



**POWER**

20000.1D

## CONTEÚDO DA EMBALAGEM // PACKAGE CONTENTS

1 Amplificador 20000.1D POWER	1 20000.1D POWER Amplifier
1 Manual do Proprietário	1 Owner's Manual
1 Chave Allen 2,5mm	1 Allen Wrench 2.5mm
1 Chave Allen 4mm	1 Allen Wrench 4mm
1 Adesivo Promocional	1 Promotional Sticker



[www.soundigital.com.br](http://www.soundigital.com.br)  
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### Dear Customer,

Congratulations on acquiring your **SoundDigital!**

You've just purchased a product of high quality and technology. The **SoundDigital** products are developed to assure maximum efficiency and reliability to your sound system.

### State of Art

The POWER Line is the state of art in audio reproduction. Deep bass, precise midranges and nice highs are guaranteed by the high technology implemented in this line.

### Amazing Bass

The innovative Twin Source 2.0 system guarantees much more stability in the audio reproduction, with the use of two twin power supplies.

### Live Show

With the NST (Noise Suppression Technology) system in the RCA inputs, you will have a much cleaner sound, totally noise free. We implement a new input topology, with more efficient filters and isolators, that not only suppress any noise, but also guarantees a very clean signal.

### Feel the Power

Real power is what you will find in the POWER Line. Amplifiers that range from 400W RMS to 3500W RMS make this line the most powerful in the world.

### Thermal Efficiency

New aluminum heatsink with more mass and forced venting systems makes the POWER Line even more efficient and robust. You will have an efficient system with low distortion for a much longer period.

### Efficiency

The POWER Line uses Class D topology, together with high thermal efficiency, which result in a very high efficiency overall (>70%). You will have less battery consumption, which means more power for a much longer period.

### Low EMI Interference

We made the impossible, possible! Even our 35000.1D Power has a very low EMI interference. This means they can be easily clamped in measuring tools such as TermLab\*.

\*TermLab is a trade mark by Harris, Wayne - Carson City-NV

### IMPORTANT INFO

Read this manual and follow its instructions and information carefully. It contains extremely important information to have your amplifier working properly. If you feel the need to contact our Tech Support, you can reach our technicians through the e-mail [info@sounddigitalusa.com](mailto:info@sounddigitalusa.com).

We recommend the use of **SoundDigital** original accessories for a better performance. The crossovers, power supplies and voltmeters offered by **SoundDigital** follow the same quality standards as our amplifiers, assuring an excellent quality and high power sound system to our customers.

To know our complete line of amplifiers and accessories, visit [www.sounddigitalusa.com](http://www.sounddigitalusa.com).



### Warning!

This "Warning" sign alerts the user of important info. Not following this instructions may cause injuries to the user or damage to the equipment.

## ADDITIONAL INFORMATION

### PACKAGE CONTENTS

- 1 20000.1D POWER Amplifier
- 1 Owner's Manual
- 1 Allen Wrench 2.5mm
- 1 Allen Wrench 4mm
- 1 Promotional Sticker

### CONTACT CHANNEL

#### Customer Service

+1 786-600-1056  
[info@sounddigitalusa.com](mailto:info@sounddigitalusa.com)

