

Procella audio®



AVR-1680

Owner's Manual
Multi-channel audio amplifier



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4K Ultra HD is a video resolution standard with a horizontal pixel count of 3840 and a vertical pixel count of 2160, commonly referred to as 4K. It is four times the resolution of traditional high-definition (HD) video, allowing for a clearer, more detailed, and more lifelike image.

4K Ultra HD is an advanced video technology that provides the main advantage of higher quality images. It can present more detail and depth and still maintain clarity on larger screens. This allows viewers to immerse themselves in the visual effects world and achieve a more realistic viewing experience.



eARC stands for Enhanced Audio Return Channel, and it is a feature of the HDMI (High-Definition Multimedia Interface) protocol that allows for the transmission of high-quality audio signals between compatible devices.

The purpose of eARC is to provide a more robust and efficient way to transmit audio signals, particularly for advanced audio formats like Dolby Atmos and DTS:X, which require more bandwidth than traditional audio formats. With eARC, the audio data can be transmitted in a more efficient manner, resulting in higher quality sound and fewer compatibility issues.



Technical and Safety Notices

Please read the following important technical, safety and environmental notices before installing and using your multi-channel audio amplifier.

Technical Notices

Your Procella multi-channel audio amplifier has been designed to provide a high level of performance when properly installed, configured and operated. In order to ensure this performance and maintain the product warranty, please note and follow these instructions.

Important Safety Instructions

1. Read these instructions.
2. Follow all instructions.
3. Do not use this apparatus near water.
4. Clean only with a dry cloth.
5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
8. Only use attachments/accessories specified by the manufacturer.
9. Unplug this apparatus during lightning storms or when unused for long periods of time.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
11. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
12. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
13. Do not connect the unit's output to any other voltage source, such as battery, mains source, or power supply, regardless of whether the unit is turned on or off.
14. Do not remove the top (or bottom) cover. Removal of the cover will expose hazardous voltages. There are no user serviceable parts inside and removal may void the warranty.
15. An experienced user shall always supervise this professional audio equipment, especially if inexperienced adults or minors are using the equipment.
16. This product can only safely use under elevation 2000m. 
17. This product can only safely use on non-tropical climate area. 

Safety and Environmental Notices



Note: The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of uninsulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.



Note: The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.

WARNING! TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

Ambient Temperature Note: If this equipment is operated in a confined or multiple rack installation, the internal ambient operating temperature may exceed the external ambient temperature. It is important to ensure in these circumstances that the published maximum operating temperature for the equipment is not exceeded.

Reduced Air Flow: Ensure that rack or other closed installation does not restrict the cooling airflow required for safe and reliable operation of the equipment.



Environmental Statement



This product complies with international directives, including but not limited to the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment, the Registration, Evaluation, Authorization and restriction of Chemicals (REACH) and the disposal of Waste Electrical and Electronic Equipment (WEEE). Consult your local waste disposal authority for guidance on how properly to recycle or dispose of this product.

FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body

Overview

1. Introduction

The Procella AVR-1680 multi-channel audio amplifier has been designed to provide configurable, consistent and reliable high performance audio power amplification for residential and commercial applications. Please read this manual fully before installing and using the amplifier. If you have any questions regarding amplifier configuration, installation or operation please contact us.

Following this introduction, the manual is divided into sections covering the following topics:

Overview
Carton Contents
Features
Front panel
Rear panel
Remote Control
Connecting Instruction
Basic Settings
Function and Settings
Mobile Phone Transmission
Specifications
limited warranty

2. Carton Contents

The AVR-1680 multi-channel audio amplifier is shipped in a cardboard carton containing the amplifier unit, a mains cable appropriate for the sales territory and a document pack.

The full contents are listed below:

• AVR-1680 multi-channel audio amplifier	1 pcs
• User's manual	1 pcs
• Power cord	1 pcs
• Remote control	1 pcs
• Battery	1 pcs
• HDMI cable(4K)	1 pcs
• Test microphone	1 pcs

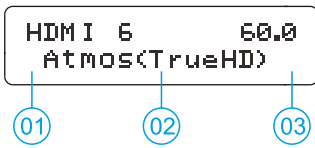
3. Features

1. Support Dolby Atmos, DolbyTrue HD and all backward Dolby audio formats.
2. Support DTS:X, DTS-Master and all backward DTS audio formats.
3. Support 4K/60Hz, RGB 4:4:4,18GHz bandwidth HD video signal.
4. Support Dolby Vision and HDR 10 video signal.
5. Support HDMI2.1,HDCP2.2.
6. Support 7.3.6 and 9.3.4 decoding output.
7. Auto testings and compensations for Room EQ, speaker distance, delay and sound pressure.One button control , full auto calibration. Support manual adjustments, too.
8. Built-in digital Bluetooth audio receiver.
9. Built-in music playing device; support multi-level folder arrangement of music files from TF card & USB disk; support lossless & compressed audio formats including FLAC, APE, WAV,MP3, etc.
10. OSD layer menu.
11. Synchro-reading and display of music lists on mobile phone and TV.
12. Support more than 27 speaker configurations from2.0 to 9.1.4.
13. HDMI 6 in 2 out, 2 way coaxial, 2 way optical and 4 way analog inputs.
14. Built-in 11 channels amplifiers, L/R/C: 240W(8Ω) ,other channels:120W(8Ω) Big power Hi-Fi amplifier design can drive 7.1.4 speaker configuration.
15. Support RS232 protocol.
16. HDMI eARC and CEC.
17. Maximum 1000ms lip-sync adjustment.
18. 5 to 11 band parameters EQ for each channel.
19. Support audio-video matrix subgroup output.
20. Dual-core DSP from ADI company.
21. Independent EQ settings and parameter storage for each input channel.

Front panel

Front Display Screen

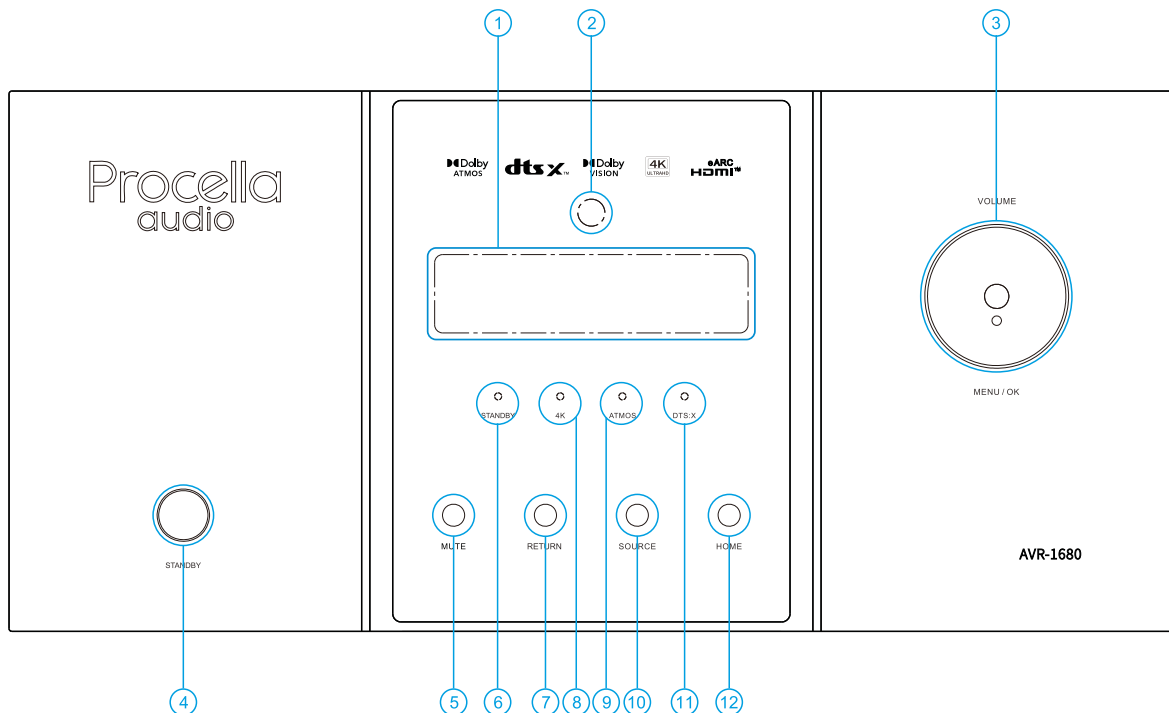
1. Display screen: Display the input source, volume and current status.



