

HELON SERIES

BY AUDIO SYSTEM

**Competition
High-Performance
Car-Amplifier**

HELON 9000.1

Owner's manual

WWW.AUDIO-SYSTEM.NET

Congratulations on your purchase of your new **AUDIO SYSTEM** amplifier.

Before installation your power amplifier, we recommend to read the manual's owner carefully and to follow the instructions regarding connection and fitting exactly.

We advice to accomplish the installation by an authorized service center, because a professional fitting and connection is the requirement for further warranty adjustments.

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FEATURES

- * Digital Class-D Linkable Mono Block Amplifier
- * Daisy-Chain Through Output RCA
- * Dual MOS-FET PWM Power Supplies
- * Stable into 1 ohm and 2 ohm Parallel Amplifier Connection Availability
- * 24 dB Low Pass (LPF) Crossover Variable
- * 6 dB Bass Boost Equalization Control Variable
- * 180 degree Variable Adjustable Phase Shift
- * 24 dB Subsonic Filter Variable
- * **Selectable Switch for MASTER and SLAVE Operation**
- * Speaker Short, Over Current, Thermal, and DC Protection Circuit
- * RCA Line Input and Line Out
- * Heavy Duty Cooper Layer Double Sided EPOXY PCB
- * 2 x 0 Gauge (AWG) Battery Input Connectors
- * 100% QC Testing and Warm UP
- * Efficiency: 86% at 4 ohm, 100 Hz
- * Tested Voltage & THD : 14.4V and Less Than 1% THD at 4 ohm RMS Watt
- * Operating Voltage: DC 10V ~ 18V Power Input
- * Damping Factor: Better 350 into 1 ohm
- * Wired Remote Bass Gain Controller with 5 Meter Flat Cable : Optional

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SPECIFICATIONS

Rated power output

-RMS power, 1 ohm (12.0V) -----	5800W x 1CH
-RMS power, 1 ohm (14.4V) -----	9000W x 1CH
-RMS power, 1 ohm (16.0V) -----	10500W x 1CH
-RMS power, 1 ohm (18.0V) -----	11500W x 1CH

2 Same Units Parallel Linked

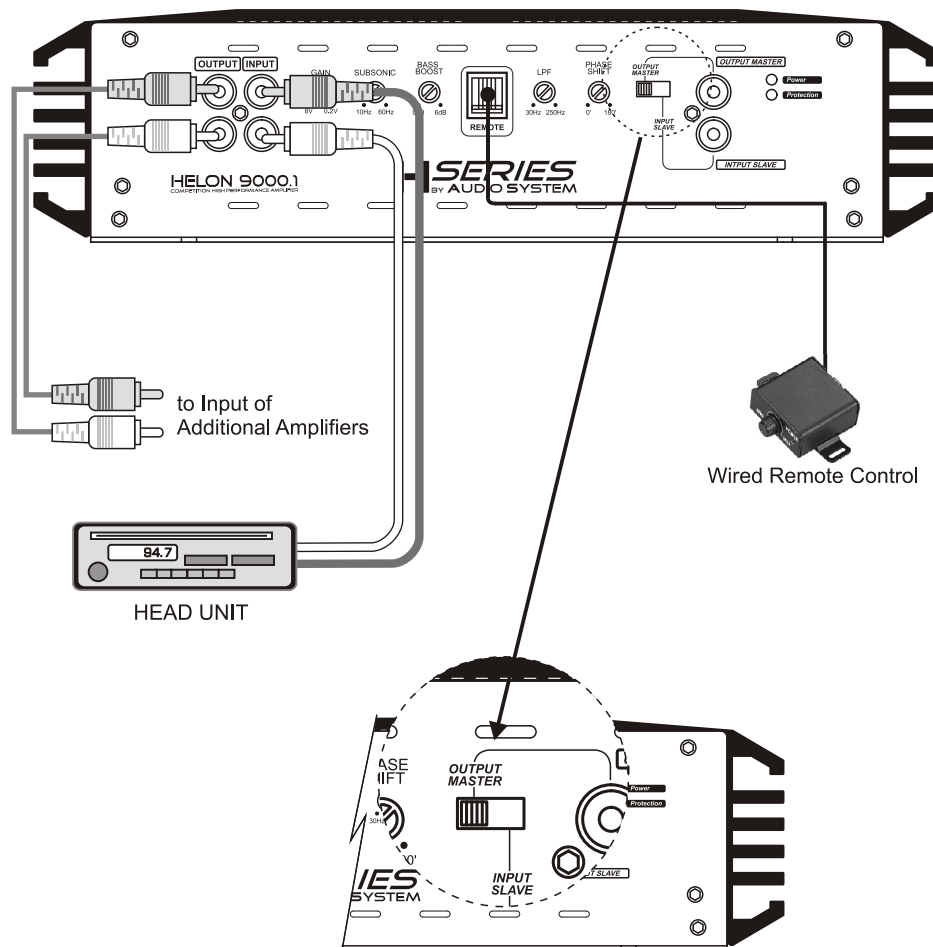
-RMS power, 2 ohm (14.4V) -----	17500W x 1CH
-RMS power, 2 ohm (16.0V) -----	20500W x 1CH
-RMS power, 2 ohm (18.0V) -----	22500W x 1CH

