

GROUND ZERO[®]

GERMAN ENGINEERING



PLUTONIUM SERIES

High-End Midwoofer

GZPK 165SQ-C

Owner's Manual
(AWV2.2)

English Version

Introduction

Thank you for choosing a GROUND ZERO product and welcome to your new PLUTONIUM series loudspeaker!

This is the owner's manual providing instructions on the operation and installation of this high-end loudspeaker. Please, read it carefully. If you have any further questions, please contact your local GROUND ZERO dealer or our regional distribution partner.

This loudspeaker is one of the most important parts of your car audio system. However, it will only be able to deliver its full performance when 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 tuning.

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

PLUTONIUM Series – The High-End Experience



Each product belonging to the GROUND ZERO PLUTONIUM series impresses with high-end sound and highest processing quality as well as huge power handling. All these properties of the products are considered to be a constant target during the development. Many particular components and technologies are used to achieve this target. The technical, electrical and mechanical properties of the products are convincing both at many sound competitions that take place worldwide and, with their outstanding sound capabilities in audio reproduction, also meet the highest demands of our customers. Only after a series of comprehensive tests and inspections are they delivered to global GROUND ZERO partners and retailers. The PLUTONIUM series includes a tweeter, midrange and midwoofer, a matching subwoofer and two amplifiers with an extraordinarily sound quality. Consequently, many products of the PLUTONIUM series have already received international awards.

For example, the GZPW 10SQ and GZPA 4SQ have been awarded as BEST IN-CAR products by the EISA group of international car audio magazines.



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 note

- Never drill a hole to the vehicle's gas tank or brake lines, to wirings or any other important vehicle parts!
- Never pass wires over sharp edges or vehicle parts due 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

GROUND ZERO[®]

GERMAN ENGINEERING

PLUTONIUM SERIES

High-End Midwoofer

GZPK 165SQ-C

Features

- High-end midwoofer with supreme sound quality
- Optimized using the renowned Klippel[®] measurement system
- High-tech ceramics-coated aluminum cone
- GZ-design aluminum cast basket offering unique ventilation
- High-efficient hybrid motor with neodymium and ferrite magnets
- Lightweight, 2-layer copper clad aluminum voice coil
- Impedance linearizing copper cap
- Durable NBR rubber surround
- Gold-plated GZ-design screw terminal
- GZ-design hexagon style NRG* protection grill with logo option
- Chromed aluminum magnet cover
- Serial number

* NRG: non-resonant grill

GROUND ZERO GZPK 165SQ-C

Specifications

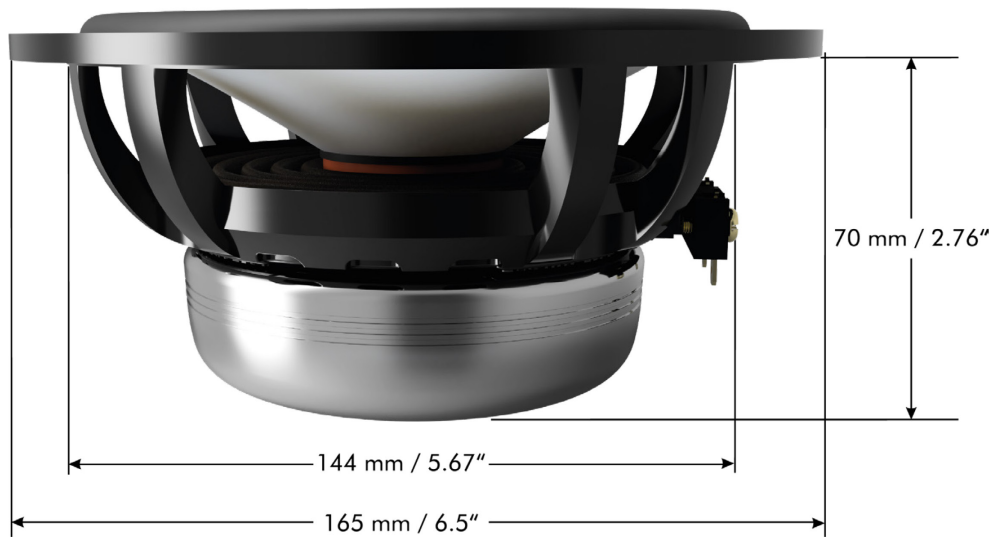
Model	GZPK 165SQ-C
Speaker type	165 mm / 6.5" High-end midwoofer
Impedance (nominal)	4 ohms
Frequency response	40 Hz – 5 kHz
Basket	Aluminum cast
Cone	Ceramics-coated aluminum
Motor	Neodymium-ferrite hybrid system
Voice coil	38 mm / 1.5" CCA
Power handling (RMS)	140 Watts (12dB/oct HPF@ 60 Hz)
Power handling (max.)	200 Watts (12dB/oct HPF@ 60 Hz)

