AUDIOPHILE ACOUSTICS®

SWEET LIKE DANISH

RAGE SERIES AMPLIFIERS

RAGE 2500.1

RAGE 1200.6

RAGE 600.4

PRODUCT ID:

RAGE25001D1S
RAGE1200SDF1S
RAGE6004DF1S

WWW.B2AUDIO.COM / WWW.FACEBOOK.COM/B2AUDIO

CE

INTRODUCTION

There are times when you need to make a statement, such as raising the bar & going beyond what has become the standard. For nearly a decade this has become synomous with B2 audio. Whether it being product like subwoofers & amplifiers or even various competition formats in car audio, we have continously set our standards higher. At times it might not be the most financially wise decision, but we are more than product and profits, we are first and foremosts passionate about what we do, thus we want to implement our soul into each product.

RAGE

Don't blow a fuse, keep calm. The next era comes with our redefined levels. The Rage series is "The increased Desire for B2 audio". Starting out with 3 amplifers at the same time, the Rage should cover any need for near any type of user. Mono, 4ch or even 6 ch amplification, no problem, Rage covers it all. Enough power and authority refined with the keystones of B2 audio will provide you with numerous hours of joy and sweetness.
The added bonus is that these amplifers not only are efficient, but they are compact as well.

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

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IS THE CORNERSTONE OF B2 AUDIO. IT'S THE PHILOSOPHY OF ADDING SOMETHING UNIQUE. KEEP IN MIND THAT CONTINIOUS EXPOSURE TO SPL ABOVE 100 DB CAN SERIOUSLY DAMAGE YOUR HEARING. TODAY'S HIGH POWER AUTO SOUND SYSTEMS CAN EASILY PRODUCE SPL OVER 140 DB. ENJOY YOUR MUSIC WITH SENSE.

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DESIGN FEATURES

	RAGE 2500.1	RAGE 1200.6	RAGE600.4
CIRCUIT CONFIGURATION:	HI-EF CLASS D	HI-EF CLASS D FR	HI-EF CLASS D FR
FREQUENCY RESPONSE:	15 - 200 HZ	10 HZ - 25 KHZ	10 HZ - 27 KHZ
SIGNAL TO NOISE RATIO:	> 85 DB	> 90 DB	> 90 DB
INPUT SENSITIVITY:	4 V - 0.1 V	6 V - 0.2 V	6 V - 0.2 V
CROSSOVER CIRCUIT:	24 DB / OCT	24 DB / OCT	24 DB / OCT
HIGH PASS CROSSOVER:		50 HZ - 5 KHZ (CH 1-4)	20 HZ - 5 KHZ
HIGH PASS CROSSOVER :		20 - 200 HZ (CH 5-6)	
LOW PASS CROSSOVER:	20 - 200 HZ	50HZ-5KHZ (CH 1-4)/20 - 200HZ (CH 5-6)	50 HZ - 5 KHZ
BAND PASS CROSSOVER:		20 -250 HZ (CH 5-6)	50 HZ - 5 KHZ
SUBSONIC CROSSOVER:	10 -50 HZ		
DAMPING FACTOR:	> 300	> 250	> 250
BASS BOOST FREQUENCY:	45 HZ		
REMOTE CONTROL W/CLIP & LOW VOLT:	INCLUDED		
POWER TERMINAL GAUGE:	0 GA	4 GA	4 GA
FUSE RATING:	250 A	120 A	60 A
DIMENSIONS:	45 X 18.5 X 5.4 CM 17.7 X 7.3 X 2.1"	35 X 14.2 X 4.9 CM 13.7 X 5.6 X 1.9"	23 X 14.2 X 4.9 CM 9 X 5.6 X 1.9"

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

CONTINIOUS OUTPUT POWER (RMS)

	RAGE 2500.1	RAGE 1200.6	BRIDGE @ 4 OHM	RAGE 600.4	BRIDGE @ 4 OHM
4 OHM	750W	(CH 1-4) 110W X 4 / (CH 5-6) 200W X 2	(CH 1-4) 320W X 2 / (CH 5-6) 640W X 1	100W X 4	300W X 2
2 OHM	1500W	(CH 1-4) 160W X 4 / (CH 5-6) 320W X 2	NA NA	150W X 4	NA
1 OHM	2500W	NA NA			

DESCRIPTION OF SPECIFICATIONS

Operation below minimum impedance will stress the amplifier & void the warranty.

Excessive heat will also appear at a faster rate and the and the amplifier will go into thermal protection.

Protection can also be caused by the following

* Speaker overload
* Short circuit
* Input Voltage - RCA & Power Supply

The PCB is a HI-EF Class D design. THE HI-EF circuit optimizes efficiency & improves performance even at low voltages.

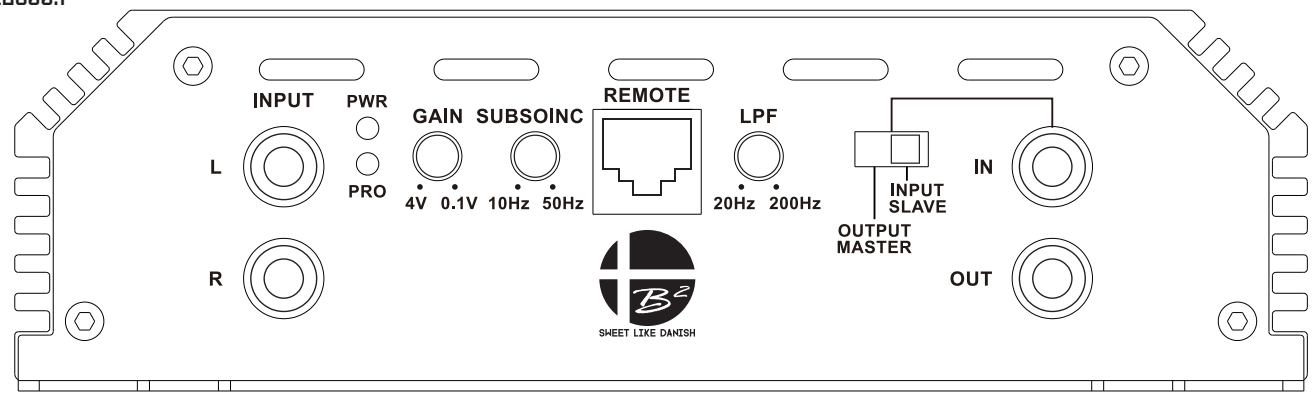
Operational voltage 9V ~16V.

Operational voltage will also be affected by the load of the amplifier.

