

**SSL<sup>®</sup>**

# USER MANUAL

**LoPro8**

LOW PROFILE AMPLIFIED SUBWOOFER





Thank you for choosing our product!

Please read the instructions carefully so you will know how to operate your product properly.

If there are any technical questions, please contact:

Customer care: (805) 751-4855 & Live chat

Online support: [www.soundstormlab.com/support](http://www.soundstormlab.com/support)

**IMPORTANT**

Please enter below the Serial No. which is located on the exterior of the product. Retain this information for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_

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## Introduction

This product is designed as a car subwoofer with a built-in amplifier to work with your full range speakers for optimal sound reproduction. The product is low enough to easily fit below the seat of your car, and serves as an addition to your car audio system.

This product has a low pass filter (LPF), subsonic filter, bass boost control, phase control and input gain control. These allow you to adjust sound effects to suit personal need.

This product offers you two wiring alternatives for audio signal input (low and high level inputs). It can also auto-sense high level input to power on automatically, without the need to connect the remote wire to the remote terminal on this product.

## Package Contents

When first unpacking your new amplified subwoofer, please check that the package contains each of the items listed below. If something is missing, contact the store where you purchased the product.

- 1 x LoPro8 amplified subwoofer
- 1 x Remote subwoofer control
- 1 x Remote subwoofer control cable
- 1 x High level input wire harness
- 4 x Screws and rubber washers (for subwoofer mounting)
- 2 x Screws (for remote subwoofer control mounting)
- User manual and warranty card

## Important

**Read and understand all instructions before you use your product. If you do not follow the instructions in this manual, we are not responsible for any resulting personal injury or damage to property. This will also void the warranty.**

### Important Safety Precautions

- Do not open or attempt to repair this product yourself. Dangerous high voltages are present which may result in electric shock.
- To avoid risk of electronic shock or damage to the product, do not permit the product to become damp or wet from water or other liquids. If this does occur, immediately unplug the power wires and send the product to your local dealer or service center as soon as possible.
- Be sure to observe the following guidelines:
  - Do not increase speaker volume so high that you cannot hear what is around you.
  - Use caution or temporarily discontinue use in potentially hazardous situations.
- Do not make any adjustment on the product when driving or in other situations where distractions can be hazardous. Responsible and safe driving is your primary responsibility when operating a vehicle.
- Start volume at a low setting then gradually increase the volume until you can hear it comfortably, without sound distortion or ear discomfort.
- In the event of smoke, strange noise or odor emitted from the product or any other abnormal operational signs appearing on the product, disconnect the product from the power supply. Discontinue use and contact your dealer or our technical support. Using the product in this condition may result in permanent damage to the system.
- Servicing must only be carried out by a technician. Contact our technical support for any service questions.

### Installation Precautions

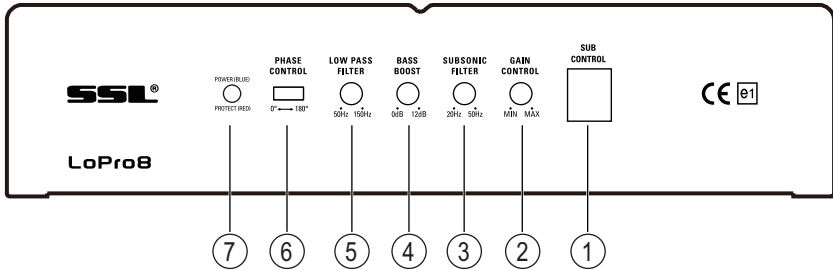
- **WARNING: Always consult a professional installer.**
- Installation must be performed by a professional. Contact our technical support for any installation questions.
- Always wire the product to the power source (battery) through a fuse to prevent a short circuit and fire.
- Before installation, disconnect the negative terminal of the vehicle battery to prevent damage to the product, fire, and/or possible injury.
- Use only installation parts provided with the product. Using other mounting methods may void the warranty.
- Never operate the product when it is not mounted. Make sure the product is securely mounted and all the cables are securely connected to prevent damage, especially in an accident.
- Observe the safety and operating instructions of the devices which are connected to the product.
- **Important!** Replace the faulty fuse with the same type and rating. Using a different fuse type or fuse rating may result in damage to the product or vehicle, or cause a fire.
- **Do not** use any aggressive cleaning agents. Clean the product with a dry, fiber-free cloth.

