



DX SERIES

AMPLIFIERS

DX-A4090

DX-A601

DX-A1201

DX-A1005



User Manual

• Installation Instructions / Owner's Manual •

Due to continuous improvement of the product, the specifications are subject to change without notice.

Introduction

Congratulations on your purchase of a DX-Series state-of-the-art amplifier. Your selection of a DX-Series product indicates a true appreciation of fine musical reproduction. Whether adding to an existing system or including your DX-Series amplifier in a new system, you are certain to notice immediate performance benefits.

Product Commitment

DB's engineering professionals harnessed years of expertise, experience and passion, coupled with exhaustive testing and creative design to develop the optimal product and performance for your musical enjoyment. This is our commitment to you. It's what you deserve and have come to expect from DB DRIVE. We appreciate the confidence and look forward to your positive experience.

Keep Your Sales Receipt

Take this time to attach your sales receipt to the manual and put in a safe place. In case of any unforeseen reason this product may need warranty service, your receipt will be necessary to establish purchase date.

Recommendation

A power amplifier's performance is only as good as its installation. Proper installation will maximize the system's overall performance. It is recommended that you have our product installed by an authorized DB Drive retailer. However, if you decide to install it yourself, please carefully read through this manual and take your time to do a quality installation.

Optimal Product Choice

To get the Maximum performance out of your stereo system, we recommend using 100% authentic DB Drive electronics and DB LINK wiring and accessories. Matching DB Drive amplifiers and speakers with your state-of the art electronics purchase is critical to optimize your system's performance. Wiring is the lifeblood of a system, make sure your audio system has the adequate current and signal transfer it deserves and needs. DB Link has it all, from wiring rolls; speaker power ground, remote to amplifier kits, RCAs, fuse holders, distribution blocks and battery connectors. Insist on getting the best, DB LINK. It's what you deserve to get the optimum performance from your audio system.

IMPORTANT!

Before making any connections, disconnect the car's battery until the installation is completed to avoid possible damage to the electrical system.

WARNING!

Exposure to high power sound system can cause hearing loss or damage. Listening to your system at loud levels while driving will impair your ability to hear traffic sounds and emergency vehicles. Use common sense when listening to your system.

Serial # _____ Model # _____



1. DX-SERIES AMPLIFIER'S SPECIFICATION

DX-A4090 - 4 Channel Class D Full Range Amplifier

| Load | Voltage & THD | DX-A4090 |
|------------|-----------------|---------------|
| 4Ω | 14.4 Volts & 1% | 4 x 90 Watts |
| 2Ω | 14.4 Volts & 1% | 4 x 150 Watts |
| 4Ω Bridged | 14.4 Volts & 1% | 2 x 300 Watts |

| | |
|----------------------------|-----------------|
| Ch 1-2 High Pass Crossover | 20Hz- 5kHz |
| Ch 1-2 Low Pass Crossover | 50Hz- 5kHz |
| Ch 3-4 High Pass Crossover | 20Hz- 5kHz |
| Ch 3-4 Low Pass Crossover | 50Hz- 5kHz |
| Crossover Slope | @ 12 dB |
| Bass Boost | @ 45Hz : 0-12dB |
| Input Sensitivity | 250Mv - 6V |
| Signal to Noise Ratio | >92dB |
| Frequency Response | 10Hz-22KHz |

DX-A601 - Class D Subwoofer Amplifier

| Load | Voltage & THD | DX-A601 |
|------|-----------------|---------------|
| 1Ω | 14.4 Volts & 1% | 1 x 600 Watts |
| 2Ω | 14.4 Volts & 1% | 1 x 450 Watts |
| 4Ω | 14.4 Volts & 1% | 1 x 250 Watts |

| | |
|-----------------------|-----------------|
| Low Pass Crossover | 40Hz - 300Hz |
| Subsonic Filter | 0 - 25 Hz |
| Bass Boost | @ 45Hz : 0-12dB |
| Input Sensitivity | 250Mv - 6V |
| Signal to Noise Ratio | >95dB |
| Frequency Response | 10Hz-350Hz |

