

# D200 II

DUAL MONAURAL AMPLIFIER

# CLASS A 100

PURE CLASS A AMPLIFIER

# D100 II

STEREO AMPLIFIER

# CLASS A 50 II

PURE CLASS A AMPLIFIER

# D60 II

STEREO AMPLIFIER

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# Owner's Manual

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**SOUNDSTREAM**  
C A R A U D I O

# Soundstream Stereo Amplifier Owner's Manual

Thank you for purchasing a Soundstream amplifier. You now own one of the finest power amplifiers available, a precision instrument capable of audiophile quality performance.

To get the most out of your amplifier, we suggest that you carefully acquaint yourself with their capabilities and design. Please retain this manual for future reference.

Soundstream products are the result of American craftsmanship and the highest quality control standards; your power amplifier should deliver many years of pleasure. Should it ever require service or replacement, recording the information below will help protect your investment.

Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Dealer's Name \_\_\_\_\_  
Date of Purchase \_\_\_\_\_  
Date of Installation \_\_\_\_\_

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## DESIGN FEATURES

The design topology of all Soundstream amplifiers utilize multiple Darlington output devices with a total rated output capability that far exceeds the potential output of the amplifier. The D200 II utilizes 1000 watts of discrete Darlington output devices while the D100 II utilizes 500, the Class A 100 1000, the Class A 50II 500 and the D60 II uses 300 watts worth of discrete Darlington. With such reserves and no current limiting, these amplifiers operate without strain even at maximum output. Power, ground, and speaker connectors are rated to handle up to 80 Amps and up to 10 gauge wire.

Unlike most car audio amplifiers, (some of which require a fan for cooling) which shut off when they overheat, all Soundstream amplifiers eliminate this problem in two ways. First, the Soundstream "Chassisink" has been custom designed to guarantee the lowest possible thermal resistance (maximum cooling), greatly reducing the possibility of overheating. Secondly, if this should occur, all Soundstream amplifiers incorporate our "Smart Power Supply" which simply reduces the supply's potential, allowing the amplifier to run much cooler. The entire process is automatic and inaudible. In the case of an actual amplifier malfunction, secondary thermostats or fuses will shut down the amplifier in a conventional manner. To prevent potentially damaging turn-on and turn-off thumps, a pair of relays at the outputs allow the amplifier to fully stabilize before sending the audio signal to the loudspeakers, except on the D-60 which utilizes a built in delay circuit.

An especially useful feature in the 0200 II and CLASS A100 is the Linear Subwoofer Extension Circuit (LSE), which compensates for the natural rolloff of most speakers and extends bass as much as one full octave.

LSE provides a linear boost of 6 dB/octave, starting at a point which is continuously variable over the range 35280 Hz. A subsonic filter attenuates the signal below 20 Hz.

Only premium parts are used in Soundstream amplifiers, such as metal film resistors, Glass epoxy circuit boards with corrosion resistant masking, gold-plated input connectors, and immersible sealed potentiometers. The heat sink of all models doubles as the chassis. Each heat sink is custom designed and manufactured to Soundstream's exacting specifications facilitating maximum cooling. Input sensitivity is adjustable to match any tuner/deck, these amplifiers can even be interfaced directly with OEM speaker level signals.

## INSTALLATION

Proper installation and adjustment will reward you with reliable operation and optimum performance. Automotive sound system installations can be tricky, especially for first timers. For this reason, you may want to consider using a professional installer who has the tools and more importantly, the experience to do the right job. If you decide to install your equipment yourself, we hope that this manual will serve as a helpful guide.

### TOOLS

The only tool needed to make wire terminations at the amplifier will be an insulated flat blade screwdriver. Do not use a noninsulated screwdriver since this may short out against the heat sinks and may damage the amplifier.

### SELECTING OPERATING MODE

These amplifiers may be configured into two operational modes, stereo or mono. The amplifier comes shipped from the factory ready for stereo usage. If your application calls for the amplifier to be bridged, follow the procedure below:

1. Remove the plug located on the bottom of the amplifier marked STEREO/MONO. Set the switch as indicated on the bottom cover.
2. To complete connection of the amplifier in mono mode, read the input and output connection sections carefully.