### Environmental Care

Do not throw away the product with normal household waste at the end of its life. Follow your local laws if/when disposing of electronic products. By doing this, you help preserve the environment.

# Panel Controls and Features

## Front Panel



### 1. Remote Subwoofer Control Port

Connect to the supplied remote subwoofer level control. Use the remote control to independently adjust the volume level of the subwoofer.

### 2. Input Gain Control

Adjust the input level to this subwoofer so as to match the output level from your source unit (head unit).

**Important!** Do not adjust the input level to maximum unless your input level requires it.

Follow the steps below to set your input level correctly.

- On this subwoofer, turn **GAIN CONTROL** to minimum.
- On your source unit, turn the volume to about 3/4 full level.
- Slowly turn up **GAIN CONTROL** until you hear a small amount of distortion. Then turn down **GAIN CONTROL** until the distortion is completely gone. Leave the gain control at this setting.

### 3. Subsonic Filter

Use this control to filter out low frequency noise and rumble.

### 4. Bass Boost Control

Use this control to increase sound output level of the bass frequencies.

### 5. Low Pass Filter (LPF)

Use this control to define the frequency range you want the subwoofer to receive. The subwoofer will only receive the frequencies below the one you set to reproduce sound.

**Tip:** If the other speakers of your audio systems are weak on the mid frequencies, set **LOW PASS FILTER** relatively high. If the midrange is well covered by the other speakers of your audio system, set **LOW PASS FILTER** relatively low to only receive lower frequency signal.

### 6. Phase Control

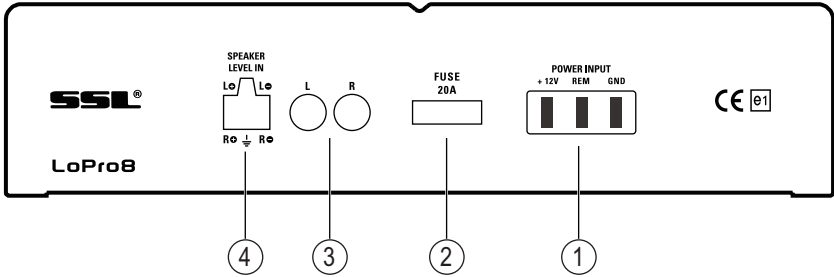
Press to improve bass response (no or little bass sound) caused by time alignment problem in the audio system. This problem usually results from having this subwoofer at a different distance from the listener than the other speakers in the audio system.

### 7. Status Indicators

Blue LED: the subwoofer is powered on and operational.

Red LED: the subwoofer is in protection mode and not operational. This problem is caused by input overload, short circuit or extremely high temperature.

## Rear Panel



### 1. Power Terminals

**GND:** Connect to the vehicle's metal frame. Ground cable should be as short as possible.

**REM:** Connect to the remote output wire of your head unit for turn on/off control on this subwoofer. No need to make the remote connection if you use high-level input connection. High-level input connection auto detects DC voltage to activate on/off control.

**+12V:** Connect to the positive terminal of the 12V vehicle battery.

### 2. Fuse Holder

Insert a 20A blade type fuse (ATO) to provide protection of the circuitry. Do not use a fuse with a different rating. Never replace the fuse with a wire or coin.

### 3. Low-Level Input (RCA Input)

Connect to the RCA outputs on your head unit. For best audio performance, low-level input is recommended for audio signal input to this subwoofer if RCA outputs are present on your head unit or signal processor.

### 4. High-Level Input (Speaker Level Input)

Connect to the speaker wires on your head unit. If your head unit does not have RCA outputs, use the speaker wires on the head unit for audio signal input from your head unit.