01. Indicate the current input source.
02. Indicate the current input signal.
03. Indicate the current volume.

2. Remote control sensor

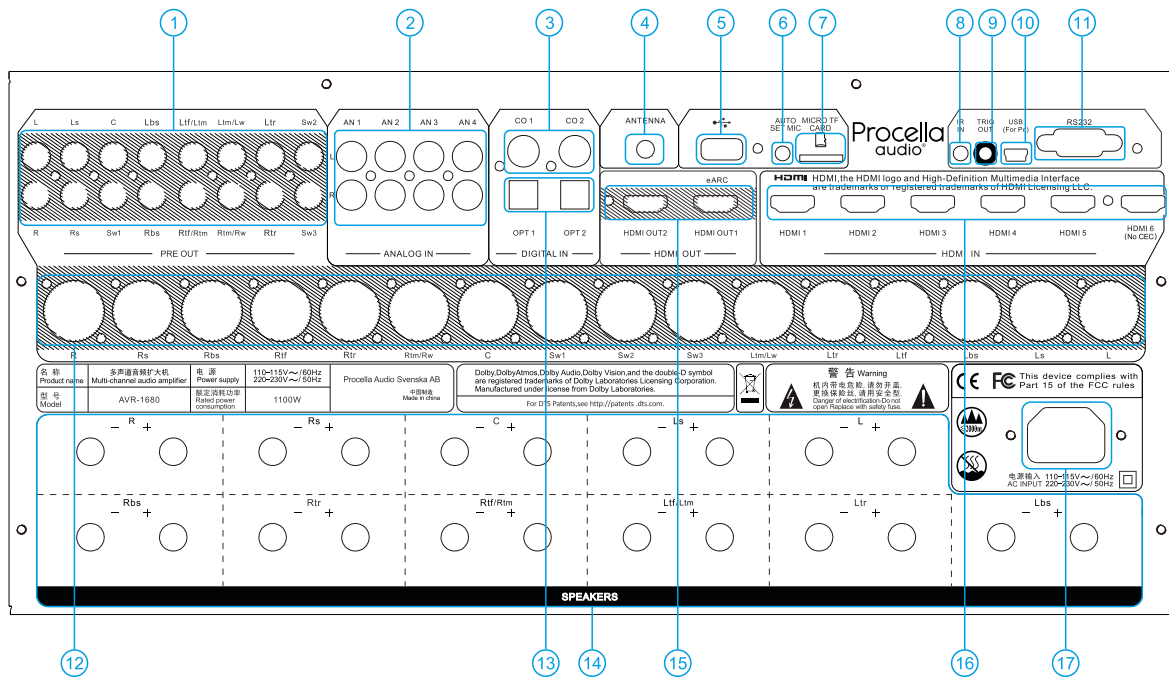
3. VOLUME/MENU/OK knob: Turn the knob to adjust volume when it's on home interface. Press the knob to enter the menu.



4. STANDBY button: Turn on/off the unit.
5. MUTE button
6. STANDBY indicator: Light up when the unit is in standby mode.
7. RETURN button
8. 4K indicator: Light up when the input signal is 4K format.
9. ATMOS indicator: Light up when the input signal is Dolby Atmos format.
10. SOURCE: Turn the knob to select an input source.
11. DTS:X indicator: Light up when the input signal is DTS:X format.
12. HOME button: Switch between home interface and menu; directly return to home interface.

Rear panel

1. PRE OUT jacks: Support 7.3.6 or Line output
2. ANALOG IN jacks: 4 way analog inputs AN1, 2, 3, 4.
3. Coaxial input jacks: 2 way coaxial inputs CO1,CO2.
4. Bluetooth ANTENNA
5. USB jack
6. AUTO SEC MIC jack: Connect to testing microphone to collect sound information of the room.
7. MICRO TF CARD port: For TF card input.
8. IR IN jack: Connect to an infrared receiver to extend the range of signal receiving.
9. TRIG OUT jack: 5V high level signal output for triggering out other related devices.
10. USB (For PC) jack
11. RS232 port

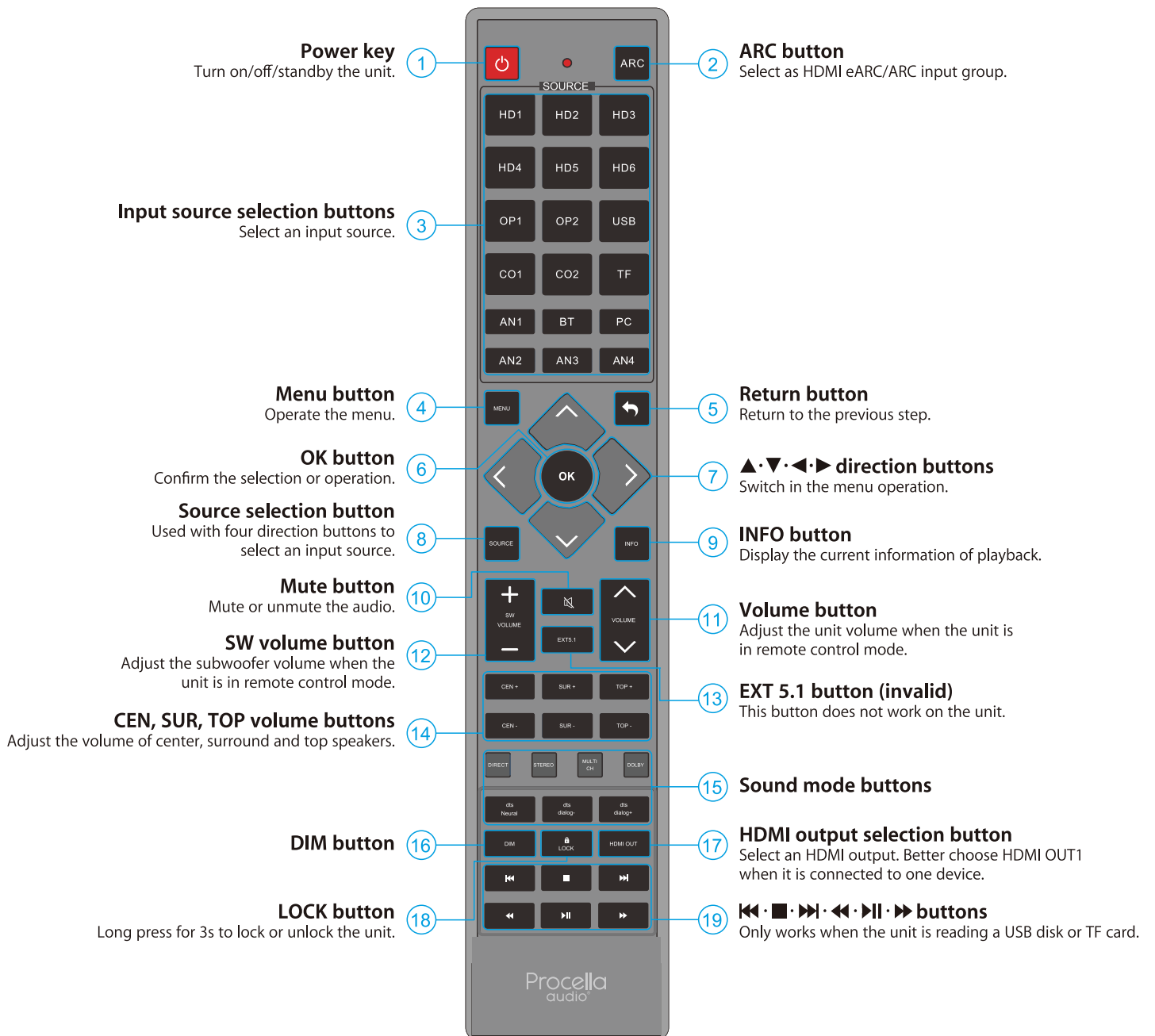


12. 7.3.6 Fully balanced signal output
13. Optical input jacks: 2 way optical inputs OPT1, OPT2.
14. Speakers output sockets (Details to P.07)
15. HDMI OUT jacks: 2 way HDMI outputs for connecting to an HDMI-compatible devices. The HDMI eARC jack is for devices with ARC or eARC. Only HDMI OUT 1 works when the unit is in standby mode.
16. HDMI IN jacks: 6 way HDMI inputs for connecting to an HDMI-compatible devices.
17. AC INPUT/Power: Auto switch for connecting to 110V or 220V mains electricity.

