audio resolution LC-1 Studio Monitor Control Unit Owner's Manual

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Contents

Important Information

Studio monitor control unit with talkback and GPIO logic Owner's manual

⚠ **WARNING**

Always follow the basic precautions listed below to avoid the 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:

Power supply/Power cord

- Only use the voltage specified as correct for the device. The required voltage is printed on the name plate of the device.
- Use only the specified AC power adaptor.
- 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.

Do not open

- Do not open the device or attempt to disassemble the internal parts or modify them in any way. The device contains no user-serviceable parts. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified Audio Resolution service personnel.

Water warning

- Do not expose the device to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings.
- Never insert or remove an electric plug with wet hands.

If you notice any abnormality

- If the power cord or plug becomes frayed or damaged, or if there is a sudden loss of sound during use of the device, or if any unusual smells or smoke should appear to be caused by it, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Audio Resolution service personnel.
- If this device or the AC power adaptor should be dropped or damaged, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Audio Resolution service personnel.

⚠ **CAUTION**

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:

Power supply/Power cord

- Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.
- When removing the electric plug from the device or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.
- To avoid generating unwanted noise, make sure there is 50cm or more between the AC power adaptor and the device.
- Do not cover or wrap the AC power adaptor with a cloth or blanket.

Location

- Before moving the device, remove all connected cables.
- When setting up the device, 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.
- Avoid setting all controls to their maximum. Depending on the condition of the connected devices, doing so may cause feedback and may damage the speakers.
- Do not expose the device to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration or damage to the internal components.
- Do not place the device in an unstable position where it might accidentally fall over.

Connections

- Before connecting the device to other devices, turn off the power for all devices. Before turning the power on or off for all devices, set all volume levels to minimum.

Handling caution

- When turning on the AC power in your audio system, always turn on the power amplifier LAST, to avoid speaker damage. When turning the power off, the power amplifier should be turned off FIRST for the same reason.
- Do not insert your fingers or hands in any gaps or openings on the device.
- Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings on the device If this happens, turn off the power immediately and unplug the power cord from the AC outlet. Then have the device inspected by qualified Audio Resolution service personnel.
- Do not use the device or headphones for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.
- Do not rest your weight on the device or place heavy objects on it, and avoid use excessive force on the buttons, switches or connectors.

XLR-type connectors are wired as follows (IEC60268 standard): pin 1: ground, pin 2: hot (+), and pin 3: cold (-).

Audio Resolution cannot be held responsible for damage caused by improper use or modifications to the device, or data that is lost or destroyed.

Always turn the power off when the device is not in use.

The performance of components with moving contacts, such as switches, volume controls, and connectors, deteriorates over time. Consult qualified Audio Resolution service personnel about replacing defective components.

Illustrations herein are for explanatory purposes only, and may not match actual appearance during operation.

Company names and product names herein are trademarks or registered trademarks of their respective companies.

Specifications and descriptions in this owner's manual are for information purposes only. Audio Resolution reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your Audio Resolution dealer.

⚠ **CAUTION**

Use only the adaptor included with this Audio Resolution. Use of a different adaptor may result in equipment damage, overheating, or fire.

Be sure to unplug the adaptor from the outlet when not using Audio Resolution, or when there are lightning storms in the area.

To avoid generating unwanted noise, make sure there is 50 cm or more between the power adaptor and Audio Resolution.

Dear Customer

Thank you for purchasing **Audio Resolution LC-1**, studio monitor control unit with two talkback inputs and GPIO logic (Note: further in text: GPIO = General purpose input output; GPI = General purpose interface). It features

studio monitors playback and talkback blocking on Recording or On Air Red Light, Red Light GPI – Input, talkback GPI – Output, gain and phantom power select for talkback inputs. The unit is suitable for professional recording and broadcast studios.

LC-1

Features

- 2 talkback mic/line inputs
- Adjustable gain and phantom power for talkback inputs
- Separate talkback audio output
- Isolated Red Light GPI input
- Talkback GPI outputs
- Separate enable switches for talkback and playback blocking on RED light
- GPIO indication LEDs
- Simple CAT5e cabling for talkback microphone remote control panels
    - talkback

    - opto isolated GPI Input

◦ isolated GPI Output

The Package Contains

1. Audio Resolution unit
2. Power supply
3. Manual
4. Test report

LC-1 – Rear Panel (Output section)

1. **Power connector**

   For connecting the power supply, 24V DC /1A.

2. **Mic1 input**

   5-pin Phoenix connector for connecting a talkback microphone with push-to-talk contacts.

3. **Mic1 RJ45**

   RJ45 connector for connecting a talkback microphone with push-to-talk contacts.

