



ER-150 HERCULES Metering Power Supply Unit



User Manual

Issue 0.0

SAFETY INSTRUCTIONS



Always follow the precautions listed below to avoid any possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

- Do not expose the instrument to liquids and rain. Do not use it near water or in damp or wet conditions, or place containers on it containing liquids. If any liquid seeps turn off the power and unplug the power cord from the AC outlet.
- Do not put burning items, such as candles, on the unit. A burning item may fall over and cause a fire.
- This instrument contains no user-serviceable parts. Do not open the instrument or attempt to disassemble or modify the internal circuit.
- Never insert or remove an electric plug with wet hands.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.
- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.



Always follow the precautions listed below to avoid any possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

- Do not connect the instrument to an electrical outlet using a multiple-connector. Doing so can result in lower sound quality, or possibly cause overheating in the outlet itself.
- When removing the electric plug from the instrument or an outlet, hold the plug itself and not the cord. Pulling by the cord can damage it.
- Remove the electric plug from the outlet when the instrument is not to be used for extended periods of time, or during electrical storms.
- Do not place the instrument in an unstable position where it might accidentally fall over.
- Before moving the instrument, remove all connected cables.
- When setting up the product, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the outlet. Even when the power switch is turned off, electricity is still flowing to the product at the minimum level.
- When you are not using the product for a long time, make sure to unplug the power cord from the wall AC outlet.
- Use only the stand/rack specified for the instrument. When attaching the stand or rack, use the provided screws only. Failure to do so could cause damage to the internal components or result in the instrument falling over.



Information for Users on Collection and Disposal of Old Equipment

This special symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC.

By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

[For business users in the European Union]

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

This symbol is only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

ARREL Audio Contacts

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ARREL Audio is continuously working to the improvement of its systems and related documentation.
In any case, we reserve the right to change the specifications without notice but in the respect to the current legislation.

Disclaimer:

The information contained in this manual has been carefully checked and we believed is accurate at the time of publication.
In any case, we do not assume any responsibility for inaccuracies, errors or omissions nor any liability for any loss or damage resulting either directly or indirectly from use of the information contained in this manual.

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INSTRUCTIONS

The ARREL Audio ER-150 HERCULES POWER SUPPLY unit is conceived to offer to the EURORACK Synthesizer technology the best power supply ever made to obtain the best audio performance. The ER-150 is able to generate the standard EURORACK power supply voltages (stabilized) at very high currents and low ripple (+12 V 3.5 A, -12 V 1.5 A, +5 V 1.5 A).

The ER-150 is powered by a standard 90W +15 V high quality AC-DC converter (P1L connector, 2.5 mm). The ER-150 is characterized by two protection strategies: output current limit and over-temperature shutdown. The AC-DC converter cable should be equipped with a P1L female connector (2.5 mm).

When the ER-150 is on three leds indicate the presence of the corresponding voltage.

We do not use bulky power ON/OFF switches on the front panel. The ON/OFF function has been implemented by a push button and a high power relay.

A bicolor led is used to indicate stand-by (red=AC/DC converter connected and ER-150 off; green=AC/DC converter connected and ER-150 ON)

An analog style back-illuminated ammeter is used to measure the current absorption on the three power supply rails in order to be sure to not exceed the maximum output current. In this way, when EURORACK musicians create their EURORACK architecture of modules, they are sure that they do not exceed the power supply maximum current ratings.

The switch positioned under the three led indicating the correct voltages is used to measure the current absorption on the three rails (-12V, +12V, +5V). Three positions are available.

The ammeter is provided of two different scales, the upper one is red and it is used to measure the current absorption on the +12 V rail is 3.5 A full scale, the second one (used for the -12 V and +5 V) is black and 1.5 A full scale.

The ER-150 is equipped with a high power connector with screws (blue connector).

Two positions are available for every voltage and for the ground so two ER-STRIP-150 can be connected in parallel avoiding high currents flowing I the first cable when the series connection is implemented. A high quality cable is available (ER-150-CABLE)

The ER-150 can be used to “extend” the power supply system to another Eurorack synth by using the ER-150-EXT extension module and an extension cable (ER-150-CAB-EXT).

The Power brick and the power strip (ER-STRIP-150) are not included and should be ordered separately. The power bus connector connections are illustrated in Appendix B.

NOTE: the above specifications are related to an ambient temperature of 25 Celsius degrees. Derating must be applied in case of higher ambient temperature. In order to respect this specifications, the ARREL AUDIO power supply modules must be mounted in well

vented Eurorack cases and should be mounted not near the case sides (minimum distance 5 mm) in order to permit air flow. The ARREL AUDIO power supply modules should be mounted far from temperature sensitive modules

Housing

The ER-150 Elite Mic-Line Preamp Module has been designed to be compliant with the Eurorack standard (10 HP).

