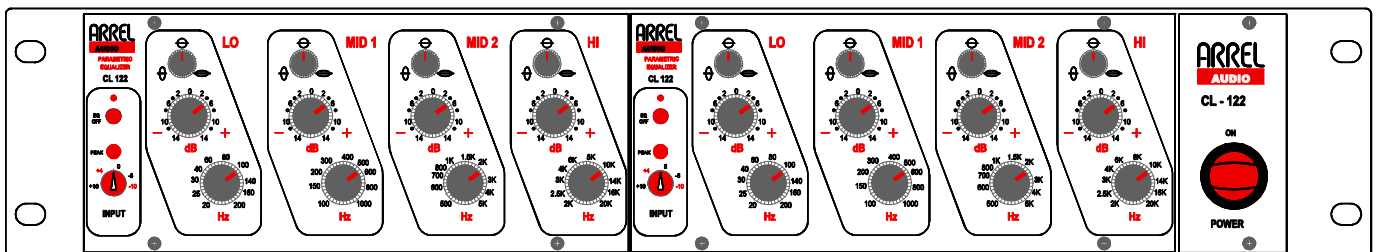




CL-122 Four Band Parametric Equalizer



User Manual

Issue 0.2

SAFETY INSTRUCTIONS



WARNING

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

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.

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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 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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INTRODUCTION

The **ARREL Audio CL-122** is an advanced modular 2-channel equalizer conceived to meet the versatility demands of professional recording and mastering engineers. The CL-122 features 4 parametric bands.

Special analog design techniques have been used to obtain a precise control of the sound structure down to the minimum details.

The **CL-122** is based on Livio Argentini's patented single-stage parallel filters. This innovative phase coherent EQ design offers the lowest distortion/noise specifications, not available on similar units on the market.

The **CL-122** input section provides a continuous input level control in the -10/+10 dB range. A peak level detector (LED) circuit indicates when the output level is -6 dB with respect to the saturation level. The equalizer can be excluded by a true-bypass button (LED indicator).

The filtering section has 4 bands, LO, MID1, MID2, HI. For each band three potentiometer controls are available.

The Emphasis/De-Emphasis control range is ± 14 dB with center detent. The Q is controlled by a potentiometer.

To obtain an outstanding audio quality, no servo amplifiers are used in the **CL-122** so

IT IS NOT POSSIBLE TO UNBALANCE THE LINE OUT OF THE CL-122.

If you need an unbalanced connection for the line out there follow the instructions in APPENDIX A.

The **CL-122** is composed by a 2U rack module equipped with the power supply and two separated equalizer modules. Each module is completely independent and can be inspected separately; four screws are used to fix the modules. A chassis of the Classic Series can be configured with different modules of the Classic Series (for example a unit composed by a mic-preamplifier and a single equalizer to implement an advanced channel strip).

The **CL-122** is an innovative and flexible equalizer, ready to take its place in any high profile recording, mastering broadcast and live activities

Housing and Rack Mounting

The CL-122 has been designed to be compliant with a 2U rack. No specific air conditioning is required for the racks, 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.

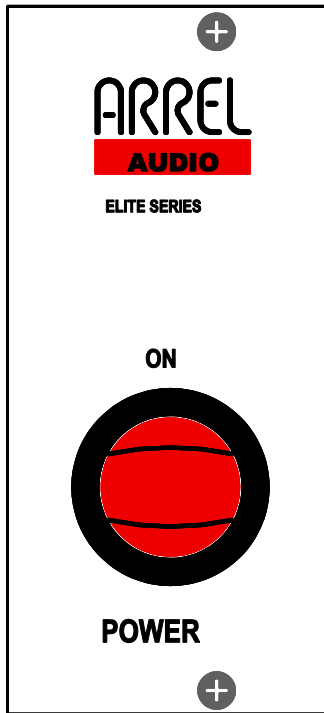


Fig. 1 Power Supply switch

CL-122 Front Panel Controls and Operations

POWER SUPPLY SWITCH

The CL-122 power-on switch is located in the right region of the front panel. The power on state is indicated by the illumination of the switch (Fig. 1).

INPUT SECTION: GAIN CONTROL

The input section gain control knob is located in the INPUT section of each channel. A continuous level control in the ± 10 dB range is obtained by rotating the corresponding knob (Fig. 2).