Signal to Noise Ratio -----	>90dB
Low pass frequency crossover -----	30Hz~250Hz
Subsonic filter -----	10Hz~60Hz
Bass boost @ 45Hz -----	0~6dB
Phase shift control-----	0~180 degree
Frequency response-----	10Hz~350Hz (+/- 1dB)
T.H.D @ 4 ohm-----	<1.0%
Efficiency @ 4 ohm-----	86%
Fuse rating-----	800A(external type fuse)
Input Sensitivity -----	200mV to 8V (+/- 5%)
Dimensions-----	300(W) x 75.5(H) x 1000(L) mm

RCA CONNECTION

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SINGLE AMP INPUT CONNECTION

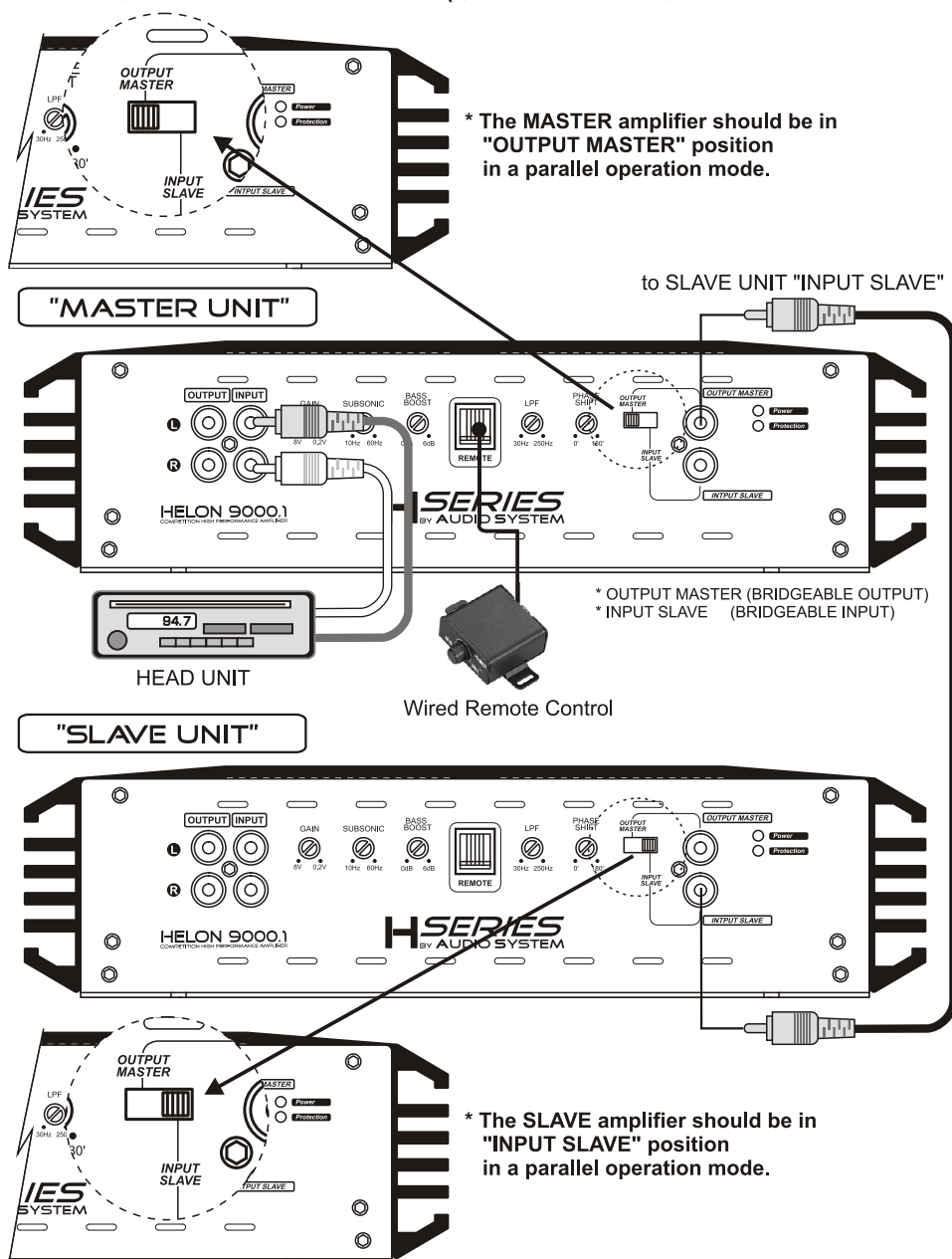


*** If no sound, please check MASTER/SLAVE switch.
The mode switch should be in "OUTPUT MASTER" position.
(If in "INPUT SLAVE" position, no sound will come out)**

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RCA CONNECTION

