

# **GROUND ZERO<sup>®</sup>** **GERMAN ENGINEERING**



## **URANIUM SERIES** **SQ AMPLIFIER**

**GZUA 2SQ**

**GZUA 4SQ**

**GZUA 6SQ**

**Owner's Manual**  
(AWV2.2)

English Version

# GROUND ZERO GZUA SQ AMPLIFIER

## Introduction

Thank you for choosing a GROUND ZERO product and welcome to your new URANIUM series amplifier! This is the owner's manual providing instructions on the operation & installation of this amplifier. Please, read it carefully. If you have any further questions, please contact your local GROUND ZERO dealer or our regional distribution partner at your country. Amplifiers are one of the most important parts of your car audio system. However, they won't deliver its full performance, unless each part of the whole system is tuned carefully matching each other. Therefore, we recommend consulting a car audio specialist to compile the desired sound system, as well as for installation and individual, correct sound tuning.

We hope you will enjoy the sound quality of one more enthusiastic development by the GROUND ZERO engineering team!

## URANIUM Series – Amazing Sound Quality



Products belonging to the GROUND ZERO URANIUM series stand for high-end sound quality or extreme power handling capability. Each product of the URANIUM series has been developed carefully to fulfill the demands of music enthusiasts with high audiophile expectations at a reasonable price level. Applying GROUND ZERO's experience from sound quality competitions at tuning the product details carefully, results in emotional and amazing audio reproduction. These distinguished products point out the main purpose by their designation: SQ beyond the average.

## 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.

## General installation instructions

- As a precaution, it is recommended to disconnect the vehicle's battery before mounting the amplifier.  
Note: For new vehicles, disconnecting the battery might cause various errors in your vehicle's electric system that can be cleared only by authorized service partners of your vehicle's manufacturer! Please ask your service partner first before disconnecting the battery!
- The power supply wire (+12 V) has to be protected within max. 20 cm / 8" by a main fuse holder with a fuse value matching the recommendation for your amplifier  
**Note:** If there is more than one amplifier connected using this power wire, the main fuse value must be equal to the sum of the recommended fuses of all connected devices. However, make sure the diameter of your power wire will be enough for the required current!
- If necessary, replace a defective fuse by a fuse with identical quality and value
- Never drill holes to the vehicle's gas tank, brake lines, to wirings or any other important vehicle parts!
- Never pass wires over sharp edges or vehicle parts due to avoid any kind of damage
- Keep the wiring away from the antenna and electronic devices contributing to radio reception
- Lay the power supply wiring always separated from speaker wiring to avoid disturbance
- The amplifier contains a temperature protection circuit that turns the device off in case of overheating. After a certain cooling time, it will turn on automatically. To avoid heat build-up, enough air supply for cooling must be provided. Never cover the surface of the amplifier's heatsink entirely
- The amplifier should **NEVER** be mounted onto a vibrating part or surface such as a subwoofer enclosure. This might lead to malfunction due to loosened electrical parts inside the amplifier
- Some amplifiers offer a high-level input option, however if a pre-amplified output (RCA) is available (at the head unit), it is strongly recommended to make use of them

# URANIUM SERIES

## SQ AMPLIFIER

GZUA 2SQ

GZUA 4SQ

GZUA 6SQ

### Common Features

- 2-ohms stable (stereo mode)
- \*1-ohm stable (stereo mode)
- Adjustable BIAS control
- High-performance OPA 2134 operational amplifiers
- High-end WIMA® capacitors
- Status LED indication
- Wide-band adjustable high pass & low pass filters
- Band-pass feature with activated LPF & HPF
- Adjustable input sensitivity
- Soft delayed remote turn-on
- \*Wired bass level remote control
- \*Phase shift control
- \*Bass boost control (0 - 12dB @ 45 Hz)
- Thermal / short circuit / overload protection