DX-A1201 - Class D Subwoofer Amplifier

| Load | Voltage & THD | DX-A1201 |
|------|-----------------|----------------|
| 1Ω | 14.4 Volts & 1% | 1 x 1200 Watts |
| 2Ω | 14.4 Volts & 1% | 1 x 650 Watts |
| 4Ω | 14.4 Volts & 1% | 1 x 350 Watts |

| | |
|-----------------------|-----------------|
| Low Pass Crossover | 40Hz - 300Hz |
| Subsonic Filter | 0 - 25 Hz |
| Bass Boost | @ 45Hz : 0-12dB |
| Input Sensitivity | 250Mv - 6V |
| Signal to Noise Ratio | >90dB |
| Frequency Response | 10Hz-350Hz |

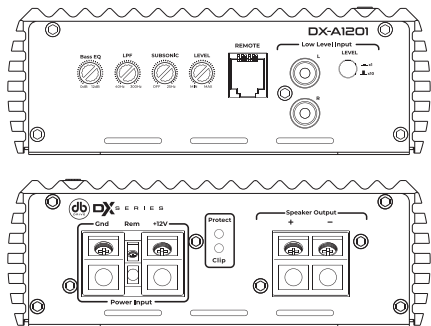
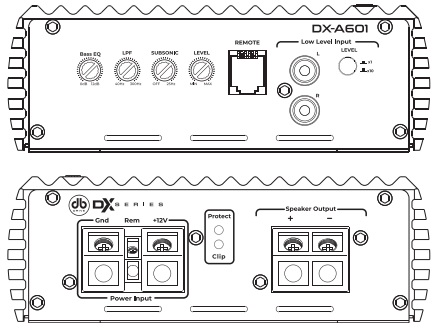
DX-A1005 - 5 Channel Class D Full Range Amplifier

| Load | Voltage & THD | DX-A1005 |
|------|-----------------|---------------------------|
| 4Ω | 14.4 Volts & 1% | 4 x 90 Watts + 250 Watts |
| 2Ω | 14.4 Volts & 1% | 4 x 150 Watts + 500 Watts |

| | |
|----------------------------|-----------------|
| Ch 1-2 High Pass Crossover | 40Hz - 300Hz |
| Ch 3-4 High Pass Crossover | 40Hz - 300Hz |
| Ch 5 Low Pass Crossover | 40Hz - 300Hz |
| Subsonic Filter | 0 - 25 Hz |
| Crossover Slope | @ 12 dB |
| Bass Boost | @ 45Hz : 0-12dB |
| Input Sensitivity | 250Mv - 6V |
| Signal to Noise Ratio | >92dB |
| Frequency Response | 10Hz-22KHz |

2. DX-SERIES AMPLIFIER'S CONTROL & CONNECTION.

2-1. DX_SERIES - Class D Subwoofer Amplifiers



COLLECTIVE HEAT MANAGEMENT
The DX-Series amplifiers use a specially designed heat radiation heatsink to avoid excessive heat from the circuitry



**AUDIO PROTECTION CIRCUIT
POWER & PROTECTION INDICATOR**
Power LED - BLUE-lit shows normal operation
Protect LED - RED-lit shows general malfunction, faulty connection or thermal protection



SIGNAL EVALUATION STATUS INDICATOR.
RED-lit LED shows clipping peaks of audio signal

GAIN (6V ~ 0.2V)
Matching the output voltage of the head unit's RCA line-outs to DX-Series amplifiers' input section.

BASS BOOST
@ 45Hz : 0-12dB

SUBSONIC FILTER:
0 - 25 Hz

CLASS D AMPLIFIERS
Low Pass Filter: 40Hz - 300Hz

REMOTE LEVEL CONTROL PORT
This port is for connecting remote gain level control.

