

**GAMMA  
6.80DSP Six  
Channel DSP  
Amplifier**



# GAMMA 6.80DSP Six Channel DSP Amplifier User Manual

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# GAMMA

## GAMMA 6.80DSP Six Channel DSP Amplifier



## SPECIFICATIONS

<b>Class</b>	D
<b>Number of Channels</b>	6
<b>Power RMS, 4 Ohm</b>	6 X 80 W
<b>Inputs</b>	6 x RCA 8 x HIGH-LEVEL 1 x OPTICAL 1 x COAXIAL 1 x ACC 1 x USB AUDIO <b>1 x USB PC</b>
<b>Outputs</b>	6 x SPEAKER OUTPUT 2 x RCA 1 x REM OUT
<b>Frequency response</b>	20 – 20 000 Hz
<b>THD</b>	<0.05% (1 kHz)
<b>Signal to noise ratio</b>	>98 dB
<b>Input impedance</b>	10 kOhm
<b>Input sensitivity</b>	0.7 – 6 V
<b>Crossover</b>	LPF: 20 – 20 000 Hz at 6 – 48 dB/Oct HPF: 20 – 20 000 Hz at 6 – 48 dB/Oct
<b>Fuses</b>	2 x 25 A
<b>Audio DSP</b>	32 bit 192 kHz
<b>USB – device</b>	32 bit 96 kHz

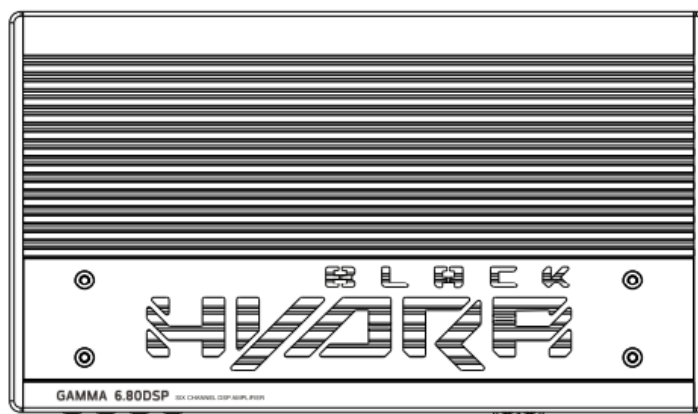
<b>DAC</b>	24 bit 192 kHz
<b>ADC</b>	24 bit 96 kHz
<b>Size (LxWxH), mm</b>	312 X 180 X 55
<b>Size (LxWxH), inch</b>	12.28 X 7.1 X 2.17

## INTRODUCTION

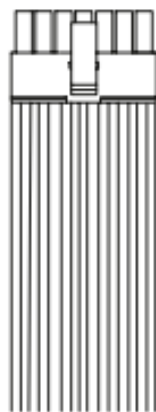
- First of all, we would like to congratulate you on choosing the BLACK HYDRA car audio amplifier!
- On these pages, you will not find an absolutely accurate justification for the superiority/uniqueness of our audio systems, because music can only be assessed by emotions gained from listening. Black Hydra audio systems will satisfy you by the excellent sound quality rather than with the numbers. It will give you true emotions of the listening to your favorite music, incomparable with the evaluation of «dry» specifications written on paper in silence.
- During building of audio system based on Black Hydra components we recommend that you use only high quality components in each of its links, to achieve the most accurate transmission of music material. Remember, the quality of any system is determined by its weakest link.
- Technical specifications of Black Hydra amplifiers are equal and correspond to the most of best industry representatives, while at the same time surpassing them in subjective estimations of sound quality.
- Perfectly honed circuit solutions with excellent architecture, combined with the use of components of the highest grade, made it possible to make our product unique, capable of transmitting the finest nuances of the sound of your favorite compositions without distortions and with high details.
- The power supplies of all amplifier models are designed with an impressive reserve, which allows achieving maximum output even at the upper limits of the declared power level.
- By placing individual parts of the circuit on subboards the lengths of the conductors were reduced and optimized, which completely eliminated interference between channels and as a result improved crosstalk attenuation, making it possible to achieve greater clarity of images in the sound stage.

## KIT CONTENTS

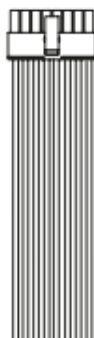
- Amplifier GAMMA 6.S0DSP – 1 pc.