#### Tech Support

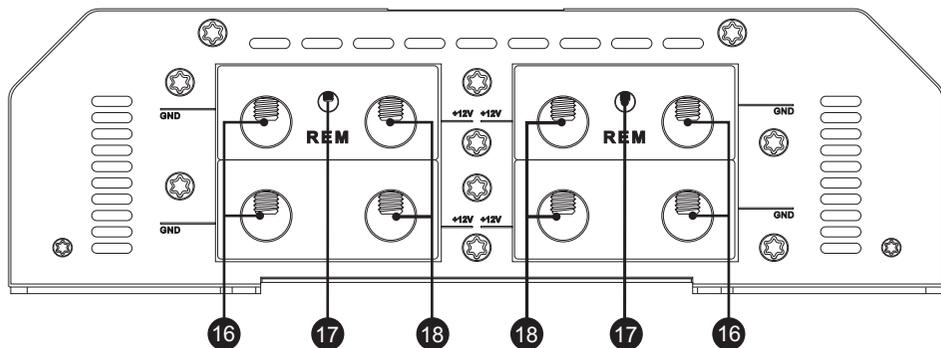
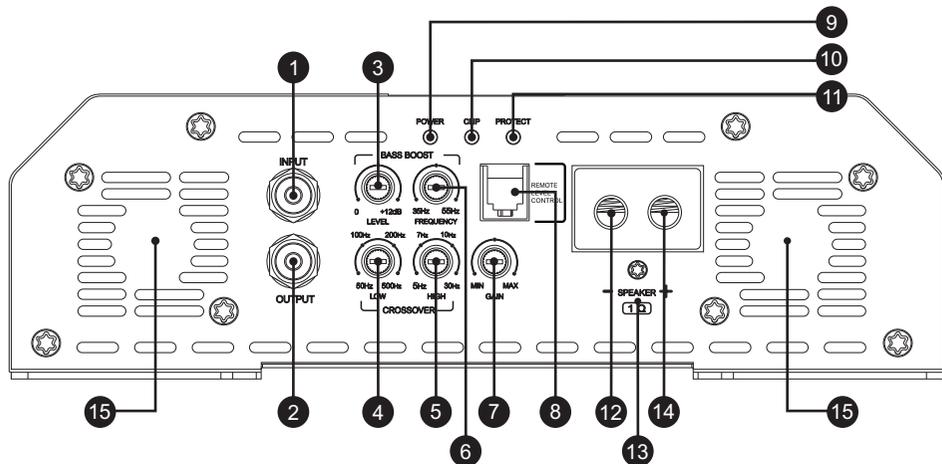
[info@sounddigitalusa.com](mailto:info@sounddigitalusa.com)

#### Website

[sounddigitalusa.com](http://sounddigitalusa.com)



20000.1D POWER



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>❶ Audio Input RCA connector;</li> <li>❷ Audio Output RCA connector;</li> <li>❸ Variable bass boost control (0dB ~ +12dB);</li> <li>❹ Variable low pass filter control (50Hz ~ 500Hz);</li> <li>❺ Variable high pass filter control (5Hz ~ 30Hz);</li> <li>❻ Variable bass boost frequency control (35Hz ~ 55Hz);</li> <li>❼ Variable signal gain control;</li> <li>❽ Remote level control connector;</li> <li>❾ "Power On" LED indicator (Blue);</li> </ul> | <ul style="list-style-type: none"> <li>❿ "CLIP" LED indicator (Yellow);</li> <li>⓫ "Protection" LED indicator (Red);</li> <li>⓬ Negative speaker connector (-);</li> <li>⓭ Minimum speaker load allowed (impedance);</li> <li>⓮ Positive speaker connector (+);</li> <li>⓯ Electric fan;</li> <li>⓰ Negative power supply connector (GND);</li> <li>⓱ Remote power supply connector (REM) ;</li> <li>⓲ Positive power supply connector (+12V).</li> </ul> |
|--|---|

## Safety Instructions

- ▶ To prevent injuries to the user or damage to the amplifier, read all the safety instructions written on this manual;
- ▶ If you're insecure about the installation of this equipment, get in touch with our tech support or with a professional specialized in car audio installation;
- ▶ 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;
- ▶ Use your sound system safely. The continuous exposure to sound pressures over 85dB may cause irreversible hearing damage;
- ▶ This equipment is for use in automotive DC voltage batteries between 12.6 and 14.4 volts. Before installing the equipment, check the voltage of the batteries;
- ▶ Do not install the amplifier in places exposed to water, dirt or humidity;
- ▶ Choose a ventilated place to install the amplifier and avoid blocking the side ventilation windows;
- ▶ Fix the amplifier in a steady and proper way. Avoid fixing it in metallic parts of the vehicle, because it may cause ground looping (noise);
- ▶ Make sure the location chosen for the amplifier installation does not affect the operation of the vehicle;
- ▶ When passing cables through metallic walls, use rubber O-rings to avoid cable cutting and short-circuits. Make sure the place chosen for the installation of the amplifier will not interfere with the proper working of the vehicle;
- ▶ Clean the amplifier periodically with a brush or dry cloth to assure the thermal efficiency of the heatsink;
- ▶ This product may reach temperatures over 60°C/140°F. Make sure it is cold before touching it;
- ▶ Be careful when making holes in the vehicle. Make sure you're not making holes in the fuel tank, brake lines or electrical cables of the vehicle;
- ▶ Make sure the cables are properly fixed throughout the installation;
- ▶ Wear gloves, safety glasses and all necessary PPE during the installation of **SoundDigital** amplifiers.

