AUDIO SYSTEM

the sound

HIGH-END CAR-AMPLIFIER

MANUAL

HX SERIES AMPLIFIER

CE

HX 360.2

HX 85.4

DESIGNED AND ENGINEERED BY AUDIO SYSTEM GERMANY

Congratulations on your purchase of your new

HX SERIES 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 adjustements.

HX SERIES AMPLIFIER FEATURES

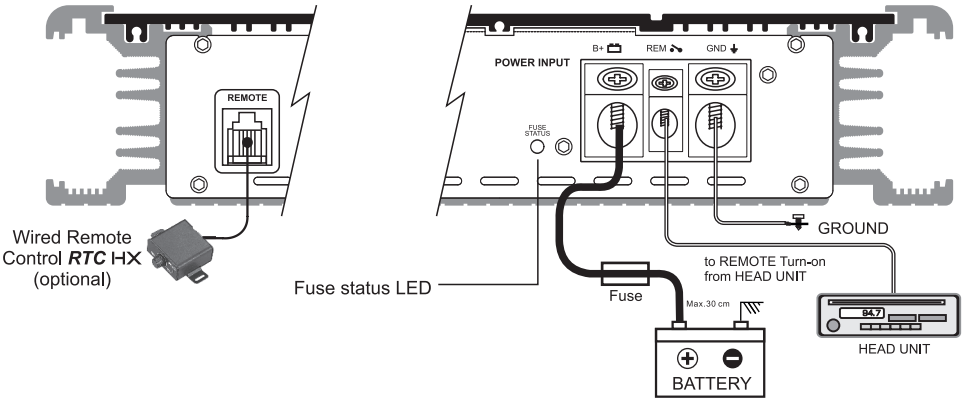
HX 360.2

- 2-Channel High Power Class-AB amplifier with SMD technology
- Full MOS-FET Power amplifier
- Stable into 1 ohm stereo per channel and 2 ohm bridged mode
- Variable switchable Low Pass Filter from 50 to 300 Hz with on/off button
- Variable switchable High Pass Filter from 25 to 175 Hz with on/off button
- Variable Band Pass Filter from 25 to 300 Hz
- Variable Phase Shift Filter from 0 to 360 degrees
- Stereo / Mono select switchable button
- 12dB / 24dB Slope select switchable button
- **I**nput Sensitivity: variable 200 mV maximum to 8 V minimum
- **M**ulti-**W**ay **P**rotection **C**ircuitry: overhead, over current, short circuitry and speaker DC protection
- Operating Voltage: DC 10 ~ 16 V Power **I**nput
- Massive heavy aluminum-heatsink with fan cooling
- Wired Remote Controller ***RTC*** **HX** (Optional)
- D**I**RECT **I**NPUT controlling
- **HX CARD** ports for individual crossover

HX 85.4

- 4-Channel High Power Class-AB amplifier with SMD technology
- Full MOS-FET Power amplifier
- Stable into 1 ohm stereo per channel and 2 ohm bridged mode
- Variable switchable Low Pass Filter from 50 to 300 Hz with on/off button (**I**nput-A)
- Variable switchable High Pass Filter from 35 to 175 Hz with on/off button and the possibility to multiply the frequency 40 times for High Pass Filterfrom 1400 to 7000 Hz (Tweeter)
- Variable switchable Low Pass Filter from 50 to 300 Hz with on/off button and the possibility to multiply the frequency 20 times for Low Pass from 1000 to 6000 Hz (Midrange)
- Variable switchable High Pass Filter from 35 to 250 Hz with on/off button (**I**nput-B)
- LPF / HPF select switchable button
- Variable Phase Shift Filter from 0 to 360 degrees
- Stereo / Mono select switchable button
- 12dB / 24dB Slope selectable button
- 2 **I**N / 4 **I**N selectable button
- **I**nput Sensitivity: variable 200 mV maximum to 8 V minimum
- **M**ulti-**W**ay **P**rotection **C**ircuitry: overhead, over current, short circuitry and speaker DC protection
- Operating Voltage: DC 10 ~ 16 V Power **I**nput
- Massive heavy aluminum-heatsink with fan cooling
- Wired Remote Controller ***RTC*** **HX** (Optional)
- D**I**RECT **I**NPUT controlling

HX 360.2 / HX 85.4



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 (GND)
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 sice 4 - 2).
Make sure, that the connection with the vehicle chassis is free of paint, dirt and dust.

