SAEv4 SERIES AMPLIFIER OWNER'S MANUAL

SUNDOWN AUDIO

Mono Blocks:

SAEv4 600.1D

SAEv4 1000.1D

SAEv4 1500.1D

SAEv4 2000.1D

SAEv4 3000.1D

Multi - Channel

SAEv4 100.4

SAEv4 150.4

SAEv4 200.4

SAEv4 900.5

This manual is intended to be a guide, installation by a qualified professional is recommended.

DIGITAL MONOBLOCK FEATURES

- Digital Class-D Mono Block Amplifier
- Dual MOS-FET PWM Power Supply
- 1 Ohm Stable Load
- 12 dB/Octave - Variable Low Pass Filter
- 12 dB/Octave - Variable Subsonic Filter
- 4 Way Protection Circuit (Thermal, Voltage Speaker short and DC Offset)
- Wired Remote Control with Clipping Indicator.

DIGITAL MONOBLOCK SPECIFICATIONS

Tested @ 14.4 Volts	SAEv4-600.1D	SAEv4-1000.1D	SAEv4-1500.1D	SAEv4-2000.1D	SAEv4-3000.1D
1Ω Mono RMS	600W	1000W	1500W	2000W	3000W
2Ω Mono RMS	450W	650W	800W	1300W	2000W
4Ω Mono RMS	250W	375W	450W	875W	1300W
Recommended Fuse Rating	60A	100A	140A	180A	250A
Low Pass Filter (-12dB/8) Variable	40HZ - 180HZ				
Sub Sonic Filter (-12dB/8 Variable	10HZ - 40HZ				
RCA Input Sensitivity	6V Max				
Signal Noise Ratio	92dB				
Working Voltage	10.5V - 15.5V DC				
Width	70mm/2.75”	70mm/2.75”	70mm/2.75”	70mm/2.75”	70mm/2.75”
Length	227mm/9.8”	317mm/12.48”	317mm/12.48”	355mm/13.98”	394mm/15.51”
Height	160mm/6.30”	160mm/6.30”	160mm/6.30”	160mm/6.30”	160mm/6.30”

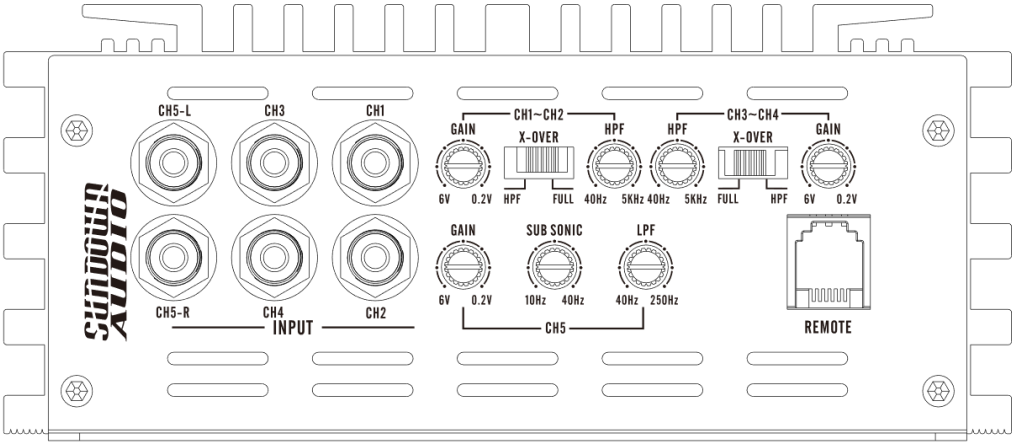
FULL RANGE DIGITAL FEATURES

- High Fidelity Class A/B Multi-Channel Design
- 12dB/Octave-Variable Subsonic Filter
- 12dB/Octave-Variable High Pass Filter
- 12dB/Octave-Variable Low Pass Filter
- Clipping Indicator
- 4 Way Protection Circuit (Thermal, Voltage Speaker short and DC Offset)
- Optional Wired Remote Control with Clipping Indicator.

FULL RANGE DIGITAL SPECIFICATIONS

Tested @ 14.4 Volts	SAEv4-100.4	SAEv4-150.4	SAEv4-200.4	SAEv4-900.5
1Ω RMS	N/A	N/A	N/A	N/A (CH1-4) 500W (CH5)
2Ω RMS	125W x4	225 x4	300W 4	120W(CH1-4) 325W (CH5)
4Ω RMS	100W x4	150W x4	200W x4	80W (CH1-4) 225W (CH5)
Low Pass Filter (-12dB/8) Variable	N/A	N/A	N/A	N/A (CH1-4) 540Hz - 5kHz (CH5)
High Pass Filter (-12dB/8) Variable	40Hz - 5kHz			40Hz - 5kHz (CH1-4) 10Hz - 40Hz (CH5) SUBSONIC
Input Sensitivity	6V MAX			
Signal Noise Ratio	92dB			
Working Voltage	10.5V - 15.5V DC			
Width	70mm/2.75”	70mm/2.75”	70mm/2.75”	70mm/2.75”
Length	378mm/14.88”	456mm/17.95”	490mm/19.29”	441mm/17.36”
Height	160mm/6.30”	160mm/6.30”	160mm/6.30”	160mm/6.30”

WHAT DO ALL THE SWITCHS, KNOBS AND LIGHTS DO?



CH1-CH5 RCA's: RCA signal from source

CH1-CH5 SPEAKER OUTPUTS- This is where your speakers plug in, see the amp specific diagrams for assistance.

GAIN- NOT A VOLUME KNOB, THE INTERNET IS LYING TO YOU ☺, used to set the input signal levels, start from Min and slowly turn clockwise until you hear angels singing or the sirens from the cops looking for you. Scan this QR Code for a video on setting your gains.

CROSSOVER-

HP- Sets the crossover to only use the High pass filter.

FLAT- Turns off the crossover filters (Warning, only use if you have external passive or active filters, not using filters can damage your speakers.

LP/BP- Sets the crossover for Low pass filter, can also be used for Bandpass.

HIGH - High pass filter, used to set max high-level frequency.

LOW- Low pass filter, used to set the minimum low-level frequency.

BOOST (LEVEL)- Often called BASS BOOST, increases the 50Hz signal.

PWR – Power LED, if it's on, your good, if its off, you're not good. See the troubleshooting section if it doesn't turn on.

