



DS18 ZR500.1D 4 Channels Class Stereo Full Range Amplifier Owner's Manual

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OWNER'S MANUAL
MANUAL DE USUARIO



Monoblock Class D Subwoofer Amplifier
ZR500.1D • ZR1000.1D • ZR1500.1D • ZR2000.1D
4 Channels Class D Stereo Full Range Amplifier
ZR600.4D • ZR800.4D • ZR1600.4D

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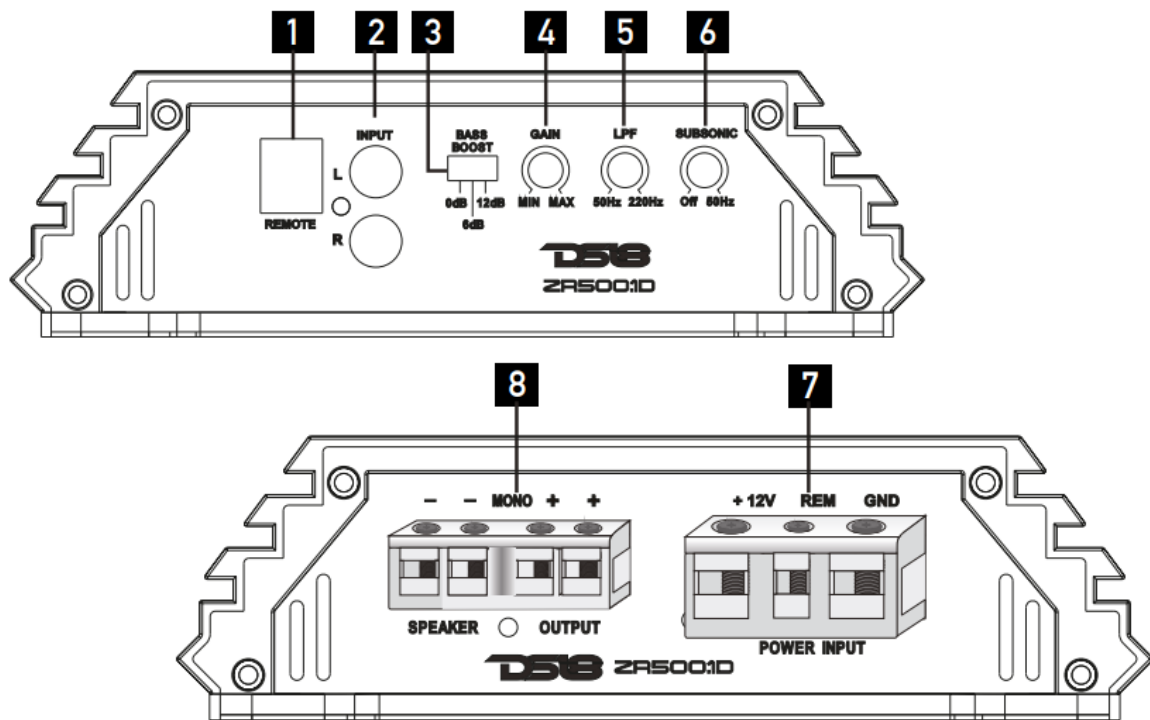
12.1 References

13 Related Posts

FEATURES

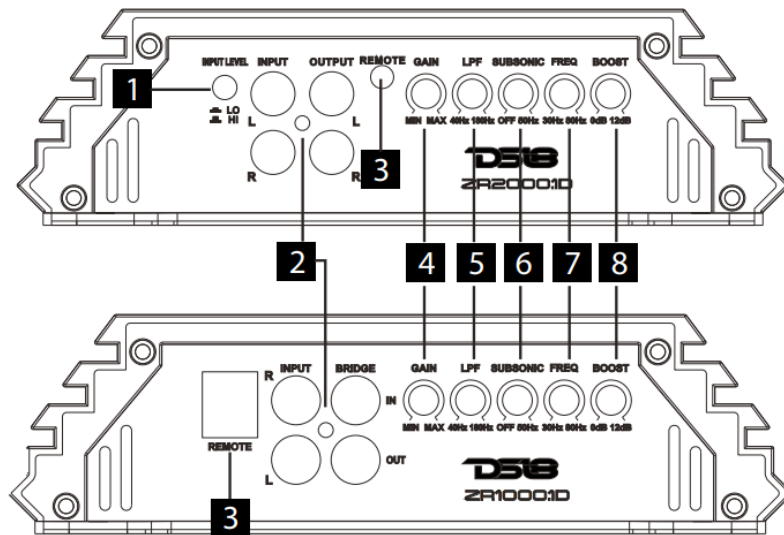
ZR500.1D

1. **REMOTE** – Controller Input Jack, plug the Bass level knob to adjust the volume remotely.
2. **INPUT** – Low-Level Input, this is your RCA audio signal input from the source (head unit).
3. **BASS BOOST** – Switch selector for Bass Boost gain, this can be selected for 0dB, 6dB or 12dB gain.
4. **GAIN** – Knob for input gain adjustment, this ranges from 0.2V to 6V input signal.
5. **LPF** – Knob for Low Pass Frequency adjustment, this ranges from 50Hz to 220Hz.
6. **SUBSONIC** – Knob for Subsonic frequency adjustment, this ranges from 10Hz to 50Hz.
7. **POWER INPUT** – Power connection terminals.
 - +12V – Positive Terminal, using a 4 Ga wire connect it Directly to the Positive (+) Post of the car battery.
 - REM – Terminal to Remote cable, which comes from the source and controls the amplifier switching on. (Applied voltage must be between 10 and 15VDC).
 - GND – Ground terminal, using a 4 Ga wire connect it to the car chassis. Keep the length of the ground cable to a minimum.
8. **SPEAKER OUTPUT** – Speaker connecting terminal.