Installation Instructions

- Remove the ER-150 Elite module from the packaging.
- Turn off the Eurorack case power supply and remove mains power.
- Connect the ER-STRIP-2 with blue connectors to the ER-150 by using the ER-150 cable.
- Replace the 2 fastening screws through the top & bottom holes in the ER-150 module and screw into the Eurorack enclosure. The module must be secured into the enclosure before turning the mains on.
- Apply mains power into the Eurorack case and turn on.
- Connect the microphone, audio source or instrument and select the correct settings.
- The module is not designed to be hot-plugged, so please ensure the power to the Eurorack case enclosure is OFF before inserting or removing a module.

APPENDIX A: Front Panel

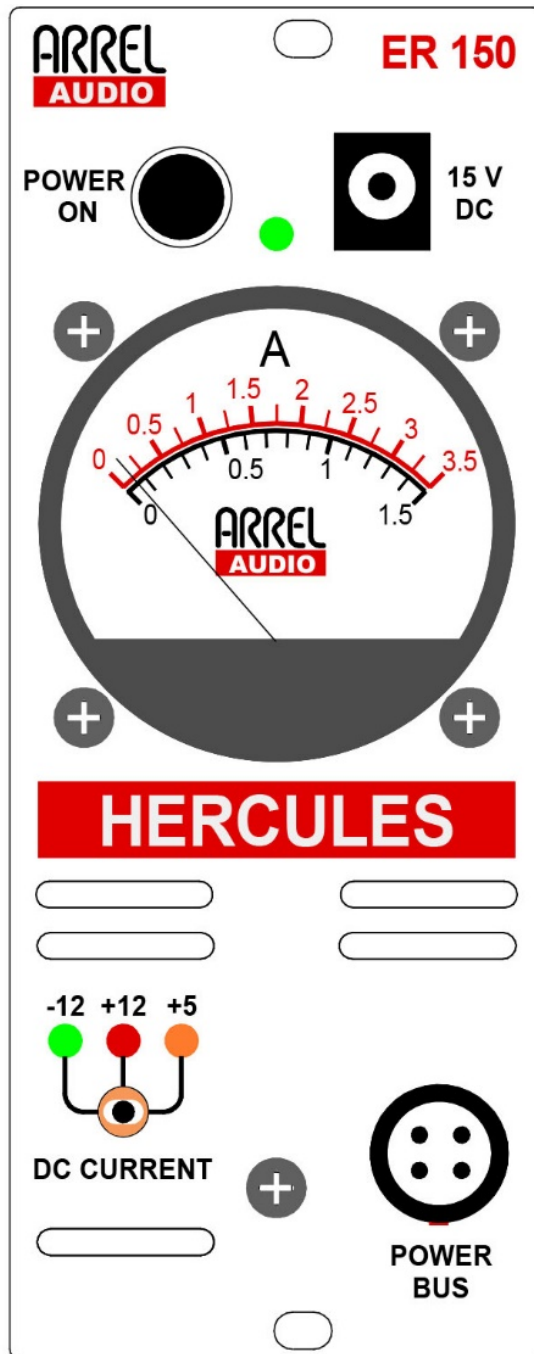


FIG. 1 ER-150 Front Panel

APPENDIX A: External Power Bus Connections

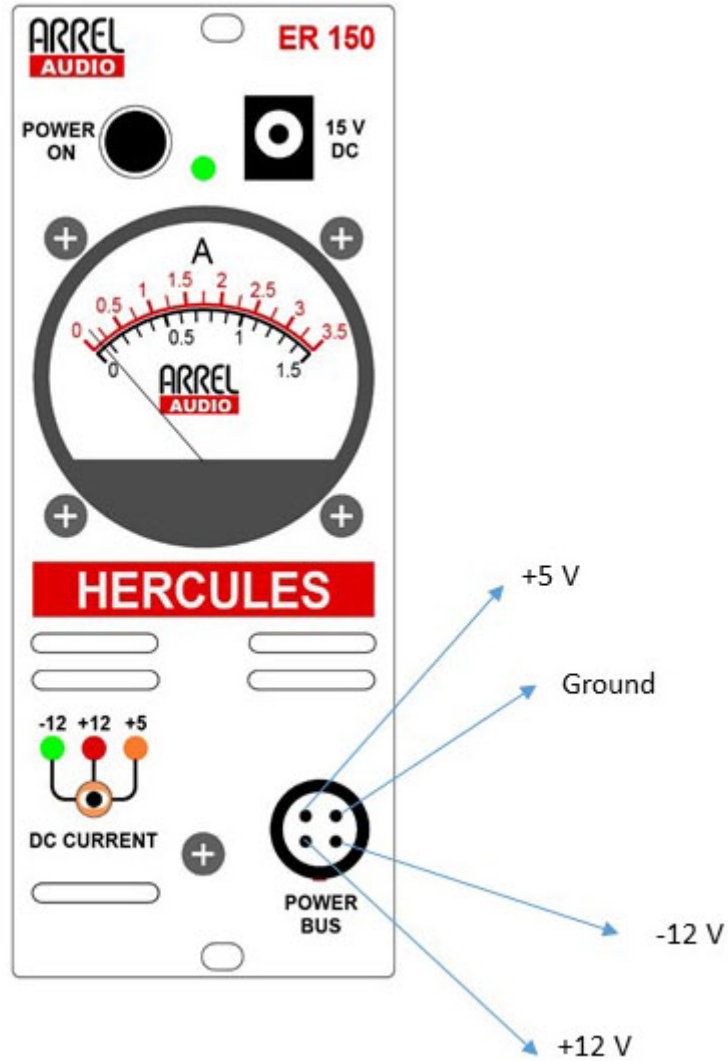


FIG. 2 ER-150 External Power Bus connections

APPENDIX C: Internal Power Bus connections

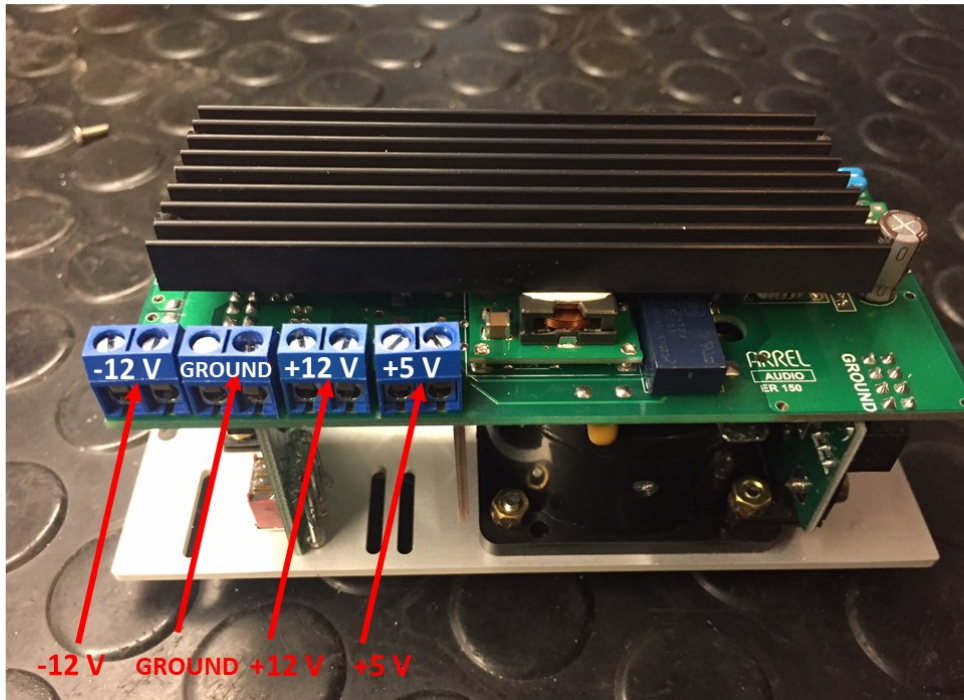


FIG. 3 ER-150 Internal Power Bus connections

TECHNICAL SPECIFICATIONS

Power Supply Voltages and Currents:	Stabilized voltages, +12 V 3.5 A , -12 V, 1.5 A, +5 V 1.5 A	ER-150 MAXIMUM CONTINUOUS CURRENT +12 V 3.5 A - 12 V 1.5 A +5 V 1.5 A see NOTE below
