



GAN

FOUNDERS EDITION

OWNER'S MANUAL

1500.5

Introduction	3
Package contents.....	3
Safety instructions	4
Technologies	
News	5
Advantages	6
Panels description	
Audio controls	7
Power, Audio inputs and outputs	8
Installation sequence	9
Electrical dimensioning	10
Audio inputs	
RCA inputs	10
Gain adjustment (channels 1 to 4).....	11
Crossover adjustment (channels 1 to 4).....	12
Channel 5 gain adjustment (subwoofer) and SD RLC	13
Channel 5 Bass Boost adjustment (subwoofer).....	14
Channel 5 Crossovers adjustment (subwoofer).....	15
Wiring diagram	
Two channels wiring diagram + Subwoofer.....	16
Two channels wiring diagram (in bridge) + Subwoofer	17
Four channels wiring diagram + Subwoofer	18
Battery connection diagram	19
Technical specifications	
Parameters.....	20
Dimensional data.....	20
Additional Information.....	20

Dear Consumer,

Congratulations, you have just acquired a SounDigital product of the highest technology and quality, so we thank you for your trust.

SounDigital products are made with raw materials of the highest quality standards, and the most modern processes, equipment and technology are used in their production.

IMPORTANT INFORMATION

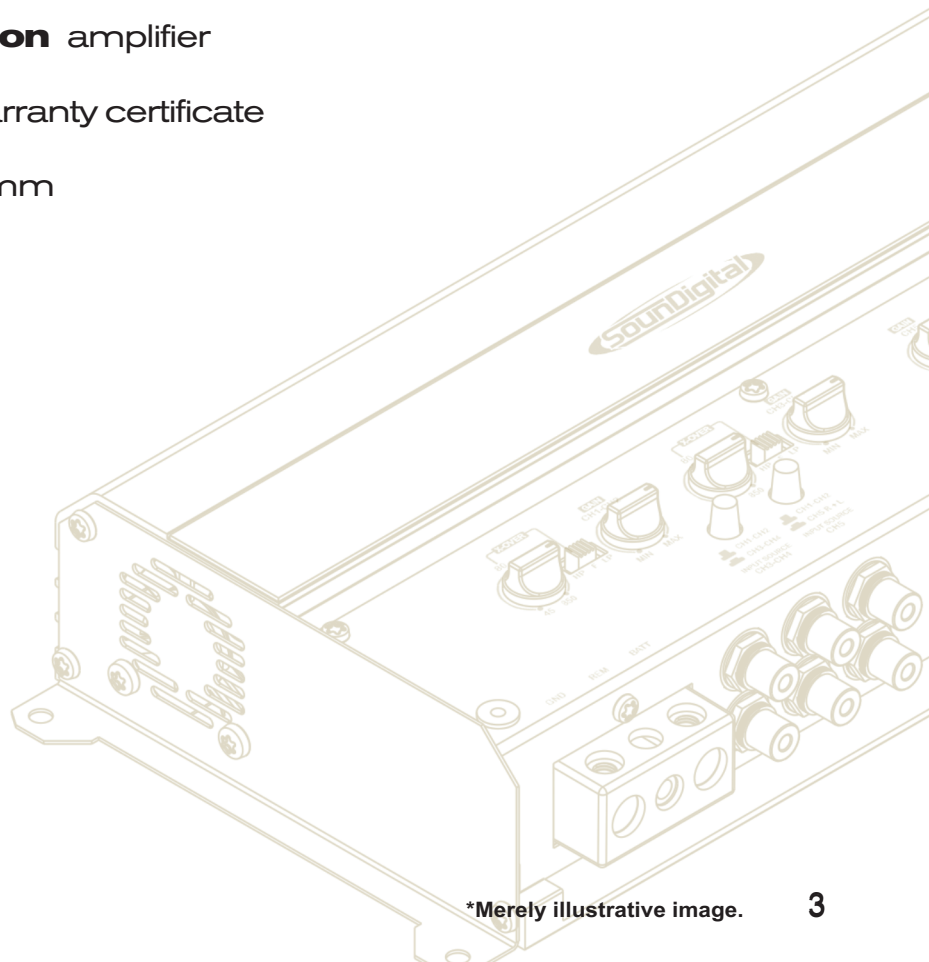
On this manual you will learn about the product, its features and characteristics, in order to obtain the best result and to be able to enjoy your music with SounDigital quality and power.

Read this manual carefully and follow precisely all the information contained therein, these are very important and allow your amplifier to work optimally. If you think it is necessary, please do not hesitate to contact our technical support at the following contact:


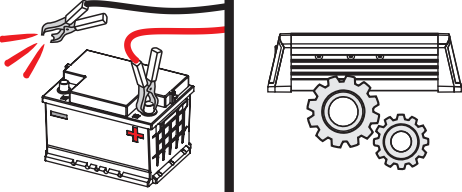
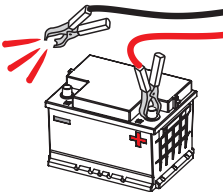
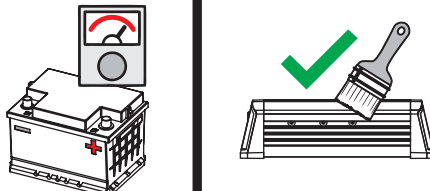

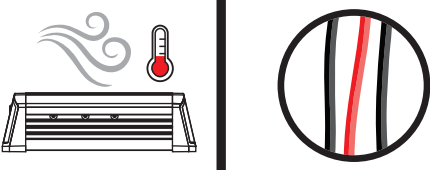
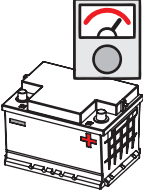
✉ info@soundigitalusa.com

PACKAGE CONTENTS

- 01 **1500.5 GAN Founders Edition** amplifier
- 01 Quick installation guide with warranty certificate
- 02 Flat head Allen screws M3x20mm
- 01 Allen wrench 2.0mm
- 01 Allen wrench 2.5mm
- 01 Allen wrench 3.0mm



To avoid injury to the user or damage to the amplifier, read all safety instructions written on this manual.

<p>The installation of this product must be done by a qualified professional. In case of any doubt, please contact our technical support;</p>	 <p>When passing cables through metallic walls, use rubber O-rings to avoid cable cutting and short-circuits;</p>
<p>Before proceeding with the installation of any electric equipment on your vehicle, unplug the negative (-) terminal of the battery to avoid fires, injuries or damages;</p>	 <p>Make sure that the chosen location for the amplifier installation does not affect the operation of the vehicle;</p>
<p>Use your sound system safely. The continuous exposure to sound pressures over 85dB may cause irreversible hearing damage;</p>	 <p>This product may reach temperatures over 60°C (140°F). Make sure it is cold before touching it;</p>
<p>This equipment is for use in automotive DC voltage batteries between 12.6 and 14.4 volts. Before installing the equipment, check voltage of the batteries;</p>	 <p>Clean the amplifier periodically with brush or dry cloth to assure the thermal efficiency of the heatsink;</p>
<p>Do not install the amplifier in places exposed to water, dirt or humidity;</p>	 <p>Be careful when making holes in the vehicle. Make sure you are not making holes in the fuel tank, brake lines or electrical cables of the vehicle;</p>
<p>Choose a ventilated place to install the amplifier and avoid blocking the side ventilation windows;</p>	 <p>Make sure the cables are properly secured throughout the installation;</p>
<p>Fix the amplifier properly and firmly. Avoid fixing to metallic parts of the vehicle, as this procedure may cause ground looping (noise);</p>	 <p>Wear gloves, safety glasses and all necessary PPE during the installation of SoundDigital amplifiers.</p>



Warning!

