



AUDIO SYSTEM GERMANY  
FALLTORSTRASSE 6 - 76707 HAMBROCKEN

DESIGNED AND ENGINEERED BY AUDIO SYSTEM GERMANY

**X SERIES**  
BY AUDIO SYSTEM



# HIGH-PERFORMANCE CAR- AMPLIFIER

OWNER'S MANUAL



X-100.5 MDSP-BT  
X-100.9 MDSP-BT  
X-100.5 MDSP-BT 24V  
X-100.9 MDSP-BT 24V



DESIGNED AND ENGINEERED BY AUDIO SYSTEM GERMANY

Congratulation on your purchase of your new **X SERIES** amplifier.

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

**ATTENTION:** Pay attention to advices and instructions of the car manufacturer.

**IMPORTANT:** Your proof of purchase is evidence of warranty claim for repair or replacement. Keep your proof of purchase, manual and original packaging.

**ATTENTION:** Use of sound components can impair your ability to hear necessary traffic sounds and may constitute a hazard while driving your automobile.

**AUDIO SYSTEMGERMANY** accepts no liability for hearing loss, bodily injury or property damage as a result of use or misuse of our products. We recommend installing the equipment by an authorized service center or dealer. A professional fitting and connection is the requirement for further warranty and perfect sound.

**X-100.5 MDSP-BT / X-100.5 MDSP-BT 24V**

- 5-Channel High-Power Full-Range Digital amplifier
- Stable into 2 ohm (Channel 1-4) / 4 ohm (Channel 5) / Overall power rating 600W
- 9-Channel High-Performance-DSP with SigmaDSP core with 294.912 Mhz and >292 MIPS
- 4 Channel DSP-processed RCA pre-outs with remote output
- DSP Frequency Range 10 bis 24.000 Hz and Signal to Noise Ratio: 107 dB ADC and 112 dB DAC
- DSP BT App Control Software (iOS & Android)
- Infrared-Remote Control, Multi Function Regulator and OLED-Display can be connected directly to Operation Panel via the **DSP BOX**
- Pairwise switchable Molex High- and Low-Level Inputs with Auto-Turn-On
- Multi-Way Protection Circuitry: overheating, overcurrent, short circuitry and speaker DC protection
- Plug'n Play adapter cables for signal inputs and outputs separately available



**X-100.9 MDSP-BT / X-100.9 MDSP-BT 24V**

- 9-Channel High-Power Full-Range Digital amplifier
- Stable into 2 ohm (Channel 1-8) / 4 ohm (Channel 5) / Overall power rating 800W
- 13-Channel High-Performance-DSP with SigmaDSP core with 294.912 Mhz and >292 MIPS
- 4 Channel DSP-processed RCA pre-outs with remote output
- DSP Frequency Range 10 bis 24.000 Hz and Signal to Noise Ratio: 107 dB ADC and 112 dB DAC
- DSP BT App Control Software (iOS & Android)
- Infrared-Remote Control, Multi Function Regulator and OLED-Display can be connected directly to Operation Panel via the **DSP BOX**
- Pairwise switchable Molex High- and Low-Level Inputs with Auto-Turn-On
- Multi-Way Protection Circuitry: overheating, overcurrent, short circuitry and speaker DC protection
- Plug'n Play adapter cables for signal inputs and outputs separately available



**X-100.5 MDSP-BT / X-100.5 MDSP-BT 24V**

Power supply voltage (12V / 24V Version)	10 - 16 V / 20 - 32 V
Rated output power at 14,4 V / 28,8 V (Channel 1-4)	
-RMS power @ 4 Ohm	100 W
-RMS power @ 2 Ohm	140 W
Rated output power at 14,4 V / 28,8 V (Channel 5)	
-RMS Leistung @ 4 Ohm	30 W
Overall system power rating	600W
Signal to noise ratio (Amplifier)	> 96 dB
Signal to noise ratio (Typ.) ADC	107 dB
Signal to noise ratio (Typ.) DAC	112 dB
DSP outputs	9 (5x internal / 4x external)
High-Level Inputs	6
Low-Level Inputs	6
Sampling rate	48 kHz
Operation temperature	-20° ~ +85°C
Frequency response	10 Hz ~ 24 KHz (+/-1 dB)
THD @ 4 Ohm and 1/2 rated power	< 0,030%
Channel separation	76 dB
Fuse (12V / 24V Version)	25 A x 2 / 20 A x 2
Input sensitivity (Low / High input)	4 V / 12V
Dimensions	113(W) x 38(H) x 163(L) mm



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This power amplifier is featured with an efficient protection system to prevent any damages like overheating, 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.

