Dayton Audio SPA1000 (Model 300-809)

Dayton Audio SPA1000 1000W Subwoofer Plate Amplifier User Manual

Model: SPA1000 (300-809)
Brand: Dayton Audio

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Dayton Audio SPA1000 1000W Subwoofer Plate Amplifier. Please read this manual thoroughly before use to ensure proper functionality and safety.

Safety Information

- **CAUTION:** To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.
- **WARNING:** To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- **WARNING:** Not suitable for in-wall mounting.
- Ensure proper grounding.
- Disconnect power before making any connections or adjustments.
- Do not block ventilation openings.
- Use only specified power supply voltage.

Key Features

- High power Class-AB output stage for clean, controlled output
- Patented tracking downconverter power supply for high efficiency
- Toroidal power supply transformer
- Low frequency parametric EQ allows you to boost or cut for custom-tailored sound
- Advanced soft clip circuitry improves headroom and protects woofers

Product Overview: Controls and Connections

The Dayton Audio SPA1000 features a comprehensive set of controls and input/output connections on its rear panel. Refer to the diagram below for component identification.



Figure 1: Labeled diagram of the SPA1000 rear panel. This diagram illustrates the various controls and connection points on the rear panel of the SPA1000 amplifier, numbered for easy reference in the descriptions below.



Figure 2: High-resolution view of the SPA1000 rear panel. A detailed view of the amplifier's rear panel, including the low-pass filter, phase switch, EQ section, input jacks, AC mains, and power switch.

Rear Panel Components:

1. **Low-Level Inputs (Left/Right)**: RCA style jacks that accept standard line-level inputs from a pre-amplifier source.
2. **LFE Direct Input**: RCA style input jack designed to bypass the internal filtering for a pure signal to the subwoofer.
3. **Power Connector Input**: Accepts an IEC plug for connection to the main power supply.
4. **Volume (Gain)**: This control matches the amplifier's input sensitivity to the output level of the pre-amplifier source.
5. **Frequency (Low-pass crossover)**: Sets the highest frequency the subwoofer will reproduce, with a range between 50-200Hz and an 18dB/Octave slope.
6. **Power Switch**: Offers On, Off, and Auto modes. In "Auto" mode, the amplifier enters standby until an input signal of approximately 10 millivolts or greater is detected. It returns to standby 10-15 minutes after the input signal ceases.

7. **Power LED**: Illuminates green when the power switch is in the "On" position. If the protection circuit detects a short circuit or thermal overload, the unit will shut down, and the LED will turn red.
8. **Phase**: A two-position switch (NOR = 0° phase and REV = 180° phase) used to compensate for acoustical and electrical differences between the subwoofer and main speakers.
9. **Frequency (EQ)**: Adjusts the center frequency of the single-band equalizer.
10. **Bandwidth (EQ)**: Adjusts the quality (Q) of the equalizer band.
11. **Level (EQ)**: Controls the boost or cut value of the single-band equalizer.
12. **Amplified Signal Output**: Solderless disconnect terminals for driver connection: Red = 0.25", Black = 0.205".

Setup and Installation

Mounting

The SPA1000 is designed for integration into a subwoofer enclosure. Ensure adequate ventilation around the amplifier.

WARNING: Not suitable for in-wall mounting.

Electrical Connections

1. Connect your subwoofer driver to the **Amplified Signal Output** terminals (12) using appropriate speaker wire. Ensure correct polarity (Red to positive, Black to negative).
2. Connect the amplifier to a power outlet using the provided IEC power cable into the **Power Connector Input** (3).
3. For 115V operation, use a T10AL 250VAC fuse. For 230V operation, use a T5AL 250VAC fuse. The amplifier consumes 1000W.



Figure 3: Close-up of the AC mains input and power switch. This image shows the IEC power inlet, fuse holder, and the three-position power switch (Off, Auto, On).

Audio Connections

Choose one of the following methods for connecting your audio source:

Low-Level Input Connection

1. Connect the Left and Right RCA outputs from your pre-amplifier or receiver to the **Low-Level Inputs (Left/Right)** (1) on the SPA1000.
2. This connection allows you to utilize the amplifier's internal low-pass crossover and EQ controls.

LFE Direct Input Connection

1. Connect the LFE (Low-Frequency Effects) output from your A/V receiver to the **LFE Direct Input** (2) on the SPA1000.
2. This input bypasses the amplifier's internal low-pass crossover and EQ, relying on your receiver to manage these settings.



