

SD2
SD4
SD6

SINISTER AMPLIFIER MANUAL

Full Range Class D Amplifier

WETSOUNDS.COM



Congratulations! Thank you for purchasing the Wet Sounds Sinister™ Series amplifier. Wet Sounds Sinister series of marine amplifiers represents the pinnacle in 12 volt amplifier design.

The Sinister™ amplifiers are the highest power to size amplifiers anywhere in the world for car or marine use. The Sinister™ amplifiers use superior performance circuitry by utilizing Wet Sounds exclusive full range Class D technology combined with Wet Sounds MAXED™ Power supply. The MAXED power supply is a patent pending technology designed to provide high efficiency levels never thought to be achievable in a mobile audio amplifier. What this means to you. Less current draw, less strain on the electrical system, less generated heat. All this results in more play time! The Sinister amplifiers share one size full cast aluminum chassis for all models making installation a breeze and the ability to have a clean install. All Sinister amplifiers feature a fully conformal coated 4 layer pcb board, single side power, speaker and input section, and top mounted controls with removable cover. Sinister™ amplifiers have a back lit Wet Sounds shield logo with selectable illumination for red, white or blue that can be mounted horizontally or vertically for flexible amplifier placement. Other features include high pass/low pass/full range crossovers, flexible inputs source selection for single or multiple RCA channel input, RCA pass through on 4ch and 2ch, and removable speaker plugs that accept large gauge wire. The Sinister™ amplifiers are not only extremely powerful but also intelligent with a built in microprocessor controller for overvoltage protection, undervoltage protection, DC offset and speaker short protection, as well as thermal rollback to ensure consistent play in the harsh marine environment. One of the most amazing aspects of the Sinister™ amplifiers design is the efficiency rating. All Sinister amplifiers achieve their efficiency rating at full 4 ohm rated power, the 6 ch is 82%, the 4ch is 84% and the 2ch is 86%. This translates into less current draw and less generated heat. Over twice that of a conventional class AB amplifier and more efficiency than any other full range class D amplifier.

WARNING

We build all Wet Sounds™ products to play at high volumes for extended periods of time. Your ears however are not designed for high volume listening. This product can easily generate high volumes that can permanently damage your hearing. We urge you to limit your exposure to very high volume sound. You may also find your state has laws governing the volume of an audio system. Please be aware of all local and state laws in your area.

A Properly tuned and operated audio system will deliver years of enjoyment when used properly.

INSTALLATION INSTRUCTIONS

Wet Sounds™ Marine Amplifiers are designed for easy installation in your boat. To ensure proper installation of your new purchase please follow all the suggestions listed below.

If you do not have experience with marine electrical and mechanical systems, contact a professional installer. Paying a qualified installer is almost always cheaper than paying a dealership to repair your boat.

LOCATING THE AMPLIFIER

The amplifier must be securely mounted to a solid surface. Please select a dry location to mount your amplifier. All Wet Sounds products are designed to operate in humid environments however direct contact with water can damage the electronics. Do not mount the amplifier to any area that may have excessive vibration (like a subwoofer enclosure). Position the amplifier in an area that receives sufficient airflow for proper heat dissipation.

SUPPLYING ENOUGH POWER

The Laws of Nature

Your amplifier does NOT make power; it converts power, or current, from your boats electrical system and converts it into high power musical energy. If the amp can't get all the power it needs it will not produce its full output. Your Wet Sounds™ amplifier will produce full output longer than other amplifiers on the market today. Should your voltage or current drop too low the amplifier will drop below the rated output. Make sure your boats charging system is in good working order. Any high performance audio amplifier will increase the demand on your alternator and battery. If you are unsure have you charging system checked system testing by a professional technician.

RUNNING THE WIRING CABLES

****Always keep the signal cable and the power cables separated to prevent the possibility of inducing noise into the system****

Carefully run the power and the signal cables through the boat. Always keep all the wire tight and tied down to prevent the power wire from shorting and reduce the risk of fire. A 4 AWG or larger wire should be used for power and ground connections. We recommend a fuse to be installed on the power wire within 18 inches of the battery for safety.