INPUT SECTION: BY-PASS SWITCH

The equalizer can be excluded by a true-bypass button (red LED indicator). Push the button to bypass the equalizer (red LED on). Push again to insert the equalizer (red LED off) (Fig. 2).

INPUT SECTION: PEAK INDICATOR

A peak level detector (red LED on) circuit indicates when the output level reaches -6 dB with respect to the saturation level (Fig. 2). The red LED on do not means saturation but must be interpreted as a warning indicating you are reaching the saturation level.

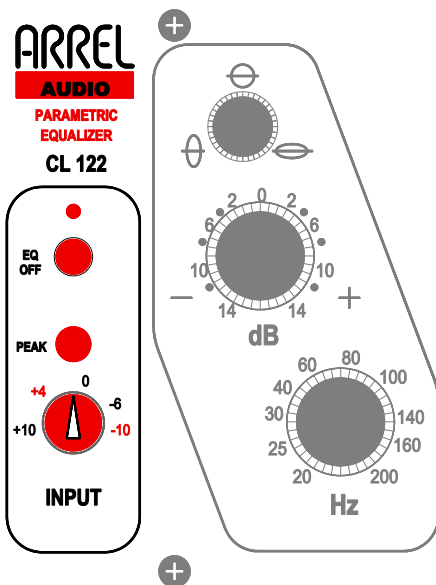


Fig. 2 Input Section Controls

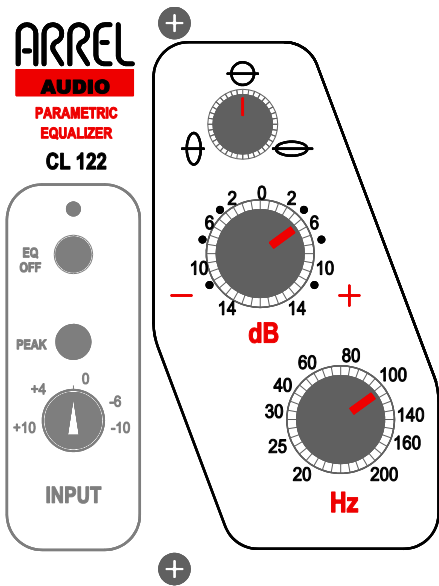


Fig. 3 Equalizer Section Controls

EQ SECTION: GENERAL

Each control described in the EQ section is applicable to the four bands (LO, MID1, MID2, HI) of each channel of the stereo equalizer.

EQ SECTION: Q CONTROL KNOB

Turn the Q knob in order to select the required Q value (Fig. 3).

EQ SECTION: GAIN CONTROL KNOB AND SWITCH

Emphasis/De-Emphasis: rotate the dB knob in Anti Clock Wise (ACW)/ Clock Wise (CW) direction to select the gain in the ± 14 dB range (Fig. 3) (center detent potentiometer).

EQ SECTION: FREQUENCY BAND

Turn the Hz knob in order to select the required frequency band (Fig. 3).

APPENDIX A: External connections

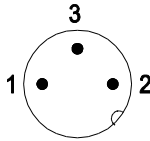


WIRING CL - 122

LINE INPUT

XLR

On the back



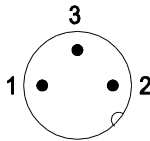
- 1 = Ground
- 2 = PHASE +
- 3 = PHASE -

