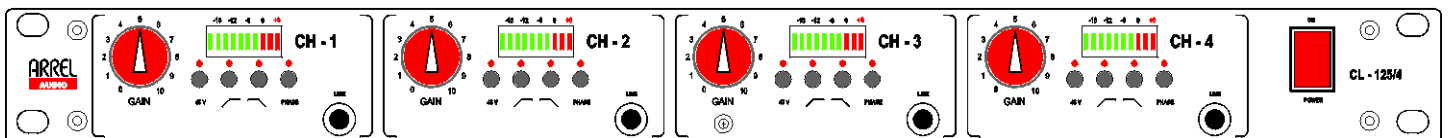




CL-125/4 Quad Mic-Line Preamplifier



User Manual

Issue 0.1

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.

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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INTRODUCTION

The **ARREL Audio CL- 125/4** quad mic preamplifier has been conceived to offer to the professional user a unit that combines high reliability, rugged design, audio quality, versatility and ease of use. CL-125/4 is perfect for recording every kind of music from classic, pop/rock, electronic and in all the situations where maximum sound quality and special attention to dynamic range and signal to noise ratio is needed.

The **CL-125/4** technical specification shows that it is the perfect audio system for actual digital recording 24bit/192kHz environments where superior performance is required.

CL-125/4 is based on the use of the latest circuit topologies, characterized by very low distortion, ultra-low noise and very wide frequency response. The amplifier architecture is based on two high dynamic range gain stages in order to avoid any saturation.

Even if the input stage of the **CL-125/4** 111 could accept input signals up to +20 dBu, a special protection circuit limits the input level at +12 dBu in order to prevent any damage. The EL-111 extended input dynamic range avoids the necessity of the input pad and the gain is controlled by a single large knob. The absence of the input pad means better sonic performances. In fact being it an attenuator it deteriorates the sound quality and reduces the signal to noise ratio.

Moreover a special circuit allows the connection of microphones even if the unit is turned on with the Phantom Power activated (in any case we do not recommend this practice in order to protect your microphones).

CL-125/4 is dedicated (due to his absolute sonic level quality) to high professional vocal recordings, classical instruments, high dynamic range instruments such as drums and percussions.

ARREL Audio products are designed and manufactured in Italy.

Housing

The **CL-125/4** is contained in a 1U rack metal box. 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.

CL-125/4 Front Panel Controls and Operations

POWER SWITCH

Press the illuminated power-on button to turn on the CL-125/4 (red light on). To turn off press again the power on button (red LED off) (Fig. 1).

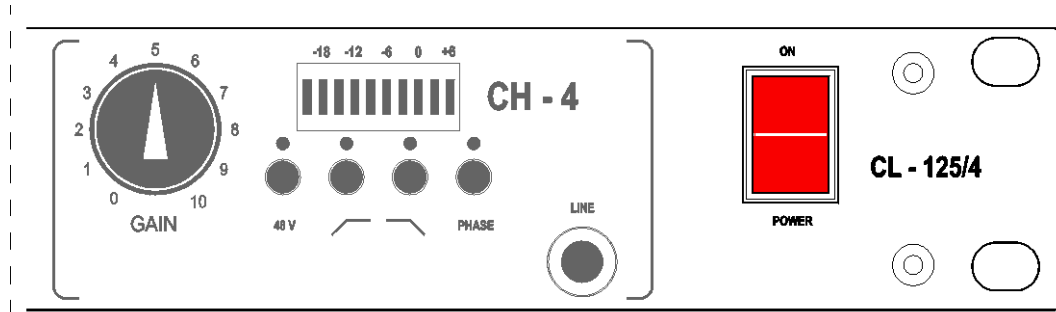


Fig. 2 CL-125/4 Power on switch

INPUT SOURCE SELECTION

The CL-125/4 input stage is based on a differential amplifier so it is “electronically balanced”.