ZR1000.1D | ZR1500.1D | ZR2000.1D

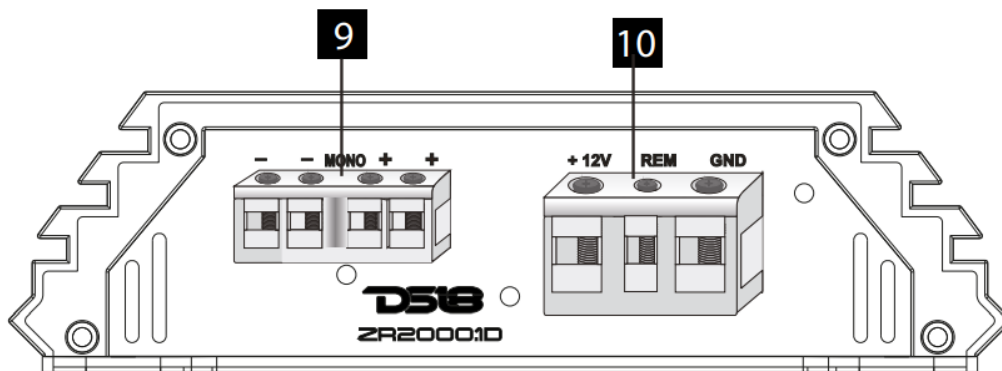
1. **HI / LO** – Level input Button Selector.
2. **INPUT** – Low-Level Input, this is your RCA audio signal input from the source (the head unit).
 - **OUTPUT** (Only for ZR2000.1D) – Low-Level Output, A daisy chain output for connection to another amplifier with a low-level input.
 - **BRIDGE** (Only for ZR1000.1D and ZR1500.1D) – for Strapping two amplifiers as one with one Master and one Slave configuration.
 - **IN** – use an RCA to connect from the Master Amplifier, use this when this is used as a Slave amplifier.
 - **OUT** – use an RCA to connect to a Slave Amplifier, use this when this is used as a Master Amplifier.
3. **REMOTE** – Controller Input Jack, plug the Bass level knob to adjust the volume remotely.
4. **GAIN** – Knob for input gain adjustment, this ranges from 0.2V to 6V input signal.
5. **LPF** – Knob for Low Pass Frequency adjustment, this ranges from 40Hz to 180Hz.
6. **SUBSONIC** – Knob for Subsonic frequency adjustment, this ranges from 10Hz to 50Hz.
7. **FREQ** – Knob for Bass Boost Frequency adjustment, this ranges from 30Hz to 80Hz.
8. **BOOST** – Knob for Bass Boost gain, this ranges from 0dB to +12dB.



9. **SPEAKER OUTPUT** – Speaker connecting terminal.

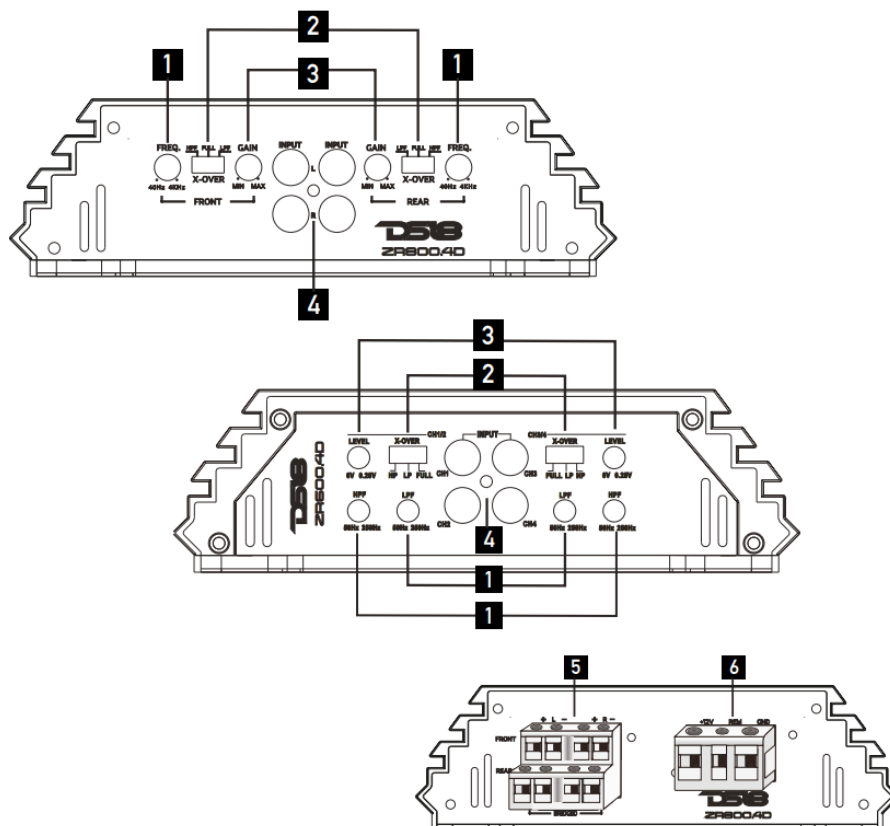
10. **POWER INPUT** – Power connection terminals.

- **+12V** – Positive Terminal, using a 4 or 0 Ga wire connect it Directly to the Positive (+) Post of the car battery.
- **REM** – Terminal to Remote cable, which comes from the source and controls the amplifier switching on.
(Applied voltage must be between 10 and 15VDC)
- **GND** – Ground terminal, using a 4 or 0 Ga wire connect it to the car chassis. Keep the length of the ground cable to a minimum.

