

GROUND ZERO®

GERMAN ENGINEERING

URANIUM-SERIES AMPLIFIER

OWNER'S MANUAL

GZUA 2.250SQ-PLUS

GZUA 4.150SQ-PLUS

GZUA 6.200SQ-PLUS

Common Features

- 2 Ohm stable stereo (GZUA 4.150SQ-PLUS & 6.200SQ-PLUS)
- 1 Ohm stable stereo (GZUA 2.250SQ-PLUS)
- Adjustable BIAS control (for each pair of channels separately)
- High End WIMA® Capacitors
- Latest BURR-BROWN® operational amplifiers
- Status LED
- Wide-band adjustable high pass & low pass filters
- Band-pass feature with activated LPF & HPF
- Adjustable input sensitivity
- Soft delayed remote turn on
- Bass remote control (GZUA 2.250SQ-PLUS with activated LPF)
- Phase shift control (GZUA 2.250SQ-PLUS with activated LPF)
- Bass boost control from 0 - 12dB @45 Hz(GZUA 2.250SQ-PLUS)
- Thermal / speaker short circuit / overload / over current protection
- Temperature sensor controlled cooling fan

Recommended wiring

	GZUA 2.250SQ-Plus / GZUA 4.150SQ-Plus	GZUA 6.200SQ-Plus
Speaker wires	min 2.5 mm ² / 13 AWG	min 2.5 mm ² / 13 AWG
Power supply wires	min 20.0 mm ² / 4 AWG	min. 35.0 mm ² / 2 AWG
Remote wire	min 0.75 mm ² / 20 AWG	min 0.75 mm ² / 20 AWG

Mounting instructions

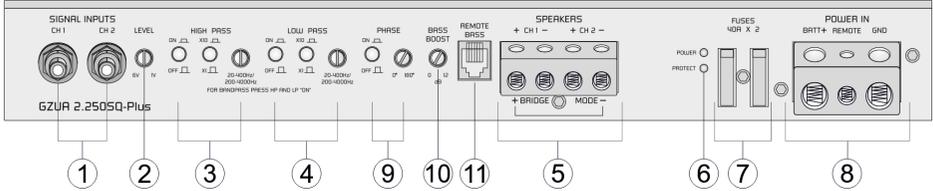
- As a precaution, it is recommended to disconnect the vehicles battery before mounting (also note the vehicles manual!)
- The power supply wire (+12 V) has to be protected within max. 20 cm / 8" by a main fuse holder with matching fuse value (Main fuse value has to be equal to the sum of values of the fuses of each connected device)
- If necessary, replace a defective fuse by a new one with identical value
- Never drill a hole to the vehicles gas tank or brake lines, to wirings or any other important vehicle part!
- Never pass wires over sharp edges or vehicle parts
- Keep the wiring away from the antenna and electronic devices contributing to radio reception
- Install the power supply wiring locally separated from the speaker wiring
- The amplifier contains a temperature protection circuit that turns the device off in case of overheating. After a certain cooling time the amplifier will turn on again automatically. To avoid heat build-up, it's necessary to provide sufficient air supply for the amplifier cooling. Therefore, never cover the surface of the heatsink entirely.
- The amplifier should not be mounted on a strongly vibrating part or surface (e.g. subwoofer enclosure)
- If a pre-amplified output (RCA) is available (on the head unit) it is recommended to make use of them

WARNING I

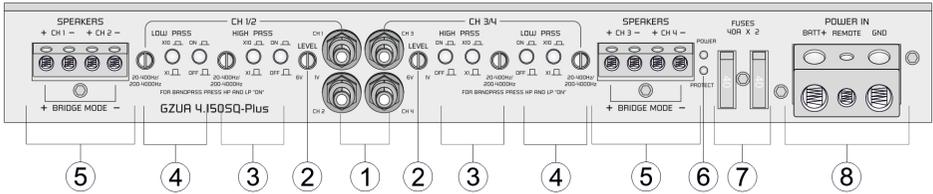
Powerful car audio systems are able to create extremely high SPL similar to real live concert levels. Permanent exposure to excessively high sound levels may cause damage to or loss of the hearing.

Furthermore, operation of a motor vehicle while listening to audio equipment at high volume levels may impair your ability to concentrate on road traffic and external sounds such as horns, warning signals or emergency vehicles. In the interest of general and own safety, it is recommended to listen to music at appropriately low volume levels while driving.