If the Line-In 1/4" jack is not inserted the mic input is activated, the insertion of the Line In jack disconnects the mic input (Fig. 1). Due to its very high dynamic range, the ARREL Audio CL-125/4 does not require any input PAD switch.

PHANTOM-POWER SWITCH

Press the button to activate the +48 V Phantom Power (red LED on). To deselect the Phantom Power press again the button (red LED off) (Fig. 1).

A special circuit allows the connection of microphones even if the unit is turned on with the Phantom Power activated.

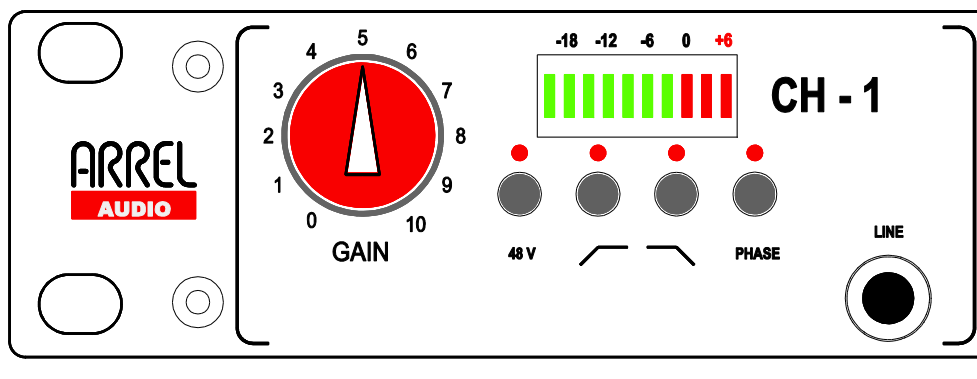


Fig. 2 CL-125/4 Front panel

GAIN CONTROL KNOB

Turn the gain knob (Fig. 1) in order to select the required amount of gain for either the mic input or the Line input.

The maximum gain if the mic input is activated is 66 dB. The maximum gain of the Line input is activated is 30 dB.

LO-CUT SWITCH

Push the button to activate the high pass filter (red LED on). The filter cut-off frequency is 80 Hz (12 dB / Oct.). Press again to switch off the filter (LED).

HI-CUT SWITCH

Push the button to activate the low pass filter (red LED on). The filter cut-off frequency is 8 KHz (12 dB / Oct.). Press again to switch off the filter (LED).

PHASE SWITCH

Push the button to invert the phase of the audio signal by 180 degrees (red LED on). Press again to switch off the phase inversion (LED).

LEVEL INDICATOR

The output level Indicator is based on a 10-LED Bargraph (7 x green LEDs and 3 x red LEDs) that measures in the range +6/-21 dBu, The resolution is 1.5 dB per step.

APPENDIX A: Connections

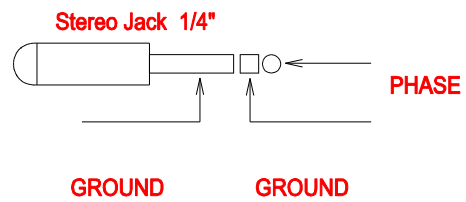
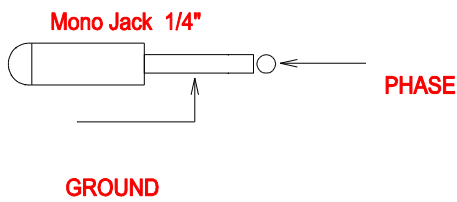


WIRING AL - 125

LINE INPUT

Mono Jack 1/4"

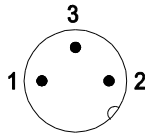
Can be used Stereo Jack instead



MICROPHONE INPUT

XLR

On the back



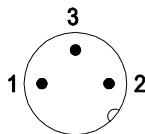
- 1 = Ground
- 2 = PHASE +
- 3 = PHASE -