+12V (POWER CONNECTION)
This must be connected to the fuse positive terminal (+12V) of the battery.

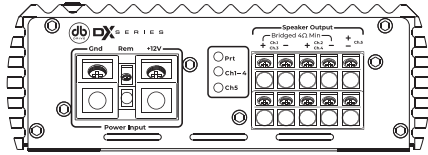
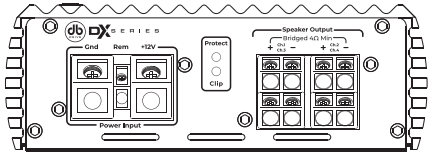
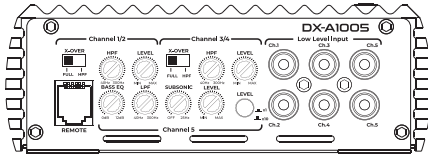
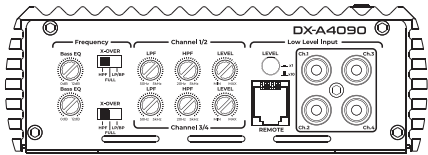
GND (GROUND CONNECTION)
It is connected to the Negative or chassis ground on the Vehicle.

| POWER WIRE INPUT | |
|------------------|-------|
| MODEL | GAUGE |
| DX-A601 | 4 |
| DX-A1005 | 4 |

REM (REMOTE)
It is connected to switched +12V with a trigger cable coming from the head unit

SPEAKER OUTPUTS
It connects amplifier's terminals to subwoofer speakers. Minimum speaker wire is 12 gauge. Minimum impedance is 1 ohm

2-2. DX_SERIES - 4 Channel Class D Amplifier / 5 Channel Class D Amplifier



COLLECTIVE HEAT MANAGEMENT
The DX-Series amplifiers use a specially designed heat radiation heatsink to avoid excessive heat from the circuitry



AUDIO PROTECTION CIRCUIT
POWER & PROTECTION INDICATOR
Power LED - BLUE-lit shows normal operation. Protect LED - RED-lit shows general malfunction, faulty connection or thermal protection



SIGNAL EVALUATION STATUS INDICATOR
RED-Lit LED shows clipping peaks of audio signal



ADAPTIVE CROSSOVER TECHNOLOGY
Adaptive crossover system capable of adapting to any configuration

Select both **HP** and **LP** for bandpass for running midrange or midbass drivers. This setting will filter out both unwanted low or high frequencies according to the setting of each control.

HIGH PASS FILTER
Controls the high pass point for the speaker outputs.

**Refer to section 2-3A for more details.*

LOW PASS FILTER
Controls the low pass x-over point for the speaker outputs.

GAIN (6V ~ 0.2V)
The gain control matches the voltage of the head unit's RCA line-outs to DX-Series amplifiers' input section.

REMOTE LEVEL CONTROL PORT
This port is for connecting the remote gain level control.

GND (GROUND CONNECTION)
It is connected to the negative or chassis ground of the vehicle.

POWER WIRE INPUT

| MODEL | GAUGE |
|----------|-------|
| DX-A4090 | 4 |
| DX-A1005 | 4 |

REM (REMOTE)
Connected to switched +12V remote cable from the head unit.

+12V (POWER CONNECTION)
This must be connected to a fused positive terminal (+12V) of the battery.