Figure 4: Close-up of the input RCA jacks. This image highlights the RCA input options for connecting audio sources to the amplifier.

Operation

Powering On/Off

Use the **Power Switch** (6) to select the desired mode:

- **OFF**: The amplifier is completely powered down.
- **ON**: The amplifier is continuously powered on. The **Power LED** (7) will be green.
- **AUTO**: The amplifier enters standby mode and will automatically power on when an audio signal of approximately 10mV or greater is detected. It will return to standby after 10-15 minutes of no signal.

Adjusting Volume (Gain)

The **Volume (Gain)** control (4) adjusts the overall output level of the subwoofer. Start with a low setting and gradually increase it to match the output of your main speakers.



Figure 5: Close-up of the Gain and Frequency controls. This image shows the adjustable knobs for setting the subwoofer's output level and the upper frequency limit.

Setting the Low-Pass Crossover

The **Frequency (Low-pass crossover)** control (5) determines the highest frequency the subwoofer will reproduce. Adjust this to blend smoothly with your main speakers. A common starting point is 80Hz-100Hz. This control is active when using the Low-Level Inputs.

Phase Adjustment

The **Phase** switch (8) helps integrate the subwoofer with your main speakers. Experiment with both "NOR" (0°) and "REV" (180°) positions to find the setting that provides the most impactful and coherent bass response at your listening position.



Figure 6: Close-up of the Phase switch. This image shows the two-position switch used to adjust the phase of the subwoofer output.

Parametric Equalizer (EQ)

The built-in parametric EQ allows for fine-tuning the subwoofer's frequency response to compensate for room acoustics or personal preference. This EQ is active when using the Low-Level Inputs.

- **Frequency (EQ)** (9): Selects the center frequency (20Hz-200Hz) to be adjusted.
- **Bandwidth (EQ)** (10): Adjusts the "Q" or width of the frequency band affected by the EQ. A lower number means a wider band, a higher number means a narrower band.
- **Level (EQ)** (11): Boosts or cuts the selected frequency by up to +/- 6dB.



Figure 7: Close-up of the EQ controls. This image details the three knobs used to precisely adjust the subwoofer's frequency response.

Maintenance

The Dayton Audio SPA1000 requires minimal maintenance.

- Keep the amplifier clean by wiping with a soft, dry cloth.
- Do not use liquid cleaners or solvents.
- Ensure adequate airflow around the heat sinks to prevent overheating.
- Periodically check all cable connections for security.

Troubleshooting

No Power

- Check if the power cord is securely connected to both the amplifier and the wall outlet.
- Verify the power switch is in the "ON" or "AUTO" position.
- Check the fuse in the IEC power inlet. Replace if blown (refer to specifications for correct fuse type).

No Sound

- Ensure the audio input cables (RCA) are securely connected to both the source and the amplifier.
- Verify the subwoofer driver is correctly wired to the amplifier's output terminals.
- Check the **Volume (Gain)** control (4) is not set to minimum.
- If using "AUTO" mode, ensure an adequate input signal is present.
- If the **Power LED** (7) is red, the protection circuit may be active due to a short circuit or thermal overload. Disconnect

power, check connections, and allow the unit to cool.

Distorted Sound

- Reduce the **Volume (Gain)** control (4).
- Check the input signal level from your source; it may be too high.
- Ensure the subwoofer driver is not overdriven.

Humming or Buzzing Noise

- Ensure all components are properly grounded.
- Try connecting the amplifier and source components to the same electrical outlet.
- Use shielded RCA cables.
- Disconnect input cables one by one to isolate the source of the hum.

Specifications

Feature	Specification
Output Power	950 Watts
Item Model Number	300-809
Item Dimensions (L x W x H)	11.94 x 5.26 x 11.94 inches
Item Weight	22.6 pounds
Voltage	5 Volts
Maximum Supply Voltage	230 Volts
Mounting Type	Clip On
Number of Channels	2
Material	Metal
UPC	844632081668
Specification Met	Multiple, Including Audio Equipment, Electrical Safety, and Energy Efficiency Standards
Manufacturer	Dayton Audio
Date First Available	April 7, 2010

Warranty and Support

For warranty information and technical support, please refer to the official Dayton Audio website or contact their customer service.

Visit Dayton Audio Official Website

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