

Audionet

AMPERE

External Power Supply

User's Manual

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I Preface

The Audionet Scientists Team and its leading scholars congratulate you on your purchase of this unit, sending cheers directly from our research and development center.

Surely you are already a satisfied owner of an Audionet device. With the external power supply AMPERE you have the possibility to provide all connected units with a more sophisticated foundation.

Even if you're an experienced aficionado of ultra-highend components, please start listening to your new Audionet AMPERE by reading this manual carefully before you plug it in. This will ensure you'll enjoy all functions of this unit without any compromise or potential disruption.

1.1 Includes items

You will find the following items included:

- The External Power Supply AMPERE
- The user's manual (that you are currently reading)
- One AMPERE connection cable
- One standard mains cord

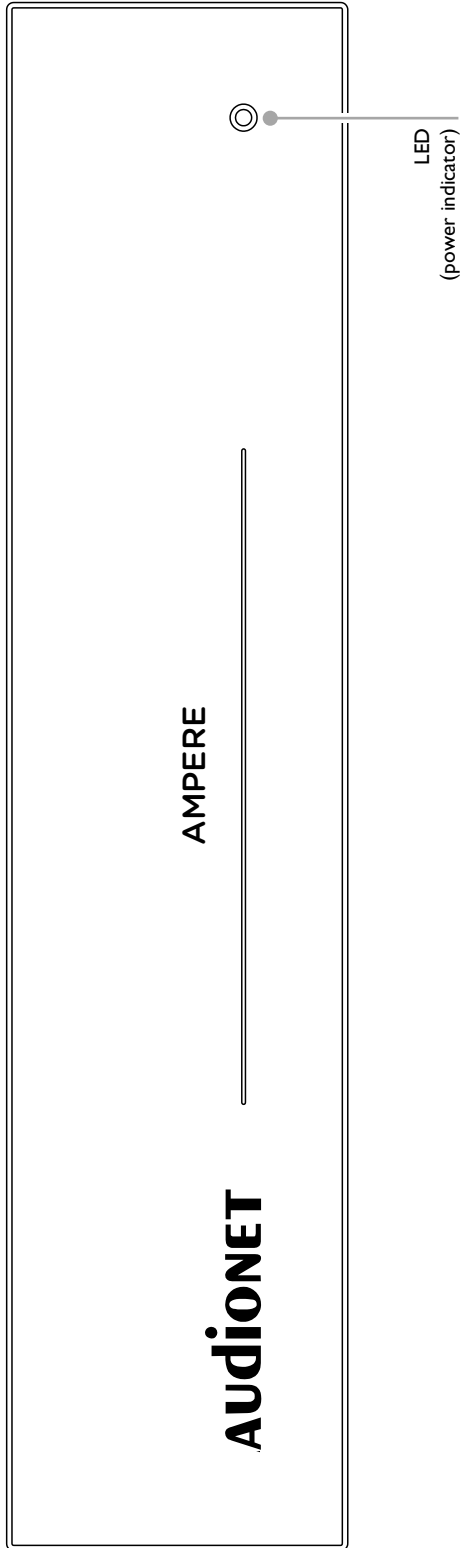
1.2 Transport



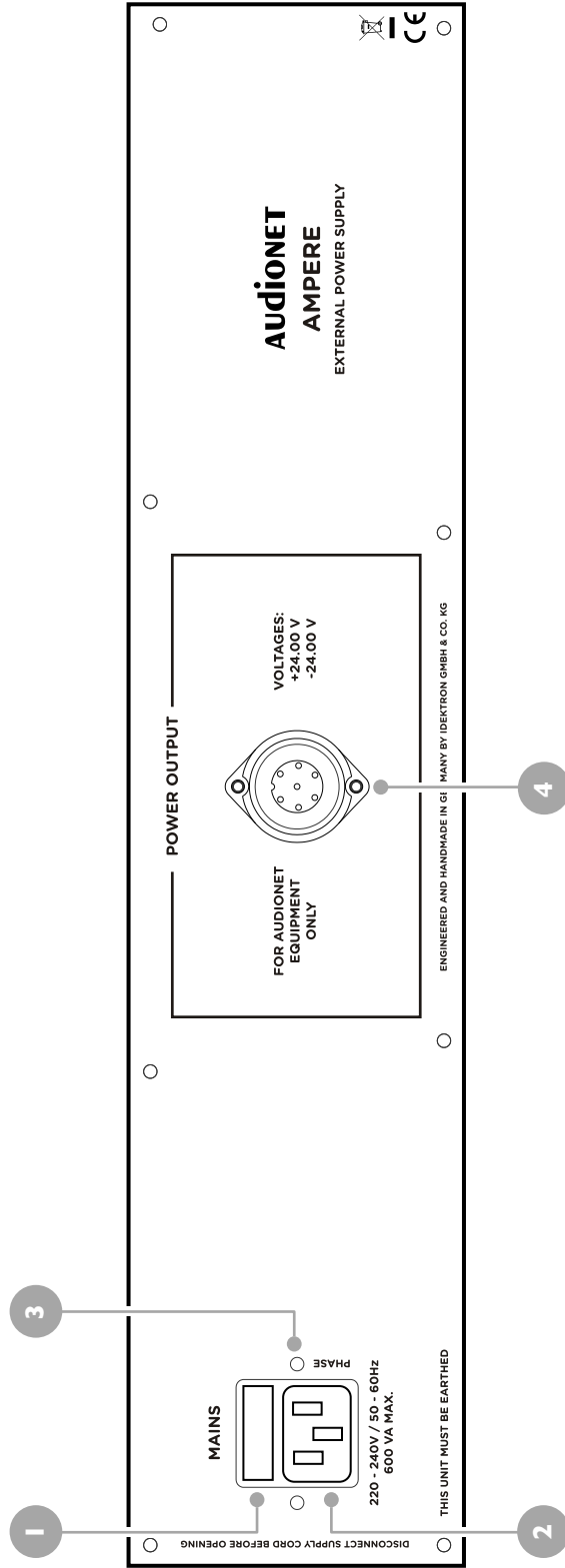
Important

- Please transport the AMPERE only in the included package.
- Always use the plastic bag to prevent scratches on the casing.
- Please allow the AMPERE to adapt to the climatic conditions in your listening room before you switch on the unit for the first time after transport.

2 Overview front panel



3 Overview back panel



- 1 Mains switch
- 2 Mains input socket
- 3 Marking mains phase
- 4 7-pin connector

4 Installation and connection



Important

- While connecting the AMPERE to or removing it from the mother unit, both – AMPERE and mother unit – must be switched off completely to prevent any damage from both devices.
- Please make sure that all cables are in absolute best conditions! Broken shields or shorted cables could damage both devices.

4.1 Placement



Important

- Place the AMPERE right beside or at least 30 cm above or below of the mother unit.
- It is recommended to place the AMPERE into a high quality rack or onto a stable table.
- Do not expose the unit to direct sunlight.
- Do not cover the ventilation slots.
- Do not place the AMPERE in close range to heat sources like radiators or on top of another unit, especially not on top of power amplifiers, preamplifiers or similar devices that produce heat. Both units could suffer damage from thermal overload.
- Do not use the unit in places where it is exposed to vibrations.
- Do not place the unit close to loudspeakers or in corners of a room where it is exposed to high levels of sonic energy, which might reduce the sound quality of the unit.

4.2 Mains connection