SPEAKER OUTPUTS
The minimum recommended speaker wire is 16 gauge. The minimum impedance is 2 ohm stereo or 4 ohm Bridged

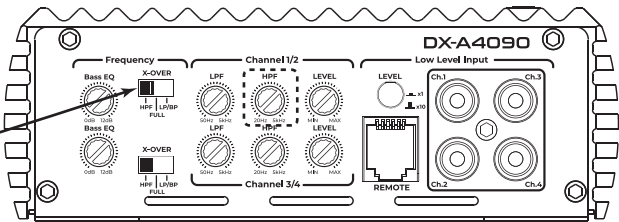
4 CHANNEL AMPLIFIER
Ch 1-2 High Pass Crossover: 20Hz- 5kHz
Ch 1-2 Low Pass Crossover: 50Hz- 5kHz
Ch 3-4 High pass Crossover: 20Hz- 5kHz
Ch 3-4 Low pass Crossover: 50Hz- 5kHz

5 CHANNEL AMPLIFIER
Ch 1-2 High Pass Crossover: 40Hz - 300Hz
Ch 3-4 High Pass Crossover: 40Hz - 300Hz
Ch 5 Low Pass Crossover: 40Hz - 300Hz

2-3. DX_SERIES - AMPLIFIER'S CONTROL & CONNECTION

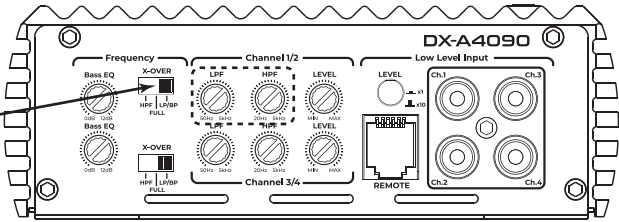
HIGH-PASS FILTER

- Select only the HP crossover filter for High-Pass functions.



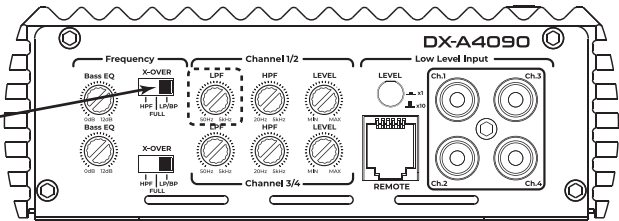
BAND-PASS FILTER

- Select both HP and LP crossover filters for Band Pass functions.

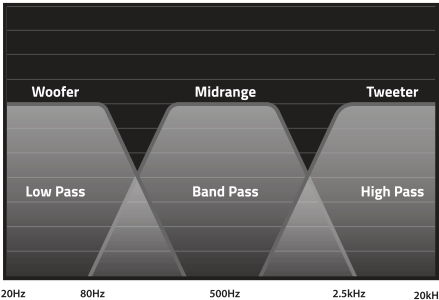


LOW-PASS FILTER

- Select LP crossover filter for Low-Pass functions.



Selectable 12dB 3-Way Active Crossover



3. INSTALLATION

In case you install the DX-Series amplifiers by yourself, please read owner's manual very carefully. Before you start your installation, please take all steps into consideration, or you can have a DB Drive or DB Research's authorized dealer check the installation and help set your car audio systems.

3-1. MOUNTING PREPARATION

Disconnect the negative (—) battery cable before mounting your DX-Series amplifier or making any connections. Check the battery and alternator ground (—) connections. Make sure they are properly connected and free of corrosion before selecting a mounting location. Please also take into consideration cooling efficiency and safety.

3-2. MOUNTING PREPARATION

The DX-Series amplifier uses a specially designed heat radiation heatsink to avoid excessive heat from DX-Series circuitry. But for better heat dissipation, it is recommended to find the mounting location where you can install DX-Series where the heatsink fins have better air flow. For safety, you have to find a dry well ventilated location. Before mounting, be sure the location and drilling of pilot cables will not present a hazard to any cables, control cables, fuel lines, fuel tanks, hydraulic lines or other vehicle systems or components.

3-3. +12V, GND, REM CONNECTION

A) 12V (POWER CONNECTION)

Before mounting DX-Series amplifiers, disconnect the negative (—) wire from battery to protect any accidental damage to the amplifier and the audio system. DX-A4090 and DX-A1005 are designed to use, at a minimum, 4 gauge power and ground cables DX-A601 & DX-A1201 are designed to use, at a minimum, 0 gauge cables. Connect the power cables to power terminal labeled as + 12V.