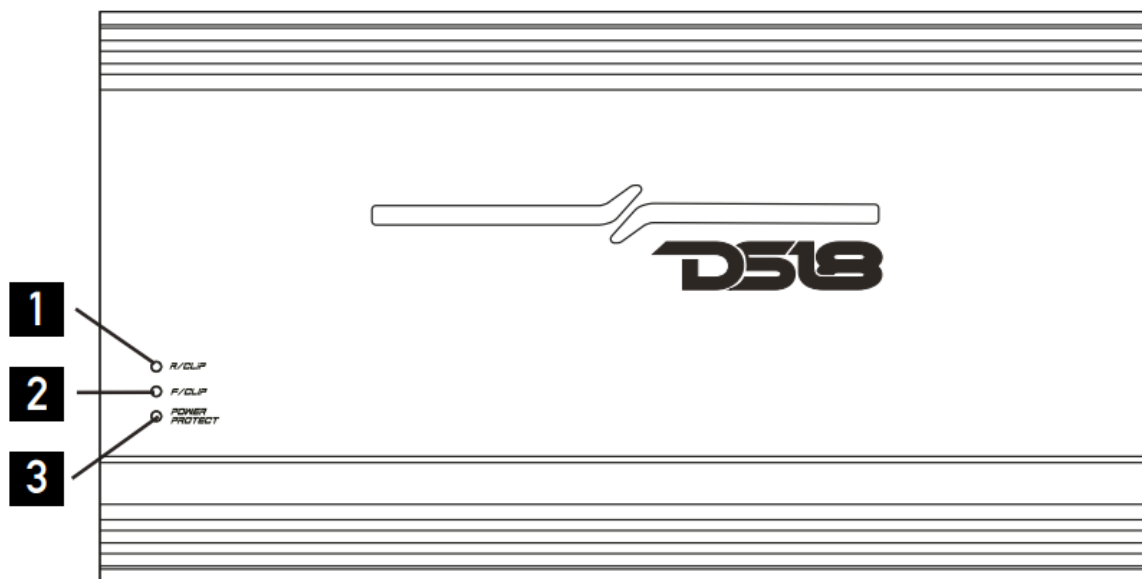


ZR600.4D | ZR800.4D | ZR1600.4D

1. **FREQ** – Knob for Frequency adjustment, this ranges from 40Hz to 4KHz.
2. **FREQUENCY SELECTOR SWITCH** – HP High frequency, LP low frequency, F Full frequency.
3. **GAIN** – Knob for input gain adjustment, this ranges from 0.2V to 6V input signal.
4. **INPUT** – Low-Level Input, this is your RCA audio signal input from the source (head unit).
5. **SPEAKER OUTPUT** – Speaker connecting terminal.
6. **POWER INPUT** – Power connection terminals.
 - **+12V** – Positive Terminal, using a 4 or 0 Ga wire connect it Directly to the Positive (+) Post of the car battery.
 - **REM** – Terminal to Remote cable, which comes from the source and controls the amplifier switching on.
(Applied voltage must be between 10 and 15VDC).
 - **GND** – Ground terminal, using a 4 or 0 Ga wire connect it to the car chassis. Keep the length of the ground cable to a minimum.



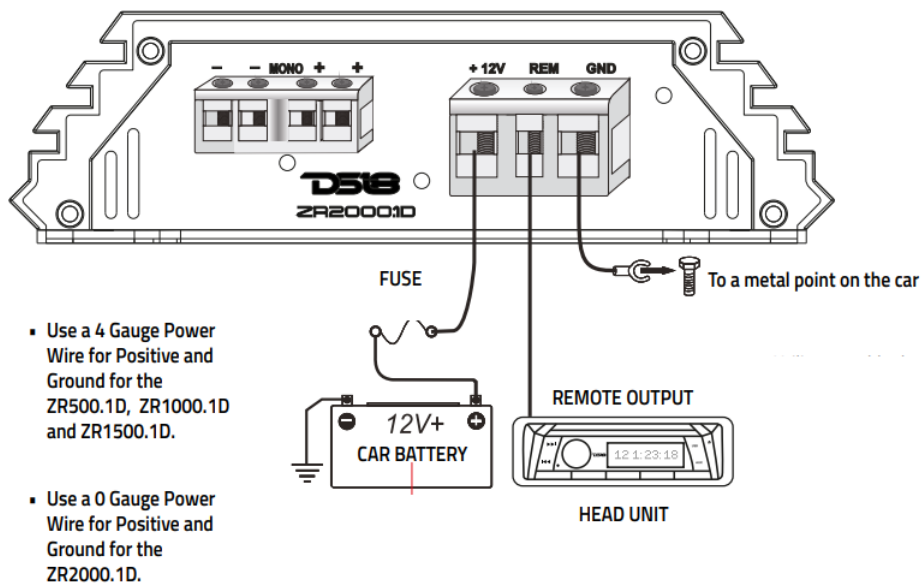
LED STATUS INDICATOR



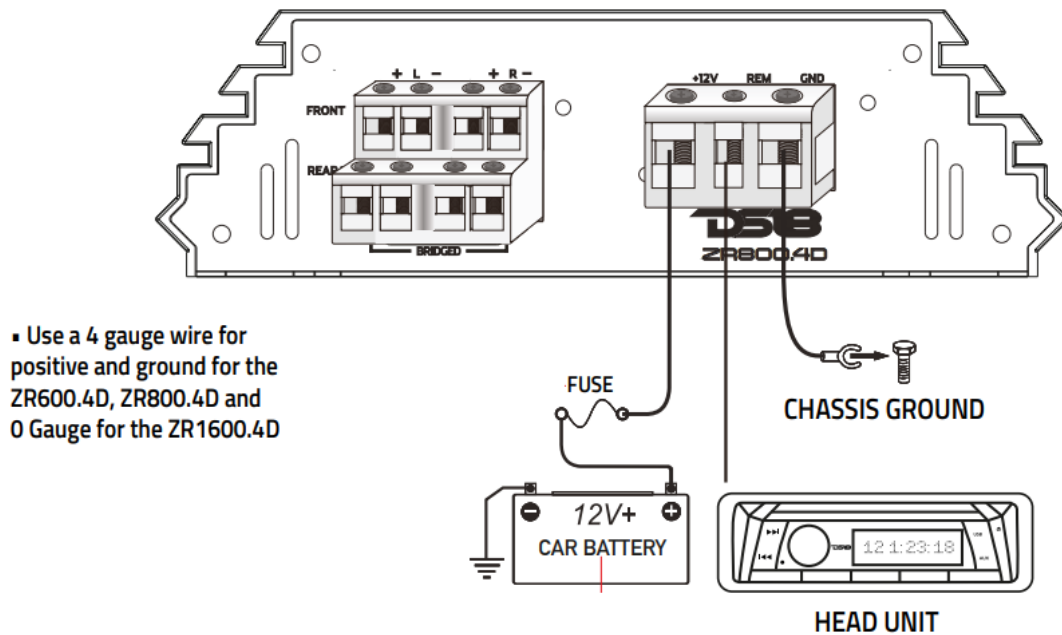
1. **CLIP:** When the signal is clipped the LED will turn YELLOW.
2. **PROTECT:** When the device enters into protection the LED will turn on RED.
3. **POWER:** When the device is powered on the LED turns green.