## Electrical Dimensioning

For proper operation of your **SoundDigital** amplifier, you need the proper sizing of the electrical system and the cables used.

Table 1 shows the appropriate section of grounding and power cables according to the power generated by the amplifier, and the distance that it will be installed from the battery.

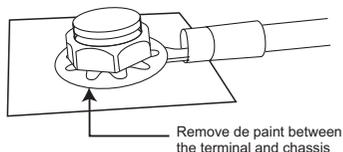
\*To achieve the capacity of protection needed, more than one fuse/circuit breaker can be linked. For the battery connections to the amplifier and ground, use good quality copper cables. **CCA cables should not be used.**



### Warning!

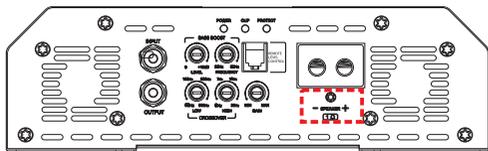
**Unplug the negative (-) terminal of the battery before proceeding with any electrical installation in the vehicle to avoid fire starts, wounds or damage to the amplifier.**

- ▶ The ground cable should be the shortest possible and should be connected to the chassis of the vehicle. The surface should be sanded at the contact point to create a clean, metal-to-metal connection between the chassis and the termination of the ground wire;



## Speaker Association

For a smooth operation of your **SoundDigital** amplifier, it is important that the minimum working impedance is respected.

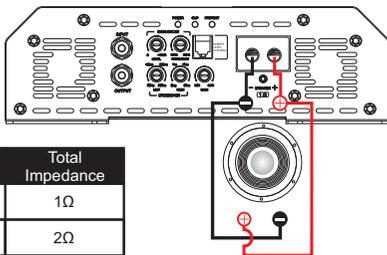


**Warning!** Never connect the speakers with a lower impedance than the amplifier nominal impedance, otherwise it will be damaged.

## Speaker Connections and Associations

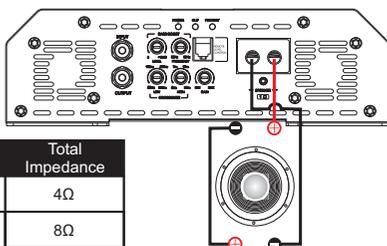
### Double Coil subwoofers:

#### A Subwoofer with Parallel Coils:



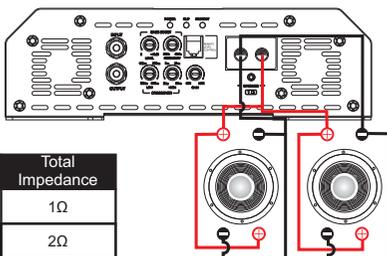
Impedance per Coil	Total Impedance
$2\Omega + 2\Omega$	$1\Omega$
$4\Omega + 4\Omega$	$2\Omega$

#### A Subwoofer with Serial Coils:



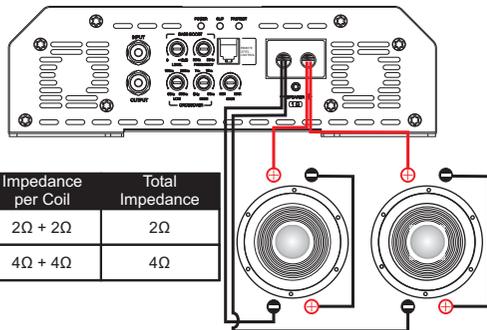
Impedance per Coil	Total Impedance
$2\Omega + 2\Omega$	$4\Omega$
$4\Omega + 4\Omega$	$8\Omega$