THIS "WARNING" SIGN ALERTS THE USER OF IMPORTANT INFO. NOT FOLLOWING THESE INSTRUCTIONS MAY CAUSE INJURIES TO THE USER OR DAMAGE TO THE EQUIPMENT.

SounDigital presents the revolution in amplifier production!

GaN is the big star when it comes to amplifier performance! With its unique ability for electronic mobility, it paves the way for unparalleled sound power. Get ready to immerse yourself in a musical universe of high fidelity and clarity with SounDigital, where every note comes to life with stunning precision. Your listening experience will never be the same!

History of gallium nitride (GaN)

The use of gallium nitride (GaN) in amplifiers is a relatively recent but extremely significant development in the field of power electronics and audio amplification. Gallium nitride was discovered in the 1960s, but research and development of the material as a semiconductor gained momentum in the following decades.

GaN has shown promise for high power and high frequency applications due to its unique characteristics such as high electron mobility and ability to operate at elevated temperatures.

In the 1990s and 2000s, GaN technology continued to be developed and improved. Researchers and engineers have focused on improving the crystalline quality of the material and developing techniques for growing GaN crystals on suitable substrates.

In recent years, the adoption of GaN power amplifiers in the audio market has grown significantly. SounDigital has taken advantage of GaN to create more efficient, smaller amplifiers with better sound quality.

Tune in to the future of sound!

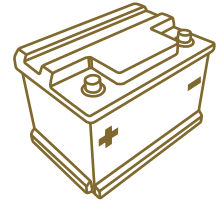
The electronic revolution has arrived at SounDigital, and GaN is the star of this transformation! With high-performance amplifiers, unrivaled durability and eco-consciousness, the future of sound is brighter than ever. Get ready for an extraordinary sound experience that pushes the boundaries of the ordinary and delivers the sound of your dreams. Tune in to GaN and open your ears to a new musical dimension!

Advantages of using SounDigital amplifiers with GaN technology:

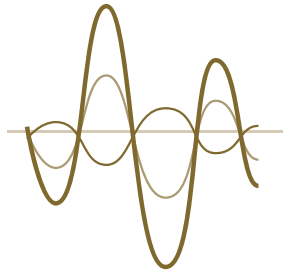
SounDigital's GaN-based power amplifiers have several advantages that make them attractive for use in audio systems:

High energy efficiency

GaN has a high electron mobility, which allows GaN power amplifiers to convert significantly less electrical energy into heat. This results in higher energy efficiency, minimizing power losses and making them more sustainable.



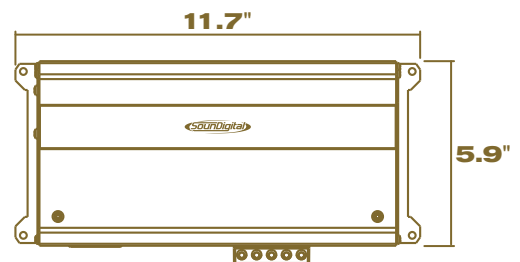
High switching speed



SounDigital amplifiers with GaN technology are able to operate at high frequencies with a faster response compared to other semiconductors such as silicon. This results in lower signal distortion and a more accurate frequency response, which contributes to better sound quality.

Reduced size and weight

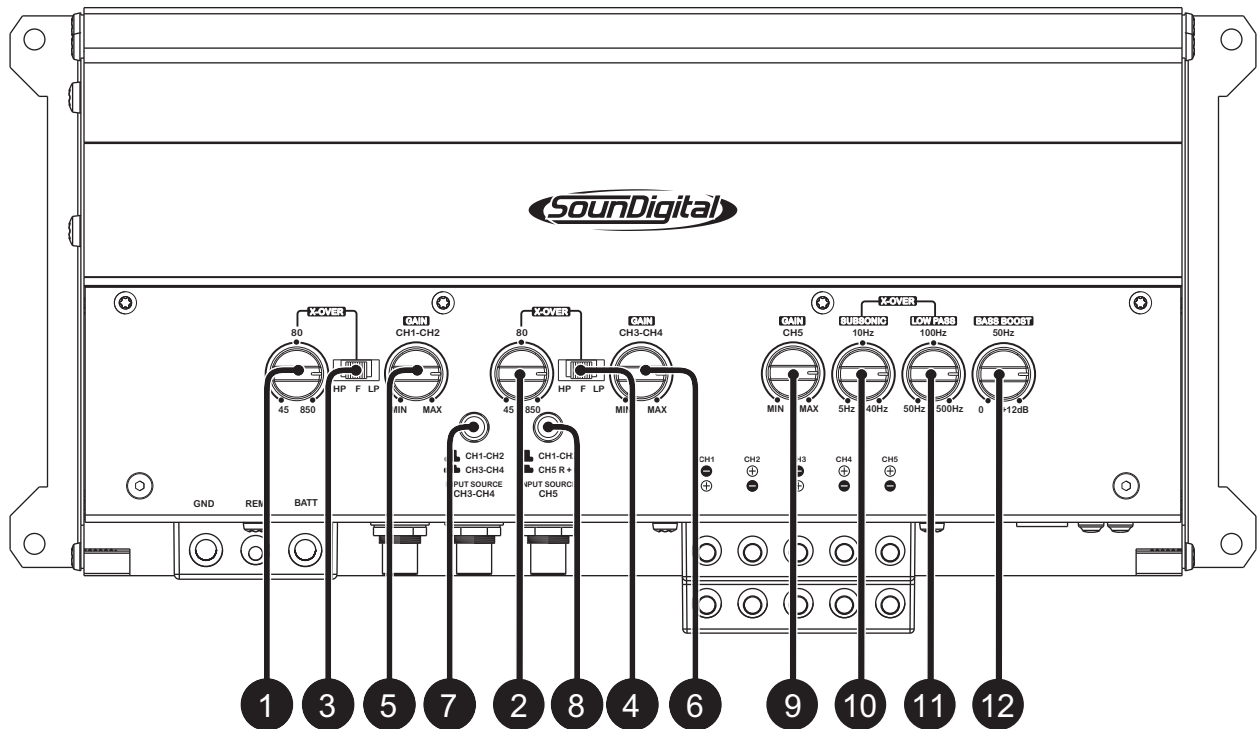
Due to the high efficiency and ability to operate at high frequencies, SounDigital amplifiers with GaN technology can be designed to be smaller and lighter compared to traditional amplifiers.