POWER CONNE4CTION LEADS

ZR500.1D | ZR1000.1D | ZR1500.1D | ZR2000.1D

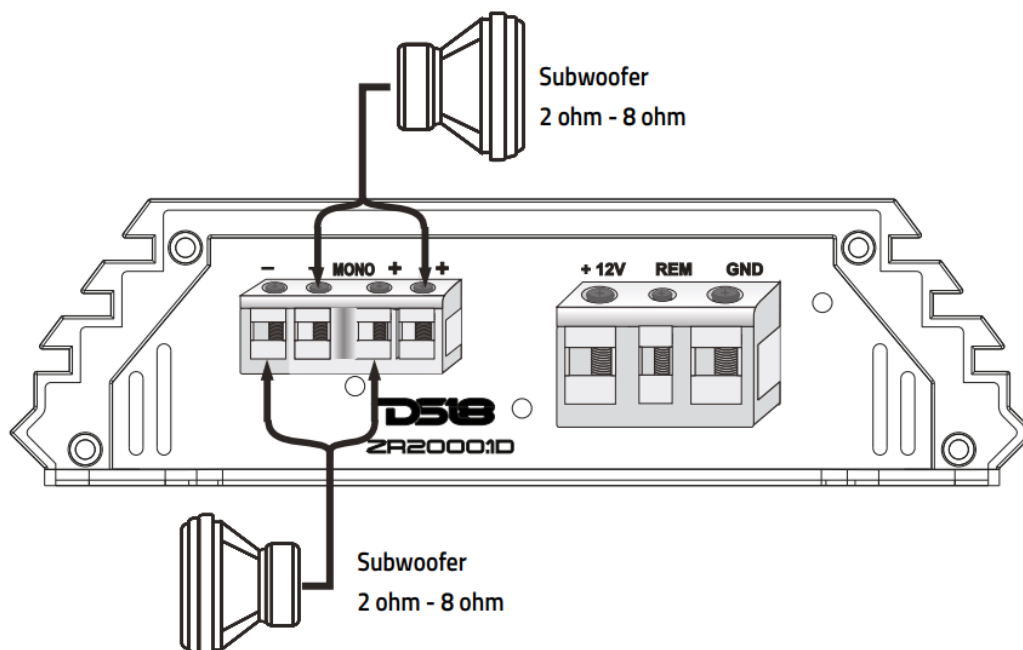


ZR6004.D | ZR800.4D | ZR1600x4D



DUAL SUBWOOFER CONNECTION

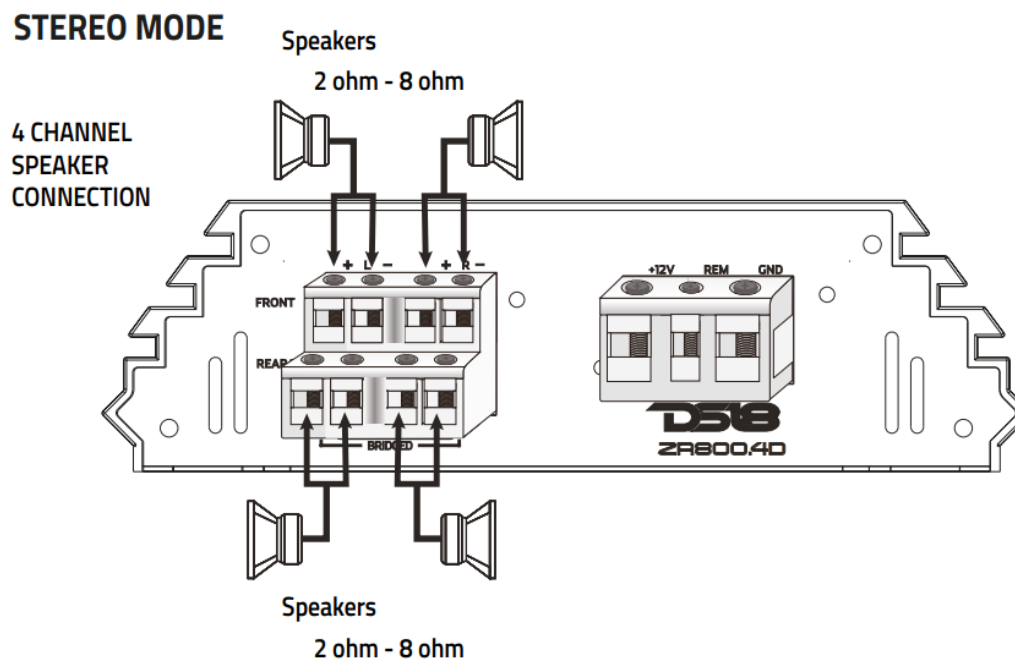
ZR500.1D | ZR1000.1D | ZR1500.1D | ZR2000.1D