Maxed Power Supply

Wet Sounds Sinister amplifiers use a unique patent pending transformer design we call MAXED that is the first of its kind in the mobile/marine audio market. Making the Sinister amplifiers one of the most efficient amplifiers ever built. Wet Sounds took it a step farther by through bolting the transformer to the heat sink and not just the pcb, resulting in a heat sink that dissipates heat from the output side as well as the transformer. This advanced construction method also results in a more robust build method for the rugged marine market.

Thermal Rollback Technology

Wet Sounds thermal rollback circuit monitors the Sinister™ amplifiers temperature and adjusts the amplifiers output. The Sinister amplifiers are extremely efficient. However, marine use is the most demanding application of a 12 volt amplifier. There are times when extended listening combined with high ambient temperatures and a tight mounting can make even the most efficient amplifier work overtime. We designed the thermal rollback circuit to be automatic and seamless. The amplifier will roll its peak power output so it can lower its operating temperature. What this means for you is more play time and not having your amplifier go into thermal protection right when they party is going great.

Advanced Intelligent Microprocessor Control

Think of it as a tiny supercomputer constantly monitoring everything and protecting itself from harm. The Microprocessor will put the amplifier into protection if it senses an over voltage situation or a under voltage situation or DC offset. If you damage a speaker or have a shorted wire. The amplifier will also put itself into protection. And if you go past the thermal rollback circuit, the amplifier has a second level of protection from heat and will shut itself down.

Top mounted crossover controls

Wet Sounds designed the Sinister amplifier from the ground up as a true marine amplifier. Marine amplifiers are mounted to amp panels in a boat. Making it harder to access the controls. The sinister amplifiers have all the controls on the top for easy access and adjustments once the amplifier is mounted.

Four Layer PCB

Massive Four layer PCB. The Sinister amplifier uses a four layer PCB to make a solid mounting platform and robust design for the power they can produce and the rugged environment.

Remote Level Control

Remote Level control gives you the ability to control Channels 1-2 on each amplifier. (SD2, SD4 and SD6) With a pcb mounted switch, the level control will control all channels (1-6 on the SD6 and 1-4 on the SD4) Please contact Wet Sounds for information on how to access this switch. This is useful if using a single amplifier to power multiple tower speakers or multiple subwoofers.

Top mount back lit 3 way LED Badge Light: Red/White/Blue. Horizontal or Vertical Placement

The Wet Sounds shield logo badge not only looks great but provides the amplifier status through its acrylic spacer. Two screws hold the badge onto the cover plate. With the option for horizontal or vertical placement. This is perfect for those installations where you are not having to re wire or change the wiring to get the amplifiers logo straight.

Fully Balanced Inputs

Fully Balanced inputs for better sound quality with less noise.

RCA Pass Through (SD2 and SD4)

The SD2 and SD4 provide an RCA pass through to link to another amplifier. This means less wire and no RCA y Adapters.

Removable Speaker Plugs

Sinister use Wet Sounds exclusive marine compliant removable speaker plugs designed for high power and larger GA wire. Making it easier to pre wire the terminal and plug them into the amplifier after amplifier mounting. Power and Ground are a solid connection as the Sinister amplifiers are extremely high powered amplifiers so a non removable connection is used.

FEATURES

High Level Speaker Input (requires adapter)

Please contact Wet Sounds for information.

Auto Turn On Sense Capability

In auto sense mode when the deck turns on the amp's microprocessor will detect the deck's output and automatically turn on the amp. Most systems will utilize a blue remote turn on lead. However if you need information on how to activate this feature, please contact Wet Sounds.

Marine Complaint

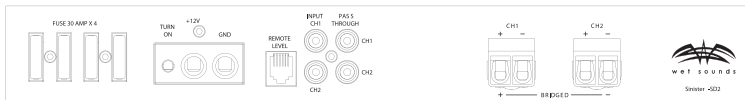
Rubber gasket covering crossover controls designed to keep moisture away. Conformal coated pcb for protection against moisture. Completely sealed design for no water intrusion.