## Subwoofer Setup Procedure

1. Secure this subwoofer in your vehicle. See the section "Mounting" on page 6.
2. Disconnect the negative terminal of the vehicle battery to prevent a short circuit.
3. Establish audio signal input (low-level or high-level inputs). See the section "Low Level Input Wiring" or "High Level Input Wiring" on page 7.
4. Make power connection on this subwoofer. See the section "Power Connection" on page 8.
5. Recheck all connections to ensure correct and secure power/signal inputs.
6. Set **GAIN CONTROL** to the minimum position.
7. Reconnect the negative battery terminal.
8. Turn on your source unit, then this subwoofer automatically turns on.
9. Set the source unit volume to about 3/4 full level, then adjust this subwoofer's **GAIN CONTROL** to just below the level of distortion.
10. Fine tune the various controls on this subwoofer to obtain best results.

## Important notes on input level control

- The **GAIN CONTROL** is designed to adjust the input level to the subwoofer so as to match the output level from your source unit. It is not a volume control!
- Never adjust the input level to maximum unless your input level requires it.
- Failure to notice these instructions will result in an input overload to the subwoofer and excessive audio distortion. It can also trigger protection mode, or may cause damage to the subwoofer or your speakers.

## How To Optimize Sound Performance

If this subwoofer has reduced sound performance, or a bass loss, optimize it as follows.

- This subwoofer is only used to boost bass as a supplement to your audio system. Make sure your audio system also has full range speakers for integration of the deep bass with midrange and treble, so that ideal sound can be created.
- Recommend to operate this subwoofer in an enclosed area with length <20' (6m) and width <10' (3m).
- Set both source and subwoofer volume to your normal listening level, then make the following adjustments:
  - Set **BASS BOOST** to 1/4.
  - Set **SUBSONIC FILTER** to 20Hz.
  - Set **LOW PASS FILTER** to middle, or set the Filter according to the following guidelines:
    - If the other speakers of your audio systems are weak on the mid frequencies, set the Filter relatively high.
    - If the midrange is well covered by the other speakers of your audio system, set the Filter relatively low to only receive lower frequency signal.
  - Then adjust **GAIN CONTROL** to where you are happy with sound but without distortion.  
Adjust **PHASE CONTROL** to reverse audio phase until you find optimal setting.  
If needed, further adjust **SUBSONIC FILTER** and **BASS BOOST** until you find optimal sound output.

## Protection Mode

When protection mode triggers, the red LED on the subwoofer turns on and the subwoofer shuts down.

One of the following reasons can trigger protection mode: input overload, short circuit and extremely high temperature.

When the red LED turns on, take the following measures.

- Check the audio system carefully to determine what has caused the protection mode to trigger.
- Reset the subwoofer. Turn off the subwoofer (by turning off the head unit or other audio source which feeds the subwoofer) and turn it on again.
- If the shutdown was due to either an input overload or a short circuit, correct the conditions which cause the overload or short circuit then turn on the subwoofer again.

## Mounting



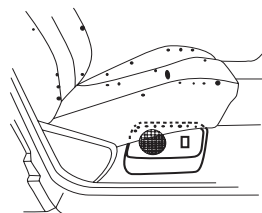
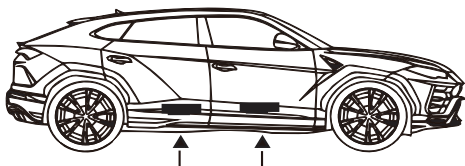
See the section "Installation Precautions" on page 3.

Before you drill or cut any holes, investigate your car's layout very carefully. Take special care when you work near the fuel tank, fuel lines, hydraulic lines and electrical wiring.

Make sure there is sufficient air circulation around the intended mounting location.

Mount the subwoofer in the location away from moisture, and where connection cables are not pinched or damaged by sharp objects.