*In order to get the full power output of the amplifier, it is crucial that your electical system is correctly (over)dimensioned.

PANEL LAYOUT

RAGE2500.1



INPUT
RCA signal input for left & right channel.
A minimum of 0.1V 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.

GAIN (4V-0.1V)
Adjusts signal input voltage from the input source to match the amplifiers input stage.
0.1 V ~ 4 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.

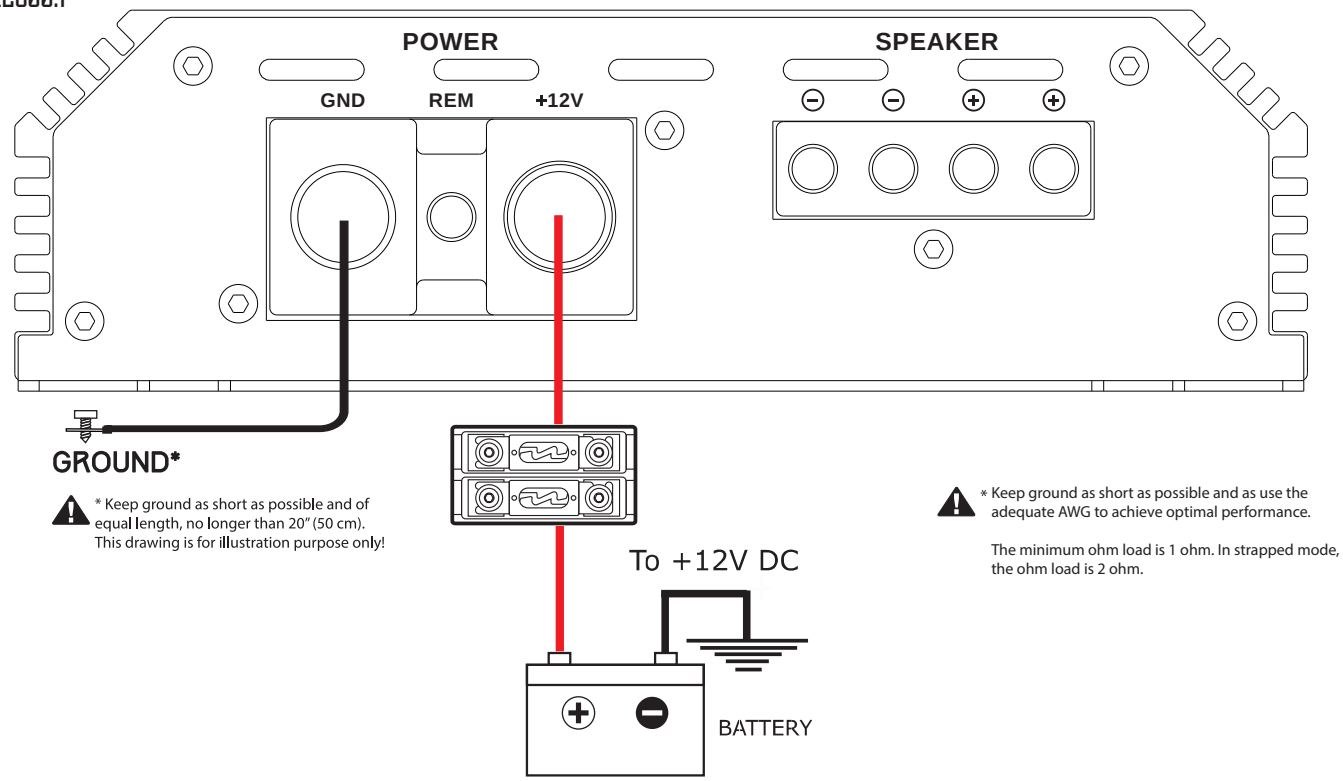
REMOTE LEVEL CONTROL PORT
Connection of external signal level control.
CAUTION, the amplifier needs to be gained in accordance with the remote to avoid excessive signal boost.

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.

OUTPUT MASTER / INPUT SLAVE
Used for linking / strapping the amplifier to another unit to achieve twice the amount of power.
When set in output master, this unit will be sending the signal to the slave unit, that will have the switch set to input slave with the rca connected to the input.

POWER & SPEAKER TERMINAL

RAGE2500.1



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.

REM
Connects to +12V switched remote from the headunit. It can also use switched +12V source for external units. If several units are installed in the car, it can be wise with a relay to ensure sufficient voltage is present.

+12V (POWER CONNECTION)
Connects to the positivie terminal of the battery. For specified performance 0AWG cable is required. Fuses shall be placed within 8" / 20 cm of the battery.

SPEAKER TERMINAL
Connects to the speakers negative and positive terminal. Use minimum 12 AWG speaker cable. The terminals are bridged internally. The dual terminals are there to make connections easier.

⚠ CAUTION

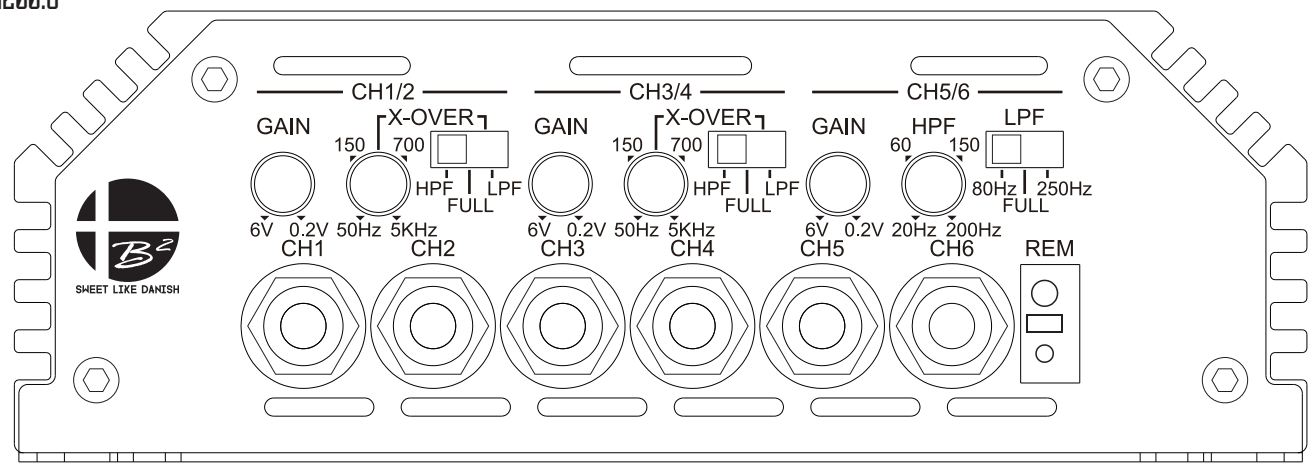
INSTALLATION OF THE AMPLIFIER SHALL BE DONE IN THE FOLLOWING STEPS:

1. Connect the +12V wire, keep in mind this wire has to be fused at the battery as well. 2. Ensure the ground is appropriate, then connect it to the amplifier. 3. Connect the switched remote. 4. Reattach negative wire (ground) to the battery. 5. Operation over 16V will cause the amplifier to go into protect & can void the warranty!