Built In Raised Feet

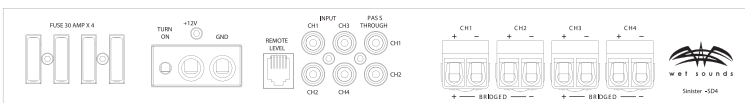
The sinister amplifiers were designed with integrated raised side feet. This gives easy access to pull wire under the amplifier. This also raises the amplifier off the boats panel or carpet allowing air to circulate.

SINISTER SERIES FRONT PLATE

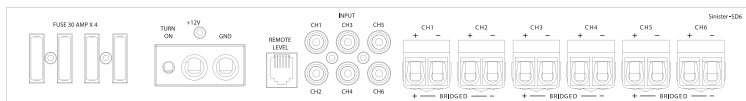
SD2 Front Plate Screen



SD4 Front Plate Screen

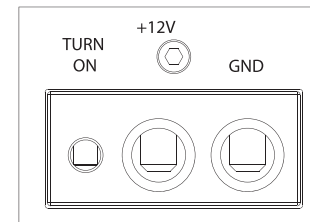


SD6 Front Plate Screen



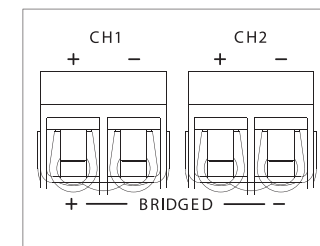
POWER CONNECTIONS

The Sinister amplifiers are designed for 4 AWG Power wire (+12 V) and Ground wire (GND). You will need to prepare the wire by remove 5/8" on the protective shielding on the power and ground wire. Then take an allen tool and back out the screws on the terminal block +12 volt wire into the +12V side of the terminal block and then tighten the screw back into the terminal block. You will do the same for the Ground wire. Please make sure you are using "positive" wire for the +12V. Also, please make sure you are running the ground back to the battery when used in a marine application. (in a car audio application, make sure to ground to the chassis as close to the amp as possible). You will also be attaching the Remote turn on. Labeled Turn ON" This is usually a blue wire from the head unit.



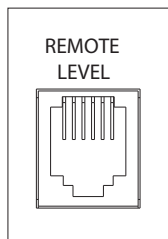
Speaker Connections

The Sinister amplifiers are designed with a removable speaker plug. These plugs were designed to accommodate larger wire (12 ga) or multiple wires. Please make sure if using smaller gauge wire, you strip the wire back fold it over and solder the ends. You can attach the wire to the amp with the terminals plugged in by using a flat head screw driver and insert the stripped speaker wire and tighten down. Or remove the speaker plugs from the amp by pulling them out. Attach your wires and re insert into the amplifier once mounted. Making sure to follow the markings for + and -. There is also a silk screened guide for bridging the channels



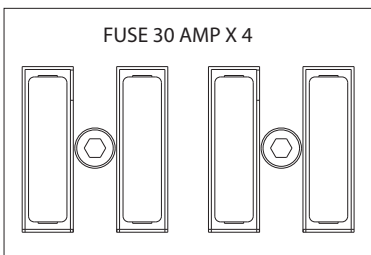
Remote Level Control

The remote level control gives you the ability to control the level remotely. You may install the level control by the driver for easy adjustments on the fly. The Wet Sounds remote level control is not a bass boost control. Or a remote gain. It is a remote level control. Meaning if the amplifiers gain is set at half. The remote level allows you to turn the amplifier up remotely from zero to half. If the amp is set at $\frac{1}{4}$. The remote level will go from zero to $\frac{1}{4}$. This allows the system to be set at the best sounding level and just use the remote to turn it down when needed. This is a safety feature that also keeps people from turning your system up too high and damaging equipment



Fuses

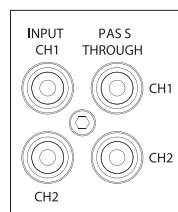
Each Sinister amp has Four 30 amp fuses. The Sinister amplifiers are one of the most efficient amplifiers in the world. However, the laws of physics apply and you need power to make power and the Sinister amps make a LOT of power. If you blow a fuse. Check your wiring for shorts and why the fuse is blowing. Also, check the speakers and speaker wiring as well. You should trouble shoot the system before replacing fuses.



