



Manual

GRAVITY 8G1000

XETEC design group GmbH
www.XETEC.de

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XETEC® Gravity 8G-1000

Thank you for buying this **XETEC product** and thank you for your confidence!

With this **XETEC product** 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 electronics 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 remaining modern for a long time. **XETEC products** combine our engineers' experience with the demands and ideas of our professional installers.

Please read these instructions very carefully to avoid unnecessary trouble and defects. In case of trouble, please contact your local **XETEC dealer**.

The **XETEC 8G-1000** is a state-of-the-art 8-channel car audio amplifier, especially developed for top quality speaker systems and subwoofers. A perfect choice are the **XETEC Component systems** and **subwoofers**.

As a novelty you can also run each set of 4 channels in parabridged mode to gain 4 times the output power of one single channel, in order to drive subwoofers, midbasses or high power component systems.

The versatility and many adjustment options make the **8G-1000** an allround genius for car music reproduction.

Special features XETEC 8G-1000 – State-of-the-art Analog 8-channel Amplifier:

- alu-magnesium diecast heatsink
- 8x130 W
- 2 Ohms stable
- Bridged mode: 4x260 W
- HPAA technology
- TOP control (all controls accessible under top plate cover)
- Balanced RCA inputs for maximum noise suppression
- Input sensitivity 250 mV – 6 V
- Full protection (DC, Overheat, Shortcircuit, Overload)
- Gold plated input terminals

Possible configurations:

8-ch mode:

- 8 Channels each with 83 Watts into 4 Ohms or 130 Watts into 2 Ohms

6-ch mode:

- 4 Channels each with 83 Watts into 4 Ohms or 130 Watts into 2 Ohms
- + 2 Channels each with 260 Watts into 4 Ohms (Bridge Mode)

5-ch mode:

- 4 Channels each with 83 Watts into 4 Ohms or 130 Watts into 2 Ohms
- + 1 Channel with 330 Watts into 4 Ohms or 520 Watts into 2 Ohms (ParaBridge Mode)

4-ch mode:

- 4 Channels each with 260 Watts into 4 Ohms (Bridge Mode)

3-ch mode:

- 2 Channels each with 260 Watts into 4 Ohms (Bridge Mode)
- + 1 Channel with 330 Watts into 4 Ohm or 520 Watts into 2 Ohms (ParaBridge Mode)

2-ch mode:

- 2 Channels each with 330 Watts into 4 Ohms or 520 Watts into 2 Ohms (ParaBridge Mode)

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 the minimum speaker impedance must be maintained. Do not connect speakers with lower impedance in normal as well as in bridged mode or parabridge 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!

Important notice: stability of amplifiers

Normal operation:

Every amplifier is only capable of driving loads (speakers) up to a certain limit, which is set either by the protection circuits or the maximum power output. **XETEC amplifiers** accept loads down to 2 Ohms in normal operation.

Bridged mode:

In bridged mode each two channels of the amplifier are driving the same load, the acceptable impedance for each channel is also divided by two!

That means:

A normal amplifier „sees“ 4 Ohms as 4 Ohms. In a bridged amplifier, each amplifier „sees“ 2 Ohms only! That's why in bridged mode always 4 Ohms must be maintained although the amplifier might be 2-Ohms stable.

Parabridge mode:

Due to the special crossconnection of those 4 Amp sections in 1 Channel mode the combined solution is again 2 Ohm stable.

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.

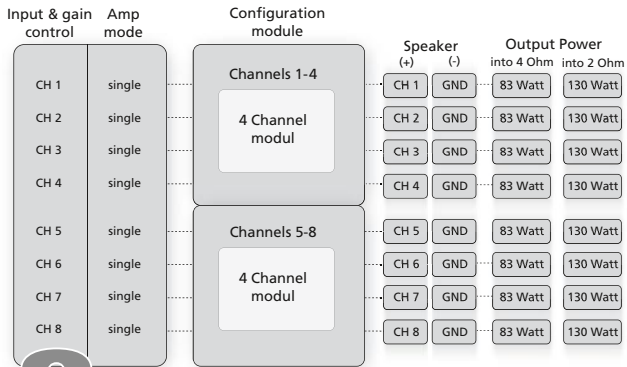
How to configure the amplifier

First you should decide (perhaps with the help of your local XETEC dealer) which configuration fits best to your car-audio solution.

