

IT CAN NEVER **B2** LOUD<sup>®</sup>

*Zero 15*  
“VEGVISIR”  
USER MANUAL

#ITCANNEVERB2LOUD

## INTRODUCTION

Welcome to the forefront of audio innovation with the B2 Audio Zero series. These amplifiers represent a significant advancement in the realm of high-performance audio, setting a new benchmark for precision, power, and reliability. At B2 Audio, we are committed to excellence. The Zero amplifiers embody this commitment, integrating state-of-the-art technology and superior engineering. The introduction of the Zero models spans more than 15 years, including legends such as the Zero.5, Zero7, Zero9 and most recently, the Zero 12. They all demonstrate our dedication to pushing the boundaries of high-powered amplifier design. These amplifiers are engineered to deliver unparalleled sound quality and dynamics, ensuring that every detail is reproduced with authority.

### Vegvisir

The Zero 15 reigns as the pinnacle of our Half-Bridge amplifiers.

All the Zero amps have earned their "nicks," but the VEGVISIR is truly special. Also referred to as the Viking Compass, it guides you through rough weather. The Zero 15 will prevent you from getting lost and will utilize its full potential to control your subwoofers to an extent never before heard.

To obtain the full potential of any amplifier & to minimize failure, it is advised to upgrade your stock electrical system. Don't take any shortcuts, a better electrical equals enhanced performance and stability.

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AT THE HEART OF B2 AUDIO LIES A RELENTLESS PURSUIT OF EXCELLENCE. WE BELIEVE IN DOING THINGS DIFFERENTLY AND PUSHING THE BOUNDARIES OF WHAT'S POSSIBLE. OUR TALENTED TEAM OF AUDIOPHILES AND INDUSTRY ENTHUSIASTS IS UNITED BY A PASSION FOR DESIGNING THE BEST POSSIBLE PRODUCTS—PRODUCTS THAT ARE MORE THAN JUST “GOOD ENOUGH.” OUR UNWAVERING DEDICATION HAS ALLOWED US TO MAKE OUR MARK SINCE OUR FOUNDING IN 2008.

OUR JOURNEY HAS BEEN MARKED BY NUMEROUS MILESTONES AND ACCOLADES, REFLECTING OUR COMMITMENT TO PUSHING THE ENVELOPE AND SETTING NEW STANDARDS IN THE INDUSTRY. AS WE CONTINUE TO GROW AND EVOLVE, WE REMAIN DEDICATED TO OUR MISSION OF DELIVERING EXCEPTIONAL AUDIO PRODUCTS THAT INSPIRE AND DELIGHT.

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## ■ DESIGN SPECIFICATIONS

MODEL:	<u>ZERO 15 - VEGVISIR</u>
CIRCUIT CONFIGURATION:	HI-EF CLASS D
FREQUENCY RESPONSE:	10 HZ-300 HZ
SIGNAL TO NOISE RATIO:	>95 DB
INPUT SENSITIVITY:	5 V-0.2 V
CROSSOVER CIRCUIT:	24 DB/OCT
LOW PASS CROSSOVER:	35 HZ-250 HZ
SUBSONIC CROSSOVER:	10 HZ - 50 HZ
PHASE:	0 ~ 180°
DAMPING FACTOR:	>400
LEVEL CONTROL	
• WITH CLIP/VOLT/TEMP:	INCLUDED
POWER TERMINAL GAUGE:	4 X 0 GAUGE / 67 MM <sup>2</sup>
FUSE RATING:	1200 A
DIMENSIONS METRIC:	996 x 315 x 75 MM
IMPERIAL:	39.25" x 12.4" x 2.95"

### CONTINUOUS OUTPUT POWER (RMS) @ 14.4V <1% THD

MEASURED @ <1% THD (40 HZ) USING AUDIO PRECISION\*

	12.6 V < 1% THD	14.4 V < 1% THD	16 V < 1% THD
OUTPUT POWER @ 4 Ω:	4000 W	5500 W	6500 W
OUTPUT POWER @ 2 Ω:	7500 W	9500 W	11000 W
OUTPUT POWER @ 1 Ω:	12000 W	15000 W	16000 W

### DYNAMIC RATED POWER (MUSIC / SPL BURP)

>24000 W @ 11.5 V

## DESCRIPTIONS OF SPECIFICATIONS

\* FULL OUTPUT POWER ACCORDING TO THE SPEC IS BASED ON A SUFFICIENT ELECTRICAL SUPPLY SYSTEM. IF YOUR SYSTEM IS INADEQUATE, THE EFFICIENCY OF THE AMPLIFIER DECREASES, HURTING THE PERFORMANCE!

OPERATION BELOW MINIMUM IMPEDANCE WILL STRESS THE AMPLIFIER & VOID THE WARRANTY. EXCESSIVE HEAT WILL OCCUR, CAUSING THE AMPLIFIER TO GO INTO THERMAL PROTECTION. THE CIRCUIT MAY SUSTAIN PERMANENT DAMAGE AND PROTECTION LIGHTS WON'T TURN OFF OR FLASH SEQUENTIALLY.

OPERATIONAL VOLTAGE IS FROM 9V TO 17.5V

PROTECTION MAY ALSO BE CAUSED BY THE FOLLOWING

- INPUT VOLTAGE FROM HEADUNIT BEING TOO HIGH / LOW / POWER SUPPLY VOLTAGE TOO HIGH / LOW.
- SPEAKER OVERLOAD
- SHORT CIRCUIT

\*FULL OUTPUT POWER ACCORDING TO THE SPEC IS BASED ON A SUFFICIENT ELECTRICAL SUPPLY SYSTEM. IF YOUR SYSTEM IS INADEQUATE, THE EFFICIENCY OF THE AMPLIFIER DECREASES, HURTING THE PERFORMANCE!