\* for GZUA 2SQ only

## GROUND ZERO GZUA SQ AMPLIFIER

### Specifications

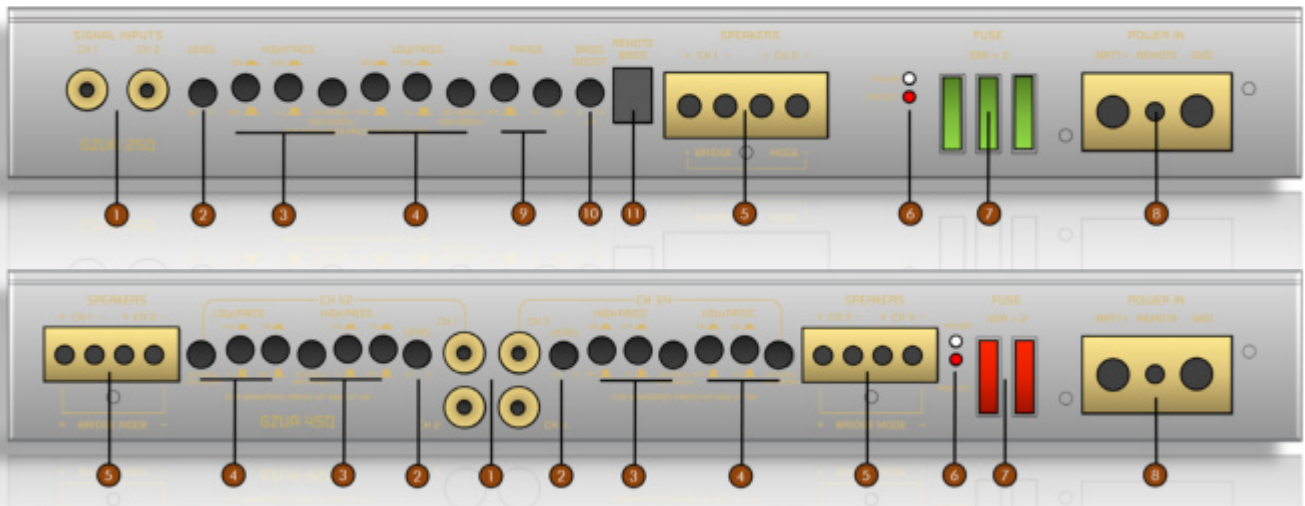
Model	GZUA 2SQ	GZUA 4SQ	GZUA 6SQ
Amplifier Type	SQ Class A/B Amplifier		
Output Power (RMS) @ 4 $\Omega$ CEA-2006-A (@ 1 kHz)	2x 175 W (1% THD+N)	4x 115 W (1% THD+N)	4x 110 + 2x 160 W (1% THD+N)
Output Power (RMS) @ 2 $\Omega$ CEA-2006-A (@ 1 kHz)	2x 300 W (1% THD+N)	4x 185 W (1% THD+N)	4x 175 + 2x 280 W (1% THD+N)
Output Power (RMS) @ 1 $\Omega$ CEA-2006-A (@ 1 kHz)	2x 485 W (1% THD+N)	n/a	n/a
Max. Output Power (bridged mode)	1180 W @ 2 $\Omega$ (10% THD+N)	2x 440 W @ 4 $\Omega$ (10% THD+N)	2x 425 + 650 W @ 4 $\Omega$ (10% THD+N)
Low Pass Filter	20 Hz – 400 Hz / 200 – 4000 Hz (x10)		
High Pass Filter	20 Hz – 400 Hz / 200 – 4000 Hz (x10)		
Band Pass Filter	20 Hz – 4000 Hz		
Frequency Response	10 Hz – 70 kHz (-3dB)		
Signal-to-Noise Ratio (SNR)	110 dB (@ 100 Watts A-weighted)		
Overall Distortion (THD+N)	< 0.005%	< 0.01%	
Damping Factor	> 800		
Input Sensitivity	0.8 – 6 V		
Recommended Loudspeaker Wiring	$\geq 2.5 \text{ mm}^2$	$\geq 1.5 \text{ mm}^2$	$\geq 1.5 / 2.5 \text{ mm}^2$
Recommended Power Wiring	$\geq 25 \text{ mm}^2$	$\geq 25 \text{ mm}^2$	$\geq 35 \text{ mm}^2$
Fuse(s)	3x 30A	2x 40A	4x 30A
Dimensions (w x h x l)	209 x 48 x 360 mm 8.23" x 1.89" x 14.17"	209 x 48 x 360 mm 8.23" x 1.89" x 14.17"	209 x 48 x 550 mm 8.23" x 1.89" x 21.65"

### BIAS setting

The BIAS setting affects the operation mode of the amplifier. It is continuously adjustable from <MIN> (actual Class A/B mode) to <MAX> (close to Class A mode). An amplifier in Class A mode sounds warm and creates a pleasant atmosphere. Compared to that, the Class A/B mode of an amplifier sounds more direct and dynamic. Depending on the BIAS setting, the current consumption of the amplifier is growing the closer the operation comes to the Class A mode leading to an increased temperature. The power rating however, remains identical. The BIAS can be set using the control on the bottom of the amplifier for each pair of channels, independently.