B) GND (GROUND CONNECTION)

Locate a secure grounding connection as close to DX-Series amplifiers as possible. Make sure the location is clean and provides a direct electrical connection to the frame of the vehicle.

Connect one end of a short piece of the same gauge cable as the power cable to the grounding point. Run the one end of the cable to the grounding point.

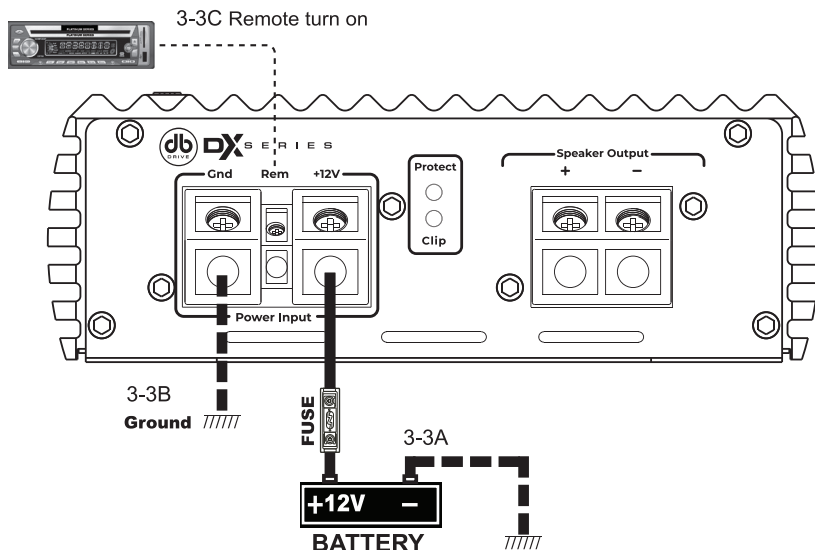
Run the other end of the cable to the mounting location.

Connect the ground cable to the screw terminal labeled as GND.

C) REM (REMOTE CONNECTION)

Run a remote turn on cable from the head units remote switched + 12V output.

3-3. DX-SERIES +12V, GROUND, REMOTE CONNECTION DIAGRAM



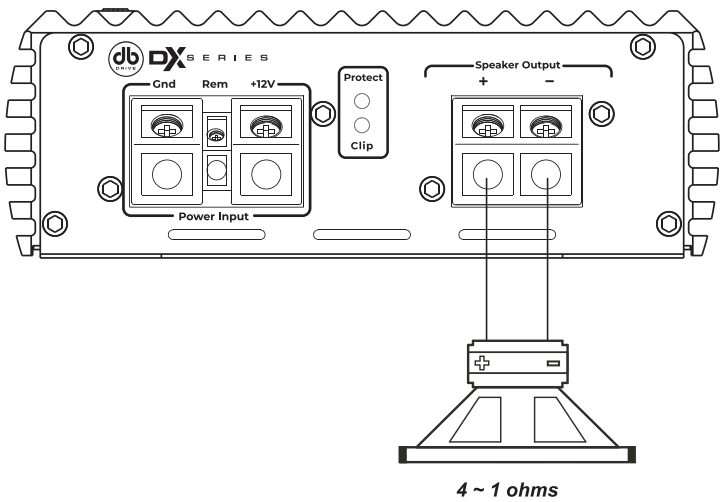
3-4. SPEAKER CONNECTION

DB Drive recommends to use a minimum of 12 gauge speaker connecting cables. Run 12 gauge speaker connecting cables from your speakers to DX-Series amplifier's mounting location. Keep speaker cables away from power cables and DX-Series amplifier's input cables. Use grommets anywhere the cables have to pass through the holes in the metal frame or sheet metal. Connect to the speakers according to the type of the terminals on each speaker. Strip 3/8" of insulation from the end of each cable and twist the cables strands together tightly. Make sure there are no stray strands that might touch other cables or terminals causing a short. Crimp spade lugs over the cable ends or tin the ends with solder to provide a secure termination. Connect the cable ends to DX-Series amplifiers as shown on speaker system diagrams.