## OPTIMIZING FOR SPEAKER IMPEDANCE

### D200II, CLASS A100, D100II, AND CLASS A50II

As delivered from the factory, your amplifier has been optimized for 4 ohm operation. It is possible to optimize these amplifiers to deliver maximum performance into 2 or 4 ohms stereo and 4 or 8 ohms bridged. This is accomplished by selecting the correct operating mode on the bottom of the amplifier prior to mounting. Remove the plug on the amplifier marked for impedance optimization. Set the switch as indicated on the bottom cover in the appropriate position for your application. If you are unsure of the impedance of your speakers, or you are wiring more than one speaker to a set of terminals, consult your dealer or installer for the best settings.

## LOCATION AND MOUNTING

The first step in an installation is thorough planning. Choose the location for your amplifier carefully. The amplifier should be located in either the passenger compartment or the trunk, never in the engine compartment or any outside location exposed to dirt or moisture. Adequate ventilation is important; allow enough space so that air can circulate around the heat sinks. Make sure the installed amplifier will not interfere with normal operation of the vehicle. It is best not to locate the amplifier near your vehicle antenna, since the switching power supply may interfere with AM reception. Your amplifier should be mounted firmly to the car's chassis with the four screws provided. Use your amplifier as a template for making pencil marks where you intend to drill. (Make sure that the location you are planning to drill through is free from obstacles such as wiring, gas tanks, and fuel lines.)

It is a good idea to bench test your system before mounting the components. If you have a 12 volt power source, you can connect and test all components outside the car. Or, you can connect them inside the vehicle prior to final mounting. Either way, connect the components exactly as you intend to in the final installation; make sure all power and ground connections are made last.

## WIRING

Determine how your vehicle's wiring is laid out. Keep all wiring inside the car. Good standard audio practice suggests keeping signal wires short and away from wires carrying power. Wires may be run under carpet. If you drill a new passage hole through metal, make sure that all burrs have been filed away to prevent scraping; use grommets where needed. All wires should be hidden; an exposed wire can inadvertently be pulled, causing disconnection or shorting. Wires should never be under tension or subject to moisture. Use cable ties to bundle excess wire.

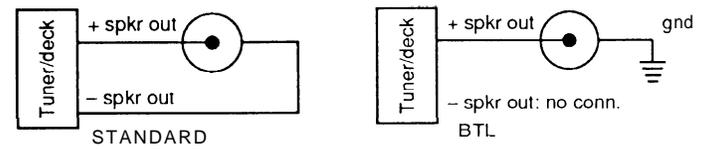
NOW THAT ALL AMPLIFIER ADJUSTMENTS HAVE BEEN MADE, YOU ARE READY TO BEGIN MAKING CONNECTIONS.

## INPUT CONNECTIONS

Inputs to your amplifier attach by means of standard RCA type jacks. When using the amplifier in the stereo mode, both the left and right input jacks are to be used. If the amplifier is to be operated in the mono mode, only the right input should be used. For connection we recommend use of Soundstream DL-1 or an equivalent premium cable.

In most cases, the signal source will be the preamp output jacks of a tuner/deck. Some tuner/decks use preamp outputs other than the standard RCA type jacks, in this case you will need to purchase a special adapter from your dealer.

If your head unit has speaker outputs and no preamp outputs, you can use the speaker outputs. Wire an RCA connector to the head units output wires. Before doing so, determine if your head unit has a standard or BTL type output. (A good rule of thumb is that any head unit putting out 5 true watts a channel or more is BTL) Once this has been determined, follow the appropriate wiring diagram located below.



If you have an equalizer or low level crossover network(s) for Bi-amping or Tri-amping, these components will be inserted between your tuner/deck and your amplifier(s). Refer to the manuals for these components for further details.

## OUTPUT CONNECTIONS

Use high quality Soundstream Speaker 130 or an equivalent premium cable for best results.