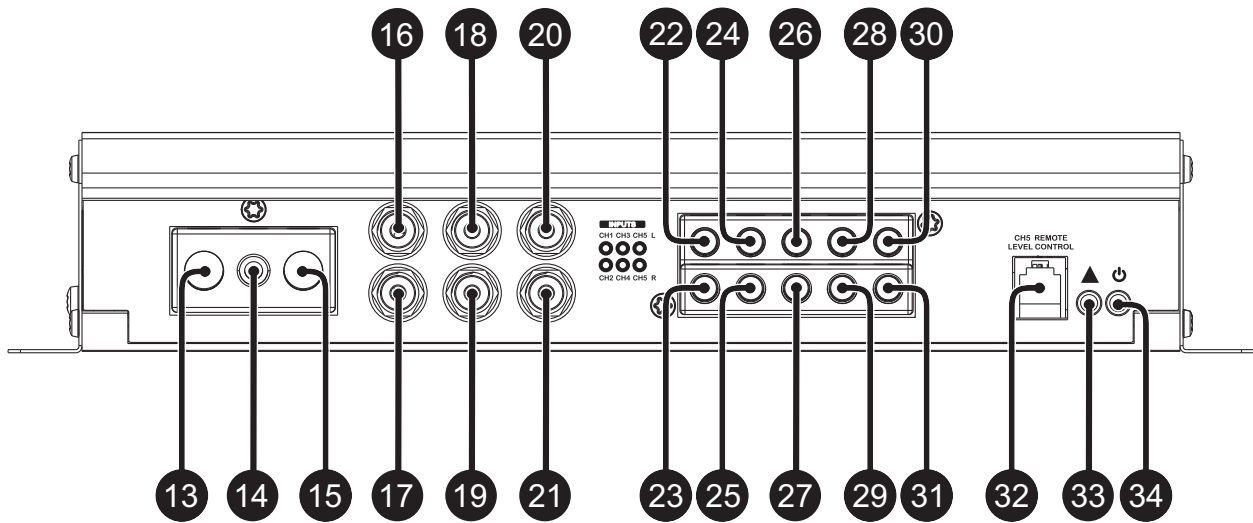
High temperature performance



SounDigital amplifiers with GaN technology can operate at higher temperatures without significant loss of performance, which is beneficial for applications where heating is a challenge, such as in high-power amplifiers.



1	Channels 1 and 2	Variable crossover control (45Hz ~ 850Hz)
2	Channels 3 and 4	
3	Channels 1 and 2	Crossover switch key High Pass - Full - Low Pass
4	Channels 3 and 4	
5	Channels 1 and 2	Variable Gain control
6	Channels 3 and 4	
7	Channels 3 and 4	Channel signal routing
8	Channel 5 (Subwoofer)	
9	Channel 5 (Subwoofer)	Variable Gain control
10	Channel 5 (Subwoofer)	Variable "SUBSONIC" filter control (5Hz ~ 40Hz)
11	Channel 5 (Subwoofer)	Variable "LOW PASS" filter control (50Hz ~ 500Hz)
12	Channel 5 (Subwoofer)	Variable "BASS BOOST" filter control 50Hz (0dB ~ +12dB)



13	-	Negative power supply connector (GND)
14	-	Remote power supply connector (REM)
15	-	Positive power supply connector (+12VDC)
16	Channel 1	Audio inputs – RCA connectors
17	Channel 2	
18	Channel 3	
19	Channel 4	
20	Channel 5 L	
21	Channel 5 R	
22	Channel 1	Negative speaker connector (-)
23	Channel 1	Positive speaker connector (+)
24	Channel 2	Positive speaker connector (+)
25	Channel 2	Negative speaker connector (-)
26	Channel 3	Negative speaker connector (-)
27	Channel 3	Positive speaker connector (+)
28	Channel 4	Positive speaker connector (+)
29	Channel 4	Negative speaker connector (-)
30	Channel 5 (Subwoofer)	Positive speaker connector (+)
31	Channel 5 (Subwoofer)	Negative speaker connector (-)
32	-	Remote level control connector
33	Yellow	"CLIP" LED indicator
34	Blue	"POWER ON" LED indicator



BEFORE PROCEEDING WITH THE INSTALLATION, UNPLUG THE NEGATIVE TERMINAL FROM ALL OF THE BATTERIES, TO AVOID FIRE, DAMAGE TO THE AMPLIFIER AND THE USERS THEMSELVES.

Warning!

- Fix the amplifier so that the connectors can be easily accessed;
- Install the power cables in the vehicle properly, starting from the battery to the fuse holder or circuit breaker, use the cable with the appropriate size. Make all connections, install fuse holders or circuit breakers, but without placing the fuses or with the circuit breakers in the "OFF" position;

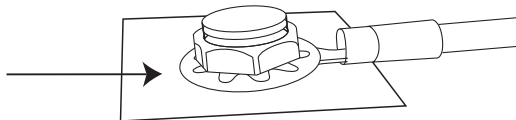


THE MAXIMUM DISTANCE FOR THE INSTALLATION OF THE FUSE/CIRCUIT BREAKER IS 12 INCHES (30cm) AWAY FROM THE BATTERY.

Warning!

- Connect the power cables in to the amplifier, observing the polarity. Connect all the positive cables (+) from the fuse holder or circuit breaker to the positive conector of the amplifier and all the negative power cables from the batteries to the negative connector of the amplifier;
- The ground cable must be as short as possible and must be connected to the vehicle chassis and the battery negative;

Remove the paint
between the terminal
and chassis

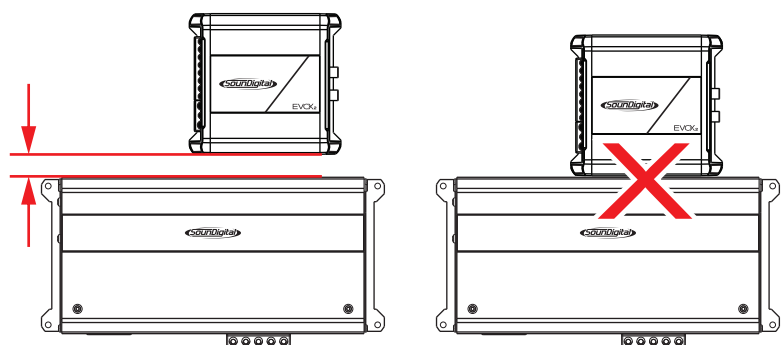


- Install the signal input cables in a proper way, distant from the power cables;
- Connect the RCA or the high level signal input cables to the head unit and amplifiers;
- Install the audio output cables with the appropriate section, distant from the power and audio input cables;
- Connect the audio output cables to the amplifier and speakers respecting the positive (+) and negative (-) polarities;
- Install the remote cable with the power cables, using 1.5mm² (15 AWG) cable or thicker;
- Connect the remote power cable to the amplifier's "REM" terminal at the main unit's remote power output (when not using the high level signal inputs);
- Before powering the system, verify all the connections and make sure there are no mistakes or short-circuits on the power and ground cables;
- Reconnect the ground of the batteries;
- Check if the head unit is turned off and then place the fuses in the fuse holders or switch the circuit breakers on;
- Turn on the main unit and the amplifier will turn on the "POWER ON" LED indicating that it is in operation.



Warning!

Minimum recommended
installation distance
between amplifiers*.
1.18in (30mm)



*For installations with more than one amplifier, second unit not included. Merely illustrative images.

ELECTRICAL DIMENSIONING

For proper operation of your SounDigital amplifier, you need the proper dimensioning of the electrical system and the cables used.

The table below shows the minimum section of GND cables, +12VDC cables and speaker output cables according to the power generated by the amplifier.