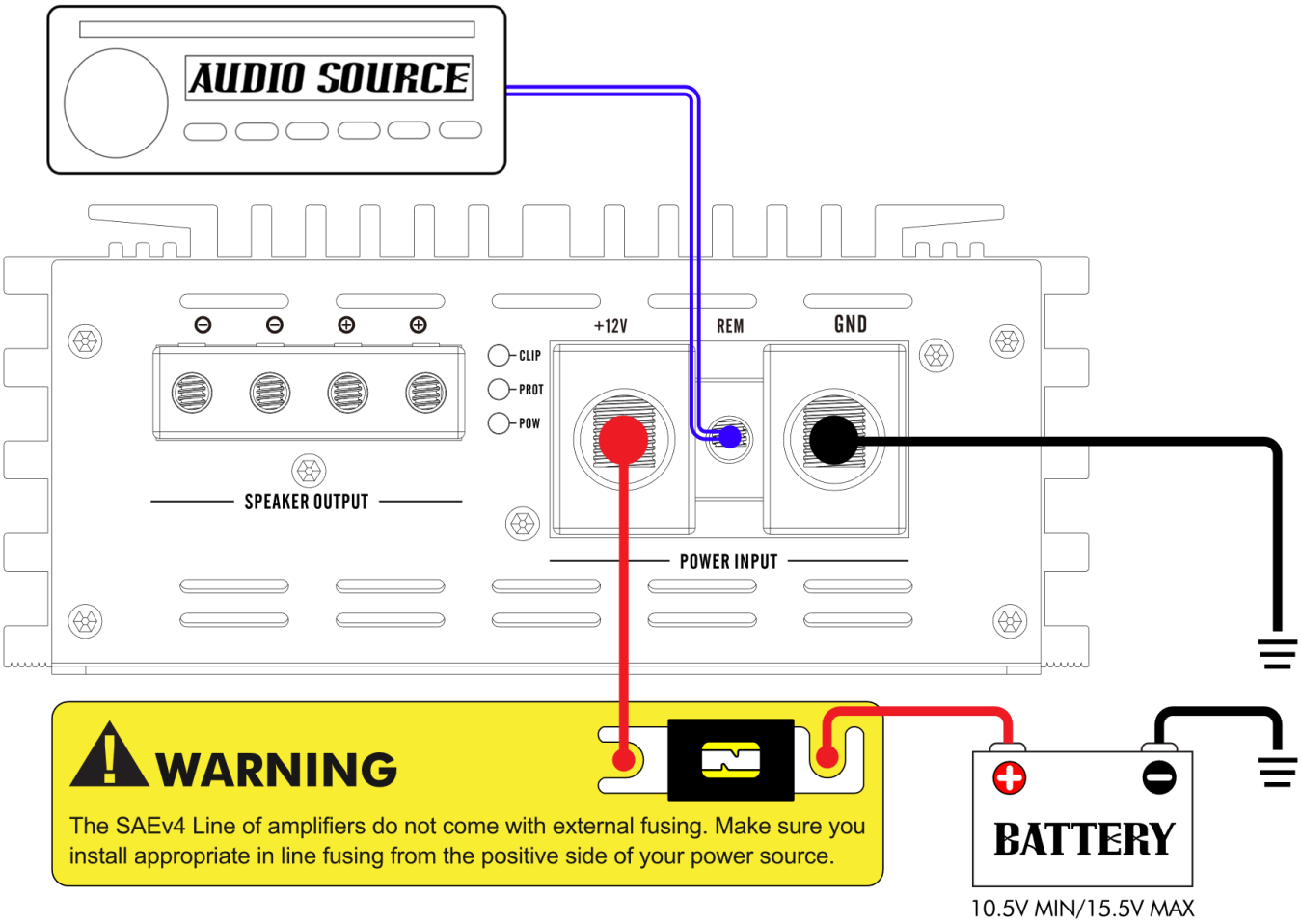
CLIP- Clipping LED, if this is flashing or solid you could damage your speakers, turn down your gain.

PRT- Protect, the amp is in protect mode, see the troubleshooting section for assistance.

Note- The PWR, CLIP, and PRT leds will flash as a test when the amp is first powered on.

REMOTE- Plugin for the external bass knob, used to attenuate the from lowest point to the highest that was set on the amplifier

POWER CONNECTIONS



+12V Battery

You need to connect a power wire to the vehicle's positive battery terminal. This connection must be tight and secure to ensure proper connectivity. This wire must be fused appropriately (see each amplifier's fuse rating under specifications) within 12 to 16 inches for safety. You will then need to connect the power wire to the 12+ terminal of the amplifier with a Phillips screwdriver. Do not install the fuses until installation is complete.