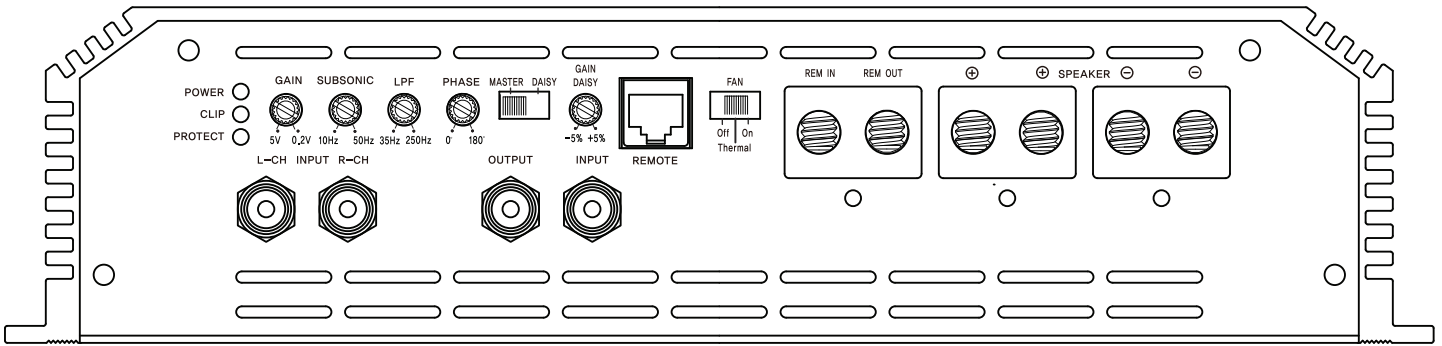
### MINIMUM BATTERY REQUIREMENTS

ZERO15 - VEGVISIR

AGM	LITHIUM 6C
6X 125 AH / 1250 CCA	200 AH

THE LIST ABOVE DESCRIBES THE ADDITIONAL DEDICATED BATTERY SUPPLY FOR THE AMPLIFIER. THE OEM BATTERY DOES NOT COUNT AS A PART OF IT.

## PANEL LAYOUT



### INPUT

RCA signal input for left & right channel.  
A minimum of 0.2V input signal is required for correct operation. Using only 1 input will minimize input signal and amplifier will need to be gained as such.

### POWER & PROTECTION INDICATOR

Power LED, blue light shows correct operation,  
Protect LED, red light shows general malfunction, faulty connection or thermal protection.

### CLIP INDICATOR

The LED will light up if signal is clipped. An occasional flashing light is acceptable, a constant lit diode is not.

### GAIN (5V~0.2V)

Adjusts signal input voltage from the input source to match the amplifiers input stage.  
0.2 V ~ 5 V is the operational voltage.  
Voltages beyond may cause errors or damage to the input section.

### SUBSONIC

Variable subsonic setting from 10 Hz to 50 Hz.  
It is highly recommended to set it according to the tuning of your subwoofer enclosure to avoid unnecessary strain to your sound system.

### LPF (LOW PASS FILTER 20 HZ ~200 HZ, 24 DB/OCT)

Adjusts the cut off point for the low pass crossover at the frequency chosen.

### PHASE

Variable phase adjustment from 0 ~ 180°  
adjusted in accordance with the amplifiers gain.

### MASTER / DAISY

Master & Daisy switch for daisy chain link or master mode. In daisy, the master amplifier will route the gained signal to daisy (linked) amplifier. The gain on the daisy is controlled the master.

### GAIN DAISY

Fine tuning of the master signal routed to the daisy amp. While the ordinary gain on daisy amps are disabled, the daisy amp is gain matched by the master, but if there is a slight variance in signal up to +/- 5%, the Daisy gain can equalize it.

### REMOTE

Remote level control port with clip and voltage output.

