

# GROUND ZERO®

## GERMAN ENGINEERING



## URANIUM SERIES

### SQ AMPLIFIER

GZUA 2SQX

GZUA 4SQX

GZUA 6SQX

Owner's Manual

AWV4.0

## GROUND ZERO GZUA SQX AMPLIFIER

### Features

- High-Performance SQ Amplifier
- 2-ohms stable (stereo mode)
- \*1-ohm stable (stereo mode)
- Adjustable BIAS control
- Filterless signal paths
- High-performance OPA 2134 operational amplifiers
- Adjustable input sensitivity
- Soft delayed remote turn-on
- Gold plated terminals
- Thermal / short circuit / overload protection

\* for GZUA 2SQX only

# GROUND ZERO GZUA SQX AMPLIFIER

## Introduction

Thank you for choosing a great GROUND ZERO product! This owner's manual contains information you need to use this product. Please read it carefully in order to achieve the best possible result. Your car audio specialist or our customer support will answer further questions about the product and its use.

Subwoofers are an important part of your car audio system. Please keep in mind, however, that they can only achieve their full performance if all other components of the entire system are carefully coordinated with one another. It is therefore recommended consulting a car audio specialist dealer or workshop for the assembly of the system and its installation and sound adjustments.

## URANIUM Series – Highest 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.



This product must not be disposed of with normal household waste, but must be disposed of separately at the end of their operational lifetime. For packaging disposal, please observe the legal regulations on waste segregation applicable in your country. Further information on the recycling of these products can be obtained from your municipal administration or from the municipal collection points.

## GROUND ZERO GZUA SQX AMPLIFIER

### Specifications

| Model                                            | GZUA 2SQX                                   | GZUA 4SQX                                   | GZUA 6SQX                                   |
|--------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| Amplifier Type                                   | SQ Class A/B Amplifier                      |                                             |                                             |
| Output Power (RMS) @ 4 Ω<br>CEA-2006-A (@ 1 kHz) | 2x 175 W<br>(1% THD+N)                      | 4x 125 W<br>(1% THD+N)                      | 4x 110 + 2x 160 W<br>(1% THD+N)             |
| Output Power (RMS) @ 2 Ω<br>CEA-2006-A (@ 1 kHz) | 2x 300 W<br>(1% THD+N)                      | 4x 235 W<br>(1% THD+N)                      | 4x 175 + 2x 280 W<br>(1% THD+N)             |
| Output Power (RMS) @ 1 Ω<br>CEA-2006-A (@ 1 kHz) | 2x 500 W<br>(1% THD+N)                      | n/a                                         | n/a                                         |
| Max. Output Power<br>(bridged mode)              | 1100 W @ 2 Ω<br>(10% THD+N)                 | 2x 440 W @ 4Ω<br>(10% THD+N)                | 2x 425 + 650 W @ 4Ω<br>(10% THD+N)          |
| Frequency Response                               | 10 Hz – 52 kHz                              |                                             |                                             |
| 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 (±5%)                             |                                             |                                             |
| Recommended Loudspeaker Wiring                   | ≥ 2.5 mm²                                   | ≥ 1.5 mm²                                   | ≥ 1.5 /2.5 mm²                              |
| Recommended Power Wiring                         | ≥ 25 mm²                                    | ≥ 25 mm²                                    | ≥ 35 mm²                                    |
| Fuse(s)                                          | 3x 30A                                      | 2x 40A                                      | 4x 30A                                      |
| Dimensions (w x h x l)                           | 195 x 53 x 360 mm<br>7.68" x 2.09" x 14.18" | 195 x 53 x 360 mm<br>7.68" x 2.09" x 14.18" | 195 x 53 x 550 mm<br>7.68" x 2.09" x 21.66" |

### \*Bridged Mode

For bridge operation, one of the bridge-channel inputs must be phase-shifted by 180 degrees using a DSP. For more information, see the "Loudspeaker Wiring" section.

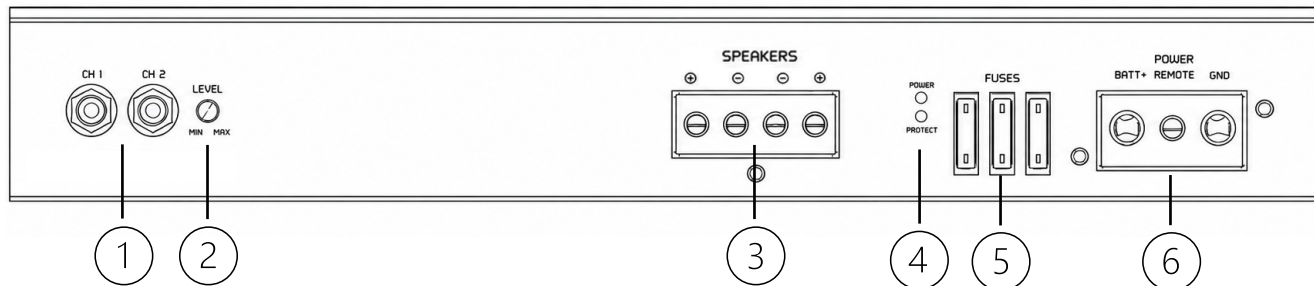
### BIAS setting

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.