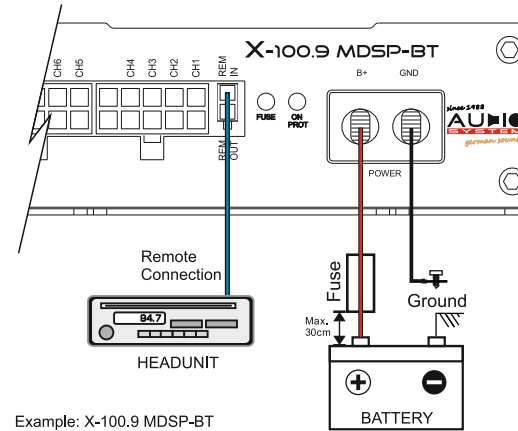
AMPLIFIER IS NOT POWERED UP, NO LED IS LIGHTENING	<ul style="list-style-type: none"> <li>- ground connection professional connected?</li> <li>- +12V / +24V powercable professional connected?</li> <li>- remote cable professional connected?</li> <li>- fuses inserted and alright?</li> <li>- analyze voltage on the amplifier.</li> </ul>
PROTECTION LED ILLUMINATES GREEN WHILE AMPLIFIER IS SOUNDLESS	<ul style="list-style-type: none"> <li>- cinch cable alright and professional connected</li> <li>- loudspeaker professional connected?</li> <li>- head unit alright?</li> </ul>
PROTECTION LED ILLUMINATES RED WHEN AMPLIFIER IS POWERED UP	<ul style="list-style-type: none"> <li>- amplifier too hot?</li> <li>- short-circuit at the loudspeaker output?</li> <li>- short-circuit caused by loudspeaker cable with vehicle chassis (ground)?</li> <li>- input voltage too high (e.g.faulty generator)?</li> </ul>
OVERHEATING (PROTECTION LED ILLUMINATES RED WHEN AMPLIFIER IS POWERED UP)	<ul style="list-style-type: none"> <li>- impedance alright?</li> <li>- loudspeaker error?</li> <li>- adequate airflow of the amplifier?</li> </ul> <p><b>! CAUTION !</b> <b>After cooling down, the amplifier turns on automatically.</b></p>
ERROR IN AMPLIFIER FUSE	<ul style="list-style-type: none"> <li>- ground professional connected?</li> <li>- loudspeaker impedance alright?</li> </ul> <p><b>! CAUTION !</b> <b>Make sure when changing fuses to use the same value.</b></p>
SOUND TOO LOW OR LOW-DISTORTED SOUND	<ul style="list-style-type: none"> <li>- input mixer selectct properly in software?</li> <li>- output level control of the head unit alright?</li> <li>- loudspeaker error?</li> <li>- loudspeaker cable checked?</li> <li>- crossover frequencies has been properly set? (Check head unit, ampliflier, DSP, soundprozessor, equalizer, frequency bandpassfilter...)</li> </ul>
HIGH HISS-ENGINE NOISE IN SPEAKERS	<ul style="list-style-type: none"> <li>- ground connection professional connected?</li> <li>- short-circuit caused by loudspeaker cable with vehicle chassi (ground)?</li> <li>- cinchcable (RCA) and/or loudspeaker cabel installed too close to the power connection cable?</li> <li>- cinch ground (RCA) of the head unit alright?</li> </ul>

**! ATTENTION !**

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

For warranty ajustement / repairs the original invoice has to be attached!  
Opening the power amplifier is leading to a lost of warranty in either case!

**X-100.5 MDSP-BT (24V) / X-100.9 MDSP-BT (24V)**



Example: X-100.9 MDSP-BT

- 1. Battery disconnection:**  
First, disconnect the power supply of the vehicle 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 8-6). Make sure, that the connection with the vehicle chassis is free of paint, dirt and dust.

- 3. +12 V / +24 V Power connection:**  
Connect the +12 V / +24 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 maximum 30cm. For the amplifier to function at its best, use a high quality fuse holder and suitable cable preferably AWG 8-6 cable. This fuse protects the amplifier and the vehicle against the possibility of a short circuit in the power cable.