### Two Subwoofers with Parallel Coils:



Impedance per Coil	Total Impedance
$4\Omega + 4\Omega$	$1\Omega$
$8\Omega + 8\Omega$	$2\Omega$

### Two Subwoofers with Parallel/Serial Coils:



Impedance per Coil	Total Impedance
$2\Omega + 2\Omega$	$2\Omega$
$4\Omega + 4\Omega$	$4\Omega$

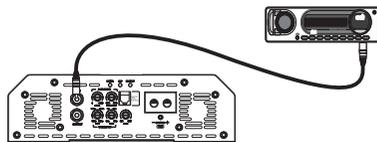
## Input Connections

Keep the RCA cables together, but away from the power or the audio output cables and away from electric equipment such as electronic fuel injection centrals, electric engines, etc.

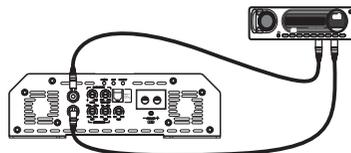


**Warning!** You should never connect or disconnect RCA cables with the amplifier on, because it may damage the head unit or the amplifier.

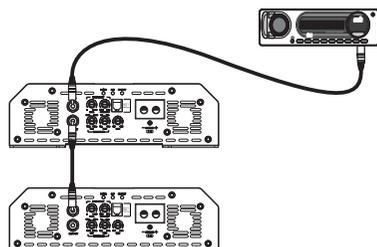
Example of one RCA cable connection only.



Example of two RCA cables connection.

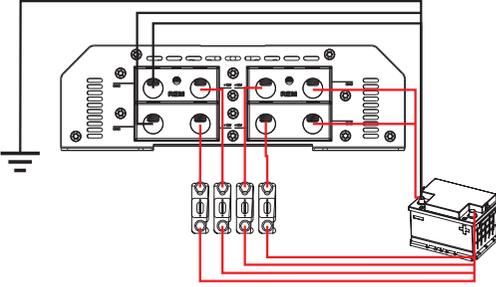


Example of one RCA cable connection only and using the RCA output to connect another amplifier.