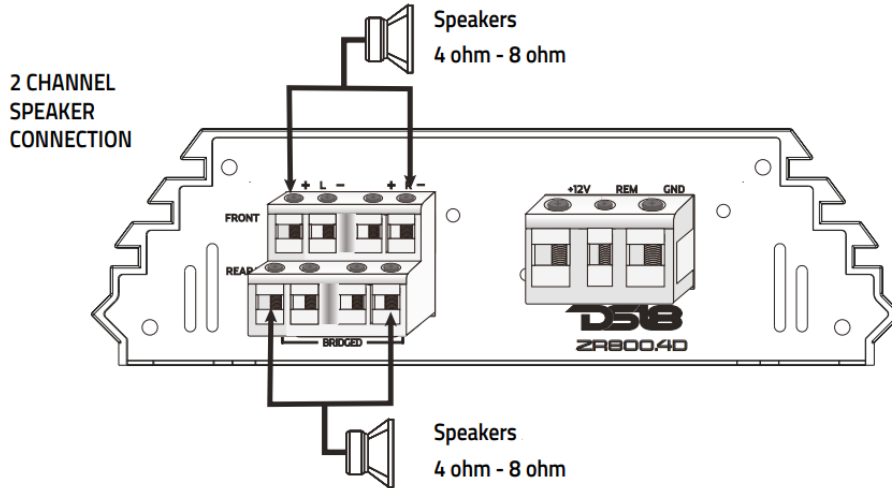
SPEAKER CONNECTION

ZR600.4D | ZR800.4D | ZR1600.4D

STEREO MODE

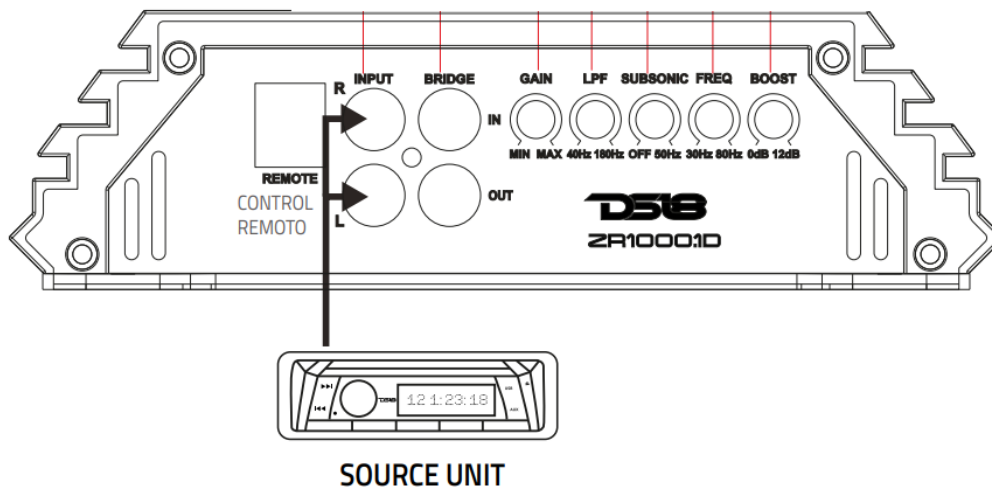


BRIDGE MODE

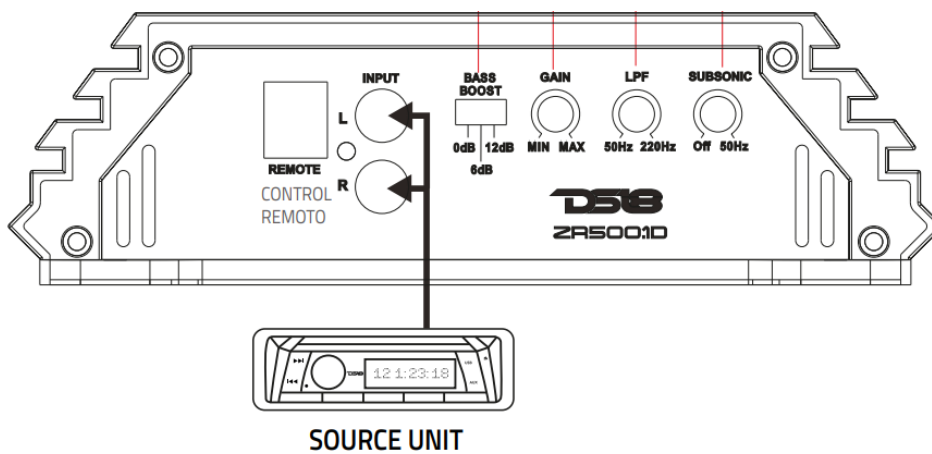


FRONT PANEL CONNECTION

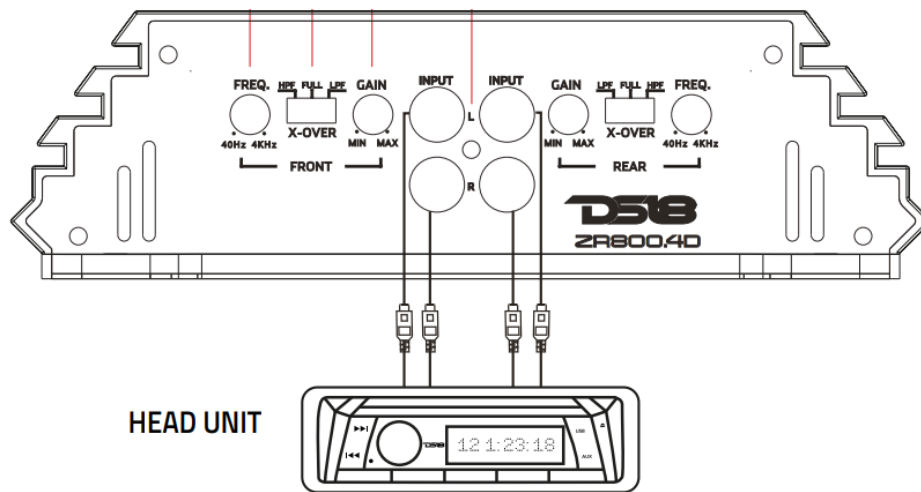
ZR1000.1D / ZR1500.1D / ZR2000.1D



ZR500.1D

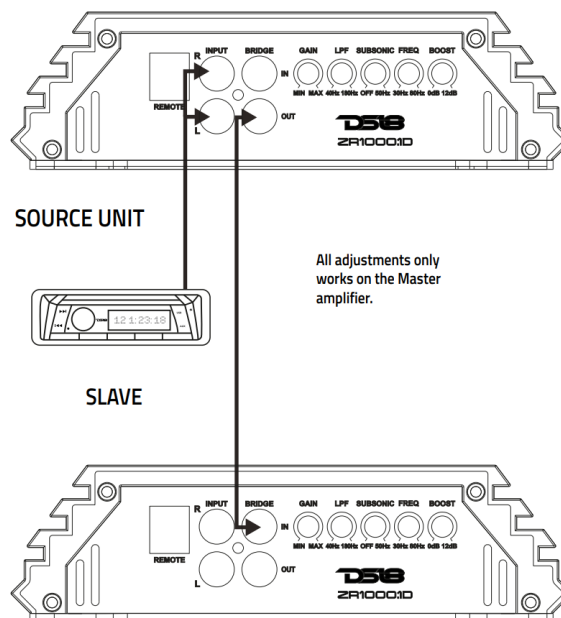


ZR600.4D / ZR800.4D / ZR1600.4D

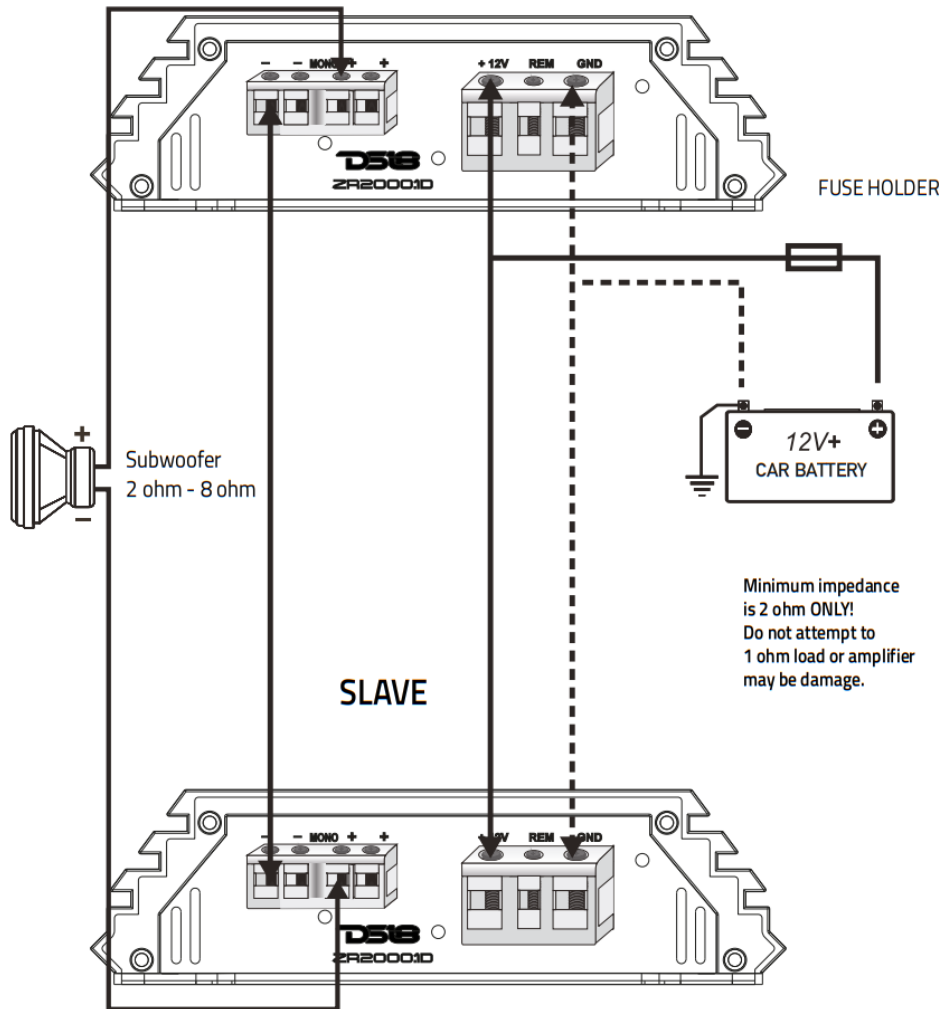


MASTER / SLAVE MODE (STRAP)

ZR1000.1D / ZR1500.1D
MASTER



MASTER



SPECIFICATIONS

ZR500.1D

POWER

Total Watts (Peak)	1500W
RMS Power.....	200W
RMS Power	300W
RMS Power	500W

AUDIO

Frequency Response	10 – 220Hz
Signal to Noise Ratio	>95dB
Efficiency @ 4ohm85%
Damping Factor	160
Input Impedance.....	20K ohm
Total Harmonic Distortion (THD)	0.01%
Low-Level Input Range	0.2v – 6v
Selectable X-Over	LPF Fixed
X-Over Filter Range	50-220Hz
Bass Boost Range	0/6/12dB
Bass Boost Frequency.....	30-80hz
Infrasonic Filter	10~50Hz
Phase Selector	0-180

FEATURES

Amplifier Class Digital
Amplifier Type Monoblock Subwoofer
Number of Channels 1 Channel
Minimum Impedance 1 ohm
LED Indicator Clipping / Protect / Power
Power Input Terminal Size 4Ga
Recommended Fuse Size 60A
Remote Level Control Yes – Dash Mount
Thermal Protection Yes / Si
Over-Load Protection Yes
DC Output Protection Yes
Short Circuit Output Protection Yes
Voltage Input Protection Yes / <9 / >16 V
Clipping Protection Yes
Body Color / Finish Black Aluminum Brush
LED logo Yes

MEASUREMENT

Overall Length 8.46" / 215mm
Overall Wide 7.24" / 184mm
Overall Height 2" / 53mm
Heatsink Length 7" / 180mm
Gross Single Unit Weight 3.15lb

ZR1000.1D

POWER

Total Watts (Peak) 3000W
RMS Power 380W
RMS Power 650W
RMS Power 1000W

AUDIO

Frequency Response 10 – 220Hz
Signal to Noise Ratio >95dB
Efficiency @ 4ohm 80%
Damping Factor 220
Input Impedance 20K ohm
Total Harmonic Distortion (THD) 0.01%
Low-Level Input Range 0.2v – 6v
Selectable X-Over LPF Fixed / LPF Fijo
X-Over Filter Range 40~180 Hz
Bass Boost Range 0~12 dB
Bass Boost Frequency 30-80hz
Infrasonic Filter 10~50Hz
Phase Selector 0-180

FEATURES

Amplifier Class Digital
Amplifier Type Monoblock Subwoofer