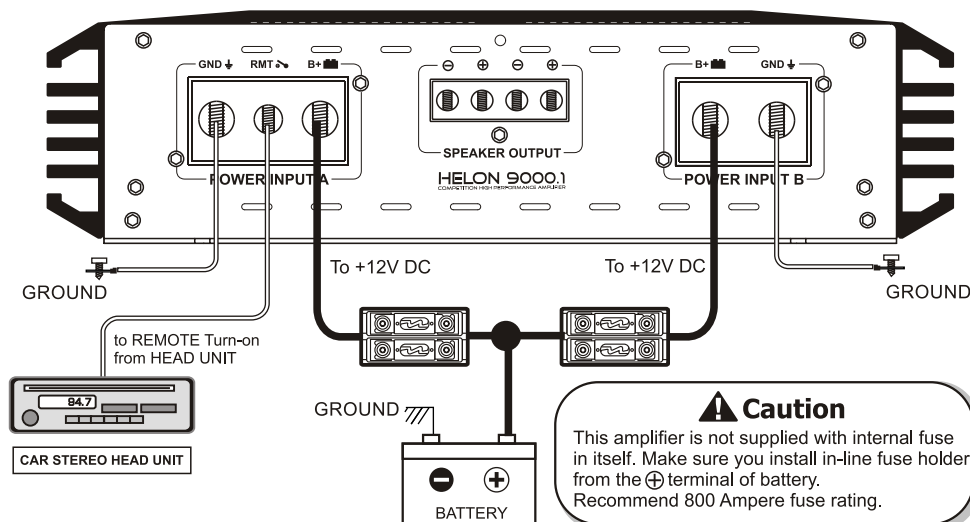
DUAL AMP INPUT CONNECTION (MASTER & SLAVE RCA CONNECTION)



Also please connect protection link wire to have all amplifiers shut down when one amplifier is in protection mode.

POWER CONNECTION

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1. Battery disconnection

First disconnect the power supply of the vehicle. This works out the best by removing the ground cable of the battery.

2. Ground connection

Connect the GND (ground) connection of the amplifier with the car chassis. Keep this cable as short as possible (not longer than 50 cm) and use a suitable cross section (AWG size 2 - 0). Make sure, that the connection with the vehicle chassis is free of paint, dirt and dust.

