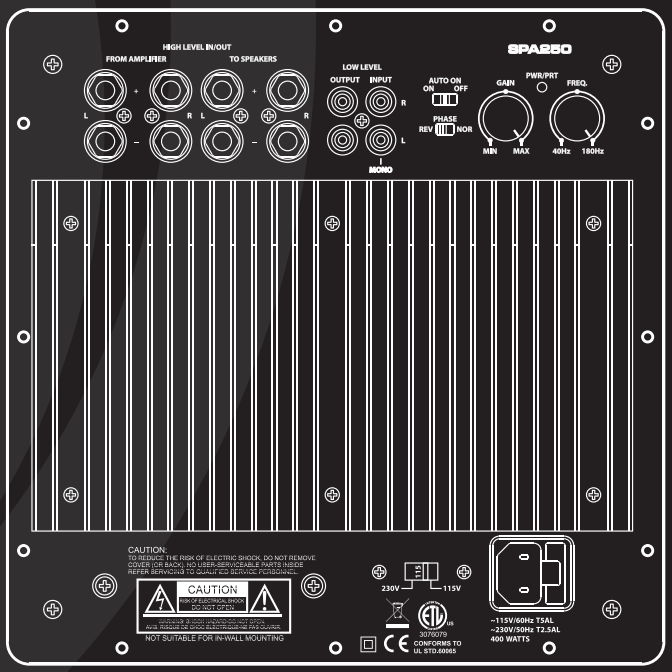
DAYTONAUDIO

250W SUBWOOFER PLATE AMPLIFIER

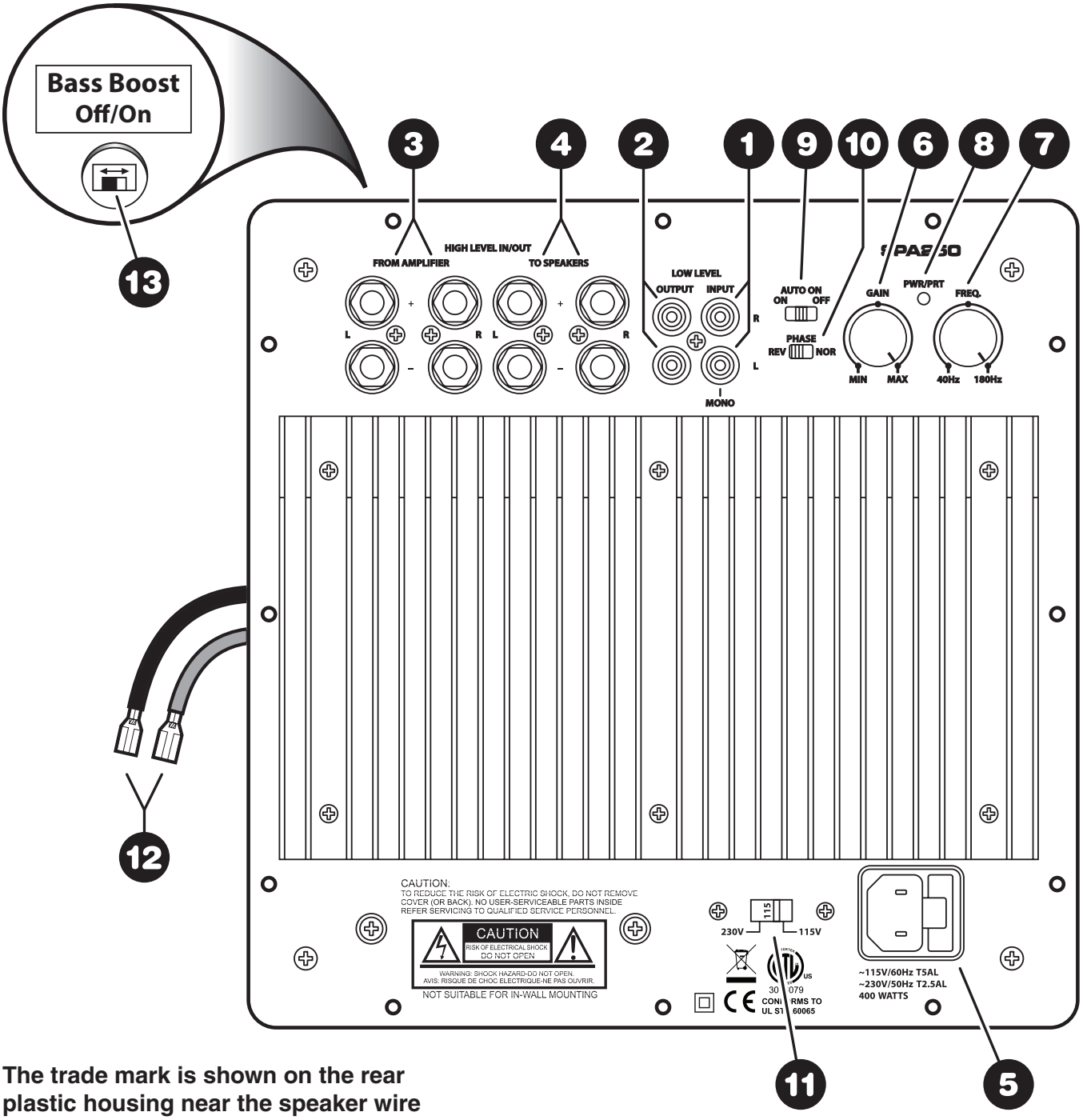
Model: SPA250 User Manual



Thank you for purchasing the Dayton Audio® SPA250 Subwoofer Amplifier. It has been designed and built to provide years of high quality sound reproduction, and is ideal for use in both home stereo and home theatre systems. The amplifier has been engineered to include features like a choice of high or low level audio connections, selectable crossover frequency, auto on/off circuit activated by input signal, and comprehensive internal production against shorted speaker loads, thermal faults, and overload conditions.

FEATURES:

- Line-level and speaker-level inputs for connection to any system
- Auto-on circuit comes on the instant the amp is needed
- Soft-clip circuitry provides clean output even with demanding program material
- Full complement of protection circuits for extreme reliability
- Switchable bass boost
- Reversible phase switch for best integration with satellites
- Variable frequency 4th order low-pass crossover for a clean transition to main speakers
- Advanced soft clip circuitry improves headroom and protects woofers
- Switchable 115/230V input voltage
- Complies with Energy Star and CE EuP directive



The trade mark is shown on the rear plastic housing near the speaker wire

INPUT/OUTPUT CONNECTIONS

1. Low-Level Inputs (Left/Right)
RCA style jacks that will accept standard line level inputs from a pre-amp level source. They will accept a stereo signal and internally combine it into mono. Both left and right input jacks must be connected to the source in order to drive the amplifier to full output. **Note:** If using a **LFE** output from a preamp or receiver connect it to the Left (mono) input.

2. Low-Level Outputs (Left/Right)
This output allows the low level input signal to be daisy chained to other amplifiers. The low level input is simply passed through with no alteration (EQ) to the original signal.

3. High-Level Inputs
Speaker level inputs using binding post type jacks to permit connection with banana type plugs or spade terminals. Allows the user to connect the speaker level output of a full range amplifier to the input of the subwoofer amp using standard speaker wire. A mono signal is derived from the stereo, which then feeds the subwoofer amplifier crossover input.

4. High-Level Outputs
Speaker level outputs using binding post type jacks to permit connection with banana type plugs or bare wire. Used to connect from the subwoofer amp to pass signal from the full range amp on to the main L/R speakers. Signal is only present on this output if the high level input is also used. The signal to the L/R speakers will be shaped by an internal 6 dB/octave 125 Hz high pass filter.

