



CLR SERIES OWNERS MANUAL



- ACLR-AC ACTIVE CAB
- ACLR-AW ACTIVE WEDGE
- ACLR-PC PASSIVE CAB
- ACLR-PW PASSIVE WEDGE



THE WORLD'S FIRST AND LEADING COMPANY
DESIGNING AMPLIFICATION AND MONITORING SOLUTIONS
FOR AMP MODELERS / PROFILERS





WARNING!

**TO PREVENT FIRE OR SHOCK HAZARD,
DO NOT EXPOSE THIS UNIT TO RAIN
OR MOISTURE.**

**THE ATOMIC CLR IS DESIGNED FOR USE
AS A FLOOR WEDGE OR POLE-MOUNTED
PA SPEAKER IN PORTABLE SOUND
REINFORCEMENT APPLICATIONS.**

*It is not intended for overhead suspension.
Use in that manner is unauthorized and may
cause injury or death.*

**NO USER SERVICABLE PARTS INSIDE,
REFER SERVICING TO QUALIFIED
PERSONNEL ONLY.**

**SERVICE BY PERSONS OTHER THAN
ATOMIC AUTHORIZED SERVICE
TECHNICIANS MAY VOID WARRANTY.**

**THIS UNIT MUST BE
EARTH GROUNDED.**

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REACTOR SERIES USER MANUAL

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THE ATOMIC CLR SERIES



THE CLR SERIES is a range of professional, reference quality loudspeakers from, Atomic Amplifiers, the world's first and leading company designing amplification and monitoring solutions for amp modelers / profilers. The current offering includes both **CAB** and **WEDGE** formats that come in active and passive versions.

Products in the CLR Series are designed and built with the performing or studio guitarist in mind, but are also extremely effective for acoustic guitars, vocals, keyboards and other electronic instruments, and any other application where a FRFR system is needed.

The CLR Series represents a highly accurate and superior-sounding solution for the modern digital guitar rig. They ensure that preamps, modelers, profilers and simulators will sound their very best by producing reference-quality sonic transparency at rock SPLs in the most difficult acoustic environments. Even as guitar tone processing technology advances, the CLR Series products will remain a viable and valuable investment in tone.

The CLR Series is engineered to withstand the demanding conditions of life on the road or in other professional environments, whether on stage, in the studio, or in a standalone setting.

