insert the banana plug into the head of the knob.



Connection with Y-shaped lug cables

Step 1

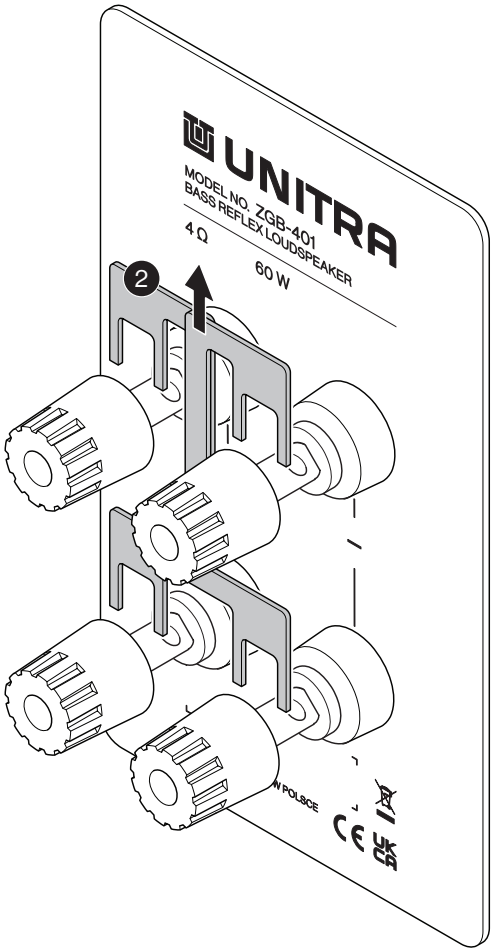
Loosen the knob at the terminal.

Step 2

Insert the Y-shaped lug between the knob and the base of the terminal.

Step 3

Tighten the knob.



Deinstallation of the connector bridge

Step 1

Loosen all the knobs at the terminals.

Step 2

Slide the connector bridge upwards from the terminals.

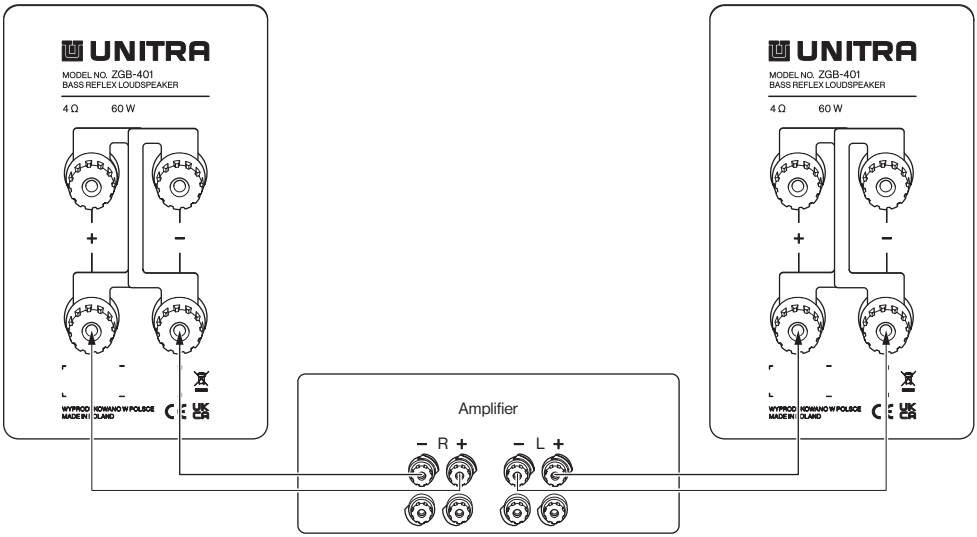
Step 3

Tighten the knobs.

UNITRA

Standard connection

Standard connection allows you to connect your Device to a single source (e.g. preamplifier, amplifier etc.). Use the connector bridge for the standard connection.