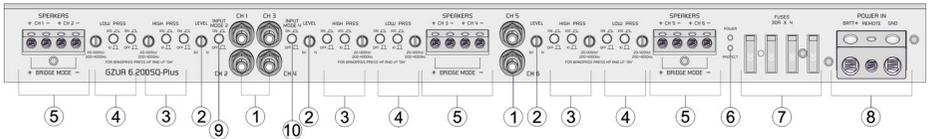
Controls & Features – GZUA 2.250SQ-PLUS



Controls & Features – GZUA 4.150SQ-PLUS



Controls & Features – GZUA 6.200SQ-PLUS



Controls & Features GZUA SQ-PLUS series amplifiers

1	INPUT sockets	Input sockets to connect RCA wires - to avoid any malfunction, it is recommended to use only high quality RCA cables <u>Cable recommendation:</u> GZCC X-TP series (available lengths 0.57 / 1.14 / 3.14 / 5.49 m)
2	LEVEL control	Controller to adjust the input sensitivity of the according pair of channels
3	Crossover activation switch*	Push the switch to the ON position to activate the high pass filter
	Crossover multiplication switch	Push the switch to the X10 position to multiply the selected frequency by the factor of 10 The crossover frequency range will change from 20 – 400 Hz to 200 – 4000 Hz
	HIGH PASS filter controller*	Adjust the required crossover point using the controller. Frequencies below the selected crossover point will be filtered (20 to 400 Hz / 200 to 4000 Hz).
4	Crossover activation switch*	Push the switch to the ON position to activate the low pass filter
	Crossover multiplication switch	Push the switch to the X10 position to multiply the selected frequency by the factor of 10 The crossover frequency range will change from 20 – 400 Hz to 200 – 4000 Hz
	LOW PASS filter control*	Adjust the required crossover point using the controller. Frequencies above the selected crossover point will be filtered (20 to 400 Hz / 200 to 4000 Hz)
*	BANDPASS feature	Bandpass filter is activated as soon as high and low pass switches are in the ON position Depending on the multiplication switch the bandpass filter range varies from 20 to 4000 Hz
5	SPEAKER terminal	To connect the speaker wires in stereo or bridged mode
6	Status LED	POWER -> white -> ok (correct operation) PROTECT -> red -> error / protection
7	Fuses	Replace defective fuses always using fuses with identical value
8	POWER supply terminal	BATT +
		REMOTE
		GND
		Connect to a positive power wire from the battery terminal (12 Volt)
		Connect to the remote output wire of the head unit or DSP/pre-amplifier
		Connect to a wire from the ground terminal of the battery or to chassis ground

Additional Controls & Features GZUA 2.250SQ-PLUS

9	PHASE control	Activating switch and controller (0 to 180°)
10	BASS BOOST control	Controller to adjust the bass boost level (from 0 to +12 dB @ 45 Hz)
11	BASS REMOTE socket	Connect the wire of the bass remote control

Additional Controls & Features GZUA 6.200SQ-PLUS

9 10	INPUT MODE 2 switch INPUT MODE 4 switch	INPUT MODE 2 "OFF" and INPUT MODE 4 "OFF" Each input channel provides signal to the according channel
		INPUT MODE 2 "ON" and INPUT MODE 4 "OFF" Input CH1 provides signal to CH1 & CH3 & CH5 Input CH2 provides signal to CH2 & CH4 & CH6
		INPUT MODE 2 "OFF" and INPUT MODE 4 "ON" Input CH1 provides signal to CH1 Input CH2 provides signal to CH2 Input CH3 provides signal to CH3 and CH5 Input CH5 provides signal to CH4 and CH6

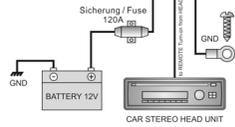
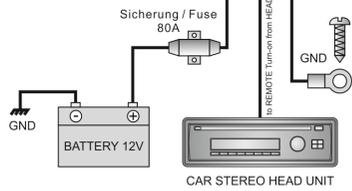
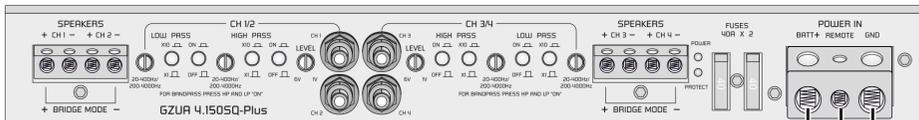
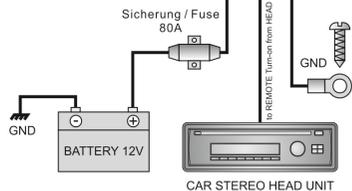
BIAS setting

The BIAS setting affects the operation mode of the amplifier.