3. +12 V Power connection (B+)
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 fuseholder 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 sice 4 - 2). This fuse protects the amplifier and the vehicle against the possibility of a short circuit in the power cable.

4. REM connection by cable
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.

5. FUSE STATUS LED
If the LED is shining the fuse is damaged.

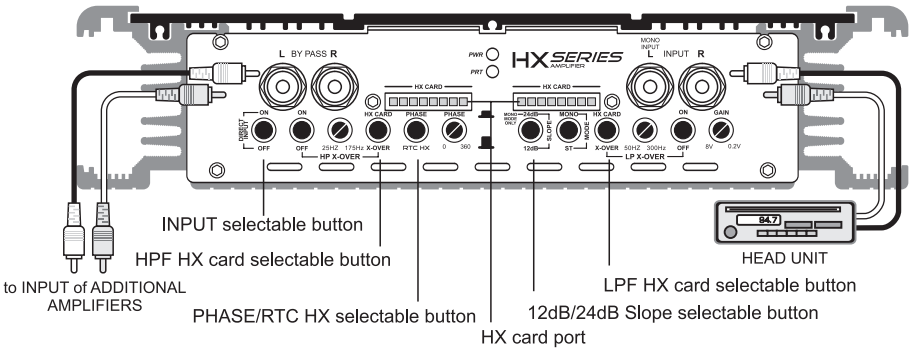
⚠ Caution ⚠

Please follow the instructions during the installation of your amplifier:

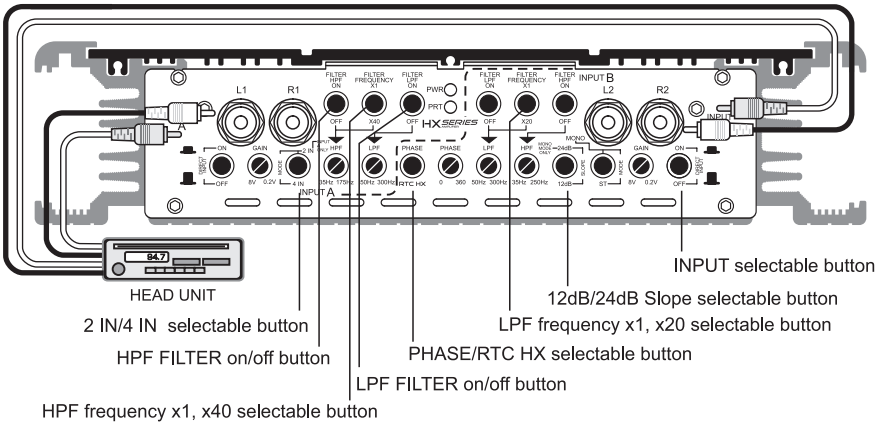
a) Take care of a professional attachement. Pay attention, that no electrical cable, gas tank, hydraulic breakes or other components get damaged.
b) There has to be enough cooling and air circulation. Avoid the installation in small closed boxes or close to heatening parts.
c) Protect the amplifier from fluids, wetness, heat and foreign material as well as from other influences.
d) The amplifier is only to be built into vehicles with a 12 V DC power supply.
e) Never install the power supply cable with other original wires of the vehicle (gas cables), fan motores, brand control moduls etc.
f) 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.
g) The cables of your amplifier have to be installed, so that there is no danger of binding, squeezing or breaking.

RCA CONNECTION

HX 360.2



HX 85.4



The HX SERIES amplifier offers RCA-Inputs, which are connected through cinch cables with the preamplifier-outputs of the head unit. The RCA-outputs provide the possibility to transfer the signal of the head unit to a 2. amplifier via a cinch cable (for HX 360.2).

