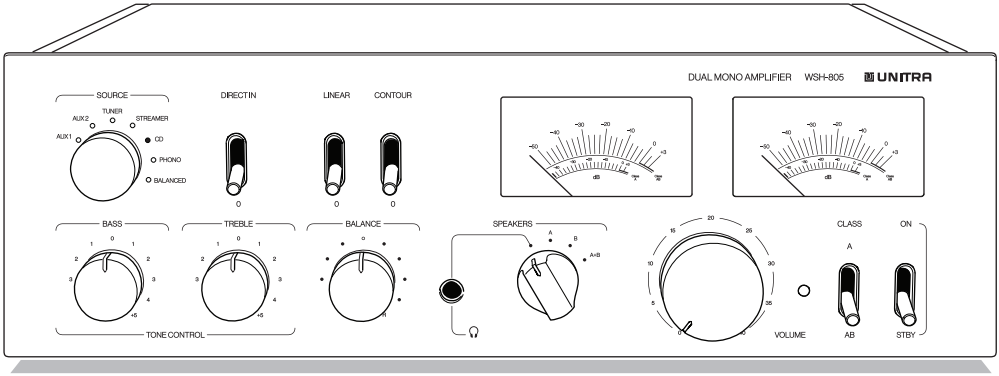
UNITRA

# WSH-805

## DUAL MONO AMPLIFIER

User Manual



# Contents



# 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

| | |
|---|---|
| GND | Grounding |
| HPF | High-pass filter |
| LPF | Low-pass filter |
| Ohm | Electrical resistance unit |
| RCA | Connector type introduced by the Radio Corporation of America |
| RMS | Root Mean Square |
| THD+N | Total Harmonic Distortion + Noise |
| XLR | External Line Return, a connector type |

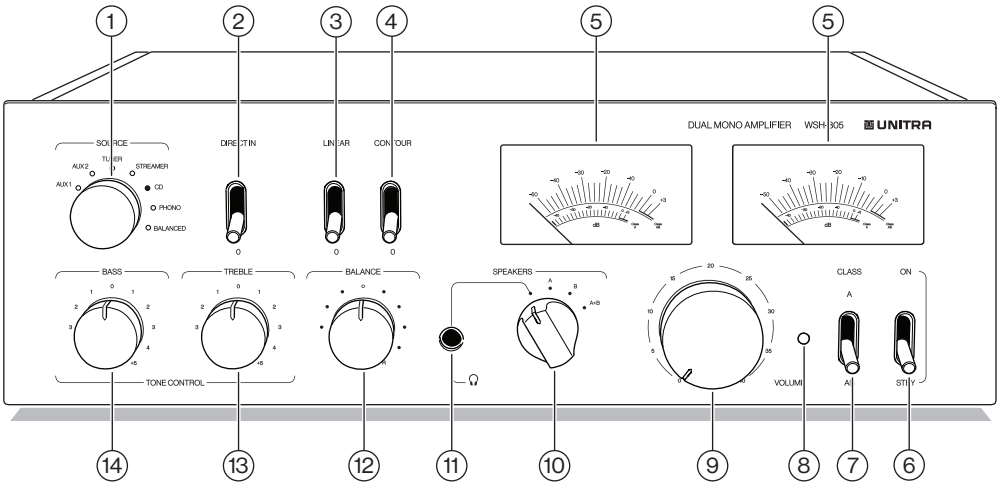
# Description

## Content of the package

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

- Device (WSH-805 Dual Mono Amplifier)
- Power cord
- Other cables (if specified in your order)
- Remote control (battery type CR2032 included)
- User Manual (this book)
- Safety Brochure
- Warranty Card

## Front panel overview




### (1) SOURCE selector switch and indicators

The indicator light for the selected input source goes on.

| | |
|---|---|
| AUX1/AUX2 | Selects the devices connected to AUX1 or AUX2 jacks as the input source. |
| TUNER | Selects the tuner connected to the TUNER jacks as the input source. |
| STREAMER | Selects the streamer connected to the STREAMER jacks as the input source. |
| CD | Selects the CD player connected to the CD jacks as the input source. |
| PHONO | Selects the turntable connected to the PHONO jacks as the input source. |
| BALANCED | Selects the device connected to the BALANCED jacks as the input source. |

### ② DIRECT IN switch

| | | |
|---|---|---|
| Switch up | ON | Selects the external preamplifier connected to the DIRECT IN jacks as the input source. |
| Switch down | OFF | Deselects the DIRECT IN; the input source is as selected by the SOURCE selector switch. |

**NOTE**

When DIRECT IN is set to ON, the SOURCE indicators are off.
The input signal bypasses the internal preamplifier block of the Device.

### ③ LINEAR switch

| | | |
|---|---|---|
| Switch up | ON | Audio signal bypasses the tone control circuit; bass and treble filters are not active. |
| Switch down | OFF | Audio signal goes through the tone control circuit; bass and treble filters are active. |

### ④ CONTOUR switch

| | | |
|---|---|---|
| Switch up | ON | Contour function is active. |
| Switch down | OFF | Contour function is not active. |

The contour compensates for human hearing characteristics by boosting the bass and treble response at low volume levels to achieve a more pleasing tonal balance.

**NOTE**

The contour and linear functions cannot be activated at the same time.
When the LINEAR switch is set to ON and you set the CONTOUR switch to ON, the LINEAR switch sets to OFF automatically.
When the CONTOUR switch is set to ON and you set the LINEAR switch to ON, the CONTOUR switch sets to OFF automatically.

### (5) VU meters

To indicate the audio output level of the left and right channel in dB.
"0" on the upper scale is set to reflect the maximum level of test signal (sinusoidal) without distortion when connected to a speaker set with impedance of 8 Ω. The lower scale is dedicated to the class A output.

When the indicator is near "0" on the scale it means that the signal is close to be distorted or its fragments are already distorted. It is recommended to reduce the volume or switch to the class AB which has a higher maximum power.

### (6) ON/STANDBY switch

| | |
|---|---|
| Switch up | ON |
| Switch down | STANDBY |

**NOTE**

After you turn on the Device, it takes a few seconds before it can reproduce sound.

### (7) CLASS switch

| | |
|---|---|
| Switch up | Class A is selected. |
| Switch down | Class AB is selected. |

### (8) Infrared signal receiver

To receive the infrared signal from the remote control.

### (9) VOLUME knob

To adjust the volume level.

**NOTE**

If you select the device connected to the DIRECT IN jack as the input source you cannot adjust the volume level using the VOLUME knob or the remote control. Use the volume control on the external amplifier connected to the DIRECT IN jacks.