Technical Parameters (TSP)

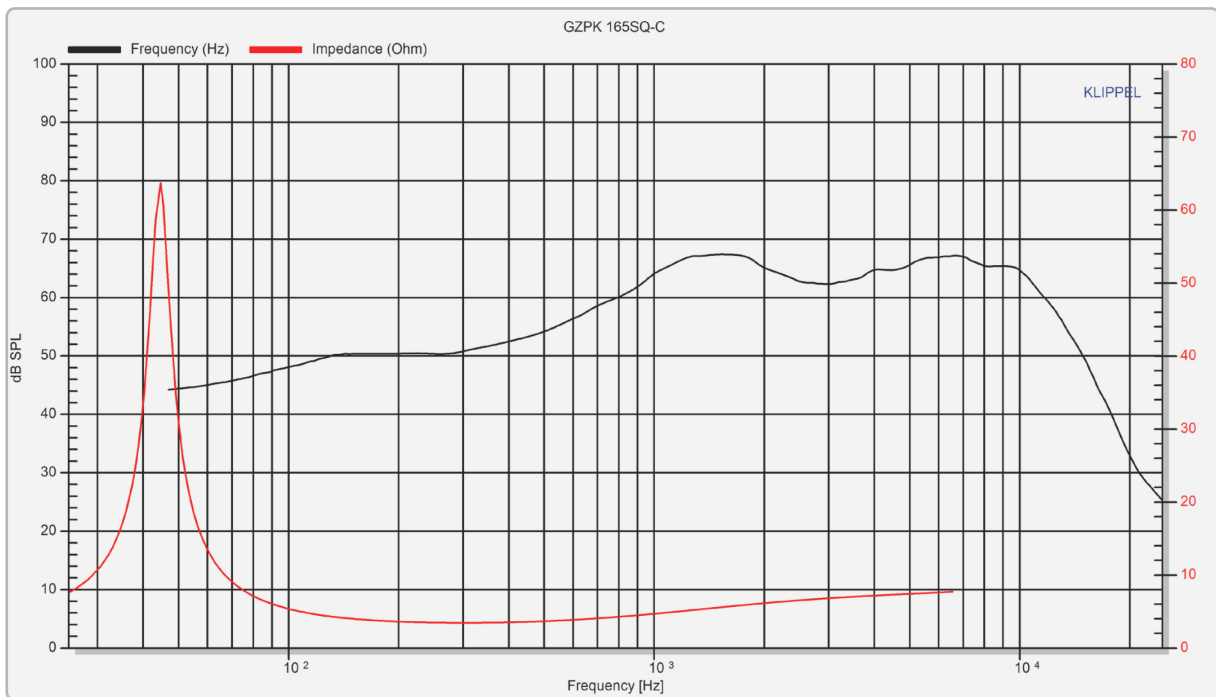
Resonance frequency	38 Hz
Efficiency (SPL)	88.5 dB
R_e	3.3 ohms
Q_{ms}	7.87
Q_{es}	0.43
Q_{ts}	0.41
V_{as}	27.9 L / 0.98 cu.ft.
M_{ms}	15.2 g
B_L	5.75 N/A
R_{ms}	0.54 kg/s
C_{ms}	1.16 mm/N
L_E	0.21 mH
Xmax (excursion)	12 mm / 0.47" (peak-peak)

