

GLADIATOR

Full MOSFET _ digital mono amplifier

2.0K/3.0K
5.0K/10.0K

Product manual



Tec ProfessionalCarAudio

INTRODUCTION

Thank you and congratulations for choosing GLADIATOR Car Audio for your amplification needs. GLADIATOR amplifiers have been significantly improved throughout the year to assure quality and reliability. The latest in technology has been incorporated into every GLADIATOR product providing you with incredible power and unparalleled sound quality. Our simple yet highly developed circuitry, contributes to low distortion and the ultimate in efficiency. This is why we are sure that your new GLADIATOR amplifier will provide you with a sound experience you will enjoy years to come.

Mounting

Appropriate mounting is very important for prolonged life expectancy of any amplifier. Select a location that allows enough space so sufficient airflow is maintainable and a location that provides protection from moisture. Keep in mind that an amplifier should never be mounted upside down.

Upside down mounting will compromise heat dissipation through the heatsink and could engage the thermal protection circuit.

Excessive heat will shorten your amplifier life. To maximize heat dissipation, be sure to leave at least 2.5 inches of clearance around the amplifier. If space is of the essence and the amplifier must be mounted in an enclosed or restricted area, small 3 inches fan should be used in correspondence with a duct so the heat can flow past the heatsink.

Try to avoid mounting any amplifier on a subwoofer enclosure, as extended exposure to vibration may cause malfunction of the amplifier.

To avoid scratching your new GLADIATOR amplifier, pre-drill the mounting holes with either a 3mm or 9/64" diameter drill bit and use the screws supplied in the accessory kit. Be sure to investigate your mounting area thoroughly to avoid electrical wires, vacuum lines and brake or fuel lines.

HOOK ME UP

The quality of installation will affect the performance and reliability of your GLADIATOR amplifier. For maximum performance we recommend you have new GLADIATOR amplifier installed by an authorized GLADIATOR dealer. Our highly skilled dealers have a vast knowledge of our produce and their installation techniques are necessary to unleash the high performance capabilities of your amplifier.

If you decide to connect the amplifier by yourself. It is important that you read this manual carefully and throughout before starting. Once you have finished reading and you still have question regarding installation, we recommend you see your local GLADIATOR dealer.

POWER INPUT CONNECTIONS

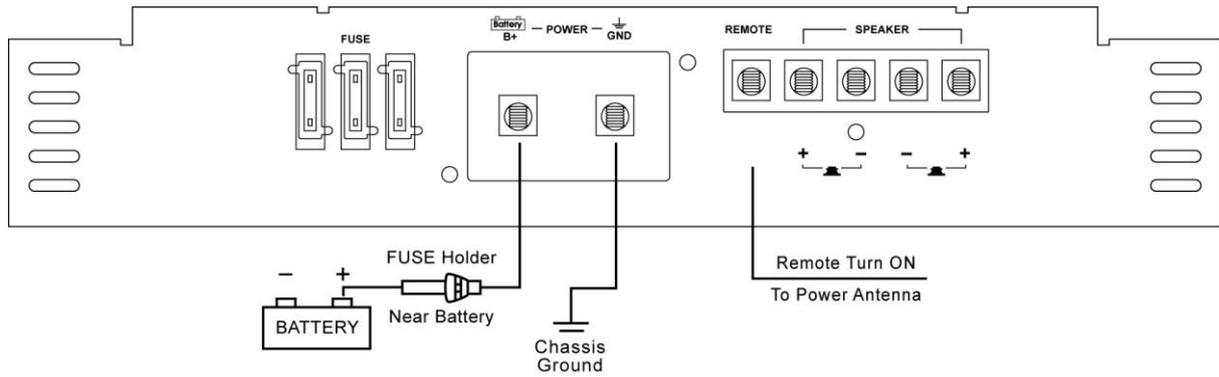


Fig. 2 Power input connection

Connection

GLADIATOR amplifiers are designed to work within a 10 to 16 volt DC range. (Except GLADIATOR 10K) Before any wires are connected, the electrical system should be checked for correct voltage supply with the help of a voltmeter. First, check the voltage at the battery. The voltmeter should read between 12 and 13.8 volts.