Number of Channels 1 Channel
Minimum Impedance 1 ohm
LED Indicator Clipping / Protect / Power
Power Input Terminal Size 4Ga
Recommended Fuse Size 100A
Remote Level Control Yes – Dash Mount

Thermal ProtectionYes
 Over-Load ProtectionYes
 DC Output ProtectionYes
 Short Circuit Output ProtectionYes
 Voltage Input Protection Yes / <9 / >16 V
 Clipping Protection.....Yes
 Body Color / FinishBlack Aluminum Brush
 LED logo.....Yes

MEASUREMENT

Overall Length11.8" / 301mm
 Overall Wide.....7.24" / 184mm
 Overall Height2" / 53mm
 Heatsink Length 10.47" / 266mm
 Gross Single Unit Weight..... 5.8lb

ZR1500.1D

POWER

Total Watts (Peak)4500W
 RMS Power 550W
 RMS Power 950W
 RMS Power1500W

AUDIO

Frequency Response.....10 – 220Hz
 Signal to Noise Ratio >95dB
 Efficiency @ 4ohm85%
 Damping Factor220
 Input Impedance20K ohm
 Total Harmonic Distortion (THD).....0.01%
 Low-Level Input Range 0.2v – 6v
 Selectable X-Over LPF Fixed
 X-Over Filter Range..... 40~180 Hz
 Bass Boost Range0~12 dB
 Bass Boost Frequency30-80hz
 Infrasonic Filter.....10~50Hz
 Phase Selector0-180

FEATURES

Amplifier Class Digital
 Amplifier TypeMonoblock Subwoofer
 Number of Channels1 Channel
 Minimum Impedance1 ohm
 LED Indicator Clipping / Protect / Power
 Power Input Terminal Size4Ga
 Recommended Fuse Size 160A
 Remote Level Control Yes – Dash Mount
 Thermal ProtectionYes
 Over-Load ProtectionYes
 DC Output ProtectionYes
 Short Circuit Output ProtectionYes
 Voltage Input Protection Yes / <9 / >16 V
 Clipping ProtectionYes
 Body Color / FinishBlack Aluminum Brush
 LED logoYes

MEASUREMENT

Overall Length14.8" / 376mm
Overall Wide7.24" / 184mm
Overall Height.....2" / 53mm
Heatsink Length13.4" / 341mm
Gross Single Unit Weight 7lb

ZR2000.1D

POWER

Total Watts (Peak)6000W
RMS Power 800W
RMS Power1300W
RMS Power2000W

AUDIO

Frequency Response10 – 220Hz
Signal to Noise Ratio >95dB
Efficiency @ 4ohm80%
Damping Factor220
Input Impedance20K ohm
Total Harmonic Distortion (THD)0.01%
Low-Level Input Range 0.2v – 6v
High-Level InputYes
Selectable X-Over Fixed LPF
X-Over Filter Range 40~180 Hz
Bass Boost Range0~12 dB
Bass Boost Frequency30-80hz
Infrasonic Filter10~50Hz
Phase Selector0-180