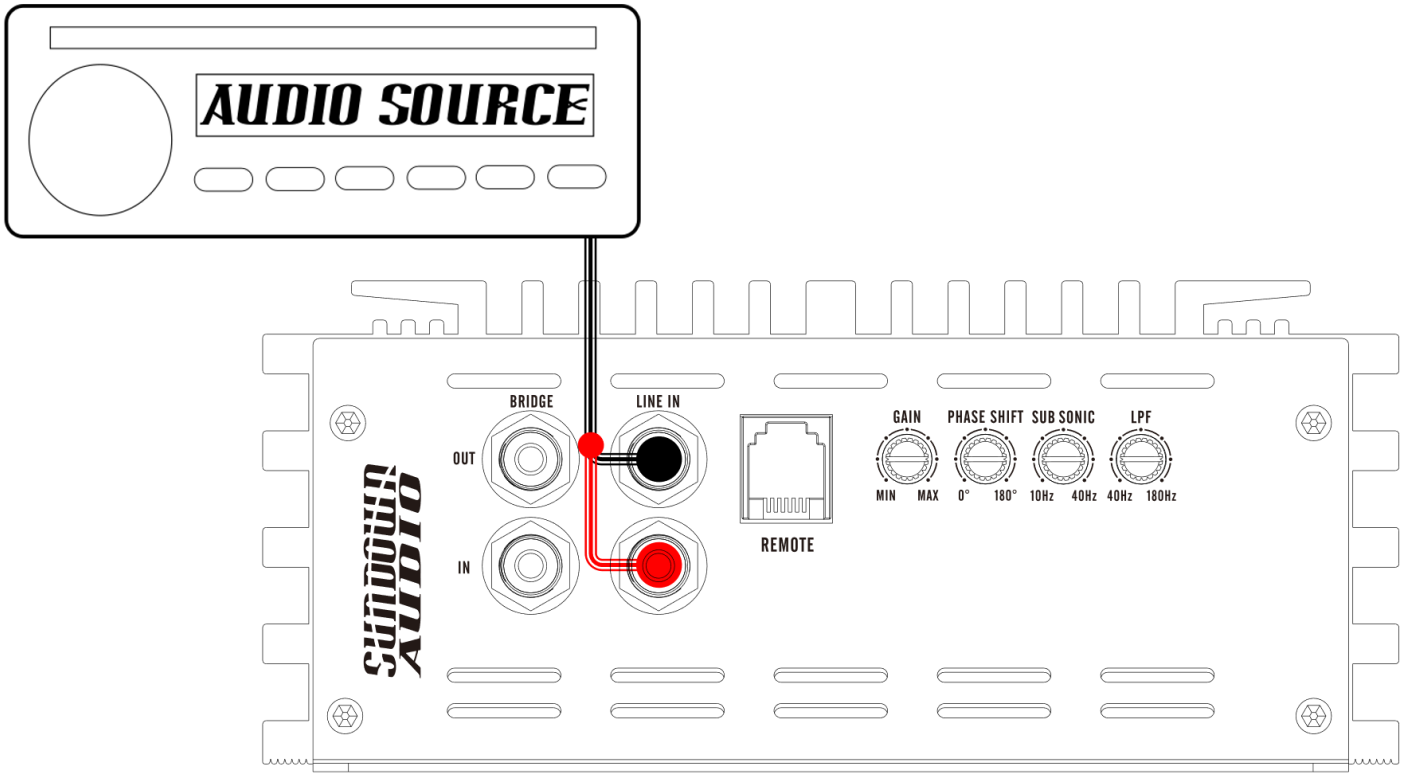
Ground Connection

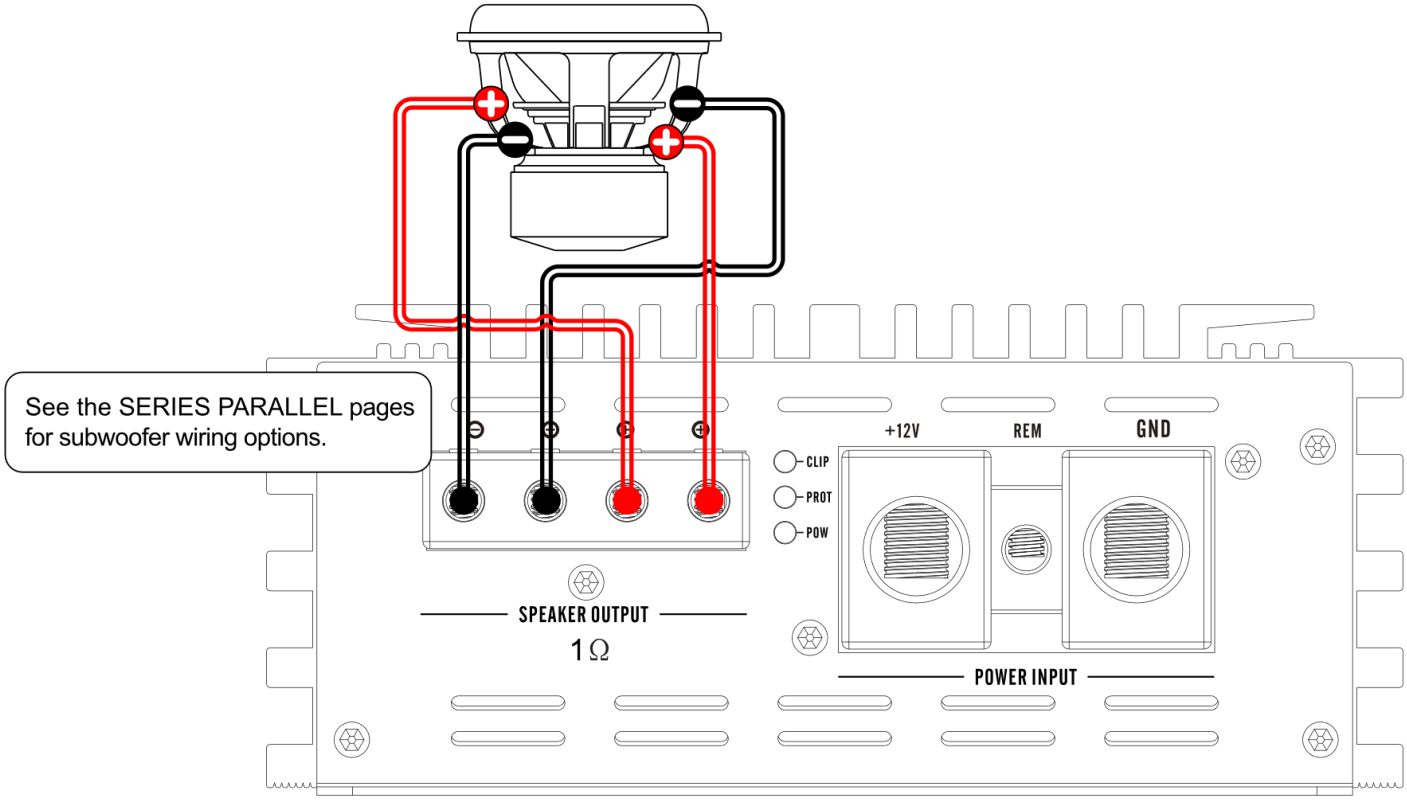
It is recommended that you connect your ground directly to your power source ground for the best possible performance. However, if you cannot, then the ground connection must be made to the vehicle's chassis and should be kept as short as possible, while accessing a solid piece of sheet metal in the vehicle. The surface should be sanded at the contact point to clean rust, paint or grime so a metal-to-metal connection between the chassis and the termination of the ground wire is effective. You will then need to connect the ground wire to the GND terminal of the amplifier with a Phillips screwdriver.

