



INSTRUCTION MANUAL

225.4F

CLASS D FULL RANGE 4 CHANNEL POWER AMPLIFIER

Congratulations on choosing a SUONO amplifier! At SUONO we are proud of our products and we stand behind them with our name, technical advice and guarantee. If you have any questions or comments, do not hesitate to contact us, we will gladly assist you. For the installation of your new SUONO equipment, we highly recommend you go to an authorized dealer.

FEATURES AND SPECIFICATIONS:

225 Watts RMS x 4 @ 4 Ohms; **360** Watts RMS x 4 @ 2 Ohms; **720** Watts RMS x 2 @ 4 Ohms @ Input Voltage 13.8 Volts.

Minimum load per channel: 2 ohms. Minimum load Bridge mode: 4 ohms. Double Bridge operation capable.

Low-Pass fourth order filters (24 dB / octave) continuously variable from 40 to 4,000 Hertz.

High-Pass fourth order filters (24 dB / octave) continuously variable from 40 to 4,000 Hertz.

Bass Boost, up to 6 dB @ 50 Hertz.

Frequency Response: 20 to 40,000 Hertz \pm 1 dB, distortion \leq 0.05% THD + N.

Signal to Noise Ratio \geq 105 dB

External Remote Controller for channels 3 and 4.

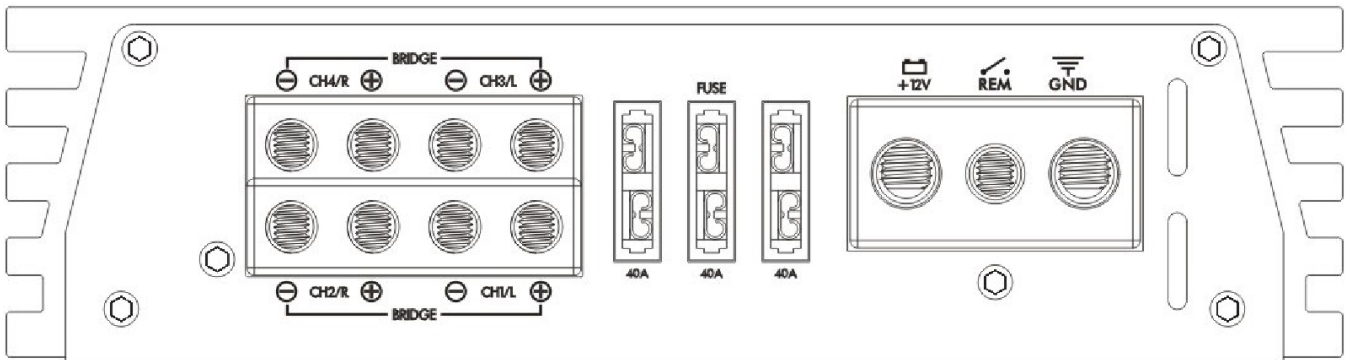
Three integrated 40 Ampere fuses.

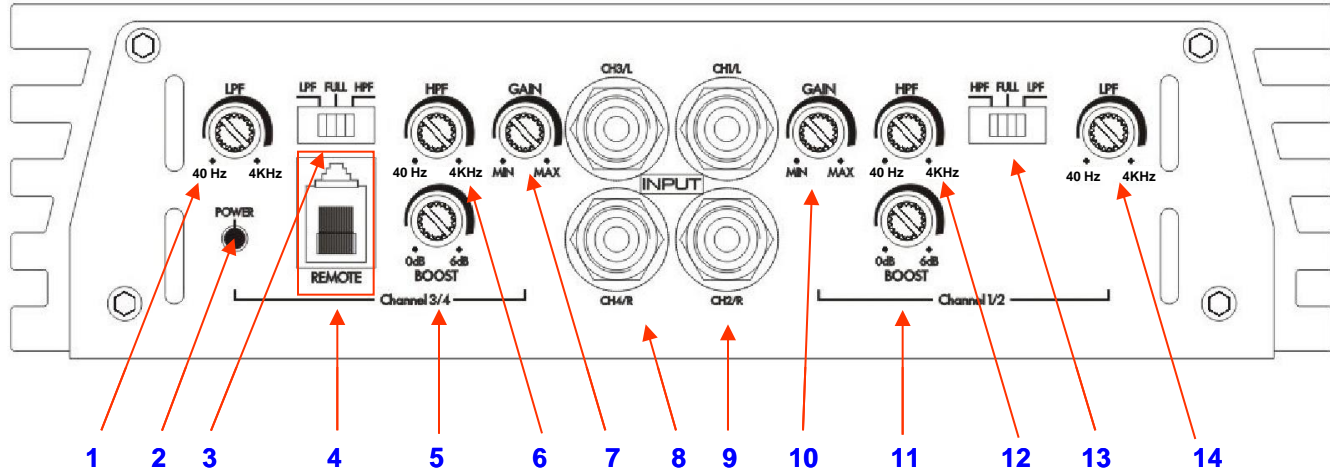
To get the most out of your new SUONO amplifier, please study this manual. This device is capable of producing considerable acoustic sound pressure levels inside a car. Please use common sense and take care of your ears. It is recommended to always start the vehicle's engine before operating any audio equipment. Install an inline fuse in the power cord within 15 inches of the positive battery post. This fuse's function is to protect you and your car in case of an accident. The gauge of the current carrying cables to be used is one of the most critical points of the installation and will depend on how long it has to be to reach the amplifier(s), how each one of them is configured, and the number of amplifiers drawing power from it. For this amplifier alone, if working at full load, consider an AWG No. 0 copper wire.