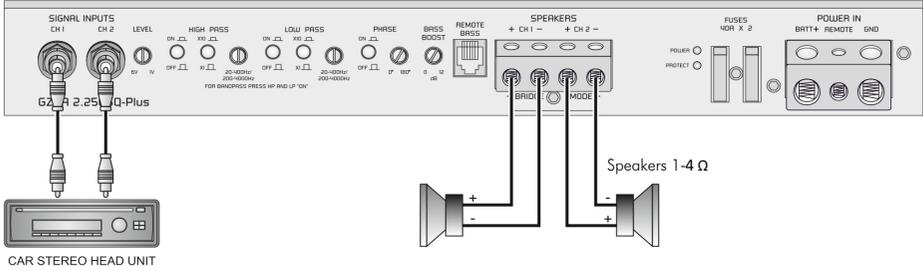
It is continuously adjustable from <MIN> (actual Class A/B mode) to <MAX> (close to Class A mode).

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.

Power wiring – GZUA amplifier series

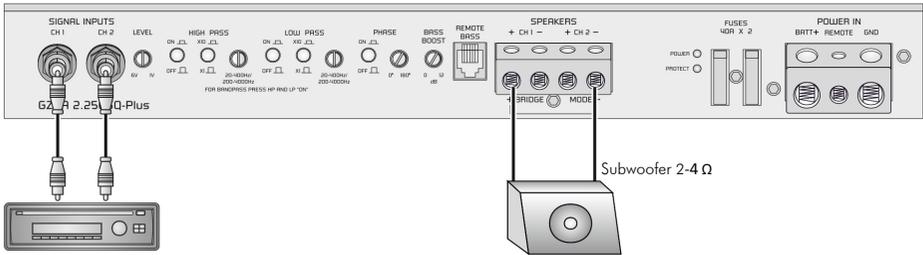


Input & output stereo wiring – GZUA 2.250SQ-PLUS



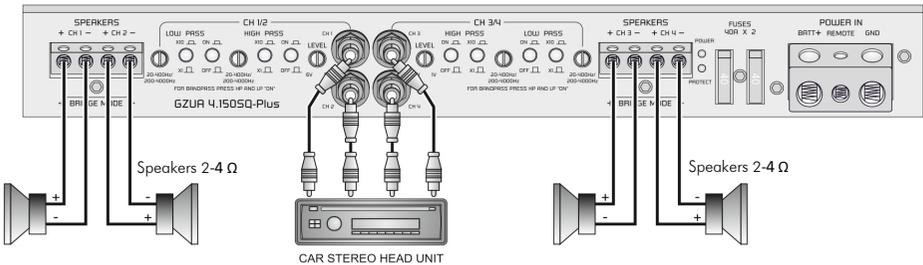
CAR STEREO HEAD UNIT

Input & output bridged wiring – GZUA 2.250SQ-PLUS



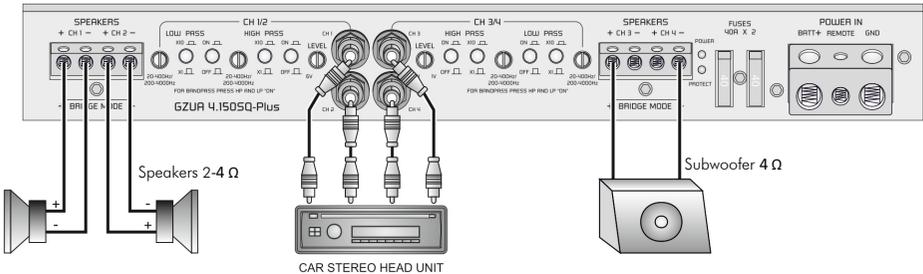
CAR STEREO HEAD UNIT

Input & output stereo wiring – GZUA 4.150SQ-PLUS