Remote

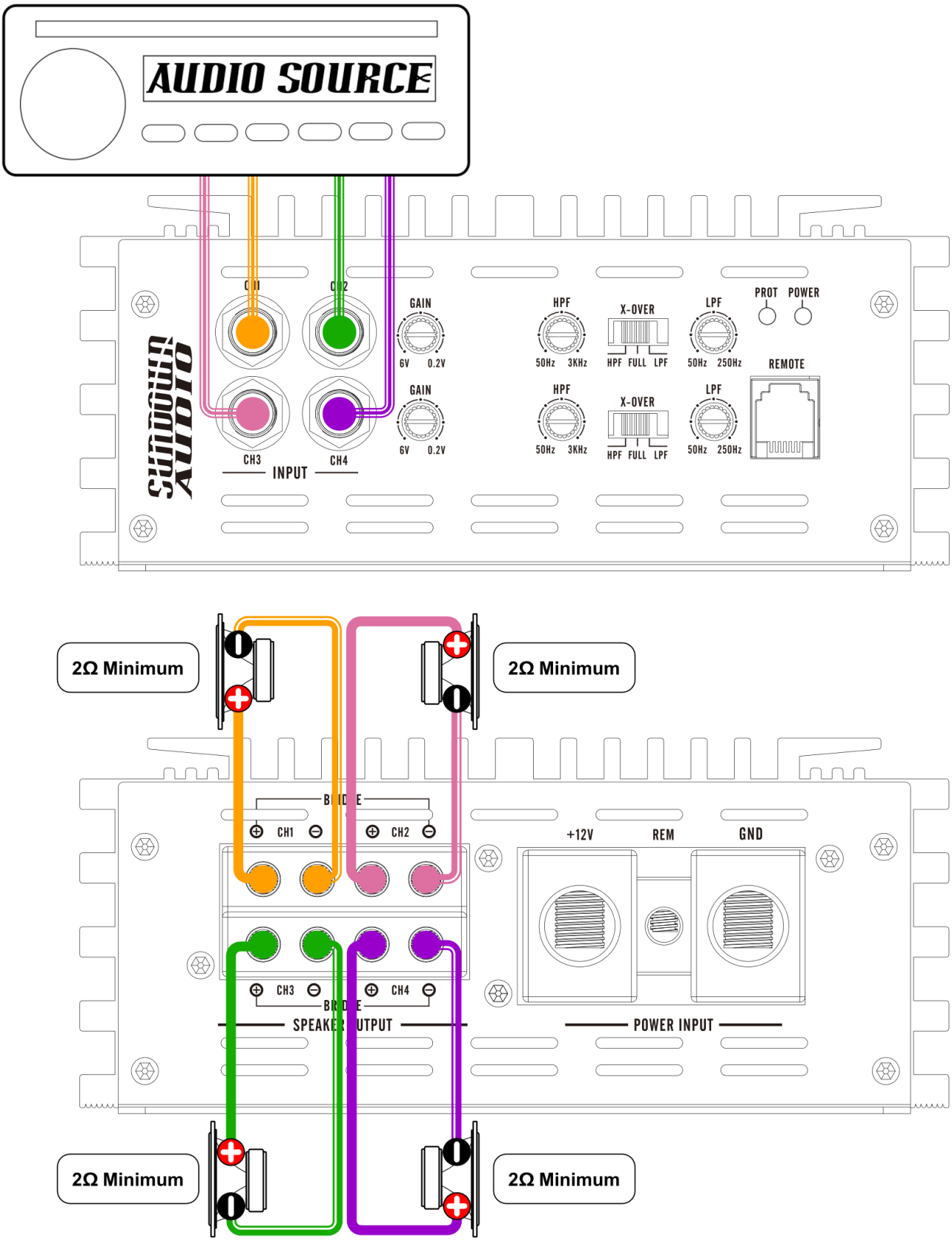
The +12V remote turn-on wire is typically controlled by the source unit's remote turn-on output. The amplifier will turn on when +12V is present at its remote(REM) input and turn off when +12V is switched off. Connect the remote wire using 12 to 16-gauge wire to the REM connection of the amplifier with Phillips screwdriver, then connect the other end of the remote wire to either the source unit's turn on output or ignition switch circuit. The models that have the extra power input will have an extra REM connection noted as OUT, this is intended to allow you to connect your REM line to other devices if needed.

MONOBLOCK INPUT AND SPEAKER CONNECTIONS



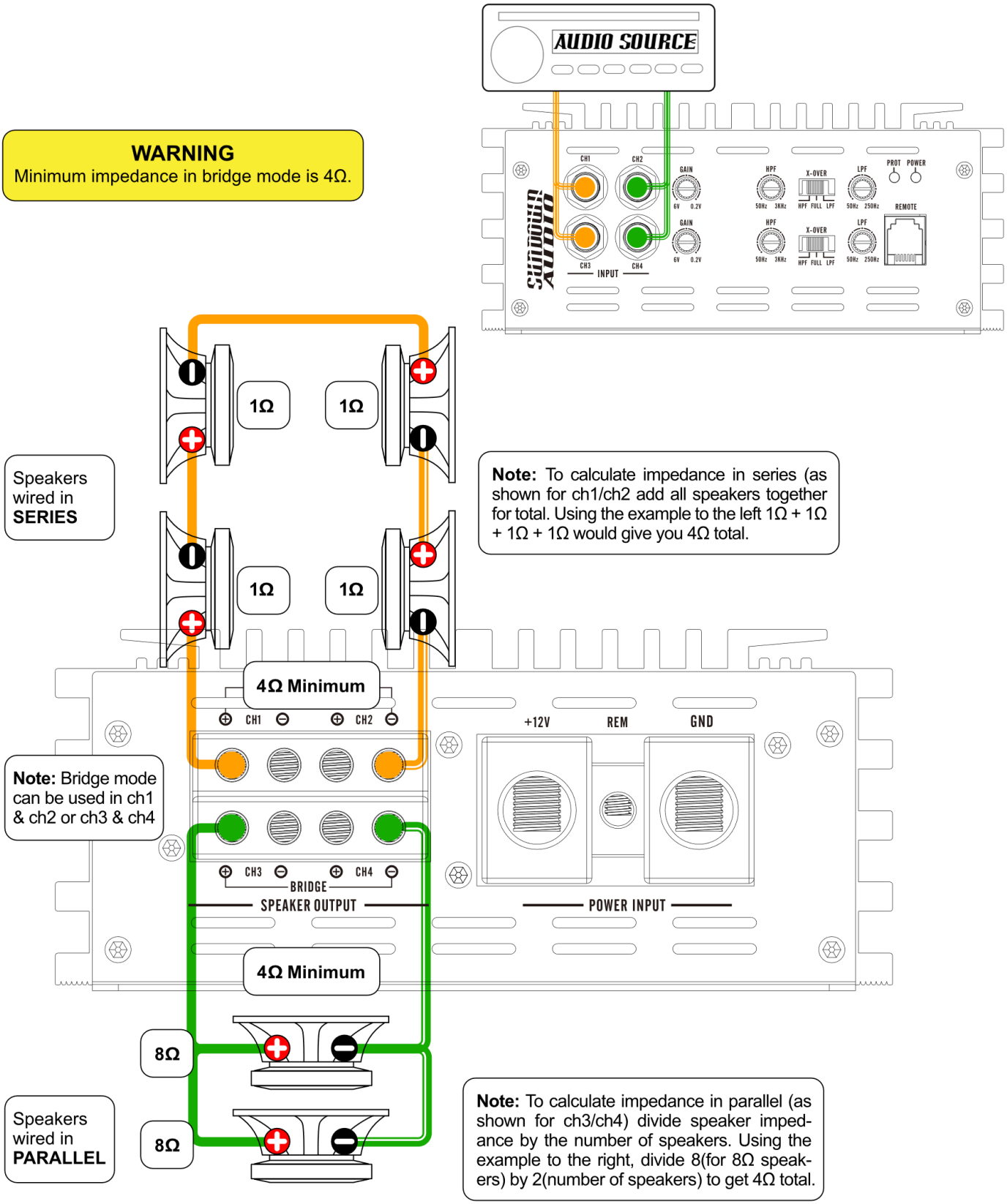


4 CHANNEL FULL RANGE INPUT AND SPEAKER CONNECTIONS



4 CHANNEL BRIDGE MODE FULL RANGE INPUT AND SPEAKER CONNECTIONS

Bridge mode examples for Series and Parallel wiring.