- 14 pin speakers outputs connector – 1 pc.



- 16 pin high-level input connector – 1 pc.



- Type-A/Type-B USB cable – 1 pc.



- Mounting kit – 1 pc.



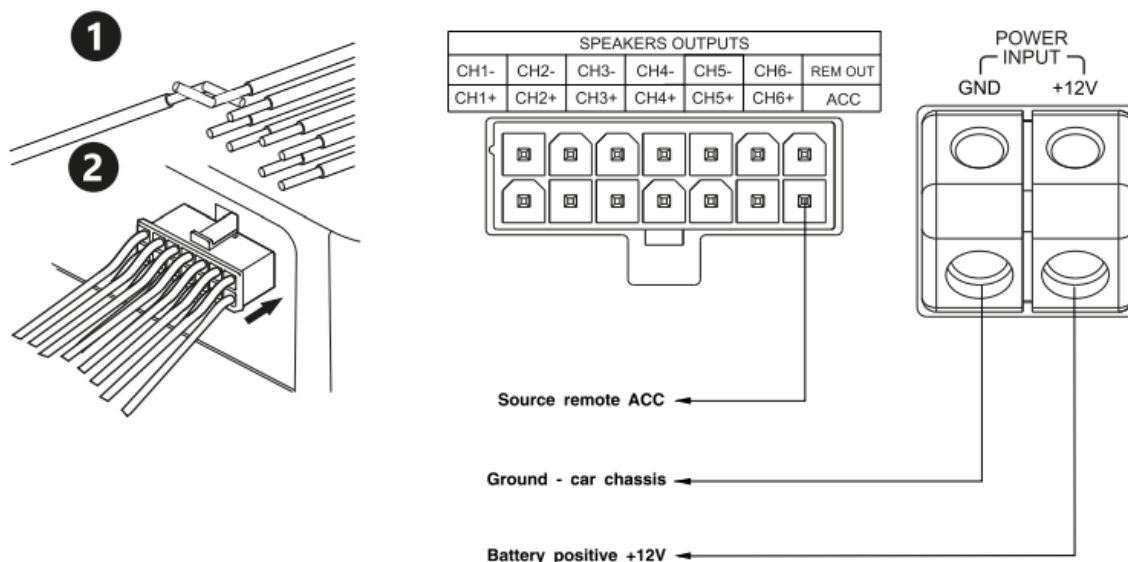
## ATTENTION

- Black Hydra car amplifiers are designed to operate in 12-volt systems with a permissible voltage of 10-17V. A significant voltage deviation from operating limits can lead to incorrect operation of the device or to its complete failure.
- We recommend the use power cables made of oxygen-free copper, with properly selected diameter that allows the transmission of an electrical signal with minimal loss.
- If the distance from the battery to the amplifier exceeds 4m, we recommend using larger diameter cables to prevent loss of sound quality.
- Start power supply wiring by connecting the power cable to the negative polarity (minus), grounding it at the

nearest point to the amplifier at the car body. Connect the positive power cable directly from the corresponding battery terminal.

- The ACC terminal (remote start) must be powered by a wire from the corresponding terminal REM OUT on the head unit (HU) capable of providing a current of at least 60mA per each installed amplifier.
- To avoid problems in the electrical and electronic systems of your car, the installation and connection of the power supply to the amplifier should be carried out only by qualified personal!