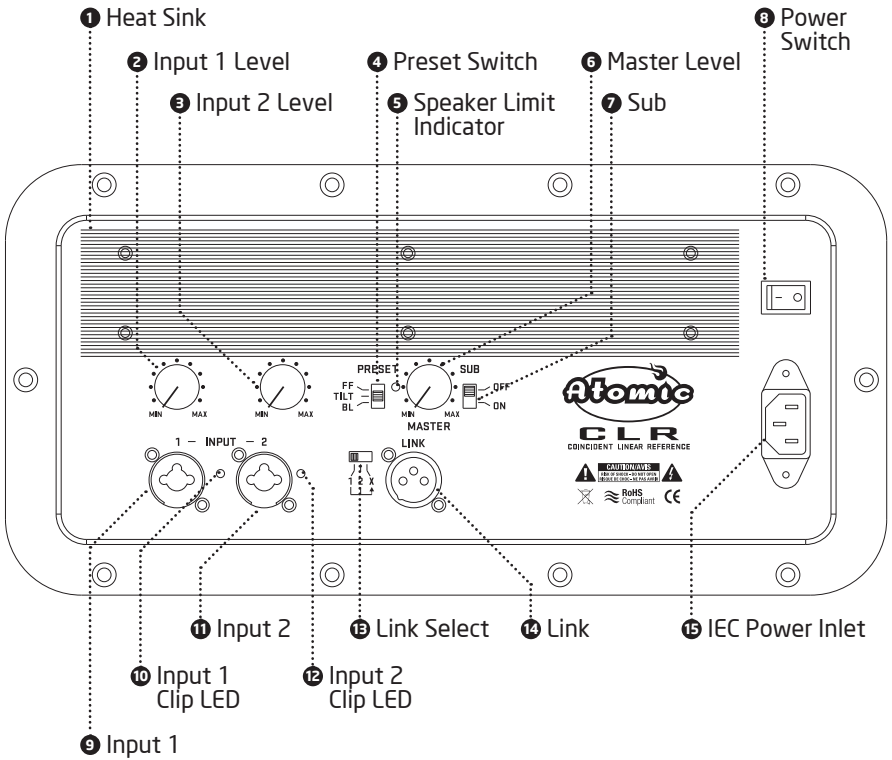
SYSTEM DESCRIPTION

The Atomic CLR is a two-way coincident loudspeaker consisting of a heavy-duty, horn-loaded 12" cone transducer for low frequencies and a high-output, 1"-exit compression driver with a 1.75" voice coil driving a constant-directivity type horn for high frequencies. The enclosure is constructed of 12-ply, void-free plywood throughout, with internal structural details that serve both to form the low-frequency horn shape and to add substantial structural rigidity.

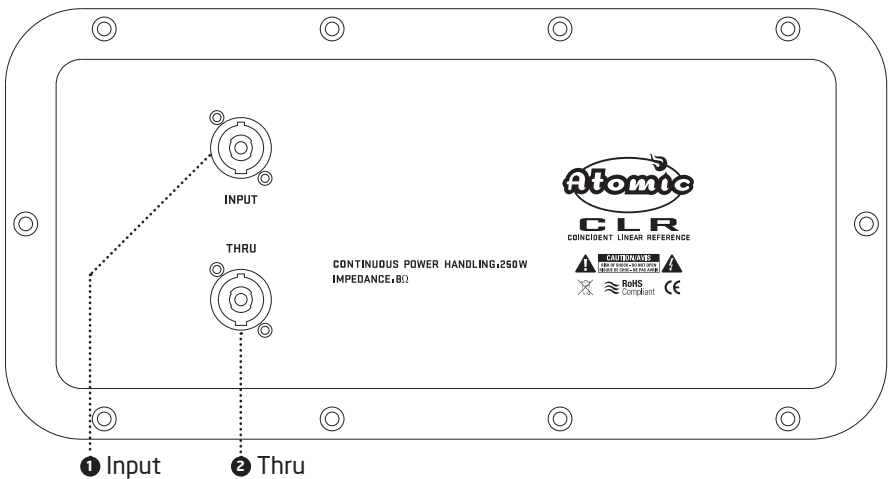
Non-powered versions of the CLR incorporate a heavy-duty passive crossover designed to optimize amplitude response and preserve the integrity of transient signals. Powered versions include two independent channels of power amplification - one each for low and high frequencies - and a line-level active crossover that employs digital signal processing. The power amplifier topology is a patented, high-performance variation on Class D that has found use in a number of expensive, audiophile-quality loudspeakers. The DSP filtering is designed to optimize both amplitude and transient response and is equipped with special features designed to minimize the chances of driver damage due to operation at excessive levels.

Active CLR's provide user-selectable presets for three common acoustic boundary conditions: free-field, tilt, and backline. The freefield setting is optimized for use when the speaker is elevated off the floor on a pole or stand; the tilt setting is optimized for use as a floor wedge, with the speaker on the floor aimed up at the player; and the backline setting is optimized for placement of the speaker on the floor and aimed horizontally, as is common for guitar amp usage. There is also a switchable 120-Hz highpass filter for use with a subwoofer or for removal of unwanted low frequencies. Refer to the panel diagram for more features.