B² audio

PANEL LAYOUT

RAGE1200.6



INPUT CH1-CH6
RCA signal input for left & right on channel specified. A minimum of 0.2V input signal is required for correct operation.

REM
Connects to +12V switched remote from the headunit. Push the tab to insert the wire and release after.

GAIN (6V-0.2V) CH1/2
Adjusts signal input voltage from the input source to match the amplifiers input stage. 0.2V ~ 6V is the operational voltage. Voltages beyond may cause errors or damage to the input section. All adjustments apply to channel 1 & 2.

HPF
Adjusts the high pass crossover point to filter out audio with a 24 dB slope from the given selection on ch 1 & 2. The switch selection sets the HPF in active or fullrange. If in HPF mode frequencies below the setting will be cut with 24 dB per octave. Full setting is fullrange signal.

FULL
No crossovers are applied.

LPF
Adjusts the low pass crossover point to filter out audio with a 24 dB slope from the given selection on ch 1 & 2. If in LPF mode frequencies above the setting will be cut with 24 dB per octave. Full setting is fullrange signal.

GAIN (6V-0.2V) CH3/4
Adjusts signal input voltage from the input source to match the amplifiers input stage. 0.2V ~ 6V is the operational voltage. Voltages beyond may cause errors or damage to the input section. All adjustments apply to channel 3 & 4.

HPF
See the description on the left side of the page.

FULL
No crossovers are applied.

LPF
See the description on the left side of the page.

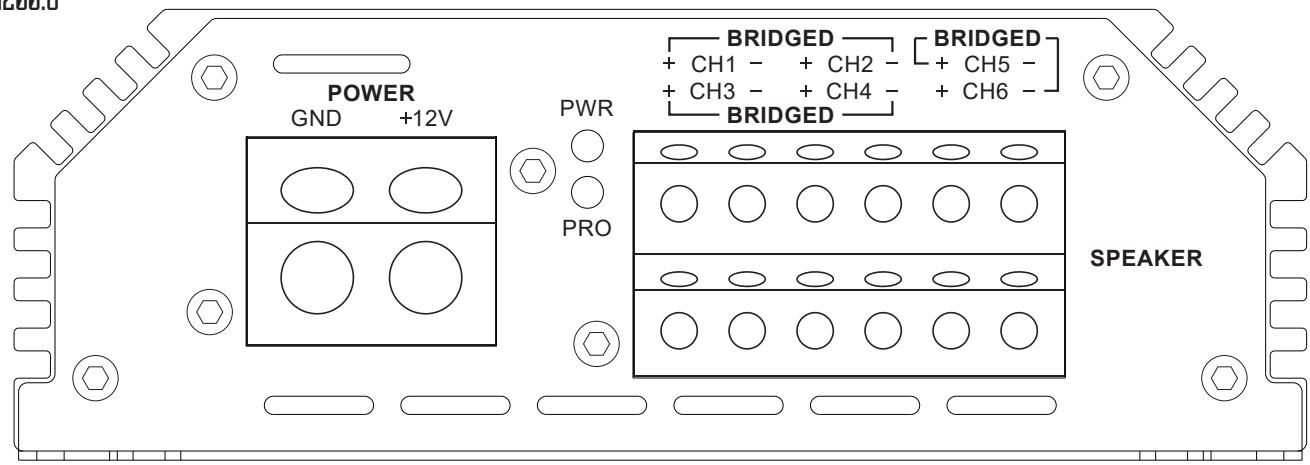
GAIN (6V-0.2V) CH5/6
Adjusts signal input voltage from the input source to match the amplifiers input stage. 0.2V ~ 6V is the operational voltage. Voltages beyond may cause errors or damage to the input section. All adjustments apply to channel 5 & 6.

HPF
Adjusts the high pass crossover with 24 dB/oct at the set frequency. Will works as a band pass if LPF switch is set at 80 Hz or 250 Hz.

LPF SWITCH
Sets up a band pass crossover on ch 5 & 6 if set at 80 Hz (typically subwoofer applications) or 250 Hz for midbass drivers. The band pass setting is dependant on the HPF setting.

POWER & SPEAKER TERMINAL

RAGE1200.6



GND
onnects to the vehicle's chassis. Keep as short as possible (< 20" / 50 cm). Use minimum 4AWG cable optimal operation.

REM
Connects to +12V switched remote from the headunit. It can also use switched +12V source for external units. If several units are installed in the car, it can be wise with a relay to ensure sufficient voltage is present.

+12 (POWER CONNECTION)
Connects to the positivie terminal of the battery. For specified performance 4AWG cable is required. Fuses shall be placed within 8" / 20 cm of the battery.

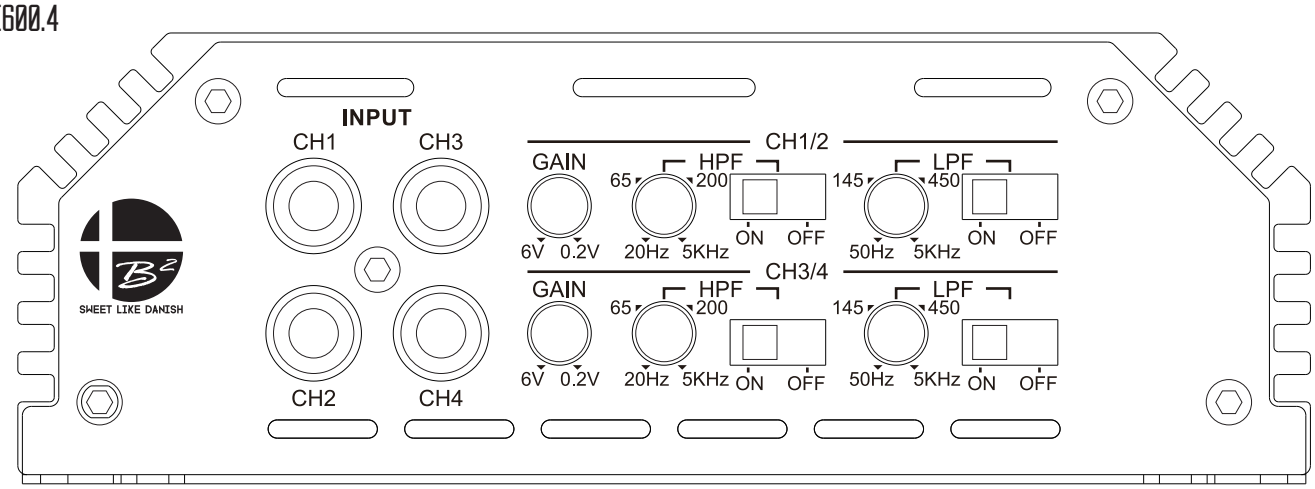
PWR LED
Shows the amplifer is connected to both +12V power and is grounded at the same time.