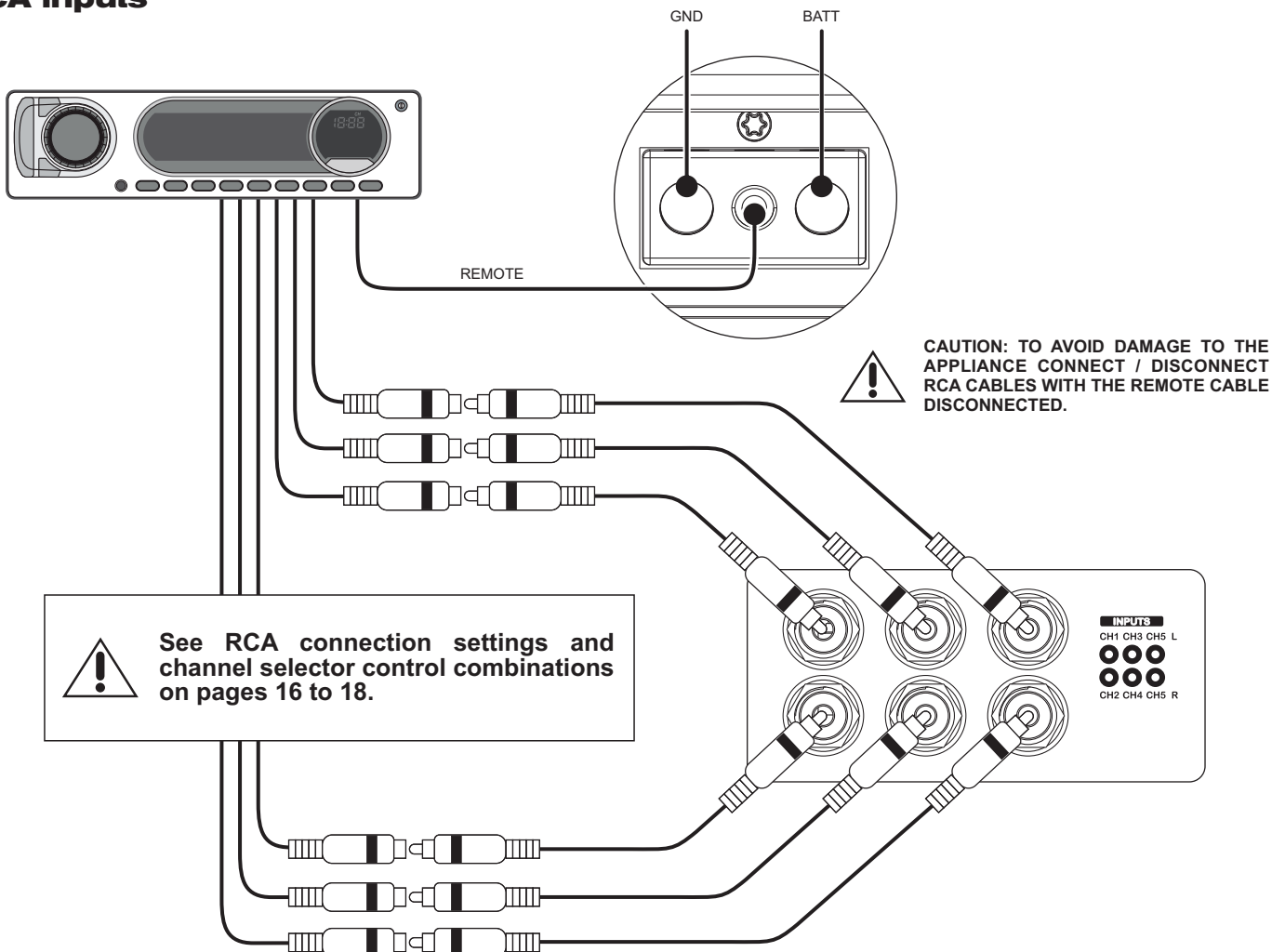
1500 WRMS	POWER CABLE (+12VDC) GROUND CABLE (GND)	16mm ² (5 AWG)
	SPEAKER / SUBWOOFER CABLE	2.5mm ² (13 AWG)
	REMOTE CABLE	1.5mm ² (15 AWG)

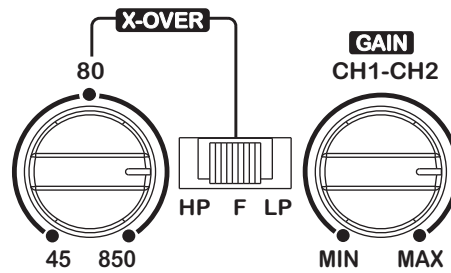
We recommend the use of only OFC (Oxygen Free Copper) cables on the installation of our products.

Copper-clad aluminum wire (CCAW) must not be used.

AUDIO INPUTS

RCA inputs





GAIN SETTING

Necessary equipment:

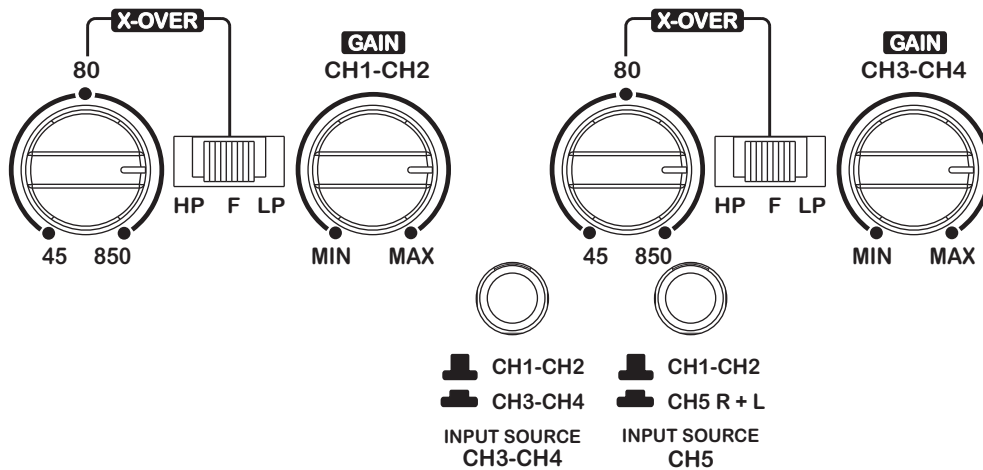
- Digital AC voltmeter;
- Media with sine wave test tone 60Hz recorded at 0db;
- 1/8" screwdriver (for gain setting).

Set up procedure:

- This procedure is the same for both gain controls;
- Turn the gain control all the way down;
- Disconnect the output cables from the amplifier outputs;
- Turn off all processing (bass, treble, loudness, EQ, etc.);
- Set the audio player volume to 3/4 of full volume;
- On the audio player, set the fader control to center position;
- Set the crossover selector switch in "F";
- Use a 60Hz sine wave;
- Connect the AC voltmeter to the speaker output connectors of the amplifier. Make sure you test the voltage at the correct connectors (+ and -);
- Increase the gain control until the target voltage is observed with the voltmeter (see the chart below);
- Once you have adjusted the amplifier to the correct voltage output, turn off the source unit and reconnect the speaker(s).

MODEL	STEREO / POWER	BRIDGE / POWER	STEREO OUTPUT VOLTAGE	BRIDGE OUTPUT VOLTAGE
1500.5 GAN	4Ω / 125W	8Ω / 250W	22.36V	44.72V

Download the tracks for set up in <https://soundigitalusa.com/tracks-for-set-up/>

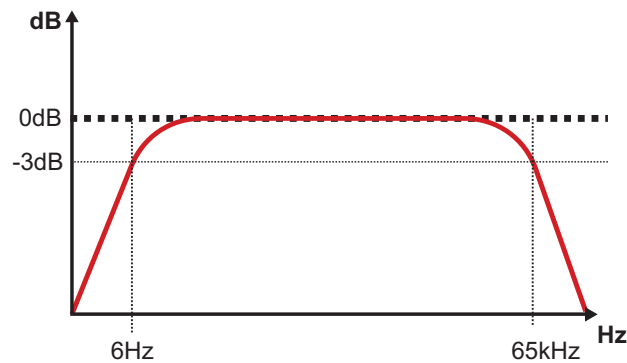


"HP" Set variable control in High Pass function.