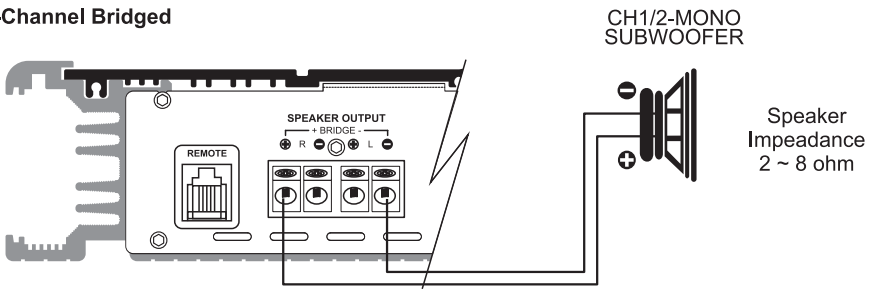
HX 360.2 | If the DIRECT INPUT button is pushed all features are disabled. Otherwise you can use all features (Crossover, Phase Shift, Gain, RTC HX, HX CARD, ...). The PHASE/RTC HX button allows to select Phase Shift 0-360 ° or RTC HX Remote (optional) to control the amplifier from the front of the car.It is possible to use three different crossover sections: High Pass, Low Pass or Band Pass from 25-300 Hz. For the HX 360.2 you can also use HX CARD.

HX 85.4 | If the DIRECT INPUT button is pushed all features are disabled. Otherwise you can use all features (Crossover, Phase Shift, Gain, RTC HX, ...). The PHASE/RTC HX button allows to select Phase Shift 0-360° or RTC HX Remote (optional) to control the amplifier from the front of the car. It is possible to use two different crossover sections: HP 35-250 Hz/LP 50-300 Hz by pressing FILTER FREQUENCY x1 of the front side, high pass frequency range will be increased 40 times from 35Hz~175Hz to 1400Hz~7000Hz. Likewise, by pressing FILTER FREQUENCY BUTTON of the rear side, low pass frequency range will be increased 20 times from 50Hz~300Hz to 1000Hz~6000Hz.

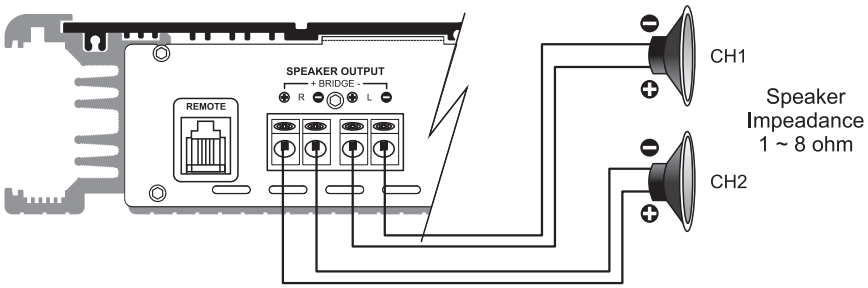
In this regard, AUDIO SYSTEM GERMANY recommends to adjust your amplifier through a specialized service center, dealer or a specialist.

