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**Dayton Audio SA1000**

# Dayton Audio SA1000 Subwoofer Amplifier Instruction Manual

Model: SA1000

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## 1. Introduction

The Dayton Audio SA1000 is a mono subwoofer amplifier designed to deliver substantial power to your home theater or music playback system. This amplifier supports both freestanding and rack-mountable configurations, making it a versatile solution for high-performance subwoofer applications.
Key features include:

- Patented tracking down-converter power supply for high efficiency.
- Class-AB output stage for clean, controlled amplification.
- Low frequency parametric EQ for precise sound tailoring.
- Sophisticated soft clip circuitry to improve headroom and protect woofers.
- Multiple turn-on options: manual, auto, or 12V triggered for system integration.
- Switchable subsonic and bass boost filters.
- High pass output for signal looping in distributed audio systems.




Figure 1.1: Front view of the Dayton Audio SA1000 Subwoofer Amplifier.

## 2. Safety Information

Please read and follow all safety instructions before operating this device. Retain this manual for future reference.

- **Power Source:** Connect the amplifier only to the type of power source indicated on the unit.
- **Ventilation:** Ensure adequate ventilation. Do not block ventilation openings. Install in accordance with the manufacturer's instructions.
- **Water and Moisture:** Do not expose this appliance to rain or moisture. Do not place objects filled with liquids, such as vases, on the apparatus.
- **Heat:** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- **Grounding:** This appliance must be grounded. Do not defeat the safety purpose of the polarized or grounding-type plug.
- **Servicing:** Do not attempt to service this product yourself. Refer all servicing to qualified service personnel.
- **Cleaning:** Unplug this product from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid cleaners or aerosol cleaners.
- **Speaker Connections:** Ensure all speaker connections are secure and correctly polarized before powering on the amplifier. Minimum impedance for combined speaker load is 4 ohms.

## 3. Setup

### 3.1 Unpacking

Carefully remove the amplifier from its packaging. Inspect the unit for any signs of damage during transit. Retain the packaging materials for future transport or storage.

### 3.2 Placement

The SA1000 amplifier can be used in a freestanding configuration or mounted in a standard audio equipment rack. Ensure the chosen location provides adequate ventilation around the unit to prevent overheating.

### 3.3 Connections

Refer to the rear panel diagram below for connection points.




Figure 3.1: Rear panel connections and controls.

- **AC Mains Input:** Connect the supplied power cord to this receptacle and then to a suitable wall outlet. The amplifier operates on 120VAC-60Hz (with a T10AL fuse) or 230VAC-50Hz (with a T5AL fuse).
- **12V Trigger Input:** Connect a 12V trigger signal from a compatible device (e.g., AV receiver) to automatically turn the amplifier on/off.
- **Speaker Output Terminals:** Connect your subwoofer(s) to these binding posts. Ensure the combined impedance of all connected subwoofers is a minimum of 4 ohms. Observe correct polarity (+ to + and – to –).




Figure 3.2: Close-up of AC Mains and Speaker Output terminals.

- **LFE Input (RCA):** Connect a single RCA cable from the LFE (Low Frequency Effects) output of your AV receiver or processor.
- **R/L Input (RCA):** Connect stereo RCA cables from the line-level output of your preamplifier or receiver if an LFE output is not available.
- **High Pass Output (RCA):** These outputs provide a high-pass filtered signal, useful for looping the signal to other amplifiers or devices in a distributed audio system.

### 3.4 Initial Power-On

Once all connections are made, ensure the power switch on the front panel is in the 'Off' position. Plug the power cord into a wall outlet. Press the front panel power button to turn on the amplifier. The blue LED indicator will illuminate.

## 4. Operating Instructions

The SA1000 features various controls on both the front and rear panels to optimize its performance with your audio system.

### 4.1 Front Panel Controls




Figure 4.1: Front panel controls.

- **EQ (Equalization) Section:** This parametric equalizer allows for precise adjustment of a specific frequency range.
  - **FREQ:** Adjusts the center frequency of the EQ band (e.g., 18 Hz to 80 Hz).
  - **BANDWIDTH:** Controls the width of the EQ band (Q factor). A lower number (e.g., 0.1) indicates a wider band, while a higher number (e.g., 1.0) indicates a narrower band.
  - **LEVEL:** Adjusts the boost or cut (e.g., -14.5 dB to +4.5 dB) at the selected EQ frequency.
- **PHASE:** Adjusts the phase of the subwoofer output from 0° to 180°. This helps to integrate the subwoofer's output seamlessly with your main speakers. Experiment with this control to achieve the most cohesive sound.