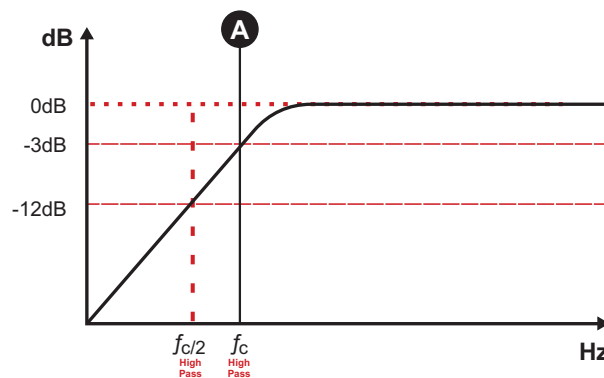
"F" Set variable control in Full Range function;

"LP" Set variable control in Low Pass function;

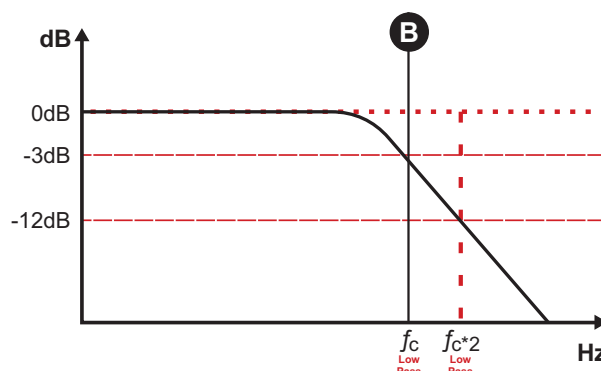
► Change the switch to "F" position (Full Range) - All the frequencies will be reproduced.



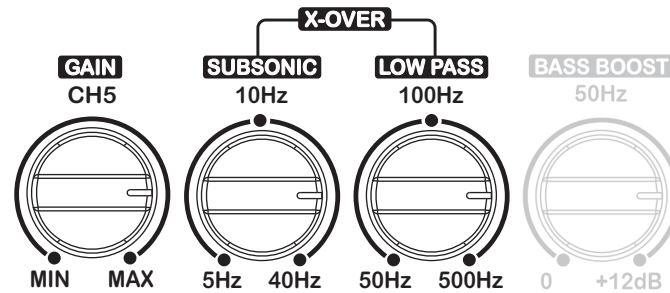
► Change the switch to "HP" position - Set in the variable control between 45Hz and 850Hz ("A") where you want to perform the high pass cut filter;



► Change the switch to "LP" position - Set in the variable control between 45Hz and 850Hz ("B") where you want to perform the low pass cut filter.



GAIN SETTING



Necessary equipment:

- Digital AC voltmeter;
- Media with sine wave test tone 60Hz recorded at 0db;
- Screwdriver 1/8" (for gain setting).
- Set the audio player fader control to center position (left and right fader controls);
- Set the variable "LOW PASS" crossover in 500Hz and the "SUBSONIC" in 5Hz;

Set up procedure:

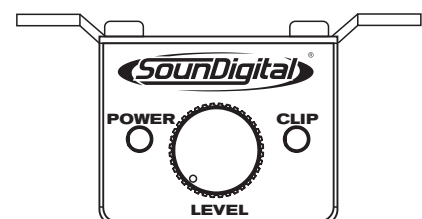
- Turn the gain control all the way down;
- Disconnect the output cables from the amplifier outputs;
- Turn off all processing (bass, treble, loudness, EQ, etc.);
- Set the audio player volume to 3/4 of full volume;
- Use a 60 Hz sine wave;
- Increase the gain control until the "CLIP" LED starts blinking;
- Return the gain to the limit where the "CLIP" LED stops blinking and remains off;
- Once you have adjusted the amplifier to the correct voltage output, turn off the source unit and reconnect the speaker(s).

Download the tracks for set up in <https://sounddigitalusa.com/tracks-for-set-up/>

EXTERNAL LEVEL CONTROL - SD RLC (*Not included)

The SD RLC is an easy-to-install external level control accessory that allows you to tune the level of SOUND DIGITAL amplifiers that have remote level control.

In SD RLC, you can adjust the amplifier level without having to lean over and adjust the gain setting on the amplifier and can monitor the "CLIP" LED which is also available on the accessory.



SD REMOTE
LEVEL CONTROL*

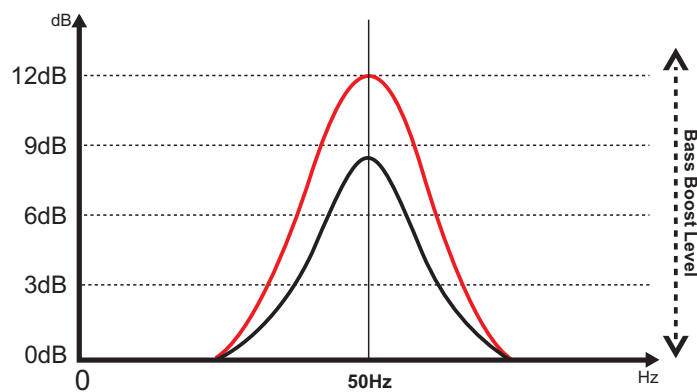
*Sold separately

USING BASS BOOST

The Amplifier Bass Boost setting enables the user to boost the sound intensity at low frequencies of the sound system, where boost intensity can be adjusted.

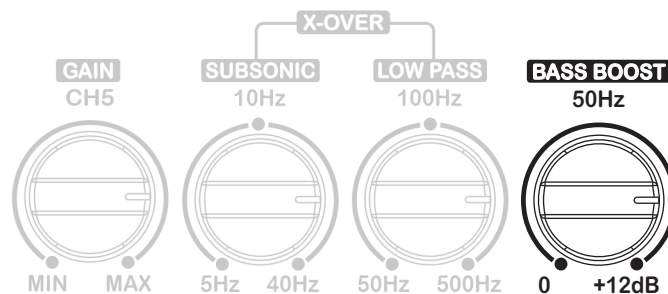
This is a semi-parametric equalizer type circuit with "Q" value for the fixed filter, with an intensity boost adjustment from 0 to +12dB (16 times), and a central frequency adjustment of the filter in 50Hz, making it versatile for several types of sound systems.

Bass Boost Chart

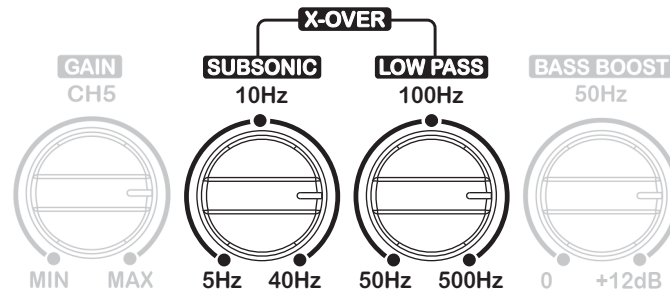


HOW TO ADJUST BASS BOOST

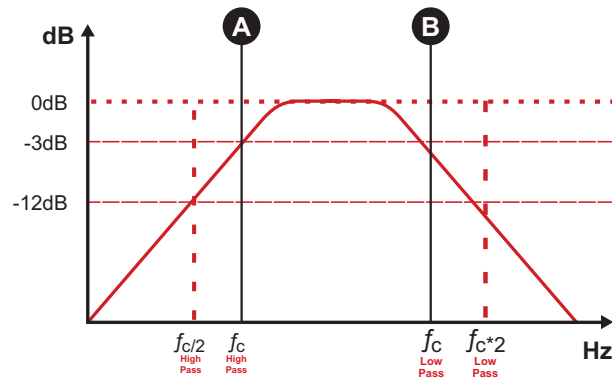
Reproduce your favorite song and set the boost intensity between 0dB and +12dB at the variable control level according your preference.