Especially for GLADIATOR 10K the voltmeter should be read about 18V in order to get proper output power. If your electrical system is not up to these specification, we recommend having it checked by a technician before any further installation. Once is checked, make certain the correct cable size is used. We recommend using proper cable gauge, 18mm.

Power

Use a separated battery, with enough amperage to supply energy to the amplifier. Do not use your car battery. GLADIATOR recommends the use of grommets when passing the power cable through any metal wall to avoid sharp corners or sharp body parts that may easily cut through the insulation on the cable.

Avoid running the power cable over engine components and near heater cores. The use of an inline fuse or circuit breaker is a must, this will prevent the risk of a potential fire caused by a short in your power cable. Connect the fuse holder or circuit breaker as close to the battery positive terminal as possible. Use a fuse or circuit breaker of equal value as that found on the chassis of your GLADIATOR amplifier. You may now connect the cable to the battery, but remember to leave the fuse out or circuit breaker off until all other cable connections are made.

Ground

Connect the GND (-) of the amplifier directly to the negative terminal (-) of the battery. Use cables 18mm.

Remote

In between the power and ground is a remote turn-on terminal. This terminal must be connected to a switched +12V source. Typically, remote turn-on leads are provided at the head unit which will turn on and off the amplifier in correspondence with the source. If the head unit does not have a remote turn-on lead, then a power antenna wire can be used. If neither of these leads are present on the head unit then a switched +12V supply must be used, like the ACC, +12V.

Run the remote cable (18mm) by the side of the vehicle. Use protectors, to avoid friction with the body of the vehicle and prevent short circuits.

SIGNAL INPUT AND GAIN SETUP

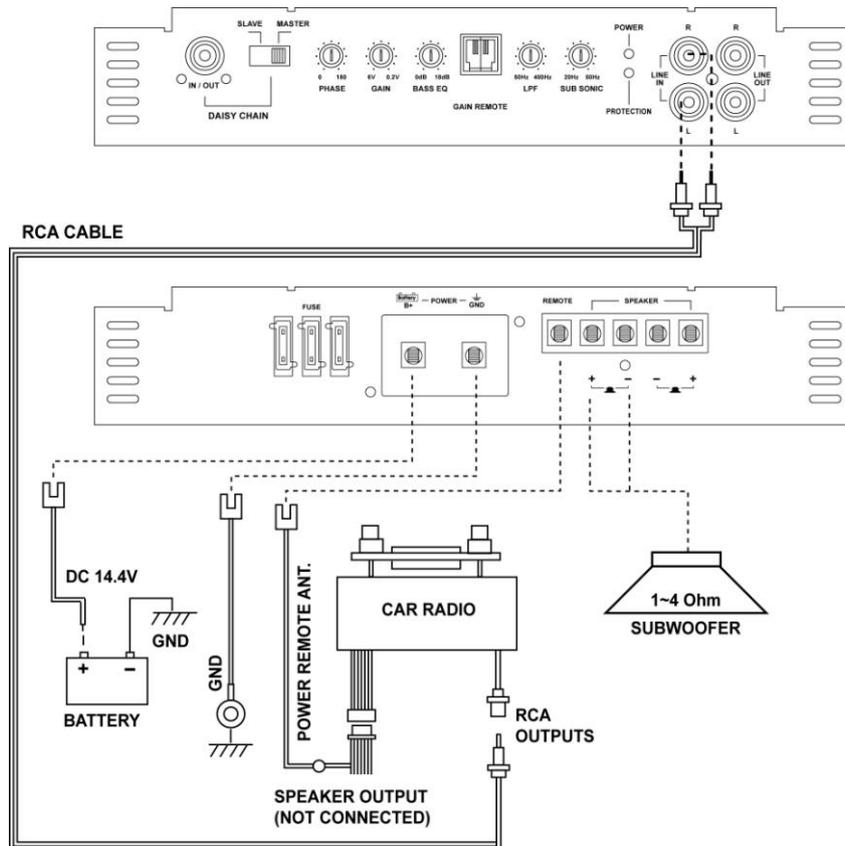


Fig.3 Low Level Input using RCA

Low Level Input

Choose the correct length and style of RCA interconnects for your needs. The GLADIATOR range of RCA's give you a wide choice to suit your needs. These have multiple layers of shielding or are a twisted pair variety for better noise rejection (consult your GLADIATOR dealer if unsure which to purchase).