3. +12 V Power connection

Connect the +12 V contact of the amplifier with the supply cable via a fuse directly to the vehicle battery. Keep in mind, that the length of the cable from fuse holder to vehicle battery has to be a maximum of 30 cm. Requirement for a perfect function of the amplifier is a qualitative high end fuse holder as well as a suitable cable cross section (AWG size 2 - 0). This fuse protects the amplifier and the vehicle against the possibility of a short circuit in the power cable.

4. Remote connection

Connect the REM-terminal of the amplifier to the remote-output (automatic 12 V antenna-output) of the head unit. Therefore use a 0,5 - 1,5 mm power cable.

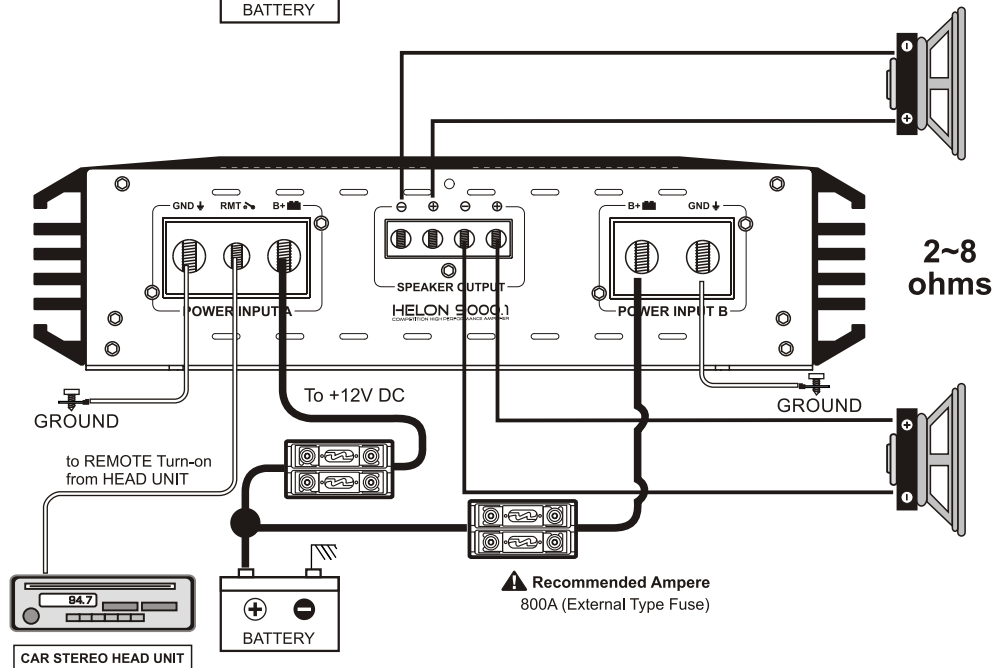
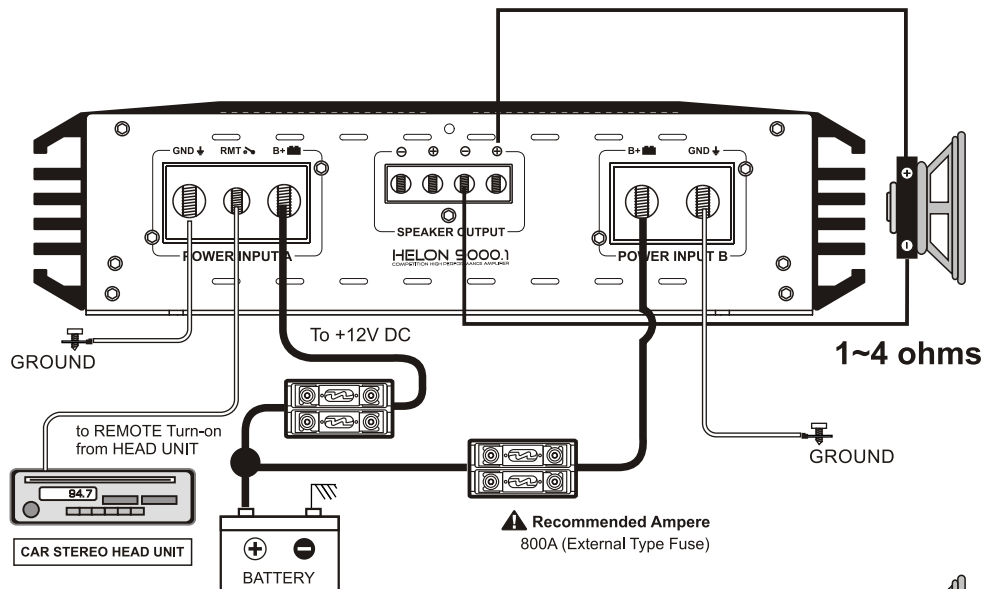
⚠ Caution ⚠

