

# GROUND ZERO<sup>®</sup>

GERMAN ENGINEERING



REFERENCE  
**ULTRA**

GZ ULTRA A-2

English Owner's Manual

## THE DEFINITION OF ULTRA-HIGH-END

Objects designated as high-end are assigned to this category based on the assumption that they belong to the top segment of a respective product group and are generally characterized by unusual, exceptional and exclusive features and a very high manufacturing quality. In our opinion, the concept of real high-end is defined much more extensively by experiencing feelings and the resulting impression when listening to your favourite music using such devices. Therefore, it was the only, constant and uncompromising goal during the development of the ULTRA series to achieve that tingling sensation that goes along with the goosebumps when the ear lets us perceive things that go beyond the spectrum that can only be recorded with a test microphone.

"ul-tra"

beyond the range of limits | beyond the ordinary | beyond the others

## REFERENCE ULTRA SERIES - ULTRA-HIGH-END

After collecting detailed experience in SQ performance and general in-car audio reproduction for more than 25 years during the development of loudspeakers, subwoofers and amplifiers for highly demanding customers and having launched a wide range of car audio products used for sound quality competitions all over the world, GROUND ZERO had started to take advantage of all these gathered skills devising a very new and super high-end product line. For the most sophisticated demands, GROUND ZERO introduces an extraordinary two-channel amplifier and matching loudspeakers now! REFERENCE ULTRA series products are developed by highly attentive engineers from England, Sweden and Germany creating products for the most demanding customers without accepting any compromise in overall quality and SQ performance.

## TERMS OF WARRANTY

The limited warranty for this product is covered by GROUND ZERO's regional distribution partners and their terms and conditions. For further information contact your local retailer or regional distributor.

## SAFETY INSTRUCTIONS

Do not expose the device to extreme temperatures, fire, high humidity or direct contact with liquids. Do not use the device if it has been damaged or exposed to liquids. Keep the device, packaging and accessories away from children and pets to prevent accidents and suffocation.

Manufacturer's declaration: Herewith Ground Zero GmbH declares that this product complies with the directive 2014/30/EU (EMC) and further declares that this product is in conformity with the rules of the EU directives (including all applicable amendments) 2011/65/EU RoHS2 and 2001/95/EC General Product Safety directive.

The full text of the Declaration of Conformity (EU) is available at the following internet address:  
[www.ground-zero-audio.com](http://www.ground-zero-audio.com)

Electronic products contain valuable raw materials and must not be disposed of with normal household waste.

At the end of its service life, please bring the device to your local recycling facility.



## GZ ULTRA A-2 – SPECIFICATIONS

Amplifier Type	Ultra-High-End 2-Channel Amplifier
Output Power	Check your corresponding test certificate
Frequency Response	10 Hz – 80 kHz (<1dB)
Signal-to-Noise Ratio (SNR)	> 120 dB (@ 100 Watts A-weighted)
Overall Distortion (THD+N)	<0.001%
Damping Factor	>1500
Input Sensitivity	Switchable (1/2/4/8 V)
Idle current @ BIAS Low	≤ 2.7 A
Idle current @ BIAS High	≤ 4.2 A
Recommended Loudspeaker Wiring	≥ 4.0 mm <sup>2</sup>
Recommended Power Wiring	≥ 25 mm <sup>2</sup> (2x)
Fuses (inside / pc-board mounted)	2x 50A (MINI ANL)*
Dimensions (w x h x l)	250 x 80 x 502 mm / 9.84 x 3.15 x 19.76"

\*Replace a defective fuse only by a new fuse with identical value



## GZ ULTRA A-2 – FEATURES

- Ultra-high-end analogue 2-channel amplifier - Made in England
- Full-symmetrical dual-mono layout design
  - Swiss-made high-end ELMA selector switches
  - Two-step BIAS selector
  - Four-step input sensitivity selector
  - Potentiometer-less and OPA-less direct signal path
  - Direct and short signal path
  - GZ-exclusive MUNDORF® audio capacitors
  - Nichicon (Japan) and WIMA® (Germany) components
  - High-end SANKEN® Darlington power transistors
  - Precision-winded transformer coils
  - Rhodium RCA sockets
  - Tinted-acrylic bottom plate
  - Switchable white pcb illumination
  - High-efficient extruded aluminum heat sink
  - Ready for custom liquid-cooling (available separately)
  - Documented final technical inspection
  - Wooden box packaging

## BIAS SETTING

The BIAS setting affects the operation mode of the amplifier. There are two calibration settings available (LOW / HIGH).

At HIGH BIAS setting the amplifier approaches the class A mode at low levels sounding warm, creating a pleasant atmosphere. Compared to that, at LOW BIAS setting the amplifier works in typical class A/B mode sounding more direct and dynamic. At HIGH BIAS setting, the current consumption of the amplifier is higher compared to the LOW BIAS setting leading to an increased idle temperature of the heatsink. The power rating, however, remains identical.

The BIAS calibration is set using the switch for both channels simultaneously.

GZ REFERENCE ULTRA SERIES

7 STATUS  
 ● LOAD  
 ● PROTECT  
 ● TEMP  
 ● POWER



## GZ ULTRA A-2 – CONNECTIONS AND CONTROLS

① Power Terminal (Left and Right)	12V REM GND	To connect to a positive power wire from the battery terminal To connect the remote switch output wire of the head unit To connect to a ground wire from the battery or the chassis ground
② Loudspeaker Terminal		To connect the loudspeaker wires for the left and right channel
③ Line Input (RCA)		Input sockets to connect RCA wires for the right and the left channel
④ Input Sensitivity Switch		To select the matching input sensitivity (1 V / 2 V / 4 V / 8 V)
⑤ BIAS Control Switch		To select the BIAS calibration (LOW / HIGH)
⑥ Light Switch		To switch on/off the PCB illumination
⑦ Status LED	POWER TEMP PROTECT LOAD	→ white indicating correct operation → orange high temperature warning → red protection mode activated → yellow signaling low load at the terminals

### ⑧ CUSTOM LIQUID COOLING (AVAILABLE SEPARATELY)

Since the heat sink temperature of an amplifier without an active liquid cooling rises and drops in correspondence to the output power quite quickly, the optimum operating temperature of the amplifier might be left in some periods of huge power output operation. In contrast to this, active liquid cooled amplifiers usually remain within the optimum operation temperature more independently from the power output.

## GZ ULTRA A-2

The results of three years of development, uncountable listening sessions, comparisons, tuning and testing led to the GZ ULTRA A-2, the most advanced analogue amplifier on the market uniting perfectly selected components reduced to the minimum of distractingly influencing aspects creating a masterpiece of an amplifier, matching our very own intention and everybody's uncompromised expectations, worth to be called ultra-high-end.

Not a huge surprise but a great honour, the performance of the GZ ULTRA A-2 charmed the members of the EISA, a group of international car audio trade journalists, right from the very first listening sessions that much that there was any doubt about the decision to award this amplifier as

**"BEST PRODUCT – IN CAR HIGH-END COMPONENT"**



**GROUND ZERO** products are engineered in Germany  
**GROUND ZERO** - international sponsor of



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