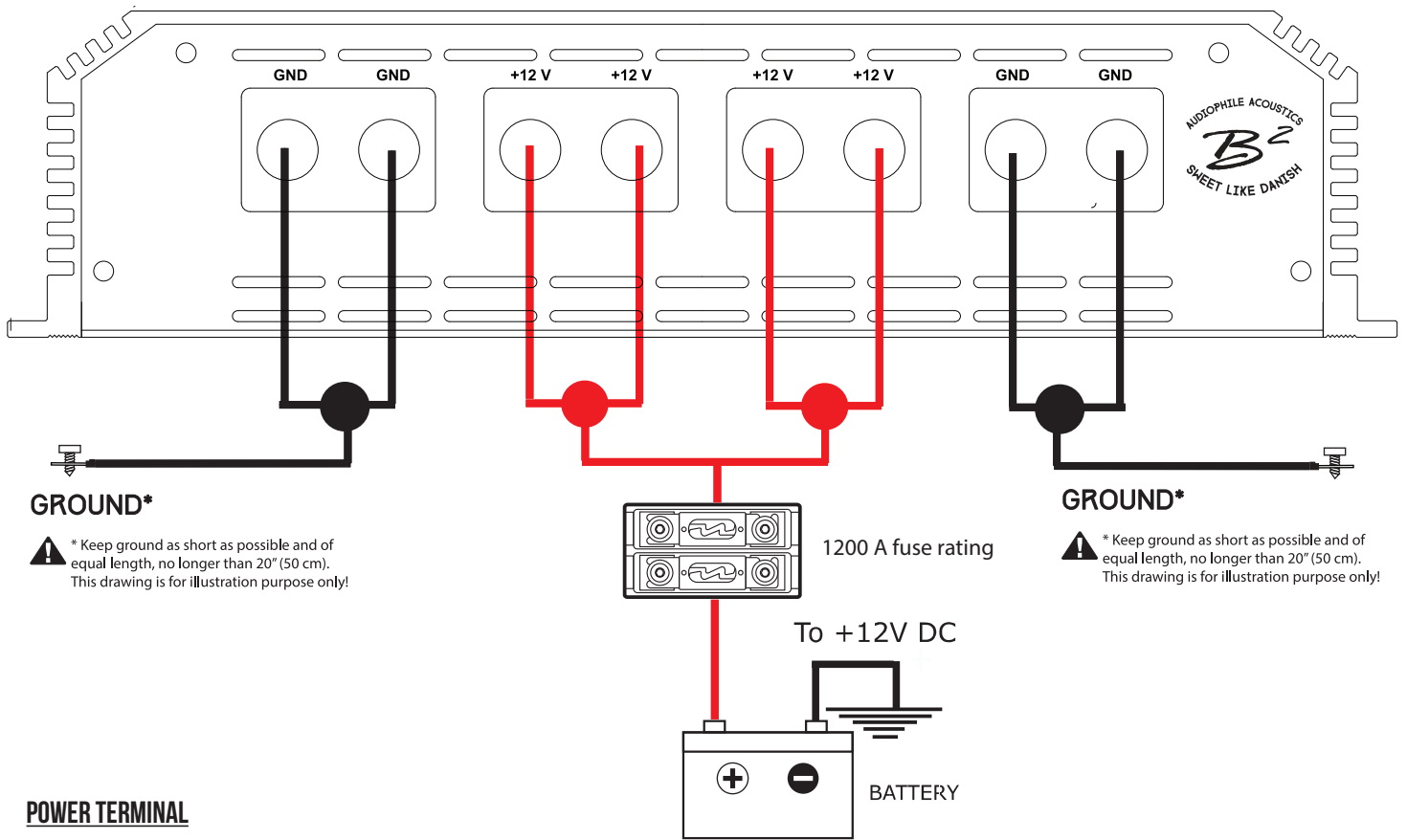
### FAN

Switch selection of the internal fans operational mode. Off turns of the fan entirely. Thermal mode will have the fans kick in at set temperature. On is continuous mode

### REM IN / REM OUT

REM IN = Switched remote signal to turn on the amplifier.  
REM OUT = Switched remote signal output. This can be used for daisy amps or other 12V equipment.

## POWER TERMINALS



## POWER TERMINAL

### GND (GROUND CONNECTION)

Connects to the vehicle's chassis. Keep as short as possible (< 20" / 50 cm). Use minimum 0AWG cable for optimal operation.

### +12V (POWER CONNECTION)

Connects to the positive terminal of the battery. For specified performance 0AWG cable is required. Fuses shall be placed within 8" / 20 cm of the battery.

## ⚠ CAUTION

CONNECT THE +12V WIRE, KEEPING IN MIND THAT THIS WIRE MUST BE FUSED AT THE BATTERY AS WELL. ENSURE THE GROUND IS APPROPRIATE, THEN CONNECT IT TO THE AMPLIFIER. CONNECT THE SWITCHED REMOTE. REATTACH THE NEGATIVE WIRE (GROUND) TO THE BATTERY. OPERATION OVER 17.5 VOLTS WILL CAUSE THE AMPLIFIER TO GO INTO PROTECT MODE AND CAN VOID THE WARRANTY.

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## **INSTALLATION**

### **INSTALLATION CONSIDERATIONS**

Installing an amplifier on your own can be a rewarding project, but it's important to approach it with caution and thorough preparation. Reading the owner's manual thoroughly will provide you with the necessary knowledge and precautions to take before beginning the installation process. If you find yourself uncertain at any point, seeking assistance from authorized distributors or dealers is a wise choice to ensure that your setup is correctly configured and your warranty remains valid. Remember, safety and proper functioning should always be your top priorities when handling electronic equipment.

### **PREPARATION**

When installing an amplifier in a vehicle, it's crucial to disconnect the negative battery cable to prevent any electrical shorts or damage. Ensuring that the battery and alternator have secure and corrosion-free ground connections is vital for the system's performance. The amplifier should be mounted in a location that allows for proper cooling and is safe from excessive vibration; improper mounting can cause damage and hurt performance. Mounting the amplifier vertically helps dissipate heat through the heatsink fins effectively. It's also important to ensure the installation area is dry and well-ventilated. Careful routing of cables, especially the RCA cables, away from high-current wires minimizes interference and alternator whine. Keeping a good distance between RCA, power, and speaker cables can further reduce potential noise and safety hazards.

### **POWER CONNECTORS**

#### **12V (POWER CONNECTION)**

Before mounting the amplifier, disconnect the negative (-) wire from the battery to prevent any accidental damage to the amplifier or the audio system. The amplifiers are equipped with 0 AWG power and ground terminals. It is crucial that all terminals are used with the appropriate cable to ensure correct operation. Connect the power cables to the power terminal labeled as +12V.