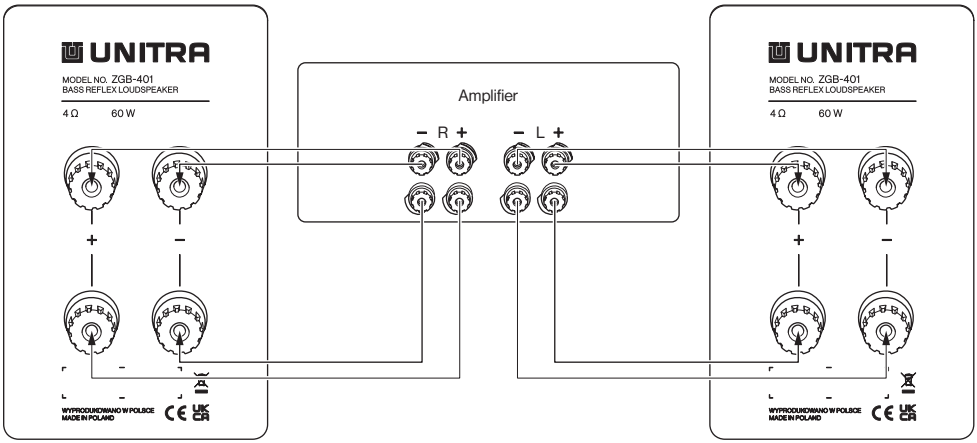


Bi-wired connection

A bi-wired connection allows you to connect the loudspeakers with separate wiring for the low ranges and the mid and high ranges.

Remove the connector bridge for this connection. p. 9.

You can connect the separate ranges to different terminal pairs on your amplifier. Make sure you selected both speaker output pairs (A+B) on your amplifier.

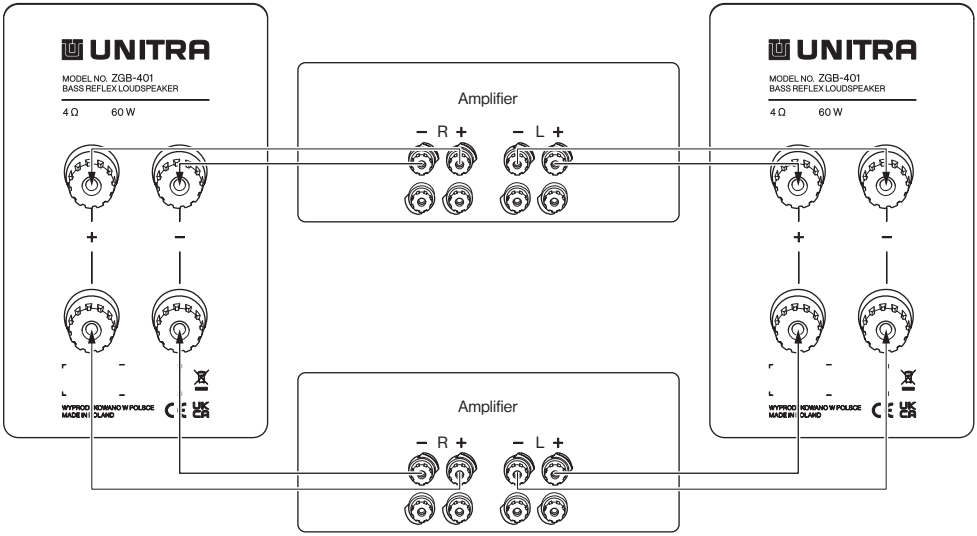


UNITRA

Bi-amp connection

A bi-amp connection allows you to connect the loudspeakers to two different amplifiers. In this setting the signal is separated: one of the amplifiers is responsible for the low ranges and the second amplifier for the mid and high ranges.

Remove the connector bridge for this connection. p. 9.



Break-in period

The speaker drivers consist of many mechanical components so they may need adaptation time to adjust and acclimatize to the humidity and temperature of the room.

It is recommended to play the loudspeakers for at least 12 break-in hours after installation to enjoy the performance fully.