HX 360.2

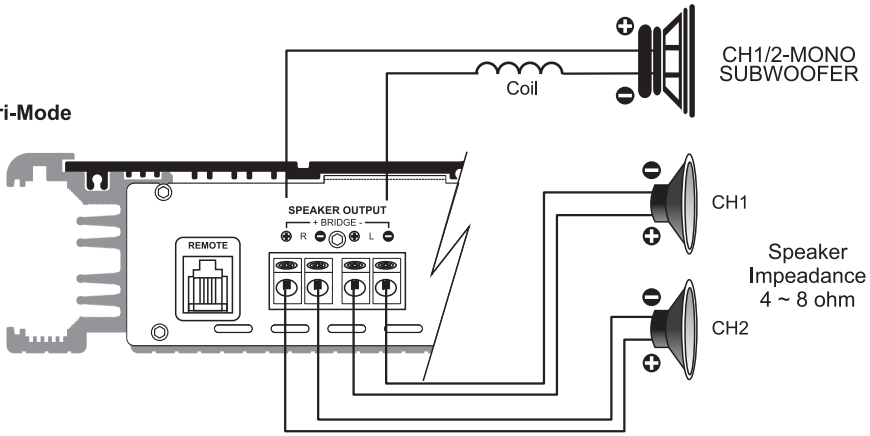
1-Channel Bridged



2-Channel Stereo



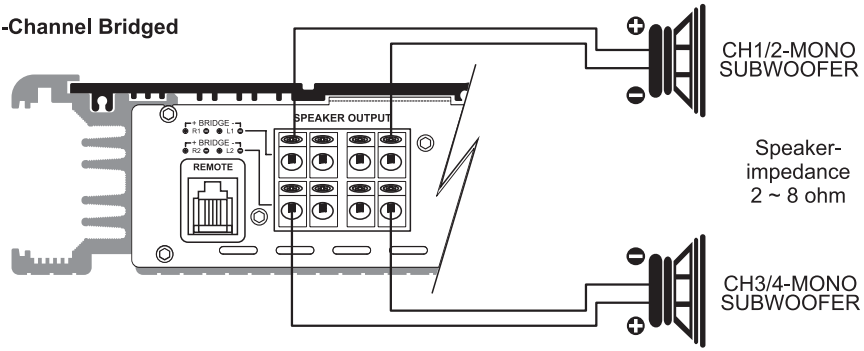
Tri-Mode



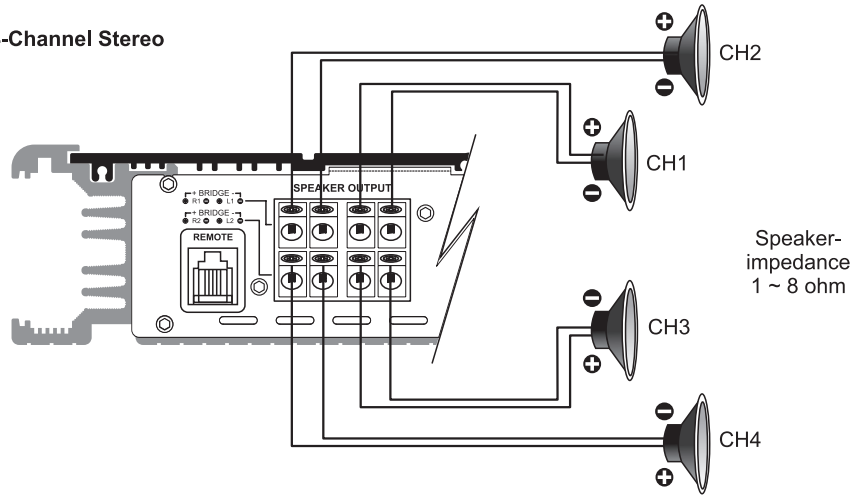
SPEAKER CONNECTION

HX 85.4

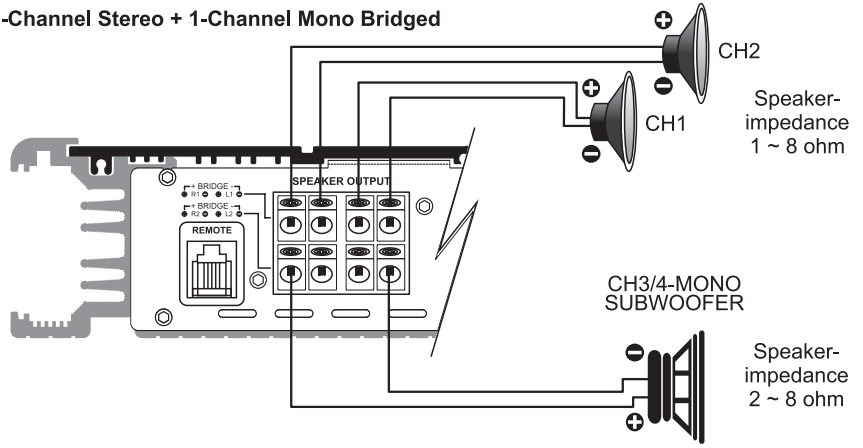
2-Channel Bridged



4-Channel Stereo



2-Channel Stereo + 1-Channel Mono Bridged



TROUBLE SHOOTING

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.
Occurring 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	- ground connection professional connected? - +12Vpowercable professional connected? - remote cable professional connected? - fuses inserted and alright? - analyze voltage on the amplifier.
PROTECTION LED ILLUMINATES GREEN WHILE AMPLIFIER IS SOUNDLESS	- cinch cable alright and professional connected? - loudspeaker professional connected? - head unit alright?
PROTECTION LED ILLUMINATES RED WHEN AMPLIFIER IS POWERED UP	- 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)	- impedance alright? - loudspeaker error? - adequate airflow of the amplifier? **! CAUTION !** After cooling down, the amplifier turns on automatically.
ERROR IN AMPLIFIER FUSE	- ground professional connected? - loudspeaker impedance alright? **! CAUTION !** Make sure when changing fuses to use the same value.
SOUND TOO LOW OR LOW-DISTORTED SOUND	- 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? (Check head unit, amplilfier, DSP, soundprozessor, equalizer, frequency bandpassfilter...)