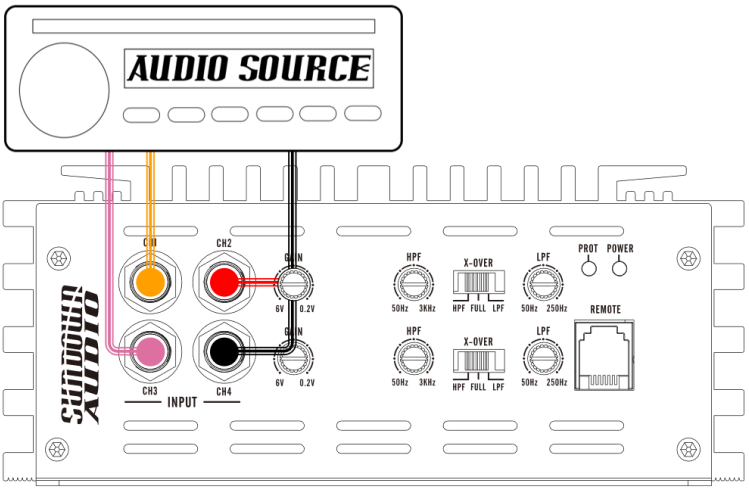


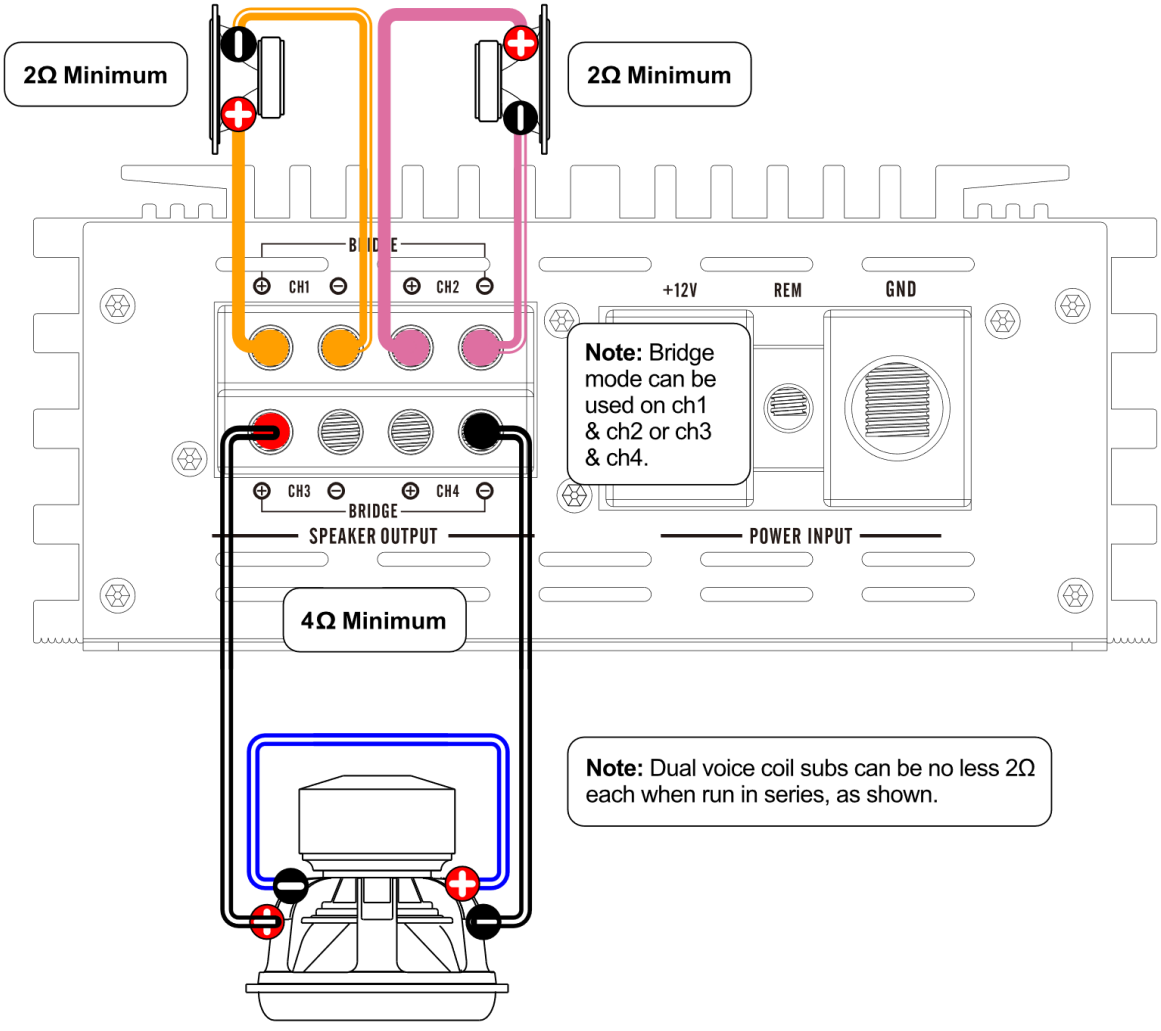
4 CHANNEL BRIDGE MODE FULL RANGE INPUT AND SPEAKER CONNECTIONS

Bridge mode example using a Dual Voice Coil Subwoofer.

WARNING
Minimum impedance in bridge mode is 4Ω

Note: Both input channels in bridge mode are needed and need the same signal. This can be done by using an RCA Y cable/splitter.