Positioning of the loudspeakers

NOTICE

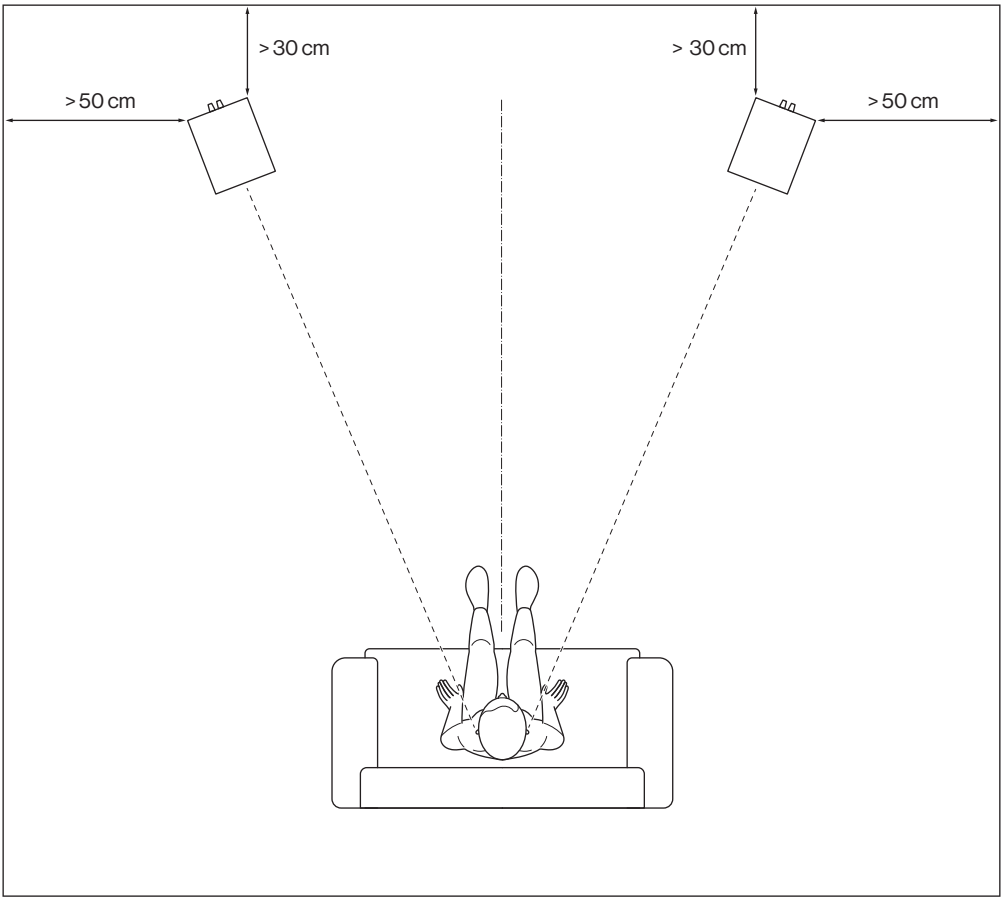
- **Do not place the loudspeakers in direct sunlight or intense light.**
- **Do not place the loudspeakers near heat sources, including amplifiers.**

Positioning of your loudspeakers along with room acoustics play an essential role in the faithful sound reproduction. To optimize performance there are few general rules to be followed for the initial setup.

Position your speakers symmetrically in the room. Turn the loudspeakers to the inside so they are facing the listener's seat. Avoid positioning the loudspeakers in the corner of the room - this may negatively influence the sound clarity of low frequencies.

The distance between the listening area and loudspeakers should be greater than the distance between the loudspeakers. The listener's ears should be at the same level as the tweeter.

We suggest using stands for speakers to make sure they're at the right height.



It is recommended to place the loudspeakers at least 30 centimeters from the back wall and 50 centimeters from the side wall.

Keep in mind that the room acoustics also have a great influence on the sound performance. Some sound absorbent materials are required to eliminate unwanted reflections. You can use, for example, floor carpets, curtains and upholstered furniture. Try to find balance between sound reflecting and sound absorbing surfaces in your room; an overdampened space does not sound lively.

For best sound results it is recommended to remove the grilles from the loudspeakers.

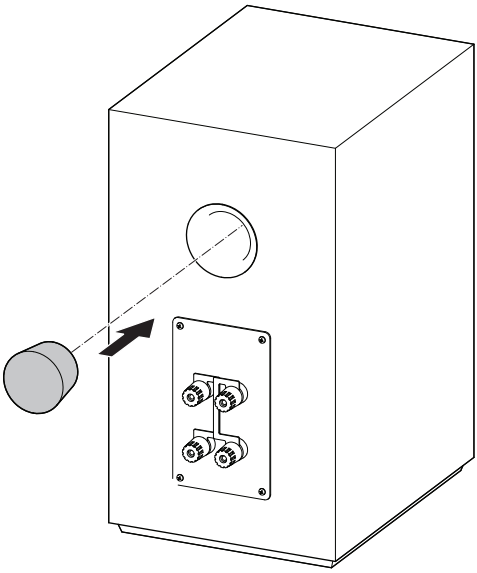
Bass reflex port bung

The port bungs included with the loudspeakers are designed to help control bass response by limiting the airflow through the reflex port. To reduce the bass response insert port bungs into ports on the back wall of the loudspeakers.