Balanced line only - dont' connect unbalanced lines

MAIN OUTPUT

XLR

On the back



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

Balanced line only - Switch for unbalanced lines

FIG. 1 CL-125/4 Connections

APPENDIX B: Front Panel

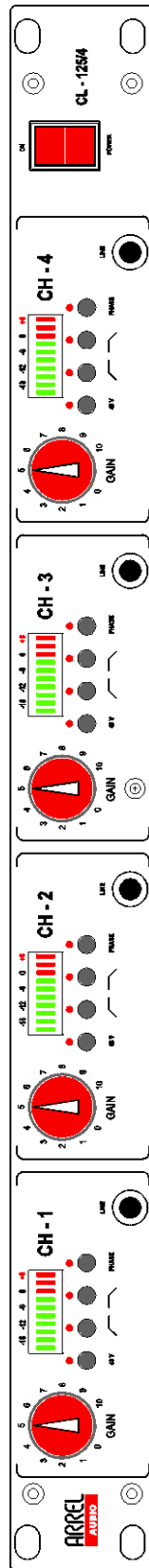


FIG. 3 CL-125/4 Front Panel

APPENDIX C: Back Panel

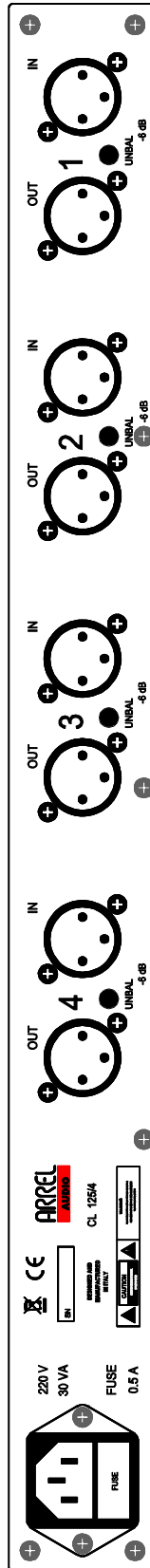


Fig. 4 CL-125/4 Back Panel

TECHNICAL SPECIFICATIONS

Number of Channels:	4
Power Supply	Linear Regulator (Balanced C-Core Transformer)
Operating Voltage	220V 50 Hz, (110V 60 Hz version available)
Power Consumption	20 W
Microphone Input	Electronically balanced
Microphone Gain	66 dB, rotary knob continuous control Max input level +20 dBu (internally limited to +12 dBu)
Line Input	Unbalanced Impedance 47 K Ω
Line Gain	30 dB, rotary knob continuous control Level 0/-30 dBu Max +23 dBu
Bandwidth	5 - 200.000 Hz -1dB, perfect square wave up to 20 KHz
Distortion + Noise	<0.003% (typical 0.001%)
Low Cut Filter	80 Hz, 12 dB / Oct
High Cut Filter	8 KHz, 12 dB / Oct
Output	Electronically Balanced Level +4 dBu, Max +28 dBu
Front Panel Controls	Gain rotary knob continuous control 48V Phantom Power button Low Cut button High Cut button Phase Reverse button
Front Panel Input Connectors	1/4" TRS jack
Front Panel Indicators	Level Indicator 10-LED Bargraph (7x green, 3x red), 1.5 dB step 4x red LEDs (48V Phantom Power, Hi-Cut, Lo-Cut, Phase)
Rear Panel Main Switch	Power On/Off switch
Rear Panel Controls	BAL/UNBAL switch on each channel, Power on/off switch
Rear Panel Input Connectors	Balanced XLR female
Rear Panel Output Connectors	Balanced XLR male
AC mains	IEC C13 16 A connector, AC mains cord with IEC Schuko 16A
Construction	1 U 19" rack mount metal box
Dimensions	W 483 mm / 19", H 44.45 mm/1.75" (1 RU), D 225 mm / 8.86"
Weight	2.8 kg