Balanced line - It can be unbalanced

MAIN OUTPUT

XLR

On the back



- 1 = Ground
- 2 = PHASE +
- 3 = PHASE -

Balanced line only - Use the switch to connect unbalanced cables

FIG. 5 CL-122 external connections

APPENDIX B: Half Front Panel

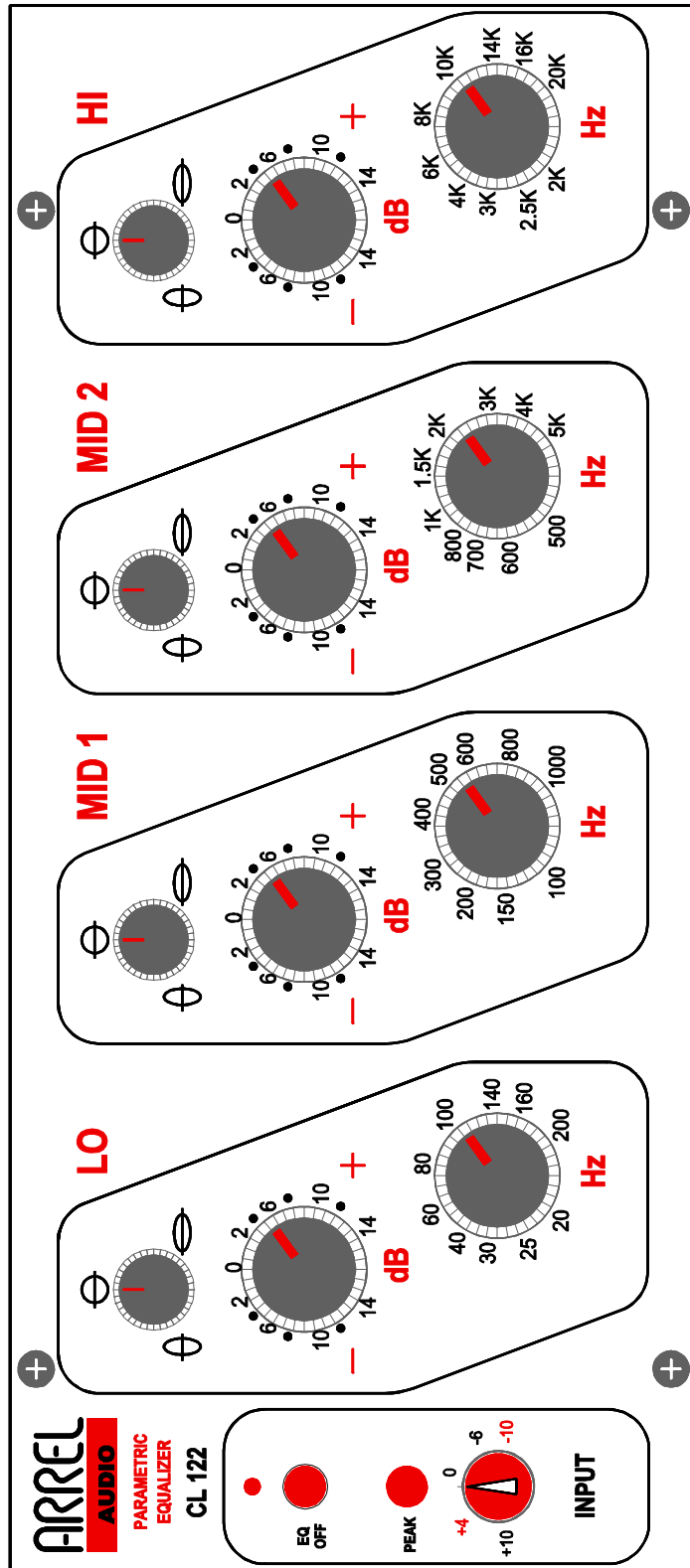


FIG. 6 CL-122 half front Panel

APPENDIX C: Front Panel

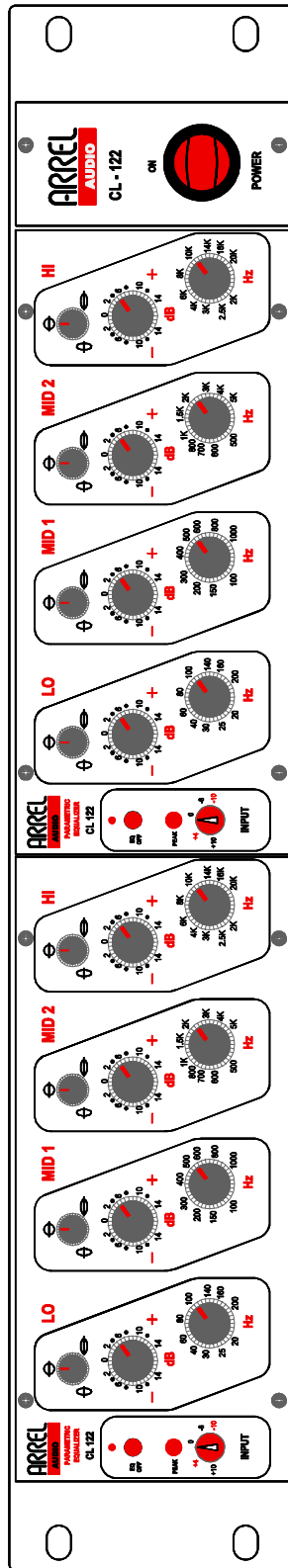


FIG.7 CL-122 front Panel

APPENDIX D: Back Panel

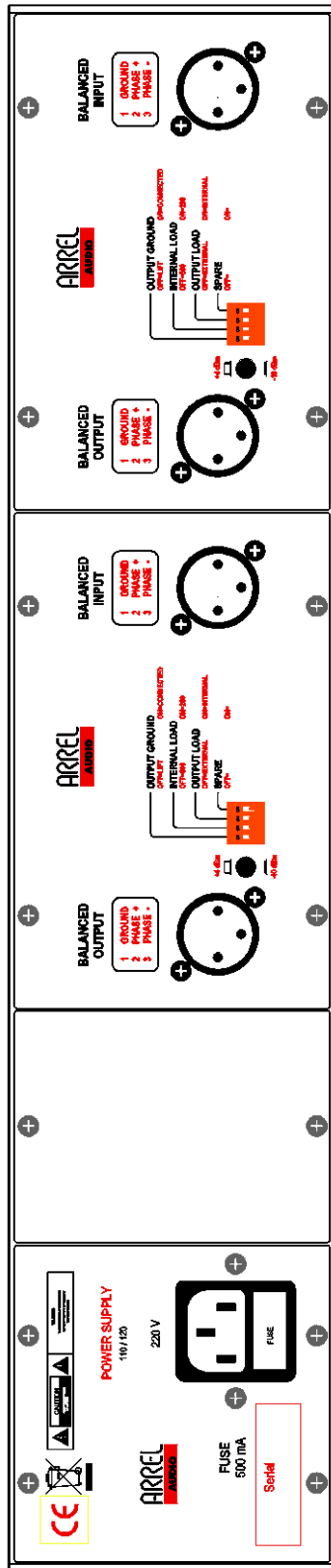


FIG.8 CL-122 Back Panel

TECHNICAL SPECIFICATIONS

CLASSIC SERIES MODULAR CABINET SPECIFICATION	
MECHANICAL SPECIFICATION	
Construction	19" 2U rack mount metal box
Number of Modules	The Classic Series unit can be factory assembled with one or two Classic Series modules
Dimensions	W 483 mm / 19", H 88.90 mm /1.75" (1 RU), D 225 mm / 8.86"
Weight	2.8 kg
POWER SUPPLY	
Power Supply	Linear Regulator (Balance C Core Transformer)
Operating Voltage	220V 50 Hz/ 110 V 60 Hz on request
Power Consumption	20 W
Rear Panel AC mains	IEC C13 16 A connector, AC mains cord with IEC Schuko 16A.
Output	± 18 VDC 300 mA, 48 VDC 25 mA