PRO LED
Amplifier has gone into protect mode.
The malfunction could be caused by speaker short, thermal protect, faulty connection or general errors.

SPEAKER OUTPUT TERMINALS
Connects to the speakers pos & neg terminals.
Use a 12AWG cable for optimal performance.
The RAGE 1200.6 is stable to 4 ohm bridge or 2 ohm stereo.
Bridge mode is enabled by connecting the speaker cables to the terminals indicated on the illustration above.

PANEL LAYOUT

RAGE600.4



INPUT CH1-CH4
RCA signal input for left & right on channel specified. A minimum of 0.2V input signal is required for correct operation.

GAIN (6V-0.2V) CH1/2
Adjusts signal input voltage from the input source to match the amplifiers input stage. 0.2V ~ 6V is the operational voltage. Voltages beyond may cause errors or damage to the input section. All adjustments apply to channel 1 & 2.

HPF
Adjusts the high pass crossover point to filter out audio with a 24 dB slope from the given selection on ch 1 & 2. The switch selection sets the HPF in active or inactive. If in ON mode frequencies below the setting will be cut with 24 dB per octave. OFF setting is full range signal.

LPF
Adjusts the low pass crossover point to filter out audio with a 24 dB slope from the given selection on ch 1 & 2. If in ON mode frequencies above the setting will be cut with 24 dB per octave. OFF setting is full range signal.

BPF
Adjusts the band pass crossover point to filter out audio with a 24 dB slope from the given selection on ch 1 & 2. If in ON mode frequencies above & below the setting will be cut with 24 dB per octave. To use the BPF both HPF ON and LPF ON needs to be selected.

GAIN (6V-0.2V) CH3/4
Adjusts signal input voltage from the input source to match the amplifiers input stage. 0.2V ~ 6V is the operational voltage. Voltages beyond may cause errors or damage to the input section. All adjustments apply to channel 3 & 4.

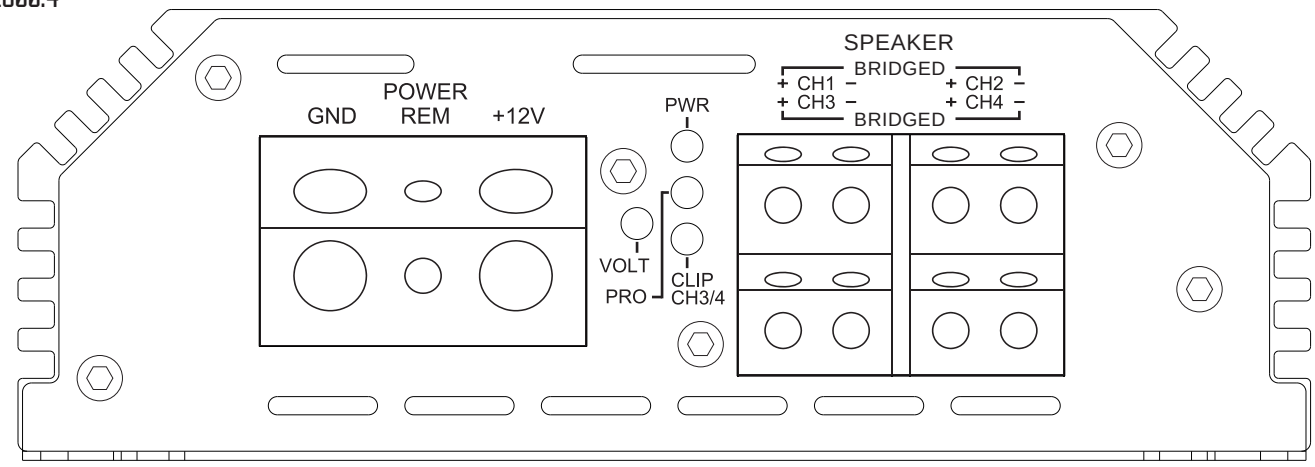
HPF
See the description on the left side of the page.

LPF
See the description on the left side of the page.

BPF
See the description on the left side of the page.

POWER & SPEAKER TERMINAL

RAGE600.4



GND
onnects to the vehicle's chassis. Keep as short as possible (< 20" / 50 cm). Use minimum 4AWG cable optimal operation.

REM
Connects to +12V switched remote from the headunit.
It can also use switched +12V source for external units.
If several units are installed in the car, it can be wise with a relay to ensure sufficient voltage is present.

+12 (POWER CONNECTION)
Connects to the positivie terminal of the battery.
For specified performance 4AWG cable is required.
Fuses shall be placed within 8" / 20 cm of the battery.

VOLT LED INDICATOR
Flashing led indicates power supply voltage is below recommended to achieve the amplifiers rated performance.
Continious negligence of the indicator can cause damage to your sound system & reduced performance.