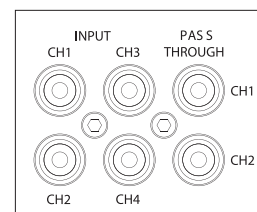
RCA Input

The Sinister amplifiers have fully balanced RCA inputs for the best sound quality and lowest noise. They are labeled for easy installation and being a universal amplifier. Any channel can serve any purpose. High Pass/Low Pass/Full Range. Also, please note. Bass Boost is available on chs 1-2. So if using a subwoofer and you would like to use Bass Boost. The subwoofer will be on chs 1-2. Bass Boost can be passed to the other channels if you are using the input source selection switch.

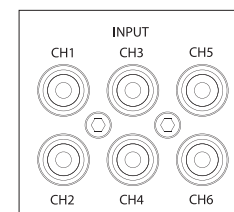
SD2



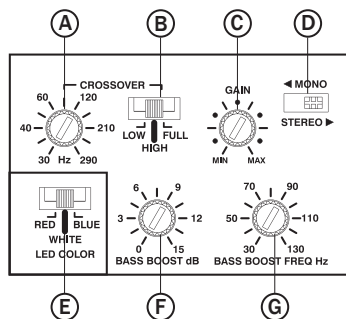
SD4



SD6



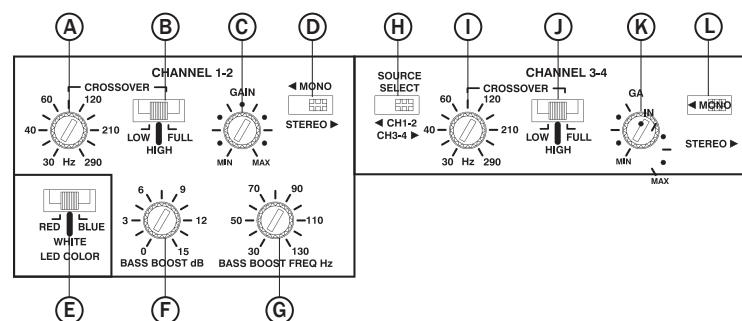
SD2 Class D Control



Channel 1-2

- A. Variable Crossover 1-2** - Built in 12db filter with crossover frequencies between 30Hz - 290Hz.
- B. Crossover Selection Switch 1-2** - The HIGH pass attenuates low frequencies and is used with mid-range speakers and tweeters. LOW Pass attenuates high frequencies and is used for subwoofers. Full does not attenuate any frequencies and is for full range speaker systems.
- C. Gain Control 1-2** - This is the input sensitivity gain control for channels 1 & 2.
- D. Mono Stereo Selection Switch** - Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.
- E. Led Color Selection** - Switch for Wet Sounds Badge logo
- F. Bass Boost Control 1-2** - This is a variable boost level for the low frequencies to which the amplifier is set at on in "G". Bass Boost should only be used in small amounts when running subwoofers ONLY. Do not use Bass Boost when running full range speakers.
- G. Bass Boost Frequency** adjustment from 30Hz to 130 hz.

