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› SMSL AO300 MA5332MS Class D Power Amplifier User Manual

## AOSHIDA AO300

# SMSL AO300 User Manual

Model: AO300 | Brand: AOSHIDA

## 1. PRODUCT OVERVIEW

The SMSL AO300 is a versatile audio device combining a Class D power amplifier, DAC (Digital-to-Analog Converter), and headphone amplifier. It is designed to deliver clear and accurate sound output for various audio setups.



Figure 1.1: SMSL AO300 Power Amplifier with Remote Control

Key features include:

- **MA5332MS & CS43131 Chips:** Utilizes MA5332MS power amplifier chip and CS43131 decoding headphone amplifier chip for clear and accurate sound.
- **2.1 Channel Audio System:** Supports 165W x 165W output power and 2.1 channel active audio and subwoofer output for deep bass and rich sound.
- **Multiple Inputs and Outputs:** Provides USB, Optical, Coaxial, HDMI ARC, and Aux inputs, along with 4.4mm and 6.35mm headphone outputs.
- **Personalized EQ and Filter Selection:** Offers 8 EQ audio modes and 5 filters to adjust audio output based on listening preferences.
- **HDMI (ARC) Audio Return:** Enables audio and video synchronization by connecting to a TV via HDMI (ARC).

## 2. SAFETY NOTES

Please read the following safety notes carefully before operating the SMSL AO300 to ensure proper use and prevent damage or injury:

- Install this unit in a well-ventilated, cool, dry, clean place away from direct sunlight, heat sources, vibration, dust, moisture, or cold.
- Use the voltage specified on this unit only. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to the unit, or personal injury. Our company will not be held responsible for any damage resulting from the use of this unit with a voltage other than that specified.
- Do not attempt to modify or fix this unit by yourself. Contact salesperson or customer service when any service is needed. The cabinet should never be opened for any reason.
- When not planning to use this unit for long periods of time (i.e. when going on vacation), disconnect the power cable from the AC wall outlet.

*Important note: The product specifications and information mentioned in this manual are for reference only. The content of this manual is subject to change without notice.*

## 3. FEATURES

The SMSL AO300 incorporates advanced technologies and design elements to provide a superior audio experience:

- New digital high power amplifier chip from Infineon, Germany, with higher efficiency and low power consumption.
- Utilizes JRC's electronic volume control chip NJW1194 from Japan for precise volume control and ultra-low distortion.
- Supports MQA decoding and MQA-CD playback.
- New 3rd generation XMOS XU-316, supporting PCM up to 32bit/768kHz and DSD up to DSD256.
- New Bluetooth 5.0 reception for longer transmission distance and better sound quality.
- All Aluminum Alloy CNC precision processing shell, anodizing technology and chamfering process, exquisite workmanship and delicate touch.
- User-friendly operating system that is simple and easy to understand, equipped with full-featured remote control function.
- A large number of professional Hi-Fi audio components are used to enhance the sound experience.
- High-quality gold-plated input and output terminals.
- Perfect protection circuit for overheating, overcurrent, etc.
- Built-in high-quality power supply, specially designed for audio.

**SMSL AO300**  
DAC & Power Amp & Headphone Amp

 <b>MA5332MS</b> Amplifier Chip	 <b>output power</b> 165Wx2(4Ω) 85Wx2(8Ω)	 4.4mm/6.35mm HPA Output
 <b>CS43131</b> Decoder Chip	<b>DSD</b> DSD256 <b>PCM</b> 32 bit 768kHz	 2.1 channel (with subwoofer)