1. Find a suitable location in the vehicle to mount the subwoofer. A typical location is under the front or rear seat of the vehicle, as shown below.



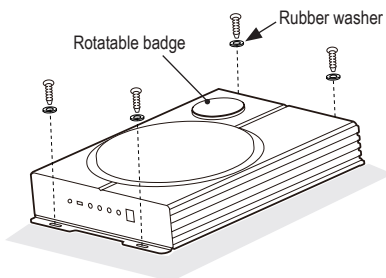
2. Secure the subwoofer with four supplied screws and rubber washers as follows:

a. Use the four screw holes on the subwoofer to mark the mounting holes on the mounting surface.

b. Drill the mounting holes on the mounting surface.

c. Place the subwoofer in position, and attach the subwoofer to the mounting surface using four supplied screws and rubber washers.

Remember to attach the rubber washers for secure fastening.



## Wiring



See the section "Installation Precautions" on page 3.

For safety, disconnect the negative terminal of the vehicle battery prior to wiring.

Use only high quality wires for reliable installation to minimize signal or power loss.

Make sure wires are not squeezed or damaged by sharp edges. Use rubber bushings for penetrations.

Make sure all the cables are securely connected and bare wires are properly insulated.

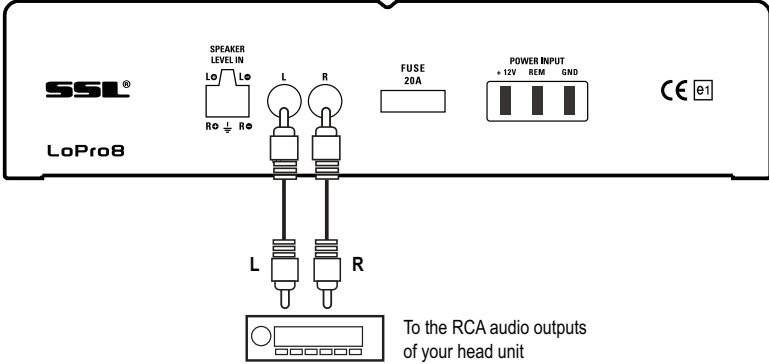
Reconnect the negative terminal of the vehicle only when all wire connections are correctly and securely made.



# Low-Level Input Wiring

The subwoofer offers you two wiring alternatives for audio signal input from your source unit (head unit). Low-level input wiring is preferred for audio input. It provides an exceptional clean sound from the source unit.

**Important!** Do not connect both the high-level and low-level inputs from your source unit to the subwoofer at the same time.

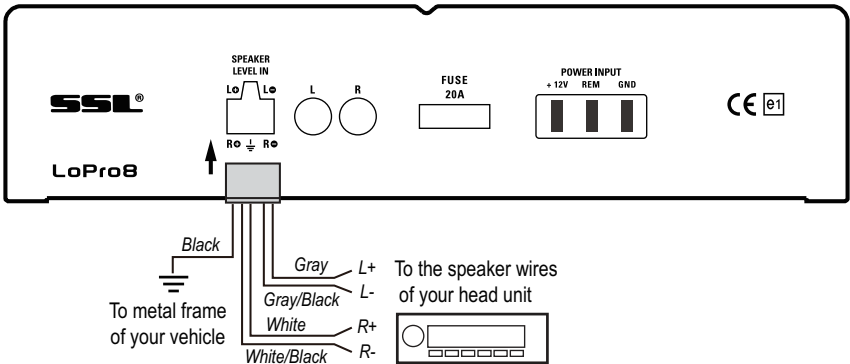


- Using RCA cables (not included), connect two RCA jacks (L/R) on the subwoofer to the RCA audio outputs on your head unit. Make sure the left and right channels are correctly matched.
- To reduce the possibility of noise entering the signal chain, use high-quality, well insulated RCA cables. Run the RCA cables away from large cable loops, electric fan and power cables.

# High-Level Input Wiring

The subwoofer offers you two wiring alternatives for audio signal input from your source unit (head unit). Use high-level input wiring for audio input from the source unit only when RCA audio outputs are not present on the source unit.