### ⑩ SPEAKERS selector switch

| | |
|---|---|
| 🎧 | Audio signal is output to the headphones connected to the headphones jack. |
| A | Audio signal is output to the SPEAKERS A terminals. |
| B | Audio signal is output to the SPEAKERS B terminals. |
| A+B | Audio signal is output to the SPEAKERS A and B terminals. Select this position when you use a bi-wired connection. p. 18 . |

**CAUTION**

**When you use a two pairs of speakers, make sure that the output is not overloaded with too low resultant impedance (e.g. two pairs of speakers with 4 Ω + 4 Ω impedance or 4 Ω + 8 Ω impedance).**

For speaker connections and bi-wired connections. p. 18 .

### ⑪ Headphones jack (6,3mm TRS)

To connect headphones to the Device.

**NOTE**

- If DIRECT IN is set to ON, the audio signal is not transferred to the headphones jack.
- When the headphones (🎧) are selected on the SPEAKERS selector switch, the PRE OUT output stays active.

### ⑫ BALANCE knob

To adjust the audio output balance between the left and right speakers to compensate for sound imbalances caused by the location of the speakers or the conditions of the listening room.

### ⑬ TREBLE knob

To adjust the volume level of the treble range (adjustable between –10 dB and +10 dB).

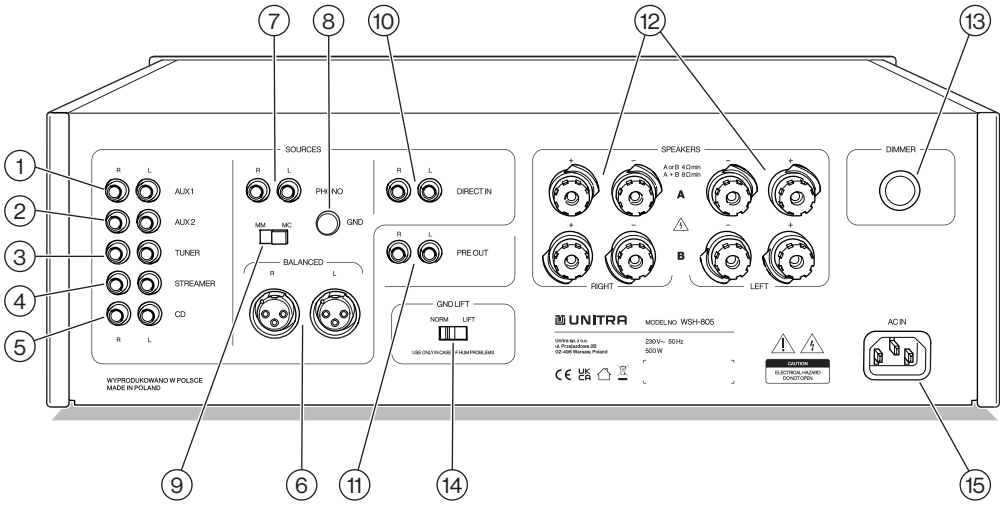
### ⑭ BASS knob

To adjusts the volume level of the bass range (adjustable between –10 dB and +10 dB).

**NOTE**

The BASS and TREBLE settings do not affect the signal when the LINEAR switch is set to ON.
The BASS, TREBLE and BALANCE settings do not affect the signal when the DIRECT IN switch is set to ON.

## Rear panel overview




### (1) AUX1 jacks

To connect any type of devices as the input source.

### (2) AUX2 jacks

To connect any type of devices as the input source.

### (3) TUNER jacks

To connect tuner devices as the input source.

### (4) STREAMER jacks

To connect streamer players as the input source.

### (5) CD jacks

To connect CD players as the input source.

### (6) BALANCED jacks

To connect devices with a balanced output signal and XLR connectors.

### (7) PHONO jacks

To connect turntables as the input source.

### (8) GND terminal

To ground a turntable connected to the Device when a noise reduction is needed.

### (9) MM/MC switch

Set this switch to the MM or MC position according to the type of magnetic cartridge installed in the turntable that is connected to the PHONO input jacks.

**NOTICE**

**Before you replace the cartridge for the turntable, make sure that the Device is disconnected from the power source.**

### (10) DIRECT IN jacks

To connect an external preamplifier, so that this Device operates as a power amplifier.

**NOTE**

If you select the device connected to the DIRECT IN jack as the input source you cannot adjust the volume level using the VOLUME knob or the remote control. Use the volume control on the external amplifier connected to the DIRECT IN jacks.

### (11) PRE OUT jacks

To connect an external amplifier or an active subwoofer. The audio signal output at the PRE OUT jacks is preamplified and following parameter settings are effective: BASS, TREBLE, BALANCE, CONTOUR, VOLUME.

### (12) SPEAKERS terminals

To connect the speakers. p. 21.

### (13) DIMMER button

To select the brightness level of the VU meters frontlight.

**NOTE**

You can use the DIMM key on the remote control to adjust the brightness of other Unitra devices.
To synchronize the brightness of all the Unitra devices, press and hold the DIMM key on the remote control. The brightness of all the devices is automatically set to 0.

### (14) GND LIFT switch

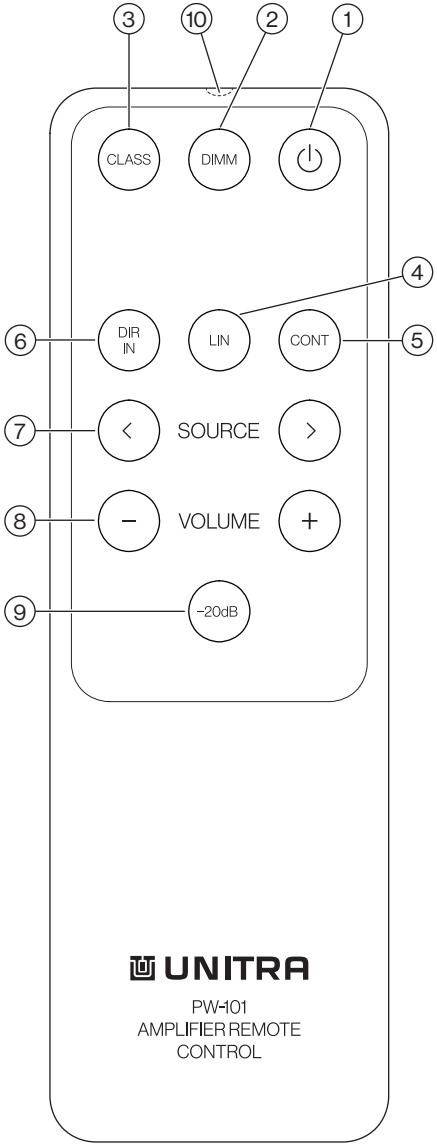
| | |
|---|---|
| NORM | The analog ground of the Device is connected to the case ground and electrical grid. |
| LIFT | The analog ground of the Device is disconnected from the case ground and electrical grid. Use this function in case of problems with humming sounds. |

**NOTICE**

**It is recommended to use the LIFT function when devices connected to the Device have a PE wire and do not have isolated analog connections.**

### (15) AC inlet

To connect the supplied power cable.




