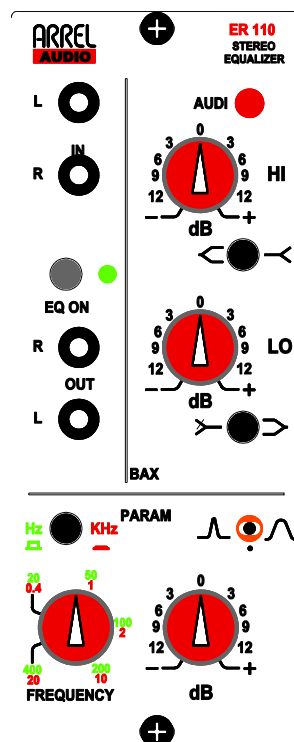




# ER-110 Eurorack Single Band Stereo Parametric Equalizer Baxandall (Bax)



## User Manual

Issue 0.0

## SAFETY INSTRUCTIONS



### WARNING

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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.



### CAUTION

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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.

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**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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## INTRODUCTION

**ARREL Audio ER-131 Eurorack Stereo Equalizer** is the answer to all stream creative needs for EURORACK synthesizers. Its features set it apart from other similar products on the market due to a very high fidelity approach used for the design of the electronics together with the use of high quality components. The internal circuits of the ER-110 have been directly derived from the ARREL Audio professional units in order to obtain maximum sonic performances.

The unit has been designed to comply with the demands of professional musicians. **ARREL Audio ER-110** is an advanced stereo parametric equalizer conceived to offer to the Eurorack synthesizers the superior audio performance of the ARREL audio high level products. The ER-110 is characterized by high reliability, rugged design, outstanding audio quality, versatility and ease of use typical of the tradition of ARREL Audio products. The **ER-110** equalizer is based on the Livio Agentini's "Single-Stage Parallel Configuration" patented design. This innovative phase coherent EQ design offers the lowest distortion/noise specifications, not available in other products. The emphasis/de-emphasis control range is  $\pm 12$  dB. The HI and LO are BAX shelving filters, two position switches are used to implement two different shelving frequency responses. The parametric filter is bell shaped filter, with continuous control of the central frequency, two bands are switchable (22-700Hz, 650, 20KHz). The Q control value (narrow, mid, large) is switchable. A bypass button is used for a true analog by-pass function (LED). **ER-110** is one of the models that ARREL Audio conceived for the Eurorack series (the other models are ER-100, ER-130) in order to give to the user the best choice for its application. **ARREL Audio** products are designed and manufactured in Italy.

## Housing

The **ER-130** is contained in a 10 HP Eurorack units and by a depth of about 40 mm. No specific air conditioning is required for the unit, provided that there is a free flow of air through the rack from front to back and the temperature is maintained in the operating range. Consequently the racks may be stacked.

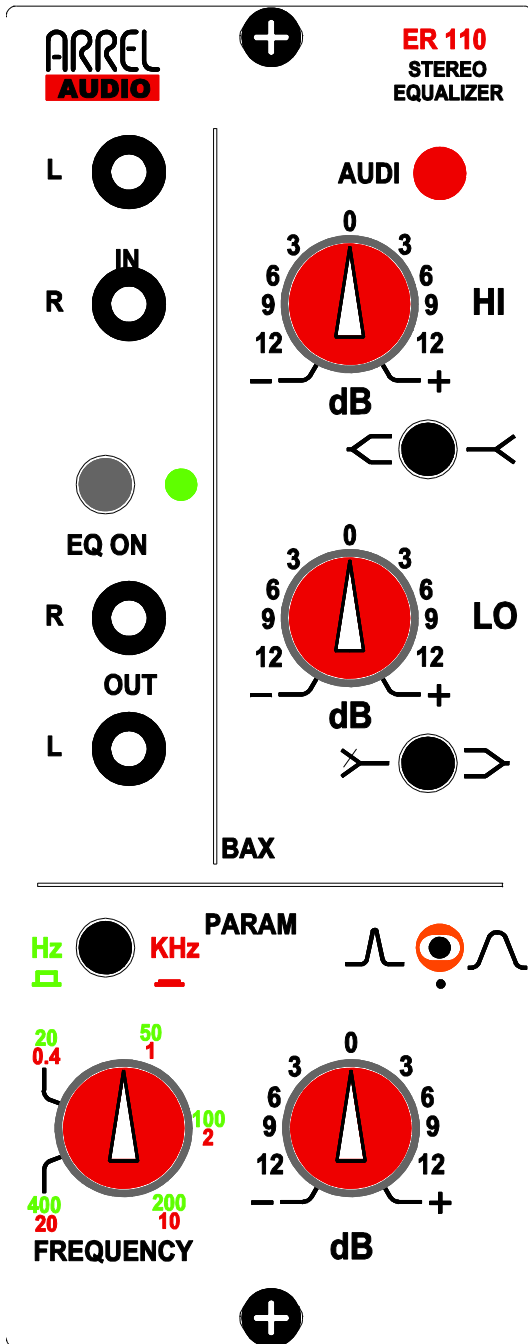


Fig. 1 ER-110 front panel

## ER-110 front Panel Controls and Operations

Frequency and Q control are available for the parametric section.