# GROUND ZERO GZUA SQ AMPLIFIER

## Common Controls & Features



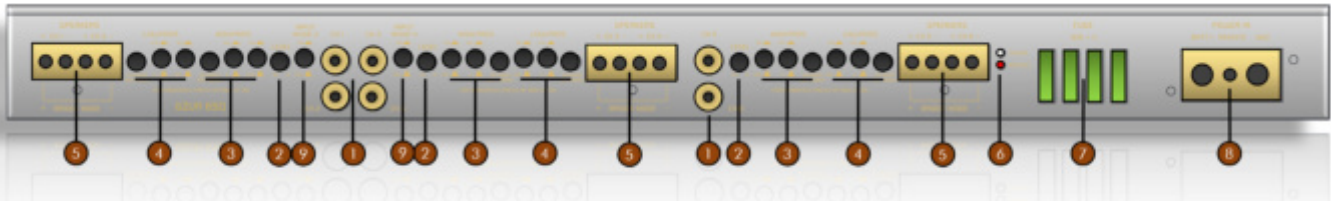
1	Line Input (RCA)	Input sockets to connect RCA wires
2	Sensitivity Control	Controller to adjust the input sensitivity of the according channels
3	HPF activation switch	Push the switch to the ON position to activate the high pass filter
	HPF multiplication switch	Push the switch to the x10 position to multiply the frequency by the factor of 10. The crossover frequency range will be swapped from 20~400 Hz to 200~4000 Hz
	HPF filter controller	Adjust the required crossover point using the controller. Frequencies below the selected crossover point will be filtered
4	LPF activation switch	Push the switch to the ON position to activate the low pass filter
	LPF multiplication switch	Push the switch to the x10 position to multiply the frequency by the factor of 10. The crossover frequency range will be swapped from 20~400 Hz to 200~4000 Hz
	LPF filter control	Adjust the required crossover point using the controller. Frequencies above the selected crossover point will be filtered
*	BPF feature	Activating the high and the low pass filter results in a band pass filter. Depending on the multiplication switches the band pass filter range varies from 20~4000 Hz
5	Loudspeaker Terminal	To connect the loudspeaker wires in stereo or in bridged mode
6	Status LED	POWER -> white -> ok (correct operation) PROTECT -> red -> error / protection
7	Fuse(s)	Replace a defective fuse only by a new fuse with identical value
8	Power Terminal	BATT + To connect to a positive power wire from the battery terminal
		REMOTE To connect the remote switch output wire of the head unit
		GND To connect to a ground wire from the battery or to chassis ground

## Additional Features of GZUA 2SQ

9	Phase Switch/Control	To activate phase adjustment (0°~180°)
10	Bass Boost Control	To adjust the bass boost level ( from 0~12 dB @ 45 Hz)
11	Bass Remote Socket	To connect the wired bass level remote control

# GROUND ZERO GZUA SQ AMPLIFIER

## Additional Features of GZUA 6SQ



9	Input Mode Switches	<p><b>INPUT MODE 2 "OFF" and INPUT MODE 4 "OFF"</b> Each input channel provides signal to the according channel</p>
		<p><b>INPUT MODE 2 "ON" and INPUT MODE 4 "ON" or "OFF"</b> Input CH1 provides signal to CH1 &amp; CH3 &amp; CH5 Input CH2 provides signal to CH2 &amp; CH4 &amp; CH6</p>
		<p><b>INPUT MODE 2 "OFF" and INPUT MODE 4 "ON"</b> Input CH1 provides signal to CH1 Input CH2 provides signal to CH2 Input CH3 provides signal to CH3 and CH5 Input CH4 provides signal to CH4 and CH6</p>