Remote Control

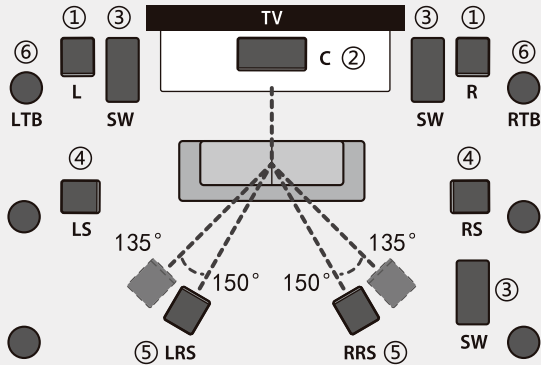
Notice

- Please make sure to put the positive and negative ends of batteries correctly. Please do not mix-use old & new batteries.
- Please take out all batteries if the remote is not in use for a long time to avoid damage caused by battery leakage.
- Please replace the batteries when the effective range of the remote is reducing or the signal transmission is not stable.
- Please use soft cloth to regularly clear the IR diode on the remote and the remote control sensor on the front panel.
- Please don't put the remote in a moist or sultry place and avoid hitting & shaking.

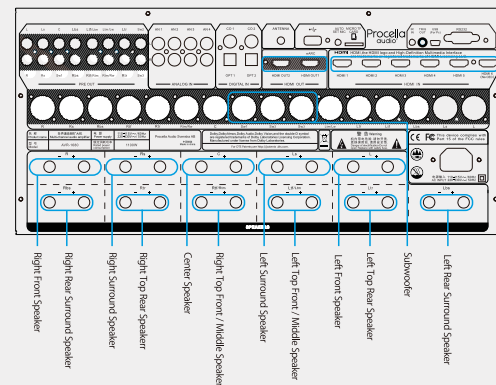


Connecting Instruction

You can use the 7.3.6 system diagram above as a reference to arrange your speakers.



Theater system connecting diagram



HDMI OUT: Projector,TV

HDMI IN: Hard disk player,Blu-ray DVD player,wire set-top box,game console

①. Left and right speakers

Front left and right speakers can create the overall soundstage. Place the speakers in front of the user at ear-listening level. Toe-in the speakers inwards and create an equilateral triangle between the user and the two speakers so that they meet to a point that goes behind the user. Then adjust the angle to find the position where the audio has better soundstage and imaging.

②. Center speaker

The center speaker produces most of the dialogue and vocals and reinforces the sound effect of front left and right speakers. Place the center speaker under or above the display device and make sure it faces to the user at ear-listening level or at the same level as the front left and right speakers.

③. Subwoofer

The subwoofer adds emotion and impact, and handles the bass in the sound field. The sound quality and volume of the subwoofer are closely related to the shape of your audio room and the listening position. In general, place the subwoofer in the front corner, or the one-third width of the room, or anywhere you feel the best sound.

④. Left and right surround speakers

These speakers are used for precise positioning of sounds and to bring spatial sound effect from all directions. Place these speakers on the sides or slightly backward sides of the user at the height of about 60cm to 100cm above user's ears. The same distance between the speaker and the user brings ideal sound quality.

⑤. Left and right rear surround speakers

These speakers support you to enjoy best effect of Dolby HD and DTS HD by enhancing the surround sound and create a realistic immersive effect. Place these speakers in the back of the user at the height of 40cm to 100cm above user's ears.

⑥. Left and right top front speakers

Add another layer to create 3D sound effect which transports you with breakthrough, spatial and realistic audio experience and brings you a deeper connection to music and images.

Basic Settings

OSD select language

Chinese/English, The factory default is Chinese;
Remote control: SETTING→Option→Language.

01

Select an input source

Remote control: SETTING→Source setup
Front panel: SOURCE→VOLUME knob to select an input source.

02

Speaker configuration

Remote control: SETTING→Speaker setup→Speaker layout.
Front panel: HOME→VOLUME knob to Setting→Speaker setup→Speaker layout.
You can select 3.1/5.1/7.1/5.1.2/5.1.4/7.1.2/7.1.4/7.1.6/7.3.4/9.1.4 etc.

03

Speaker distance (latency)

Remote control: SETTING→Speaker setup→Speaker distance.
Front panel: HOME→VOLUME knob to setup→Speaker distance.
You can adjust the distance between speakers and sitting position.

04

Select Subwoofers

Main menu→System setting→Speaker setting→Subwoofer,
here please select if you connect any sub in this system.

05

Function and Settings

06

INPUT SOURCE

It offers input sources and displays the audio-video input port.

07

MODE selection

You can select pure, direct, stereo, multi-channel, Dolby upmix and DTS Neural: X modes. It only applies DSP processing to the current input source, and it will become default settings after rebooting.

08

PARAMETER adjustment

Independent output level/gain adjustment for each channel. The display differs based on different speaker configurations. Non-existent channels will be in grey color and can't be adjusted.

09

Acoustic Test

Auto Room Test: to auto-set the speaker EQ, distance and frequency response. Advance Test: to set the speaker EQ, distance and frequency response at your will.

10

SET UP

It handles seven parts: source setup, audio mode, speaker setup, manual EQ, option, parameter save and recall & information about the unit.

About SET UP

1、 Source set up :

- Settings of the enable switch, rename, video source, audio source, EQ selection, independent volume and trigger output of each channel, can reach any configuration effects.
- Enable: set the ON/OFF status for each input port. If it is off, input port will not be displayed. (suggest the default selection)
- 19 Input sources: HDMI 1, HDMI 2, HDMI 3, HDMI 4, HDMI 5, HDMI 6, HDMI eARC, OPTICAL 1, OPTICAL 2, COAXIAL 1, COAXIAL 2, ANALOG 1, ANALOG 2, ANALOG 3, ANALOG 4, Bluetooth, UDISK, TF CARD & USB Audio. (suggest the default selection)
- Video source: No Video, HDMI 1, HDMI 2, HDMI 3, HDMI 4, HDMI 5 & HDMI 6. (suggest the default selection)
- Audio source: HDMI Audio, Optical 1, Optical 2, Coaxial 1, Coaxial 2, Analog 1, Analog 2, Analog 3 & Analog 4.
- EQ select: Bypass, EQ1, EQ2, EQ3, Auto EQ, Not change. (suggest the default selection)
- Volume mode: OFF/ON (Independent/Unified/Additional ± 20 dB)
- Trigger out: OFF/ON (suggest the default selection)

2、 Audio mode :

- Can set any input signal to your expected effects. Input signals: can set as pure, Bypass, 2CH, Multi-ch, Dolby effect, DTS effect.

3、 Speaker setup :

- Speaker layout: to select 3.1/5.1/7.1/5.1.2/5.1.4/7.1.2/7.1.4/7.1.6/7.3.6/9.1.4 configuration.
- Top speaker type: to select ceiling or reflective speaker.
- Level test/ adjust: test the right position, adjust the gain of each channel and auto-turn-off the unnecessary parameters.
- Speaker distance: input the distance data between speaker & listening position and auto-adjust the latency.
- Subwoofer: select NO when there is no subwoofer connected and it will auto-transmit the subwoofer signal to other channels to avoid distortion. You can select one/two/three subwoofer(s).
- Speaker crossover: to adjust the frequency response for each channel.
- Filter slope: to adjust the crossover slope for each channel.
- Bass enhance: this selection will display on the list only after the L/R crossover is set to Bypass. Turn on bass enhance for more stunning bass.