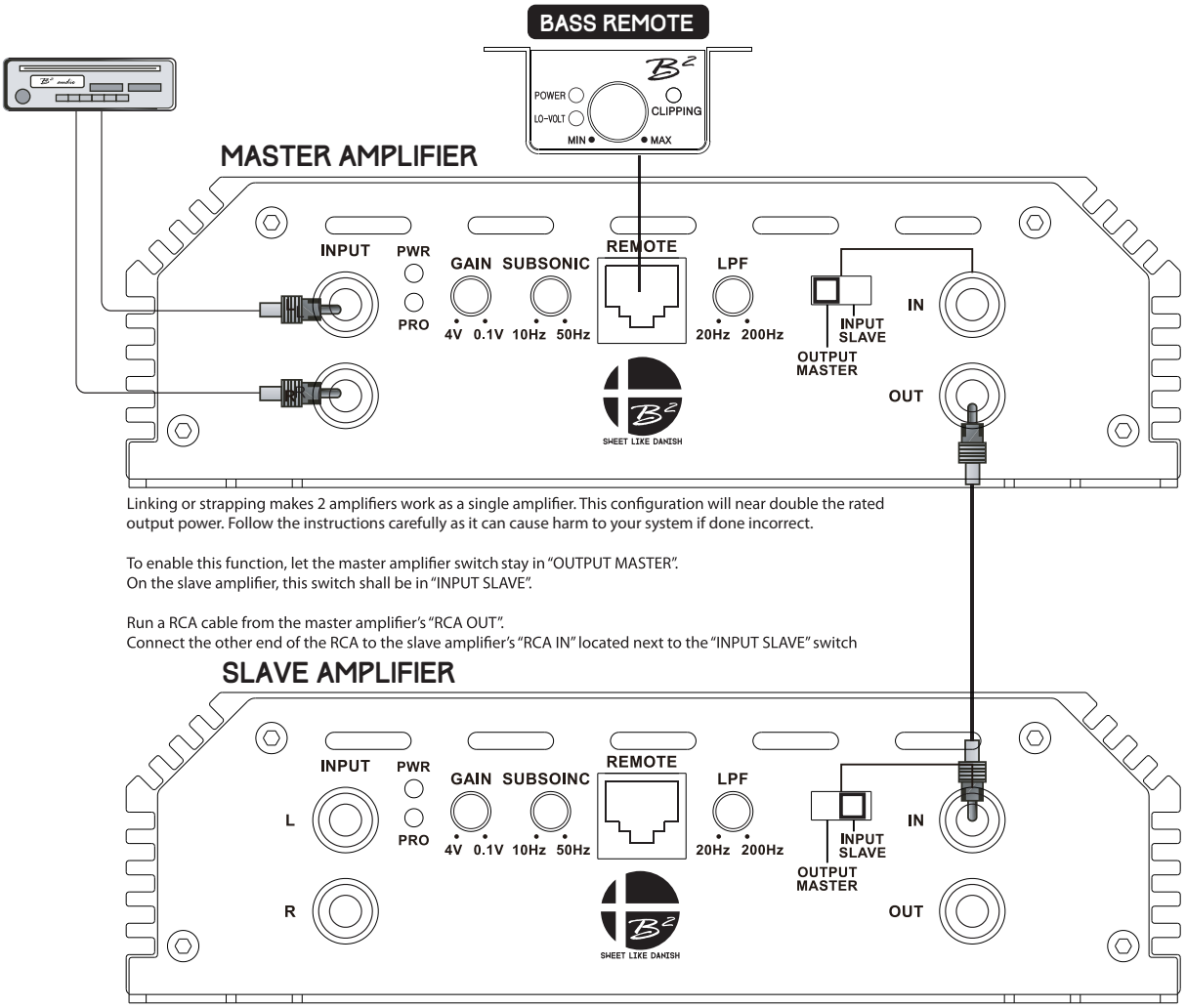
PWR LED
Shows the amplifer is connected to both +12V power and is grounded at the same time.

PRO LED
Amplifier has gone into protect mode.
The malfunction could be caused by speaker short, thermal protect, faulty connection or general errors.

CLIP LED (ACTIVE ON CH 3/4)
Flashing led indicates signal is clipped on ch 3 and ch 4.
Set gains in accordance, so clip indicator is only flashing at absolute peak levels.

SPEAKER OUTPUT TERMINALS
Connects to the speakers pos & neg terminals.
Use a 12AWG cable for optimal performance.
The RAGE 600.4 is stable to 4 ohm bridge or 2 ohm stereo.
Bridge mode is enabled by connecting the speaker cables to the terminals indicated on the illustration above.

STRAPPED CONTROL PANEL SETTING



Linking or strapping makes 2 amplifiers work as a single amplifier. This configuration will near double the rated output power. Follow the instructions carefully as it can cause harm to your system if done incorrect.

To enable this function, let the master amplifier switch stay in "OUTPUT MASTER".
On the slave amplifier, this switch shall be in "INPUT SLAVE".

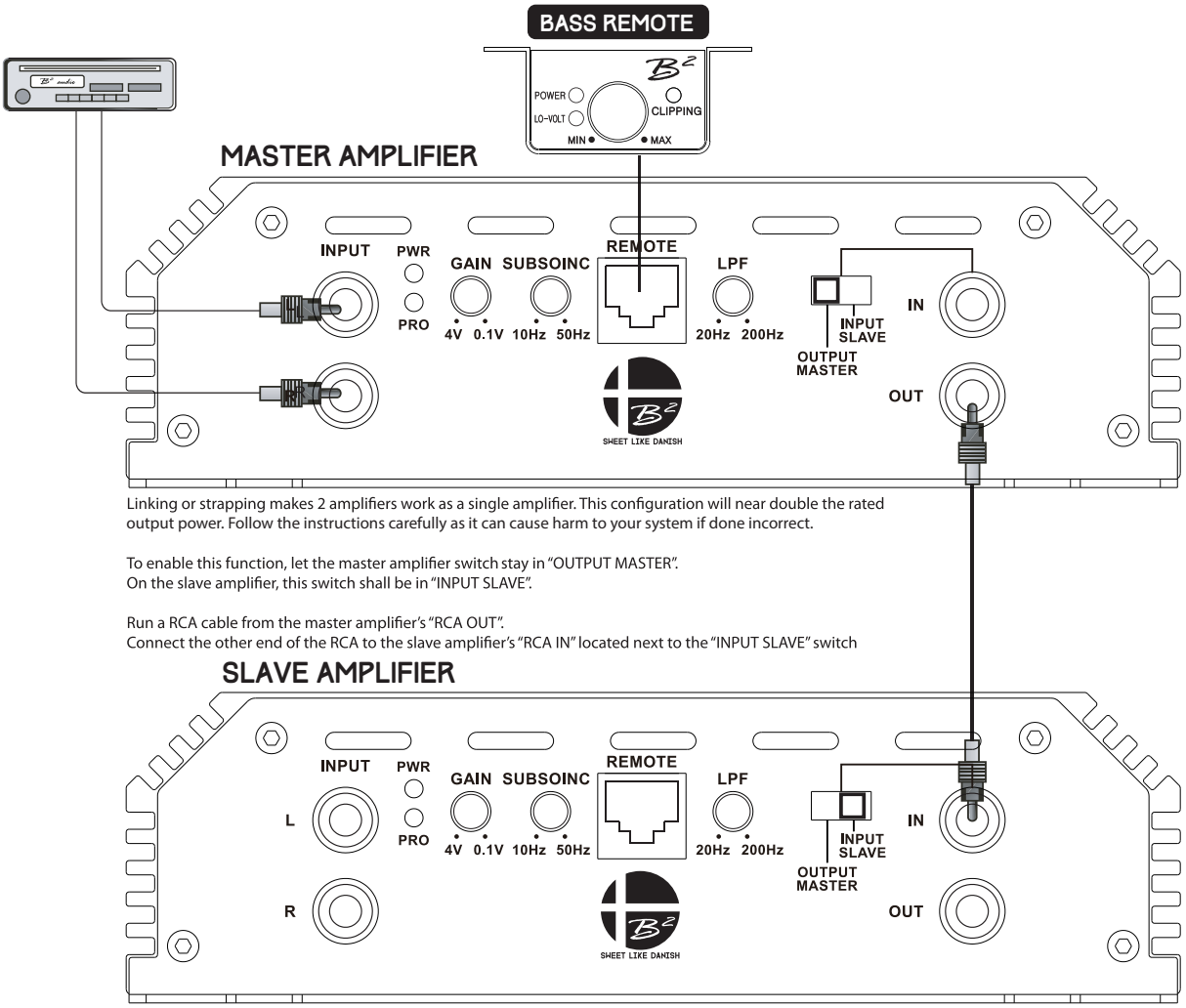
Run a RCA cable from the master amplifier's "RCA OUT".
Connect the other end of the RCA to the slave amplifier's "RCA IN" located next to the "INPUT SLAVE" switch

