

MANUAL
GRAVITY

MK2
G-1200
G-500
MK2

XETEC®

XETEC®
designgroup

XETEC GRAVITY MK2 SERIES G-500 / G-1200

Congratulations for buying this **XETEC** product and thank you for your confidence! With this **XETEC** amplifier you have purchased an innovative and professional high-end product, which will enable you to enjoy your music on a very high quality level for many years. We have especially focused on electronic as well as product design to give you a product that will accompany you for many years, as our products are always one step ahead and will still be modern for many years.

XETEC products represent the experience our engineers have made through many years assisted by car audio magazines as well as professional installers. Please read these instructions very carefully, to avoid unnecessary trouble and defects.

In case of trouble, please contact your local dealer or check our website www.xetec.de for troubleshooting. There we also offer up-to-date tech-tips and technical support for you.

The **XETEC G-500 / G-1200** is a state-of-the-art mono car audio subwoofer amplifier, especially developed for top quality subwoofers. A perfect choice are the **XETEC** subwoofers.

The versatility and many adjustment options make the **G-500 / G-1200** an allround genius to drive one or more subwoofers.

SPECIAL FEATURES

- Remote BLC: The **XETEC** Bass Level Controller enables you to adjust your subwoofer level from the dash. Use of a VCA (Voltage Controlled Amplifier circuit) makes this option a high end feature.
- Parametric EQ: The built-in Parametric Equalizer was engineered for correction of the vehicle's own acoustic properties and thus can enhance the sound quality significantly.
- The subsonic filter is able to filter out very low frequencies, which can hardly be heard, but need a lot of energy. So cone excursion is reduced and energy is saved which now can be used for the audible spectrum of the music. The sound becomes clearer and more stable.
- Phase adjust can be used to get the subwoofer acoustically back to the front systems by compensation of the delay between front speakers and subwoofer.
- Protection circuits: Overload, Short-circuit, DC, Overheat.

SAFETY

- **Before you make any connection, the battery must be disconnected!**
- **A main fuse must be installed into the +12 V wire within the first 12" from the + terminal of the battery (insurance regulation!).**
- **Please note that a minimum speaker impedance of 2 Ohms must be maintained. Do not connect speakers with lower impedance in normal as well as in bridged mode!**
- **Make sure that you do not use defective speakers and subwoofers. They can cause damage to your amplifier!**

The fuses inside the amplifier only protects the device itself, not the battery and the car!

CAUTION

This product is capable of conducting very high sound pressure levels, and can thus be harmful to your health. Prolonged exposure to high volume levels can cause hearing loss! Please use restraint on the volume control. XETEC wants you to enjoy your amplifier for a long time to come, and we do not take responsibility for hearing loss nor other health problems.

0. INSTALLATION

For safety reasons, the amplifier has to be mounted properly and fixed to the car's body. Please fix the device using the screws that come with your product. Be careful when drilling holes, there might be wires, fuel lines or the gas tank behind a wall! Never drill holes when you do not know what's behind. Never install signal wires close to power cables to avoid hum and alternator noise is being induced.

1. CONNECTIONS

Before you make any connections, always disconnect the battery!

- 1.1 First of all, connect the RCA cables coming from the radio/headunit to the respective inputs of your amplifier. Always run signal cables in a distance to power cables and the vehicle's factory wires to avoid induction of noise.
- 1.2 The BLC (remote Bass Level Controller) is connected with the telephone wire now.
- 1.3 Now the speaker wires must be connected to the respective speaker terminals. Please make sure to use speakers with the correct impedance! Also make sure to connect all speakers with correct polarity to avoid phase problems which can spoil the sound of the whole system.
- 1.4 Next step is the ground connection. Check for a good grounding point using your vehicle's chassis. Make sure that this point has good electrical contact! Some parts of the chassis might only be glued and have no contact to battery (-). Run all ground cables of the system to this point to avoid alternator whine and other noise.
- 1.5 As the next connection the +12 V cable has to be connected to the (+) terminal of the battery. Always be careful not to run this cable around sharp edges, the insulation might be damaged. For holes always use grommets!

Always use an in-line fuse in the +12 V power cable in max. 12" from the battery's + terminal (value must meet the current requirements of the whole sound system, minimum value is 60 A).

