



Audfly

Directional Speaker

User Manual



Type Cube Series

Audfly Technology (Suzhou) Co., Ltd · 2025

QT-PS-PD-040 (A/1)

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1. Important Safety Information

- Please read all documents carefully before operating the equipment.
- Follow the instructions in the manual.
- Keep this manual in a safe place.
- Disconnect power before connecting the device.
- Always use a power outlet that meets the required specifications.
- Use only the specified amplifier and power supply.
- Unplug the device during severe weather or when not in use for an extended period.
- Ensure that ventilation openings are unobstructed.
- Protect the device from heat and moisture.
- For indoor use only, under normal temperature conditions.
- Do not step on or twist the power cord, especially near the plug and connection points.
- Do not remove the protective cover to avoid the risk of electric shock.
- There are no user-serviceable parts inside the device.
- Keep the front grille of the speaker panel free of foreign objects.
- Do not spill water or other liquids on the device.
- Installation should be performed by qualified personnel.

Note: Do not disassemble the device without authorization from the manufacturer or quality control personnel.

2. Product and Model

- **TYPE Cube series**

FS-Cube-01

3. Product Description

Directional Sound Projector, also known as an “acoustic flashlight,” is a new generation of ultra-directional speaker capable of producing highly directional sound. It emits concentrated sound wave energy, allowing sound to travel only in a designated direction, achieving a "private sound transmission" effect. Additionally, the sound intensity does not significantly attenuate with distance, greatly extending the effective range of sound transmission. It can also create virtual sound source effects through reflection.

The Directional Sound Projector uses unique technology to produce highly directional audible sound. Compared with traditional speakers, it enables effective zone-specific playback—only individuals within the targeted area can hear the audio, without interference to or from other areas.

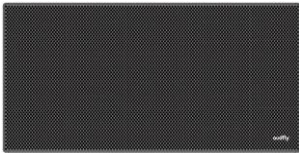
It delivers sound precisely and requires a low volume level. By utilizing directional audible sound, it allows sound source localization. The sound can be transmitted in a straight line or reflected off surfaces to reach a designated target.

Main Feature	Business Value
Smaller	More convenient for various types of commercial applications.
Facilitates system integration	Modular design enables easier and faster integration with customer systems or equipment.
Lighter	Ultra-thin to facilitate installation by various means;
Features high directionality	Controls sound propagation within a localized area; independent audio targets specific zones and audiences without interference; enables longer transmission distances with minimal attenuation; effectively addresses noise pollution.

Reflection	Sound reflection by planes to form a virtual sound source
Unique patented audio processing technology	Low distortion, wider frequency response, and support for various directional audio applications.

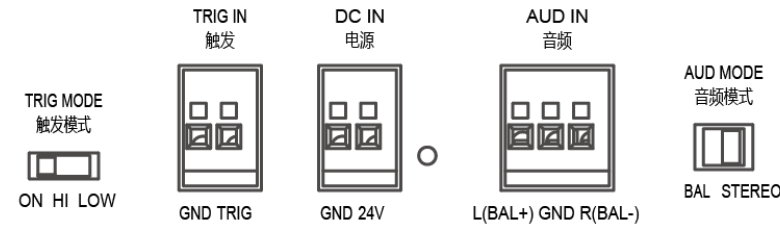
4. Product Model and Parameter Information

4.1 TYPE Cube Series

Product model	FS-Cube-01
Maximum SPL/single board	78±3dB@2m/1kHz
Directivity	<15°(-15dB)
Input sensitivity	0.5 Vrms
Frequency range	300Hz-15kHz
Rated power	About 17W
Input port	Balance/3.5mm
Status indicator	Power signal
Power requirements	24V DC/2A
Temperature range	-15°C-45°C
Working humidity	0-90%
Size	300*150*19mm
Weight	700g
Wireframe	

5. Product Description

5.1 Interface Description



As shown in the above figure, the interface is defined as follows:

TRIG MODE	ON	Always ON	常开
	HI	High Active	高有效触发
	LOW	Low Active	低有效触发
TRIG IN	GND	GND	触发地
	TRIG	Trig in signal(DC3.3V)	触发信号(DC3.3V)
DC IN	GND	GND	电源地
	24V	DC 24V/2A	直流24V/2A
AUD IN	L(BAL+)	Stereo Mode:Left channel Balance Mode:BAL+	左声道 平衡+
	R(BAL-)	Stereo Mode:Right channel Balance Mode:BAL-	右声道 平衡-
	GND	GND for both balance and stereo mode	音频地
AUD MODE	BAL	Balance Mode:BAL+/BAL-/GND	平衡模式
	STEREO	Stereo Mode:L/R/GND	立体声模式

5.2 Device Interface Board Description

① **TRIG IN and TRIG MODE:** The trigger terminal is used to connect external control devices, such as infrared sensors, to control audio playback. It must be used in conjunction with the trigger mode switch on the left.

- When no external device is connected, set the trigger mode to **ON**.
- If the external device provides a **high-level active** trigger signal, set the trigger mode to **HI**.
- If the external device provides a **low-level active** trigger signal, set the trigger mode to **LOW**.

Note: If the switch is set incorrectly, the device will not produce sound. The trigger signal wire must have a gauge between 24 and 14 AWG.