4. **Gain P48**

   Gain and phantom settings for Mic 1, gain can be +40dB or +20dB, phantom voltage of 48V can be turned on
   or off for the microphone.

5. **TB Mic1 Level**

   Potentiometer for adjusting talkback mic 1 level. This is the same level for talkback Out and Studio monitor out.

6. **Mic2 input**

   5-pin Phoenix connector for connecting a talkback microphone with push-to-talk contacts.

7. **Mic2 RJ45**

   RJ45 connector for connecting a talkback microphone with push-to-talk contacts.

8. **Gain P48**

   Gain and phantom settings for Mic 2, gain can be +40dB or +20dB, phantom voltage of 48V can be turned on
   or off for the condenser microphone.

9. **TB Mic2 Level**

   Potentiometer for adjusting talkback mic 2 level. This is the same level for talkback Out and Studio monitor out.

10. **Talkback Out**

    Talkback output on 3-pin Phoenix contact, electronically balanced

11. **GPIO connector**

    Contains Talkback GPI – output with relay contact and GPI – input for „Red light" with optocoupler.

12. **Studio monitor inputs**

   Stereo balanced input for studio monitor (from mixing console) on Phoenix connector.

13. **Studio monitor outputs**

   Stereo balanced output for studio monitor on Phoenix connector.
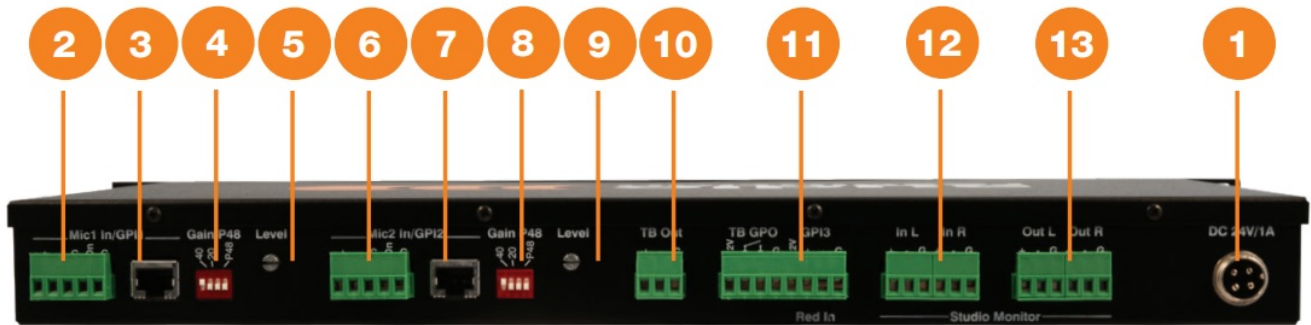
LC-1 – Front panel (Input section)

14. **Talkback switch**

   Talkback blocking on RED, this switch enables or disables talkback blocking on active GPI 3 („Red In").

15. **Playback switch**

   Playback blocking on RED, this switch enables or disables playback blocking on active GPI 3 („Red In").

16. **GPIO LEDs**

   Signalization of active GPI inputs.

17. **Power LED**

   Signalization that the unit is connected to a power supply and operating.

Operation

LC-1 is a studio monitor control unit. It provides two inputs for talkback microphones with push-to- talk functionality, one independent Talkback output (mixed Mic1 and Mic2), GPI inputs and outputs, stereo input and output for studio monitor.
Talkback is activated by push-to-talk button on a microphone (GPI1, GPI2). Whenever is any of talkback microphones activated, Talkback output is active no matter of GPI3 (Red In) status.
Talkback microphone can be either dymaic or condenser type thanks to 48V phantom switch.

- If no GPI is active, signal from Studio monitor input is going to Studio monitor output. If one of the talkback microphones is activated (GPI1, GPI2) and GPI3 (Red In) is not active, Studio monitor output is switched to talkback signal.
- If GPI3 (Red In) is active and Playback switch is in OFF position, Studio monitor input is disabled.
- If GPI3 (Red In) is active and Talkback switch is in OFF position, Talkback signal for Studio monitor output is disabled.
- If Playback and Talkback switches are in ON position, GPI3 (Red In) has no effect to Studio monitor output

signal

LC-1 is powered from 24V DC /1A power adaptor and it has no power switch so it is turned on when it is connected to a power supply.

