



PS SERIES
POWERED SUBWOOFERS

OWNER'S
MANUAL

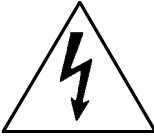



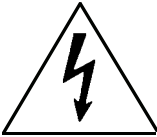
PS60

PS100

PS120

PS

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE AMPLIFIER BACK.</p> <p>NO USER SERVICABLE PARTS INSIDE.</p> <p>REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADE CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

INTRODUCTION

Congratulations on choosing JBL loudspeakers. Their highly accurate, uncolored and balanced sound character will greatly increase your enjoyment of recorded music. We build JBL speakers with careful attention to detail, using only the highest quality materials. They will provide many years of excellent performance.

Our PS Series rivals the performance of more expensive powered subwoofers. It gives you remarkably accurate and pleasing sound reproduction.

- **Amplified Subwoofer:** Your PS Series subwoofer has both line-level and speaker-level stereo inputs for versatility and ease of use. We've also provided speaker output to let you hook-up satellite speakers. Adjustable level and crossover points let you balance the subwoofer with your main speakers.
- **High Polymer Laminate /Polypropylene Woofers:** provide tight bass and well-defined sound reproduction without harshness, stridency, or listener fatigue.
- **High Quality Active Equalization Amplifier Circuitry:** Integrating the acoustic and electronic systems into a single enclosure enable JBL engineers to employ an equalizer circuit that extends the bass response beyond the limitations of a small enclosure.
- **Acoustically Optimized Enclosure:** Optimized to produce an extended and level bass response.
- **Magnetic Shielding:** allows you to place your subwoofer near video monitors without creating interference or distorting the picture.

CONNECTIONS

CAUTION: *Before making any connections to your subwoofer, make sure the power to your entire system is OFF.*

POWER

Plug the power cord into a grounded wall outlet or the accessory outlet on the back of your amplifier/receiver.

INPUTS

Your PS subwoofer has both line-level and speaker-level input connections. Review your receiver/T.V./source amplifier instruction manual to see which outputs your equipment provides, then follow the appropriate instructions below.

"Line Input" - Use the RCA (phono) input jacks labeled "Line Input" when connecting from a line-level device, such as a pre-amp, crossover, signal processor, or when using any of the line-level outputs on the rear of your receiver/T.V./source amplifier. If your receiver has a single RCA output for sending the signal to the subwoofer, you may connect this output to the R or L input jack on your PS subwoofer. Or, you may connect it to both R & L input jacks by using a "y" adapter. Many stereo/ large screen T.V.'s have stereo (R & L) RCA jacks for sending the signal to external audio equipment. Your subwoofer connects to these using both the R & L input jacks. (See Fig. 1).

"Speaker Level Input (from amplifier)"

- Use these inputs when connecting to the speaker out (speaker mains) of your receiver/T.V./source amplifier. Run speaker wires from the speaker output terminals (usually coded red and black) on the rear of your receiver/T.V./source amplifier to the red and black input terminals labeled "Speaker Level Input (from amplifier)" on the PS subwoofer. (See Fig. 2)

Preparing the speaker level hookup wire

Your JBL dealer can recommend suitable cables, or you can buy wire at most hardware stores. High quality connectors and cable offer consistent performance that does not deteriorate over time. We recommend #16 AWG two-conductor insulated wire as a minimum size. If your PS subwoofer is more than 30 feet (10 m) from your receiver/T.V./source amplifier, use larger diameter wire.

Making the speaker level hookup

1. First measure the distance from your receiver/T.V./source amplifier to your PS subwoofer.
2. Next make two hookup wires this length.
3. Strip off 3/8" of insulation from both ends of each conductor wire.
4. Twist each set of thin wires into a tightly-bunched spiral.
5. Now find a visual difference between the two conductors of each molded pair of speaker wire.