## Remote control overview

### (1) ON/STANDBY key

To switch between ON and STANDBY modes. p. 8.

### (2) DIMM key

To select the brightness level of the VU meters frontlight. p. 11.

**NOTE**

You can use the DIMM key on the remote control to adjust the brightness of other Unitra devices. To synchronize the brightness of all the Unitra devices, press and hold the DIMM key on the remote control. The brightness of all the devices is automatically set to 0.

### (3) CLASS key

To switch between class A and class AB. p. 8.

### (4) CONTOUR key

To select and deselect the contour function to achieve a better tonal balance. p. 7.

### (5) LINEAR key

To set the linear function to ON (bass and treble filters are not active) or OFF (bass and treble filters are active). p. 7.

### (6) DIRECT IN key

To select or deselect the device connected to the DIRECT IN jack as the input source. p. 7.

### (7) SOURCE keys

To select the input source. Each push selects the previous or the next input source in line. The SOURCE indicator light for the selected input source goes on. p. 6.

### (8) VOLUME – / + keys

To adjust the volume level of the Device.

**NOTE**

If you select the device connected to the DIRECT IN jack as the input source you cannot adjust the volume level using the VOLUME knob or the remote control. Use the volume control on the external amplifier connected to the DIRECT IN jacks.

### (9) –20 dB key

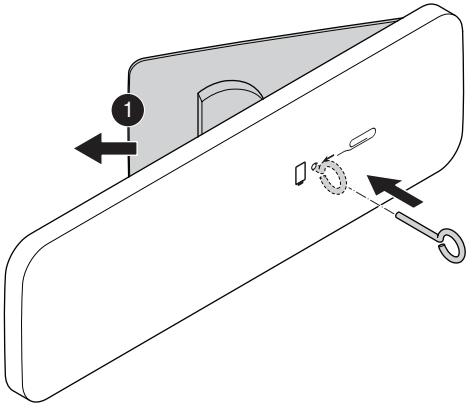
To change the volume by approximately –20 dB. After pressing this button again the volume increases to the previous level.

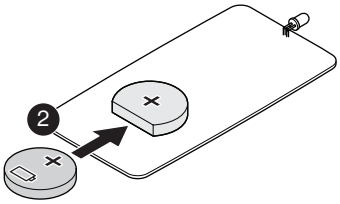
**NOTE**

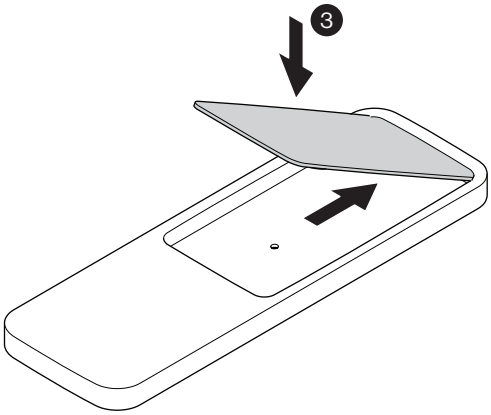
When you move the VOLUME knob after pressing the –20 dB key, the procedure deactivates. When the procedure is deactivated, the volume will not increase to the previous level after you press the –20 dB key again.

### (10) Infrared signal transmitter

To send the signal to the infrared signal receiver on the front panel.




## Installation of batteries in the remote control

### Step 1

Insert a pin (e. g. a paper clip) into the hole on the back surface to remove the plate with the battery holder.

### Step 2

Insert one battery (CR2032) according to the polarity markings (+ and –) on the battery holder.

### Step 3

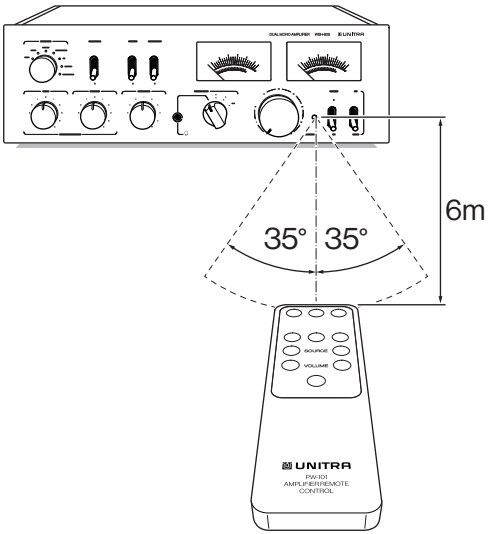
Install the plate with the battery holder on the remote control.

**NOTE**

Before first use, remove the plate as in **Step 1** and make sure there is no foil between the battery and the battery holder.

## Operation of the remote control

Operate the remote control in the range shown in the illustration by pointing it toward the remote control signal receiver on the front panel of the Device.