RJ45 Talkback mic pinout

1. 2 – not connected
2. Mic in +
3. signal ground
4. not connected
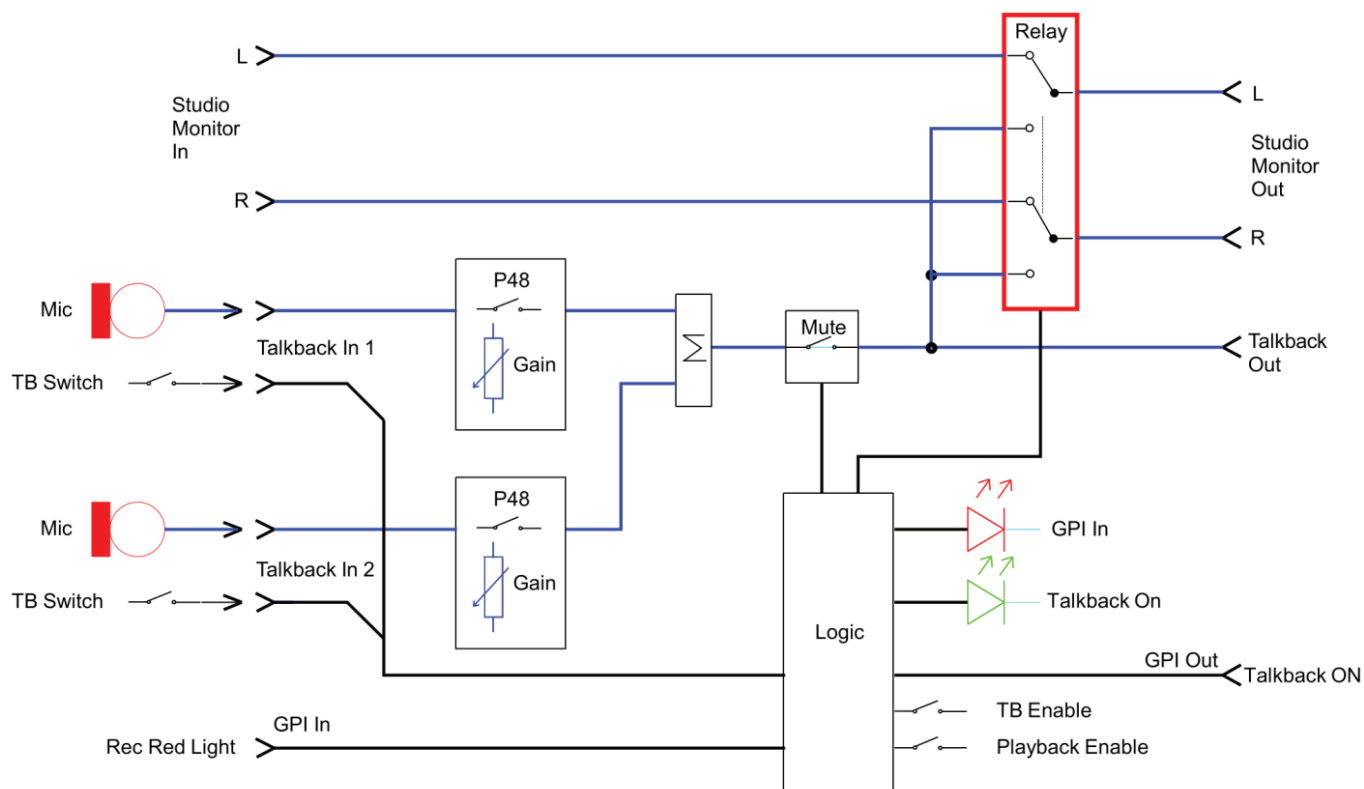5. Mic in –
6. GPI1 (Mic ON)
7. power ground

Specifications

Audio Resolution LC-1	
Input section	
Number of inputs	2x Talkback mono 1x Monitor stereo input
Talkback input	
Input connector	5-pin Phoenix RJ45
Input level	MIC
Gain settings	+40dB, +20dB
Phantom power	Yes, switchable
Controls	Gain switch, Phantom, level
Talkback Out	
Output noise level	• 85 dBu / 40dB Gain, Level at middle position • 90 dBu / 20dB Gain, Level at middle position
Max. output level	+27 dBu / THD+N < 0,1%
Studio monitor In/Out	
Input connector	2x 3-pin Phoenix
Output connector	2x 3-pin Phoenix
Input/Output level	MIC/LINE

IN/OUT switching	Relay
GPIO section	
GPI outputs	Talkback active
GPI inputs	Talkback Mic 1, Talkback Mic 2, Red Light
Front panel	
Signalization	Power, Talkback Mic 1, Talkback Mic 2, Red Light
Controls	Talkback enable, Playback enable
Power	
Power supply	24V DC /1A
Dimensions and weight	
Dimensions HxWxL	44x480x265 mm
Weight	3,4 kg

Block Diagram

CUSTOMER SUPPORT

Documents / Resources

	audio resolution LC-1 Studio Monitor Control Unit [pdf] Owner's Manual LC-1 Studio Monitor Control Unit, LC-1, Studio Monitor Control Unit, Monitor Control Unit, Control Unit, Unit

References

- **User Manual**