The mains input socket ②* is on the back panel of the AMPERE. To connect the unit to the mains use the included mains cord. If you prefer to use a different power cord, make sure that it meets the specifications for your home country.





Important

- The electrical specifications of your home country must meet the electrical specifications printed on the back panel.
- The AMPERE is a Class I unit and must be earthed. Please ensure a stable earth connection.
- To ensure the best sonic experience, please make sure that the 'hot' pin of your mains outlet is connected to the 'hot' pin of the mains input socket ②. The 'hot' pin of the mains input socket is marked 'PHASE' ③ on the back panel of the AMPERE.
- Never pull the mains plug while the AMPERE is switched on! Before you pull the mains cord off the socket, power down the unit to stand-by mode and switch off the mains switch ①.

The AMPERE should only be switched off from the mains in cases of extended absence (like vacations) or if massive trouble on the mains power is to be expected – always using the mains switch ①. Pull the mains plug to completely disconnect the unit from mains.

4.3 Connecting the mother unit

An AMPERE connection cable with a 5-pin or 7-pin connector (depending on the mother unit) is required to connect the AMPERE to a mother unit. The following table provides further details:

	AMPERE cable with 5-pin connector	AMPERE cable with 7-pin connector
Image of the connector		
Mother unit	PRE I G3, DNP, DNA, DNC, VIP G2, VIP G3, ART G2, ART G3, PLANCK	PRE I, PRE I G2, CAT, PAM, PAM V2, PAM G2
Mains connection of mother unit	required	not required
		required



Important

- Do not connect a mains cord to any of the mother units PRE I / PRE I G2 / all PAM models / CAT. This would compromise the quality of the audio performance. Please do only use one mains cord to connect the AMPERE itself to mains in case of using the before listed models and no mains cord to the mother unit.

5 Usage

5.1 Powering up

First of all, please make sure your AMPERE is connected correctly to the mother unit and to mains (refer to section 'Mains connection' on page 9 and 'Connecting the mother unit' on page 10).

The AMPERE is a stand-by unit. Please operate the mains switch ❶ on the back panel to put the AMPERE in stand-by mode.

The AMPERE should only be switched off from the mains in cases of extended absence (like vacations) or if massive trouble on the mains power is to be expected – always using the mains switch ❶. Pull the mains cord off the mains input socket to completely disconnect the unit from mains.



Important

- Never pull the mains cord while the AMPERE or the mother unit is switched on! Before you pull the mains plug, power down the mother unit to stand-by mode and switch off the AMPERE with the mains switch ❶ on the back panel.