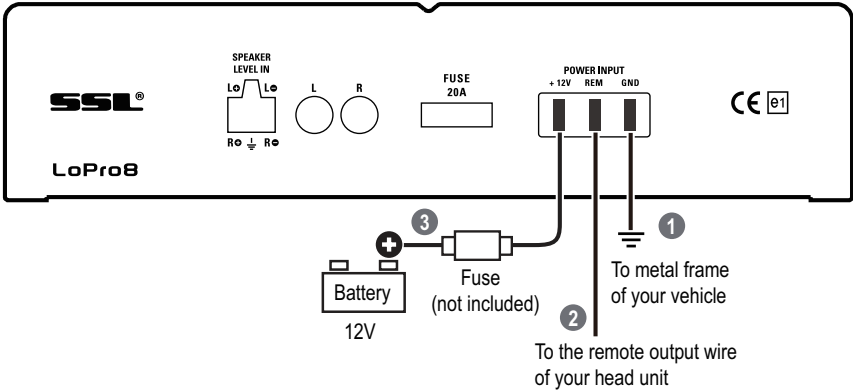
**Important!** Do not connect both the high-level and low-level inputs from your source unit to the subwoofer at the same time.



- Using the supplied high-level input wire harness, fasten the black wire to the metal frame of your vehicle (for signal noise prevention), and connect the other four colored wires to speaker output wires of your head unit. Make sure to observe speaker polarity.
- Make sure the speaker wires are securely connected and properly insulated. Run the wires under the vehicle mats for wire protection.

## Power Connection

**Important!** The power wire must be connected to the battery through a fuse (not included).



1. Using an 8 gauge (or heavier) wire, connect the **GND** terminal on the subwoofer to the metal frame of your vehicle. Keep the ground wire less than 39" (100 cm) in length.  
Scrape away any paint, rust or dirt from the ground point to provide a clean contact. Fasten the ground wire on the ground point with a screw or bolt.
2. Using a 16 gauge (or heavier) wire, connect the **REM** terminal on the subwoofer to the remote output wire of your head unit.

**Important!** The REM terminal connection is used for turn on/off control. The subwoofer automatically turns on/off with the connected head unit on/off. This can prevent constant current draw by the subwoofer, and thus avoid battery drain.

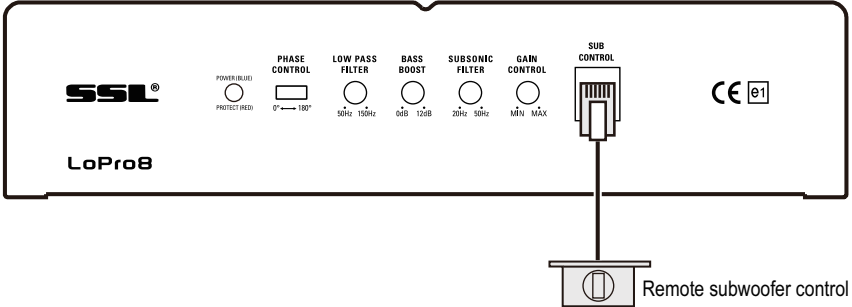
If high-level input connection is made, you do not need to make the REM terminal connection. High-level input connection auto detects DC voltage to activate on/off control.

If your head unit does not have the remote output wire, connect the **REM** terminal on the subwoofer to the ignition switch wire of your vehicle for power on/off control. In this case, make sure your head unit is also turned on or off with the operation of the ignition switch to avoid noise occurrence.

3. Using an 8 gauge (or heavier) wire, connect the **+12V** terminal on the subwoofer to the positive terminal of the 12V vehicle battery through a correct fuse (not included). Keep the fuse within 18" (45 cm) of the vehicle battery. It is important to connect the power supply through a fuse for protection of short circuits.

# Remote Subwoofer Control Connection

Use the supplied remote subwoofer control to independently adjust the volume level output of the subwoofer.