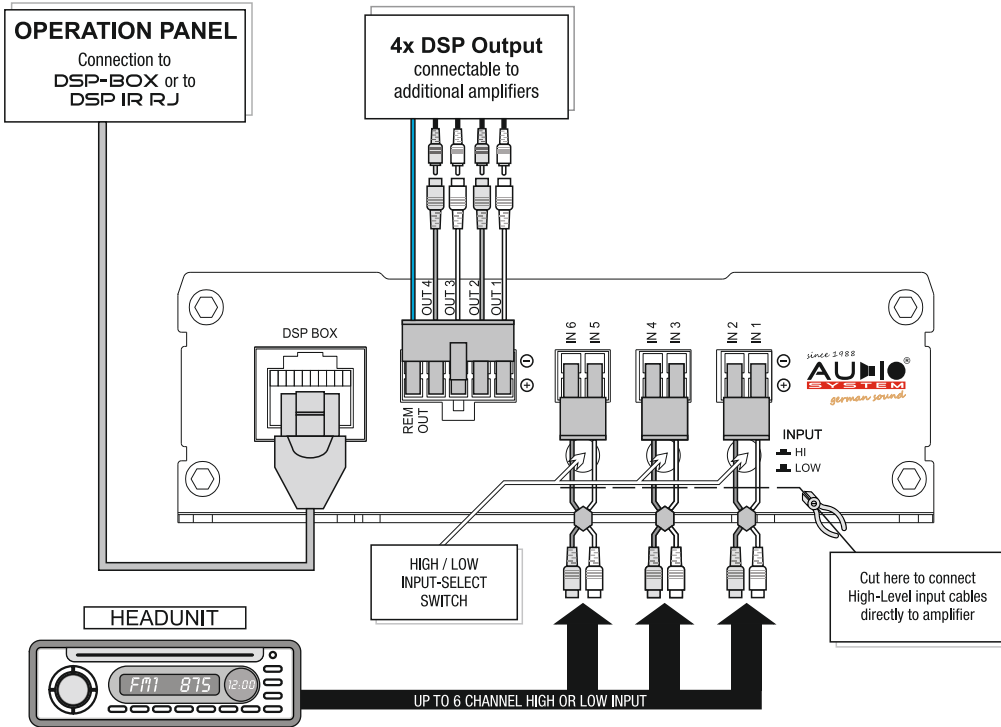
- 4. Remote connection:**  
Connect the REM-IN terminal of the amplifier to the remote-output (automatic 12 V / 24 V antenna-output) of the head unit. Use a 0,5 - 1,5 mm power cable.  
**Attention:**  
Further power amplifiers must be connected to the REM-OUT of the **X-SERIES MDSP-BT** to turn on.

**! ATTENTION !**

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 brakes or other components get damaged.
- There has to be enough cooling and air circulation. Avoid the installation in small closed boxes or close to heatening 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 / 24 V DC power supply.
- Never install the power supply cable with other original wires of the vehicle (gas cables), fan motors, brand control moduls 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.

X-100.5 MDSP-BT (24V) / X-100.9 MDSP-BT (24V)



The X SERIES amplifier has RCA inputs, which are connected by cinch cables to the preamplifier outputs of the headunit. If this is not possible (usually with an original radio, OEM), the speaker outputs of the car radio can be connected directly to the RCA inputs.

**It is important** that the corresponding input select switch is switched to 'HI'. The amplifier will turn on automatically when using High-Level inputs.

At the RCA-DSP outputs and the remote output you can connect additional amplifiers with Low-Level RCA cables. With the help of the internal DSP, variable high-, band- and low-passfilters, timedelay and phase shifts can be set. The DSP settings allow you to individualize the power amp to your listening needs, vehicle needs and speakers.

The settings of the DSP are controlled by the BT-App. At the Operation Panel input, either an infrared eye DSP IR RJ for DSP RC remote control or the DSP BOX can be connected. The DSP BOX is a versatile connection tool that can be used with the DSP IR, DSP CONTROL, DSP DISPLAY and DSP RC.

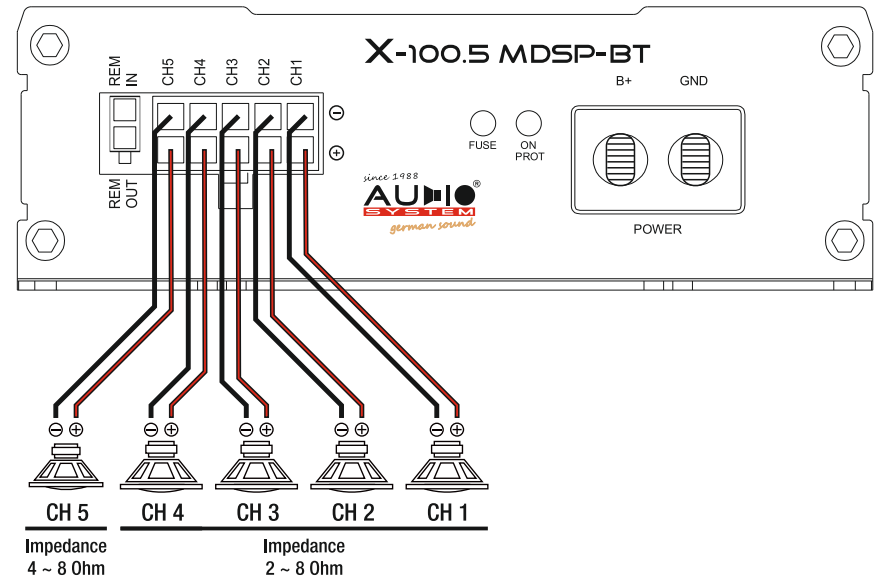
The link to iOS and Android DSP software to control all settings including the manual is available at [www.audio-system.de/dsp](http://www.audio-system.de/dsp).

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



X-100.5 MDSP-BT (24V)

5-Channel operation



X-100.9 MDSP-BT (24V)

9-Channel operation