5. Power Input
This unit features an IEC type power jack. This allows the user to change the power cord depending on the country and voltage used. The IEC jack also houses an integrated fuse holder that contains the AC line fuse. The unit is set at the factory for 115V operation. It is supplied with a 5 A, 250V fuse and USA type power cord. In most 230V applications a separate power cord and 2.5A, 250V fuse will be required and are not included.

CONTROLS/INDICATORS

6. Gain
This control will match the amplifier's input sensitivity to the output of the pre-amp source. If the source output has a variable control, we recommend that the user spend a moment or two determining the best balance between the two controls. When a balance is found between low noise, linear level control, and sufficient level to drive the amp to the required output, the gain knob can be considered to be the "volume control" for the subwoofer system.

7. Frequency
This control is used to establish the highest frequency that the subwoofer will reproduce and has a range between 40 to 180 Hz with a slope of 24 dB per octave. If you are using the system for music and your main speakers have good bass capability, you could set the control to a fairly low value at 40, 60, or even 100 Hz. If the main speakers are smaller or do not have much bass output, set the control higher. Experiment with the amount of "overlap" that you will experience when all speakers are playing in the same range. This can be helpful when integrating the subwoofer with the rest of the system and with the room. **Note:** When using the amp with a **LFE** (Low Frequency Effects) output on a pre-amp or home theatre receiver the internal low pass filter circuitry should be bypassed by turning the frequency control to maximum (180Hz). The home theater receiver should be used to control the low pass crossover frequency.

8. Power LED
When the power switch is moved to the "on" position, the LED will illuminate green, and the amp will be in "On" mode. When set in the "Auto" position the unit will be in the stand by mode. In this position, if a low level signal of about 10 millivolts or greater is applied to the input, the light will change green to indicate that the amplifier is fully operational and receiving typical music program. If an input signal is not detected for 10 to 15 minutes, the amp will go back to "stand by" mode and the LED will turn off. If the protection circuit detects a short circuit or thermal overload the unit will shut down and the LED will turn red.

9. Power Switch
On, Off and Auto mode. When the "Auto" position is selected, the amp is in "stand by" mode until an input signal of about 10 millivolts or greater is detected. The amp will go back to standby mode 10-15 minutes after the input signal stops.