- Using the supplied remote subwoofer control cable, connect the remote subwoofer control to the **SUB CONTROL** on the subwoofer.
- We recommend to position the remote subwoofer control under the dash or in a similar location where using it will not distract the driver. Fasten the remote subwoofer control using two supplied screws.

## Troubleshooting

If you have problems using this product, check the following points before you request service. If you still have a problem, contact our technical support.

Problem	Solution
No power/Blue LED not lighting up	Check that the subwoofer is properly grounded (e.g. a clean contact point on the vehicle chassis and the secure ground connection).
	Check all fuses. Replace faulty one with the same type and rating.
	Check that there is sufficient battery power on the <b>+12V</b> terminal.
	Check that there is sufficient voltage on the <b>REM</b> terminal when low-level input connection is made.
	If the red LED illuminates, this indicates that the subwoofer is in protection mode. Power off the subwoofer briefly, then power it on again.
Protection/Red LED lighting up	Turn down volume on your source unit to prevent overdriving.
	Reset the subwoofer by turning it off and on again (see the section "Protection Mode" on page 6 for more details). If the red LED still lights up, the subwoofer is faulty and needs servicing.
No sound	If using low-level input connection, check the RCA cables are correctly and securely plugged.
	If using high-level input connection, check connection with the speaker wires of your head unit.
Low output	Adjust the remote subwoofer control to increase volume level.
	Input gain level is too low. Reset the input level control.
	Check the frequency pass filter setting.
Distorted audio	Check that the input gain control is set to match the output level of your source unit. Always try to set the input gain level as low as possible.
	Check for short circuits on the speaker wires.
	Check if the amplifier of your source unit is defective.
Audio noise	Use <b>SUBSONIC FILTER</b> on the front panel to filter out low frequency noise.
	Keep the power cables away from the RCA cables.
	Keep the RCA cables away from other electrical cables in the vehicle.
	Check that the black ground wire from the high level input wire harness is properly connected to the metal frame of the vehicle when using high-level input connection.
	Poor quality RCA cables can pick up radiated noise. Use only the best quality RCA cables.
	Check that a negative speaker wire is not touching the vehicle chassis.
	Check that your source unit is properly grounded.
	Check if noise originates in your source unit.

Problem	Solution
Subwoofer getting very hot	Check that the minimum speaker impedance for the subwoofer is correct.
	Check that there is good air circulation around the subwoofer. In some applications, it may be necessary to add an external cooling fan.

## Specifications

### Audio

Output power .....	up to 600W
Driver size.....	8"
Speaker impedance.....	3.2Ω
Total harmonic distortion (THD).....	<0.1%
Frequency response.....	15Hz - 150Hz
Signal-to-noise ratio.....	>88dB
Input sensitivity .....	0.2V - 6V (low level/RCA); 3V (high level)
Low pass filter (LPF).....	50Hz - 150Hz
Subsonic filter .....	20Hz - 50Hz
Bass boost.....	0 to +12dB
Phase control.....	switchable between 0° and 180°

### General

Power supply .....	12VDC (allowable 10 - 16VDC)
Current consumption .....	15A
Fuse.....	ATO type, 20A
PWM MOSFET power supply.....	yes
Protection circuitry.....	yes (overload, short circuit, and thermal protection)
High-level inputs with auto power on.....	yes (no need to have remote wire connection)
Remote turn-on/turn-off .....	yes
Input gain control .....	yes, variable
LED indicators .....	blue - power on; red - protection
Net weight.....	11.25 lbs/ 5.1 kg
Dimensions (W x D x H) .....	9.69" x 14.75" x 2.95" (247 x 375 x 75 mm)

*Specifications are subject to change without notice.*



## SOUND STORM LABORATORIES

3451 Lunar Court, Oxnard CA 93030

### TECHNICAL ASSISTANCE

[www.soundstormlab.com/support](http://www.soundstormlab.com/support)

805-751-4855 Customer Service

## LoPro8

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