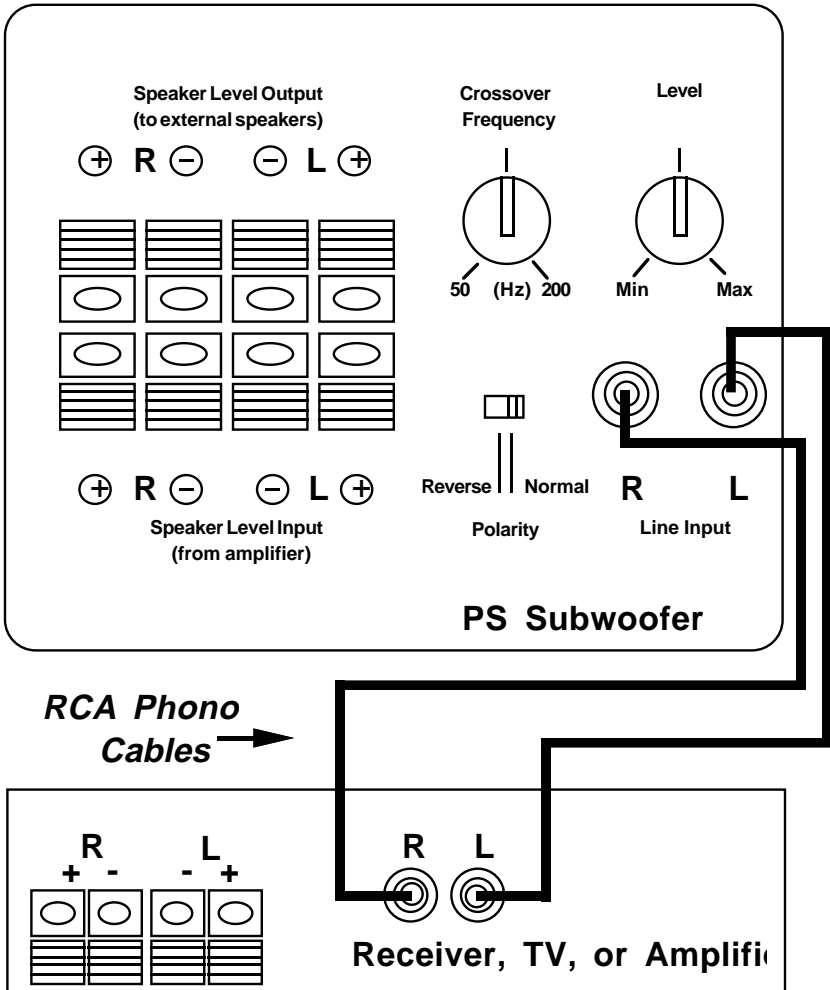


FIG. 1: Line Level Input Connecti

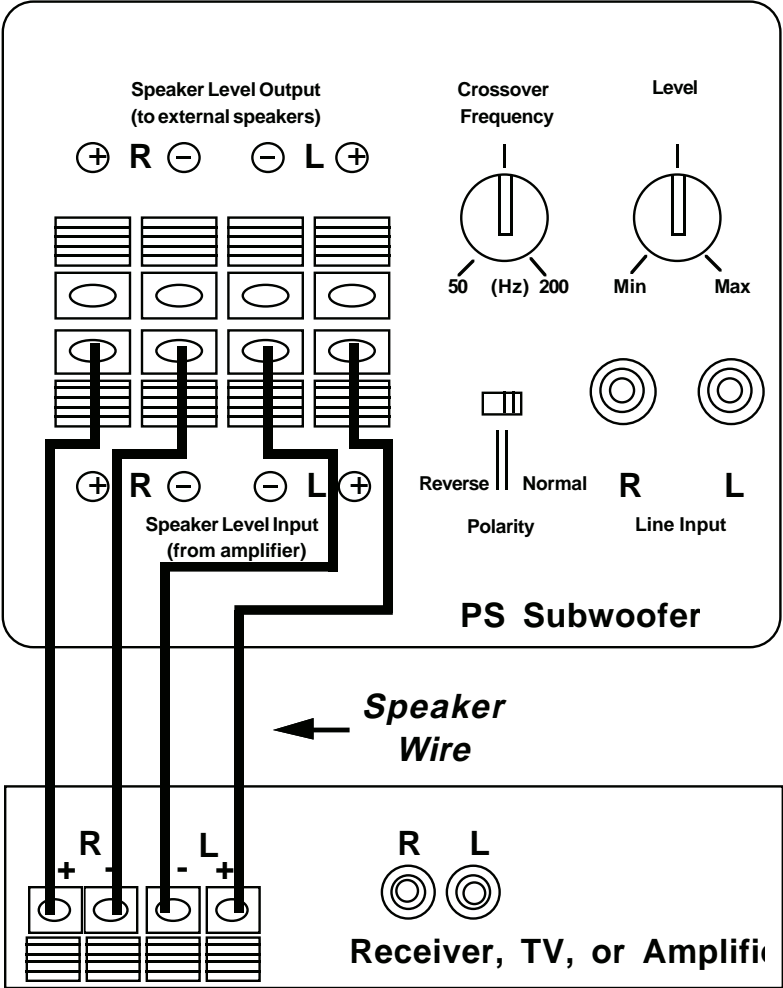


FIG. 2: Speaker Level Input Connecti

These differences can be a different color wire (copper or "silver"); a strand of yarn in one conductor; thin, raised ribs on one part of the outer insulation; or a printed "+" marking on one of the insulators. It doesn't matter which of the two strands of wire go to (+) and (-) on your receiver/T.V. /source amplifier and PS subwoofer, just be sure to connect both left and right hookup wires identically. Push down on the button below the terminal and insert the wire through the hole. For each channel, connect the red terminal on the receiver/T.V. /source amplifier to the red or (+) loudspeaker connection terminal on the PS subwoofer, and the black to the black or (-). Connecting the PS subwoofer this way ensures that both channels will be in phase; that is, working together not in opposition.

Your PS subwoofer will accept stereo (left and right) inputs or a mono input (hooking up to just the left or right input) using either line level or speaker level input.

CAUTION: Never attach inputs to both line level and speaker level inputs of the same channel at the same time.

OUTPUTS

Your subwoofer has a speaker output terminal block to enable the signal to be sent to your main speakers or satellites. Your PS subwoofer can use the signal from

your receiver/T.V. / source amplifier to produce the low bass while passing the unaltered signal source to the external speakers.

"Speaker Level Output (to external speakers)" - Hook up the external speakers using two-conductor insulated wire following the same procedure described under Speaker Level Input. Connect the red (+) terminal of the PS subwoofer to the red (+) terminal of the external speaker, and the black (-) to black. Connecting the external speakers this way ensures that they will be in phase; that is, working together not in opposition. Connecting the speakers out of phase won't damage them, but will result in less bass and poor imaging. (See Fig. 3).

NOTE: Connecting your satellite speakers through your PS subwoofer won't change their impedance.

LEVEL

NOTE: when first setting up your PS subwoofer, set the Level control counter-clockwise to "Min" (minimum) before turning power switch ON.

Turn power switch to On and use the "Level" knob to add the appropriate amount of bass to your main speaker output.

Increase the subwoofer level by turning level knob clockwise until you find a setting that is pleasing to you.