4、 Auto EQ testing :

- Plug in the calibrated microphone to AUTO SET MIC socket.
- Put the mic in the best listening place.
- Confirm auto EQ testing (Enable).
- After level testing finish, go to frequency response tests.
- After tests finish for each channel, press confirm to apply test data. Or you can select QUIT if you don't want to apply the test data.

5、 Professional EQ testing :

- Go to professional EQ testing and select Level compensation.
- After tests finish, press confirm to apply test data. Or you can select QUIT if you don't want to apply the test data.
- EQ test: every channel can do independent tests.
- All the testing steps of each channel are same as auto EQ calibration, you can see detail speaker distance data after tests.

6、 EQ settings :

- 5 different modes: cinema, music, news, auto EQ and Bypass.
- Different parameter adjustments for each mode: 11 bands for L/R and center channel, 7 bands for L/R surround, L/R back surround and top channels, 5 bands for subwoofer, and 7 bands for front top and rear top channels.

7、 Option :

- Language, Startup state, Volume options, HDMI option, Information display, No signal standby, Trigger out, Unit & UDriver Log.
- Language: English/Chinese.
- Startup state: Power on is for auto-power-on; Standby is for manual-power-on needed; Remember is for the state when it powered off last time.
- Volume options - Power on volume: to set power on volume each time.
 - Max volume (IMPORTANT): set max volume limitation to avoid damage of wrong volume.
 - Volume steps: how much volume will add or decrease when you press remote volume button for one time.
 - Volume display: the way how volume show up in display screen when adjust volume.
- HDMI option: HDMI OUT Select, Sync to TV Power, Standby Video, CEC Source Control, CEC Control & HDMI Format.
 - HDMI OUT Select: select one/both of HDMI 1 & HDMI 2. Better select HDMI 1 when there is only one way HDMI output.
 - Sync to TV Power: ON/OFF is for sync-turn-on/manual-turn-on the TV & amplifier.
 - Standby Bypass: ON is for video signal transmitting directly to TV or other display devices.
 - CEC Source Control: ON means the amplifier will auto select HDMI port when it is connected with external HDMI CEC supported devices such as DVD player. Make sure it is connected properly. This only works for HDMI ARC output port and better select OFF to avoid wrong operation.

About SET UP

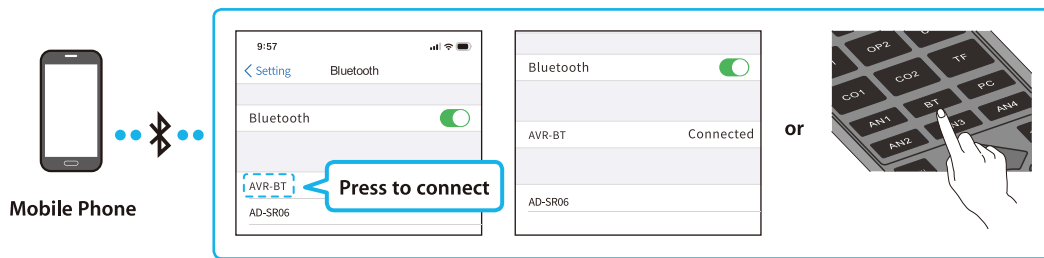
- CEC Control: ON means the playback buttons of the remote control also work for the external HDMI CEC supported devices. If the input source can be recognized, the name of it will be displayed on the screen.
- HDMI Format: Auto priority, HDMI1, HDMI 2, HDMI 3, HDMI 4,5,6 and Auto/Standard/Enhance.
 - Auto is for auto-adapt to the resolution of display device, only for 3D, HDR & Dolby.
 - Standard is for HDMI 1.4a video format.
 - Enhance is for HDMI 2.0 video format.
- Information display: Display DIM, OSD information, OSD info position & OSD Transparency.
 - Display DIM 1-10 to adjust the brightness of the display screen.
 - OSD information to select display all/none/only display volume.
 - OSD info position to select top/bottom information display place.
 - OSD Transparency 0-7 to set the transparency of the OSD menu.
- No signal standby: To set the time limit before the amplifier enters standby mode.
- Trigger out: Always ON/Always OFF/By source.
- Unit: Metric/Imperial, only for speaker distance.
- U Driver Log: Normally default OFF. When the unit breaks down, please insert a USB disk and it will auto-log the error information into a file in the disk. Please send the file to dealer or store where you purchased this unit and ask for solution.

8、 Save and Recall :

- save to back up: back up all the current parameter.
- Load from back up: Recall the parameter saved last time.
- Load from default: Reset the parameter to factory default.

Mobile Phone Bluetooth Wireless Transmission

- Press SOURCE button on the front panel or remote control to select Bluetooth.
- Switch on Bluetooth on your mobile phone, search & connect with AVR-BT, and control music playback on your mobile phone.



Specifications

Model	AVR-1680
Rated impedance	8Ω
Rated power output (THD=1%,1CH, 1kHz)	L/R/C, 240W Rms/8Ω 120W Rms/8Ω
Distortion (A-weighted, pure mode, 1kHz)	≤ 0.03%
Frequency response	10Hz-50kHz (+1/-3 dB, pure)
Dimensions (WxDxH)	431x394x200mm (without feet, knobs, terminal posts) 431x435x217mm (including feet, knobs, terminal posts) 557x531x334mm (Package size)
Weight	≈ 24.3kg (Net weight) ≈ 28.1kg (Gross weight)
Gain	≥ 38dB (pure)
SN	≥ 95dB (A-weighted, pure)
Power	110-115V~/60Hz,220-230V~/50Hz
Executive standard	GB4943.1-2022 GB/T9254.1-2021 GB17625.1-2012



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4K Ultra HD是一种视频分辨率标准，它的水平像素数为3840，垂直像素数为2160，通常简称为4K。它比传统的高清晰度（HD）视频分辨率高出四倍，因此可以呈现更加清晰、细腻和真实的图像。

4K Ultra HD是一种高级视频技术，它的主要优势是提供更高质量的图像。它能够呈现更多的细节和深度，并且在较大的屏幕上仍然能够保持清晰度。这使得观众能够更好地沉浸在视觉效果的世界中，从而获得更加逼真的观感体验。



eARC是增强音频回传通道（Enhanced Audio Return Channel）的缩写，它是HDMI（高清晰度多媒体接口）协议的一个特性，允许兼容设备之间传输高质量的音频信号。

eARC的目的是提供更强大和有效的传输音频信号的方式，特别是对于像杜比全景声和DTS:X这样需要比传统音频格式更多带宽的先进音频格式。有了eARC，音频数据可以以更有效的方式传输，从而产生更高质量的声音和更少的兼容性问题。



技术和安全通知

在安装和使用多声道音频扩大机之前，请阅读以下重要的技术、安全和环境注意事项。

技术通知

您的Procella多声道音频扩大机经过精心设计，在正确安装、配置和操作的情况下，可提供比预期更高水平的性能。为了确保这种性能并维持产品保修，请注意并遵循这些说明。

