HIGH PERFORMANCE AMPLIFIER

HD-1500
HD-2500
HD-3500
HD-150.4 FR
INTRODUCTION

Thanks you for purchasing HD-series Amplifiers for your car audio system. HD-series amplifiers are engineered and manufactured to ensure the years of uncompromised musical enjoyment, high performance and reliability. HD-series amplifiers are high power audio amplifiers, so very loud music can cause hearing loss and intended for using in vehicles with 12 Volt, Negative ground electrical systems. Attempting to connect or operate the amplifiers in another type of electrical system may cause damage to the amplifier or the electrical system. if you like to install the amplifiers by yourself, Pls carefully read whole manual and follow.

FEATURES

- Digital linkable/dual mono block amplifier
- Dual MOS-FET PWM power supply
- Stable into 1 ohm mono load
- Variable low pass / subsonic filter
- Variable bass boost
- Remote control for digital mono block
- 4 way protection circuit (thermal, voltage, speaker short and DC)
- Multiply x1, x10 for HD-150 FR
- Double sided printed circuit board

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>HD-1500</th>
<th>HD-2500</th>
<th>HD-3500</th>
<th>HD-150.4 FR</th>
</tr>
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<tbody>
<tr>
<td>Rated power output</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-MAX power @ 1 ohm</td>
<td>1500Watts</td>
<td>2500Watts</td>
<td>3500Watts</td>
<td>na</td>
</tr>
<tr>
<td>-MAX power @ 2ohm</td>
<td></td>
<td></td>
<td></td>
<td>150Watts x 4ch</td>
</tr>
<tr>
<td>Input Sensitivity</td>
<td>6V ~ 0.2V</td>
<td>6V ~ 0.2V</td>
<td>6V ~ 0.2V</td>
<td>6V ~ 0.2V</td>
</tr>
<tr>
<td>Variable Crossover</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>50Hz ~ 500Hz</td>
</tr>
<tr>
<td>Multiply</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>x1, x10</td>
</tr>
<tr>
<td>Variable Low Pass Filter</td>
<td>35Hz ~ 250Hz</td>
<td>35Hz ~ 250Hz</td>
<td>35Hz ~ 250Hz</td>
<td>na</td>
</tr>
<tr>
<td>Variable Subsonic Filter</td>
<td>10Hz ~ 50Hz</td>
<td>10Hz ~ 50Hz</td>
<td>10Hz ~ 50Hz</td>
<td>10Hz ~ 100Hz</td>
</tr>
<tr>
<td>Variable Bass Boost</td>
<td>0dB ~ 9dB</td>
<td>0dB ~ 9dB</td>
<td>0dB ~ 9dB</td>
<td>na</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>15Hz ~ 270Hz</td>
<td>15Hz ~ 270Hz</td>
<td>15Hz ~ 270Hz</td>
<td>20Hz ~ 30KHz</td>
</tr>
<tr>
<td>Signal to Noise Ratio</td>
<td>85 &lt;</td>
<td>85 &lt;</td>
<td>85 &lt;</td>
<td>105 &lt;</td>
</tr>
<tr>
<td>Efficiency @ 4ohm</td>
<td>Over 90%</td>
<td>Over 90%</td>
<td>Over 90%</td>
<td>Over 65%</td>
</tr>
<tr>
<td>THD @ 4ohm</td>
<td>&lt; 0.1%</td>
<td>&lt; 0.1%</td>
<td>&lt; 0.1%</td>
<td>&lt; 0.1%</td>
</tr>
<tr>
<td>Damping Factor</td>
<td>150 &lt;</td>
<td>150 &lt;</td>
<td>150 &lt;</td>
<td>150 &lt;</td>
</tr>
<tr>
<td>Fuse Rating</td>
<td>60A</td>
<td>90A</td>
<td>120A</td>
<td>40A</td>
</tr>
<tr>
<td>Link Fuse Rating</td>
<td>120A</td>
<td>180A</td>
<td>240A</td>
<td>na</td>
</tr>
</tbody>
</table>

All features are subject to change in the continuing effort to improve the products without notice.
**POWER CONNECTIONS**

**HEAD UNIT**

- GND, REM, +12V
- Power
- Speaker
- Battery
- Ground

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**DIGITAL MONOBLOCK SPEAKER CONNECTIONS**

- GND, REM, +12V
- Power
- Speaker
- 4-1ohms
- 4-2ohms

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**Caution**

HD-Series Digital monoblock amplifiers are not equipped with internal fuse in itself. Make sure you install in-line fuse holder from the Positive (+) terminal of battery. HD-150.4 FR is equipped with fuse.