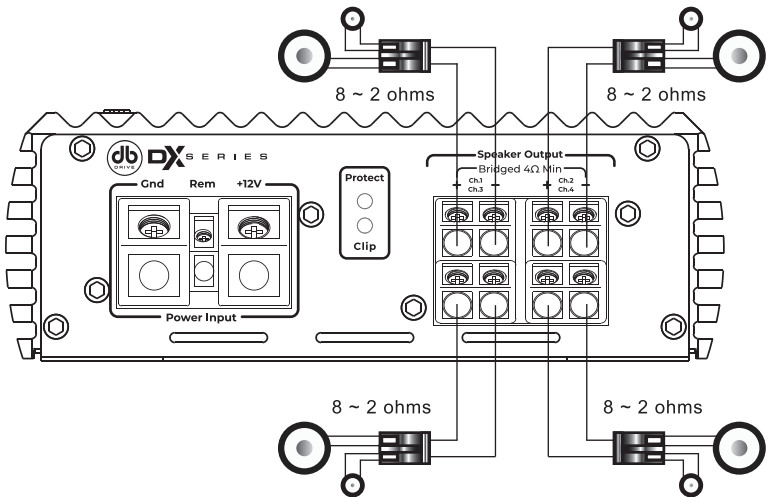
⚠ CAUTION !!

***DX-A601 and DX-A1201 amplifiers
minimum impedance is 1 ohms.***

3-4A. DX-SERIES CLASS D MONOBLOCK AMPLIFIERS' SPEAKER CONNECTION DIAGRAM 1.



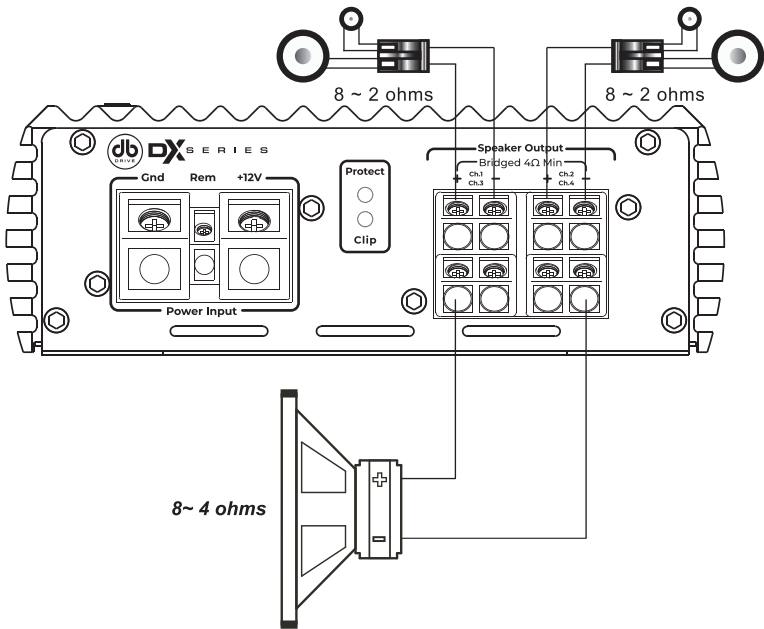
3-6A. DX-SERIES 4 CHANNEL AMPLIFIERS' SPEAKER CONNECTION DIAGRAM 1.