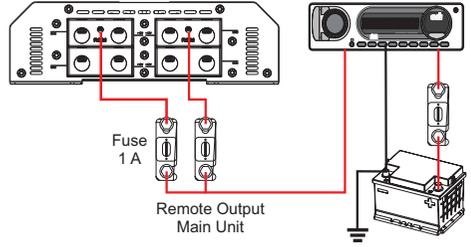
**Power Connections**

**Simplified Wiring Diagram (Power)**



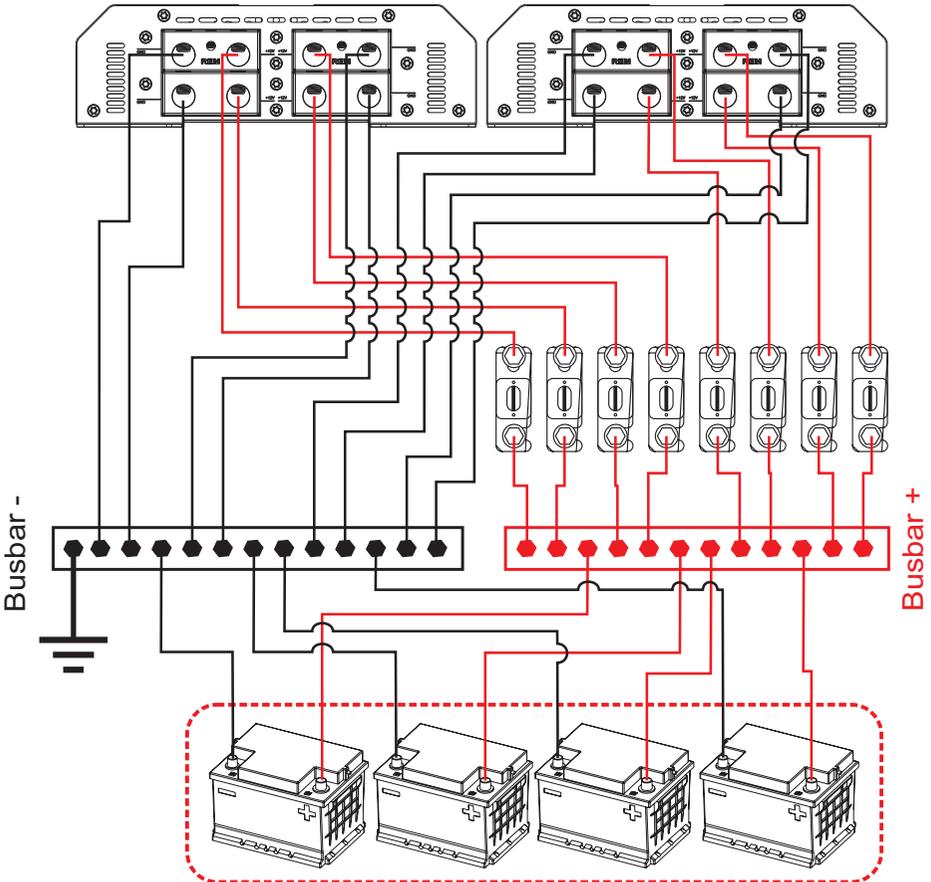
**Remote Input Connections**

**Connection Via Main Unit's Remote**



**Multiple Battery Connections**

For connection of multiple batteries, the use of copper busbars is recommended. These must have equidistant holes and a balanced distribution of the battery connections and the amplifiers, in order to avoid uneven heating of the bar.



## Installation Sequence:

- ▶ Before installing the amplifier, disconnect the negative pole from all the batteries in the system;
- ▶ Secure the amplifier so that there is access to the connectors;
- ▶ Properly install, in the vehicle, the power cables, from the battery to the busbar, fuse holders or circuit breakers, use the cable with the appropriate section (see Table 1). Make all connections to copper busbars (if any), fuse holders or circuit breakers, but do not install fuses or circuit breakers in the "Off" position;



### Warning!

**The fuse/protection circuit breaker must be installed within 30 cm of the battery.**

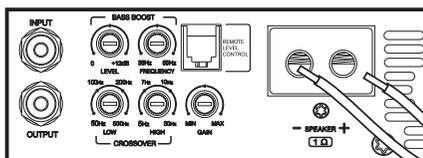
- ▶ Connect the power to the amplifier with the correct polarity. Connect all positive (+) terminals that come from the fuse holders or circuit breakers to the positive connectors of the amplifier, and all negative (GND) cables from the negative busbars or terminals of the batteries to the negative battery connector;
- ▶ Install the signal input cables appropriately. The input signal cables shall be installed away from the power cables;
- ▶ Connect the RCA cables to the main unit and amplifiers. Connect the RCA cables to the main unit and amplifiers;
- ▶ Install the audio output cables to the appropriate section (see Table 2) and away from the power and audio input cables;
- ▶ Connect the audio output cables to the amplifier and speakers, respecting the positive (+) and negative (-) polarities;
- ▶ Install together with the power cables, the remote power cable with 1.5 mm<sup>2</sup> section or larger;
- ▶ Connect the remote power cable to amplifier "REM" terminal and to a 12V source switch driven or remote power output from the main unit;
- ▶ After connecting the cables, before powering the system, check if all connections are correct and if there are no short-circuits between the cables and the ground cables;
- ▶ Reconnect the negative (GND) of the batteries;

- ▶ Check if remote-driven switch is in the Off position, and if the main unit is Off, then insert the fuses or drive the circuit breakers.