To prevent engine noise from entering the system, one side of the car should be designated exclusively for the power cable and the other for all other cables, such as RCAs, Remote, Speakers, etc. Twisted pair RCA cables are the most immune to magnetically induced noise. The ground connection must be made to a point on the chassis close to the amplifier, using the same gauge of cable used for the positive, in a star ground connection (each device with its own cable, all to the same point). The correct place to take the ground or negative will be a not cluttered zone, where the car's metal chassis has good thickness. Once located, it could be drilled and sanded until all traces of paint have disappeared. Then, secure all grounds using a steel bolt with a nut, lock washer or star washer; a drywall screw is not enough or recommended. The ground of the device with the highest power should be closer to the chassis. Be careful never to attach an amplifier by screwing it directly to the car's chassis, as this may create a 'double ground', making it easier for engine noise to enter; always fix them first to some flat piece of wood or equivalent as a base. To avoid overheating, it is important to never install an amplifier upside down, with an acoustic enclosure leaning on it, near major sources of heat such as just above where the muffler passes, where it could be hit by the sun, or in any other way in which a good flow of fresh air is not available. If it is not possible to comply with these recommendations and the amplifier is turning-off because of overheating, it may be necessary to install a fan to help it keep its temperature within its operating range. The amplifier has several built-in self-acting protection circuits, as well as input fuses.

CONEXIONS, CURRENT AND OUTPUTS:

This amplifier accepts power wire up to 4 AWG and speaker wire up to 8 AWG. The block on the left is the speakers outputs. Its four output channels are marked. Pay attention to polarities. The BRIDGED outputs correspond to the upper and lower extreme connectors, that is, to configure channels 1 and 2 in Bridge, the (+) CH1 and (-) CH2 outputs must be used; to configure channels 3 and 4 in Bridge, the (+) CH3 and (-) CH4 outputs must be used. Three 40 Amp fuses are at the center. Replace them only with fuses of equal rating. On the right is the block of currents. The one marked as +12V should be connected to the cable that comes directly from the positive terminal of the battery. At the center is the Remote (REM); connect it to the Remote output of your stereo to turn on the amplifier, typically with the help of a relay. On the right is the ground terminal (GND), which must be connected to the car's chassis, as explained in the previous paragraph.





CONEXIONS, AUDIO SIGNAL AND ADJUSTMENTS

1. LPF (Low-Pass Frequency). If the selector for the type of filter (3) is located in the LPF position, this knob allows you to vary the cutoff frequency of the Low-Pass filter between 40 and 4,000 Hertz for channels 3 and 4.