Be extra careful with your RCA interconnects. Car environments are notorious for poorly insulated wires. This means that hiss, engine noise, and fan noise can easily be picked up through RCA cables if run incorrectly. Avoid running your RCA'S near large wire looms and electric fans if possible. Run your RCA cables on the opposite side of the vehicle to the power cable. Be sure to check for correct balance.



Fig.4 Gain Control

Gain Control

On the amplifier, is the LEVEL control, this control allows you to match the input level of the amplifier to the output level of your head unit. Matching the input can be accomplished in three simple steps.

1. Turn the LEVEL control on the amplifier to minimum.
2. Turn up the head unit and adjust to 2/3 maximum volume ensuring that the BASS and TREBLE are set to zero.
3. Adjust the LEVEL control until desired volume is achieved without audible distortion.

Remember, the gain control is not a volume control. Ignoring the three steps above may leave you with damaged speaker and/or a damaged amplifier.

SPEAKER OUTPUT CONNECTION

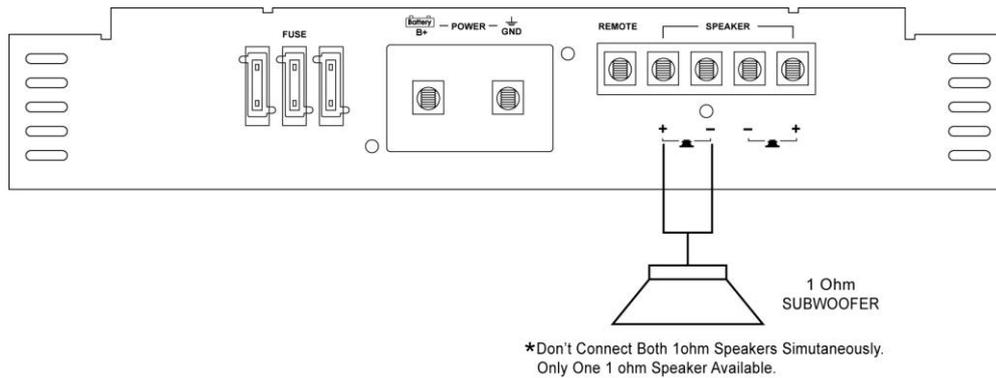


Fig.5-1 A Single Voice Coil Subwoofer (1ohm)