10. Phase
This two-position (NOR = 0° phase and REV = 180° phase) switch helps to compensate for differences in the acoustical and electrical characteristics between the subwoofer and the main system speakers. The relative locations of speakers in the system can cause significant disturbances in speaker interaction due to time delay issues, or the destructive phase interferences that can occur at certain frequencies. The use of this switch in conjunction with altering the location of the subwoofer can have a dramatic effect on system integration. The "NOR" setting would be considered the normal or default setting, but be sure to experiment during system set-up.

11. Voltage Selector Switch
This switch allows the user to select 115V or 230V operation. The unit is set at the factory for 115V operation and contains a 5A, 250V fuse. When operating at 230V be sure to change the fuse to a 2.5A, 250V fuse.

12. Output Lead for Subwoofer Driver:
This rear mounted output lead connects the amplifier to the subwoofer driver. The output lead is roughly 20" long and is color coded. The red wire uses an insulated .250" quick disconnect and the black wire uses an insulated .205" quick disconnect. These connectors can be easily removed if your driver requires another size or type of connector. Be sure to observe proper polarity when connecting the amplifier to your subwoofer driver (red = positive, black = negative).

13. Bass Boost:
Selects a bass boost filter with +6dB @ 35Hz. Allows the user to add boost to the low end response. Remove plug to access switch **NOTE: DO NOT attempt to change bass boost setting when ampliifier is turned on.**

NOTES ABOUT HUM:

While the SPA250 has been designed to minimize the possibility of hum in the subwoofer system, it is still possible that a hum will occur in rare circumstances. Its safety grounding can create a path for small amounts of 60 Hz energy to travel through the line-level audio system. Although not dangerous, this energy can cause difficulty with the subwoofer auto signal sensing circuit, and at the very least will interfere with the quiet enjoyment of your system. The first course of action should be trying to make sure that all of the audio components are connected to either the same electrical outlet, or at least into the same circuit branch. Next, cable TV systems are notoriously the culprit, so be sure to try disconnecting all coaxial feeds that are connected to the system. If this solves the problem, install a coaxial line isolator and reconnect the system. In the very worst case, a line-level audio isolator/transformer connected to the line-in of the subwoofer amplifier will usually solve the problem.

SPECIFICATIONS:

Rated Power Output:	156 watts RMS into 8 ohms @ 0.1% THD 252 watts RMS into 4 ohms @ < 1.0% THD
Signal to Noise Ratio:	90 dB A-weighted
Efficiency:	66%
Input Impedance:	10.4K ohms
Bass Boost:	Switchable, 6 dB @ 35 Hz
Low Pass Adjustment:	40 Hz – 180 Hz
Phase Adjustment:	0° (NOR) or 180° (REV)
Dimensions:	9-13/16" W x 9-13/16" H x 5 D
Enclosure Cutout:	8-1/2" x 8-1/2"
Power Requirements:	115/230 VAC, 60 Hz/50 Hz, 400W
Stand-By Power Rating:	115, < 0.29W*
Weight:	12 lbs.

*** The SPA250 complies with ENERGY STAR and CE EuP directive.**

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions – All the safety and operating instructions should be read before this product is operated.

Keep these instructions – The safety and operating instructions should be retained for future reference.

To reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. The unit should be connected to an earth grounded AC electrical socket. Do not defeat the safety purpose of the polarized or grounding plug. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. Refer servicing to qualified personnel. To reduce the risk of fire and shock do not expose unit to rain or moisture. Clean only with dry cloth. Unplug the unit during lightning storms or when unused for long periods of time.

The unit should be operated in a well ventilated area. Minimum clearance is 2 inches from the ventilation openings. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Protect the power cord from being walked on or pinched, particularly at the plugs, convenience receptacles, and at the point where they exit the unit. Only use attachments/accessories specified by the manufacturer.

Note: Unit is set at the factory for 115V operation. Be sure to change the fuse to a 2.5A rating before switching to 230V operation.

Warranty Information

Dayton Audio products are constructed by industry experts, and are thoroughly tested before shipment. Dayton Audio products are warranted for the period of one year. This warranty is limited to manufacturer defects, either in materials or workmanship. Dayton Audio is not responsible for any consequential on inconsequential damage to any other unit or component or the cost for installation or extraction of any component of the audio system. In the rare case of a product failure, please contact your place of purchase or call our Customer Support Department at (937) 743-8248.

Warranty Limitations

There are no other warranties, either express or implied, which extend the foregoing, and there are no warranties of merchantability or fitness for any particular purpose. The warranty will not cover incidental or consequential damage due to defective or improper use of products. This includes but is not limited to burnt voice coils, overheating, bent frames, holes in the cone, or broken lead wires.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Non-Warranty Service: If non-warranty service is required, the product may be sent to the Company for repair/replacement, transportation prepaid, by calling (937) 743-8248 for details, complete instructions, and service fee charges.

DAYTONAUDIO

daytonaudio.com
tel + 937.743.8248
info@daytonaudio.com

705 Pleasant Valley Dr.
Springboro, OH 45066
USA