These amplifiers are not equipped with fuses, so external fuses are required at both the battery and the amplifier. Connect one end of the fuse holder to the power cable and the other end of the fuse holder to the positive battery terminal within 8 inches (20 cm) of the same cable. The same should be done at the other end of the cable that connects to the amplifier. The fuses will protect the system and the vehicle against the possibility of a short circuit in the power cable. Make sure that the fuses and the fuse holder meet the system requirements.

#### **GND (GROUND CONNECTION)**

Locate a secure grounding connection as close as possible to the amplifier. Ensure the location is clean and provides a direct electrical connection to the chassis of the vehicle. Connect one end of a cable of equal size to the positive cable to the ground location. It is important that the ground cable is as short as possible, but no longer than 20 inches (50 cm) at maximum. Run one end of the cable to the grounding point and the other end to the mounting location. Connect the ground cable to the terminals labeled as GND.

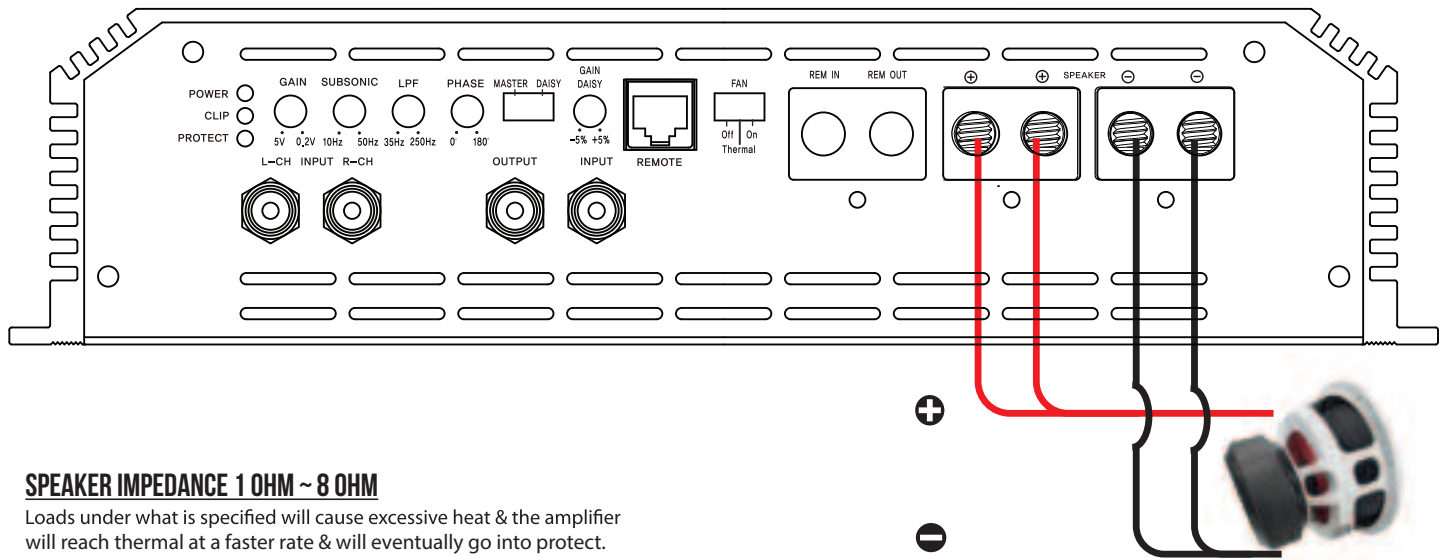
#### **REM ( REMOTE CONNECTION )**

Run a remote turn-on cable from the switched +12V source. This may be a toggle switch, a relay, the source unit's remote output cable, or power antenna trigger cable. Connect the remote turn-on cable to the power terminal labeled as REM. The REM out terminal is mainly intended for connection of another amplifier run in a chain, but it can also be used for other units.

#### **INPUT (RCA CABLE)**

Run the RCA cables away from the high-current cables and speaker cables, and connect them to the amplifier. Use high-quality cables with a secure grounding point to avoid amplifier malfunction and/or alternator whine.

## SPEAKER CONNECTION



### **SPEAKER IMPEDANCE 1 OHM ~ 8 OHM**

Loads under what is specified will cause excessive heat & the amplifier will reach thermal at a faster rate & will eventually go into protect.

**IMPEDANCE LOAD UNDER 1 OHM IS NOT WARRANTED!**

We recommend using minimum 8 Ga speaker cables to acquire the intended performance & efficiency. Run the speaker cables from your speakers to the amplifier's mounting location. Ensure these are ran separately and away from high current cables and if possible the RCA cables as well. In all cases where cables are penetrating the vehicle's chassis use grommets to protect the cable.

Connect the speaker wires according to the terminals on the speaker(s). Strip 3/8" / 1 cm of insulation of the end of each cable and twist the cable strands together tightly. Make sure there are no stray strands that could touch other cables or terminals as it can cause a short circuit.

Crimp spade plugs over the end of the cable or tin the ends with solder to provide a solid terminal.

Connect the cable ends to the amplifier as shown in the diagram. Note, the amplifier's speaker terminals are internally bridged.