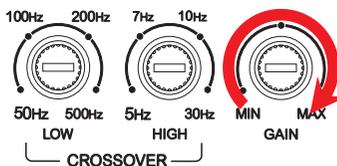
## Procedures for Setting the Gain

To set the gain of your amplifier properly, follow the steps below:

- ▶ Disconnect the output cables from the amplifier outputs;
- ▶ With the gain set to minimum, turn on the head unit and the remote switch to power on the amplifier. Wait until only the power LED is on;



- ▶ Reproduce a 50Hz sine wave signal through the head unit;
- ▶ Set the volume of the head unit to about 70% of its capacity;



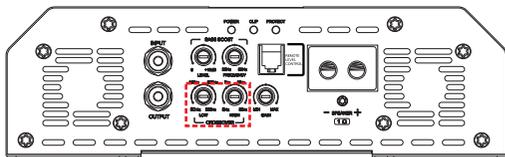
- ▶ Turn up the gain clockwise slowly until the "CLIP" LED starts blinking;



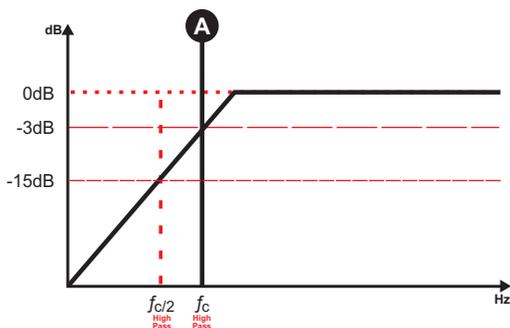
- ▶ Return the gain to the limit where the "CLIP" LED stops blinking and remains Off.
- ▶ Some head units with higher tension RCA outputs, may reach max power even with the gain set close to minimum. In such cases, limit the volume of the head unit in such a way the "CLIP" LED will not blink.

**Crossover Adjustment**

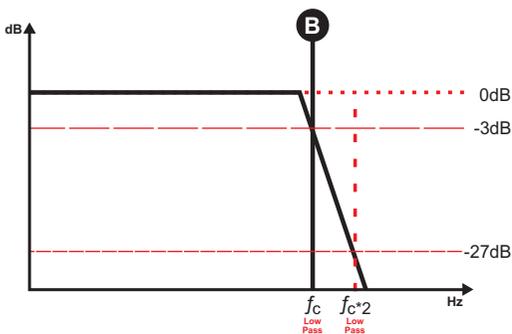
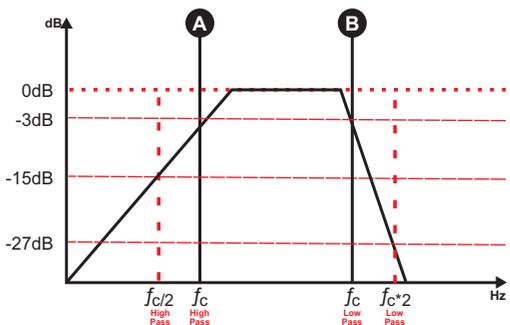
**SoundDigital** POWER amplifiers feature high-precision adjustable crossovers that increase audio quality and speaker performance. The choice of frequency depends on the system design, if you have any questions about which crossover frequency to use, refer. If you have any questions about which frequency cut filter to use, refer to the speaker technical manual, to which the amplifier will be connected.



Use in 12dB/Oct High Pass Mode - adjust the "LOW" control to 500 Hz and the "HIGH" control, the "A" frequency between 5 Hz and 30 Hz.



Use in Band Pass Mode - adjust the "HIGH" control - "A" frequency between 5 Hz and 30 Hz and the "LOW" control - "B" frequency between 50 Hz and 500 Hz.

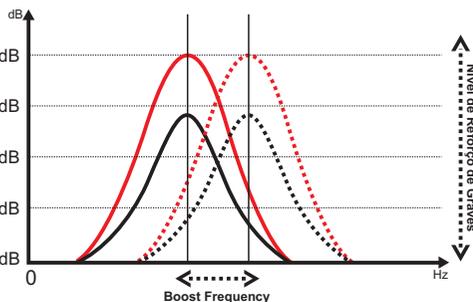


Use in 12dB/Oct Low Pass Mode - adjust the "HIGH" control to 5 Hz, and the "LOW" control, the "B" frequency between 50 Hz and 500 Hz.