Power switch	Front panel backlighted switch

CL 122 AUDIO SPECIFICATION	
Input	Electronically balanced, Impedance > 10 KΩ
Channel Gain	Range:-10 to +10 dB
Output	Electronically balanced Output Impedance 100 Ω, (minimum external load 600Ω)
Output Level	Level +4dBu, Max +28 dBu
Bandwidth	5 - 200.000 Hz -1dB, perfect square wave up to 20 KHz
Distortion + Noise	<0.005% (typical 0.001 %)
Filters	LO Frequency Range 20-200 Hz MID1 Frequency Range: 100-1000 Hz MID2 Frequency Range: 500-5000 Hz HI Frequency Range: 2000-20000 Hz All the filters are bell shaped
Front Panel Controls	Left/Right level knob ±10dBu True-Bypass button with LED Power-On Switch
Front Panel Equalizer Controls (for each channel)	LO 20-200 Hz MID 1 100-1000 Hz MID 2 500-5000 Hz HI 2000-20000 Hz Emphasis/De-Emphasis control knob in the range ± 14 dB for each band, rotary knob with center detent for Q control
Front Panel Indicators	For each channel 1 x red LED (By-Pass) 1 x red LED (Peak Meter)
Rear Panel Line- Output Connectors	2 x Balanced XLR male
Rear Panel Line In Connectors	2 x Balanced XLR female