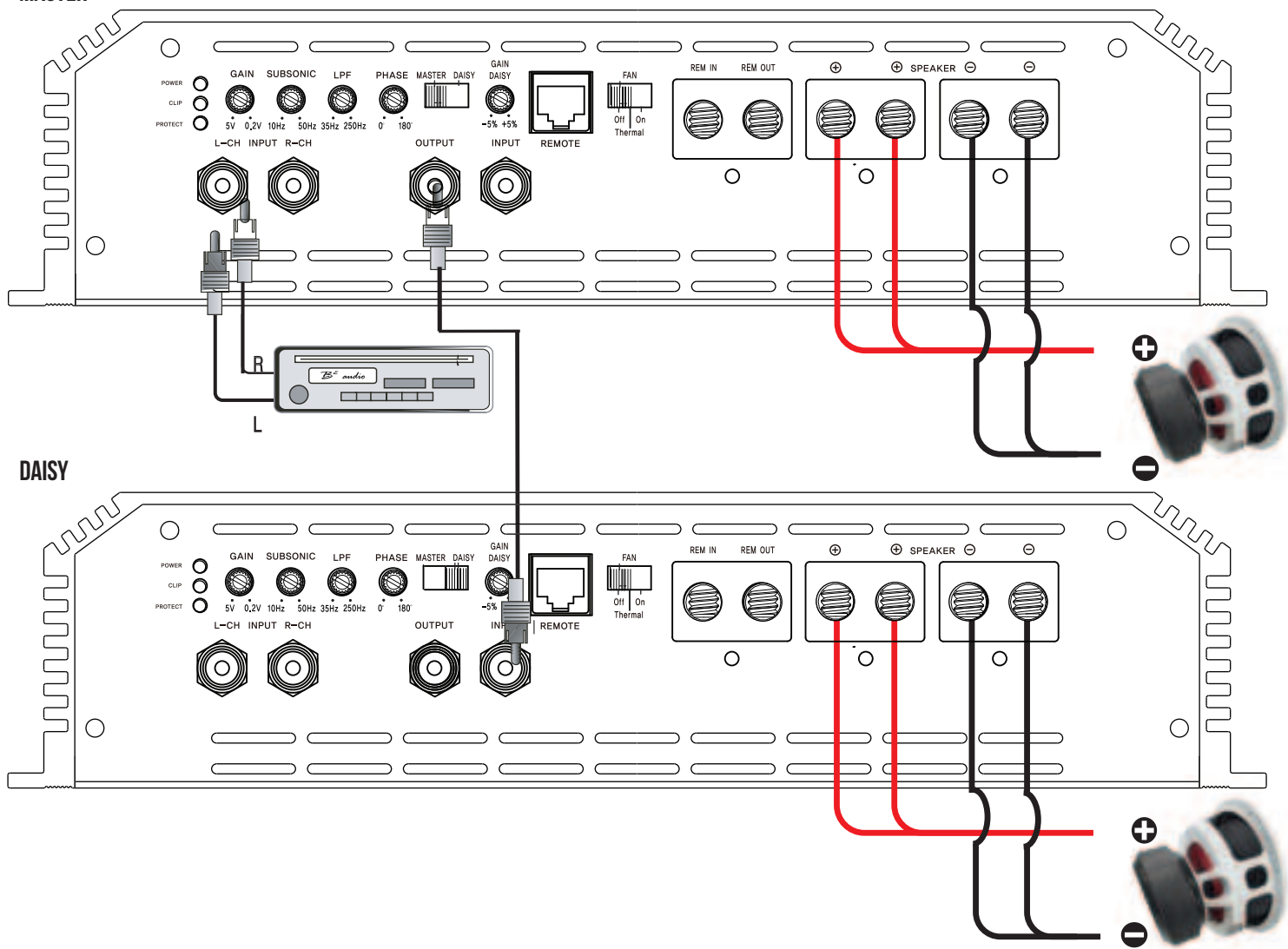
### **! CAUTION**

CONNECT THE +12V WIRE, KEEPING IN MIND THAT THIS WIRE MUST BE FUSED AT THE BATTERY AS WELL. ENSURE THE GROUND IS APPROPRIATE, THEN CONNECT IT TO THE AMPLIFIER. CONNECT THE SWITCHED REMOTE. REATTACH THE NEGATIVE WIRE (GROUND) TO THE BATTERY. OPERATION OVER 17.5 VOLTS WILL CAUSE THE AMPLIFIER TO GO INTO PROTECT MODE AND CAN VOID THE WARRANTY.

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## DAISY CHAIN - MASTER AND DAISY MODE

### MASTER

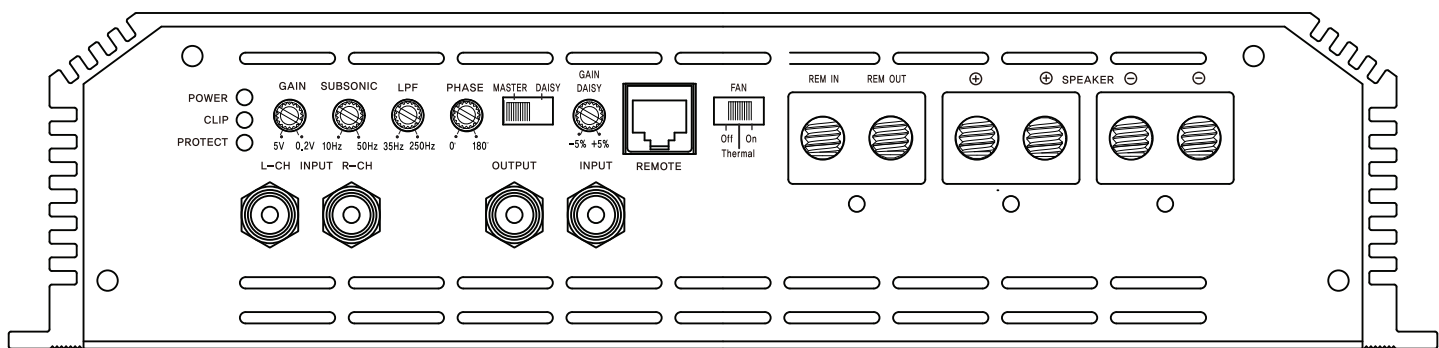


In daisy chain mode, the master amplifier's audio settings, such as gain, crossover, etc., are routed to the amplifier marked as daisy. From that daisy amplifier, you can route the input signal from the master amplifier to a second daisy by using the output RCA on the first daisy amplifier. You can continue adding amplifiers in a chain this way.