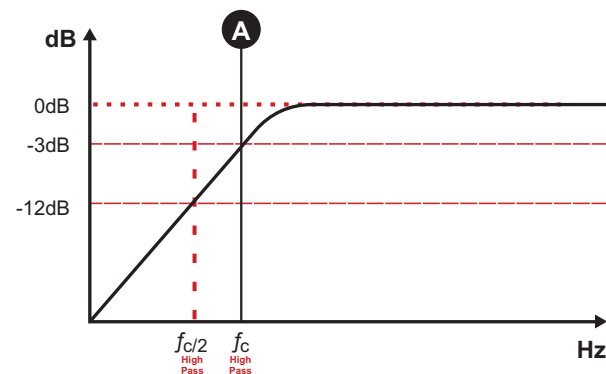
HOW TO ADJUST THE CROSSOVERS



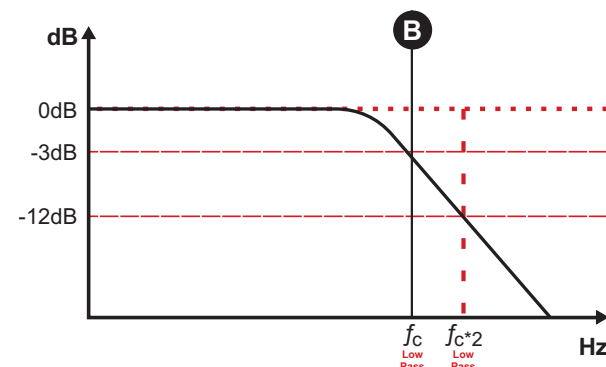
► The use of the two associated filters can form a bandpass filter, as in the figure below, where the point "A" is defined in the "SUBSONIC" crossover and the point "B" is defined in the "LOW PASS" crossover;



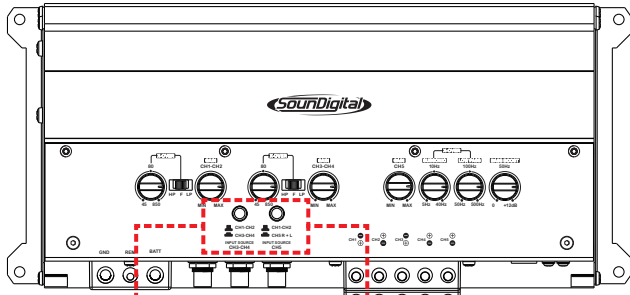
► To set the "SUBSONIC" variable control between 5Hz and 40Hz ("A") where you want to perform the subsonic cut filter;



► Set in the "LOW PASS" variable control between 50Hz and 500Hz ("B") where you want to perform the low pass cut filter.



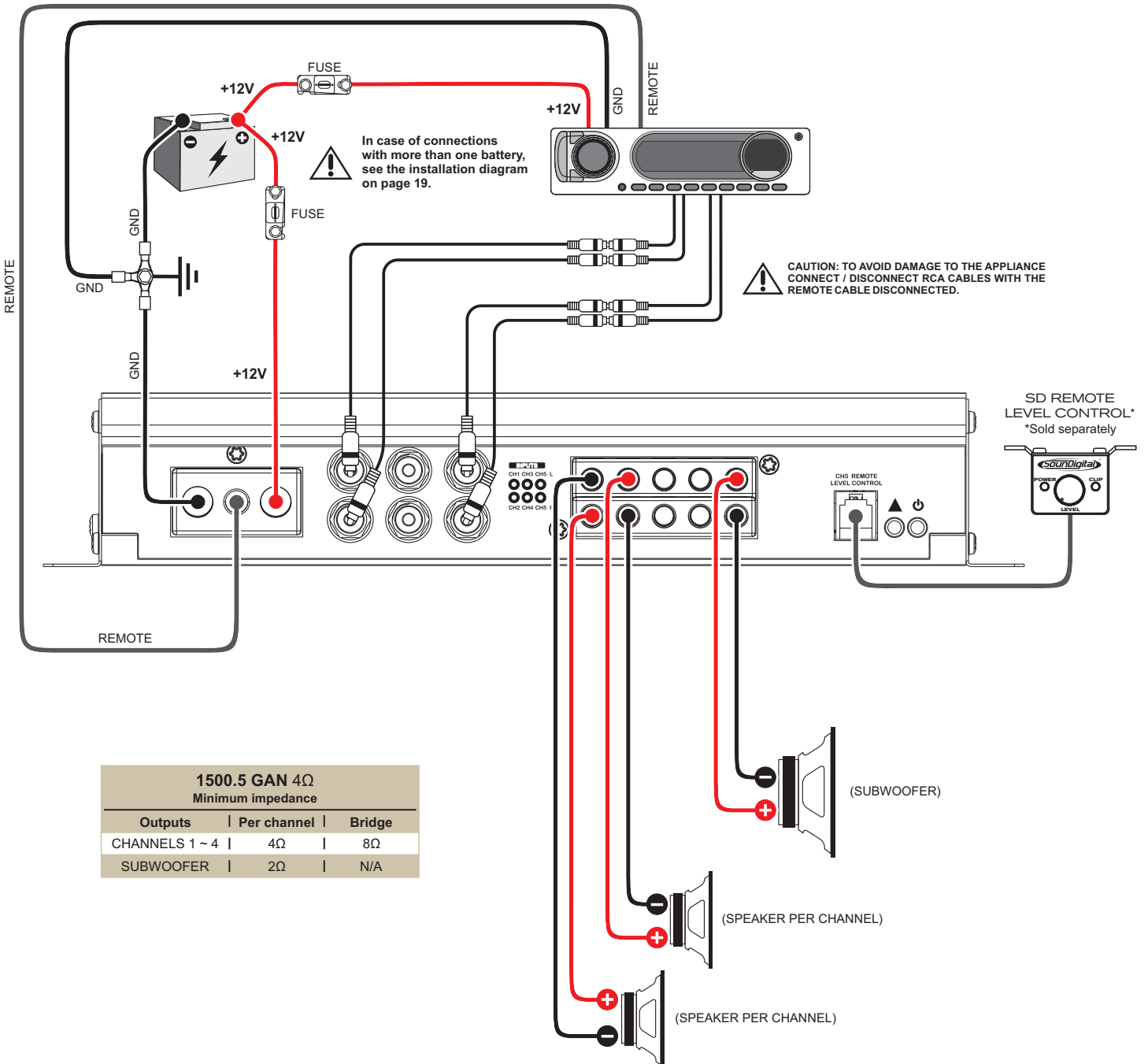
2 CHANNELS WIRING DIAGRAM (per channel) + SUBWOOFER



See "AUDIO INPUTS" on page 10

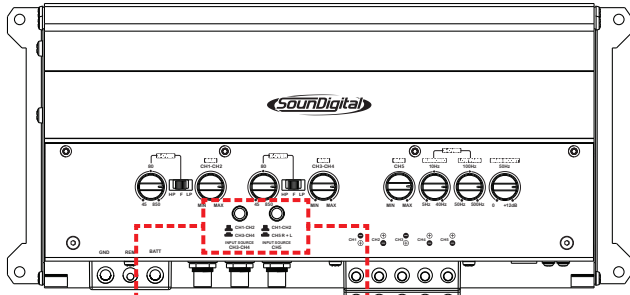


CONNECTIONS WITH HIGH LEVEL INPUTS BEHAVE IN THE SAME WAY AS CONNECTIONS WITH RCA CONNECTORS. THE SAME INDICATIONS FOR THE SETTINGS OF THE CONTROLS CAN BE FOLLOWED, OBSERVING THE CHANNEL DESCRIPTIONS ON THE CONNECTOR.