重要的安全说明

1. 阅读这些说明。
2. 遵守所有说明。
3. 不要在水边使用此设备。
4. 请使用干布清洁。
5. 不要遮挡任何通风口。依照厂商说明进行安装。
6. 不要在任何热源附近安装,如散热器、热寄存器、火炉以及其他产热装置(包括扩大机)。
7. 避免电源线被踩踏或被捏挤,尤其插头处、插座处以及与设备的连接处。
8. 只使用厂商指定的附件/配件。
9. 雷暴期间或长时间不使用设备,请拔掉电源。
10. 向有资格的服务人员获取所有需要的服务。设备产生如下任何损坏时需要获取服务: 电源线或插头损坏、液体洒漏或外界物体进入设备、设备暴露在雨中或潮湿处、无法正常工作或设备跌落。
11. 警告:减少电击引起的火灾危险,勿将设备暴露在雨中或潮湿处。
12. 勿将设备至于水源飞溅处并且确保盛有液体的容器,像花瓶,勿放置于设备上。
13. 勿将此设备的输出接到任何其他电压源上,比如电池,电线电源或电源,不管设备是开启状态还是关闭状态。
14. 请勿移除顶部(或底部)机盖,移除机盖将会暴露危险电压,设备内部无用户可用的部分,私自移除机盖将不予保修。
15. 有经验的用户要对这样的专业音频设备进行监督,特别是当没有使用经验的成年人或未成年人使用该设备时。
16. 本产品仅适用于海拔2000m以下地区安全使用。
17. 本产品仅适用于非热带气候条件下安全使用。

环境报告



本产品符合国际指令,包括但不限于电气和电子设备中有害物质的限制(RoHS)、化学品的注册、评估、授权和限制(REACH)以及废弃电气和电子设备的处理(WEEE)。有关如何正确回收或处理本产品的指南,请咨询您当地的废物处理机构。

安全和环境通知



注意:三角形中带箭头符号的闪电旨在提醒用户产品外壳内存在未绝缘的“危险”电压,其强度可能足以对人体构成电击风险。



注意:等边三角形中的感叹号旨在提醒用户本手册中存在重要的安全、操作和维护说明。

警告! 为防止火灾或电击,请勿暴露本设备防雨防潮。

环境温度注意:如果本设备在封闭或多机架安装中运行,内部环境运行温度可能会超过外部环境温度。在这些情况下,确保不超过设备公布的最高工作温度非常重要。

气流减少:确保机架或其他封闭装置不会限制设备安全可靠运行所需的冷却气流。



概述

1. 简介

Procella AVR-1680 多声道音频扩大机旨在为住宅和商业应用提供可配置、一致和可靠的高性能音频扩大机。在安装和使用扩大机之前，请仔细阅读本手册。如果您对扩大机配置、安装或操作有任何疑问，请联系我们。

在此介绍之后，本手册分为涵盖以下主题的章节：

概述
装箱清单
特点概述
前面板
后面板
遥控器
连接示意图
基本设置
功能设置
手机传送
性能指标
保修政策

2. 装箱清单

AVR-1680多声道音频扩大机装在一个纸板箱中，纸板箱中装有扩大机单元、适用于销售区域的电源电缆和文件包。

下面列出了全部内容：

AVR-1680多声道音频扩大机	1 台
用户手册	1 本
电源线	1 条
遥控器	1 只
电池	1 对
HDMI电缆(4K)	1 条
测试话筒	1 套

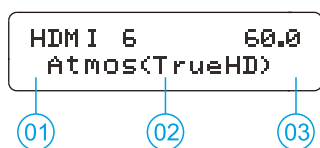
3. 特点概述

1. 支持Dolby Atmos、Dolby True-HD及向下兼容所有杜比音频编码文件。
2. 支持DTS:X、DTS-Master及向下兼容所有DTS音频编码文件。
3. 支持4K/60Hz, RGB 4:4:4, 18GHz 全带宽高清视频信号。
4. 支持Dolby Vision及HDR 10高清视频信号。
5. 支持HDMI 2.1, 支持HDCP 2.2。
6. 同时支持7.3.6 或 9.3.4 信号输出。
7. 房间EQ、扬声器距离、延时、声压的自动测试及补偿，一键式操作，全自动校正，同时支持用户手动调节。
8. 内置蓝牙数字音频接收器。
9. 内置高品质音乐播放器，支持TF卡及U盘音频文件播放，支持FLAC、APE、WAV、MP3等多种无损及有损压缩音频格式，支持多层文件夹管理。
10. 全中文叠加式OSD屏幕显示菜单。
11. 支持本地音乐信息在手机及电视可同步读取显示。
12. 支持从2.0声道到9.1.4声道等27多种扬声器配置。
13. 支持HDMI 6进2出，2组同轴2组光纤数字音频输入，4组模拟音频输入。
14. 内置 L/R/C 声道240W(8Ω)，其它声道120W(8Ω)共11路大功率Hi-Fi功放可直接驱动 7.1.4 声道配置的扬声器。
15. 支持RS232智能控制连接。
16. 支持HDMI eARC 音频回传，支持 CEC 控制。
17. 支持高达1000ms 时长的唇音同步调节。
18. 每声道多达 5~11 段参数EQ。
19. 支持音视频编组输出。
20. 选用美国ADI最新一代双核DSP处理器。
21. 支持按输入源独立设置及保存参数的功能。输入源独立EQ选择，独立音量调节记忆。