GROUND ZERO GZPK 165SQ-C

Dimensions

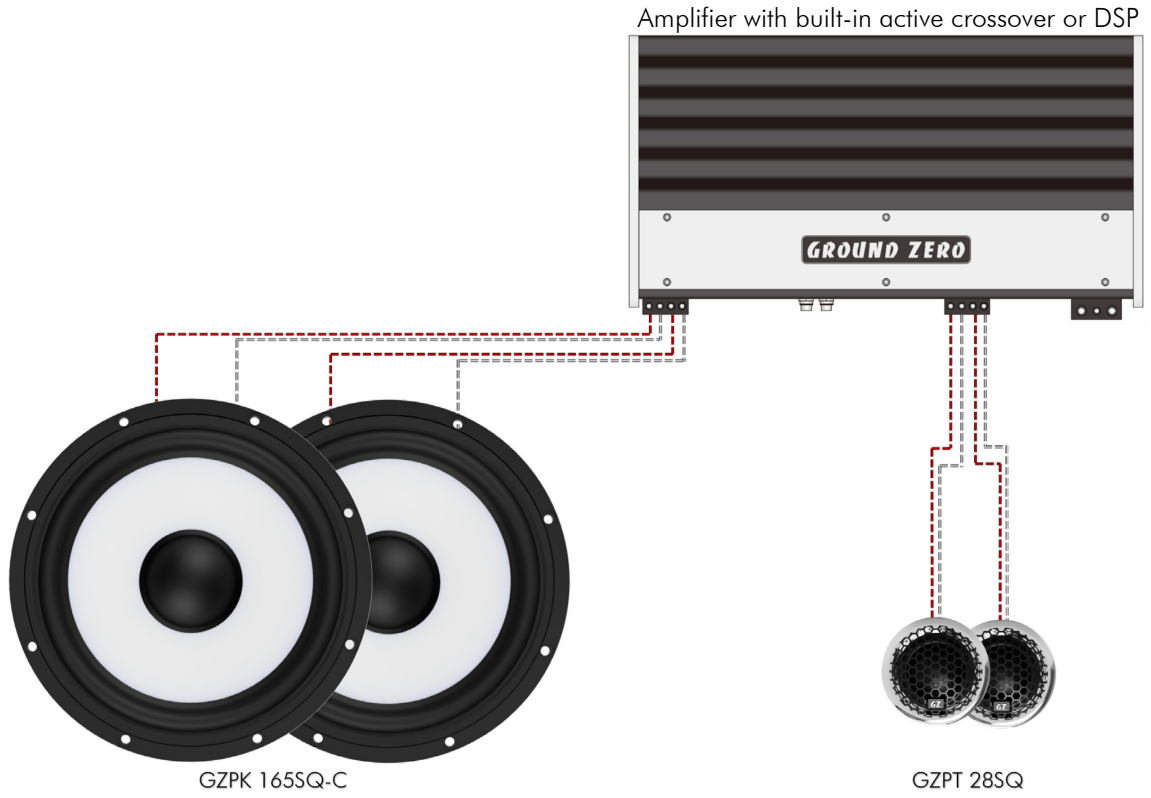


Frequency Response

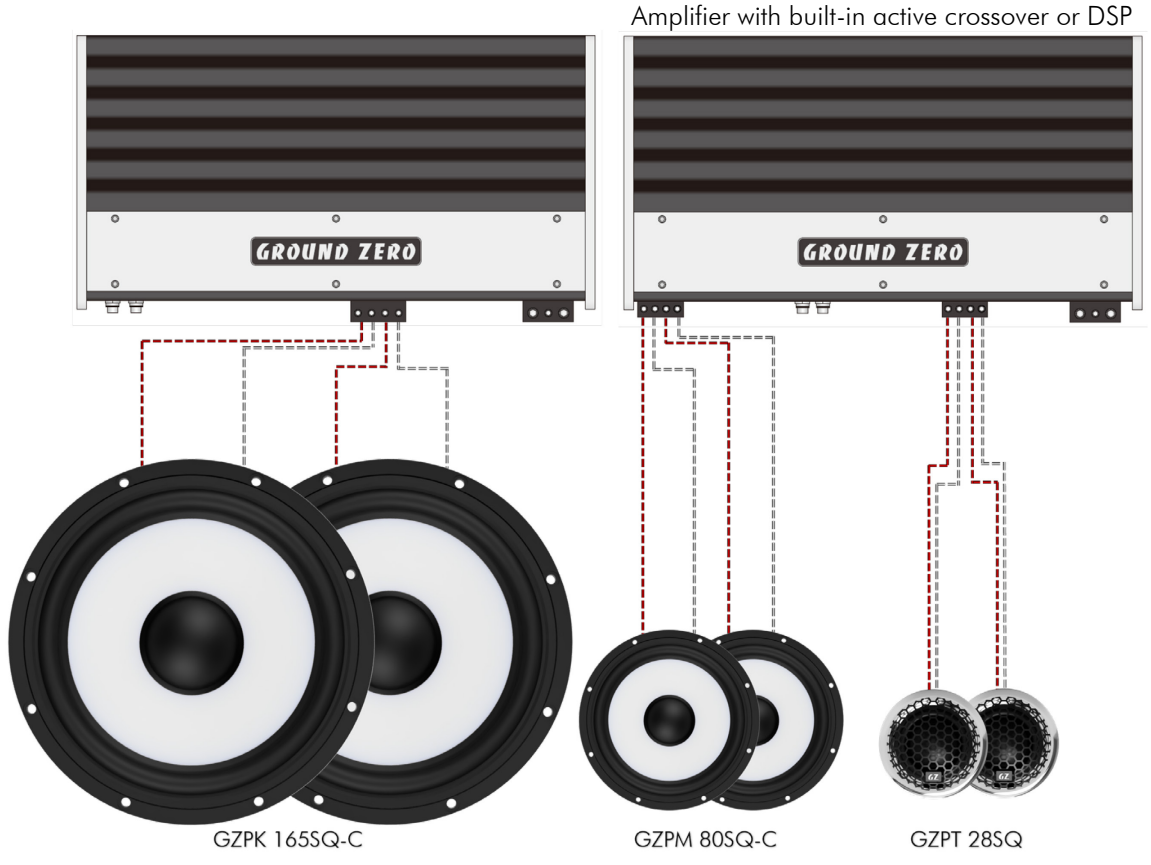


GROUND ZERO GZPK 165SQ-C

2-Way Setup Wiring



3-Way Setup Wiring



Safety Instructions

Safety instructions: Keep all parts of the content and the packaging away from children and pets to avoid accidents and the risk of suffocation. Permanently extreme levels of over 85 dB can lead to irreparable damage to the hearing. Music systems with high amplifier output power can reach levels of 130 dB or more. Extreme levels can also hinder the perception of important traffic noises and distract from what is happening on the road. Ground Zero GmbH and its sales partners expressly assume no responsibility for hearing damage, physical damage or any damage to property or consequential damage resulting from improper or careless use or improper installation of its products. In particular, any claims are forfeited through the use under competitive conditions.

Manufacturer's declaration: Hereby, Ground Zero GmbH declares that this product conforms to the rules of the following EU directives (including all applicable changes): 2011/65 / EU RoHS2 and 2001/95 / EC directive on general product safety.

The full text of the EU declaration of conformity is available at www.ground-zero-audio.com. Loudspeakers contain magnetized metals and some valuable raw materials and must not be disposed of with normal household waste. Please leave defective or no longer required components to a local recycling facility at the end of their practical use.

Verified with KLIPPEL®



GROUND ZERO is using the worldwide accepted **KLIPPEL® R&D Analyzer KA3** measurement system for speaker development during the German in-house development as well as for QC reporting for most production lines at the factory. The results of LPM and LSI measurements are the basis for evaluating and verifying further development enabling to offer perfectly working products in any practical application. Continuous and advanced trainings for development employees ensure the highest possible qualification.