ACTIVE CAB AND WEDGE CONTROL PANEL



PASSIVE CAB AND WEDGE CONTROL PANEL



ACTIVE CAB AND WEDGE PANEL EXPLANATIONS

- ① **Heat Sink** - Allows the CLR Series to be fanless and “studio quiet”. It keeps amp modules and power supply cool by drawing heat from them and dissipating it into the open air. **Please note: The heat sink will get warm to the touch while the amp is powered “on” even when the amp is at idle. This is normal and is well within regulated operating guidelines.**
- ② **Input 1 Level** - Adjusts the input signal level to the amplifier.
- ③ **Input 2 Level** - Adjusts the input signal level to the amplifier.
- ④ **Preset Switch** - Adjusts the frequency response of the amplifier to accommodate 3 different cabinet orientations while maintaining a flat response. The presets are: “FF” = Free Field - for when the cabinets are elevated off the floor like on a chair, pole mount or stand, “Tilt” - for when the cabinet is set up in the wedge position on the floor and “BL” - for when the cabinet is set up like a traditional guitar setup on the floor.
- ⑤ **Speaker Limit Indicator** - Flashes red when speaker is approaching it’s operating limit. An internal safety function stops the amp from driving the speaker harder. Please note: The speaker limit indicator will flash in advance of the threshold. Only when it is nearly constantly lit red will the safety function come into play.
- ⑥ **Master Level** - Controls the over volume of the CLR
- ⑦ **Sub** - When in the “on” position this switch attenuate the low end of the system to accommodate use with an external sub woofer.
- ⑧ **Power Switch** - Switches the amplifier “on” or “off”.
- ⑨ **Input 1** - ¼” / XLR Combo input jack for the amplifier.
- ⑩ **Input 1 Clip LED** - Flashes red to alert that Input 1 is being clipped.
- ⑪ **Input 2** - ¼” / XLR Combo input jack for the amplifier.
- ⑫ **Input 2 Clip LED** - Flashes red to alert that Input 2 is being clipped.
- ⑬ **Link Select** - Selects what inputs get sent to the Link Output - “1” Input 1, “2” Input 2 and “X” a mix of Input 1 and 2. The level controls only come into play in “X” or Mix mode otherwise it sends through unity gain from the selected channel.
- ⑭ **Link Output** - A pre eq, buffered pass through that takes signal directly from the analog front end to wherever you need to send it.
- ⑮ **IEC Power Inlet** - Connect the supplied AC line cord to provide power to the amp.

PASSIVE CAB AND WEDGE PANEL EXPLANATIONS

- ➊ **Input** - 1/4" / Speakon Combo input jack for the speaker system.
- ➋ **Thru** - 1/4" / Speakon Combo pass through to send signal to another system.

GAIN STRUCTURE SETUP FOR ACTIVE SPEAKERS

Optimizing gain structure is an important step in minimizing noise and preventing signal overload (clipping). There are three level controls on the panel of active CLR speakers. After connecting all the devices in your signal chain and powering up (remember CLR last on, first off), follow the procedure below to insure optimal gain structure.

- ➊ Set the Master and both Input level controls to their lowest (CCW) settings.
- ➋ If you will be using two input signals, perform this step with the one you expect to be louder. (Note: You will hear little or no sound during this step.) Apply the hottest (loudest) signal you expect to generate. Increase the Input level control for that channel until you see the LED adjacent to that input connector light up. Turn down the level until the LED goes out and never lights.
- ➌ Adjust the Master level for the desired volume and the second Input level (if used) for the desired mix. There is no need to adjust the Input levels beyond this point. The amp has the ability to reach its maximum output level with the input level set as prescribed above. Overdriving the input by setting the input level too high will result in audible clipping.

PASSIVE CAB AND WEDGE OPERATING INSTRUCTIONS

Passive CLRs are equipped with two combo connectors (Neutrik Speakon and 1/4" jack). These connectors are wired in parallel and are intended to enable the user to "daisy chain" a second CLR to a single power amplifier. Keep in mind that the combined impedance of two CLRs in this configuration is 4 ohms and make certain that the power amplifier is rated to drive this impedance. *Caution: under no circumstances should the additional connector ever be connected to a second power amplifier. Doing so could result in damage to one or both power amplifiers and to the speaker(s).*