FEATURES

Amplifier Class Digital
Amplifier TypeMonoblock Subwoofer
Number of Channels1 Channel
Minimum Impedance1 ohm
LED Indicator.....Clipping/ Protect / Power
Power Input Terminal Size0Ga
Recommended Fuse Size 200A
Remote Level Control Yes – Dash Mount
Thermal ProtectionYes
Over-Load ProtectionYes
DC Output ProtectionYes
Short Circuit Output ProtectionYes
Voltage Input Protection Yes /<9 / >16 V
Clipping ProtectionYes
Body Color / FinishBlack Aluminum Brush
LED logoYes

MEASUREMENT

Overall Length 19.13" / 486mm
Overall Wide7.24" / 184mm
Overall Height2" / 53mm
Heatsink Length 17.75" / 451mm
Gross Single Unit Weight 8.1lb

ZR600.4D

POWER

Total Watts (Peak)2400W
RMS Power @ 4 ohm..... 4 x 150W
RMS Power @ 2 ohm..... 4 x 240W
RMS Power @ 4 ohm Bridge 2 x 400W

AUDIO

Frequency Response 20Hz-20KHz
Signal to Noise Ratio..... >90dB
Efficiency @ 4ohm90%
Damping Factor160
Input Impedance20K ohm
Channel Separation 60dB
Total Harmonic Distortion (THD) 1%
Low-Level Input Range 0.2v – 6v
Selectable X-Over FULL/LPF/HPF
X-Over Filter Range 40Hz-4KHz

FEATURES

Amplifier Class Digital
Amplifier TypeStereo Full Range
Number of Channels4
Minimum Impedance 2 ohm (Stereo) / 4 ohm (Bridge)
LED Indicator Clipping / Protect / Power
Power Input Terminal Size4Ga
Recommended Fuse Size 2x30A
Thermal ProtectionYes
Over-Load ProtectionYes
DC Output Protection.....Yes
Short Circuit Output ProtectionYes
Voltage Input Protection Yes <9 / >16 V
Clipping ProtectionYes
Body Color / FinishBlack Aluminum Brush
LED logoYes

MEASUREMENT

Overall Length10" / 254mm
Overall Wide7.24" / 184mm
Overall Height2" / 53mm
Heatsink Length8.54" / 217mm
Gross Single Unit Weight4.11Lb

ZR800.4D

POWER

Total Watts (Peak)3600W
RMS Power @ 4 ohm..... 4 x 200W
RMS Power @ 2 ohm..... 4 x 320W
RMS Power @ 4 ohm Bridge 2 x 600W

AUDIO

Frequency Response..... 20Hz-20KHz
Signal to Noise Ratio >90dB
Efficiency @ 4ohm88%

Damping Factor160
Input Impedance20K ohm
Channel Separation 60dB
Total Harmonic Distortion (THD) 1%
Low-Level Input Range 0.2v – 6v
Selectable X-Over FULL/LPF/HPF
X-Over Filter Range 40Hz-4KHz

FEATURES

Amplifier Class Digital
Amplifier Type Stereo Full Range
Number of Channels4 Channel
Minimum Impedance 2 ohm (Stereo) / 4 ohm (Bridge)
LED IndicatorClipping/ Protect / Power
Power Input Terminal Size4Ga
Recommended Fuse Size 120A
Thermal ProtectionYes
Over-Load ProtectionYes
DC Output ProtectionYes
Short Circuit Output ProtectionYes
Voltage Input Protection Yes / <9 / >16 V
Clipping Protection Yes
Body Color / FinishBlack Aluminum Brush
LED logoYes

MEASUREMENT

Overall Length10" / 254mm
Overall Wide7.24" / 184mm
Overall Height.....2" / 53mm
Heatsink Length8.54" / 217mm
Gross Single Unit Weight 5Lb

ZR1600.4D

POWER

Total Watts (Peak).....7200W
RMS Power @ 4 ohm..... 4 x 400W
RMS Power @ 2 ohm..... 4 x 680W
RMS Power @ 4 ohm Bridge2 x 1200W

AUDIO

Frequency Response 20Hz-20KHz
Signal to Noise Ratio >90dB
Efficiency @ 4ohm82%
Damping Factor160
Input Impedance20K ohm
Channel Separation 60dB
Total Harmonic Distortion (THD) 1%
Low-Level Input Range 0.2v – 6v
Selectable X-Over FULL/LPF/HPF
X-Over Filter Range 40Hz-4KHz

FEATURES

Amplifier Class..... Digital
Amplifier Type Stereo Full Range
Number of Channels4 Channel

Minimum Impedance	2 ohm (Stereo) 4 ohm (Bridge)
LED Indicator	Power / Protect / Clipping
Power Input Terminal Size0Ga
Recommended Fuse Size	280A
Thermal Protection.....	Yes
Over-Load Protection	Yes
DC Output Protection	Yes
Short Circuit Output Protection	Yes
Voltage Input Protection	Yes <9 / >16 V
Clipping Protection	Yes
Body Color / Finish	Black Aluminum Brush
LED logo	Yes

MEASUREMENT

Overall Length	12.83" / 326mm
Overall Wide	7.24" / 184mm
Overall Height.....	.2" / 53mm
Heatsink Length	11.45" / 291mm
Gross Single Unit Weight	6.18Lb

TROUBLESHOOTING

Before removing your amplifier, refer to the list below and follow the suggested procedures. Always test the speakers and their wires first.

THE AMPLIFIER WILL NOT POWER UP

- Check for good ground connection.
- Check that the remote DC terminal has at least 10V DC.
- Check that there is battery power on the+ terminal.
- Check all FUSES.
- Check that Protection LED is not lit. If it is lit, shut off the amplifier briefly and then re-power it.

HIGH HISS OR ENGINE NOISE (ALTERNATOR WHINE) IN SPEAKERS.

Disconnect all RCA inputs to the amplifier, if hiss/noise disappears, then plug in the component driving the amplifier and unplug its inputs. If hiss/noise disappears, go on until the faulty/noisy component is found. It is best to set the amplifier input level as insensitive as possible. The best subjective S/N ratio is obtainable this way. Try to drive as high a signal level from the head unit as possible.

PROTECTION LED COMES ON WHEN THE AMPLIFIER IS POWERED UP.