### SHELVING BAX SECTION

#### FREQUENCY RANGE FOR HI AND LO PUSH BUTTON

The shape of the shelving curves for the HI and LO bands are controlled by a switch. Two positions are available.

#### EMPHASIS/DE-EMPHASIS CONTROL KNOB (HI, LO)

Rotate the emphasis-de-emphasis control knob to change the frequency content in a range of range of  $\pm 12$  dB.

### PARAMETRIC SECTION

#### Q CONTROL SWITCH

Turn the toggle switch to change the Q. Three positions are available: narrow, medium, large.

#### FREQUENCY CONTROL, KNOB

Rotate the frequency knob to change the central frequency.

#### FREQUENCY RANGE PUSH BUTTON

Used to change the frequency range of the parametric section. Two ranges are available [22-700Hz], [650, 20KHz]

#### EMPHASIS/DE-EMPHASIS CONTROL KNOB (HI, LO)

Rotate the emphasis-de-emphasis control knob in a range of range of  $\pm 12$  dB.

#### ON BUTTON

Push the button to turn on the equalizer (LED on). Press again to turn off the equalizer (LED off).

### **INPUT L/R CONNECTORS**

3.5 mm connectors for the input signal (Fig.1).

### **OUTPUT L/R CONNECTORS**

3.5 mm connectors for the output signal (Fig. 1).

APPENDIX A: Front Panel

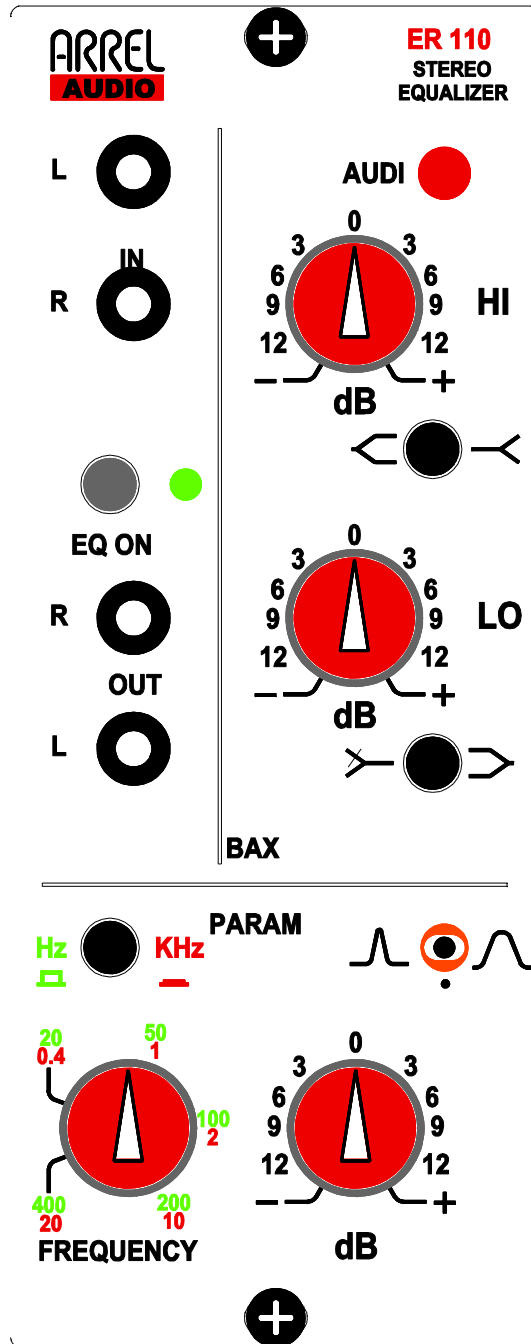


FIG. 1 ER-110 Front Panel



## TECHNICAL SPECIFICATIONS

Number of Channels:	2
Power Supply	± 12 VDC, very low power supply currents with respect to the Eurorack series standard modules
Input	Stereo Unbalanced, Impedance 10KΩ, Input Level 0 dBu, Max +20 dBu.
Output	Stereo Unbalanced, Level +4 dBu, Max +24 dBu, Output Impedance 100 Ω
Bandwidth	5 – 60.000 KHz ±1 dB, perfect square wave up to 20 KHz
Distortion + Noise	<0.003% ( typical 0.001%).
Front Panel Controls	True By-Pass button (LED), Gain (Emphasis/De-Emphasis) pot control, Range ± 12 dB with center detect (3 controls, two for the BAX sections for the parametric section), Central Frequency: pot control (for the parametric section) Frequency band control: two positions push button (22-700Hz, 650, 20KHz) Q control: three positions switch (narrow , medium, large (Parametric section), Shelving shape control (LO and HI) (2 shapes).
Front Panel Connectors	Input L/R 3.5 mm jack connectors, Output L/R 3.5 mm jack connectors
Front Panel Indicators	BY-PASS LED
Frequency Bands	LO: Shelf BAX Shape, two position switch (two shapes), PARAMETRIC: Bell Shape, 20/700 Hz , 650/20000 Hz HI: Shelf BAX Shape, two position switch (two shapes).
Rear Panel Input Connectors	EURORACK series compatible connector
Construction	Compliant to EURORACK
Dimensions	10 HP
Weight	500 g

Data are subject to change without notice