KLIPPEL® is a registered trademark of KLIPPEL GmbH

GROUND ZERO[®]

GERMAN ENGINEERING



PLUTONIUM SERIES

High-End Midrange

GZPM 80SQ-C

Owner's Manual
(AWV3.1)

English Version

GROUND ZERO GZPM 80SQ-C

Introduction

Thank you for choosing a GROUND ZERO product and welcome to your new PLUTONIUM series loudspeaker! This is the owner's manual providing instructions on the operation and installation of these loudspeakers. Please, read it carefully. If you have any further questions, please contact your local GROUND ZERO dealer or our regional distribution partner. Loudspeakers are an important part of your car audio system. However, they will only be able to deliver the best possible performance when each further 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 tuning. We hope you will enjoy the sound quality of an enthusiastic development by the GROUND ZERO engineering team!

PLUTONIUM Series – The High-End Experience



Each product belonging to the GROUND ZERO PLUTONIUM series impresses with high-end sound and highest processing quality as well as huge power handling. All these properties of the products are considered to be a constant target during the development. Many particular components and technologies are used to achieve this target. The technical, electrical and mechanical properties of the products are convincing both at many sound competitions that take place worldwide and, with their outstanding sound capabilities in audio reproduction, also meet the highest demands of our customers. Only after a series of comprehensive tests and inspections are they delivered to global GROUND ZERO partners and retailers. The PLUTONIUM series includes a tweeter, midrange and midwoofer, a matching subwoofer and two amplifiers with an extraordinarily sound quality. Consequently, many products of the PLUTONIUM series have already received international awards.

For example, the GZPW 10SQ and GZPA 4SQ have been awarded as BEST IN-CAR products by the EISA group of international car audio magazines.



Terms of Warranty

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General installation note

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- Never pass wires over sharp edges or vehicle parts due avoid any kind of damage
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- Lay the power supply wiring always separated from speaker wiring to avoid disturbance

GROUND ZERO[®]

GERMAN ENGINEERING

PLUTONIUM SERIES

High-End Midrange

GZPM 80SQ-C

Features

- High-end midrange loudspeaker with supreme sound quality
- Optimized using the renowned Klippel[®] measurement system
- GZ-design aluminum cast basket
- High-tech ceramic coated aluminum cone
- High-efficient neodymium motor
- Durable rubber surround
- Gold-plated terminal
- GZ-design hexagon style NRG* protection grill

* NRG: non-resonant grill

GROUND ZERO GZPM 80SQ-C

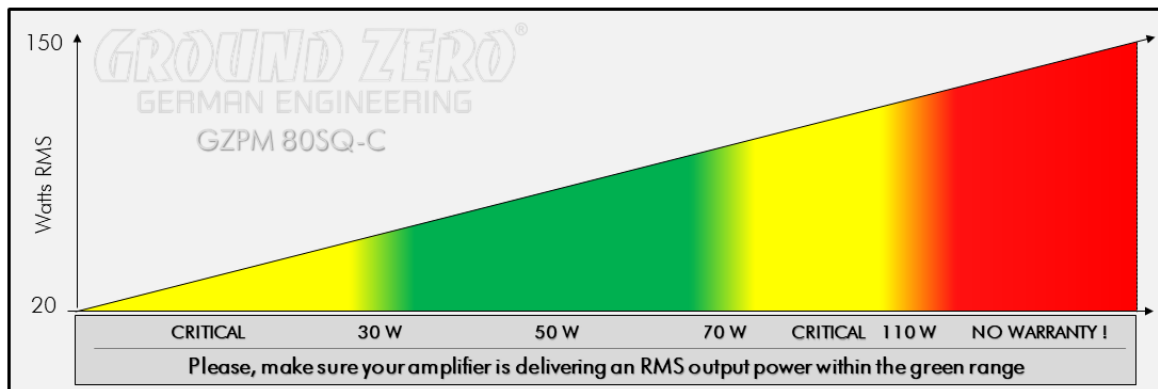
Specifications

Speaker type	80 mm / 3.15" High-End midrange loudspeaker
Impedance (nominal)	4 ohms
Frequency response	150 Hz – 4 kHz
Basket	Aluminum cast
Cone	Ceramic coated aluminum
Motor	Neodymium
Voice coil Ø	20 mm / 0.79"
Power handling (RMS)	70 Watts (with 12dB/oct HPF)
Power handling (max.)	110 Watts (with 12dB/oct HPF)