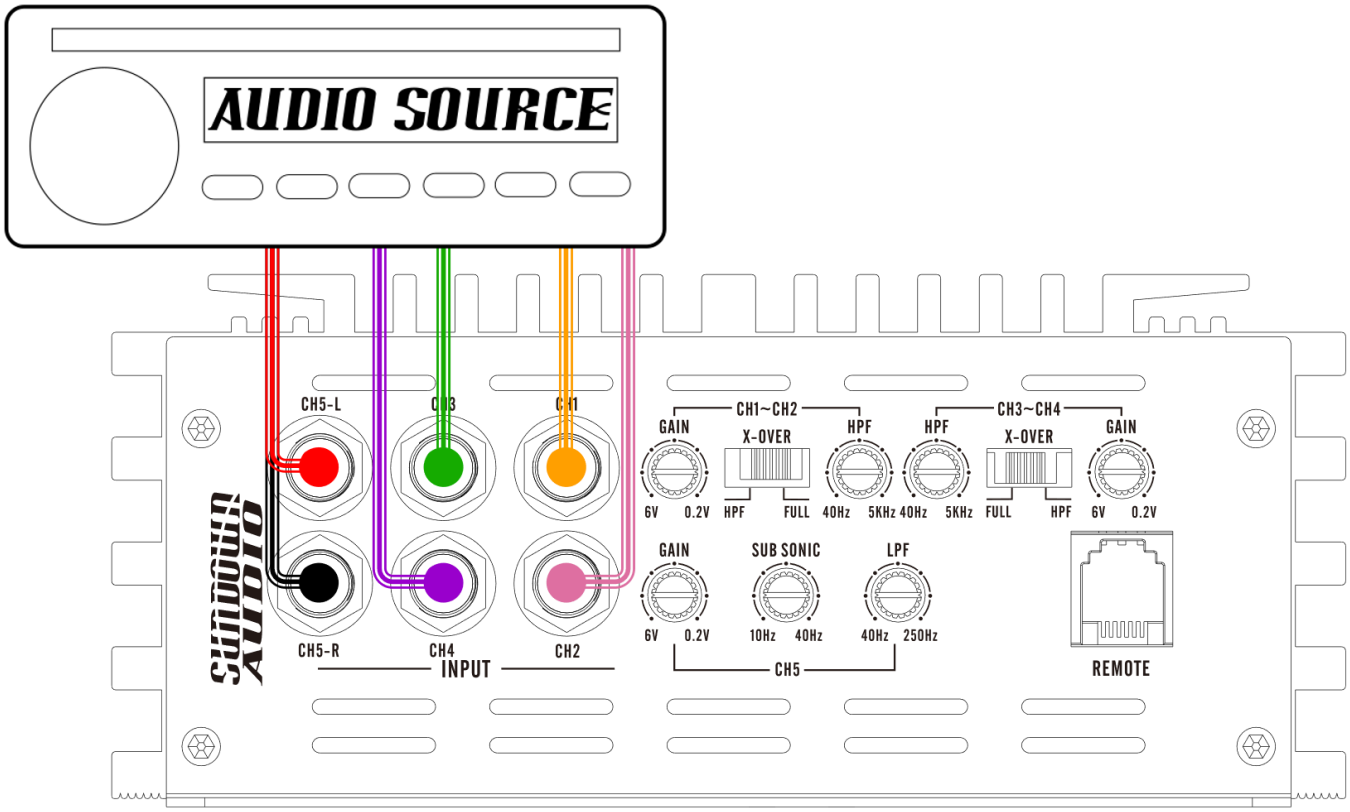


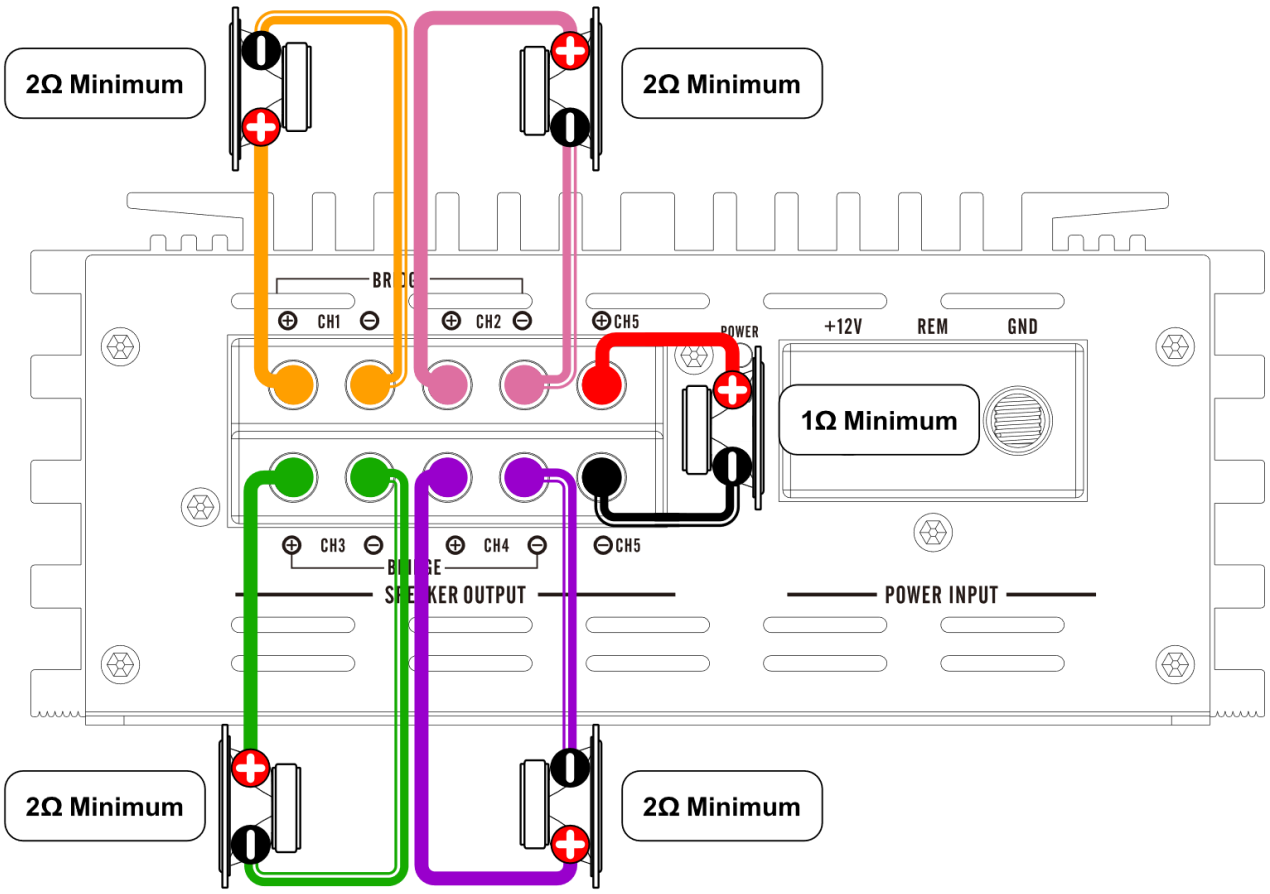


Note: Bridge mode can be used on ch1 & ch2 or ch3 & ch4.

Note: Dual voice coil subs can be no less 2Ω each when run in series, as shown.