In case of small rooms or the need to place speakers in acoustically suboptimal locations (such as room corners, in a cabinet, or with the speaker port close to a wall), excessive bass boost may occur. Use the port bungs to limit the negative effects of this issue. However, we recommend first attempting to address bass-related issues by adjusting the speaker placement.

NOTICE

Do not push the port bungs too hard into the port. It can be difficult to remove them.



Maintenance

- The speaker case is finished with natural wood veneer. For occasional cleaning use a soft, slightly dampened cloth.
- Do not use any cleaner or wax.
- Do not place any objects on top of the Device.
- Avoid touching the drivers membranes. This may permanently damage the Device.
- Handle the grille with care. Do not stretch the material. Keep away from children and pets.

Troubleshooting

Most difficulties in audio systems are the result of incorrect connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the settings, determine the cause of the fault and make the necessary changes. If the Device does not operate correctly, refer to the suggestions for the following conditions:

Problem	Cause	Remedy
There is no sound from the loudspeakers.	The wiring between the amplifier and the speakers is not correct.	Check the wiring between the amplifier and the speakers.
	The cables from the signal source are not connected properly.	Make sure that the cables from the signal source to the amplifier input jacks are connected properly.
	The signal source is not functioning properly.	Check the signal source to see if it functions properly.
	The volume is set to minimum.	Make sure that the volume of the amplifier is not set to minimum.
There is only one range of sound from the loudspeakers.	The connector bridge is not installed.	Make sure the connector bridge is installed.
	You have a bi-wired connection but selected only one output pair.	Make sure you selected both speaker output pairs (A+B) on your amplifier.
The sound quality is not good.	The cables are not properly connected.	Make sure that the speaker cables are connected with the correct polarity and that are pushed into the terminal all the way.
There is too much bass	The loudspeakers are placed in small room or acoustically suboptimal location (such as room corners, in a cabinet, or with the speaker port close to a wall).	Use port bungs to limit airflow through the bass reflex port. Adjust speaker placement as needed.
There is not enough bass	Port bungs are in the bass reflex ports blocking the airflow.	Remove the port bungs to let more air through. Adjust speaker position if needed.

Technical specifications

Type	2-way bass reflex
Frequency response (–3 dB)	60 Hz – 20 kHz
Sensitivity (2,83 V/1 m)	87 dB
Impedance	4 Ω
Power handling	60 W_{RMS}
Crossover frequency	2.4 kHz
Mid-low frequency driver	1 x 6" aluminum-ceramic cone
High frequency driver	1 x 27 mm aluminum-magnesium dome
Inputs	Bi-wire / bi-amp
Dimensions (Width × Depth × Height)	210 × 275 × 380 mm
Mass	2 × 10.5 kg
Indoor/outdoor use	Indoor use only

Disposal

This Device is labeled in accordance with the European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE).

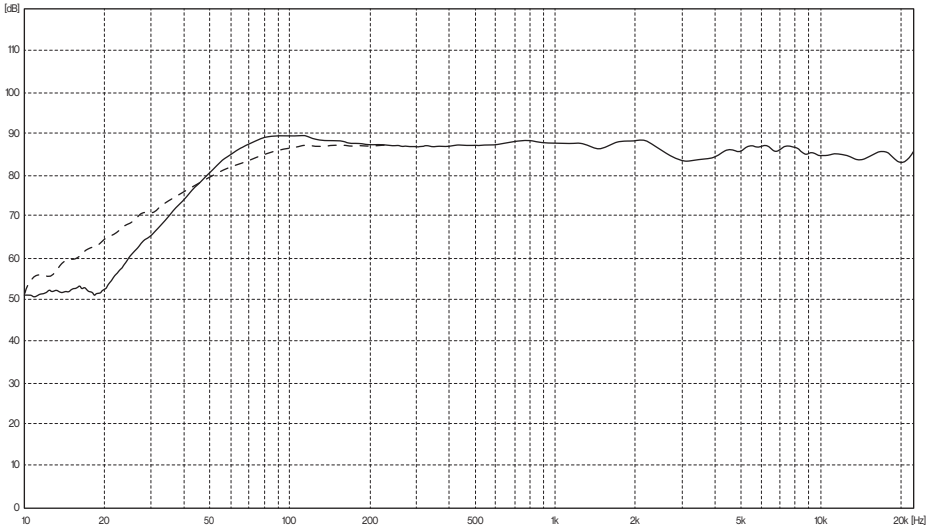
The Device or used and fully discharged batteries should not be disposed of with household waste. Since the transposition of Directive 2002/96/EC into the national law electric and electronic equipment must not be disposed of together with household waste and the user is obliged to dispose of a broken or redundant electrical or electronic device at a dedicated collection point, put it in a special container, or possibly return it to the seller. When disposing of the device and batteries, comply with applicable local regulations. To ensure proper disposal of the device, contact a special disposal and recycling facility for electrical and electronic equipment. The address can be obtained from your environmental officer or city council.