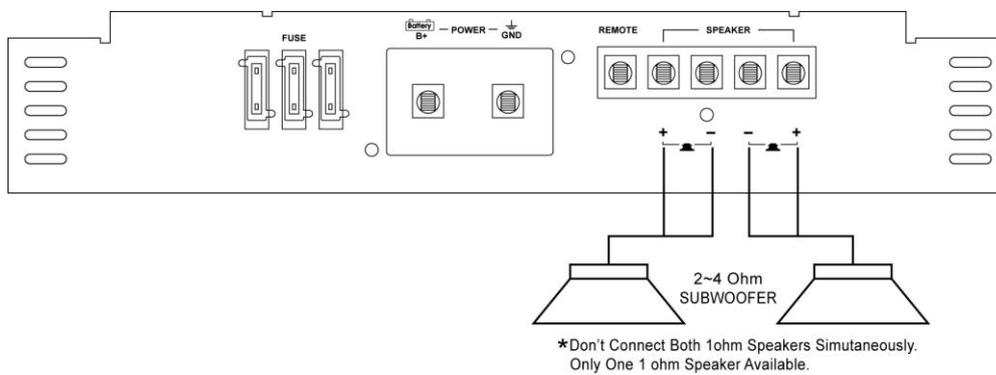


Fig.5-2 Two Subwoofers (2~4 ohm) with Single Voice Coil

Speaker Load

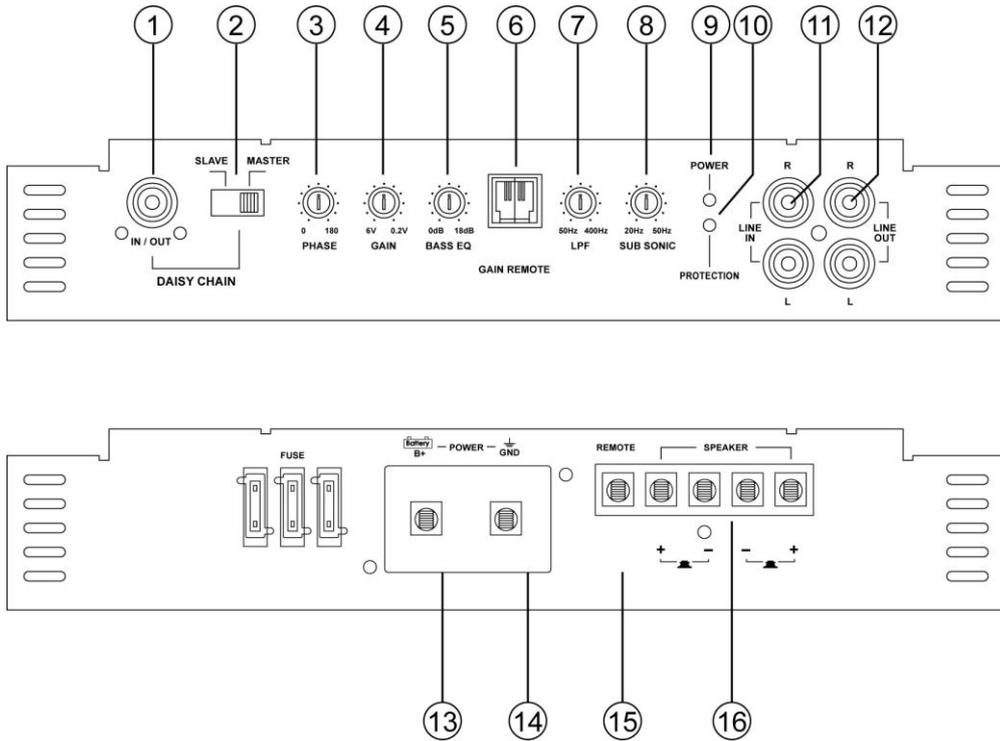
Keep in mind this series are high power amplifiers and not high current amplifiers. In other words they require a minimum impedance of 1 ohms MONO (Digital Mono Block Only) to operate trouble free.

Too low of an impedance could send your GLADIATOR amplifier into protection mode and/or damage the amplifier.

Speaker Wiring

Choose the correct speaker wire for your application. Most applications will require a minimum of 18mm. Route these using the same precautions as you did when you ran the power cable. Terminate these wires at the speaker end using insulated speaker terminals (not supplied) or by soldering the connection. Make sure the speaker connections are positive to positive and negative to negative. At the amplifier end, crimp the fork connector to the speaker wire leads. Use an Allen key to loosen the speaker terminals on the amplifier. Slip the fork connectors in place and tighten the screws securely. Check to make sure you've maintained proper polarity and balance

CONTROL AND DESCRIPTIONS



Features and controls

1. RCA In/Out Jack for Daisy Chain

Connect the input of the MASTER to a suitable source, e.g. a head unit with good quality RCA cable and connect the MASTER OUTPUT RCA jack to the corresponding RCA jack on the SLAVE amplifier. And then, select MASTER/SLAVE switch properly.

2. Master/Slave Switch

Two amplifiers can be connected together and bridged into a single (20hms Min.) load. One amplifier will be assigned as MASTER and the second will be assigned as a SLAVE.