1500.5 GAN 4Ω Minimum impedance		
Outputs	Per channel	Bridge
CHANNELS 1 ~ 4	4Ω	8Ω
SUBWOOFER	2Ω	N/A

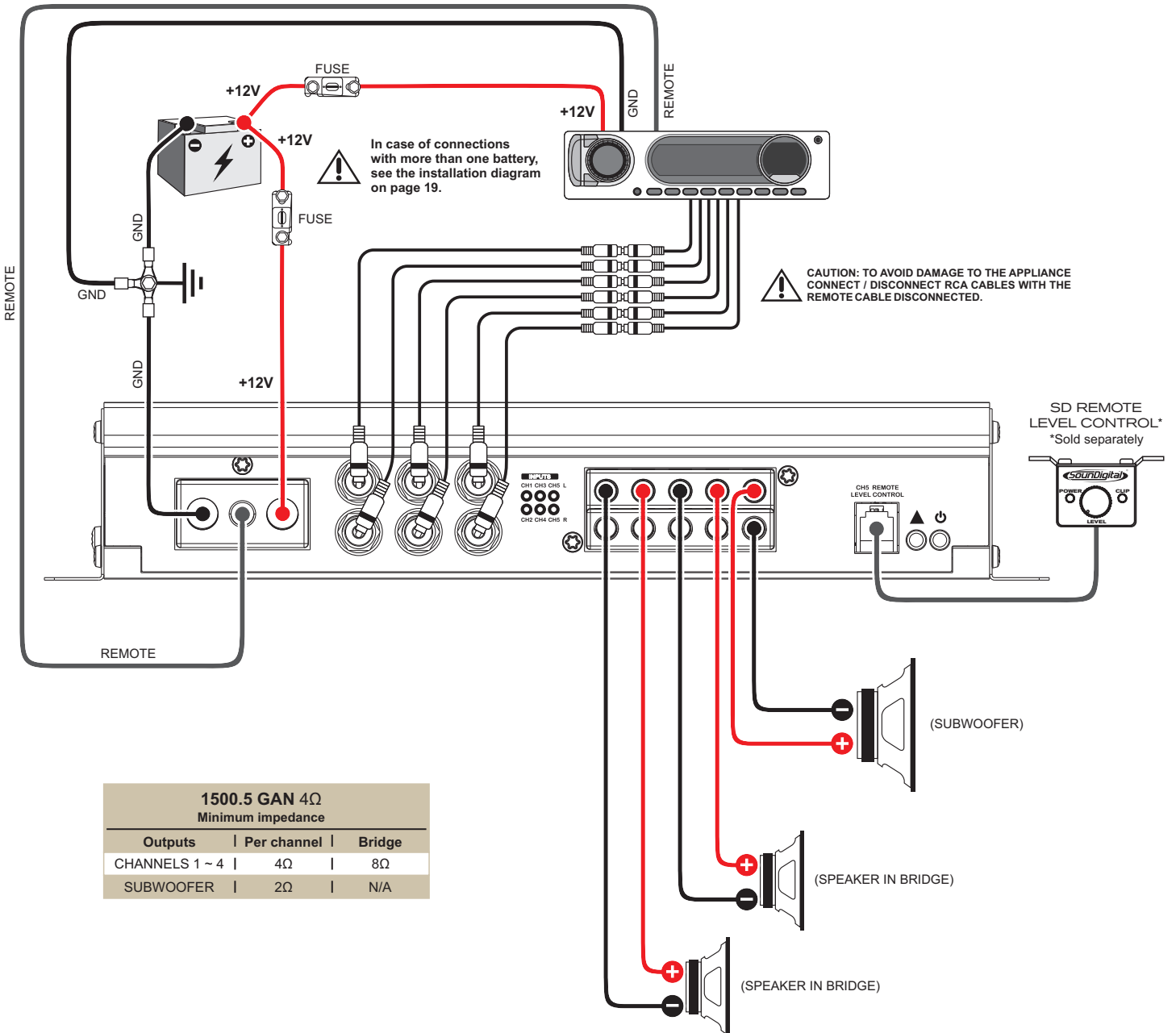
2 CHANNELS WIRING DIAGRAM (in Bridge) + SUBWOOFER



See "AUDIO INPUTS" on page 10

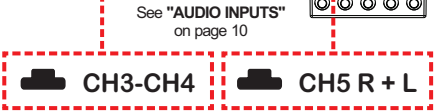
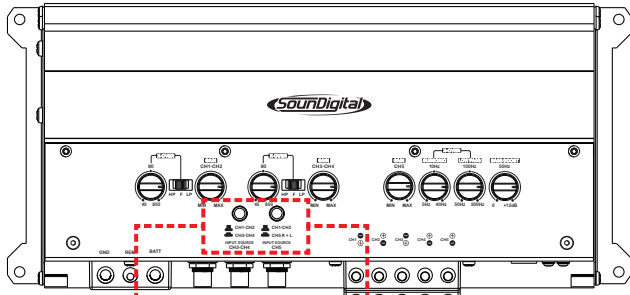


CONNECTIONS WITH HIGH LEVEL INPUTS BEHAVE IN THE SAME WAY AS CONNECTIONS WITH RCA CONNECTORS. THE SAME INDICATIONS FOR THE SETTINGS OF THE CONTROLS CAN BE FOLLOWED, OBSERVING THE CHANNEL DESCRIPTIONS ON THE CONNECTOR.