Please follow the instructions during the installation of your amplifier:

- Take care of a professional attachment. Pay attention, that no electrical cable, gas tank, hydraulic breakers or other components get damaged.
- There has to be enough cooling and air circulation. Avoid the installation in small closed boxes or close to heating parts.
- Protect the amplifier from fluids, wetness, heat and foreign material as well as from other influences.
- The amplifier is only to be built into vehicles with a 12 V DC power supply.
- Never install the power supply cable with other original wires of the vehicle (gas cables), fan motors, brand control modules etc.
- Install the signal cable (cinch cable) as well as the speaker cable far away of the power cables to avoid troubles with the music signal.
- The cables of your amplifier have to be installed, so that there is no danger of binding, squeezing or breaking.

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SINGLE AMP POWER & SPEAKER CONNECTION

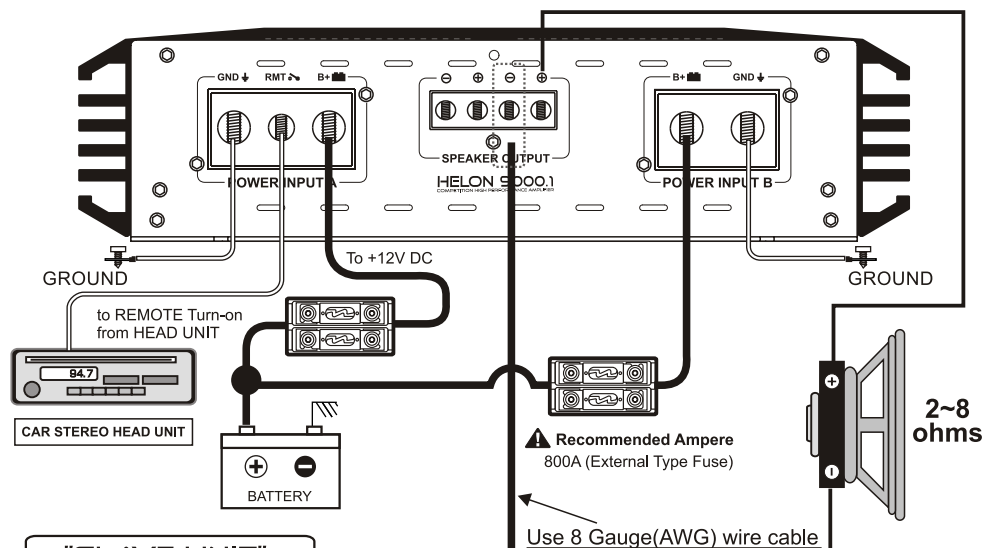


The positive and negative terminal of the subwoofer's voice coil are connected to the positive and negative terminal of the Amplifier.