## Recommendations for use

**NOTICE**

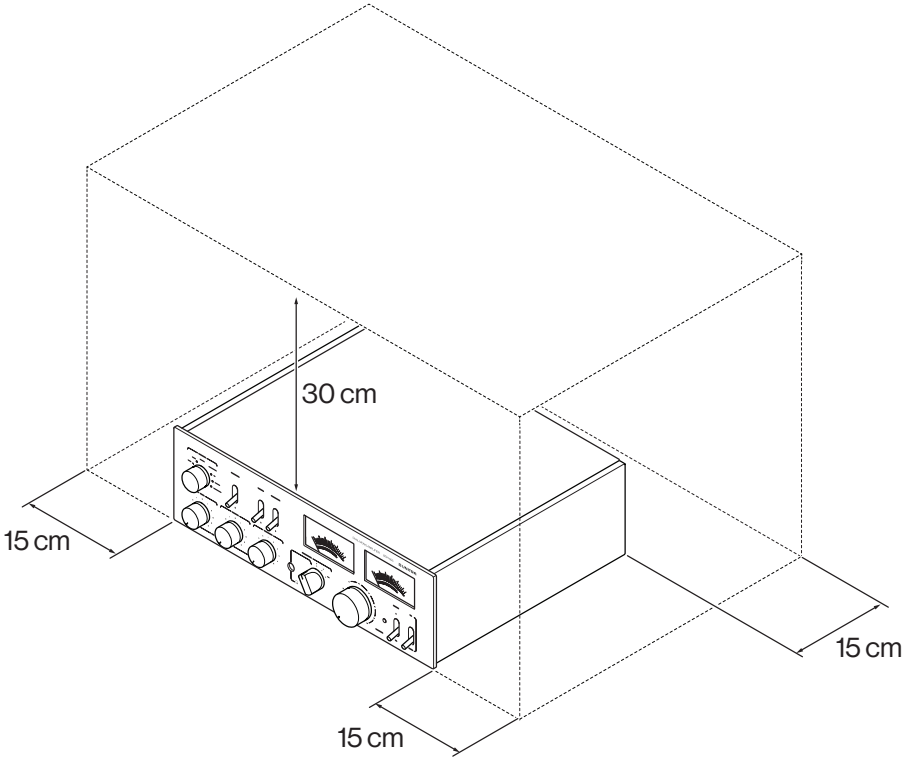
**If you plan not to use the Device for a long period of time, make sure that the Device is disconnected from the AC power source. Be aware that when the Device is in standby mode the electric current is still flowing through the unit.**

- When frequent transient states and impulse distractions in the power line happen, distractions on output connectors may occur. Those interferences may impact audio signal amplification quality and can generate sound distortions. When distractions on the power line end, the device returns to normal operation.
- When an electrostatic discharge occurs, operation of the VU meters can be disturbed. If the electrostatic discharge goes to the input jacks (RCA connectors), the standard operation of the Device can be disturbed. When the electrostatic discharge ends, the Device is back to normal operation without your intervention.
- For proper operation of the device, it is not recommended to use connection cables longer than 3 m.

## Space requirements

**NOTICE**

**Make sure to leave the required space around the unit for air circulation as shown below to improve heat radiation. There is a risk of overheating.**

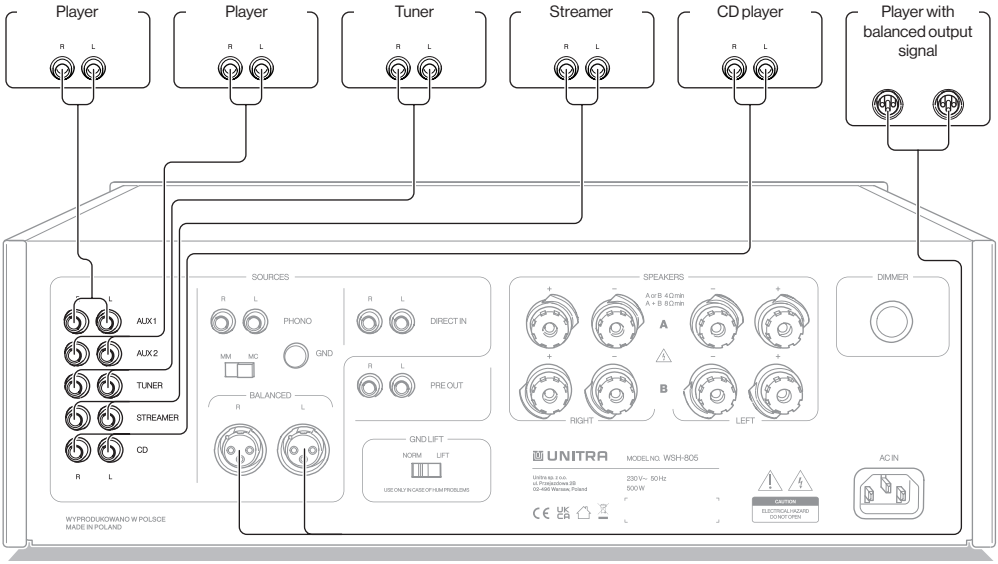


# Connections

**CAUTION**

**Do the input and output connections before connecting the Device to the AC power source.** p. 26.

## Connecting a player




Use the SOURCE selector switch to select a player as the input source. p. 6.

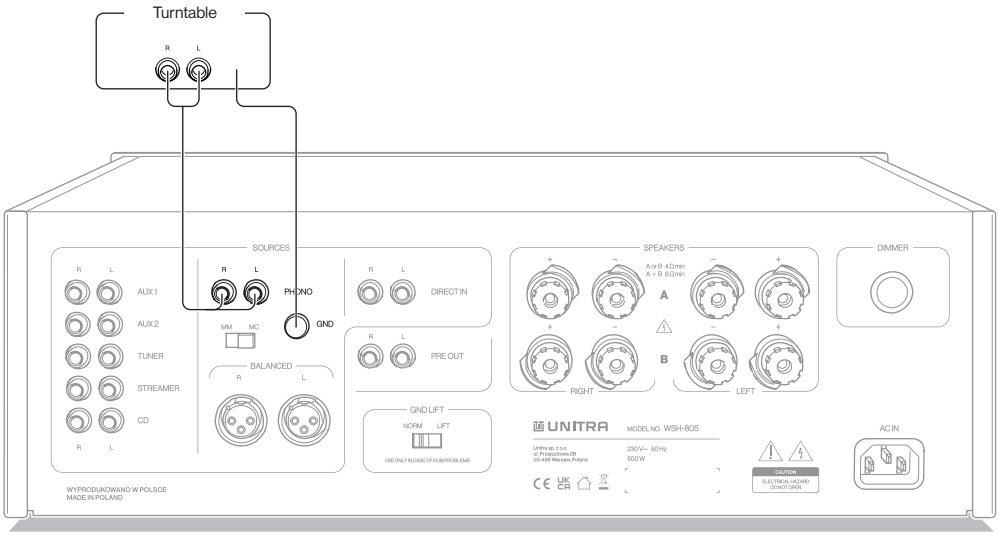
### Balanced connection

You can connect a player that has a balanced output signal and XLR-type jacks.