Technical Parameters (TSP)

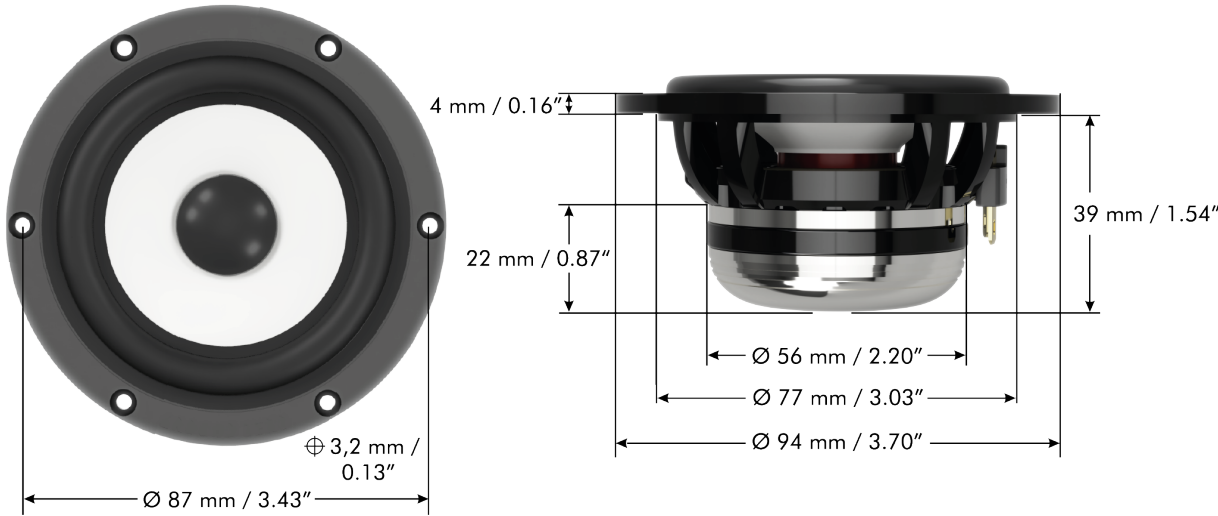
Resonance frequency	100 Hz
Efficiency (SPL)	89 dB
R _e	3.5 ohms
Q _{ms}	5.74
Q _{es}	0.30
Q _{ts}	0.29
V _{as}	1.50 L / 0.05 cu.ft.
M _{ms}	3.16 g
B _L	4.76 N/A
R _{ms}	0.34 kg/s
C _{ms}	0.81 mm/N
L _E	0.12 mH
X _{max} (excursion)	7 mm / 0.275" (peak-peak)