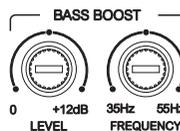
**Using Bass Boost**

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, as well as the frequency of the region to be boosted, as indicated in the chart. 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 between 35 and 55Hz, making it versatile for several types of sound systems.

**Bass Boost Chart**



**How to Adjust Bass Boost**



Set the variable control Frequency to the frequency you want boost between 35Hz and 55Hz. Set boost intensity between 0dB and +12dB at the variable control Level.

**Table 1 - Power Cables - Recommendation**

Power in Watts RMS	40.000W	A	A	2 x A*	2 x A*	4 x A*	4 x A*	6 x A*
	35.000W	A	A	A	2 x A*	4 x A*	4 x A*	6 x A*
	30.000W	B	A	A	A	2 x A*	4 x A*	4 x A*
	25.000W	B	B	A	A	A	4 x A*	4 x A*
	20.000W	B	B	B	A	A	2 x A*	4 x A*
	15.000W	B	B	B	A	A	2 x A*	4 x A*
	12.000W	B	B	B	A	A	2 x A*	2 x A*
	8.000W	B	B	B	B	A	A	2 x A*
	6.500W	C	B	B	B	B	A	2 x A*
	5.000W	C	B	B	B	B	B	A
	4.000W	C	C	B	B	B	B	B
	3.000W	D	C	C	C	C	C	B
	2.500W	D	D	C	C	C	C	C
	2.000W	E	E	E	D	D	D	C
	1.600W	F	F	E	E	E	D	D
	1.200W	G	G	F	F	E	E	E
		0-3.28	3.2-6.3	6.5-9.8	9.8-13.1	13.1-16.4	16.4-19.6	19.6-22.9
	Cable length (ft)							

**Section**

REF.	AWG	mm <sup>2</sup>
A	00	67.4
B	1/0	53.5
C	2	33.6
D	3	26.6
E	4	21.2
F	5	16.8
G	6	13.3

\*All cables shall be doubled with the aid of an adapter or busbar.

**Table 2 - Speaker Cables - Recommendation**

Power in Watts RMS	40.000W	F	F	F	F	F	F	F
	35.000W	F	F	F	F	F	F	F
	30.000W	G	F	F	F	F	F	F
	25.000W	G	G	F	F	F	F	F
	20.000W	G	G	G	F	F	F	F
	15.000W	G	G	G	G	F	F	F
	12.000W	H	G	G	G	G	G	F
	8.000W	H	H	H	G	G	G	G
	6.500W	H	H	H	H	G	G	G
	5.000W	H	H	H	H	H	G	G
	4.000W	I	H	H	H	H	H	H
	3.000W	I	I	I	H	H	H	H
	2.500W	I	I	I	I	H	H	H
	2.000W	J	I	I	I	I	I	H
	1.600W	J	J	J	I	I	I	I
	1.200W	J	J	J	J	J	I	I
		0-3.28	3.2-6.3	6.5-9.8	9.8-13.1	13.1-16.4	16.4-19.6	19.6-22.9
	Cable length (ft)							

**Section**

REF.	AWG	mm <sup>2</sup>
F	5	16.8
G	6	13.3
H	8	8.3
I	10	5.2
J	14	2.0

\* The recommended fuse size is for music use. For "SPL" or "Hair Trick" cars it may be necessary the use of a fuse / circuit breaker that supports larger current, but the use fuse rating must not exceed the maximum current draw of the amplifier

\*\* To achieve the current rating of the recommended fuse / circuit breaker, more than one fuse (or circuit breaker) may be associated (in parallel circuit).