- 1.6 The last connection is the remote wire. The headunit must always be turned off during this connection, as it might be damaged when remote output is shorted to ground!

Now you can reconnect the battery and insert the main fuse into the power cable's fuse holder.

CAUTION: Both, the +12 V and the ground cable, must have sufficient diameter!

XETEC proposes the following minimum gauges:

Total output power of the system:

Up to 100 W:	6 mm ²
Up to 250 W:	8 mm ²
Up to 500 W:	10 mm ²
Up to 750 W:	25 mm ²
Up to 1000 W:	35 mm ²
Up to 1200 W:	40 mm ²
More than 1200 W:	50 mm ²

Weaker Cables will reduce the performance of your system significantly, and may cause damage to your amplifiers. Weak cables also will heat-up!

CAUTION

Always replace fuses with same value. Higher values may cause damage to your amplifier, battery or car!

2. FIRST POWER-UP

- 2.1 Adjust all level controls and the BLC to minimum
- 2.2 Turn on the radio at low volume
- 2.3 Increase the volume and adjust the front speaker's volume
- 2.4 Now adjust the volume ratio between front and rear speakers and subwoofer.

XETEC recommends the following crossover frequencies:

16 cm front speaker	Highpass 80-100 Hz
13 cm front speaker:	Highpass 100-140 Hz
13 cm front speaker:	Highpass 120-200 Hz

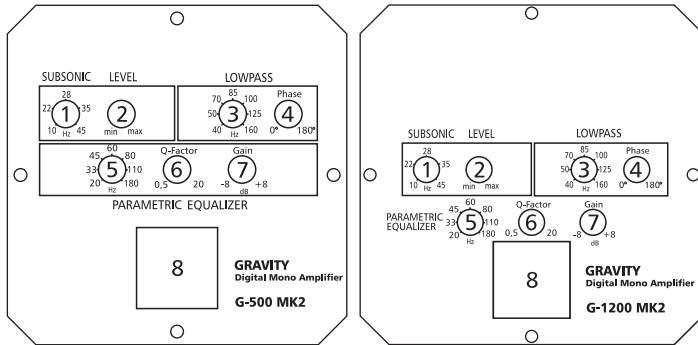
16 cm rear speaker:	Highpass 100-120 Hz
13 cm rear speaker:	Highpass 120-150 Hz
10 cm rear speaker:	Highpass 150-200 Hz

16 cm midbass: Bandpass 80/150 Hz (= Highpass 80 Hz+ Lowpass 150 Hz), Compositesystems then are run with Highpass 150-180 Hz!

Subwoofer: Lowpass 70-100 Hz, Subsonic 20-35 Hz

3. CONTROLS

All controls are accessible under the aluminium top cover. For adjustments, remove the top cover using the hexa screwdriver that came with your product.

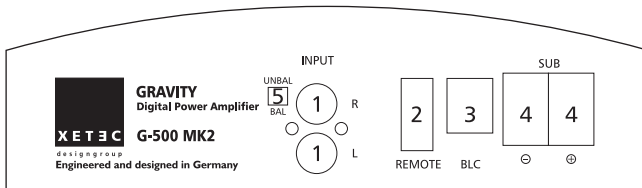


- 1 Subsonic Frequency: Filters out very low, hardly audible frequencies
- 2 Subsonic filter ON/OFF
- 3 Lowpass frequency adjust
- 4 Phase adjust
- 5 EQ frequency
- 6 EQ Bandwidth (Q-factor)
- 7 EQ gain
- 8 Logo / Diagnostic LED
LED off: Amplifier is off
LED Blue: Amplifier is ON, and working correctly
LED RED: Protection activated. See #6, troubleshooting

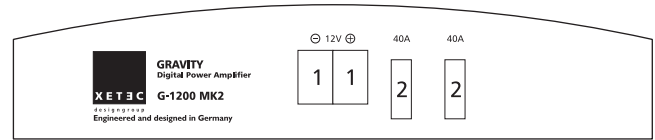
TIP

If you intend not to use the equalizer, please adjust to following values: frequency: 20 Hz; Q: 0,5; Gain: 0 (exactly in mid position).