※ The level and filter frequency controls on the SLAVE will be disabled, as the MASTER will control all function.

3. Phase Change Variable Control

This is related to time delay effect, thus the phase adjustment on subwoofer will correct phase by bringing the low frequency from the rear of vehicle to the front. And this will tend to create a more realistic front stage at the low frequency.

4. Input Gain Control

This allows adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with BASS and TREBLE on zero, then slowly turn up this amplifier level control towards the MAX end of the control.

※ Note: If sound becomes distorted, turn this control down.

5.Bass EQ

This is variable control to increase the Bass EQ at 45Hz from 0dB ~ +18dB of gain, adjust to suit.

6.Remote Bass EQ Control/ Gain Control

- Bass EQ Control

This port allows connection to the remote bass control (Optional). When plug in the remote control, set BASS EQ Gain to MAX(+18dB) position and then, adjust the remote BASS Control.

- Gain Control

Instead of a fixed level adjustment with the control GAIN the remote control can be used for variable level adjustment. Thus, it is possible to boost or attenuate the bass frequencies accordingly depending on the music material.

Mount the remote control within the driver's reach. Connect the cable to the jack REMOTE CONTROL. Thus, the control GAIN without function.

7.Low Pass Variable Controls (LPF)

Set crossover switch to Low when a subwoofer is connected. Ensure the crossover frequency is set at 100Hz or below, this designed to filter out all mid to high frequencies that only FULL RANGE speakers should produce.

※Note: Failure to do so could result in speaker damage.

8.Subsonic Filter

It allows high pass of frequency between 20Hz and 50Hz.

9.Power LED (Blue)

This shows if the amplifier has been correctly powered up.

10.Protection LED (Red)

This shows if any faults are present

11.RCA Line Input Jacks

Connect these RCA connectors to a head unit with a LOW LEVEL output connection

12.RCA Line Output Jacks

Use these RCA output connectors to connect to a secondary amplifier. This output is PASS-THRU connection derived from RCA input connector so the signal level and frequency response is the same as the original input signal. .

13.Power Input Connection

This must be connected to the battery positive (+) terminal via 18mm or higher gauge power cable and with an inline fuse or circuit breaker at the battery end.

※Note: This is to be the last wire to connect up during installation as damage could result.

14.Ground Input Connection

Connect directly to the battery negative (-) terminal via 18mm or higher gauge power cable.

※Note: This is to be the first wire to connect when wiring up a amplifier damage could result if this is not done

15.Remote Input Connection

This terminal is for turning the amplifier on and off. This requires a switched positive (+12V) to power "ON" the amplifier, this can be found on the rear of the head unit in the form of a electric antenna output, or a remote on output. If not available you can wire to the ACC position on the key.

16.Speaker Output

It offers built-in fuse to connect amplifier from battery directly. And see channel installation diagram in this manual for correct speaker connection.

※NOTE: SPEAKER CONNECTION FOR DAISY CHAIN

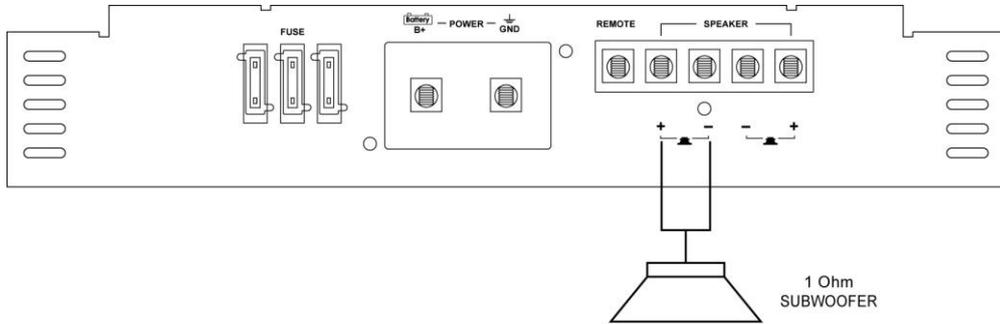
- ① The mono woofer is connected between the + terminals of the two amplifiers and use at least 12mm speaker wiring.
- ② Install a 12mm wire link between the – terminals of the two amplifiers. If this is not done, the system will not function properly, and damage to the amplifiers may result.
- ③ Minimum final loudspeaker impedance must be become 1Ohm. The impedance under 1 Ohm may be given the loudspeaker unexpected damage.