This feature is very useful when you run multiple subwoofers and have a hard time gain-matching them. If there is a slight voltage discrepancy between the master and the daisy amplifier, you can use the gain daisy to fine-tune the signal by +/- 5%.



**ACCU8 CROSSOVER**



**ACCU8**

**• THE ACCURATE CROSSOVER SETTING**

Dealing with guesses and improper settings of your crossovers seems futile when you have invested both time and money into your audio system. If you use a DSP, you can set the crossovers at any specified frequency you see fit. On the amplifier's crossover setting, you would have to rely on costlier tools or guesses. The ACCU8 feature eliminates this challenge. The potentiometers, except for the gain, have a 41-click ratio when turned. Each of these clicks corresponds to a specific frequency or level increase in dB. The chart below indicates these settings.

**CLICK SETTINGS FOR LPF**

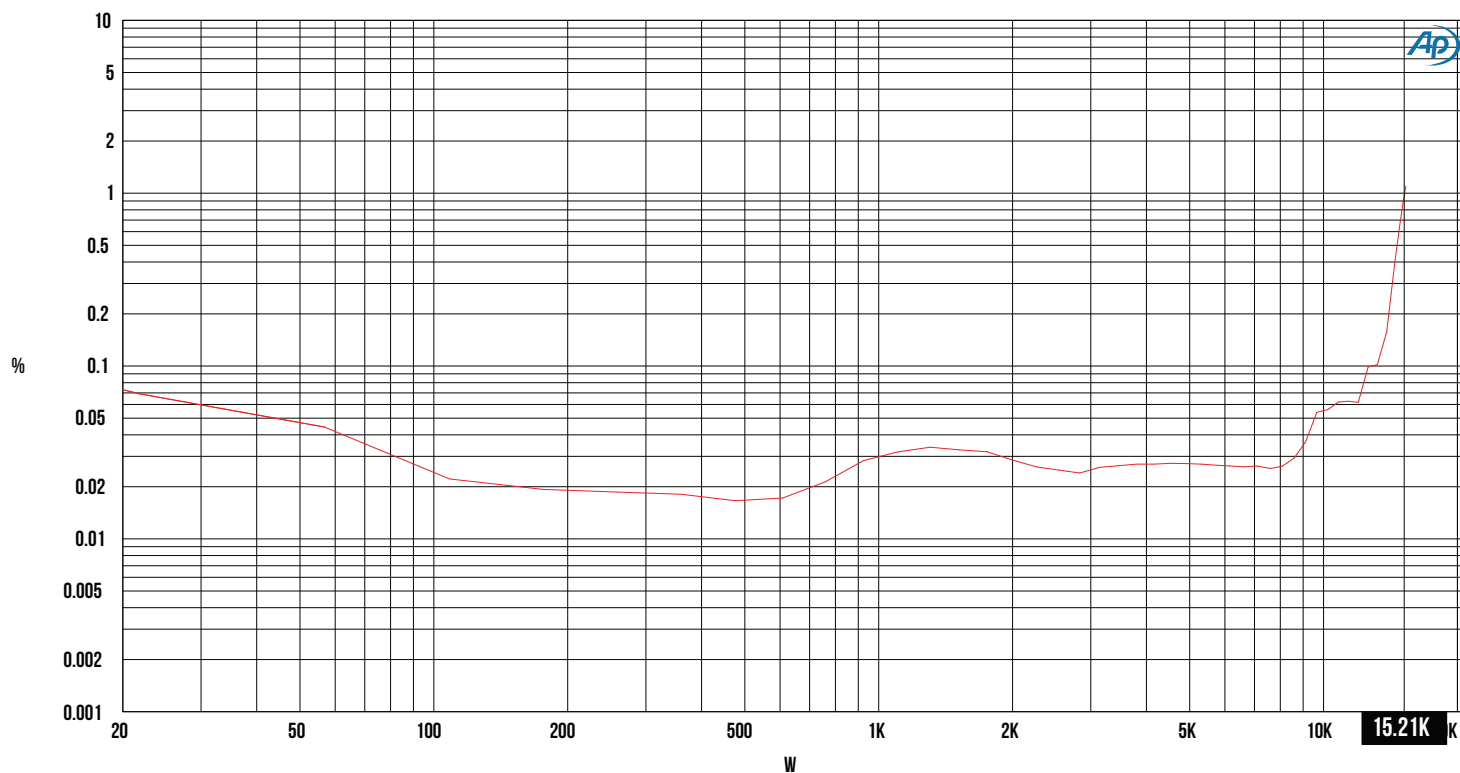
LPF		LPF		LPF	
1.	33 HZ	15.	61 HZ	29.	160 HZ
2.	34 HZ	16.	68 HZ	30.	170 HZ
3.	34 HZ	17.	76 HZ	31.	181 HZ
4.	35 HZ	18.	86 HZ	32.	185 HZ
5.	35 HZ	19.	100 HZ	33.	190 HZ
6.	36 HZ	20.	111 HZ	34.	195 HZ
7.	36 HZ	21.	116 HZ	35.	200 HZ
8.	39 HZ	22.	120 HZ	36.	203 HZ
9.	41 HZ	23.	125 HZ	37.	207 HZ
10.	43 HZ	24.	130 HZ	38.	210 HZ
11.	46 HZ	25.	135 HZ	39.	230 HZ
12.	50 HZ	26.	140 HZ	40.	240 HZ
13.	55 HZ	27.	144 HZ	41.	250 HZ
14.	57 HZ	28.	151 HZ		