## Connecting a turntable

**WARNING**

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



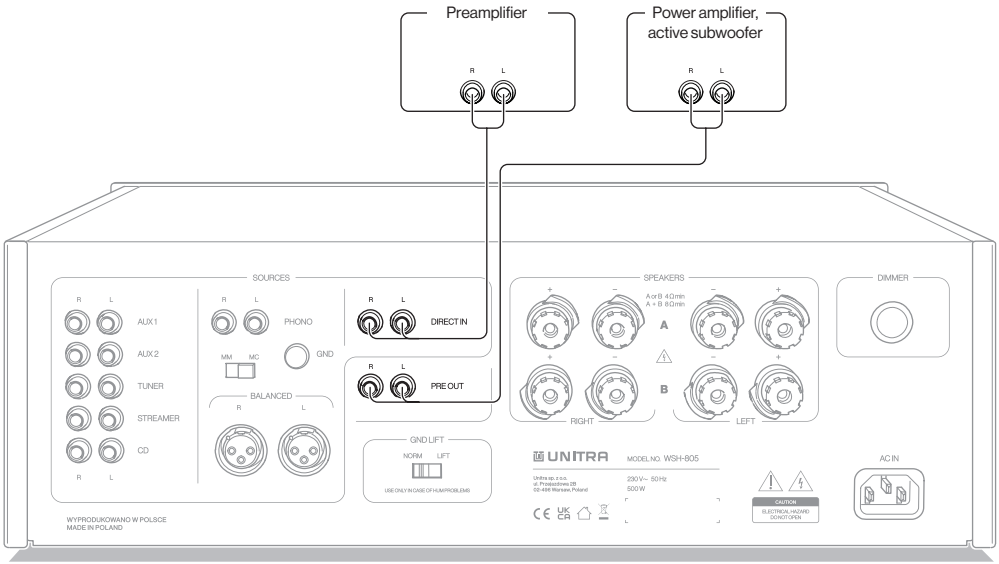

Use the SOURCE selector switch to select the turntable as the input source. p. 6.

Connect the ground wire to the GND terminal to reduce noise.

**NOTE**

The GND connection is not a safety ground.

## Connecting a preamplifier or power amplifier




To select the preamplifier connected to the DIRECT IN jacks as the input source, set the DIRECT IN switch to the ON position. p. 7.

The audio signals output at the PRE OUT jacks pass only through the internal preamplifier block of the Device. p. 34.

You can connect an external power amplifier or an active subwoofer to the PRE OUT jacks. Use a dual RCA cable for this connection.

The following parameter settings are effective for audio signals output at the PRE OUT jacks:

- BASS
- TREBLE
- BALANCE
- CONTOUR
- VOLUME

**NOTE**

When DIRECT IN is set to ON, PRE OUT is off. The input signal bypasses the internal preamplifier block of the Device.

# Connecting speakers

## 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**

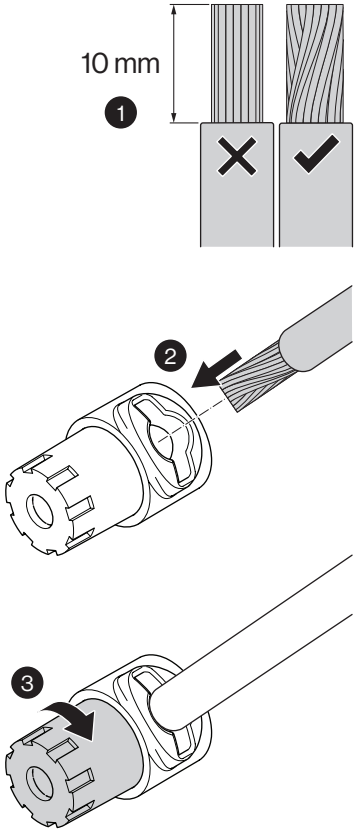
**To reduce the risk of electric shock Do not touch the speaker terminal when the Device is connected to an AC power source.**

**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 "–". For information regarding the connection procedure, refer to the user manual for your speakers.




## Connection with speaker cables

**NOTICE**

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

### Step 1

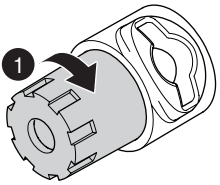
Remove approximately 10 mm of the insulation from the end of the speaker cable and twist the exposed wires tightly together to prevent short circuits.

### Step 2

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

### Step 3

Tighten the knob.



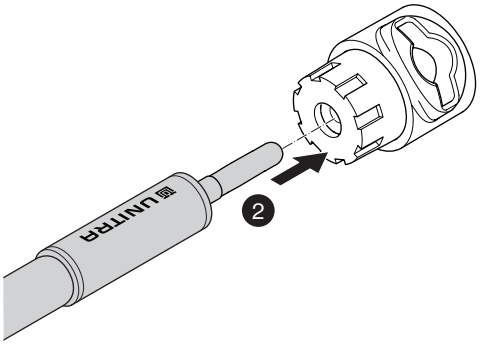

## Connection with banana plug cables

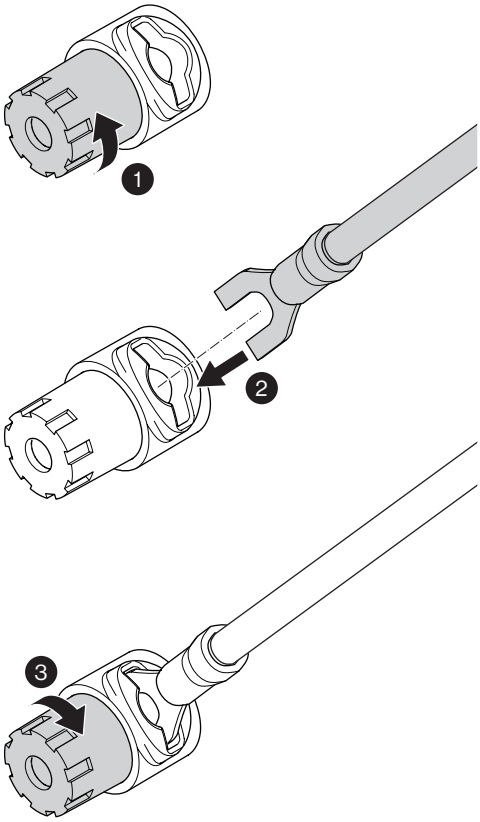
**Step 1**

Tighten the knob in 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 SPEAKER terminal.