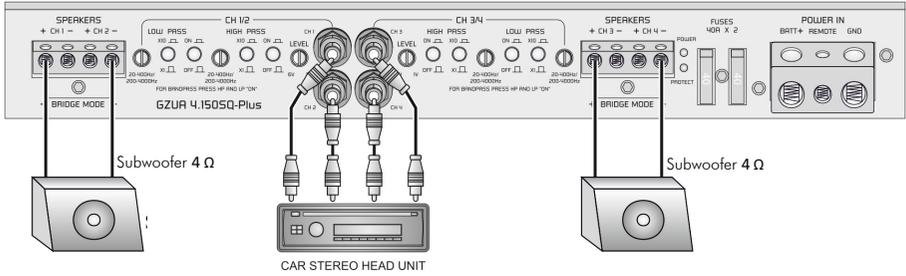
CAR STEREO HEAD UNIT

Input & output 3-channel wiring – GZUA 4.150SQ-PLUS



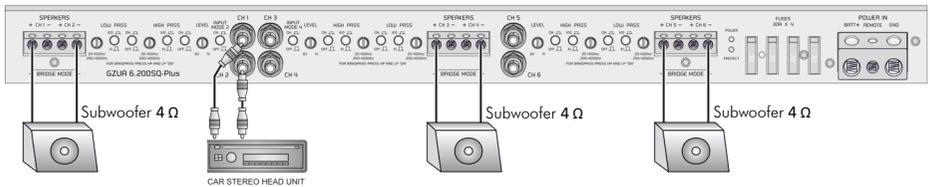
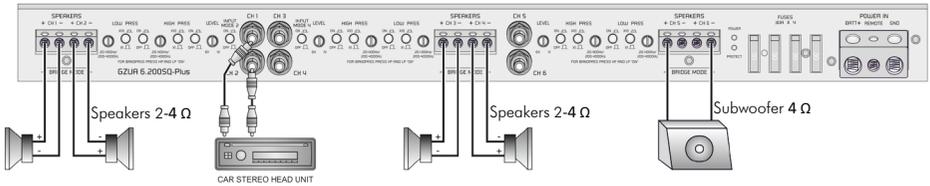
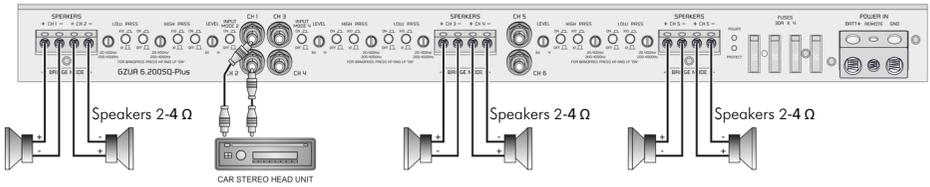
CAR STEREO HEAD UNIT

Input & output bridged wiring – GZUA 4.150SQ-PLUS



Input & output stereo/bridged wiring – GZUA 6.200SQ-PLUS – 2 channel input

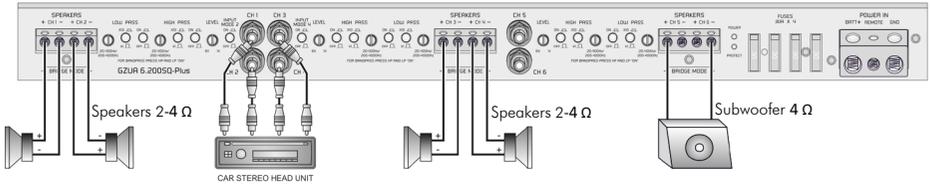
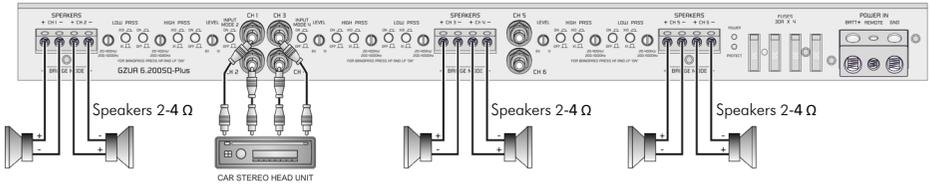
SET INPUT MODE
 INPUT MODE 2 to "ON" position
 INPUT MODE 4 to "OFF" position