5.2 Switching on and off

Please turn on the mother device first by using its mains switch on the back panel. Then operate the mains switch ❶ on the back panel of the AMPERE to switch to stand-by mode. The position of the mains switch of mother units that require no additional mains connection (please refer to section 'Connecting the mother unit' on page 10) is negligible.

Afterwards the mother device is operated as usual. All functions of the mother unit stay the same. If the mother device is switched on, the LED on the front panel of the AMPERE flashes for several seconds until the unit is ready to use. Afterwards the LED lights up permanently.

If you power the mother unit down, the LED on the AMPERE front panel does stop glowing as well.



Note

- Please consult the user's manual of the mother device for further information on starting up an Audionet unit with a 5-pin connector in combination with an AMPERE.

6 Protection system

Your Audionet AMPERE is equipped with a powerful protection system that safeguards the mother unit as well as itself. The AMPERE indicates any error by flashing the status LED on the front panel. The following flash code:

⊗⊗_⊗⊗_⊗⊗_⊗⊗ ... (long illuminated, shortly paused)

informs the user that an error was detected by the protection circuit. Possible reasons are:

- Thermal overload: The protection circuit powers down the unit if the heat sinks do overheat.
- Shortcut protection: The protection circuit powers down the AMPERE if excessive current is drawn from its output over a longer period.

You have to switch off the AMPERE with the mains switch **I** on the back panel, if the protection system took action. Before turning on again the AMPERE, let the unit cool down and make sure that the cause for the problem (e.g. short circuit or overheating) is removed.

7 Technical Information

Your AMPERE provides the mother unit with ideal operating conditions. The popular usage of accumulators however exhibits the following serious disadvantages:

- The output voltage is not short term stable. The internal impedance is ten times worse than the optimal one of your AMPERE. Using accumulators instead would therefore cause an output ripple voltage 10 times in magnitude at the same load condition.
- The output voltage is not long term stable as well. The output voltage of an accumulator is highly dependent from its state of charge and usage history, typically ranging from 23 V to 28 V. The AMPERE provides 24.00 V – always at any time.
- The usage of accumulators is questionable regarding environmental concerns.
- Last but not least, you are able to listen to your music with high-end quality using the AMPERE whenever you like – without being forced to wait for accumulators being charged.

7.1 Features

- Fully separated discrete circuitry for positive and negative voltage.
- Two 300 VA toroid transformers.
- Total capacitance per voltage of 288,000 μF each (in total 576,000 μF).
- Custom made audio-grade capacitors with silk dielectric.
- Separate power supply for control and stand-by purposes.
- High precision voltage regulator with discrete MOSFETs.
- High precision and low noise reference voltage.
- Short-circuit proof and protected against overheating.
- Internal wiring with ultra-low impedance silver/gold cables.
- Rhodium fuse.

8 Security advice



Important

- Avoid packaging material, especially plastic bags, coming into children's hands!
- Only store and operate the unit in a dry room at a reasonable room temperature!
- Avoid moisture, any liquids, dirt or small objects of getting inside the unit!
- Set the unit up in a sufficiently ventilated environment!
- Do not cover the unit at any time!
- Do not open the unit. Unauthorised opening will void warranty!
- Do not short-circuit the outputs!
- While connecting or removing the AMPERE to or from the mother unit, both AMPERE and mother unit must be switched off completely to prevent any damage to both devices.
- Use a dry cloth for cleaning!

9 Technical Data

Type	Ultra low noise, highly stable and constant power supply for AMPERE compatible Audionet devices	
Power supply	Two encapsulated 300 VA toroid transformers with 576,000 μF capacitance	
Circuitry	Reference voltage sources for positive and negative analog voltages using discrete Audionet voltage regulators (MOSFET)	
Connection	7-pin socket for connecting the mother unit	
Output voltage	± 24.00 V for analog sections, +5 V for digital and control sections	
Stability	Deviation absolute: < 0.1% of nominal value Deviation relative: < 0.01% accuracy	
Noise	-144 dB or 1.5 μV_{RMS} for 0 Hz up to 22 kHz	
Mains	220..240 V oder 110..120 V, 50..60 Hz	
Power consumption	Stand by < 0.5 W, max. 400 W	
Dimensions	Width:	430 mm
	Height:	110 mm
	Depth:	360 mm
Weight	ca. 26 kg	
Finish	Front panel:	Brushed aluminium, 12 mm, anodized, text engraved
	Top cover:	Brushed aluminium, 4 mm, anodized
	Side plates:	Brushed aluminium, 8 mm, anodized
	Chassis:	Aluminium, anodized, Text printed
Color choices	Ultra:	C-32 (light bronze) with white LED
	Classic:	Silver with blue LED Silver with red LED Black with blue LED Black with red LED

Errors and omissions excepted. Specifications and design are subject to changes without prior notice.

Audionet

is a trademark of Idektron GmbH & Co KG

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