5 CHANNEL FULL RANGE INPUT & SPEAKER CONNECTIONS





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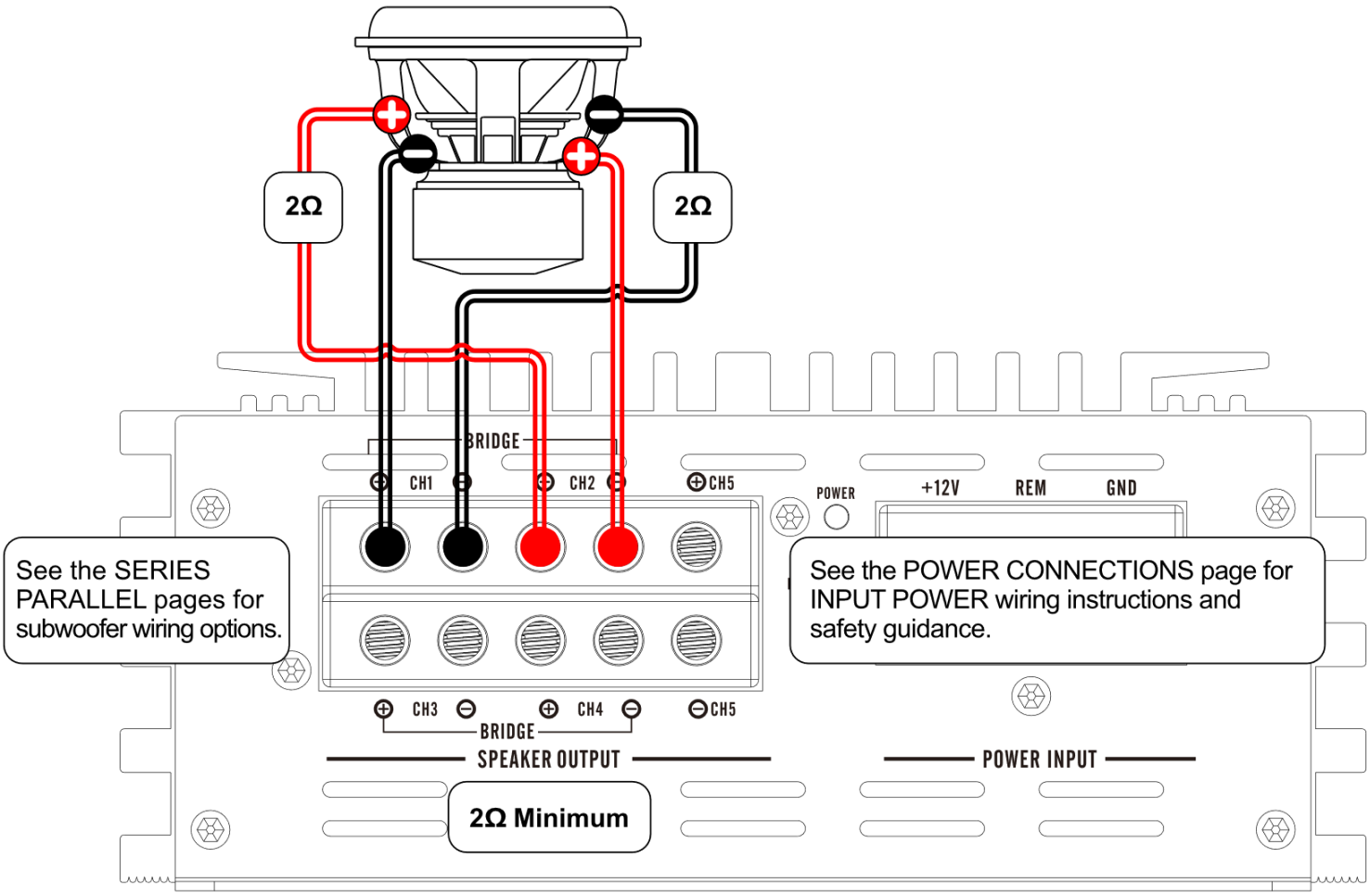


SERIES/PARALLEL WIRING OF DUAL COIL SUBWOOFERS

Subwoofer planning

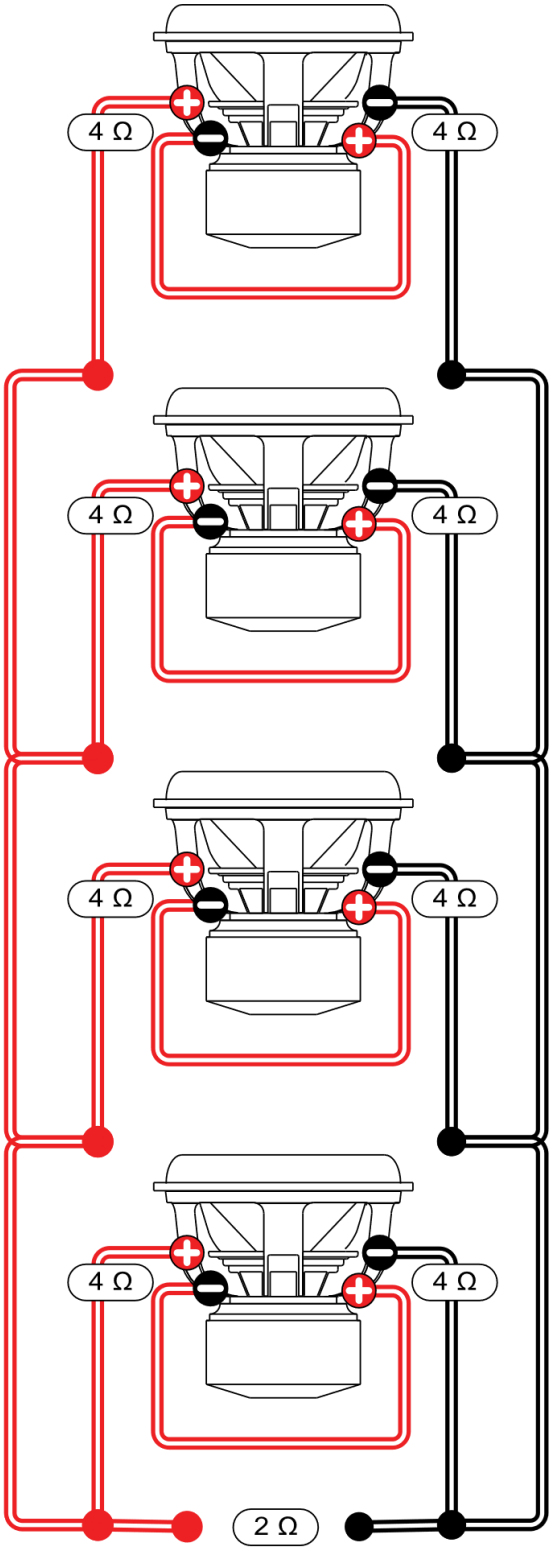
When using more than one subwoofer, you have to make sure your total impedance does not go below the minimum level of the amp, see the specification charts for your amplifier's minimums. Use the chart below to help with your design.

# of Dual Coil Subwoofers	Coil Impedance		
	D4	D2	D1
2	4.00	2.00	1.00
3	2.67	1.33	0.67
4	2.00	1.00	0.50
5	1.60	0.80	0.40
6	1.33	0.67	0.33
7	1.14	0.57	0.29
8	1.00	0.50	0.25

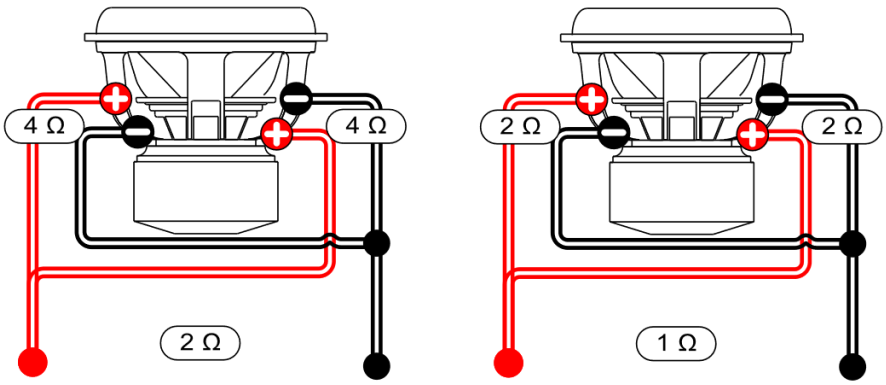
Safe for use where the minimum impedance is 2Ω and up.