HIGH HISS-ENGINE NOISE IN SPEAKERS	- ground connection professional connected? - short-circuit caused by loudspeaker cable with vehicle chassi (ground)? - cinchcable (RCA) and/or loudspeaker cabel 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 adjustement / repairs the original invoice has to be attached!

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

HX 360.2

Power Supply Voltage	10 -16 V
Rated Power Output at 14,4 V	
-RMS power @ 4 ohm stereo	2x 360 W
-RMS power @ 2 ohm stereo	2x 700 W
-RMS power @ 1 ohm stereo	2x 1500 W
-RMS power @ 4 ohm bridged	1x 1500 W
-RMS power @ 2 ohm bridged	1x 3000 W
Signal to Noise Ratio	> 90 dB
Low Pass Crossover	50 Hz ~ 300 Hz
Low Pass Filter (HX CARD)	Optional
High Pass Crossover	25 Hz ~ 175 Hz
High Pass Filter (HX CARD)	Optional
Phase Shift Control	0 ~ 360 degrees
Frequency Response	10 Hz ~ 110 KHz (+/-1dB)
THD@RMS Watts	0.02%
Channel Separation	75 dB
Fuse Rating	250 A
Input Sensitivity	200 mV ~ 8 V (+/- 5%)
Dimensions	240(W) x 53(H) x 706(L)mm

HX 85.4

Power Supply Voltage	10 -16 V
Rated Power Output at 14,4 V	
-RMS power @ 4 ohm stereo	4x 85 W
-RMS power @ 2 ohm stereo	4x 150 W
-RMS power @ 1 ohm stereo	4x 250 W
-RMS power @ 4 ohm bridged	2x 290 W
-RMS power @ 2 ohm bridged	2x 500 W
Signal to Noise Ratio	> 90 dB
Low Pass Crossover	50 Hz ~ 300 Hz (Input-A) 50 Hz ~ 6 KHz (Input-B)
High Pass Crossover	35 Hz ~ 7 KHz (Input-A) 35 Hz ~ 250 Hz (Input-B)
Phase Shift Control	0 ~ 360 degrees
Frequency Response	10 Hz ~ 80 KHz (+/-1dB)
THD@RMS Watts	0.02%
Channel Separation	75 dB
Fuse Rating	100A
Input Sensitivity	200 mV ~ 8 V (+/- 5%)
Dimensions	240(W) x 53(H) x 416(L)mm