TROUBLE SHOOTING

Problem	Cause	Solution
Power LED not "ON"	Fuse at battery blown or not installed	Replace with correct fuse. Typically twice the rating of the fuse that is on the amplifier.
	Improper connection	Check that the ground wire, power wire and the remote wires are connected to the correct terminals.
Protection LED "ON"	Fuse on amplifier blown	Replace with the correct AMP rated fuse.
	Amplifier too hot	Move the amplifier into a ventilated area; Check the amperage of battery.
	Speaker wires shorted	Check that are no speaker wires shorted to any other wire and also check if any wire is shorted to the vehicle chassis.
	Internal malfunction	Disconnect all wires except ground, power and remote. Then turn the amplifier "ON", if the protection LED is still "ON" ,then return for service

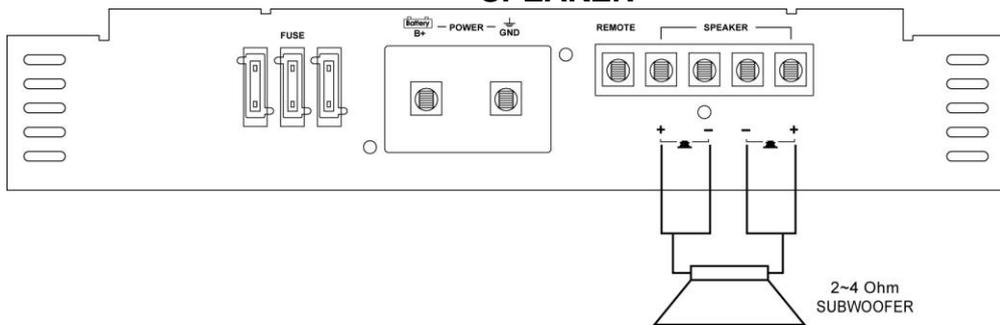
HOW TO SETUP

1. MONO BLOCK INSTALLATION WITH SINGLE VOICE COIL SUBWOOFER SPEAKER

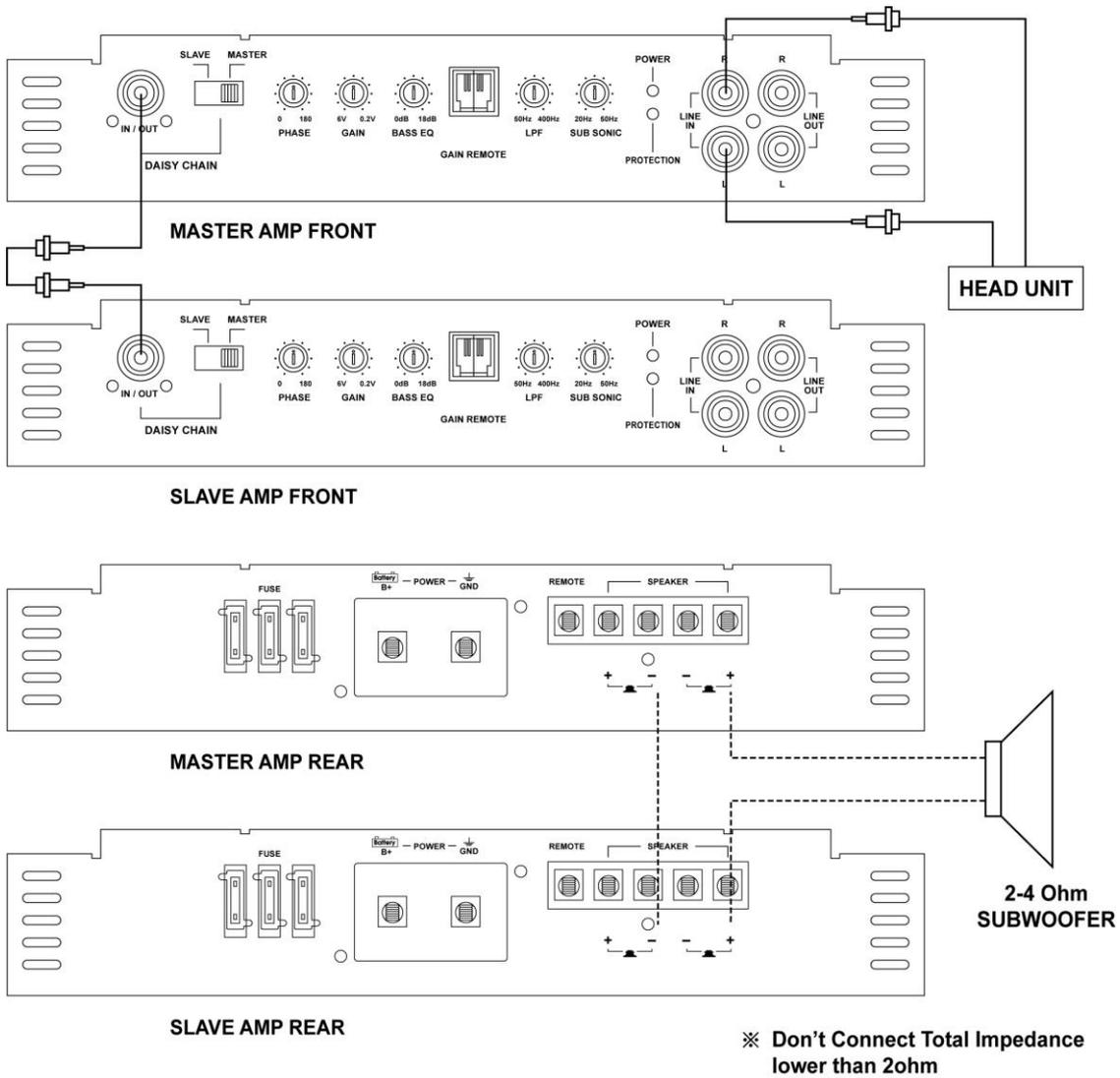


*Don't Connect Both 1ohm Speakers Simultaneously.
Only One 1 ohm Speaker Available.

