

INTRODUCTION:

Thank you for purchasing the Dayton Audio HPSA1000-R subwoofer amplifier, one of the most versatile and powerful subwoofer amplifiers available. The tabletop or rack-mountable design is perfect for high-end home theater installations or DIY subwoofer projects. With 1,000 clean watts of power, it can drive even the most power-hungry subwoofer systems.

FEATURES:

- Patented tracking downconverter power supply for high efficiency
- Class AB output stage for clean, controlled output
- Low frequency parametric EQ allows you to boost or adjust the sound
- Advanced soft clip circuitry improves headroom and protects woofers
- Manual, auto, or triggered on/off for integration into any automated system
- Can be easily converted between rack-mount and tabletop configurations
- Heavy-duty steel chassis with brushed aluminum faceplate
- Adjustable phase, gain, crossover, and parametric EQ
- Pop-out adjustment knobs keep settings from being easily disturbed
- Switchable 110/220V input voltage

INSTALLATION:

The HPSA100-R is designed to provide high fidelity subwoofer amplification and is tailored for home audio, home theater, and studio environments. It is not recommended for use in DJ, pro-sound, or other high-duty-cycle applications. For home audio tabletop applications, use the unit as it comes out of the box with the rubber feet and without the rack ears. In a custom home theater or studio where rack mounting is available, simply remove the rubber feet and attach the included rack ears. While the amplifier runs cool thanks to its high efficiency, care should be taken to leave some room for air circulation above the amplifier. Stacked components that utilize rubber or plastic feet should provide adequate clearance in most situations.

CONNECTIONS:

AC Power

The HPSA1000-R comes shipped standard for 110V U.S. operation; simply connect the included IEC power cord to your wall outlet. For 220V input, remove the fuse holder, rotate 180 degrees, and re-install. In most 220V applications a separate power cord will be required and is not included.

12V Trigger Input

The 12V trigger input is a handy feature when connecting the amplifier to an automated audio system. The 3.5mm mini-plug jack will accept up to a 12V DC output from another device, or from a separate power supply. When the trigger input is energized, the amp turns from standby to ON mode. When using the HPSA1000-R with a home theater receiver without a trigger output, the voltage can come from a 12V wall wart (3.5mm tip-positive connector) plugged into the receiver's switched outlet and the trigger input.

LFE/Left/Right Inputs

RCA style jacks receive the audio signal from standard line-level audio sources. When used in a two-channel stereo system, both the left and right audio inputs should be used and are internally summed to a mono output. The adjustable crossover is in effect when using the left or right input connections. When using the amplifier with an audio source that is mono and pre-filtered, the LFE input may be used; this bypasses the onboard low-pass crossover for more accurate reproduction of the incoming signal.

Speaker Output + / -

Speaker level output connection that carries the amplified signal to the subwoofer drivers. Binding posts will accept bare wire, banana plugs, or spade plugs. **Speakers connected to the output must have an overall 4 ohm minimum impedance!**

CONTROLS:

12V Trigger / Auto / On Switch (Rear panel)

Selects the turn-on stimuli that will put the amplifier in ready mode. "12V trigger" setting relies on voltage going into the 12V trigger input to activate the amplifier. "Auto" setting senses a signal on the RCA line-level inputs and automatically puts the amp in ready mode. "On" setting puts the amp constantly in ready mode so that it can be controlled by the master power switch on the front panel. In "Auto" mode, the amplifier will take approximately 15 minutes to turn off from ready to standby mode.

Power Switch / Indicator LED

Front panel pushbutton power switch turns the master power for amplifier on and off. When the indicator LED is lit dimly, the amplifier is in standby mode. When the LED is lit brightly, the amplifier is fully active.

Gain

Sets the overall level of the amplifier, used to match the output of the subwoofer to the rest of the speakers in the system.

Frequency

Adjusts the low-pass crossover frequency from 30 Hz to 200 Hz. When using the Left/Right inputs, this adjustment will allow you to properly integrate the subwoofer with the satellite or main speakers. It is recommended to experiment with different settings until the smoothest transition between subwoofer and speakers is achieved.

Phase

Adjustable phase delay from 0 to 180 degrees. Allows the user to correct for improper phasing of the main speakers or differing listening distances between the subwoofer and mains, which can cause a poor acoustic summation around the crossover point. In most situations the knob should be left at 0 degrees, but for the advanced user it can be set either by ear or with the aid of measurement instruments.

EQ

The EQ adjustment knobs allow the user to custom-tailor one band of parametric equalization for their subwoofer, which can be used to add boost to the low-end of the response, or can be used to cut out an excessively loud room resonance. The freq. knob selects the frequency for the filter, the bandwidth knob selects how wide or narrow the filter is (the higher the bandwidth, the wider the band), the level knob can be used to add up to 6dB of boost or 14 dB of cut.

NOTES ABOUT HUM:

While the HPSA1000-R 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. While 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:	512 Watts RMS into 8 ohms @ .094 % THD 1024 Watts RMS into 4 ohms @ .153 % THD
Signal to Noise Ratio:	98 dB A-weighted
Efficiency:	86%
Input Impedance:	12K ohms
Dimensions:	17-1/2" W x 4" H x 13" D (tabletop configuration)
Power Requirements:	110/220 VAC, 50 Hz/60 Hz
Weight:	20 lbs.