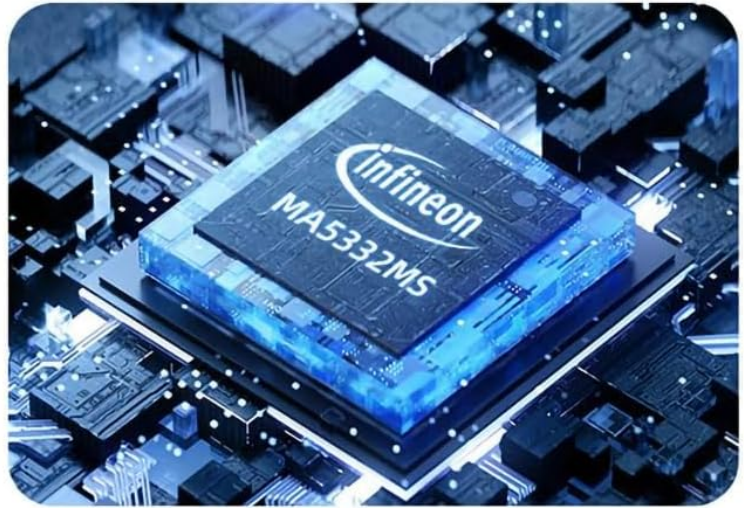
**7.8-7.11**

Figure 3.1: Key Features of SMSL AO300

Infineon Technologies

## MA5332MS

With higher output power (165W), Supporting the standard Class D protection function, the reliable operation in various environments.



Cirrus Logic

## CS43131

Delivering superior audio performance, while featuring low power consumption, and is suitable for a wide range of headphones.

Figure 3.2: Infineon MA5332MS Amplifier Chip

# One is All DAC+HPA+AMP

With multiple identities, the AO300 brings out every detail of the music, and conveys the emotion of the notes in a richer way.



Figure 3.3: Cirrus Logic CS43131 Decoder Chip

## 4. SPECIFICATIONS

Specification	Value
Input	HDMI(ARC)/RCA/BT/USB/Optical/Coaxial
THD+N	0.003%
SNR	107dB
Channel separation	98dB
Input Sensitivity / Input Impedance	280mV/22kΩ
Output Power (Stereophonic)	165W x 2 (4Ω) / 85W x 2 (8Ω)
USB transmission	USB2.0 (Asynchronous Transfer)
USB compatibility	Windows 7 / 8 / 8.1 / 10 / 11, Mac OSX, Linux
MQA decoder	Optical/Coaxial
MQA-CD decoder	Optical/Coaxial
Bit Depth (USB)	1bit, 16-32bit
Bit Depth (Optical/Coaxial)	1bit, 16-24bit
Sampling rate (USB PCM)	44.1-768kHz
Sampling rate (USB DSD)	2.8224-11.2896MHz
Sampling rate (Optical/Coaxial PCM)	44.1-192kHz
Sampling rate (Optical/Coaxial DSD)	DSD64(DoP)
Power Consumption	40W (Normal Volume)
Size (WxHxD)	219x42x185mm
Weight	1.52kg / 3.35lbs

## 5. WHAT'S IN THE BOX

Upon opening the package, you should find the following items:

- 1 x SMSL AO300 Unit
- 1 x Remote Control
- 1 x Bluetooth Antenna
- 1 x AC Power Cable
- 1 x USB Cable
- 1 x HDMI Cable
- 1 x SMSL Repair Card
- 1 x User Manual

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Video 5.1: Unboxing and Included Accessories for SMSL AO300.

## 6. SETUP AND CONNECTIONS

Proper connection of your SMSL AO300 is crucial for optimal performance. Follow the instructions below to connect your devices.

### 6.1 Input Connections



Figure 6.1: Overview of SMSL AO300 Input and Output Ports

- **USB Input:** Connect your PC or other USB audio source using the provided USB cable.
- **Optical Input:** Connect CD/DVD players, DACs, or TVs via an optical cable.
- **Coaxial Input:** Connect TV, CD/DVD players, or DACs via a coaxial cable.
- **HDMI (ARC) Input:** Use a commercially available HDMI cable to connect to an ARC-compatible TV. Ensure the TV's HDMI IN port is labeled "ARC" or "eARC/ARC". The TV's audio output format must be set to PCM. This product supports digital signal input, not video input. The TV remote control cannot adjust the volume of this product via ARC, nor does it support synchronous power on/off.
- **Aux (RCA) Input:** Connect CD/DVD players or other analog audio sources using RCA cables.
- **Bluetooth Input:** Connect the Bluetooth antenna to the rear panel. Pair your mobile phone, tablet, or PC via Bluetooth.

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Video 6.1: Demonstrating various input connections to the SMSL AO300.

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Video 6.2: Important precautions and setup for HDMI ARC connection.

### 6.2 Output Connections

- **Speakers Out (L/R):** Connect your passive speakers to the red (Right) and black (Left) binding posts.
- **Subwoofer Output:** Connect an active subwoofer to the SW OUT RCA port for a 2.1 channel system.
- **Headphone Outputs:** The AO300 features both 4.4mm and 6.35mm headphone jacks on the front panel for direct headphone connection.