- **FREQ. Hz (Crossover Frequency):** Sets the upper frequency limit for the subwoofer. This control typically ranges from 30 Hz to 200 Hz. Adjust this to blend the subwoofer's output with your main speakers.
- **GAIN:** Controls the overall output level of the amplifier. Start with a low setting and gradually increase until the subwoofer's volume matches the rest of your system.
- **POWER Button:** Toggles the amplifier on or off. The blue LED indicates power status.

### 4.2 Rear Panel Switches

Refer back to Figure 3.1 for the location of these switches.

- **REMOTE TURN ON:** Selects the amplifier's power-on mode.
  - **MANUAL:** Amplifier is turned on/off solely by the front panel power button.
  - **AUTO:** Amplifier turns on automatically when an audio signal is detected at the inputs and turns off after a period of no signal.
  - **TRIGGERED:** Amplifier turns on/off via a 12V trigger signal connected to the 12V Trigger input.
- **BASS BOOST:** Engages or disengages a fixed bass boost circuit for enhanced low-frequency output.
- **SUBSONIC FILTER:** Activates or deactivates a high-pass filter that removes extremely low frequencies (below audible range). This can protect subwoofers from over-excursion and improve overall sound clarity.

## 5. Maintenance

The Dayton Audio SA1000 Subwoofer Amplifier requires minimal maintenance. To ensure longevity and optimal performance:

- **Cleaning:** Periodically wipe the exterior surfaces with a soft, dry cloth. For stubborn marks, a slightly damp cloth can be used. Avoid abrasive cleaners, solvents, or harsh chemicals.
- **Ventilation:** Ensure that the ventilation openings on the amplifier remain clear and unobstructed. Dust accumulation can be removed with a soft brush or vacuum cleaner.
- **Connections:** Occasionally check all cable connections to ensure they are secure and free from corrosion.

## 6. Troubleshooting

If you experience issues with your SA1000 amplifier, consult the following table before contacting support.

| Problem | Possible Cause | Solution |
|---|---|---|
| No power / Power LED off | • Power cord not connected.<br>• Wall outlet not active.<br>• Internal fuse blown. | • Ensure power cord is securely plugged into amplifier and wall outlet.<br>• Test wall outlet with another device.<br>• If fuse is suspected, contact qualified service personnel for replacement. |

| Problem | Possible Cause | Solution |
|---|---|---|
| No sound from subwoofer | • Input cables not connected.<br>• Speaker cables not connected or incorrect polarity.<br>• Gain control set too low.<br>• Crossover frequency set too low.<br>• Incorrect 'Remote Turn On' mode selected.<br>• Source device not sending signal. | • Verify all input and speaker cable connections.<br>• Check speaker cable polarity.<br>• Increase the GAIN control.<br>• Adjust the FREQ. Hz (crossover) control.<br>• Ensure 'Remote Turn On' switch is set to 'MANUAL' or appropriate mode.<br>• Verify audio output from source device. |
| Distorted or unclear sound | • GAIN control set too high (clipping).<br>• Subwoofer impedance too low.<br>• Source signal is distorted. | • Reduce the GAIN control. The soft clip circuitry helps, but excessive gain will still cause distortion.<br>• Ensure combined subwoofer impedance is 4 ohms or higher.<br>• Test with a different audio source. |
| Audible 'thump' when powering on | Normal characteristic for some amplifiers. | This is a known characteristic for some amplifiers. Ensure all connections are secure. If using with an AV receiver, try powering on the amplifier after the receiver. |
| Blue power LED is too bright | LED intensity. | This is a cosmetic preference. A small piece of dimming film or electrical tape can be applied over the LED if desired. |

## 7. Specifications

| Feature | Specification |
|---|---|
| Model Number | SA1000 |
| Manufacturer | Dayton Audio |
| Product Dimensions (L x W x H) | 19.35 x 7.2 x 16.2 inches |
| Item Weight | 27.7 pounds |
| Minimum Combined Load Impedance | 4 Ohms |
| AC Mains (US) | 120VAC-60Hz, Fuse: T10AL |

| Feature | Specification |
|---|---|
| AC Mains (EU/Other) | 230VAC-50Hz, Fuse: T5AL |
| Date First Available | October 20, 2009 |

## 8. Warranty & Support

### 8.1 Limited Warranty

Dayton Audio products are designed and manufactured to the highest quality standards. This product is covered by a limited warranty against defects in materials and workmanship under normal use. The duration and terms of the warranty may vary by region. Please retain your proof of purchase for warranty claims.

### 8.2 Customer Support

For technical assistance, warranty service, or general inquiries, please visit the official Dayton Audio website or contact their customer support department. Contact information can typically be found on the manufacturer's website or product packaging.

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