SPECIFICATION

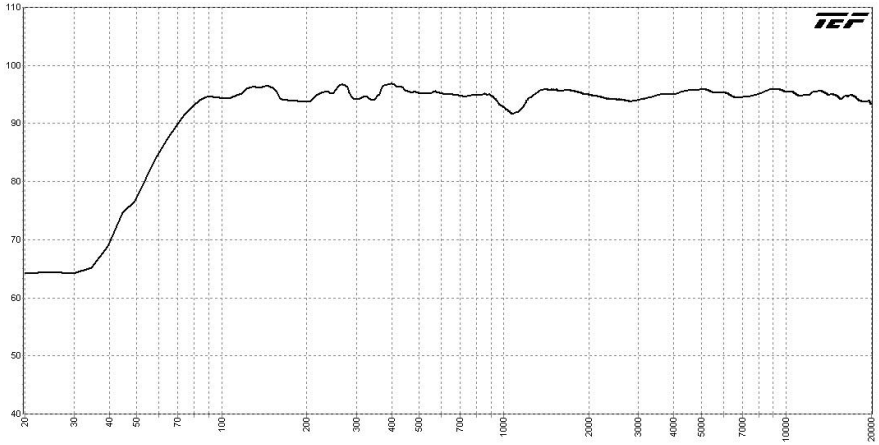
Frequency Response	Active: 70Hz-18kHz, +/- 2.5 dB Passive: 70Hz-18kHz, +/- 2.5 dB
Max Continuous SPL	Active: 120 dB Passive: 120 dB
Maximum Peak SPL	Active: 130 dB Passive: 130 dB
Amplifier Power	Active: 500W Bi-amped Passive: N/A
Recommended Maximum Amplifier Size	Active: N/A Passive: 500W
Power	Active: North American Model: 100-120VAC Input, European Model: 220-240VAC Input Passive: N/A
Directivity	Active: 90 degrees H x 90 degrees V, average from 650Hz and up Passive: 90 degrees H x 90 degrees V, average from 650Hz and up
Sensitivity	Active: N/A Passive: 100dB, 1W @ 1M
Impedance	Active: 20kohms, 10kohms unbalanced Passive: 8 ohms
Crossover	Active: Active crossover Passive: Passive crossover
Drivers	Active: (1x) Custom 250w 1x12", (1x) 90w 1" HF Compression Driver Passive: (1x) Custom 250w 1x12", (1x) 90w 1" HF Compression Driver

DIMENSIONS & WEIGHT:

Active Wedge (ACLR-AW):	17 5/8" x 17 5/8" x 15 3/4", 45lbs
Active Cab (ACLR-AC):	17 5/8" x 17 5/8" x 13 5/8", 46lbs
Passive Wedge (ACLR-PW):	17 5/8" x 17 5/8" x 15 3/4", 44lbs
Passive Cab (ACLR-PC):	17 5/8" x 17 5/8" x 13 5/8", 45lbs