Input & output stereo/bridged wiring – GZUA 6.200SQ-PLUS – 4 channel input

SET INPUT MODE

INPUT MODE 2 to "OFF" position
 INPUT MODE 4 to "ON" position

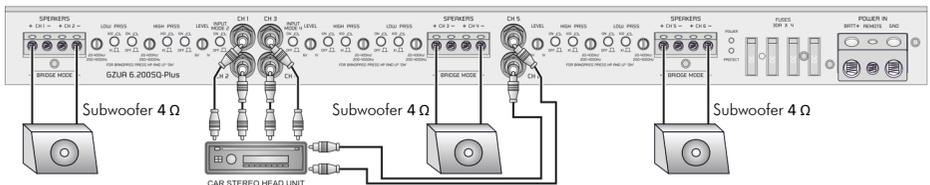
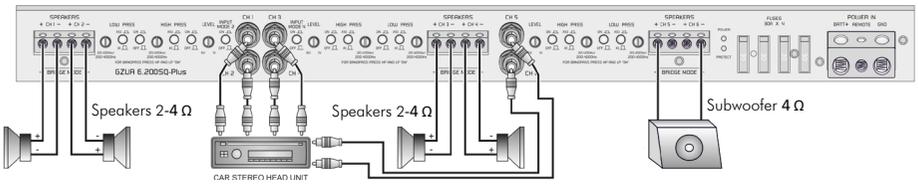
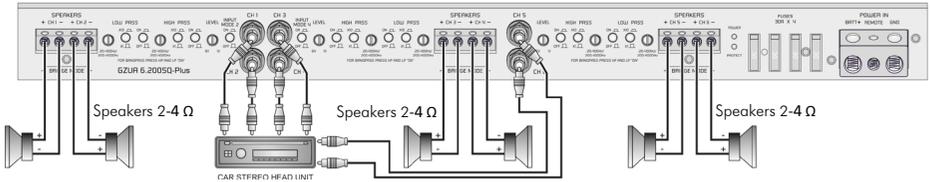


Input & output stereo/bridged wiring – GZUA 6.200SQ-PLUS – 6 channel input

SET INPUT MODE

INPUT MODE 2 to "OFF" position

INPUT MODE 4 to "OFF" position



Specifications

Model	GZUA 2.250SQ-PLUS	GZUA 4.150SQ-PLUS	GZUA 6.200SQ-PLUS
Amplifier type	2 channel class A/B	4 channel class A/B	6 channel class A/B
RMS Power @ 4 Ω CEA Standard CEA-2006-A	2x 180 W (1% THD+N) 2x 200 W (10% THD+N)	4x 110 W (1% THD+N) 4x 140 W (10% THD+N)	4x 110 W + 2x 160 W (1% THD+N) 4x 140 W + 2x 190 W (10% THD+N)
RMS Power @ 2 Ω CEA Standard CEA-2006-A	2x 320 W (1% THD+N) 2x 350 W (10% THD+N)	4x 190 W (1% THD+N) 4x 230 W (10% THD+N)	4x 160 W + 2x 280 W (1% THD+N) 4x 190 W + 2x 320 W (10% THD+N)
RMS Power @ 1 Ω CEA Standard CEA-2006-A	2x 500 W (1% THD+N) 2x 550 W (10% THD+N)	-	-
RMS Power @ 4 Ω bridged CEA Standard CEA-2006-A	1x 640 W (1% THD+N) 1x 700 W (10% THD+N)	2x 380 W (1% THD+N) 2x 460 W (10% THD+N)	2x 320 W + 1x 560 W (1% THD+N) 2x 380 W + 1x 640 W (10% THD+N)
RMS Power @ 2 Ω bridged CEA Standard CEA-2006-A	1x 1200 W (10% THD+N)	-	
Damping factor	> 150		
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 – 30 KHz		
Bass boost	0 ~ +12 dB (45 Hz)	-	
Phase shift	0 - 180°	-	
Input sensitivity	1 V – 6 V (± 5%)		
Bass remote	✓	-	
Operating voltage	11 – 15 V		
Fuse(s)	2x 40A	2x 40A	4x 30A
Dimensions w x h x l (mm)	209 x 46 x 360		209 x 46 x 550
Dimensions w x h x l (inch)	8.23 x 1.81 x 14.17		8.23 x 1.81 x 21.65

Trouble shooting guide

Symptoms	Check / Cause	Action
No audible sound	Does the POW LED light up white?	Check protection fuse(s) of the amplifier Check remote wire connection to the head unit Check +12 Volt power supply wire connection Check ground wire connection
	Does the PRO LED light up red?	Check for speaker short or amplifier overheating
Device does not turn on	Power supply of the amplifier?	Check protection fuse(s) of the amplifier Check +12 Volt power supply wire connection Check ground wire connection
	Remote wire powered?	Check remote wire connection to the head unit
No sound from one or more channel(s)	Speaker wiring undamaged?	Check for short circuit or open connections
	Input signal on all RCA leads?	Reverse left and right RCA inputs to check the audio input signal
Device turns off at medium or high volume	Load impedance of each speaker 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 units volume / wait for cooling
	Speaker wires short / speaker damaged	Check speaker / wires and insulate if necessary

Terms of warranty

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

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