SD4 Class D Control



Channel 1-2

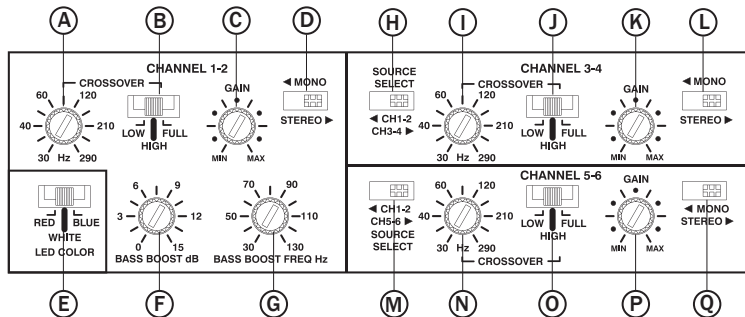
- A. Variable Crossover 1-2** - Built in 12db filter with crossover frequencies between 30Hz - 290Hz.
- B. Crossover Selection Switch 1-2** - The HIGH pass attenuates low frequencies and is used with mid-range speakers and tweeters. LOW Pass attenuates high frequencies and is used for subwoofers. Full does not attenuate any frequencies and is for full range speaker systems.
- C. Gain Control 1-2** - This is the input sensitivity gain control for channels 1 & 2.
- D. Mono Stereo Selection Switch** - Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.
- E. Led Color Selection** switch for Wet Sounds Badge logo
- F. Bass Boost Control 1-2** - This is a variable boost level for the low frequencies to which the amplifier is set at on in "G". Bass Boost should only be used in small amounts when running subwoofers ONLY. Do not use Bass Boost when running full range speakers.
- G. Bass Boost Frequency** - Adjustment from 30Hz to 130 hz.

SD4 Class D Control Cont.

Channel 3-4

- H. Input source selection** - When on ch 1-2 the channel 3-4 outputs are active from channels 1-2 input. Eliminating the need for external y adapters. This is useful if you are using one amp to power all speakers in the same zone and do not need any type of fading ability or need separate control from an EQ. When on ch 3-4, you will need a RCA cable direct into the 3-4 RCA input to activate the 3-4 outputs.
- I. Variable Crossover 3-4** - Built in 12db filter with crossover frequencies between 30Hz - 290Hz
- J. Crossover Selection Switch 3-4** - The HIGH pass attenuates low frequencies and is used with mid-range speakers and tweeters. LOW Pass attenuates high frequencies and is used for subwoofers. Full does not attenuate any frequencies and is for full range speaker systems.
- K. Gain Control 3-4** - This is the input sensitivity gain control for channels

SD6 Class D Control



Channel 1-2

- A. Variable Crossover 1-2** - Built in 12db filter with crossover frequencies between 30Hz - 290Hz.
- B. Crossover Selection Switch 1-2** - The HIGH pass attenuates low frequencies and is used with mid-range speakers and tweeters. LOW Pass attenuates high frequencies and is used for subwoofers. Full does not attenuate any frequencies and is for full range speaker systems.
- C. Gain Control 1-2** - This is the input sensitivity gain control for channels 1&2.

SD6 Class D Control Cont.

Channel 1-2 Cont.

- D. Mono Stereo Selection Switch** - Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.
- E. Led color selection switch** for Wet Sounds Badge logo
- F. Bass Boost Control 1-2** - This is a variable boost level for the low frequencies to which the amplifier is set at on in "G". Bass Boost should only be used in small amounts when running subwoofers ONLY. Do not use Bass Boost when running full range speakers.
- G. Bass Boost Frequency** - Adjustment from 30Hz to 130 hz.

Channel 3-4

- H. Input Source Selection** - When on ch 1-2 the channel 3-4 outputs are active from channels 1-2 input. Eliminating the need for external y adapters. This is useful if you are using one amp to power all speakers in the same zone and do not need any type of fading ability or need separate control from an EQ. When on ch 3-4, you will need a RCA cable direct into the 3-4 RCA input to activate the 3-4 outputs.
- I. Variable Crossover 3-4** - Built in 12db filter with crossover frequencies between 30Hz - 290Hz
- J. Crossover Selection Switch 3-4** - The HIGH pass attenuates low frequencies and is used with mid-range speakers and tweeters. LOW Pass attenuates high frequencies and is used for subwoofers. Full does not attenuate any frequencies and is for full range speaker systems.
- K. Gain Control 3-4** - This is the input sensitivity gain control for channels 3 & 4. E-Mono-Stereo Selection switch. Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.
- L. Mono-Stereo Selection Switch** - Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.

SINISTER SERIES CONTROLS CONT.