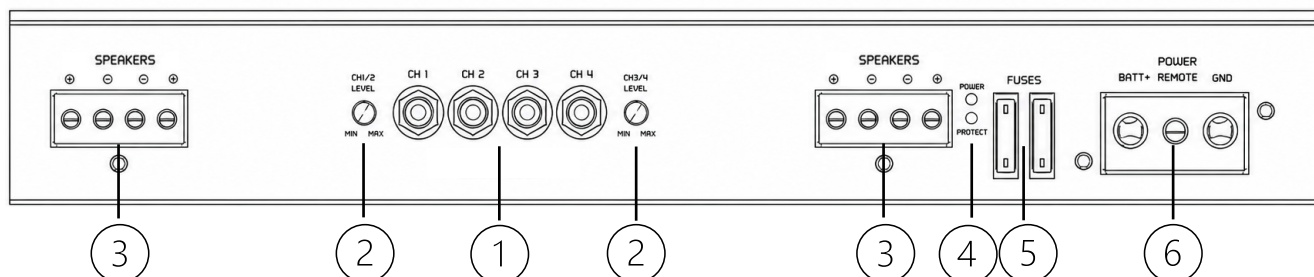
# GROUND ZERO GZUA SQX AMPLIFIER

## Controls & Features

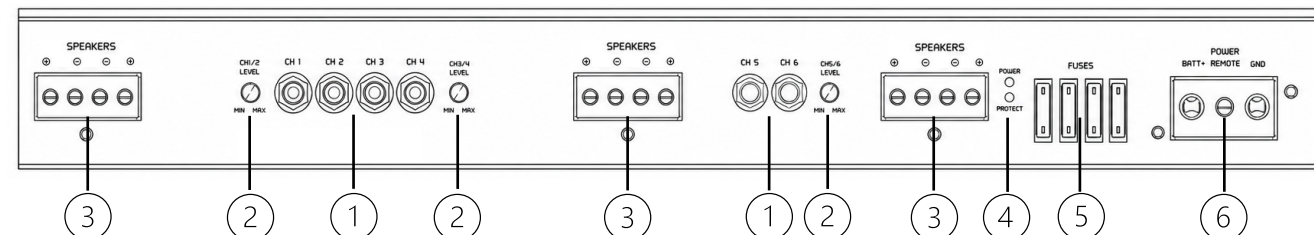
GZUA 2SQX



GZUA 4SQX



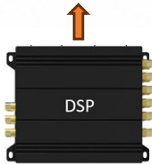
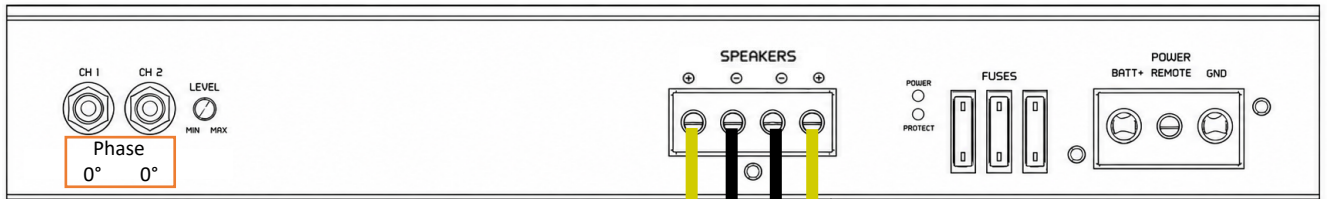
GZUA 6SQX



|   |                      |        |                                                                                                                  |
|---|----------------------|--------|------------------------------------------------------------------------------------------------------------------|
| 1 | Line Input (RCA)     |        | Input sockets to connect RCA wires                                                                               |
| 2 | Sensitivity Control  |        | Controller to adjust the input sensitivity of the according channels                                             |
| 3 | Loudspeaker Terminal |        | To connect the loudspeaker wires in stereo or in bridged mode (at GZUA 6SQX channels 5+6 are more powerful)      |
| 4 | Status LED           |        | Does the POWER LED lights up? -> ok (correct operation)<br>Does the PROTECT LED lights up? -> error / protection |
| 5 | Fuse(s)              |        | Replace a defective fuse only by a new fuse with identical value                                                 |
| 6 | Power Terminal       | BATT + | To connect to a positive power wire from the battery terminal (+12V)                                             |
|   |                      | 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                                                |