The details are set forth in the relevant national laws. This obligation is indicated on the product packaging or in the manual in the form of a crossed-out waste bin. By sorting waste for recycling, you help to protect the natural environment.

Appendixes

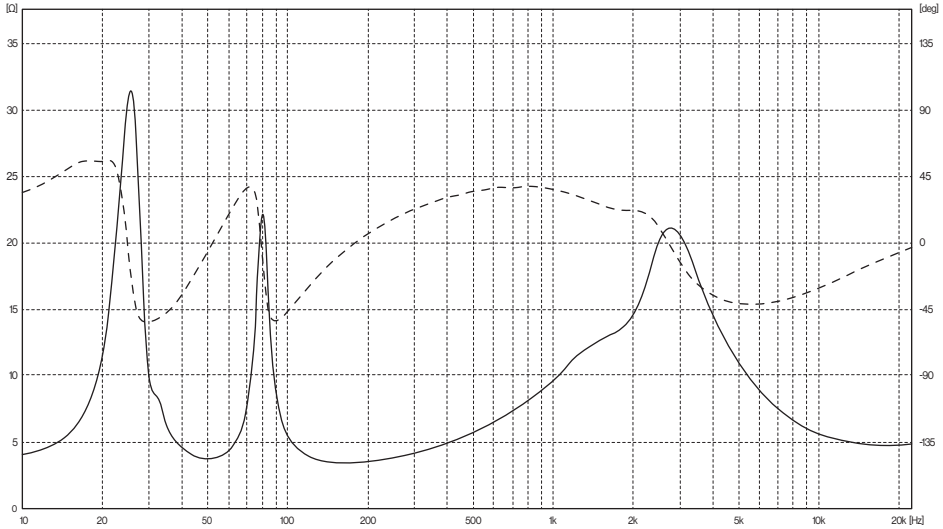
Frequency response chart



——— Bass reflex port bung out
– – – – Bass reflex port bung in

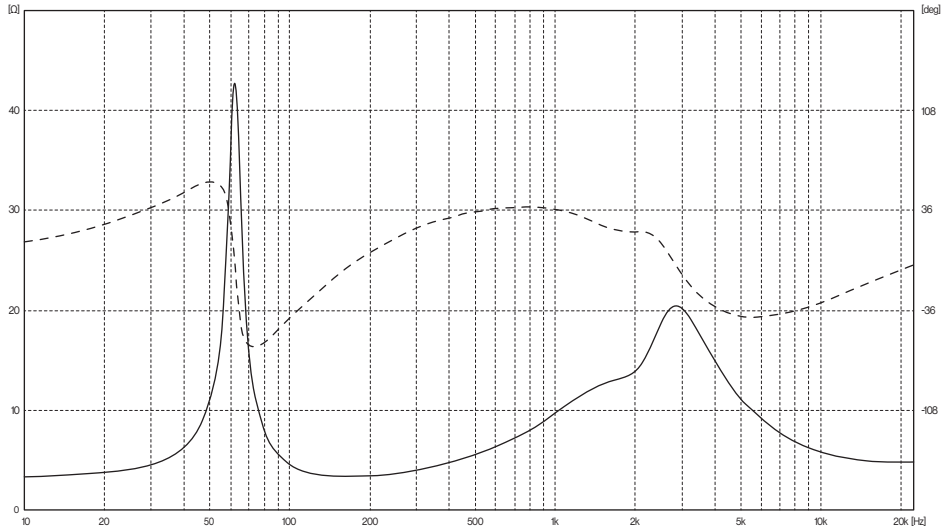
Chart for loudpeakers without grilles.

Impedance chart



——— Impedance module
– – – – Impedance phase

Chart for bung in the bass reflex port.



——— Impedance module

– – – – Impedance phase

Chart for bung out of the bass reflex port.

UNITRA

Copyright: Unitra sp. z o.o.
Revision 3 (2024-04-16)

For more information go to:
https://www.unitra.com/
or scan QR code below.