SD6 Class D Control Cont.

Channel 5-6

M. Input Source Selection - When on ch 1-2 the channel 5-6 outputs are active from channels 1-2 input. Eliminating the need for external y adapters. This is useful if you are using one amp to power all speakers in the same zone and do not need any type of fading ability or need separate control from an EQ. When on ch 5-6, you will need a RCA cable direct into the 5-6 RCA input to activate the 5-6 outputs.

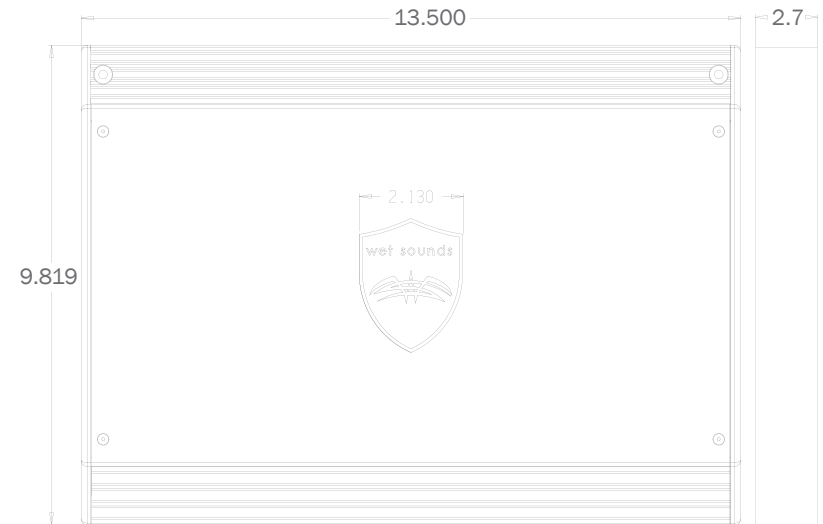
N. Variable Crossover 5-6 - Built in 12db filter with crossover frequencies between 30Hz - 290Hz

O. Crossover Selection Switch 5-6 - The HIGH pass attenuates low frequencies and is used with mid-range speakers and tweeters. LOW Pass attenuates high frequencies and is used for subwoofers. Full does not attenuate any frequencies and is for full range speaker systems.

P. Gain Control 5-6 - This is the input sensitivity gain control for channels 5 & 6. E-Mono-Stereo Selection switch. Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.

Q. Mono-Stereo Selection Switch - Stereo is used in applications where stereo is needed and bridge outputs are not used. Mono is used when bridging mono for a subwoofer for example. Both the left and right channels are combined into a mono signal that is sent to both outputs giving you a true mono output.

SINISTER SPECIFICATIONS



SINISTER MICRO PROCESSOR DIAGNOSTIC SYSTEM

The Sinister amplifiers are equipped with an advanced microprocessor controlled diagnostic system. This system is designed to notify you in the event the amplifier goes into protection for any reason. With a series of LED codes, the amplifier will indicate the status to help in troubleshooting.

Short protect and DC output protection: LED flashes for .25 seconds and off for .25 seconds repeatedly.

Low Battery Voltage: LED flashes for 1 second and then off for .25 seconds.

High Battery Voltage: LED flashes for .25 second and then off for 1 second.

Thermal Rollback Notification:

Amp is limited to low power: LED flashes for .25 seconds and then off for 3 seconds

Amp is limited to medium power: LED ON for 3 seconds and then off for 3 seconds

Amp is limited to medium-high power: LED ON for 3 seconds and then off for .25 seconds

SINISTER SPECIFICATIONS CONT.**SD2**

Full Range Class D Amplifier
 Output Power (RMS) @ 1% 1000Hz 14.4V CEA 2006
 Stereo @ 4 Ohms - 2 x 400 Watts @ 58A
 Stereo @ 2 Ohms - 2 x 620 Watts @ 107A
 Mono @ 4 Ohms - 1 x 1250 Watts @ 108A
 Frequency Response -3dB - 8 Hz - 50 kHz
 Crossover Range High and Low Pass - 30Hz - 300Hz 12dB/Octave
 Bass Boost - 0-12.5dB @ 27Hz - 110Hz
 S/N Ratio (A wtg) - >83dB >110dB
 Input Sensitivity - Low Level
 0.2V - 4.1V
 Remote Level Range - 0 db to -61 db
 15.6V Overvolt Protection