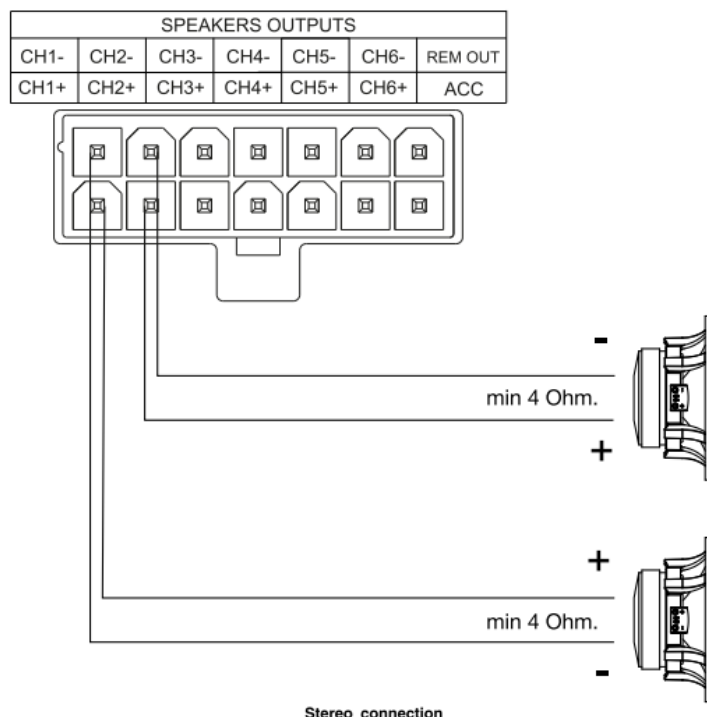
## CONNECTION OF TERMINALS



## ACOUSTIC SYSTEMS CONNECTION

### ATTENTION!!!

- The standard operating impedance of the amplifier is 4 ohm. Reducing the load impedance, entails the appearance of large current pulses, reaching from 50A to 130A, which will inevitably lead to an increase of the amplifier's temperature and may cause its overheating and subsequent complete failure. The following diagram illustrate the possible ways of connecting.



- The input resistance of the amplifier is 48 k $\Omega$ , the input sensitivity is adjustable from 78 mV to 6 V, so that the device is compatible with any sound source.

### Brief recommendations for amplifier setup

1. Set the sensitivity of the amplifier to the minimum position
2. Connect the speakers systems
3. Start the head unit (sound source) with disabled equalizer/timbre, loudness, etc.
4. Smoothly increasing the volume on the head unit, check for the absence of distortions approximately up to 2/3 of the maximum volume level.
5. Turn on the high pass filter for the connected speakers and set the cutoff frequency in the range of 40-80 hertz (depending on the capabilities of the speakers)
6. Smoothly increase the sensitivity of the amplifier to achieve a comfortable volume, in the absence of audible distortions, to 2/3 of the maximum volume value.
7. Smoothly change (increasing / decreasing) the cutoff frequency of the high pass filter to achieve a comfortable sound with maximum bass effect, with no audible distortions.
8. Enable custom / factory settings for equalizer, timbre, loudness and time delays (DSP) and check for no audible distortions in this mode. If there are distortions, go back to steps 5,6,7 and repeat the settings adjustment.

### Note.

- Depending on the music genres and the phonogram specifications, different settings results can be obtained.
- To ease the installation of the sound systems with per channel amplification, the amplifier has an active crossover for each of the channels, an adjustable low-pass filter (LPF) and a high-pass filter (HPF).
- Windows PC application provides smooth adjustment of crossover filters.
- Scan this QR code to download PC software



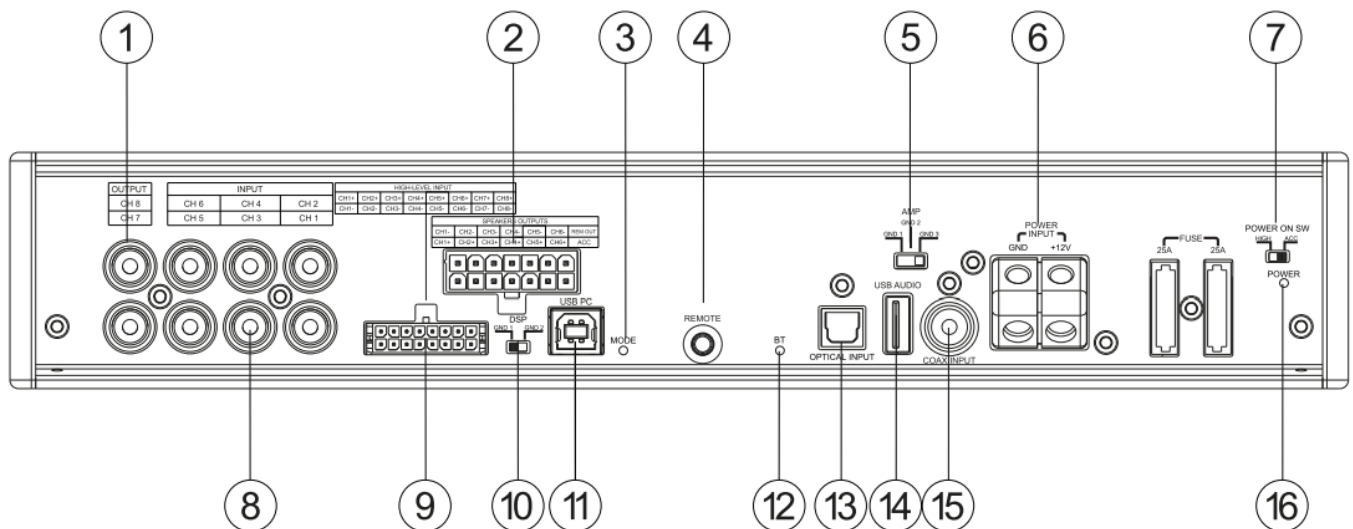
### Attention!!!