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**+12V Power**

Connect the +12V terminal of the amplifier to the + terminal of the battery using the same diameter as the ground cable. Making sure you install in-line fuse holder, approximately 300 or 400 mm from the + terminal of battery, making sure that there is no fuse in the battery holder.

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**GROUND**

Disconnect the battery and connect the GND (ground) terminal to the car’s chassis. Keep this cable as short as possible (not longer than 20 inches or less). Making sure that the connection with the chassis is rust free and clear of paint or grime.

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**REMOTE**

Connect the REM terminal of the amplifier to the power antenna terminal in the car ignition switch using 12 or 16 ga. electrical wire.

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**Caution!!**

HD-Series digital amplifiers’ minimum working impedance is 1ohm or Linkable connection’s impedance is 2ohm. Working voltage is 8.5V ~ 16V
DIGITAL MONOBLOCK RCA INPUT CONNECTION

SINGLE UNIT INPUT CONNECTION

HEAD UNIT

Wired Remote Control

MASTER & SLAVE INPUT CONNECTION

"MASTER AMPLIFIER"

HEAD UNIT

Wired Remote Control

"SLAVE AMPLIFIER"

LINK POWER AND SPEAKER CONNECTION

"MASTER AMPLIFIER"

HEAD UNIT

"SLAVE AMPLIFIER"

Using a link connection of HD-series amplifiers' configuration.
The MASTER HD-series amplifier has total control over the SLAVE HD-series amplifier.
When using link connection to operate subwoofer, the positive terminal of the subwoofer's
voice coil must be connected to the positive terminal of the MASTER HD-series amplifier and
the negative terminal of the subwoofer's voice coil must be connected to positive terminal of
the SLAVE HD-series amplifier.
When using link connection, please check the power handling capabilities of your subwoofers

⚠️ Caution!! In linkable connection mode, Minimum working impedance is 2 ohms.
Any impedance (load) smaller than 2 ohms can damage the amplifiers
HD-150.4 FR RCA CONNECTION

HD-150.4 FR SPEAKER CONNECTIONS

HD-150.4 FR 2CHANNEL SPEAKER CONNECTION MODE.

HD-150.4 FR 4CHANNEL SPEAKER CONNECTION MODE.

HD-150.4 FR 5CHANNEL SPEAKER CONNECTION MODE.

Caution!!
HD-150.4 FR minimum working impedance is 2ohm stereo or 4ohm mono.
TROUBLE SHOOTING

HD-series amplifiers have the protection features to prevent any damages from misuse or faulty conditions.
If HD-series amplifiers sense excessive heat, short circuited speakers DC, or voltage the protection indicator will light, and the system will be turned off.
In order to check the problem, you should turn all levels down and all power off and carefully check the installation for wiring mistakes or short.
If HD-series amplifiers shuts down due to excessive heat, They will be working later when it is cooled down.
Before removing your amplifier, refer to the list below and follow the suggested procedures.

NO OUTPUT
1. Check remote turn-on voltage at amplifier and headunit, when remote turn-on voltage is low or no turn-on voltage, there is no sound.
2. Check fuses at the battery side or external fuses and all wire connections.
3. Check RCA input is properly connected.

AMPLIFIER SHUT DOWN ( PROTECTION )
1. Please check POWER, GND and REMOTE wire connection and other wires properly connected.
2. When DC over 4V come into the amplifiers, Amplifiers is DC protected
   Pls check whether amplifiers work after removing RCA Input.
   If amplifier work, then check DC by checking RCA Input.
   When DC is over 4V at input, try by replacing head-unit or source.
3. When amplifier is over-heated, Amplifier goes into the thermal protection.
   Amplifier will be back after cooling down little bit. Please install amplifier in better ventilation and make it cool.
4. HD-series digital monoblock have minimum working impedance as 1ohm as single unit
   Linkable connection is 2ohm
   HD-150.4 FR minimum working impedance is 2ohm stereo or 4ohm mono.
5. HD-series amplifiers voltage protection at low and high is 8.5V –16Volts
6. Make sure Chassis and remote use same GROUND.

DISTORTION & NOISE
1. Please readjust amplifier input level which is printed on endplate.
2. Make sure good ground contact of amplifier or headunit.
3. Use sufficiently shielded RCA interconnects and good RCA routing.
4. Check all ground connections of all other audio equipments.

POOR BASS RESPONSE
1. Check speaker wiring and reverse polarity.