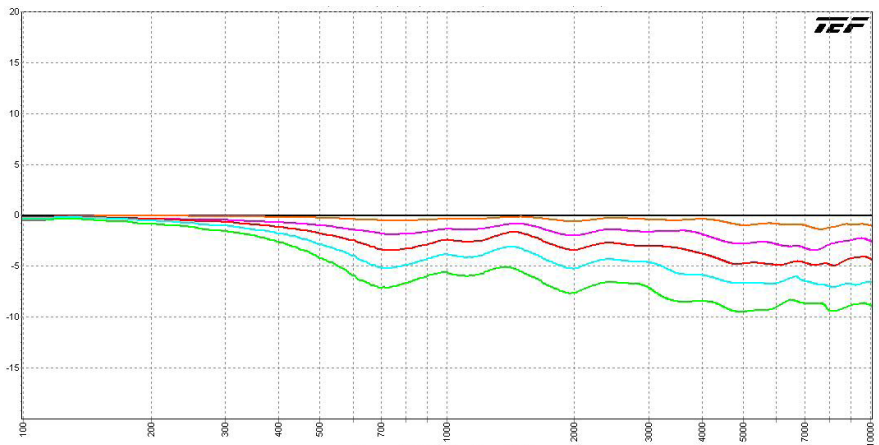
RESPONSE DATA

On Axis Amplitude Response



Freefield response with test mic at 2 meters

Normalized Off Axis Responses



Off axis responses taken at 10-degree intervals normalized to on-axis response

WARRANTY

Atomic Amplifiers warrants to the original purchaser that this product will be free of defects in material and workmanship for a period of 1 year from the original date of purchase. It is understood that Atomic Amplifiers reserves the rights to inspect any warranty part prior replacing or repairing them to insure that their defect is not a result of user error. These warranties are subject to the conditions, exclusions, and limitations hereinafter set forth. This limited warranty is transferable and is valid only when accompanied by a copy of the original sales receipt or packing slip with legible purchase date, purchase price, and when product is purchased from an authorized dealer in the and must be returned to the same for any warranty services required. All exported products are subject to warranty and services to be specified and provided by the authorized distribution center for each country or region. Excluded from this warranty are defects caused by wear and tear, accident, misuse, neglect, failure to follow all operating instructions (including the OVERPOWERING of speakers), alterations and modifications, or act of nature. Such determinations will be made by Atomic Amplifiers. This limited warranty is also void if: the original retail purchase is not made directly from the company or an Authorized ATOMIC AMPLIFIERS' dealer, or if repairs, alterations, or modifications are performed by anyone other than Atomic Amplifiers or an Atomic Amplifiers Authorized Service Center, or if the original serial number affixed to the product is altered, defaced, or removed.

All parts costs for repairs covered under this limited warranty will be borne by Atomic Amplifiers so long as the repairs have been requested within the applicable warranty periods described above. It is understood that all repair charges and costs incurred by Atomic Amplifiers for all periods following the applicable warranty period will be borne and paid for by the purchaser. All labor costs incurred by Atomic Amplifiers for repairs covered under this limited warranty will be borne and paid for by Atomic Amplifiers within the applicable warranty period according to rate schedules established by Atomic Amplifiers. All labor costs and expenses above these rates will not be the responsibility of Atomic Amplifiers. Atomic Amplifiers, or an Atomic Amplifiers Authorized Service Center MUST do all warranty services. Transportation charges involved in warranty services are the sole responsibility of the purchaser.

A copy of the original sales receipt or packing slip must accompany all products being presented to an Atomic Amplifiers Authorized Service Center for warranty service. All products being returned to Atomic Amplifiers for warranty service must be accompanied by a copy of the original sales receipt or packing slip, a detailed description as to needed repairs, and an Atomic Amplifiers Return Authorization number. Atomic Amplifiers reserves the right to repair or replace the affected piece of equipment at their option but it is understood that repair or replacement as provided under this limited warranty is the sole and exclusive remedy to the purchaser for defective or non-conforming products. Atomic Amplifiers will not be held liable for any incidental consequential, special, punitive, or exemplary damages resulting from any defect or failure of this product other than the repair of the Atomic Amplifiers product subject to the terms of this limited warranty. Any product repaired or replaced under this limited warranty will, itself, be warranted only for the remainder of the limited warranty period of the original product being repaired or replaced. Products used for dealer rental purposes shall be warranted from the date of the original invoice to dealer and if sold will be warranted only for the remainder of the limited warranty period of the original product. This warranty gives you specific legal rights, and you may have other rights which vary from state to state, and province to province, and to the extent required by law, any limited warranty shall be limited to the duration of this limited written warranty.

OTHER THAN AS STATED ABOVE, ATOMIC AMPLIFIERS MAKES NO WARRANTIES EITHER WRITTEN, EXPRESSED, OR IMPLIED WITH RESPECT TO THE PRODUCT. THIS WARRANTY IS EXCLUSIVE, AND ATOMIC AMPLIFIERS MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ALL OF WHICH WARRANTIES ARE HEREBY BEING DISCLAIMED.

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