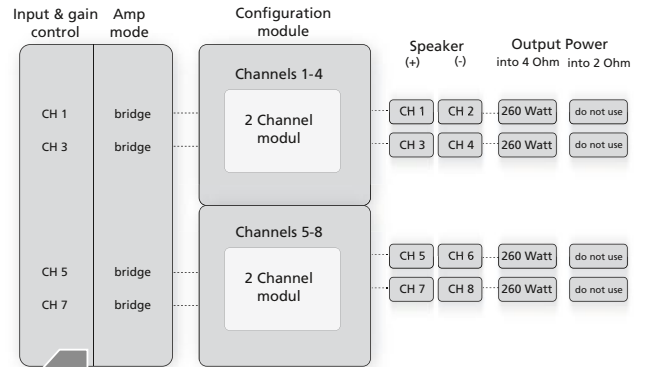
For changing the configuration of the amplifier you must switch off the amplifier and wait at least 30 sec until the supply voltages have decreased.

Then you can remove the Top-Plate as well as the Scale-Plate which enables you to see both of the Gain-Bords (in the middle) and the two Configuration Modules. With the upper Module you are able to configure channels 1-4, while the bottom module (close to the LEDs) is used to configure channels 5-8. Basically there are three different types of Modules, which can be used for channels 1-4 and 5-8 independantly. For example if you are using two 1-Channel modules you get a 2-Channel amplifier or if you are using a 2-Channel and a 4-Channel module you get a 6-Channel amplifier. All possible configurations are shown in the diagram below.

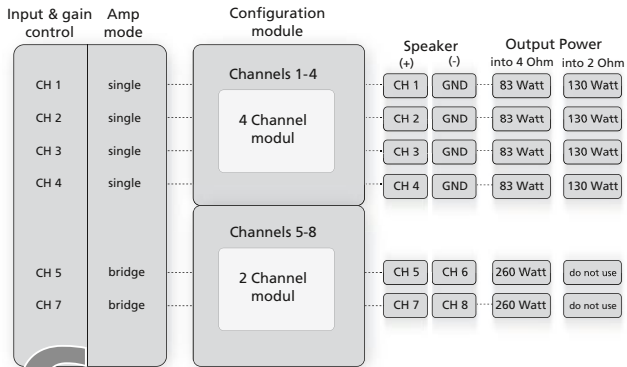
After inserting the Configuration Modules you may fix the Scale-Plate and adjust Gain-Controls to minimum and then switch on the amplifier again.



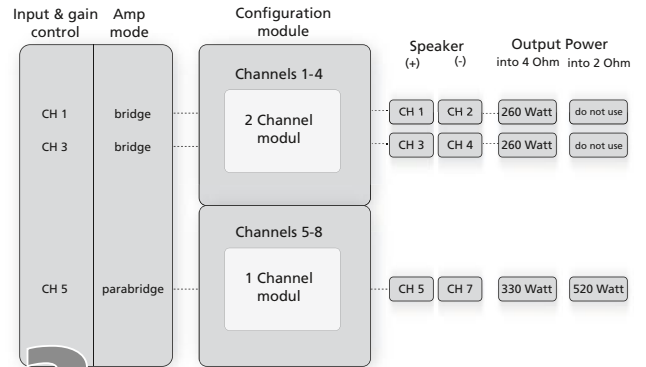
8 Channel configuration



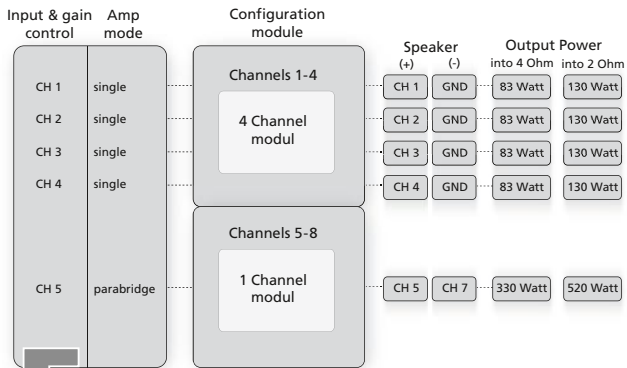
4 Channel configuration



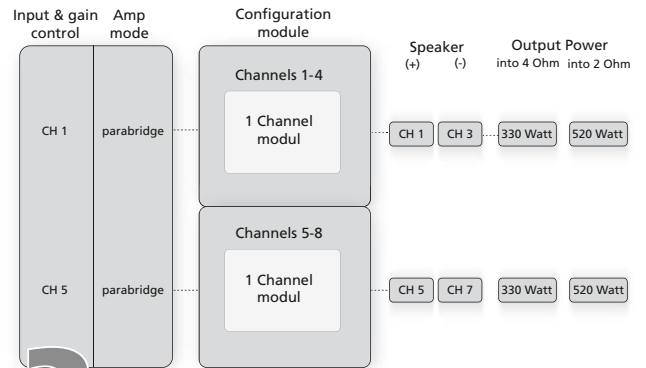
6 Channel configuration



3 Channel configuration



5 Channel configuration



2 Channel configuration

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 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.

1.3 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.

1.4 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 80 A).