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# AUDIO PRECISION CHARTS

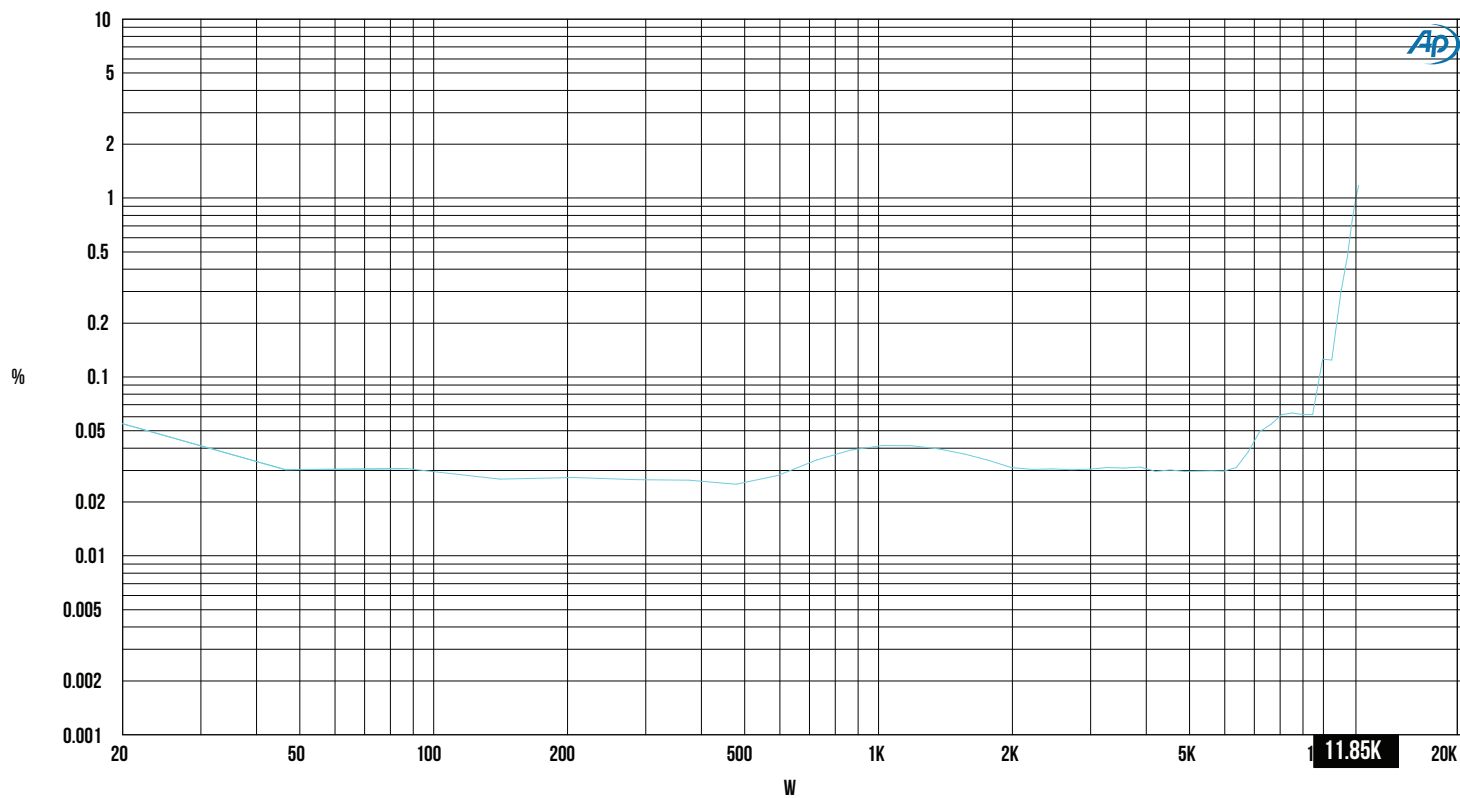
*Zero 15*

14.4V 40HZ 1 OHM



*Zero 15*

12.6V 40HZ 1 OHM



## **TROUBLESHOOTING**

The protection circuits of the amplifier prevent severe damage from faulty conditions and improper use. The protection indicator will switch on due to a short circuit connection, high/low voltage or speaker overload, causing the amplifier to turn off. Before inspecting the problem, turn all levels down and all power off, then carefully check the installation for wiring mistakes, shorts, or faulty ground.

If the amplifier shuts down due to excessive heat, the protection indicator will light up; please allow time for the unit to cool off. Before removing your amplifier, refer to the list below and follow the suggested procedures step by step. If you are not at ease, contact an authorized installer who can assist you.