Power Recommendation

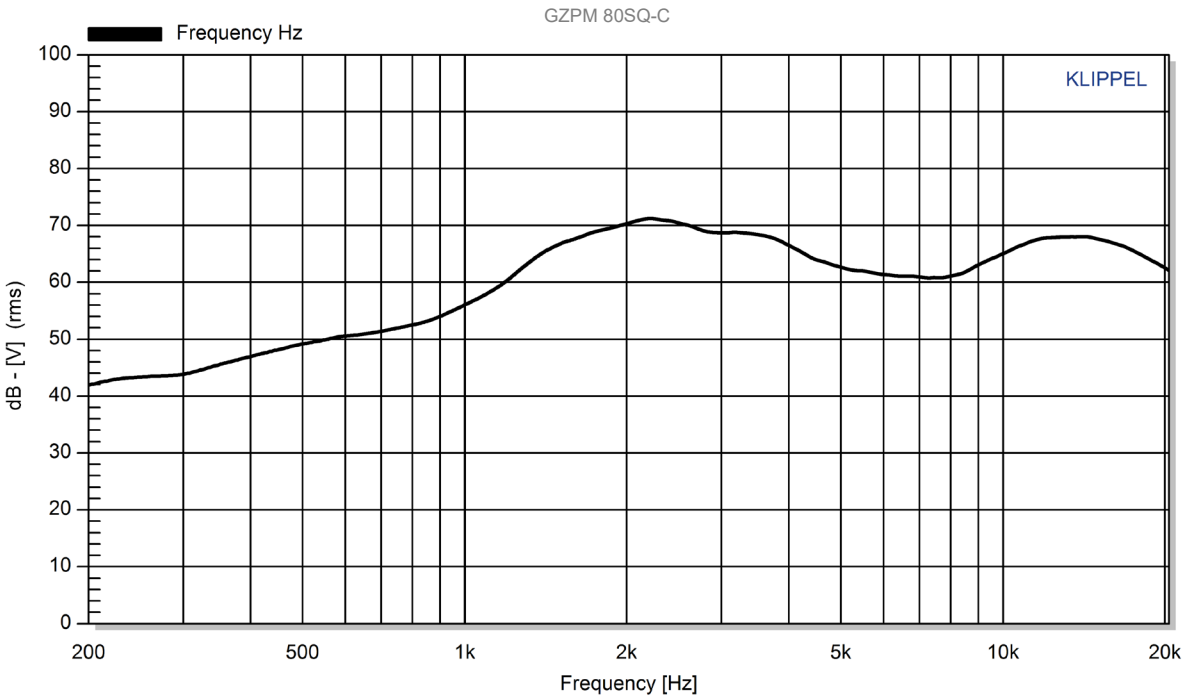


GROUND ZERO GZPM 80SQ-C

Dimensions



Frequency Response

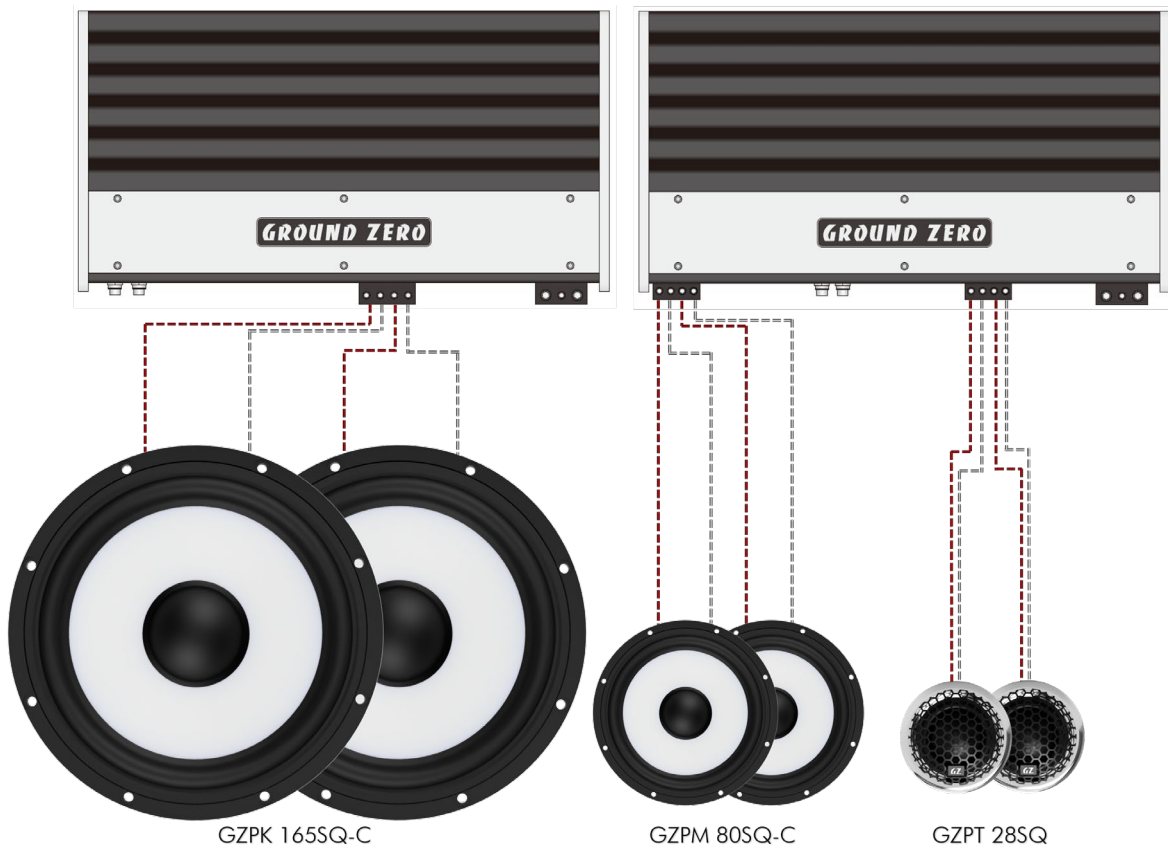


GROUND ZERO GZPM 80SQ-C

Grill Assembly



3-Way Setup Wiring



Amplifier with built-in active crossover or DSP

Safety Instructions

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Verified with KLIPPEL®



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GROUND ZERO[®]
GERMAN ENGINEERING

NUCLEAR SERIES
SQ Tweeter

GZNT 28SQ



Owner's Manual
(AWV2.1)

English

GROUND ZERO GZNT 28SQ

Introduction

Thank you for choosing a GROUND ZERO product and welcome to your new NUCLEAR series loudspeaker! This is the owner's manual providing instructions on the operation and installation of these SQ tweeters. Please, read it carefully. If you have any further questions, please contact your local GROUND ZERO dealer or our regional distribution partner. Tweeters are an essential part of your car audio system. However, the full performance is given only when each part of the whole system is tuned carefully matching to each other. Therefore, we recommend consulting a car audio specialist to compile the desired sound system, as well as for installation and tuning. We hope you will enjoy the sound quality of an enthusiastic development by the GROUND ZERO engineering team!

The NUCLEAR Series – Ultimate Performance