SPEAKER IMPEDANCE 2 OHM - 16 OHM

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

Strapped impedance load under 2 ohm is not warranted!

STRAPPED CONTROL PANEL SETTING



Linking or strapping makes 2 amplifiers work as a single amplifier. This configuration will near double the rated output power. Follow the instructions carefully as it can cause harm to your system if done incorrect.

To enable this function, let the master amplifier switch stay in "OUTPUT MASTER".
On the slave amplifier, this switch shall be in "INPUT SLAVE".

Run a RCA cable from the master amplifier's "RCA OUT".
Connect the other end of the RCA to the slave amplifier's "RCA IN" located next to the "INPUT SLAVE" switch

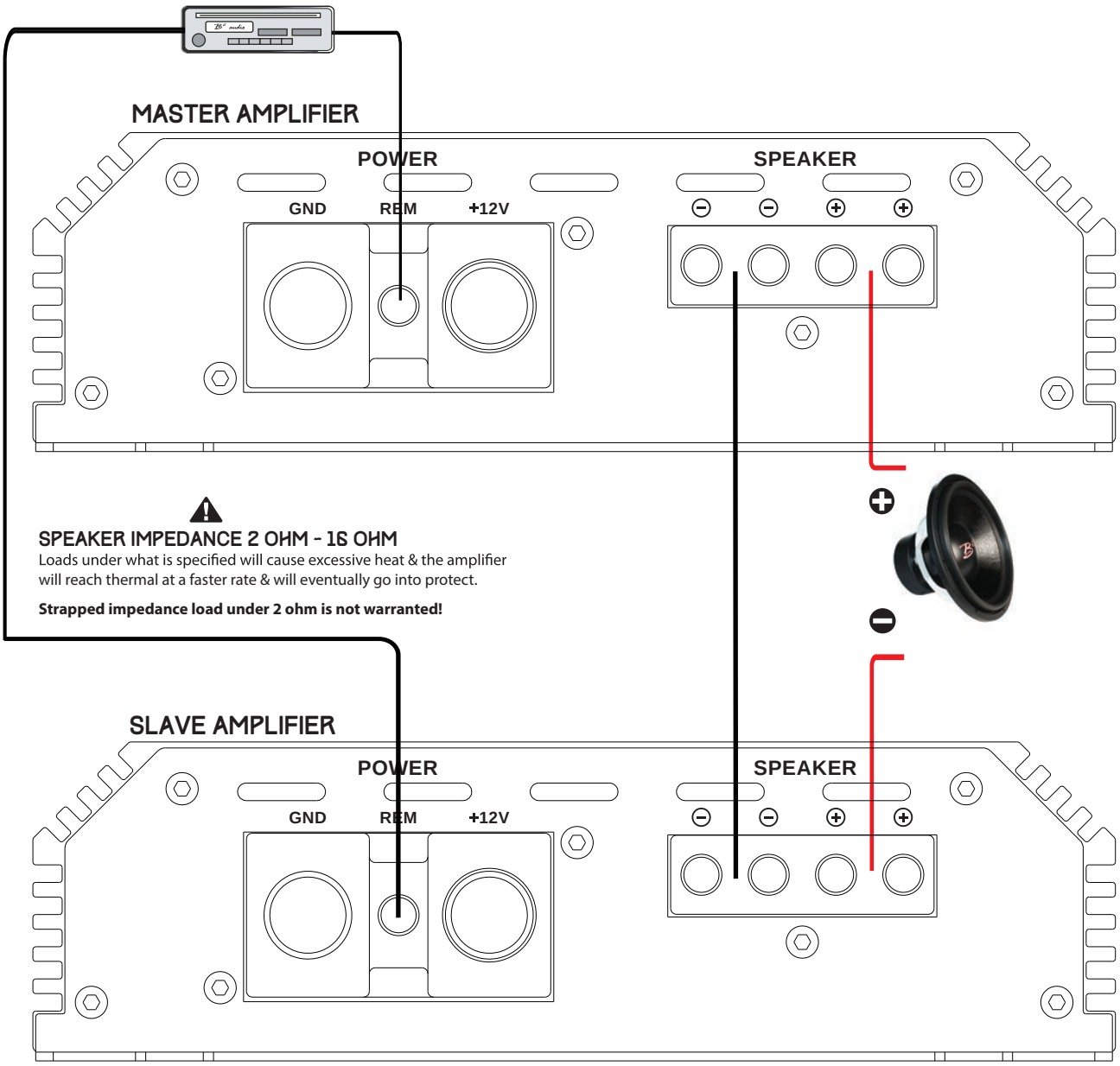
SPEAKER IMPEDANCE 2 OHM - 16 OHM

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

Strapped impedance load under 2 ohm is not warranted!

STRAPPED SPEAKER CONNECTION

RAGE2500.1



To link the master and slave amplifier speaker connection follow the steps below.