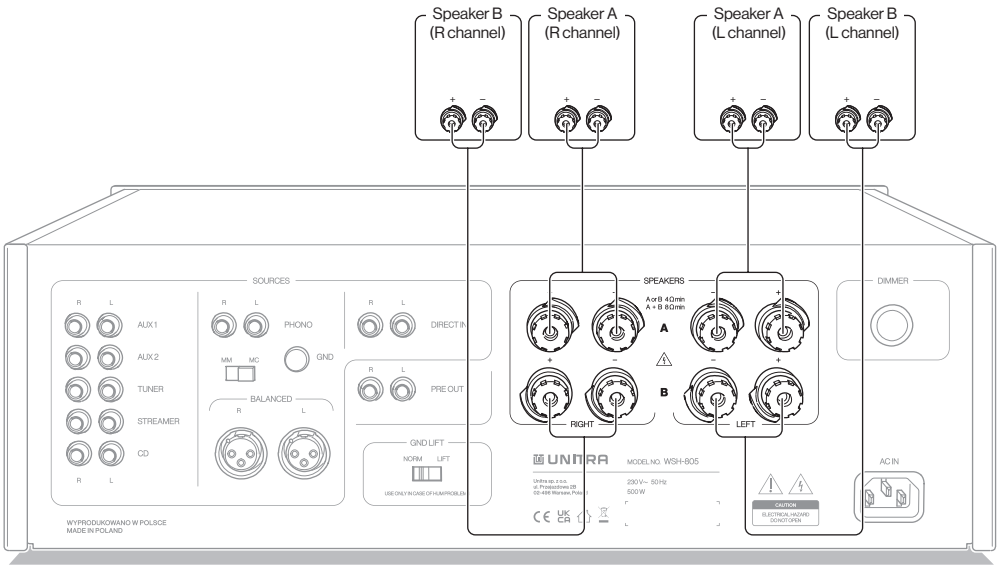
**Step 2**

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

**Step 3**

Tighten the knob.

## Connecting a speaker set

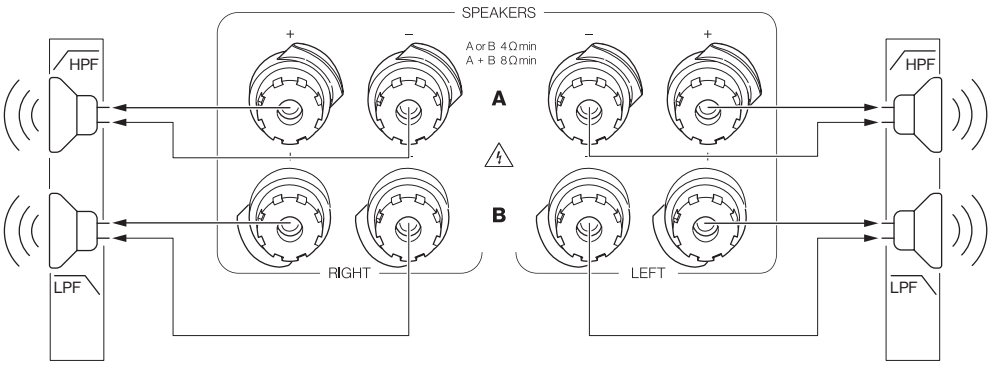



To select a pair of connected speakers, set the SPEAKERS selector switch to A or B. p. 8

### Bi-wired connection

A bi-wired connection allows you to connect speakers and separate the low ranges (woofer) from the mid and high ranges.

You can connect the separate ranges to different terminal pairs (e.g. low ranges to terminals A and mid and high ranges to terminals B). In this case, set the SPEAKERS selector switch to A+B. p. 8



## Connecting the AC power cable

**CAUTION**

**Install the Device in accordance with the Safety Brochure (section Installation) enclosed to this product.**

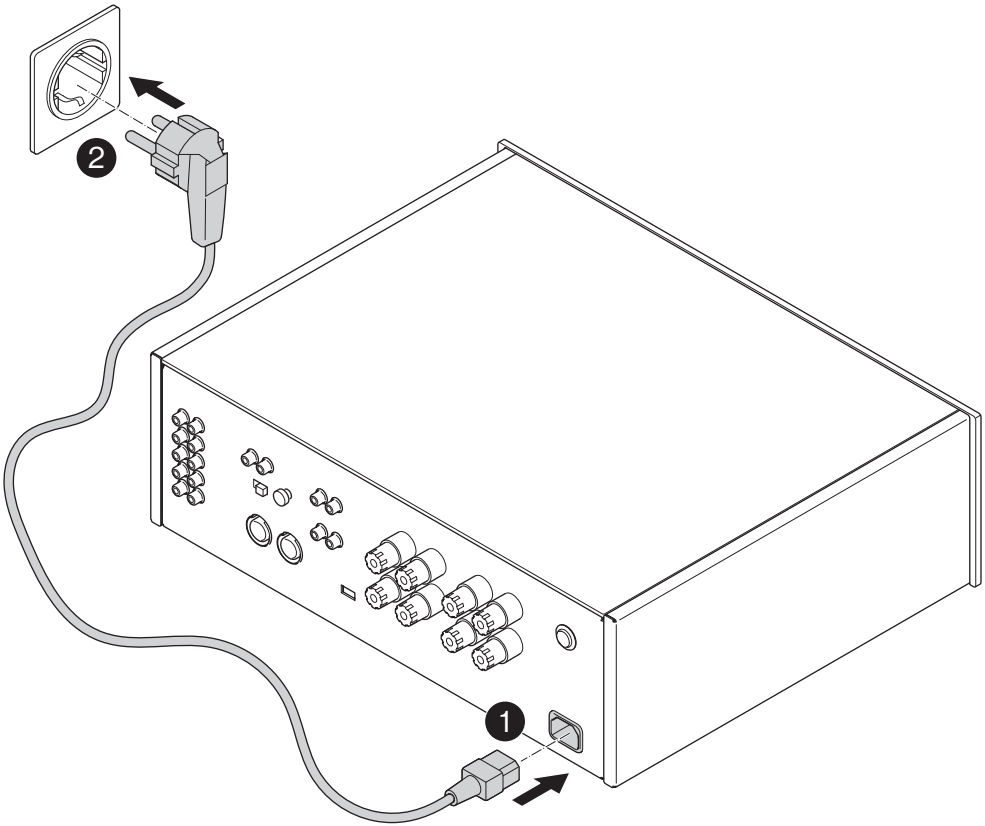
After all connections are ready, you can connect the Device to the AC power source.

**Step 1**

Connect the power cord to the AC inlet.

**Step 2**

Connect the power cord to the AC power source with earthing.