Products belonging to the NUCLEAR series deliver an outstanding performance and impressive build quality. Some special features of the High-End PLUTONIUM series are adopted to the NUCLEAR series. The GZNT 28SQ tweeters of the latest NUCLEAR generation are designed for active crossover use and deliver a very natural and highly detailed audio reproduction

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.

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!

General installation note

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GROUND ZERO®

GERMAN ENGINEERING

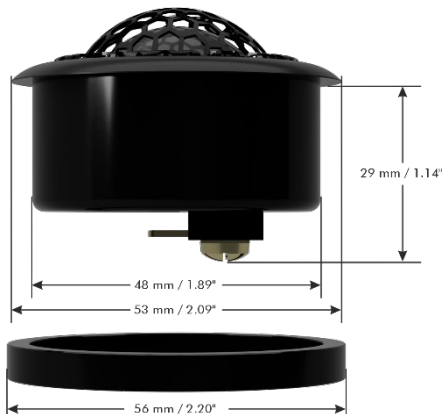
NUCLEAR SERIES

SQ Tweeter

GZNT 28SQ

Features

- 28 mm / 1.1" SQ tweeter
- Precision-coated silk dome
- Anodized aluminum housing
- Gold-plated terminals
- Vented neodymium motor
- GZ design fastening rim and hexagon-style protection grill
- For active crossover use



GROUND ZERO GZNT 28SQ

Specifications

Model	GZNT 28SQ
Housing	Aluminum
Diameter	28 mm / 1.1"
Impedance	4 ohms
Resonance frequency	1350 Hz
Frequency response	2000 Hz – 25 kHz
Power handling	90 Watts RMS / 140 Watts max (3000 Hz HPF @ 12dB/oct)
Efficiency	91 dB

Verified with KLIPPEL®



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Specifications

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GROUND ZERO are engineered in Germany
GROUND ZERO – International Sponsor



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