## 7. OPERATING INSTRUCTIONS

### 7.1 Remote Control

The SMSL AO300 comes with a full-featured remote control for convenient operation. This remote uses 2 x R03/AAA batteries.

- **Power ON/OFF:** Press the power button to turn the unit on or off.
- **Navigation:** Use the Up, Down, Left, Right arrows to navigate menus.
- **MENU/OK:** Press to enter menus or confirm selections.
- **Return:** Go back to the previous menu.
- **Input Select (FN):** Cycle through available input sources.
- **Mute:** Mute or unmute the audio output.
- **Volume +/-:** Adjust the volume level.

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Video 7.1: Guide on how to use the remote control for SMSL AO300.

### 7.2 Menu Navigation and Settings

Access the setup menu to customize various settings:

- **Input:** Select the desired audio input source (USB, Optical, Coaxial, Bluetooth, ARC IN, AUX IN).
- **Output:** Configure output settings.
- **EQ Setting:** Choose from 8 EQ audio modes (Direct, Tone, SDB, Bass, Super Bass, Rock, Soft, Clear) to adjust audio output.
- **Treble Adjustment:** Adjust treble from -9dB to +9dB. When EQ mode is Direct or other EQ mode, adjusting Treble will automatically change to Tone mode.
- **Bass Adjustment:** Adjust bass from -9dB to +9dB. When EQ mode is Direct or other EQ mode, adjusting Bass will automatically change to Tone mode.
- **Filter:** Select from 5 filter options (Fast and Low-latency, Fast and Phase-compensated, Slow and Low-latency, Slow and Phase-compensated, Nonoversampling).
- **Color Settings:** With 8 menu color settings, you can change the color of the display screen according to your own preferences.
- **Bluetooth Clear:** To clear the current Bluetooth paired device, press the Up and Down buttons on the remote or twist the knob.

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Video 7.2: Exploring the 8 EQ audio modes and 5 filters available on the SMSL AO300.

## 8. TROUBLESHOOTING

If you encounter issues with your SMSL AO300, refer to the following common troubleshooting steps:

- **No Sound / Device Not Recognized (HDMI ARC):**

- Ensure the ARC input of the product is connected to the HDMI ARC interface of the TV.
  - Verify that the output mode of the TV is set to "ARC/ARC+TV speakers" or "PCM out only".
  - If the TV does not support ARC, connect the TV's audio output port to the audio IN port (Optical, Coaxial, or AUX) of the AO300.
- **Sound Not Loud Enough:**
    - Check the volume level on your source device and ensure it's set to the maximum.
    - Check the volume on your AO300. If the sound is still not loud enough, you may need to use an amplifier with your DAC.
- **DAC Not Working / Sounding as Expected:**
    - Ensure your DAC is properly connected and that your device's sound settings are correctly configured.
    - Make sure your audio files are of high quality.
- **Difficulty Adjusting DAC's Filter:**
    - Changes made by adjusting a DAC's filter can often be subtle and may not be easily noticeable, especially if you're not using high-quality audio equipment or listening to high-resolution audio files. Experiment with different settings to see which one you prefer.

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Video 8.1: General tips for HiFi DAC setup and troubleshooting.

## 9. WARRANTY AND SUPPORT

### Warranty Terms:

- Foshan Shuangmusanlin Technology Co., Ltd promises to offer good quality products. If the product is broken in 7 days after purchasing when you use it normally, you can choose to send it back for return, replacement or repairing (only the product does not affect the second sales can be returned).
- Repairing for free in one year if you use it normally.
- Date of purchase is in accordance with the date on invoice or receipt used by seller, and if you buy it on line, you can show the screenshot of trade.
- If an inappropriate usage causes the unit damaged, the warranty will be void. All damages by inappropriate use, including using it under non-normal working environment or without following the instructions, disassembling, refitting, repairing by user in private, causing damage by using some fittings instead of the designative or accredited ones, or inability to provide credible proof of purchase, are not covered.
- Contact your SMSL Audio reseller for a return or replacement.

For further assistance or inquiries, please contact AOSHIDA Audio customer support.

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Video 9.1: Overview of the SMSL AO300 User Manual, including safety and warranty information.