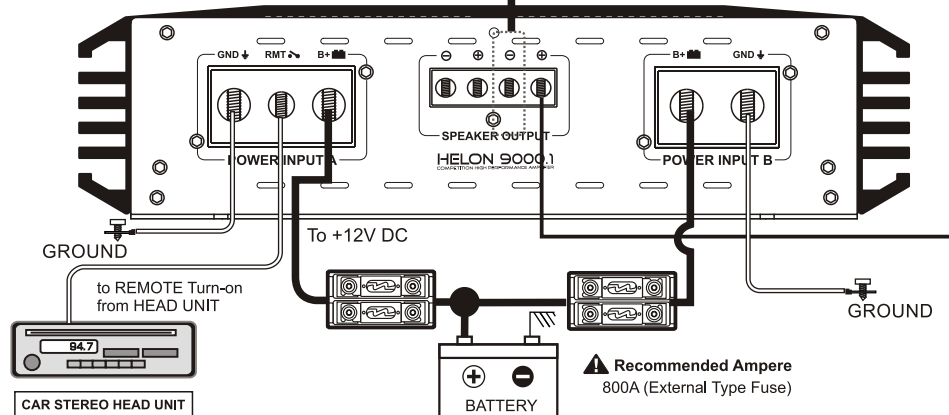
DUAL AMP POWER & SPEAKER CONNECTION

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"MASTER UNIT"



"SLAVE UNIT"



Using a dual amplifier configuration, the MASTER amplifier has total control over the SLAVE amplifier. When using dual amplifier to operate subwoofer, the positive terminal of the subwoofer's voice coil must be connected to the positive terminal of the MASTER Amplifier and the negative terminal of the subwoofer's voice coil must be connected to positive terminal of the SLAVE Amplifier. Be advised that the dual amplifier configuration has tremendous output potential, so ensure that your subwoofers can handle such a large amount of power.

⚠ Caution

When utilizing the dual amplifier configuration it is important to note that the connected speaker load can be no lower than 2 ohms. Connecting a lower impedance load can damage the amplifier and void your warranty.

This power amplifier is featured with a efficient protection system to prevent any damages like over-heating, overvoltage, short-circuit and DC at the loudspeaker output.

Occuring an error the protection-LED will light in red.

In order to check the problem, first turn down all levels of the head unit, afterwards turn it off.

AMPLIFIER IS NOT POWERED UP, NO LED IS LIGHTENING	<ul style="list-style-type: none">- ground connection professional connected?- +12V power cable professional connected?- remote cable professional connected?- fuses inserted and alright?- analyze voltage on the amplifier.
PROTECTION LED ILLUMINATES GREEN WHILE AMPLIFIER IS SOUNDLESS	<ul style="list-style-type: none">- cinch cable alright and professional connected?- loudspeaker professional connected?- head unit alright?
PROTECTION LED ILLUMINATES RED WHEN AMPLIFIER IS POWERED UP	<ul style="list-style-type: none">- amplifier too hot?- short-circuit at the loudspeaker output?- short-circuit caused by loudspeaker cable with vehicle chassis (ground)?- input voltage too high (e.g. faulty lighting dynamo)?
OVERHEATING (PROTECTION LED ILLUMINATES RED WHEN AMPLIFIER IS POWERED UP)	<ul style="list-style-type: none">- impedance alright?- loudspeaker error?- adequate airflow of the amplifier? <p>! CAUTION ! After cooling down, the amplifier turns on automatically.</p>
ERROR IN AMPLIFIER FUSE	<ul style="list-style-type: none">- ground professional connected?- loudspeaker impedance alright? <p>! CAUTION ! Make sure when changing fuses to use the same value.</p>
SOUND TOO LOW OR LOW-DISTORTED SOUND	<ul style="list-style-type: none">- input level control "GAIN" is set to match the head unit?- output level control of the head unit alright?- loudspeaker error?- loudspeaker cable checked?- crossover frequencies has been properly set? <p>(Check head unit, amplifier, DSP, soundprocessor, equalizer, frequency bandpassfilter...)</p>
HIGH HISS-ENGINE NOISE IN SPEAKERS	<ul style="list-style-type: none">- ground connection professional connected?- short-circuit caused by loudspeaker cable with vehicle chassis (ground)?- cinch cable (RCA) and/or loudspeaker cable installed too close to the power connection cable?- cinch ground (RCA) of the head unit alright?

⚠ CAUTION ⚠

Please contact your specialist dealer if the amplifier is still not working after it has been checked with the error list!

For warranty adjustment / repairs the original invoice has to be attached!

Opening the power amplifier is leading to a lost of warranty in either case!