- To control all amplifier settings, you need to download the application for Windows PC

### INDICATION AND PROTECTION SYSTEMS

- The LED indicator lights up in blue – the amplifier is turned on (there is a voltage on the ACC terminal). –
- The LED indicator lights up in red – indicating overheating, high or low power input voltage.
- In case of overheating, return to normal operation is possible only after the temperature has dropped down.

### APPLICATION OF CONNECTORS AND CONTROLS



1. OUTPUT -signal output, RCA jacks
2. SPEAKERS OUTPUTS – speakers connection terminals
3. MODE -LED for active preset (green-blinking)
4. REMOTE -input for connection of the DRC remote control
5. AMP – amplifier ground selection switch
6. POWER INPUT – power supply terminals
7. POWER ON SW -HIGH/ACC -selection of amplifier switch on mode
8. INPUT -signal input, RCA jacks
9. HIGH-LEVEL INPUT -high-level signal input
10. DSP -DSP ground selection switch
11. USB PC -PC connection interface

12. BT-LED for bluetooth operation (blue)
13. OPTICAL INPUT – signal input, optical
14. USB AUDIO- signal input, USB audio
15. COAX INPUT -signal input, coaxial
16. POWER -LED for operation (blue)/ LED for protection (red)

## **MAINTENANCE AND UTILIZATION**

## **WARRANTY PERIOD, AFTER-SALES SERVICE AND SERVICE LIFE INFORMATION**

- Each Black Hydra product is warranted to be free from defects in materials and workmanship under normal use and service.
- The warranty period for the product is 12 (twelve) months from the date on which the product is transferred to the consumer (this date shall be deemed to be the date on which the consumer starts using the product).
- During the warranty period, defective parts will be repaired or replaced at the discretion of the manufacturer provided that there are grounds for doing so under the laws of the consumer's country. The defective product must be returned to the dealer from whom it was purchased together with the duly filled out warranty certificate, complete, with original packaging.
- Our company shall not be liable for any damage caused by transportation. Our company shall not be liable for any expenses or lost profits arising out of or in connection with the use or inability to use the product or any other incidental or indirect costs, expenses, or damages incurred by the customer. The warranty is valid in accordance with the laws currently in force. For more information, please visit our company website and refer to the warranty card.
- The manufacturer reserves the right to change the design and specification of the product without prior notice. The service life of the product is 12 (twelve) months from the date on which the product is transferred to the consumer (this date shall be deemed to be the date on which the consumer starts using the product).
- The product or any part (component) of the product must not be used in any way (including, but not limited to use for intended or any other purpose, transportation, storage, modification/alteration/improvement upgrade) after the expiry of the service life.
- At the end of its service life, the product must be disposed of.

## **INFORMATION ON DISPOSAL OF THE ELECTRICAL AND ELECTRONIC EQUIPMENT** (FOR THE EUROPEAN COUNTRIES WITH SEPARATE WASTE COLLECTION)


- Items marked "crisscrossed wheeled bin" are not allowed to be disposed of together with usual household waste. These electrical and electronic products should be disposed of in special reception centers, equipped for recycling such products and components.
- For information about the location of the nearest disposal / recycling spot and the rules of delivery of waste, please contact your local municipal office. Recycling and proper disposal helps to protect the environment and prevent harmful effects on health.





<https://alphard.audio>

## Documents / Resources

	<p><a href="#">GAMMA 6.80DSP Six Channel DSP Amplifier</a> [pdf] User Manual 6.80DSP Six Channel DSP Amplifier, 6.80DSP, Six Channel DSP Amplifier, Channel DSP Amplifier, DSP Amplifier, Amplifier</p>
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## References

- [User Manual](#)

[Manuals+.](#) [Privacy Policy](#)

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