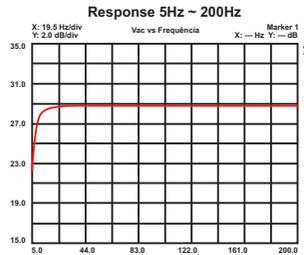
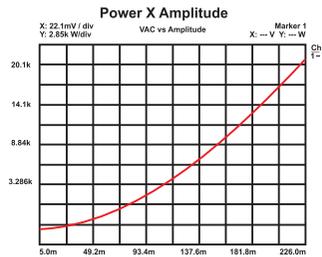
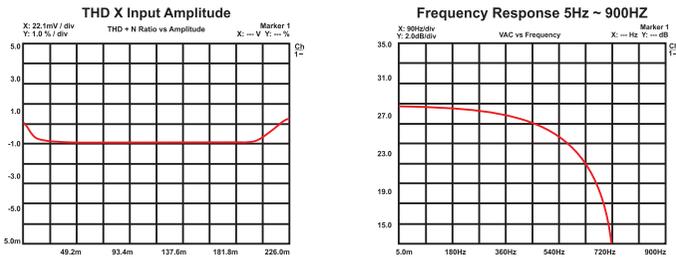
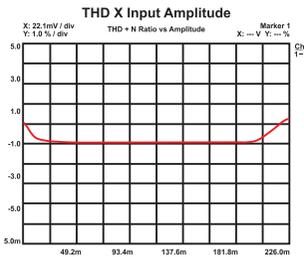
RMS Power - CTA 2006 @ 40Hz		20000.1D POWER 1Ω		
Impedance		1Ω	2Ω	4Ω
Power @ 14.4V		20000W	11250W	6188W

Input Signal and Filters	
Input Sensibility	0.5V to 8V

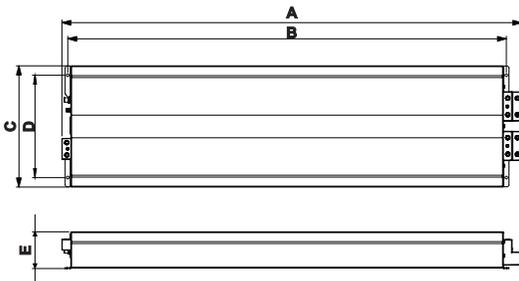
Power Supply	
Operating Voltage	9VDC to 16VDC
Max Current Draw	2000A
Total Efficiency	85%
Recommended Fuse	4x300A ANL

Audio Specs	
SNR (LPF 15kHz/Nominal Power)	91dB
THD + N (Nominal Impedance/100Hz/LPF 15kHz/Nominal Power)	0.2%
Frequency Response (-3dB)	5Hz ~ 500Hz
Damping Factor (Nominal Impedance @100)	<1000

**Graphics**



**Dimensions**



A	858.7mm
B	819.1mm
C	224.7mm
D	189.7mm
E	68.1mm
26.3lb (11.9kg)	

## LIMITED WARRANTY

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**SoundDigital** warrants the original purchaser that this product shall be free of defects in materials and workmanship for a period of twelve (12) months from the original date of purchase. Some countries have extended warranty in case the product is installed by an authorized dealer. This warranty is not transferable and applies only to the original customer from an authorized **SoundDigital** dealer.

Warranty is void when:

- Defect or problem caused by misuse of the product;
- Incorrect installation or non-conformity with the Manual;
- Maintenance made by unauthorized personnel;
- Alteration or removal of the seal/serial number;
- Exposure to adverse conditions (weather, humidity, etc);
- Damage caused by fall, impact or natural depreciation, caused by transport and/or handling, risks, or smashings;
- Products was purchased more than 12 months ago.

Warranty covers:

- Component or material with manufacturing defects;
- Workmanship/service needed to repair the equipment;
- If you need service on your **SoundDigital** amplifier, send it (freight-prepaid) to **SoundDigital's** Amplifier Repair Center through an authorized **SoundDigital** dealer (must be accompanied by proof of purchase);
- Any extra information you can get by contacting us at the e-mail address: [info@sounddigitalusa.com](mailto:info@sounddigitalusa.com);
- In case of manufacturing defect or bad quality of raw material, the max compensation will be the replacement of the product, not allowing any kind of compensation payment;
- New modifications/iterations on a product don't obligate the manufacturer to modify products formerly produced.





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