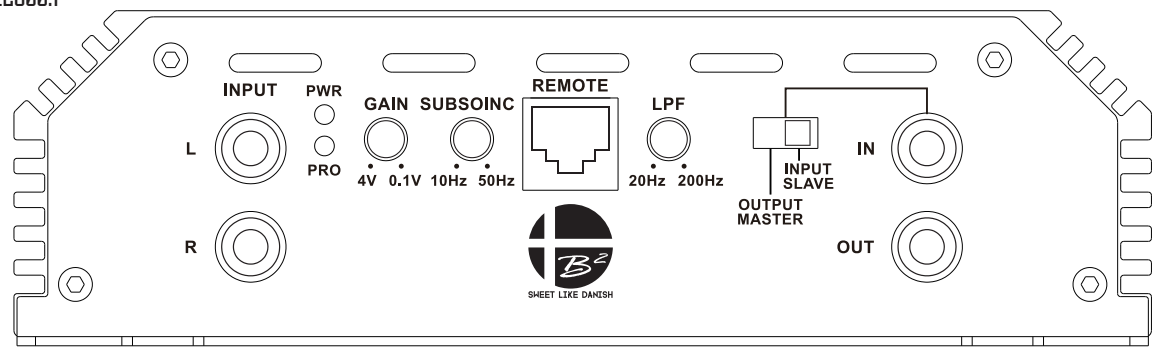
STEP 1.
Run the **POSITIVE (+)** speaker cable from the **MASTER** amplifier's speaker output to the **POSITIVE TERMINAL (+)** of the subwoofer.

STEP 2.
Run the **POSITIVE (+)** speaker cable from the **SLAVE** amplifier's speaker output to the **NEGATIVE TERMINAL (-)** of the subwoofer.

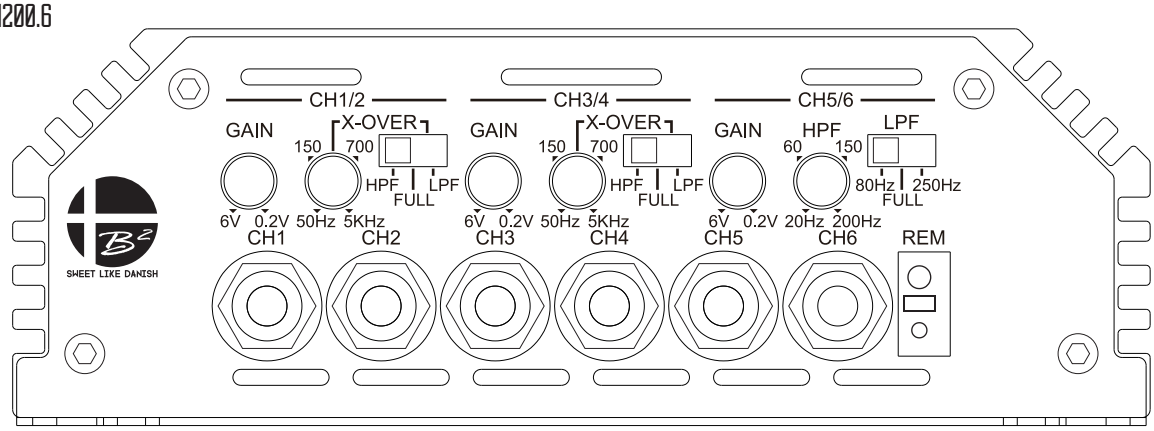
STEP 3.
Connect both amplifiers together by running a cable from **NEGATIVE** speaker output on **MASTER** amplifier to **NEGATIVE** speaker output on **SLAVE** amplifier. Use minimum 8 GA cable for connecting the amplifiers.

ACCU8 CROSSOVERS

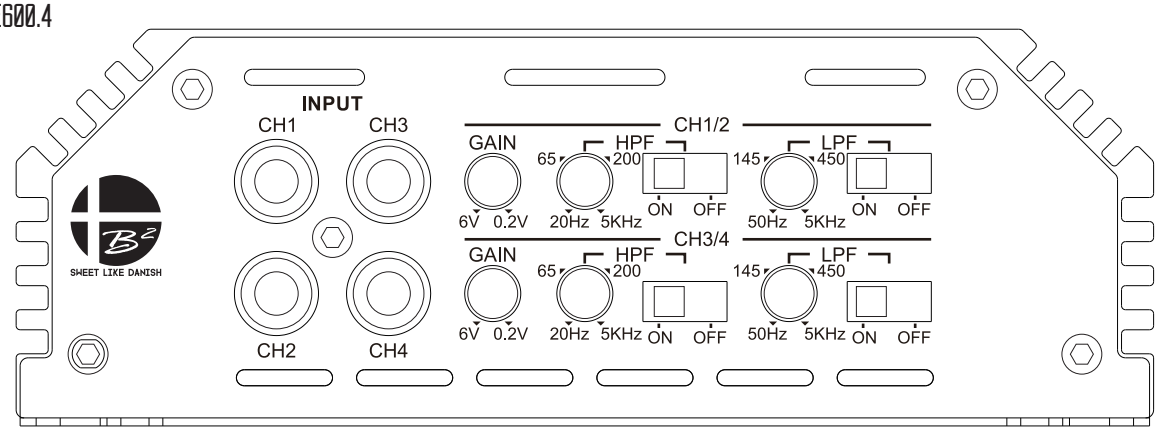
RAGE2500.1



RAGE1200.6



RAGE600.4



CLICK SETTINGS FOR LPF - HPF - SUBSONIC

RAGE2500.1

	LPF	SUBSONIC
1.	20 Hz	10 Hz
5.	21 Hz	13 Hz
10	33 Hz	16 Hz
15.	56 Hz	23 Hz
20.	90 Hz	35 Hz
25.	111 Hz	41 Hz
30.	155 Hz	48 Hz
35.	179 Hz	54 Hz
41.	200 Hz	54 Hz

RAGE1200.6

	HPF CH1-4	CH5-6	LPF
1.	50 Hz	20 Hz	50 Hz
5.	65 Hz	25 Hz	55 Hz
10.	95 Hz	35 Hz	80 Hz
15.	160 Hz	60 Hz	135 Hz
20.	350 Hz	110 Hz	310 Hz
25.	500 Hz	130 Hz	450 Hz
30.	1000 Hz	165 Hz	900 Hz
35.	2200 Hz	192 Hz	2000 Hz
41.	5000 Hz	200 Hz	5000 Hz