前面板

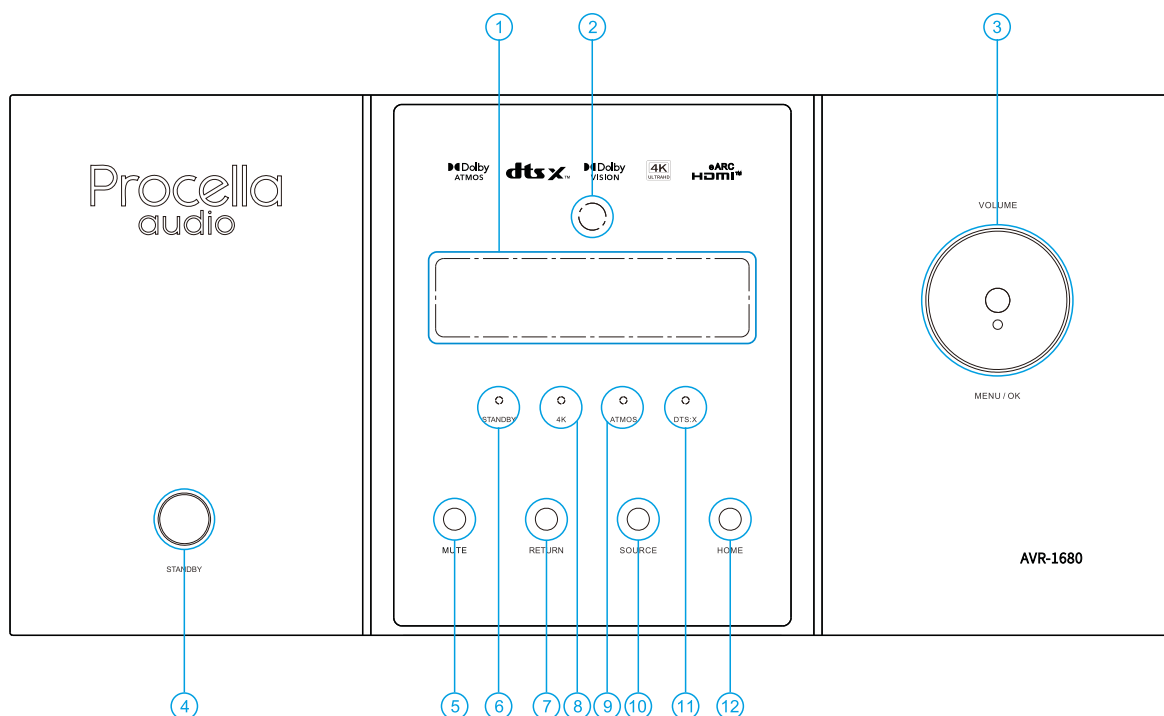
前显示屏

1. 显示屏:显示音源、音量或当前操作状态。



01. 显示当前所选输入组。
02. 显示当前信号源的音频格式。
03. 显示当前音量。

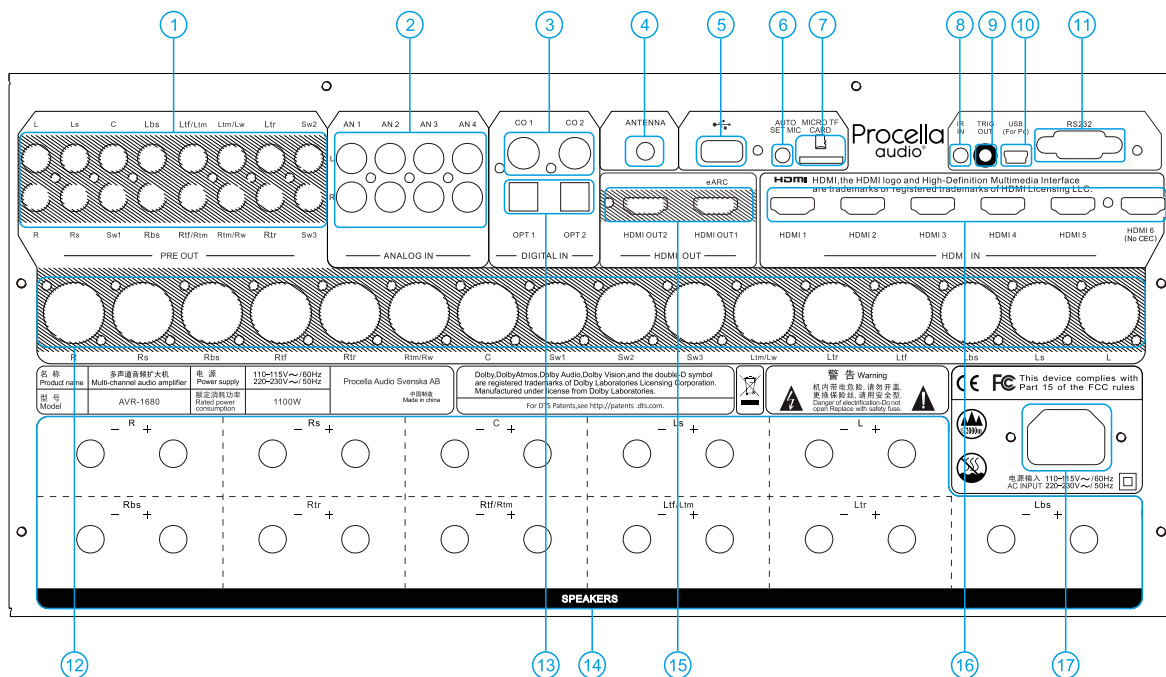
2. 遥控器感应窗。
3. VOLUME/MENU/OK(音量/菜单复合键)：在主界面下旋转该旋钮调节音量大小。按压该键可进入菜单界面。



4. 待机键:开启或关闭设备。
5. MUTE (静音键)。
6. STANDBY 待机指示灯:当设备处于待机状态时,红灯亮,工作状态时指示灯不亮。
7. 返回键。
8. 4K信号指示灯:当输入源为4K信号时,该指示灯常亮。
9. ATMOS 信号指示灯:当播放片源为ATMOS影片时,该指示灯常亮。
10. SOURCE(音源)选择键:通过该键可以选择不同的输入源。
11. DTS:X 信号指示灯:当播放片源为DTS:X 影片时,该指示灯常亮。
12. HOME 键:通过该键可以切换主界面与菜单。

后面板

- 7.3.6信号输出。
- ANALOG IN (模拟音频L/R输入): 四组模拟信号输入AN1、2、3、4。
- 同轴数字音频输入: 两组同轴输入(CO1、CO2)。
- ANTENNA (蓝牙天线)。
- U盘输入。
- AUTO SET MIC: 连接本机测试话筒,用于收集自动房间扫描获得的信息。
- MICRO TF CARD: TF卡输入。
- IR IN: IR IN(IR输入)插孔可以连接符合接口的市售IR接收器,方便扩大信号接收范围。
- TRIG OUT 触发端口: 5V的信号输出,用于触发其它相应的配套设备开机。
- USB(FOR PC)电脑音频输入端。
- RS232接口(控制端口)。

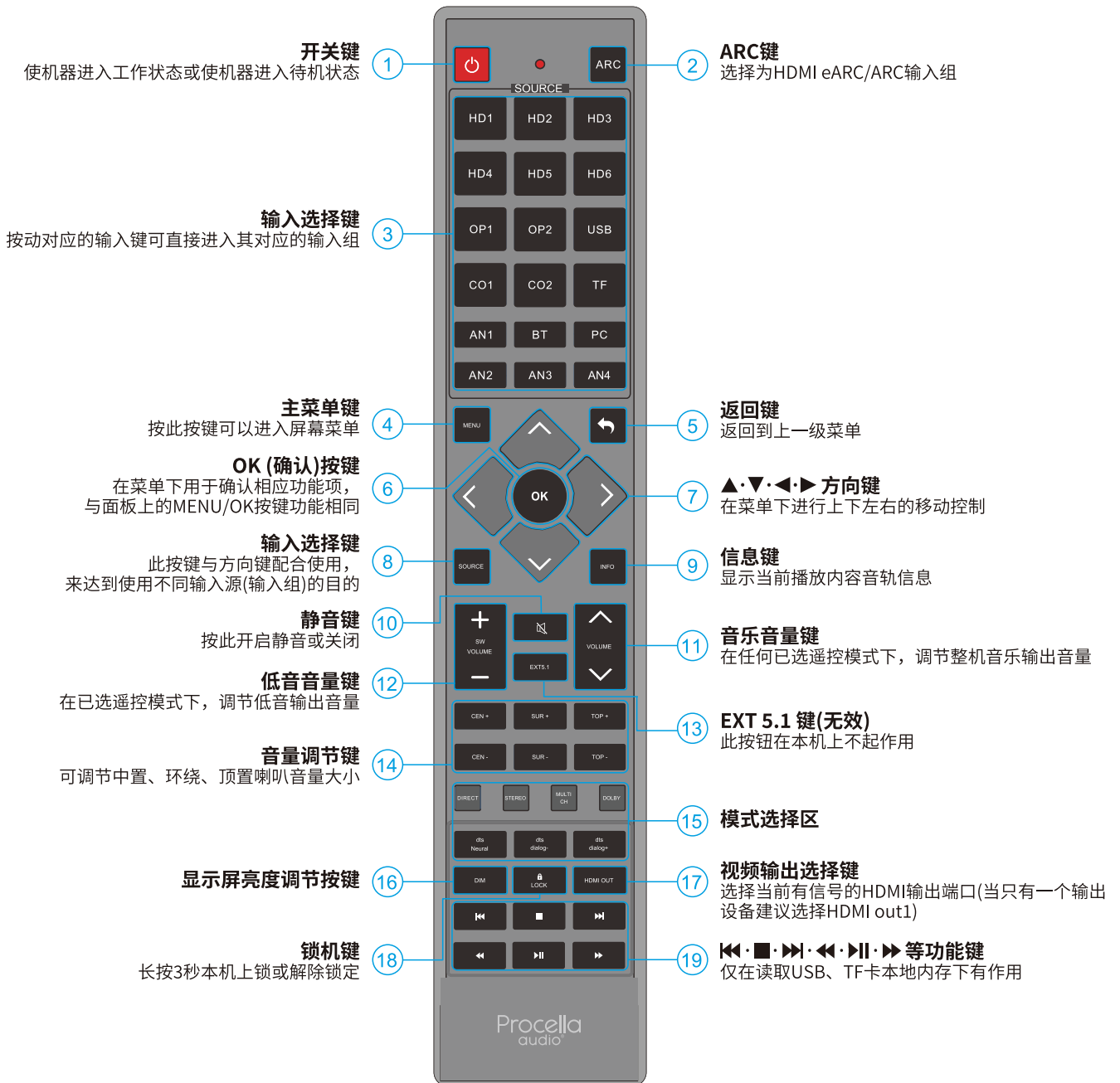


- 7.3.6全平衡信号输出。
- 光纤数字音频输入:两组光纤输入(OPT1、OPT2)
- 扬声器输出插孔(详见第19页)
- HDMI OUT: 2组HDMI输出,用于连接HDMI兼容设备。HDMI eARC输出用于带有ARC或eARC的设备。当设备处于待机模式时,只有HDMI OUT 1工作。
- HDMI IN: 6组HDMI输入,用于连接HDMI兼容设备。
- 电源输入: 用于设备与电源输入110V或220V市电之间的自动切换连接。