1.5 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
Up to 250 W	: 8 mm
Up to 500 W	: 10 mm
Up to 750 W	: 25 mm
Up to 1000 W	: 35 mm
Up to 1200 W	: 40 mm
more than 1200 W	: 50 mm

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

To stabilize your supply against short impulses we recommend a Capacitor (only with integrated protection System) which you can connect directly to the Amplifiers Power Supply system by using the "EXT Cap Terminals". The usage of a Power Capacitor is strongly recommended for that part of the amp which is supplying the subwoofers. Please also refer to the installation guide of the capacitors manufacturer.

Caution

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

2. First power-on

2.1 Adjust all level controls 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: 16 cm rear speaker:
Highpass 80-100 Hz Highpass 100-120 Hz

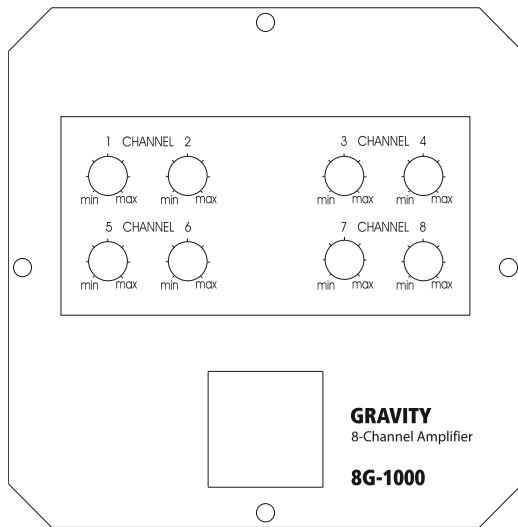
13 cm front speaker: 13 cm rear speaker:
Highpass 100-140 Hz Highpass 120-150 Hz

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

16 cm midbass: Bandpass 80/150 Hz
Highpass 80 Hz + Lowpass 150Hz

Composystems then are run with Highpass 150-180 Hz!

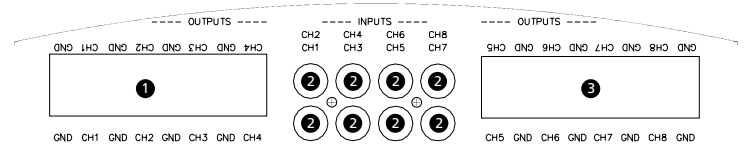
Subwoofer: Lowpass 70-100 Hz, Subsonic 20-35 Hz



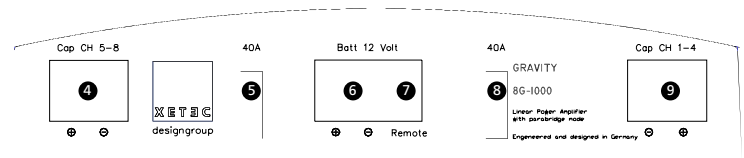
3. Controls

All controls are accessible under the aluminium top cover. For adjustments, remove the top cover using the hexa screwdriver that came with your product. You will find all 8 gain controls, depending on the configuration of the Amplifier some may be without function (eg if Channels 1-4 are used in parabrige mode only the gain control of channel 1 is used and those of channels 2-4 are without function)

4. Connectors (Gravity 8G-1000)



1. Speaker terminals of channels 1-4
2. RCA line inputs
3. Speaker terminals of channels 5-8



4. Terminal for external capacitor of channel 5-8
5. Fuse of channel 5-8
6. 12V power supply and ground connection
7. Remote input
8. Fuse of channel 1-4
9. Terminal for external capacitor of channel 1-4

Before you open the amplifier to exchange the modules, make sure that it is switched off! Damage will occur to your speakers and amplifier, if the module is exchanged during operation!

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
- X-protect® by **XETEC design group GmbH**: Highly sensitive protection circuits
- ParaBridge Mode® by **XETEC design group GmbH**: crossconnection of 4 Amplifiers to one.

Technical data

RMS Output power in single mode @ 4 Ohms:	8 x 83 Watts
RMS Output power in single mode @ 2 Ohms:	8 x 130 Watts
RMS Output power in bridge mode @ 4 Ohms:	4 x 260 Watts
RMS Output power in parabridge mode @4 Ohms:	2 x 330 Watts
RMS Output power in parabridge mode @2 Ohms:	2 x 520 Watts
Peak output power:	>1500 Watts total
Max input Current (@13,8 V):	100 A
Idle current (no signal):	1,2 A
Fuse:	2x40 A
Total Harmonic Distortion (THD):	<0,05 %
SNR:	>89 dB(A)
Freq.Response (bypass mode):	7 Hz-50.000 Hz
Stability (single/bridge/parabridge):	2 /4 /2 Ohms
Input Sensitivity:	250 mV-6 V
Warranty:	1 Year

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.