### **AMPLIFIER DOESN'T TURN ON**

- Measure voltage on the +12V terminal.
- Ensure that the remote terminal has min. 13.8 V DC remote connection.
- Recheck the ground (GND) connection. Inspect the in-line fuses.
- Check the protection LED is not on.

### **PROTECTION LED IS LIT ONCE THE AMPLIFIER IS TURNED ON**

- Check shorts on speaker wires & the connected load / impedance. Check power cables & GND.
- Disconnect the speaker cables and reset the amplifier.
- High / Low voltage, operation voltage is 10 V~17.5V. Voltages below / beyond this will cause the amplifier to go into protect.

### **FUSE BLOWING**

- Measure the speaker impedance & that it is in accordance with the configuration.
- Inspect the power cable for shorts along with vehicle chassis.

### **OVERHEATING**

- Measure the speaker impedance & that it is in accordance with the configuration.
- Check speaker shorts.
- Ensure airflow around the amplifier is sufficient & that the amplifier is not installed in areas of excessive vibration & upside down!

### **AUDIO OUTPUT INSUFFICIENT - DISTORTED SOUND**

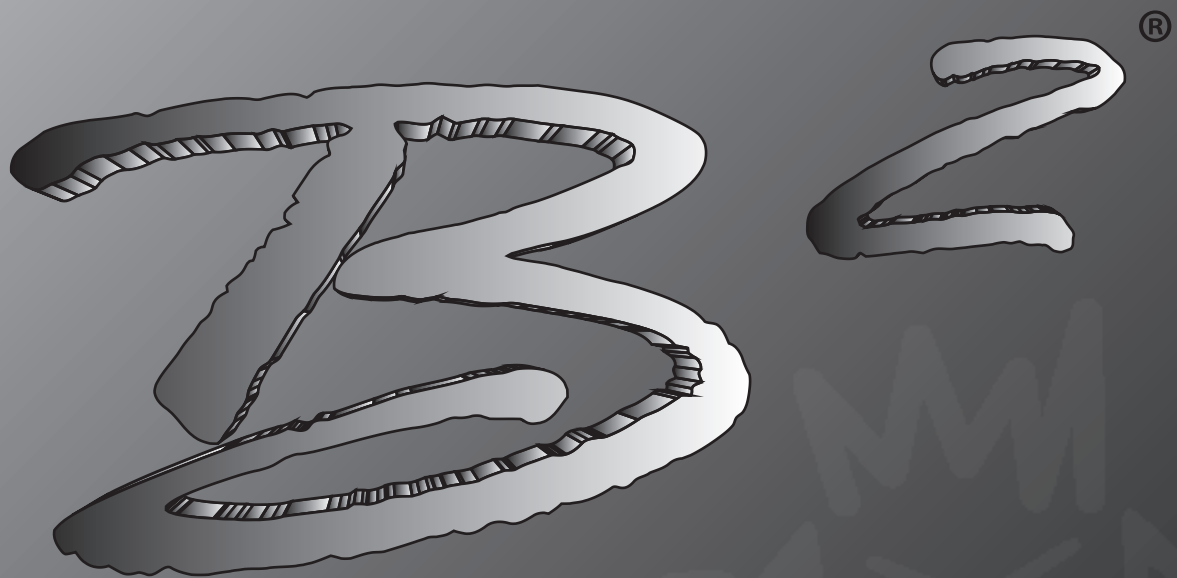
- Ensure that the gain settings on the amplifier is matched with the output level of the head unit.
- Adjust the head unit volume.
- Check speaker shorts.
- Adjust the crossover frequencies in accordance with the setup.
- If no output at all, check the RCA connections & the cable itself.

### **TURN ON THUMP**

- Disconnect the signal input to the amplifier, then turn it on and off.
  - a) If the noise is cancelled, then connect a delay turn on module on the REM wire running from the source unit to the amplifier.
  - b) Use another 12V source for REM lead to the amplifier. If the noise is cancelled, use a relay to isolate the amplifier from the turn on thump.

### **HIGH HISS - ALTERNATOR WHINE**

- Ensure that all signal transferring wires (RCA, speaker cables etc) are kept separately / away from the power and the ground wires.
- Bypass all electrical components between the Head unit and the amplifier. Connect the Head unit directly to the amplifier's input. If the noise is eliminated, the unit bypassed is the one causing the noise.
- Remove the existing ground wires for all electrical components installed. Ensure that the point of ground is 100% metal which has been grinded free of rust, paint etc.
- Replace the ground cable from the OEM battery / alternator and ensure it is grounded accordingly.
- Test the battery and alternator load (can be carried out by a professional). Ensure that the vehicle's electrical system is in a good condition, this includes distributor, alternator, spark plugs / wires, voltage regulators etc.



#### LIMITED WARRANTY INFORMATION

B2 audio offers a limited warranty under the following terms:

The product is to be free of defects in material & workmanship under normal use for a period of 1 year from the date of the original purchase, when installed by an authorized dealer. Items not installed by authorized dealers will be warrantied for 30 days from the original purchase. Original sales receipts must be accompanied with all returns. The warranty applies to the original purchaser of the product & it being sold by authorized B2 audio dealers.

The warranty does not cover: 1. Damage caused by accident, abuse, misuse, improper operation, water / solvents & shipping.

2. Product modification, neglect, failure to follow installation instructions & misrepresentation by the seller.

3. Products used for competition purposes or are of such a character 4. Any product that has been opened.

5. Products that has had the serial number defaced, altered or removed.

6. The cost of shipping the product back for repair to an authorized repair centre & cost of return of non-defective items.