遥控器

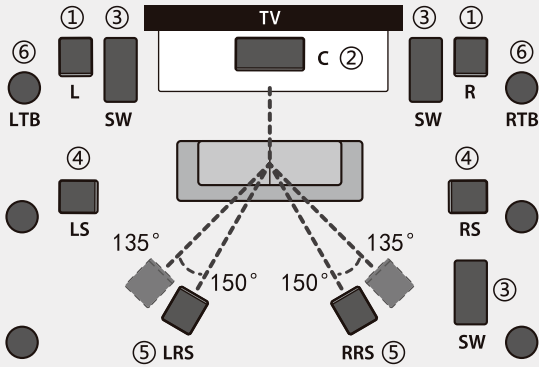
遥控器说明:

- 安装电池时, 电池的正负极务必对应,切勿装反方向,以免出现遥控器无效。新旧电池请勿混用。
- 长时间不使用本机时,请将电池取出, 以避免因电池漏液而造成损坏。
- 当遥控距离缩短或接收不稳定时应更换电池。
- 请定期用软布清理遥控器上的红外线二极管及主机上的遥控信号接收窗。
- 遥控器应避免潮湿、闷热、冲击及震动。

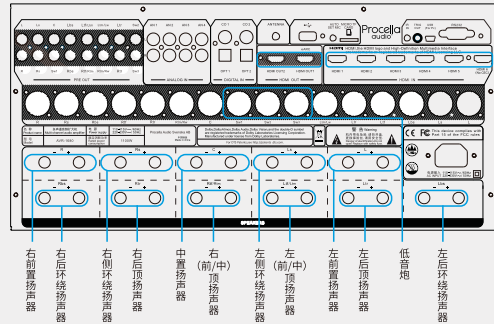


连接示意图

此图是7.3.6声道音箱的摆放，您可以根据自己的扬声器数目情况参照此图摆放。



影院系统连接示意图



HDMI OUT: 投影机,电视等

HDMI IN: 硬盘播放器、蓝光DVD、有线机顶盒、游戏控制台等

①. 前置左右扬声器

可以输出整体音效。这些扬声器在家庭影院所扮演的角色是提供单一的声场定位点。应面对聆听者安放并置于耳际的高度，与电视机等距。扬声器喇叭方向稍微朝内，形成一个三角形，让聆听者位于三角形的顶点处。以获得更好的听音效果。

②. 中置扬声器

该扬声器强化了前置左右扬声器的效果，使得声音的移动更加明显，并提供了完整的声场。在电影中，主要是用来表现人声对话。将中置扬声器放置于显示设备正下或正上方，面向聆听者约位于耳际高度，或是与前置左右扬声器的高度相同。

③. 超重低音扬声器

超重低音扬声器处理声场的低音。从超重低音扬声器所输出的低音音量和音质与您听音室的形状以及您聆听的位置有密切的关系。良好的低音效果可以从安装于前方角落，或是安装于墙面宽度的三分之一处的超重低音扬声器当中产生，也可以在房间选择一个效果最令您满意的地方来放置它。

④. 环绕声左右扬声器

这些扬声器是用来将声音精确定位，并增加真实的环境空间感。将它们放置于聆听者的两侧，或稍微偏后，根据聆听距离，使其约在耳朵上方60cm至100cm处。最理想的情形是它们与聆听者的距离是相等的。

⑤. 环绕声后置左右扬声器

在享受Dolby-HD, DTS-HD等音效时需要使用这些扬声器。他们加强了环绕声音效，为聆听者提供更逼真的现场效果，一般将其置于聆听者后方高于耳朵40~100cm处。

⑥. 顶置扬声器

增加垂直方向的第三个维度，形成3D立体环绕声，基于声音对象的录音方式，详细记录声音的信息及方位，解码过程实时计算每个声道对应的声音数据，以此还原声音对象的真实空间定位及移动轨迹。

基础设置

屏幕显示设置菜单语言种类选择

中文/English,出厂默认为中文;
主菜单-系统设置-功能选项-Language/语言。

01

选择对应的信号源输入口

输入选择 - 上下移动光标选择对应的输入口或遥控器上直选。

02

扬声器布局

主菜单-系统设置-扬声器设置-扬声器布局;
根据音箱数量选取扬声器布局类型:3.1/5.1/7.1
/5.1.2/5.1.4/7.1.2/7.1.4/7.1.6 /9.1.4等多达二十七种布局类型。

03

扬声器距离(延时)

主菜单-系统设置-扬声器设置-扬声器距离;
这里设置每一个音箱到您座位的距离。

04

低音炮选择

主菜单-系统设置-扬声器设置-低音炮选择;
这里选择您在本系统中有没有配备低音炮或有几只低音炮。

05

功能设置

06

输入选择

提供所有信号输入的选择功能,并显示音视频源输入口。

07

模式选择

仅对当前输入片源进行对应的DSP音效处理,并非对所有信号源进行设置;
提供:纯音、直通、两声道、多声道、Dolby 音效、dts音效等六种模式供选择;
当前模式选择,重启后恢复系统设置。

08

参数调节

针对每个声道独立的输出电平增益调节,这里针对不同的扬声器布局,显示不同,
当扬声器布局中没有的通道,显示为灰色,无法进行调节。

09

声学测试

自动声学测试:该选项会自动测试扬声器EQ、距离、频响。
专业声学测试:该选项可根据个人喜好调节,进行扬声器EQ、距离、频响测试。

10

系统设置

提供:输入源设置、音频模式、扬声器设置、EQ设置、功能选项、
参数保存与恢复、设备信息等七项设置。

关于系统设置

1、输入源设置：

- 设置每一个输入通道的开关、重命名、视频源、音频源、EQ选择、独立音量、触发输出等功能,达到任意编组的效果。
- 开关:设置每一个音源输入口的开或关状态,(若此处关闭后将不显示其信号输入口);
- 输入源: HDMI1、HDMI2、HDMI3、HDMI4、HDMI5、HDMI6、HDMI eARC、OPTICAL 1、OPTICAL 2、COAXIAL1、COAXIAL2、ANALOG1、ANALOG2、ANALOG3、ANALOG4、Bluetooth、UDISK、TF CARD、USB Audio 十九个选项 (建议:设置默认选项即可);
- 视频源: 无、HDMI1、HDMI2、HDMI3、HDMI4、HDMI5、HDMI6 七个选项 (建议:设置默认选项即可);
- 音频源: 同步HDMI、光纤1、光纤2、同轴1、同轴2、模拟1、模拟2、模拟3、模拟4 九个选项 (建议:设置默认选项即可);
- EQ选择: 影院模式、音乐模式、新闻模式、自动EQ、直通模式 五个选项 (建议:设置默认选项即可);
- 音量模式: 关/开 (独立音量/统一音量/附加±20dB);
- 触发输出: 关/开 (建议:设置默认选项即可)。

2、音频模式：

- 将各输入信号设置到想要的音效模式; 输入信号:可设置为纯音、直通、两声道、多声道、Dolby音效、DTS音效。

3、扬声器设置：

- 扬声器布局: 根据您音箱数量选取扬声器布局类型:3.1/5.1/7.1/5.1.2/5.1.4/7.1.2/7.1.4/7.1.6/9.1.4 等多达二十七种布局类型;
- 顶置类型: 根据您的音箱类型选择吸顶式与反射式音箱;
- 电平测试/补偿: 测试每一个声道位置是否正确并对不同声道的音量增益进行调整,以达到声场正确,声音均衡的音效;系统将根据您选择的扬声器布局自动关闭不需要的声道参数调节;
- 扬声器距离(延时): 只需输入每只音箱到同一个聆听位置的距离,系统将自动调整音箱延时,以达到更好的听音效果;
- 低音炮选择: 在没有低音炮的情况下,选择无低音炮,系统将会把低音信号自动分配到相应通道进行声音还原,以避免信号丢失(可选择1只/2只/3只低音炮);
- 频率响应: 每一个声道音箱响应的频率范围;
- 滤波器斜率: 设置每一个声道高通、低通滤波器交叉点的斜率,以达到最好的声平衡;
- 低音增强开关: 低音炮量感在原基础上不足时,打开增强低音,以达到更震撼的音效(此时要求L/R扬声器设置为全频)。