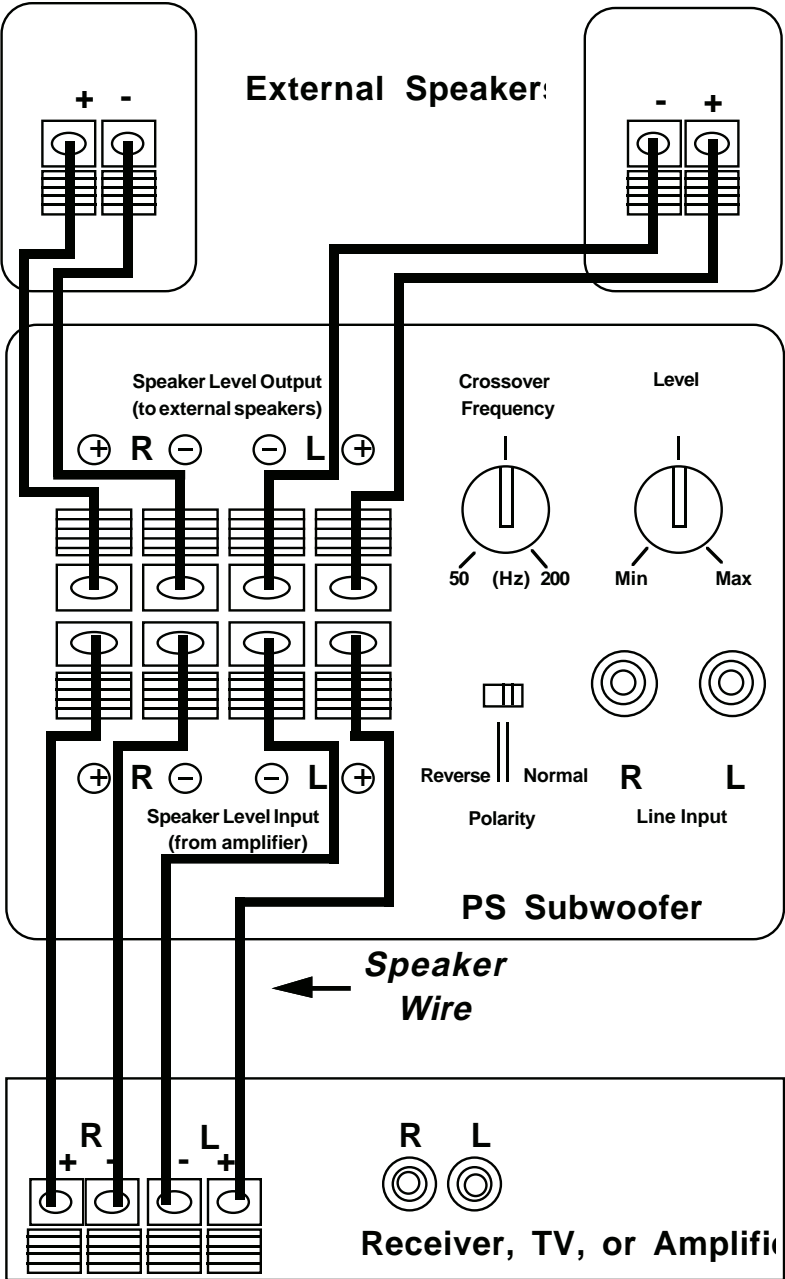


FIG. 3: Speaker Level Output Connecti

CROSSOVER FREQUENCY

Use the crossover frequency knob to adjust the upper end of the subwoofer's frequency response. The crossover control determines the highest frequency your subwoofer will reproduce. It allows a seamless transition from subwoofer to satellite speakers. When using small satellite speakers (without much low end), you want the crossover frequency more toward the upper end (200 Hz) to fill in the sound your satellites can't reproduce. When using larger main speakers, a setting more towards the 50 Hz end gives a smoother transition from your PS subwoofer to your main speakers. Experiment until you find a setting that meets your satisfaction.

MULTICOLOR LED INDICATOR OPERATION

The LED on the front of the enclosure signifies the following operation states of the PS subwoofer:

RED - When your PS subwoofer isn't receiving a music or source signal and the power switch is turned on, the LED indicator turns RED telling you that the unit is plugged in and ready for operation. At this time, the amplifier is in a "stand-by" mode, effectively turned off and waiting for a signal from the source amplifier.

GREEN - When your PS subwoofer picks up a source signal, it turns on instantly and

begins to play. The LED turns green. After approximately 3 minutes of non-use (no signal being received), your PS subwoofer goes into the auto shut-off mode. The LED turns RED to signify this stand-by condition.