2. Status LED. When first turned on, the LED lights up red. This corresponds to the self-diagnosis stage. If everything is OK, the led changes to blue, and the amplifier starts working normally. In the event the amplifier goes into self-protection mode, either due to a short circuit, overheating, or any other cause, the LED will return to red. If the amplifier suddenly turns off after being playing (red LED), and it's **very** hot to the touch, we should ask ourselves the following question: Assuming it started playing completely cold (the first time it was turned on today), how long did it take to turn-off and get very hot? Less than about four minutes? The problem may be that the impedance of the load is lower than recommended or that there is a serious error in the installation. If the device takes 20 minutes or more to turn off (perhaps even a couple of hours), the culprit may be inadequate heat dissipation, that is, the place or way in which it was installed does not allow it to cool properly. The solution would be to install it in a different place or position, or to install a fan (typically as an extractor) to help it keep its temperature within its operating range.

3. Filter type selector for channels 3 and 4. This switch allows you to select the type of filter (crossover) to be applied to channels 3 and 4. You can choose between a Low-Pass Filter (LPF), no filter at all (Full Range), or a High-Pass filter (HPF).

4. REMOTE. The cable from the External Remote Controller should be inserted here. It allows you to adjust the gain of channels 3 and 4 from the front of the car. It is a replica of the GAIN knob (Item 7) but works from its maximum adjusted setting, downwards, only as an attenuator. **Note: the cable supplied for the Remote control is NOT the same size at both ends, and is shielded.**

5. Bass Boost. Single-band equalizer centered at 50 Hertz, which allows the signal to be amplified up to 6 dB. Works on channels 3 and 4.

6. HPF (High-Pass Frequency). If the selector for the type of filter (3) is located in the HPF position, this knob allows you to vary the cutoff frequency of the High-Pass filter between 40 and 4,000 Hertz on channels 3 and 4.

7. Gain for channels 3 and 4. This knob allows you to match the output voltage or volume of your stereo or device immediately before, with the sensitivity of the amplifier. To adjust it, select a piece of music on your stereo with good dynamics, turn this control all the way down, turn the volume control of your stereo up to its full output before distortion (which might be 90% of the volume control's travel), and then slowly raise this **Gain** to just before distorted sounds are perceived. Although this technique should provide acceptable results, it is best to go to a SUONO dealer to have it professionally adjusted with the help of measuring instruments like an oscilloscope.

8. RCA inputs for channels 3 and 4. Connect the RCA signal cables coming from the stereo here.

9. RCA inputs for channels 1 and 2. Connect the RCA signal cables coming from the stereo here.

10. Gain for channels 1 and 2. This knob allows you to match the output voltage or volume of your stereo or device immediately before, with the sensitivity of the amplifier. To adjust it, select a piece of music on your stereo with good dynamics, turn this control all the way down, turn the volume control of your stereo up to its full output before distortion (which might be 90% of the volume control's travel), and then slowly raise this **Gain** to just before distorted sounds are perceived. Although this technique should provide acceptable results, it is best to go to a SUONO dealer to have it professionally adjusted with the help of measuring instruments like an oscilloscope.

11. Bass Boost. Single-band equalizer centered at 50 Hertz, which allows the signal to be amplified up to 6 dB. Works on channels 1 and 2.

12. HPF (High-Pass Frequency). If the selector for the type of filter (13) is located in the HPF position, this knob allows you to vary the cutoff frequency of the High-Pass filter between 40 and 4,000 Hertz on channels 1 and 2.

13. Filter type selector for channels 1 and 2. This switch allows you to select the type of filter (crossover) to be applied to channels 1 and 2. You can choose between a Low-Pass Filter (LPF), no filter at all (Full Range), or a High-Pass filter (HPF).

14. LPF (Low-Pass Frequency). If the selector for the type of filter (13) is located in the LPF position, this knob allows you to vary the cutoff frequency of the Low-Pass filter between 40 and 4,000 Hertz for channels 1 and 2.

WARRANTY:

SUONO products are guaranteed for one year for the original retail purchaser against defects in material and workmanship. Products found to be defective will be repaired or replaced (at SUONO's discretion) at no charge. Damage caused by misuse, abuse, product modification, accidents, improper installation, water, and unauthorized repair attempts is not covered. Cosmetic or finish damages are not covered. Products not purchased in the United States from an authorized dealer are not covered. Incidental or subsequent damages to other products are not covered. Any costs or expenses for removing and/or reinstalling the product are not covered. SUONO's total liability will not exceed the purchase price of the product. Some states do not allow limitations on implied warranties so this may not apply to you. You are responsible for the shipment of your product to SUONO. Please get in touch with SUONO first to get a Return Authorization Number.

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