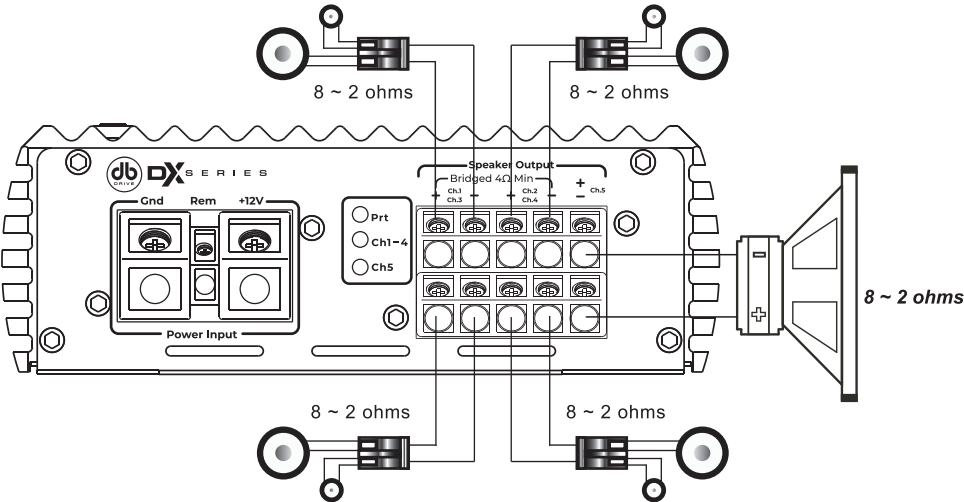
⚠ CAUTION !!

DX-A4090 Amplifiers' minimum impedance is 2 ohms stereo or 4 ohm mono

3-6B. DX-SERIES 4 CHANNEL AMPLIFIERS' SPEAKER CONNECTION DIAGRAM 2.



3-7A. DX-SERIES 5 CHANNEL AMPLIFIER'S SPEAKER CONNECTION DIAGRAM 1.



4. TROUBLE SHOOTING

NO SOUND (NO OUTPUT)

- 1) Please check all connections, cables' routing, short and voltage at DX-Series amplifiers and headunit.
- 2) Please check external fuse at the battery. If any are blown, replace with new one.
- 3) Please check whether speakers work well. You can test speakers by connecting to another amplifier.

PROTECTION

- 1) Please check overload, overheat (thermal), short, voltage and DC offset.
- 2) Minimum working impedance for 4 channel amplifiers is 2 ohm stereo or 4 ohm mono
Minimum working impedance for all Class D mono amplifiers is
1 ohm for single unit and 2 ohm for linked operation.
- 3) If DX-Series amplifier shuts down due to overheat, reset by turning off the remote input and allowing time to cool down.
Please make sure there are no airflow obstructions around DX-Series amplifiers to prevent thermal protection. 4) **DX-A601** and **DX-A1201** have voltage operation of 9V~16V
If Voltage is out of range of above, DX-Series amplifiers will be protected.

POOR BASS RESPONSE

- 1) Please check speaker polarities

WHINING NOISE

- 1) Engine noise is caused by poor grounding of DX-Series amplifiers, headunit, other components, battery or alternator, so please check all grounding connections.

LIMITED WARRANTY

DB Drive™ warrants any DX-Series amplifiers purchased in the USA from an authorized DX-Series dealer. All DX-Series amplifiers are warranted to be free from defects in material and workmanship under normal use and service for a period of one (1) year when the unit is installed by an authorized dealer. Non-authorized dealers installed amplifiers carry one (1) year parts and labor limited warranty. This warranty applies to original purchase only, non-transferable.

DB Drive™ will either repair or replace (at its option) any unit that has been found to be defective and under warranty.

This limited warranty does not extend to units that have been subjected to misuse, abuse, neglect, accident, or defaced. Products that in DB Drive™'s judgment show evidence of having been altered, modified, abused or serviced without DB Drive™'s authorization, will be ineligible under this warranty.

The original sales invoice must be presented at the time any warranty will be inspected before any warranty agreement is issued.

To obtain warranty services please contact your local retailer or DB Research directly or visit our website www.dbdrive.net for more details.



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Designed and Engineered in the U.S.A