AMBER - The LED turns amber briefly when the amplifier is in the protection mode. This occurs when the subwoofer power switch is turned on while your receiver/T.V. /source amplifier is sending a signal to the PS subwoofer.

NOTE: When the amplifier is in the stand-by mode it is effectively turned off. The Red LED tells you that the PS subwoofer is plugged into the AC wall power with its power switch turned on, but the amplifier circuitry is not engaged. You do not have to reach to the back panel and turn the power switch off after every use. Your PS subwoofer turns itself off internally. For extended periods of non-use (ie, vacations, etc.) you may wish to turn the PS subwoofer off using the power switch.

PLACEMENT - CAUTION: Do not place your PS subwoofer next to heaters, furnaces, or any other heat sources. Be sure not to pinch or compress the power cord. Since the low frequencies produced by your PS subwoofer are non-directional, the placement of your subwoofer is not critical. You may place it under an end table, next to the wall, next to T.V., anywhere you would like.

Use the **POLARITY** switch to maintain proper acoustic summation with the main speakers. Listen to your PS subwoofer and main speakers with the switch on "**Normal**" then listen to the same material with the switch on "**Reverse**". Decide which way sounds better and leave the switch in this position. You should repeat this procedure if you move your PS subwoofer to another part of the room.

ALC PROTECTION CIRCUITRY

Your PS series amplifier has a built in Automatic Level Control circuitry that comes on automatically when subjected to high input signal levels. It prevents the subwoofer driver from being damaged by accidental miss-use, assuring you of many years of excellent performance.

GENERAL CARE

Use a damp cloth for cleaning your PS subwoofer cabinet. Do not use detergents or other cleaners.

TROUBLESHOOTING / SERVICE

Your PS subwoofers should only be serviced by an authorized JBL repair station. Do not attempt to remove the grille. It is fixed and should only be removed by qualified personnel. Removing the grille may void your warranty. Woofers are replaceable by repair station only. Do not remove the amplifier from the cabinet. There are no user serviceable parts inside.

Before seeking service for your PS subwoofer, please re-check all connections as outlined in this manual. Verify that your AC wall power source is working properly by checking with another appliance.

Specifications	PS60	PS100	PS120
Amplifier Power (RMS)*	50 Watts	50 Watts	100 Watts
Low Frequency	6-1/2"	10"	12"
Voice Coil Diameter	1"	2"	2"
Cone Material	Polypropylene	High Polymer Laminate	High Polymer Laminate
Inputs	Line Level & Speaker Level	Line Level & Speaker Level	Line Level & Speaker Level
Outputs	Full Range Speaker		
Crossover Frequency (Continuously Variable)	50-200 Hz	50-200 Hz	50-200 Hz
Frequency Response (-6dB)	32 Hz to (62-250 Hz)**	30 Hz to (62-250 Hz)**	23 Hz to (62-250 Hz)**
External Dimensions (Inches)			
Height	11"	13-3/4"	15-1/4"
Width	14"	17-1/8"	19-1/4"
Depth	7-1/4"	9-1/8"	9-7/8"
External Dimensions (mms)			
Height	280 mm	349 mm	387 mm
Width	356 mm	435 mm	489 mm
Depth	184 mm	232 mm	251 mm
Weight (each)	21 lbs 9.5 kg	34 lbs 15.5 kg	40 lbs 18 kg
Shipping Weight	25 lbs 11.4 kg	38 lbs 17.3 kg	44 lbs 20.0 kg

*ALC circuit defeated.

**Determined by crossover setting.


JBL continually strives to improve its products. New materials, production methods and design refinements are introduced into existing models without notice as a routine expression of our design philosophy. For this reason, PS Series loudspeakers may differ in some respect from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.

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The JBL logo consists of the letters "JBL" in a bold, sans-serif font, enclosed within a white square.

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