The terminals on your loudspeakers are marked for polarity, and loudspeaker wire is coded by color or by the markings on the jacket. Be sure to connect the left and right channels with the same polarity. Loudspeaker manufacturers are not consistent in their polarity markings, so if you have loudspeakers of different types connected to the same amplifier terminal, verify correct polarity by ear. The correct polarity produces the most bass; incorrect polarity produces less bass and a strangely dislocated sound image on mono material. If you have more than one amplifier; for each amplifier and its loudspeakers, the left and right channels must always be wired with the same polarity. But from one amplifier to the next, correct polarity may be the same or it may be reversed. This is because of the difference in amplifier design, the nature of crossover filters, and other factors. Again experiment and verify the correct polarity by ear.

For proper hookup of your speakers to the amplifier, review the diagrams on page five for stereo and bridged hookup.

## POWER CONNECTIONS

Note: Your amplifier can only be operated from a 12-Volt Negative Ground electrical system. If your car was produced before 1970, or if you have any doubts, make sure of the type of electrical system you have before making any connections.

Determine the alternator rating of your car and the current consumption of the car's other accessories. It may be necessary to upgrade the alternator or to install a separate battery and battery isolator.

For power wiring, use Soundstream power cable or an equivalent premium cable. The plus 12 Volt terminal of the amp should be connected directly to the positive terminal of the vehicles battery. Install a fuse in line between the amplifier and the battery using the following fuse for the respective amplifier:

D-20011 .....	30 AMP
D-I 0011 .....	20 AMP
CLASS A1 0011.....	30 AMP
CLASS A5011.....	20 AMP
D-601 I .....	15 AMP

If your system is using more than one amplifier, each amp should be fused seperately.

The Ground terminal of your amplifier should be connected directly to the automobile chassis with the same gauge wire being used for power. Make sure this wire is as short as possible to prevent noise in the system. A nearby bolt can serve as a ground terminal. Make sure that the wire contacts the chassis, not coated metal or paint. It is important that the ground connection you select have minimal noise resistance to the battery ground post. (A maximum of .1 ohm resistance should be present.)

### REMOTE POWER-ON CONNECTION

If your tuner/deck has a remote power-on control wire, connect it to the REMOTE terminal on your amplifier. This is a control line, not a power line, so small wire (18-20 gauge) is acceptable.

If your tuner/deck has no remote power-on control labeled as such, but has a power antenna control, it may be possible to wire the power antenna control to the REMOTE terminal.

If your tuner/deck has neither a remote power-on control wire nor a usable power antenna control, it will be necessary either to connect the REMOTE terminal to a 12 Volt source which is switched by the ignition key or to connect the REMOTE terminal to a constant 12 Volt source through an ON/OFF switch you install in series with the ignition switch in a location accessible to the

driver. Note: If an outboard switch is used, make sure it is switched off when you leave the vehicle or when the sound system is not in use otherwise it is possible to run down your battery.

## BEFORE POWERING UP THE SYSTEM

To prevent unnecessary labor, proof all your connections for shorts and improper connection. Double check to make sure you have chosen all of the correct amplifier settings.

### POWERING UP THE SYSTEM

Once the installation is complete, turn on the system. The LED indicator on the amplifier should now be lit. If it did not light up, turn the system off immediately. Proof wiring and check for shorts or poor connection.

If wiring is okay, check the relay or fuse in the power line. If blown, replace it with another identical fuse. Also check the interior power supply fuse. If blown, replace with a fuse of identical value.

## INPUT LEVEL ADJUSTMENT

Input levels are adjusted by means of two independent controls located between the heat sinks directly above the appropriate RCA connector, When the amplifier is being operated in the stereo mode both of these adjustments are to be used. When bridged, only the right input control is used.

To set your amplifier levels, begin by turning all level controls to minimum (counter clockwise) Turn the system on, and set the volume on your tuner/deck at its midpoint. Advance the amplifier input level controls until you have reached your maximum desired listening level and both channels are in balance.

## LINEAR SUBWOOFER EXTENSION

### D-20011 AND CLASS A- 100II

The LSE circuit will compensate for the natural rolloff of most loudspeakers, and can extend deep bass as much as one full octave.

The control allows for continuously variable adjustment over the range from 35 Hz to 280 Hz, of the frequency at which LSE begins its boost. Below the chosen frequency, the boost is applied at 6 dB per octave. When properly adjusted, LSE will "linearize" the low end response of the woofer(s) and provide remarkably smooth and deep bass. A word of caution: small inexpensively constructed woofers may be unable to handle the equalization which results from setting the LSE to above 100 Hz. Also, never activate the LSE circuit while operating the system at high volume. Activate and deactivate with the system off or at a very low level.