RAGE600.4

	HPF	LPF
1.	20 Hz	50 Hz
5.	25 Hz	53 Hz
10.	35 Hz	68 Hz
15.	65 Hz	125 Hz
20.	150 Hz	270 Hz
25.	240 Hz	400 Hz
30.	600 Hz	900 Hz
35.	1500 Hz	2000 Hz
41.	5000 Hz	5000 Hz

TROUBLESHOOTING

The protection circuits of the amplifier prevents severe damages from faulty conditions & improper use.
The protection indicatior will switch on due to short circuit connection & speaker overload, thus the amplifier will be turned off. Prior to inspecting the occurred problem, turn all levels down & all power off, then carefully check the installation for wiring mistakes, shorts or faulty ground (GND). If the amplifier shuts down due to excessive heat, the protection indicator will light up; please allow time for the unit to be cooled off. Before removing your amplifier, refer to the list below and follow the suggested procedures step by step. If not at ease, contact an authorized installer which 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 9 V ~ 16 V . 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-ENGINE NOISE IN SPEAKERS

- Ensure that all signal transferring wires (RCA, speaker cables etc) are kept seperately / 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 vehichle's electrical system is in a good condition, this includes distributor, alternator, spark plugs / wires, voltage regulators etc.

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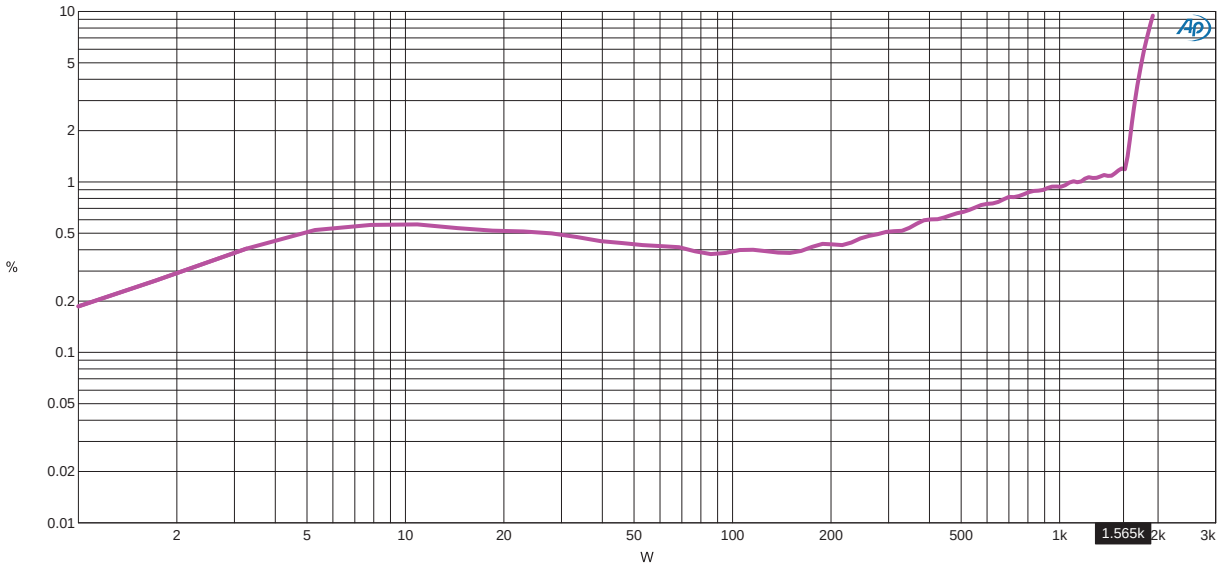
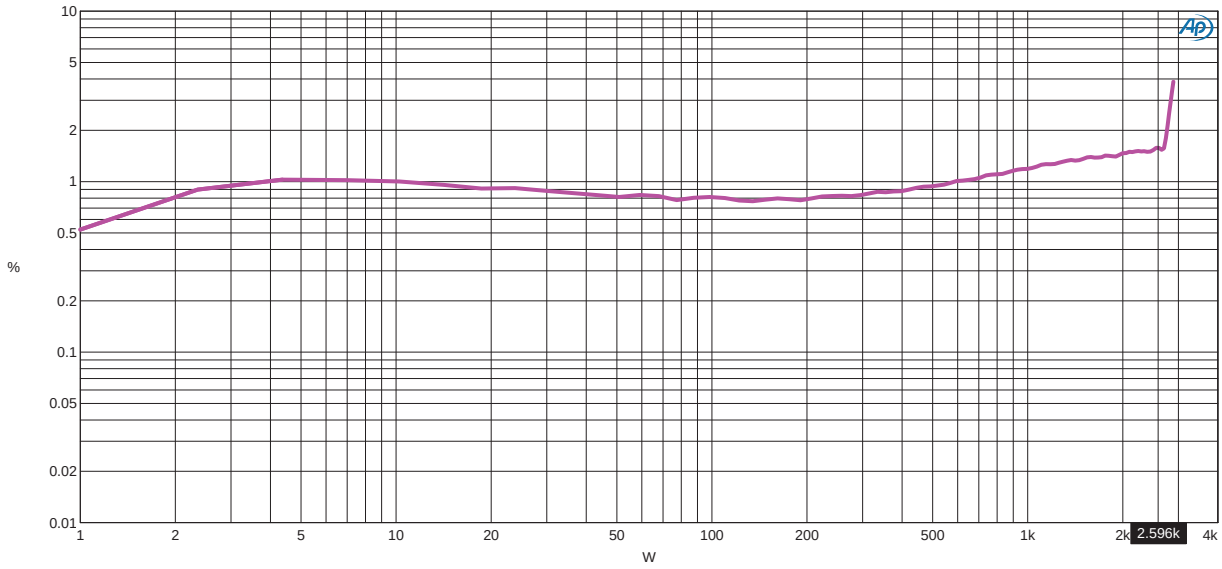
AUDIO PRECISION CHARTS

RAGE2500.1



Sweep	Trace	Color	Line Style	Thick	Data	Axis	Comment	Cursor1	Cursor2
1	1	Magenta	Solid	25	Anlr.THD+N Ratio	Left		..	..

MODEL----------RAGE2500.1
LOAD----------2 Ohms FITER=20K% GAIN TO MAX
VOLTAGE----------14.4 ±0.2V Current: 126A



Sweep	Trace	Color	Line Style	Thick	Data	Axis	Comment	Cursor1	Cursor2
1	1	Magenta	Solid	25	Anlr.THD+N Ratio	Left		..	..

MODEL----------RAGE2500.1
LOAD----------1 Ohms FITER=20K% GAIN TO MAX
VOLTAGE----------14.4 ±0.2V Cu rrent: 225A

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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 receips 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 charachter 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.