Protections	Output current limit and over-temperature shutdown.	
Front Panel Controls	ON-OFF push button ON-OFF relay controlled with dual color led (standby/ON), Back-illuminated Analog Ammeter Selection switch for the current measurement on the three power supply rails. Power Out Connector for extension purposes (ER-150 EXT module (ER-150-EXT) and ER-150 Extension Cable (ER-150-CAB-EXT), ER-150 CAB to the ER-150-STRIP.	
Front Panel Input Connectors	P1L female connector (2.5 mm) for AC/DC converter connection	
Output Connectors	Power DIN (R7B) power bus connector on the front panel, Internal high power connector for the connection of two power bus boards (ER-STRIP)	
Front Panel Indicators	Back illuminated analog ammeter, 3 leds for power supply rails	
Construction	10U TE Units (50.4mm)	
Dimensions	W 50.4 mm, H 128 mm	
Weight	150 g	

NOTE: the above specifications are related to an ambient temperature of 25 Celsius degrees. Derating must be applied in case of higher ambient temperature. In order to respect this specifications, the ARREL AUDIO power supply modules must be mounted in well vented Eurorack cases and should be mounted not near the case sides (minimum distance 5 mm) in order to permit air flow. The ARREL AUDIO power supply modules should be mounted far from temperature sensitive modules.