4、自动声学测试：

- 将声学测试话筒插入AUTO SET MIC自动设置。
- 将测试话筒放置于听音位置。
- 确定自动声学测试(启动)。
- 当电频测试后,进入频响测试。
- 每一个声道测试完毕之后按确认应用, 如需放弃将光标移至放弃按下确认即可。

5、专业声学测试：

- 进入专业声学测试后选择电平补偿量。
- 测试完毕之后如需选用则按确认,如不想使用则选择放弃。
- EQ测试: 每一个声道均可单独测试。
- 每个声道的具体测试步骤与自动校正相同(测试完毕之后扬声器距离有详细的数据)。

6、EQ设置：

- 提供5种不同的模式供用户使用:影院模式、音乐模式、新闻模式、自动EQ、直通模式。
- 为各种模式不同声道提供不同的参量均衡参数调节:左右声道11段、中置声道11段、左右环绕声道7段、左右后环绕声道7段、顶置声道7段、低音炮声道5段、左右前顶置7段、左右后顶置7段。

7、功能选项：

- 提供:Language/语言、通电设置、音量选项、HDMI选项、信息显示设置、无信号待机、触发输出、单位。
- 语言选项: 中文、英文两种供用户选择;
- 通电设置: 开机,上电时自动开机; 待机,上电时处于待机状态,需要手动开机; 关机前状态,记忆上次断电时的状态,处于待机状态下断电,上电将处于待机; 处于开机状态下断电,上电将自动开机;
- 音量选项: 开机音量: 设置每次开机时的音量;
 - 最大音量(非常重要): 设定最大音量限制,确保在使用过程中不会因误操作将音量开至过大损坏设备;
 - 音量步进: 指遥控器上按一次音量加或减提升或衰减多少音量;
 - 音量显示方式: 是指在调整音量时,音量在大屏幕上的显示的方式;
- HDMI选项: HDMI输出选择、同步电视电源、待机直通、CEC信源自动控制、CEC控制、HDMI信号格式;
 - HDMI输出选择: 功放具有两组HDMI输出,可以设置 HDMI 1或HDMI 2输出, 也可以设置两个同时输出(当只接入输出时,建议仅用HDMI1 输出);
 - 同步电视电源: 有“开”或“关”两项选择,当打开时可以在开电视的时候同步打开功放,当关闭时则需要手动单独打开功放;
 - 待机直通: 开启待机直通,在设备通电待机状态下,播放设备音视频信号将通过本机直接输出到显示端(电视或投影);关闭时则无此功能;
 - CEC信号源切换: 开启此功能, 功放在开机状态下, 外接HDMICEC设备(如DVD)在开机或播放的时候, 功放自动切换到对应的HDMI通道, 无需用户切换功放信号源;需确保连接正常(此功能只支持HDMI ARC输出端口, 建议关闭, 避免错误操作)。

关于系统设置

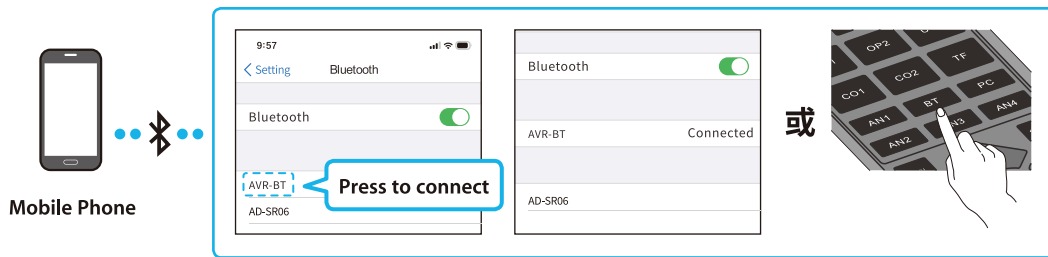
- CEC控制: 开启后,遥控器的播放按钮也适用于外接的HDMI CEC设备。
如果输入源可以被识别,则输入源的名称将显示在面板显示屏或外接设备屏幕上。
- HDMI格式: 自动优先、HDMI1、HDMI 2、HDMI 3、HDMI 4、5、6和自动/标准/增强。
 - 自动: 适应连接显示设备的分辨率;(支持3D,HDR,杜比视界功能仅在“自动”下支持)
 - 标准: 支持HDMI 1.4a格式;
 - 增强: 支持HDMI 2.1 (4K/60Hz)格式;
- 信息显示设置: 提供: 显示屏亮度调节、信息窗内容、信息窗位置、屏幕菜单透明度;
 - 显示屏亮度调节: 功放主机显示屏亮度调节,1-10可调;
 - 信息窗内容: 在大屏幕上显示播放片源内容(不显示、仅显示音量、所有信息);
 - 信息窗位置: 信息内容显示的位置(顶部、底部);
 - 屏幕菜单透明度: OSD菜单的透明度0-7可调;
- 无信号待机: 前端信号关闭或无信号输入后多少时间关闭功放,使功放进入待机状态。
- 触发输出: 总是关/总是开/跟随信号源。
- 单位: 公制/英制(这里只作用于扬声器距离)。
- U盘记录(默认关闭,当机器发生故障时插入U盘记录故障信息,U盘生成一个文件发送文件给厂家分析情况)。

8、备份参数:

- 保存备份, 备份现设置的所有参数。
- 加载备份参数, 恢复上次保存的所有参数。
- 恢复出厂设置, 把设备恢复为出厂时状态。

手机蓝牙无线传送

- 面板或遥控器选择音频源BT。
- 打开手机蓝牙搜索到AVR-BT后点击配对连接,连接成功后在手机上播放歌曲即可。



性能指标

型号	AVR-1680
额定阻抗	8Ω
额定输出功率 (THD=1%,1CH, 1kHz)	L/R/C, 240W Rms/8Ω 120W Rms/8Ω
失真度 (A-weighted, pure mode, 1kHz)	≤0.03%
频率响应	10Hz-50kHz (+1/-3 dB, pure)
尺寸 (WxDxH)	431x394x200mm (不含机脚,旋钮,接线柱) 431x435x217mm (含机脚,旋钮,接线柱) 557x531x334mm (体积)
重量	≈24.3kg (净重) / ≈28.1kg (毛重)
增益	≥38dB (pure)
信噪比	≥95dB (A-weighted, pure)
电源电压	110-115V~/60Hz,220-230V~/50Hz
执行标准	GB4943.1-2022 GB/T9254.1-2021 GB17625.1-2012



PROCELLA AUDIO LIMITED WARRANTY

Procella Audio components are warranted to be free from original manufacturing defects as follows:

For all speaker and crossover components, for a period of five years from date of delivery to the original purchaser from an authorized dealer.

For all amplifier components, for a period of two years from date of delivery to the original purchaser from an authorized dealer.

The Procella Audio obligation under this warranty is limited to repairing or replacing any component which it shall find defective in material or workmanship under normal non-commercial conditions of use. This warranty shall not apply to products which have been abused, modified, disassembled or repaired by anyone other than Procella Audio or one of its appointed service centers.

Products to be repaired under this warranty must be returned to the factory or designated service center with all transportation and insurance charges prepaid.

All warranties of whatever character are void and unenforceable if the component or any part thereof is not purchased from an authorized dealer.

This warranty is in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities on our part, and Procella Audio neither assumes nor authorizes any other person to assume for it, any other liability in connection with the sale, repair, or return of any product.

We encourage all Procella owners to register their components. While this is not required to receive warranty benefits, it will allow you to receive warranty coverage without providing proof of purchase, and it will enable us to keep you advised of Procella product information, new products, and updates.

Please contact your local Procella Audio dealer or Procella Audio directly should you have any further questions. We love to hear from our customers, especially with feedback on our loudspeaker products.

Email: contact@procella.audio Website: www.procella.audio

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