# PROTECTION CIRCUITS

Your amplifier is protected against both overheating and short circuits.

If one channel shuts down, check the speaker output fuse for that channel. If after replacing the fuse it blows again, contact Soundstream directly or your authorized Soundstream dealer

If the amplifier shuts down completely, check the power supply fuse located behind the bottom cover of the amplifier. If this blows a second time, contact an authorized Soundstream dealer or Soundstream directly for service..

# SERVICE

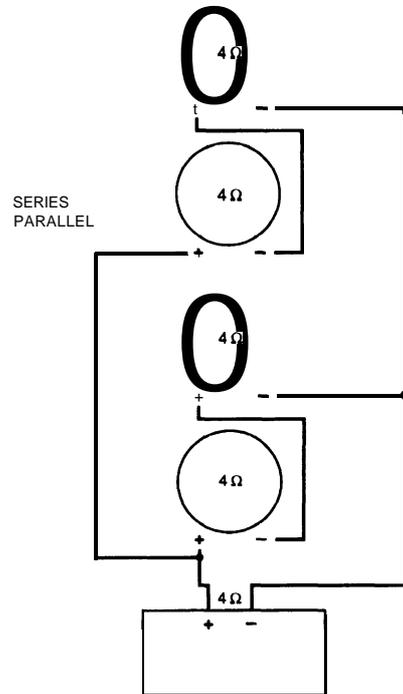
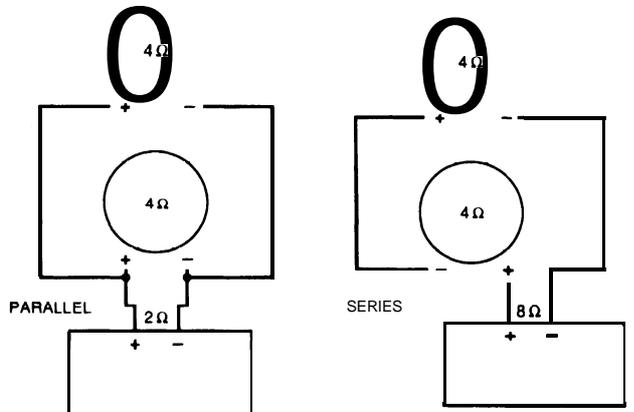
Your Soundstream amplifier is protected by a limited warranty. Please read the warranty enclosed with this product.

# MINIMUM RECOMMENDED SPEAKER IMPEDENCE HOOKUPS PER CHANNEL

When designing your system, make sure to observe the guidelines presented. You will also find samples of the three basic forms of hookup.

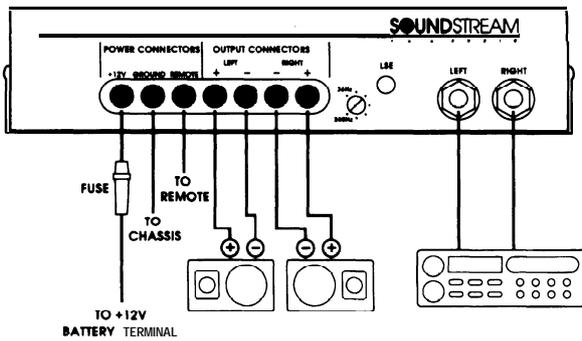
D-6011	.....	2Ω per channel
CA-5011	.....	1Ω per channel
D-10011	.....	2Ω per channel
CA-10011	.....	1Ω per channel
D-200 II	.....	2Ω per channel

# IMPEDANCE HOOKUP DIAGRAMS

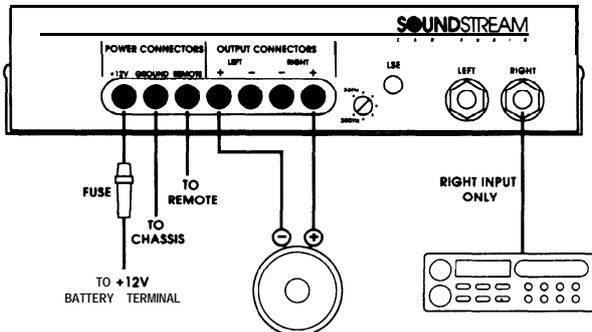


# HOOKUP DIAGRAMS

STEREO MODE



MONAURAL MODE (bridged)