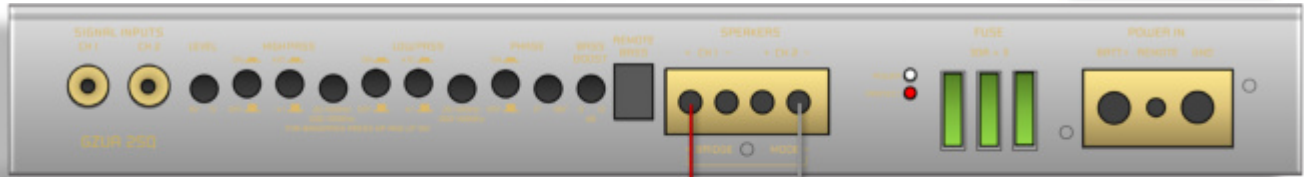
## Loudspeaker Wiring



GZUA 2SQ – stereo mode



**Achtung!**  
min. Impedanz / Kanal  
≥ 1 Ohm  
**Attention!**  
min impedance / channel  
≥ 1 ohm



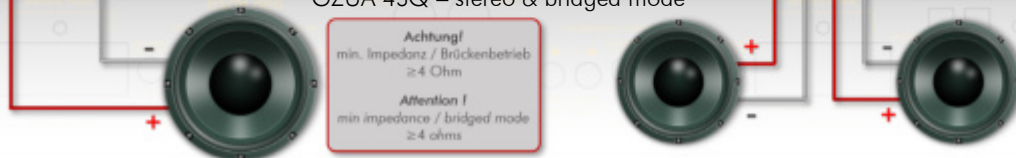
GZUA 2SQ – bridged mode



**Achtung!**  
min. Impedanz / Brückenbetrieb  
≥ 2 Ohm  
**Attention!**  
min impedance / bridged mode  
≥ 2 ohms



GZUA 4SQ – stereo & bridged mode

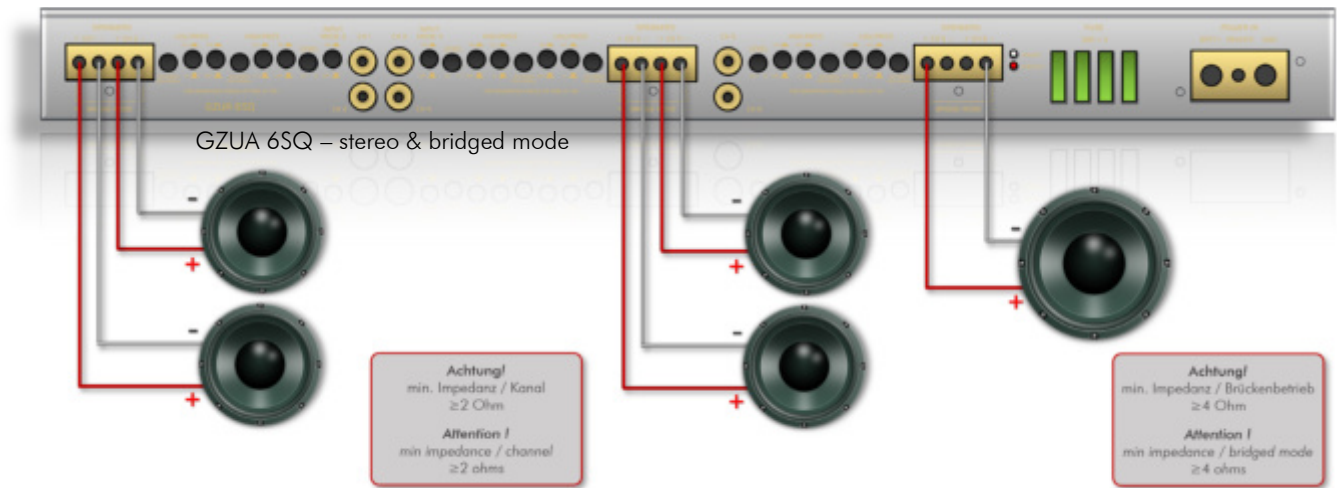


**Achtung!**  
min. Impedanz / Brückenbetrieb  
≥ 4 Ohm  
**Attention!**  
min impedance / bridged mode  
≥ 4 ohms

**Achtung!**  
min. Impedanz / Kanal  
≥ 2 Ohm  
**Attention!**  
min impedance / channel  
≥ 2 ohms



# GROUND ZERO GZUA SQ AMPLIFIER



## Trouble shooting guide

Symptoms	Check	Action
No audible sound	Does the POW LED turn to green?	Check protection fuse(s) of the amplifier (harness) Check remote wire connection (RCA input mode) Check +12 Volt power supply wire connection Check ground wire connection
	Did the PROTECT LED turned to red?	Check for speaker short or amplifier overheating
Device does not turn on	Power supply of the amplifier?	Check power wire or connections
	Remote wire powered? (RCA input mode)	Check remote wire connection to the head unit
No sound on one channel	Speaker wiring undamaged?	Check for short circuit or open connections
	Input signal on each RCA lead?	Reverse left and right RCA inputs to check the audio input signal
Device turns off at medium / high volume	Load impedance of each loudspeaker correct?	Check if each speaker load impedance matches the technical specifications of the amplifier
Status LED turned on red	Temperature protection circuit active	Decrease head unit's volume / wait for cooling
	Speaker wires short / speaker damaged	Check speaker / wires and insulate if necessary

## Safety instructions

**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.



Listening to music can be emotional, impressive, relaxing or enjoyable. At that, it doesn't really matter what kind of music is the personal favorite, whether it's Instrumental, Jazz, Electro, Latin, Classic, Rock or any other music direction. However, audio reproduction quality at each desired volume is elementary. Some music styles require higher levels while others prefer the soft tones. GROUND ZERO considers all the different wishes of customers during the development of new products. Along with this, the target is to create the most realistic sound, to transfer the soul of the music and the intention of the performer. Summarized to one phrase: RESPECT THE MUSIC!



GROUND ZERO Produkte werden in Deutschland entwickelt  
*GROUND ZERO products are engineered in Germany*

GROUND ZERO - international sponsor of



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