

GROUND ZERO[®]

GERMAN ENGINEERING



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

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 & MANUFACTURER'S DECLARATION

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. 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.

GZ ULTRA K-165 – GENERAL SPECIFICATIONS

Speaker type	165 mm / 6.5" SQ midwoofer
Nominal impedance	4 ohms
Frequency Response	45 Hz – 5 kHz
Basket type	Multipiece machined aluminum
Cone material	Carbon-fleece sandwich cone
Motor	High-grade Neodymium
Voice coil diameter	34 mm / 1.34"
Max. excursion (p2p)- Xmax	10 mm / 0.39"
Power handling (RMS)	100 Watts
Power handling (max)	160 Watts
Nominal diameter	165 mm / 6.5"
Mounting diameter	147 mm / 5.79"
Mounting depth	67 mm / 2.64"

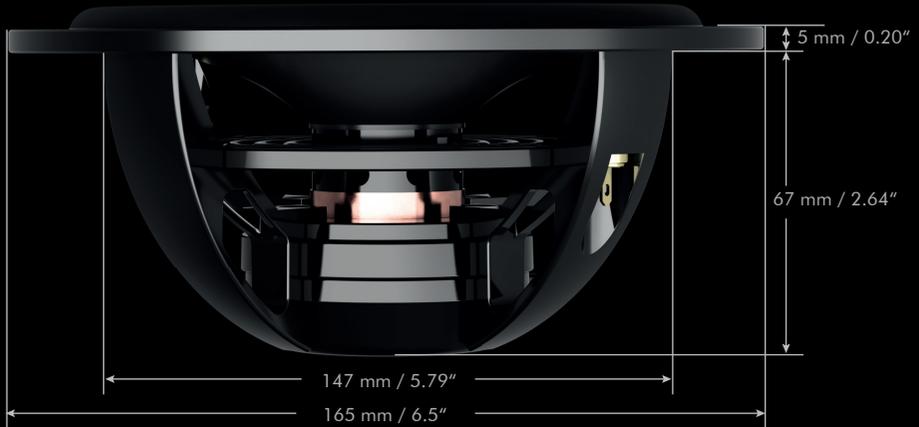
GZ ULTRA K-165 – PARAMETERS

Resonance frequency - fs	43 Hz
Efficiency - SPL	87 dB
DC voice coil resistance - Re	3.4 ohms
Driver's Q (nonelectrical losses only) - Qms	5.56
Driver's Q (at fs) - Qes	0.56
Total driver's Q - Qts	0.51
Air vol. compliant to driver's suspension - Vas	20.4 L
Moving mass incl. acoustic load - Mms	15.4 g
Product of magnetic flux density - BL	5.05 N/A
Mech. resistance of driver's suspension - Rms	0.75 kg/s
Compliance of driver's suspension - Cms	0.88 mm/N
Voice coil inductance - LE	0.12 mH

GZ ULTRA K-165 – FEATURES

- Ultra-high-end 165 mm / 6.5" midwoofer
- Tightly-tolerated technical parameters
- Lightweight carbon-fleece sandwich cone
- High-excursion linear moving rubber surround
- High-grade neodymium motor
- Vented voice coil former reducing distortion
- Round copper wire voice coil increasing power handling
- Fine-blasted, black anodized GZ-design basket from machined aluminum parts
- Optimized motor and voice coil ventilation
- Airflow-optimized aluminum cast spokes
- Generously dimensioned flexible spider-woven lead wires
- Gold plated terminals
- Documented final technical inspection
- Wooden box packaging / in matching pairs
- GZ ULTRA 165-GRILL protection grills available separately

symbolic illustration



GZ REFERENCE ULTRA SERIES



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 the production line 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.

GZ ULTRA K-165

The most sensitive frequency range of human hearing is the midrange spectrum. In 2-way loudspeaker setups this essential part of the audio signal used to be covered rather by the midwoofer than by the tweeter. For this reason, the target of development must be a smooth, but wide band response starting from a low resonant frequency up to the crossover point where the tweeter takes over. At the same time high-dynamical performance and consistent audio reproduction quality at each desired output level are major requirements.

Design follows function. In fact, the design of the ULTRA K-165 midwoofer is way more than just imposing cosmetics. The unique basket consists of a set of machined aluminum parts providing maximum stability for the moving parts but showing no disturbing influences owing to an air-flow optimized shape of the spokes.

Two layers of carbon-fleece, impregnated with a polymeric resin and a layer of special damping in-between are united under high temperature and pressure resulting in a high-strength, exceptionally torsional-rigid but though extremely lightweight sandwich cone. Together with a powerful high-grade neodymium motor, that's the perfect basis for the intended purpose of a midwoofer driver, sounding and performing unrivaled great.



Not a huge surprise but a great honour, the performance of the GZ ULTRA K-165 and T-30 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 these speakers as simply the

“BEST PRODUCT – IN-CAR SPEAKER SYSTEM”



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



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