# SPECIFICATIONS:

## D-6011

Power Output  
30 W/ch X 2, 20Hz-20kHz Into 4Ω  
45 W/ch X 2, 20Hz-20kHz Into 2Ω  
80 Watts Mono, 20Hz-20kHz Into 4Ω  
Total Harmonic Distortion  
<0.1%, 20Hz-20kHz At Full Rated Power Into 4Ω  
S/N Ratio: 110 dB  
Damping Factor: >200  
Input Impedance: 10 K  
Idle Current Draw: .2 Amps  
Maximum Current Draw: 7 Amps  
Dimensions: 4.3" W X 7.8" D X 2.13"H  
Input Sensitivity: 250 mV - 2.5 V

## CLASS A-5011

Power Output-Impedance Optimized Setting  
25 W/ch X 2, 20Hz-20kHz Into 4Ω  
50 W/ch X 2, 20Hz-20kHz Into 2Ω  
90 Watts Mono, 20Hz-20kHz Into 4Ω  
Total Harmonic Distortion  
<0.1%, 20Hz-20kHz At Full Rated Power Into 4Ω  
S/N Ratio: 110 dB  
Damping Factor: > 200  
Input Impedance: 10 K  
Idle Current Draw: 1.5 Amps  
Maximum Current Draw: 7 Amps  
Dimensions: 6"W X 7.8"D X 2.13"H  
Input Sensitivity: 250 mV - 2.5 V

## D- 10011

Power Output-Impedance Optimized Setting  
50 W/ch X 2, 20Hz-20kHz Into 4Ω  
50 W/ch X 2, 20Hz-20kHz Into 2Ω  
100 Watts Mono, 20Hz-20kHz Into 4Ω  
70 W/ch X 2, 20Hz-20kHz, 2Ω  
120 Watts Mono, 20Hz-20kHz, Into 4Ω  
Total Harmonic Distortion  
< 0.1%, 20Hz-20kHz At Full Rated Power Into 4Ω  
S/N Ratio: 110 dB  
Damping Factor: > 200  
Input Impedance: 10 K  
Idle Current Draw: .6 Amps  
Maximum Current Draw: 13 Amps  
Dimensions: 6"W X 7.8" X 2.13"H  
Input Sensitivity: 250 mV - 2.5 V

## CA- 100

Power Output-Impedance Optimized Setting  
50 W/ch X 2, 20Hz - 20kHz Into 4Ω  
80 W/ch X 2, 20Hz - 20kHz Into 2Ω  
160 Watts Mono, 20Hz- 20kHz Into 4Ω  
Total Harmonic Distortion  
< 0.1%, 20Hz - 20kHz At Full Rated Power Into 4Ω  
S/N Ratio: 110 dB  
Damping Factor: > 200  
Input Impedance: 10 K  
Idle Current Draw: 2.0 Amps  
Maximum Current Draw: 14 Amps  
Dimensions: 11 "W X 7.8"D X 2.13"H  
Input Sensitivity: 250 mV - 2.5 V

## D-200 II

Power Output-Impedance Optimized Setting  
100 W/ch X 2, 20Hz - 20kHz Into 4Ω  
100 W/ch X 2, 20Hz - 20kHz Into 2Ω  
200 Watts Mono, 20Hz - 20kHz Into 4Ω  
140 W/ch X 2, 20Hz-20kHz Into 2Ω  
240 Watts Mono, 20Hz-20kHz Into 4Ω  
Total Harmonic Distortion  
<0.1%, 20Hz-20kHz At Full Rated Power Into 4Ω  
S/N Ratio: 110 dB  
Damping Factor: > 200  
Input Impedance: 10k  
Idle Current Draw: 1.2 Amps  
Maximum Current Draw: 26 Amps  
Dimensions: 11 "W X 7.8"D X 2.13"H  
Input Sensitivity: 250 mV - 2.5 V