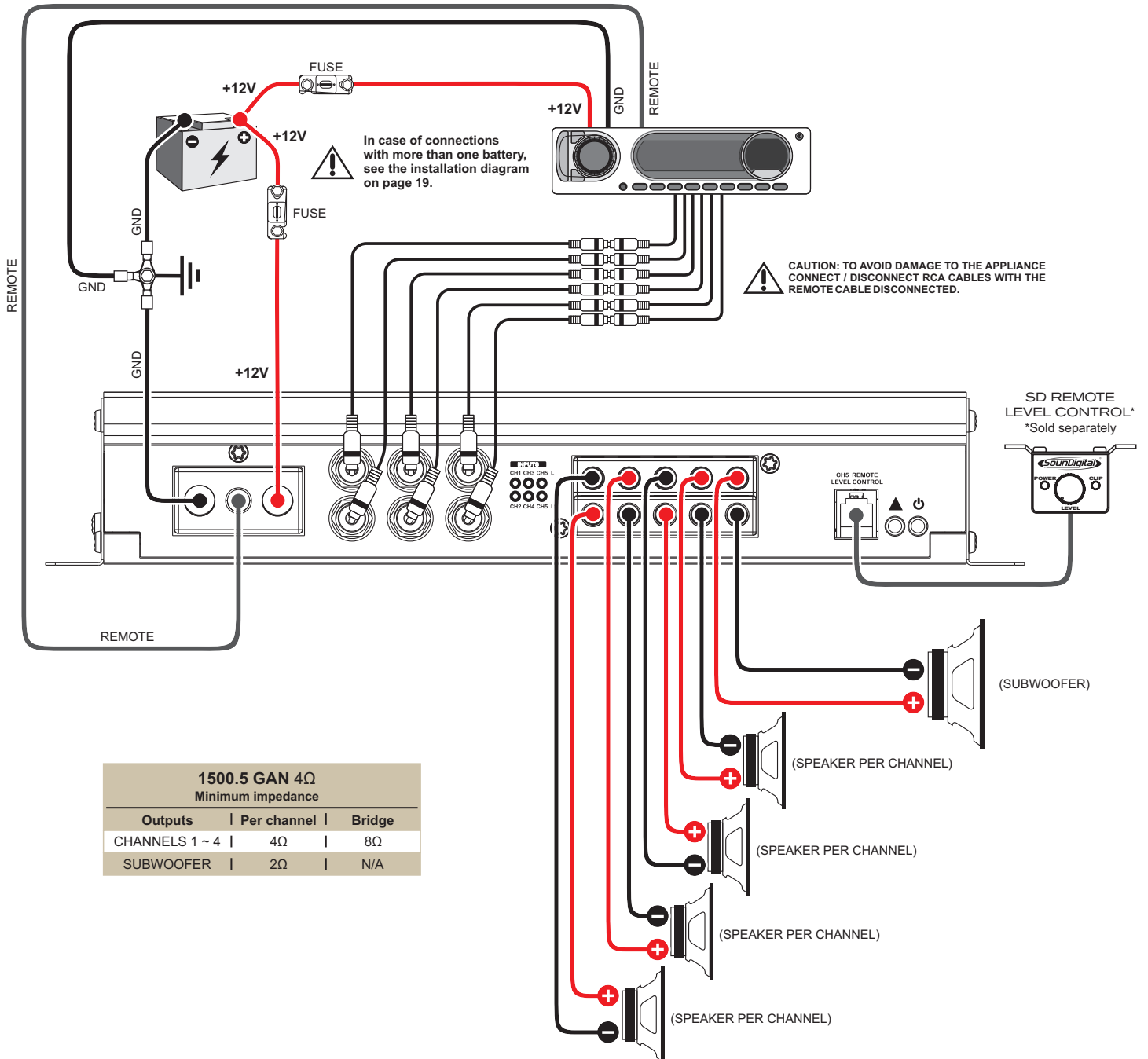


1500.5 GAN 4Ω Minimum impedance		
Outputs	Per channel	Bridge
CHANNELS 1 ~ 4	4Ω	8Ω
SUBWOOFER	2Ω	N/A

4 CHANNELS WIRING DIAGRAM (per channel) + SUBWOOFER



CONNECTIONS WITH HIGH LEVEL INPUTS BEHAVE IN THE SAME WAY AS CONNECTIONS WITH RCA CONNECTORS. THE SAME INDICATIONS FOR THE SETTINGS OF THE CONTROLS CAN BE FOLLOWED, OBSERVING THE CHANNEL DESCRIPTIONS ON THE CONNECTOR.



1500.5 GAN 4Ω Minimum impedance		
Outputs	Per channel	Bridge
CHANNELS 1 ~ 4	4Ω	8Ω
SUBWOOFER	2Ω	N/A

PARAMETERS 1500.5 GAN 4Ω	CHANNELS 1 ~ 4	SUBWOOFER
Power RMS @ 4Ω**	4 x 125W	1 x 660W
Power RMS @ 2Ω**	N/A	1 x 1000W
Power RMS (Bridge) @ 8Ω**	2 x 250W	N/A
Power RMS (Bridge) @ 4Ω**	N/A	
Frequency Response (-3dB)	5Hz ~ 65.25kHz	5Hz ~ 500Hz
Subsonic Filter (12dB/octave)	N/A	5Hz ~ 40Hz
Low Pass Filter (12dB/octave)	45Hz ~ 850Hz	50Hz ~ 500Hz
High Pass Filter (12dB/octave)	45Hz ~ 850Hz	N/A
Bass Boost	N/A	0dB ~ 12dB @ 50Hz
Operating Voltage	9V ~ 16V	
SNR	105dB	
Input Sensitivity (RCA)	0.4 ~ 10V	
Input Sensitivity (High Level input)	N/A	
Current Draw (music)	65A	
Current Draw (max.)	130A	
Total Efficiency	80%	
Damping Factor (@100Hz nominal impedance)	150	75
Power Cable	16mm ² (5 AWG)	
Speaker / Subwoofer Cable	2.5mm ² (13 AWG)	
Remote Cable	1.5mm ² (15 AWG)	
Recommended Fuse* (music)	80A	
Recommended Battery (minimum)	80Ah	

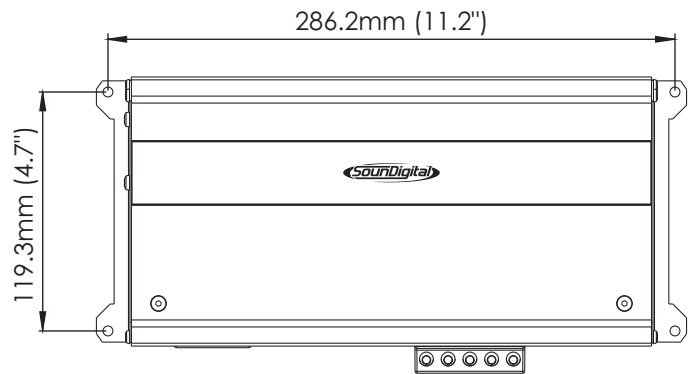
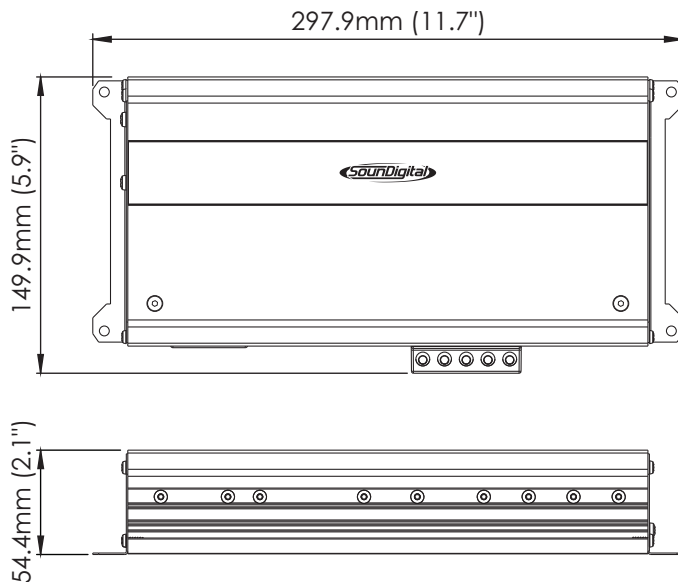
*It is mandatory to install the fuse at a maximum distance of 12 inches from the battery.

**Power at 14.4V @ 1kHz with a maximum THD of 1%.



**POWER RATING ACCORDING TO CTA-2006 INDUSTRY STANDARDS.

DIMENSIONAL DATA



Net Weight 2.10 kg (4.62 lb)

Gross Weight 3.82 kg (8.42 lb)

ADDITIONAL INFORMATION

The values presented are based on measurements performed in SoundDigital's laboratories. All the equipment used in the assays, tests, measurements and gauging of the technical parameters of SoundDigital products were calibrated in certified laboratories, thus ensuring the performance and standard of excellence of the developed products.

The Manufacturing Process may present variations, and the electronic components may also present changes in values in relation to their nominal parameters. Thus, causing small differences between measurements taken. Small variations in the values presented and divulged by SoundDigital are recognized.



Updates of information made in this document will always be published and made available for consumer consultation, free of charge, on the brand's websites. The user is advised to search for the manual in its latest version when necessary.

The images presented in this document are representative and merely illustrative; therefore, they do not necessarily correspond to the actual product/model.



Document revision code: 1000750483-006/OCT2023



Consumer
Technology
Association™



WWW.SOUNDIGITALUSA.COM



[SOUNDIGITALUSA](https://www.facebook.com/SOUNDIGITALUSA)



[SOUNDIGITALUSA](https://www.instagram.com/SOUNDIGITALUSA)