# 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 control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the Device, refer to the suggestions for the following conditions:

| Problem | Cause | Remedy |
|---|---|---|
| The power does not turn on. | The power cable is not connected to the AC inlet on the rear panel or is not connected to an AC power source. | Make sure that the power cord is properly connected to the power source. After that, disconnect the power cord from the power source, wait for at least 5 seconds and connect the power cord again. p. 26. |
| There is no sound from the speakers. | The signal source is not functioning properly. | Check the signal source to see if it functions properly. |
| | 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 correct input source is not selected. | Make sure that the SOURCE selector switch is set to the correct input. |
| | The correct output is not selected. | Make sure that you selected the correct output on the SPEAKERS selector switch. |
| | The wiring between the amplifier and the speakers is not correct. | Check the wiring between the amplifier and the speakers. |
| | The VOLUME knob is set to minimum. | Make sure that the VOLUME knob position is not set to minimum. |
| There is no sound in the headphones. | The correct output is not selected. | Make sure that you set the headphones (🎧)on the SPEAKERS selector switch. |
| | The headphones plug is not clean or the cable is damaged. | Clean the headphones plug. Search through your headphones instruction manual for cleaning information. Make sure that the headphones cable is not broken or damaged. |
| All SOURCE indicators are flashing quickly but the Device is still functioning. | There is a risk of damage to the Device, so a protective measure (a warning) is activated. | Check the list of warnings to find the specific cause and remedy. p. 29. |
| Some of the SOURCE indicators are flashing and the Device stopped functioning. | There is a risk of damage to the Device, so a protective measure (a critical error) is activated. | Check the list of critical errors to find the specific cause and remedy. p. 30. |

| Problem | Cause | Remedy |
|---|---|---|
| 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. |
| | The quality is affected by magnetic fields or high-intensity radio waves. | • Try to move any devices emitting strong magnetic fields, such as a TV, away from the Device.<br>• Try to move devices with high-intensity radio waves, such as cellular phones, away from the Device.<br>• If the device you use as the input source has a PE wire and does not have isolated analog connections, set the GND LIFT switch to LIFT. p. 12. |
| The volume level cannot be adjusted. | The DIRECT IN function is set to ON. | Make sure that DIRECT IN is not set to ON. If it is, you cannot adjust the volume level with the VOLUME knob or the remote control. p. 8. |
| The sound from the turntable is distorted or too low. | The MM/MC switch is set incorrectly. | Make sure that the MM/MC switch on the rear panel is set correctly. p. 11. |
| | The ground wire is not connected. | Check if the ground wire is connected to the GND terminal on the Device. p. 11. |
| | The turntable is connected to the wrong jacks. | Make sure that you connected the turntable to the PHONO jacks. |
| The remote control doesn't work properly. | There is a problem with the battery. | Make sure that the battery is installed with the correct polarity (+/–).<br>Replace the battery with a new one. p. 15. |
| | The distance between the remote control and the Device is too high or there is an obstacle between them. | • Make sure that the distance between the remote control and the Device is less than 6m away.<br>• Make sure that there are no obstacles between the remote control and the Device (e.g. cabinet doors). |

# Warnings

When warnings occur all SOURCE indicators are flashing quickly for 5 seconds.

| Type or warning | Description |
|---|---|
| Overcurrent protection | • If this warning occurs, the output signal on terminals is disconnected for 5 seconds.<br>• If this warning occurs for the second time over a short period of time, the output signal on terminals is disconnected for 5 seconds and the volume decreases automatically by about 25%.<br>• If the overcurrent event occurs repeatedly over short periods of time, a critical error activates. p. 30. |
| Clipping protection | • When the Device is overdriven and starts delivering an output voltage beyond its maximum capability a warning activates.<br>• The Device reduces its volume to a point where clipping is not detected and the signal is not distorted. |
| Overheating protection in class A | When the Device works in class A and the temperature inside the Device exceeds the limit set for class A, a warning activates and the class changes automatically to class AB. |
| Overheating protection in class AB | If the Device works in class AB, the volume knob is set to 30% or above and the temperature inside the Device exceeds the limit set for class AB, a warning activates and the volume decreases to 30% (if it is set to more than 30% at that time). |

# Critical errors

When a critical error occurs, the Device stops functioning to prevent its damage. The type of error is indicated with a pattern of slowly flashing SOURCE indicators as shown below.

To reset a critical error, disconnect the power cord from the AC power source or set the STANDBY mode, wait for at least 3 minutes and switch the Device on.

| Error number | SOURCE indicators flashing pattern* | Cause | Remedy |
|---|---|---|---|
| 15 | ○○○●●●● | Overheated unit | Disconnect the power cord from the AC power source. Wait for 30 minutes, connect the power cord and switch the Device on. |
| 11 | ○○○●○●● | Abnormal DC voltage of amplifier output | • Disconnect the power cord from the AC power source.<br>• Disconnect the speakers from the Device.<br>• Contact the Manufacturer or the official reseller. |
| 13 | ○○○●●○● | Output overcurrent | • Check the speaker wiring and terminals.<br>• Make sure that bare metal parts such as other appliances, room heaters etc. are far from the terminals.<br>• In case this error occurs occasionally, at high volume levels, with speakers that have a minimum required impedance, keep the volume at a lower level. |
| 10 | ○○○●○●○ | Hardware error | Disconnect the power cord from the AC power source and contact the Manufacturer or the official reseller. |

*○ - Off
● - Flashing

# Technical specifications

| | | |
|---|---|---|
| Output power – class AB (THD+N <= 1%, both channels driven, according to IEC 60268-3) | 8 Ω | 2x 80 W |
| | 4 Ω | 2x 125 W |
| Output power – class A (THD+N <= 1%, both channels driven, according to IEC 60268-3) | 8 Ω | 2x 8 W |
| | 4 Ω | 2x 16 W |
| Output power – headphones jack | 32 Ω | 130 mW |
| Input sensitivity and impedance (at output THD+N <= 1%, according to PN-EN IEC 60268-3) | PHONO MM | 7.1 $mV_{RMS}$, 47 kΩ |
| | PHONO MC | 1.8 $mV_{RMS}$, 24 Ω |
| | DIRECT IN | 1200 $mV_{RMS}$, 20 kΩ |
| | BALANCED | 200 $mV_{RMS}$, 48 kΩ |
| | LINE IN (AUX1, AUX2, TUNER, CD, STREAMER) | 760 $mV_{RMS}$, 81 kΩ |
| Maximum Input Voltage (1 kHz, no damage) | PHONO MM | 10 $mV_{RMS}$ |
| | PHONO MC | 2 $mV_{RMS}$ |
| | DIRECT IN | 1300 $mV_{RMS}$ |
| | BALANCED | 3150 $mV_{RMS}$ |
| | LINE IN (AUX1, AUX2, TUNER, CD, STREAMER) | 3150 $mV_{RMS}$ |
| Frequency response (8Ω, 3W output power, both channels driven, AUX1, AUX2, TUNER, CD, STREAMER inputs) | -1.0 dB point | 12 Hz – 56 kHz |
| | -3.0 dB point | 6.3 Hz – 110 kHz |
| Rated output voltage and impedance (any input with voltage equal to sensitivity) | PRE OUT | 1 $V_{RMS}$, 10Ω |
| Total Harmonic Distortion plus Noise versus Power (class AB, 1 kHz, 8Ω load, speaker output, both channels driven, AUX1, AUX2, TUNER, CD, STREAMER inputs) | 1 W | <0.008% |
| | 8.3 W | <0.0025% |
| | 40 W | <0.0014% |
| Damping factor (1kHz, 8Ω) | >160 | |
| Slew Rate | >40 V/µs | |