Check for shorts on speaker leads. Check that volume control on the head unit is turned down low. Remove speaker leads, and reset the amplifier. If the Protection LED still comes on, then the amplifier is faulty. The amplifier will shut down automatically when the unit temperature goes up to 85°C This will protect the unit from damage.

AMPLIFIER GETS VERY HOT.

Check that the minimum speaker impedance for that model is correct. Check for speaker shorts. Check that there is good airflow around the amplifier. In some applications, an external cooling fan may be required.

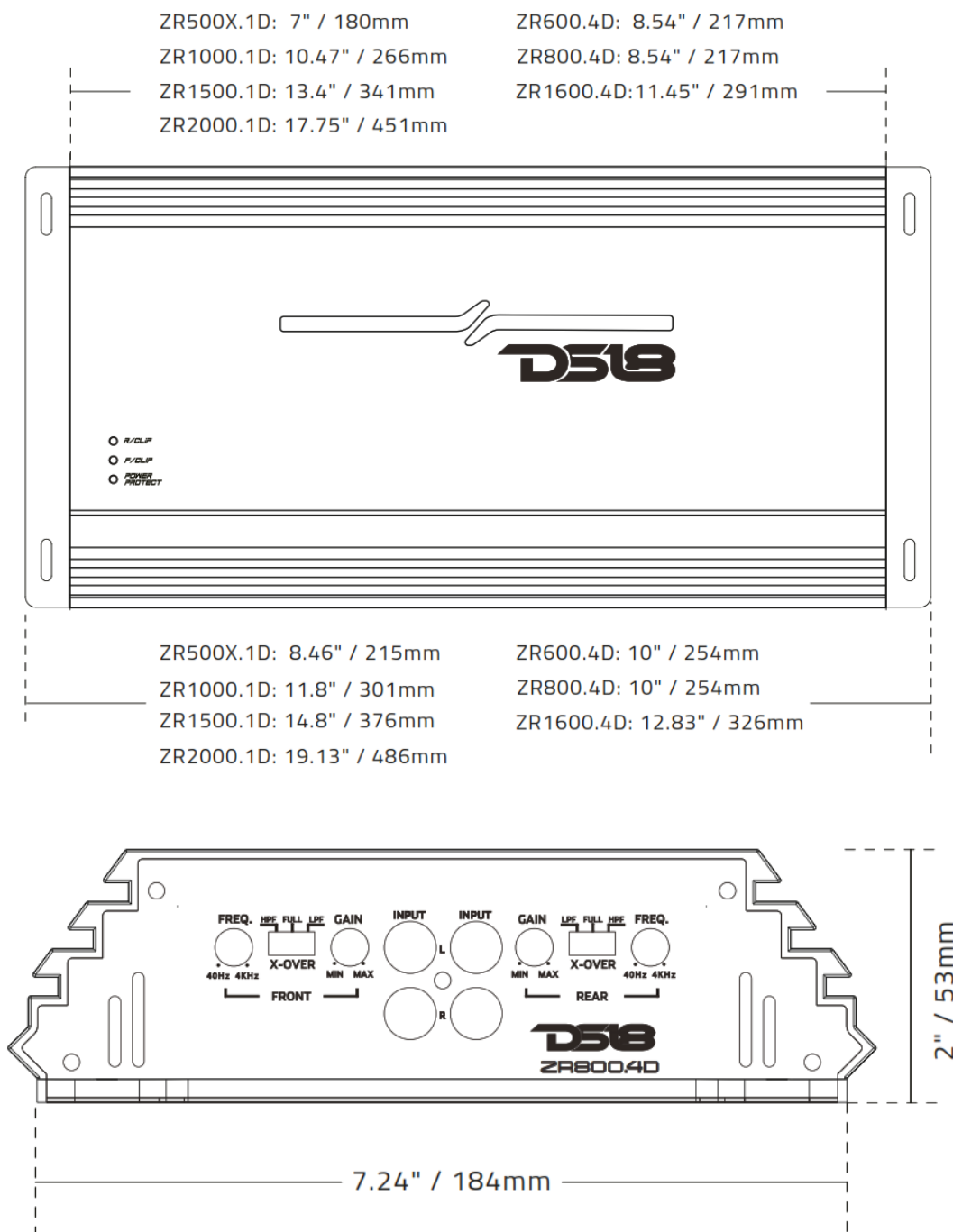
DISTORTED SOUND

Check that the Level control's is set to match the signal level of the head unit. Check that all crossover frequencies have been properly set. Check for shorts on the speaker leads.

HIGH SQUEAL NOISE FROM SPEAKERS.

This is always caused by a poorly grounded RCA patch cord.

DIMENSIONS



We reserve the right to change products and specifications at any time without notice.
Images may or may not include optional equipment.

WARNING

Professional installation by an authorized DS18 amps dealer is highly recommended! Otherwise, the performance of your new gear may not be satisfactory. In the event that you decide to do your own installation, please read and follow this manual very carefully. Failure to do so may compromise the integrity of this product, and your automobile, and possibly void the product warranty.

Amplifiers are generally mounted in the hatch/trunk area of a car or SUV, and under or behind the seat of most pick-up trucks. Select a location that will provide adequate ventilation for the amplifier. Avoid mounting the

amplifier with the fins down. The fins should be facing up either vertically or horizontally. Secure the amplifier with the screws provided.

1. Over high volume will damage your speakers.
2. Be cautious when you use the amplifier near the gasoline tank and electric wires.
3. Protect the connecting wires and parts to avoid any damage or short circuit.
4. The power must be lee from the anode of the battery via FUSE.
5. The sound system must be in a turning-off situation when you check the amplifier.
6. Be sure that you use the same type of FUSE when you need to replace it .


* We reserve the right to make needed changes or improvements to the product, without informing customers about this in advance.

WARRANTY

Please visit our website DS18.com for more information on our warranty policy.



Documents / Resources

	DS18 ZR500.1D 4 Channels Class Stereo Full Range Amplifier [pdf] Owner's Manual ZR500.1D 4 Channels Class Stereo Full Range Amplifier, 4 Channels Class Stereo Full Range Amplifier, Class Stereo Full Range Amplifier, Full Range Amplifier, Range Amplifier, ZR1000.1D, ZR1500.1D, ZR2000.1D, ZR600.4D, ZR1000.1D, ZR1500.1D, ZR2000.1D
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References

- [!\[\]\(e27c4336460e9e6729a19580c0456728_img.jpg\) Official DS18 Pro Audio Store - Speakers, Subwoofers, Amps & More!](#)