2. MONO BLOCK INSTALLATION WITH DUAL VOICE COIL SUBWOOFER SPEAKER



3. MONO BLOCK INSTALLATION FOR DAISY CHAIN



SPECIFICATIONS

GLADIATOR	GLADIATOR 2.0K	GLADIATOR 3.0K	GLADIATOR 5.0K	GLADIATOR 10K
4 Ohms RMS at THD 1%	600W @14.4V	1300W @14.4V	2000Wx1 @14.4	2900W1 @18
2 Ohms RMS at THD 1%	1200W @14.4V	2200W @14.4V	3500W @14.4V	5500W @18V
1 Ohm RMS at THD 1%	2000W @14.4V	3200W @14.4V	5300W @14.4V	10000W @18V
Signal to Noise Ratio	<90dB			
Frequency Response	15Hz ~ 400Hz ± 3dB			
Low Pass Filter	50Hz ~ 400Hz			
Crossover Slope	24Db Octave			
Subsonic Filter	20Hz ~ 50Hz			
Bass EQ at 45Hz	0 ~ 18dB			
Input Gain Control	0,2V ~ 6.0V			
Low Level Input Impedance	22K Ohms			
Damping Factor	213 @ 4 Ohms			
Fuse Rating	250A	400A	600A	900A
Dimension				
Width (W) x	265 mm	265 mm	265 mm	265 mm
Height (H) x	63mm	63mm	63mm	63mm
Length (L) mm	480mm	540mm	660mm	780mm

※ Remark:

- These specifications can be changed without any notice.
- Please note that the features shown in this manual may vary from model to model.