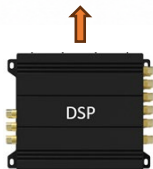
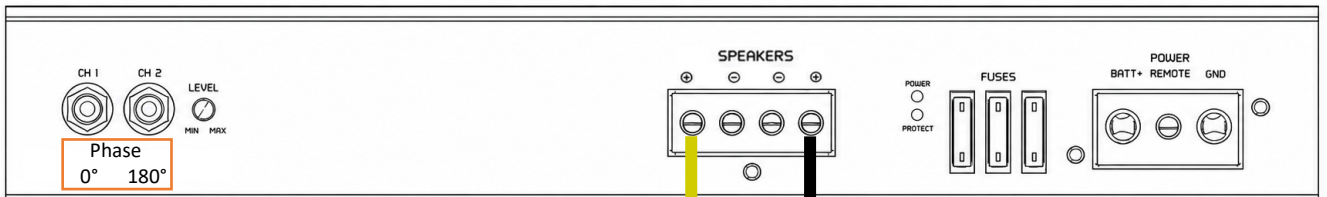
# GROUND ZERO GZUA SQX AMPLIFIER

## Loudspeaker Wiring



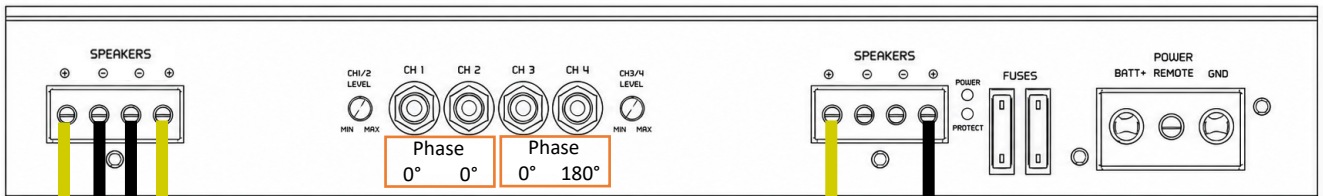
**Attention!**  
min. impedance /  
channel 1 ohm

GZUA 2SQX – stereo mode

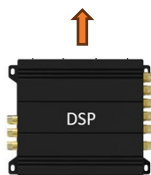


**Attention!**  
min. impedance / bridged  
mode 2 ohms

GZUA 2SQX – bridged mode

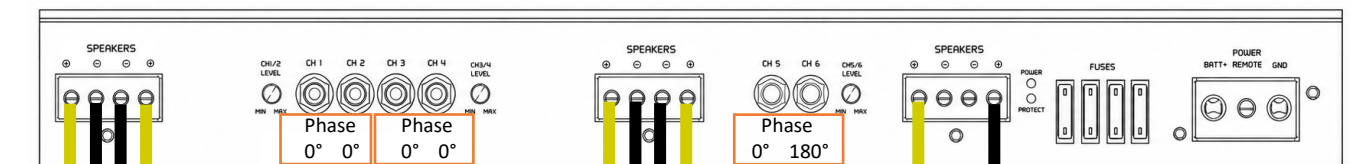


**Attention!**  
min. impedance / channel  
2 ohms

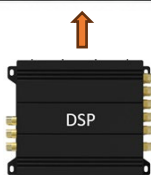


GZUA 4SQX – stereo and  
bridged mode

**Attention!**  
min. impedance / bridged  
mode 4 ohms



**Attention!**  
min. impedance /  
channel 2 ohms



GZUA 6SQX – stereo and  
bridged mode

**Attention!**  
min. impedance / bridged mode  
4 ohms

## GROUND ZERO GZUA SQX AMPLIFIER

### Trouble shooting guide

| Symptoms                                 | Check                                       | Action                                                                                                                                                    |
|------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| No audible sound                         | Does the POWER LED lights up?               | Check protection fuse(s) of the amplifier<br>Check remote wire connection<br>Check + 12 Volt power supply wire connection<br>Check ground wire connection |
|                                          | Did the PROTECT LED lights up?              | 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?                        | 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                                                                                                           |

## Respect the Music



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 products are developed in Germany

GROUND ZERO – international sponsor of



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