| | | |
|---|---|---|
| Channel separation (class AB, 1 kHz, 10 W, AUX1, AUX2, TUNER, CD, STREAMER inputs) | 100 dB | |
| Signal to noise ratio (SNR) | 102 dB | |
| Tone control characteristics | 50 Hz | |
| | 20 kHz | |
| Intermodular distortions (CCIF IMD) | 19 + 20 kHz, 10 W | <0.0015% |
| Dimensions (Width × Depth × Height) | 440 mm × 311.5 mm × 143 mm | |
| Mass | 18.5 kg | |
| Electrical ratings | 230 V AC, 50 Hz, 500 W | |
| Energy consumption (standby) | 0.5 W | |
| Indoor/outdoor use | Indoor use only | |
| Insulation category | Class I | |
| EMC environment | Group 1 class B | |
| Compliance | CE, UKCA, IEC 62368-1 | |

## Disposal

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

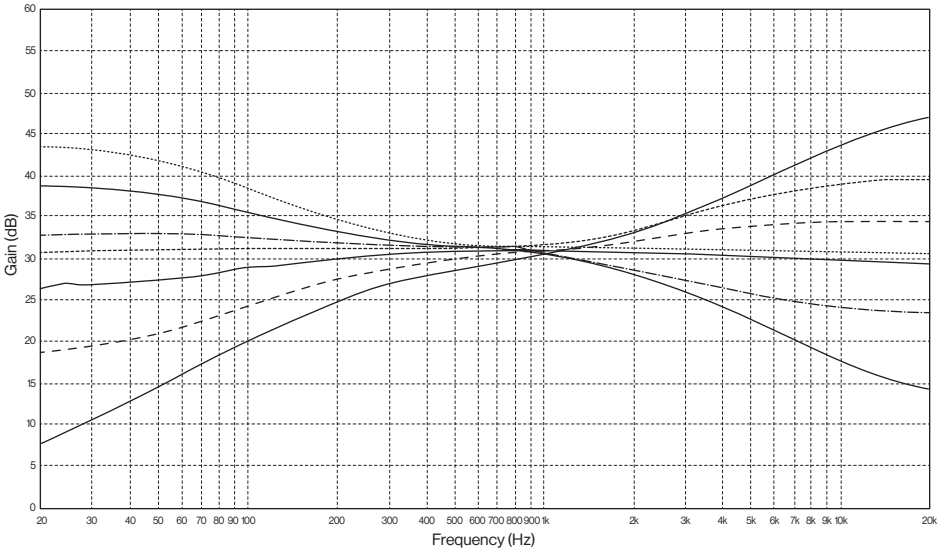
The Device or used and fully discharged batteries should not be disposed of with household waste. Since the transposition of Directive 2002/96/EC into the national law electric and electronic equipment must not be disposed of together with household waste and the user is obliged to dispose of a broken 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.

# Appendices

## Acoustic characteristics

### Tone control characteristics




Linear OFF, BASS/TREBLE: -5, -3, -1, 0, +1, +3, +5

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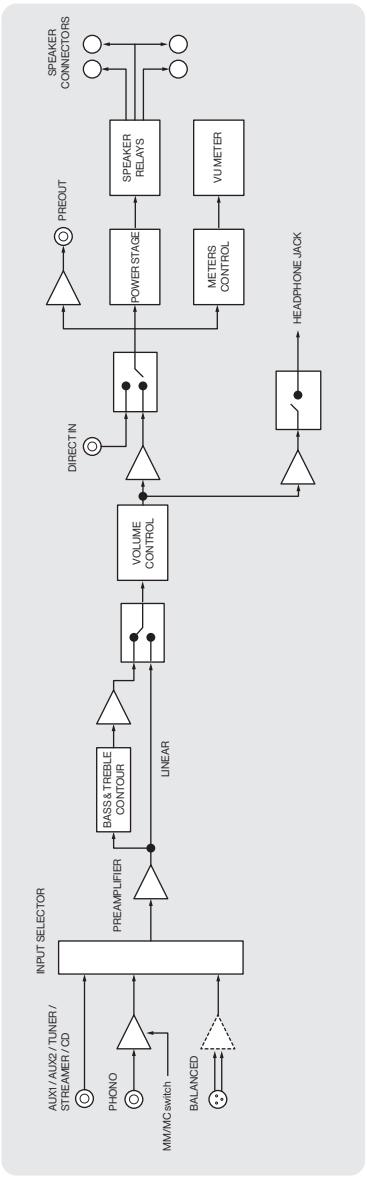
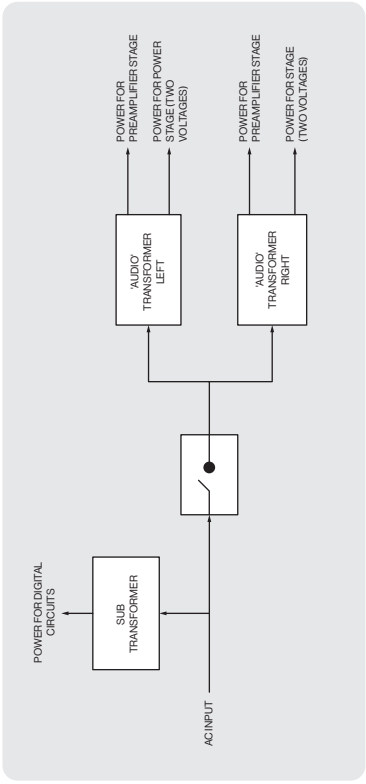
# Block diagram

## Audio path – single channel




## Power




## Legend

- RCA connector
- Output speakers connector
- XLR connector
- Functional block
- Audio amplifier
- Debalancer audio
- Relay
- Balanced audio signal
- Audio signal

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Revision 2 (2024-01-12)

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