Safe for use where the minimum impedance is 1Ω and up.

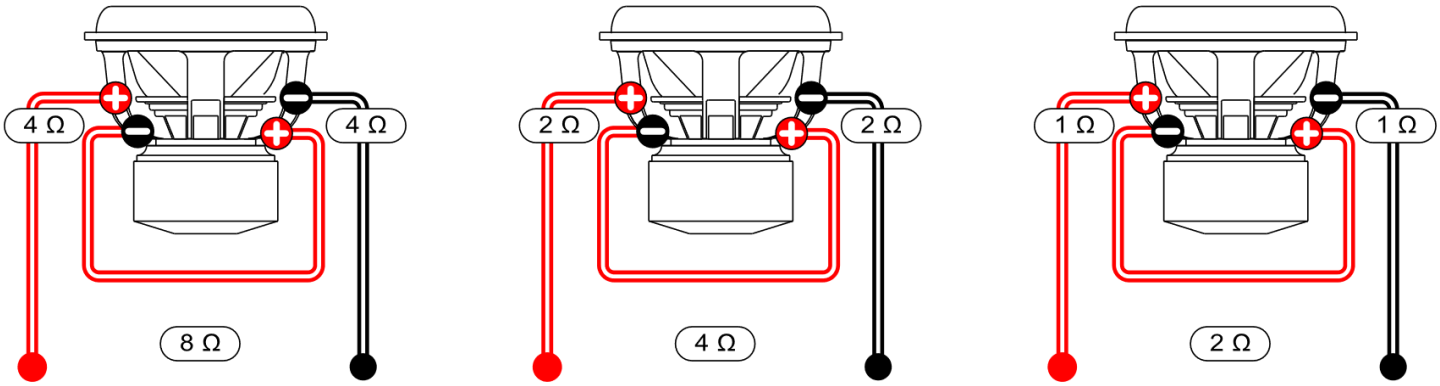
DO NOT USE
Impedance is too low.



PARALLEL WIRING OF DUAL COIL SUBWOOFERS



SERIES WIRING OF DUAL COIL SUBWOOFERS



WARRANTY

Your new Sundown Audio amplifier is covered by a 2-year limited warranty if purchased from an Authorized Sundown Audio dealer. This warranty does not cover improper installation, accidental damage, misuse, abuse, improper wiring, operation of unit outside of listed specifications, or any product that has been modified or repaired by anyone other than Sundown Audio. Your warranty covers defects in materials and/or workmanship ONLY and is not an insurance policy. The warranty only covers the original owner of the amplifier and is non-transferable. Wear and tear are not considered a manufacturer defect.

All warranty returns must be accompanied by a copy of the original sales invoice or receipt. You must contact us to request an RMA number prior to sending any returns via the RMA request form on our website. You are responsible for the cost of shipping your amplifier back to us for warranty consideration. If your amplifier is covered under warranty ground shipping back to you will be no charge (within the continuous continental 48 US States). If your amplifier is replaced/repaired outside of warranty, if no defect is found, or you choose to have your item sent back to you your shipping will be billed to you.

At the sole discretion of Sundown Audio your amplifier will be either repaired, replaced, or offered to be exchanged for a different item of like kind and quality when it is being covered under warranty. In the event of shipping damage due to improper packaging on products being returned to Sundown Audio, the customer is liable of the cost of all damages, necessary repairs, or replacement. Be sure to properly package your return. Please keep your tracking number available in case of missing/lost packages as you would need to contact the shipping carrier you chose to file a claim for a missing/lost package.

In no event will Sundown Audio be liable for incidental, consequential, or other damages resulting from the use of this product. This includes but is not limited to, damage of hearing, property or person, damage based upon inconvenience or on loss of use of the product, and to the extent permitted by law, damages for personal injury. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

Sundown Audio also offers a 5-Year discounted trade-in program for select items. We are so certain of the quality of our equipment that for certain models we will offer a trade credit on working and non-working models. Credit amounts can vary based on inspection by our returns department. Any quotes given prior to receiving an item for trade are subject to change. Contact us via our RMA form to take advantage of this offer. This offer only applies with a proof of purchase.

TROUBLESHOOTING

All Sundown Audio amplifiers have multi-layer protection features to prevent damage from misuse or faulty conditions to ensure long lasting life of your investment. If the unit senses excessive heat, short circuited speakers, overload, or voltage fluctuation outside of the working range the protection indicator light will turn red and the unit will turn off. In order to solve this problem, you should turn all levels down, power off the unit, then carefully check the installation for wiring mistakes or shorts. If the amplifier is excessively warm the protection light will not turn on as the unit will turn off to protect itself from overheating. Let the unit cool down for 30 minutes and try again. If the unit works, try moving the amplifier or make sure nothing is covering it so it can vent heat from the heatsink. Before you remove or uninstall the amplifier, refer to the list below for suggested solutions.

Amplifier Doesn't Turn On or No Output

- Check the fuse(s), not just visually, but with a continuity meter and all 12+ volt, remote and ground connection. Make sure you have 13+ volts. It is possible for a fuse to have poor internal connections, take the fuse out of the holder for the testing.
- Check the input signal from the source unit using an AC voltmeter to measure the voltage while it's being played. The voltage should be from 0.2 to 6.0 volts from the RCA cables.
- Check the output of the amplifier, test for output at the speaker outputs of the amplifier.
- Check to ensure that the speaker wires are making a good connection to the amplifier and the subwoofers.

Amplifier Goes Into Protection

- Check shorts on speaker wires or open coil.
- Check input voltage from RCA, if DC signal is over 4 volts, the amplifier will go into protect. Remove and reset the power to the unit to check if it will turn on.
- Check impedance to make sure it's over the minimum load, see the specification charts in this manual for the minimums of your specific amp.
- Check input voltage. The amplifiers covered in this manual have a working range of 10.5 to 15.5 volts.
- Check chassis ground and remote using same ground.

Distorted / Attenuated / Noise Sound

- Check the chassis ground connections of all audio equipment.
- Check amplifier controls for errors, input level or crossover setting.
- Check the speaker wires for a possible short, either between the positive and negative leads or between a speaker lead and the vehicle's chassis ground.
- Check the nominal load impedance to verify that the amplifier is driving a load equal to or greater than the specified minimums, see the specification charts in this manual for the minimums of your specific amp.
- Check the input signal and input signal cables to make sure signal is present at the amplifier inputs and the cables are not pinched or loose. It may be helpful to try a different set of cables and / or a different signal source to be sure.
- Check speaker wiring for reverse polarity.
- If you hear a pulsing sound from your speakers, it means that there is something being overdriven.
- This could be due to a gain being set too high or a speaker impedance being too low, see the specification charts in this manual for the minimums of your specific amp.

SUNDOWN AUDIO

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