SD4

Full Range Class D Amplifier
 Output Power (RMS) @ 1% 1000Hz 14.4V CEA 2006
 Stereo @ 4 Ohms - 4 x 185 Watts @ 60A
 Stereo @ 2 Ohms - 4 x 340 Watts @ 123A
 Mono @ 4 Ohms - 2 x 685 Watts @ 122A
 Frequency Response -3dB - 8 Hz - 35 kHz
 Crossover Range High and Low Pass - 30Hz - 300Hz 12dB/Octave
 Bass Boost - 0-12.5dB @ 27Hz - 110Hz
 S/N Ratio (A wtg) - >90dB >113dB
 Input Sensitivity - Low Level
 0.2V - 6.1V
 15.6V Overvolt Protection

SINISTER SPECIFICATIONS CONT.**SD6**

Full Range Class D Amplifier
 Output Power (RMS) @ 1% 1000Hz 14.4V CEA 2006
 Stereo @ 4 Ohms - 6 x 185 Watts @ 95A
 Stereo @ 2 Ohms - 6 x 290 Watts @ 168A
 Mono @ 4 Ohms - 3 x 585 Watts @ 168A
 Frequency Response -3dB - 8 Hz - 35 kHz
 Crossover Range High and Low Pass - 30Hz - 300Hz 12dB/Octave
 Bass Boost - 0-12.5dB @ 27Hz - 110Hz
 S/N Ratio (A wtg) - >87dB >109dB
 Input Sensitivity - Low Level
 0.2V - 6.1V
 15.6V Overvolt Protection

LIMITED WARRANTY

Length and Limits of Warranty

Wet Sounds warrants this product to be free of defects in material or workmanship for (2) years from the date of purchase. Wet Sounds warranty applies exclusively to the original purchaser, not transferable and the amplifier must be purchased from an Authorized Wet Sounds Retailer within the United States. All Products purchased outside of the United States are covered by the Authorized Distributor or OEM supplier. Any and all warranties not to exclude merchantability or fitness are limited in the duration to 2 years. This warranty gives you specific legal rights, and those rights may vary from state to state.

Items not covered:

Serial number that are defaced, altered or removed

Any product purchased outside and United States.

Any cost related to removal, installation, shipping of the product

Damage caused by abuse or accident, theft, water, shipping or neglect.

Service performed by anyone other than Wet Sounds or a Authorized Wet Sounds Service Center.

Subsequent damage to any other components.

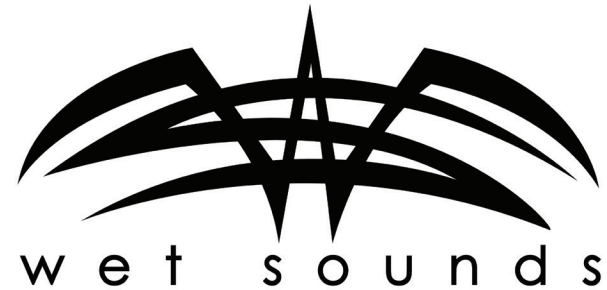
Misrepresentations by the seller.

Failure to follow installation instructions.

Cosmetic damage.

Obtaining Service

Should service be necessary Wet Sounds (at its discretion), replace or repair the defective equipment with new or refurbished product. To receive service the original invoice of purchase with the customer name, product purchased, retailer name and address with date of purchase, must be provided to obtain warranty service. Contact Wet Sounds directly at 1-877-938-7757 contact customer service to obtain RA# (Return Authorization). You are responsible for the shipping of the product to Wet Sounds.



Wet Sounds Inc..

www.wetsounds.com

877-938-7757

9330 West Airport Blvd.
Houston, TX 77031 - USA