4. CONNECTORS (G-500/G-1200)



- 1 RCA line inputs (left and right channels)
- 2 Remote terminal
- 3 Socket for BLC (remote Bass Level Controller)
- 4 Subwoofer output terminal
- 5 Bal/unbal selector switch



- 1 Power inlet (+) and (-) 12 V
- 2 Fuses

BAL/UNBAL SELECTOR SWITCHES:

All GRAVITY MK2 series amplifiers are equipped with selector switches for balanced or unbalanced input mode operation, in order to prevent noise induction by ground loops.

Alternator whine and other noise induction is mostly caused by improper ground connections of the components like radio, equalizer, processor, amplifier etc.

Unless all of them are grounded in **one and the same** grounding point on the car chassis, noise may occur due to different ground potentials.

There is only one way to avoid these effects: Selection between balanced or unbalanced input mode of the amplifiers.

USAGE:

The amplifiers are factory-set to „balanced“. If noise occurs, all switches should be set to „unbal“. For noise suppression, it is also allowed to set a number of switches to „bal“ and others to „unbal“, in order to find the perfect combination.

In case the noise problem still cannot be solved 100%, the ground wiring must be revised and optimised.

APPLIED TECHNOLOGIES

- HPAA © by XETEC design group GmbH: „High Precision Analog Amplifier“, symmetrical State-of-the-Art power amplifier
- X-SMPS © by XETEC design group GmbH: „X-Switched-Mode-Power-Supply“, high efficiency power supply
- VCVS-Filter © by XETEC design group GmbH: „Voltage Controlled Voltage Source“ filters for the crossover networks
- X-protect © by XETEC design group GmbH: Highly sensitive protection circuits
- XETEQ © by XETEC design group GmbH: Car-acoustical error correction circuit (for specific car model)

TECHNICAL DATA

XETEC G-500 MK2

RMS Output power @4 Ohms:	1x 360W
RMS Output power @2 Ohms:	1x 612W
RMS Output power @1 Ohm:	Not available!
Peak output power:	700W total
Idle current (no signal):	2,5A
Max input Current (@13,8V):	63A
Fuse:	2x30A
Total Harmonic Distortion (THD):	<0,2%
SNR:	>82 dB(A)
Freq. Response (bypass mode):	5 Hz-250 Hz
Damping Factor:	>110 (50 Hz)
Stability:	>2 Ohm
Input Sensitivity:	250 mV-6V
Crossover frequencies:	40-200 Hz lowpass 10-50 Hz subsonic adjustable
Ground lift (balanced / unbalanced)	
Subwoofer gain adjust with Bass level controller	
Warranty:	1 year, 2 years in EU

XETEC G-1200 MK2

RMS Output power @4 Ohms:	450W
RMS Output power @2 Ohms:	750W
RMS Output power @1 Ohm:	1225W
Peak output power:	1500W total
Idle current (no signal):	2,5A
Max input Current (@13,8V):	123A
Fuse:	2x40A
Total Harmonic Distortion (THD):	<0,2%
SNR:	>82 dB(A)
Freq. Response (bypass mode):	5 Hz-250 Hz (in bypass mode)
Damping Factor:	>180 (50 Hz)
Stability:	>1 Ohm
Input Sensitivity:	250 mV-6V
Crossover frequencies:	40-200 Hz lowpass 10-50 Hz subsonic adjustable
Ground lift (balanced / unbalanced)	
Subwoofer gain adjust with Bass level controller	
Warranty:	1 year, 2 years in EU

TROUBLESHOOTING

1. Power indicator LED in top plate is not lit
 - Main fuse or fuse in amplifier blown?
 - Remote wire properly connected? Is there remote voltage (12 V)?
 - Amplifier overheated?
2. Power indicator LED in top plate lights RED
 - Protection active. Check the speakers and speaker wires for short-circuit!
 - Battery voltage low (<10,2 V)?
 - DC on one of the speaker outputs?
 - Overload
3. Distortions at medium level
 - Please check the speaker connections for short-circuits
 - Are the speakers OK?
 - Radio volume turned up too high. Better turn up the amplifier's level controls
4. Alternator whine and similar noise
 - Bad ground connections?
 - Use ONE ground contact only!
 - RCA cables run too close to power cables?

In case of further trouble, please ask your local **XETEC** dealer for support.

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