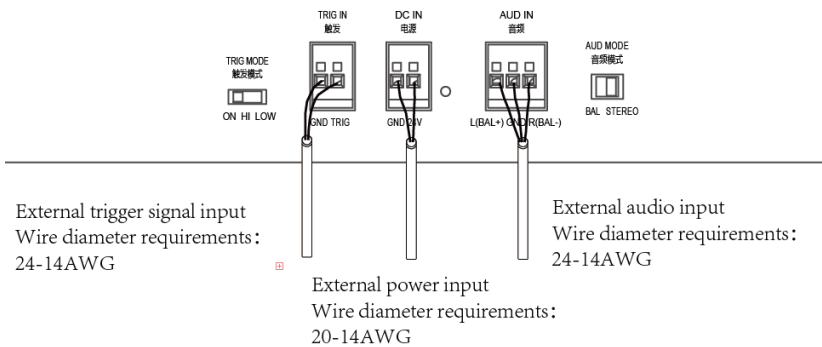
② **DC IN:** This is the power input terminal. Input requirement is 24V/2A. The power signal wire must have a gauge between 20 and 14 AWG.

③ **AUD IN and AUD MODE:** The audio input and audio mode must be used together. Audio is connected via the audio terminal, supporting both balanced and stereo inputs.

- When using a **balanced input**, set the audio mode switch on the right to **BALANCE**.
- When using a **stereo input**, set the switch to **STEREO**.

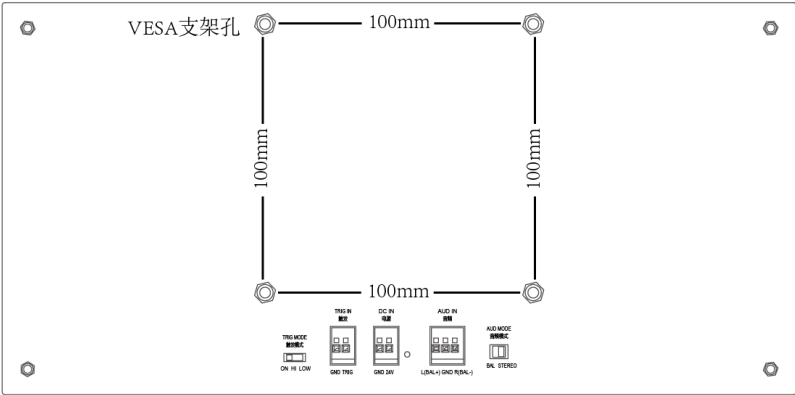
The audio signal wire must have a gauge between **24 and 14 AWG**.

External signal wiring diagram



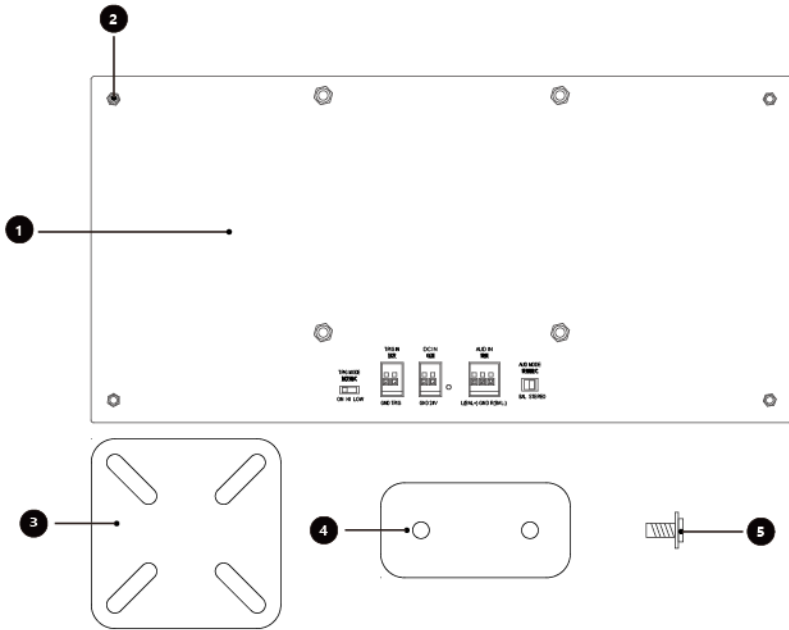
5.3 VESA Mount Installation

As shown in the figure below: the device supports standard 100×100mm VESA mount installation. Users can purchase a standard mount according to their actual needs. The mounting holes are compatible with M4×6 round-head screws, with a hole depth of 6mm.



5.4 Splicing installation

To meet the sound pressure level requirements of different scenarios and enhance product adaptability, this product supports splicing of multiple units. A splicing diagram is shown below:



1 Directional speaker

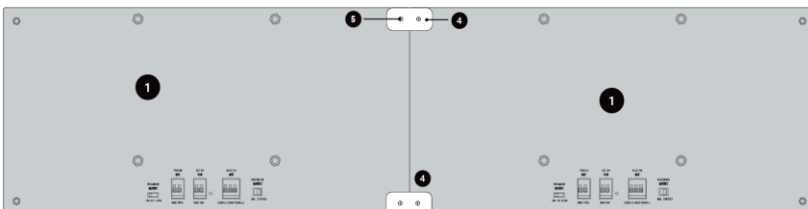
2 Splicing hole

3 4-panel spliced piece

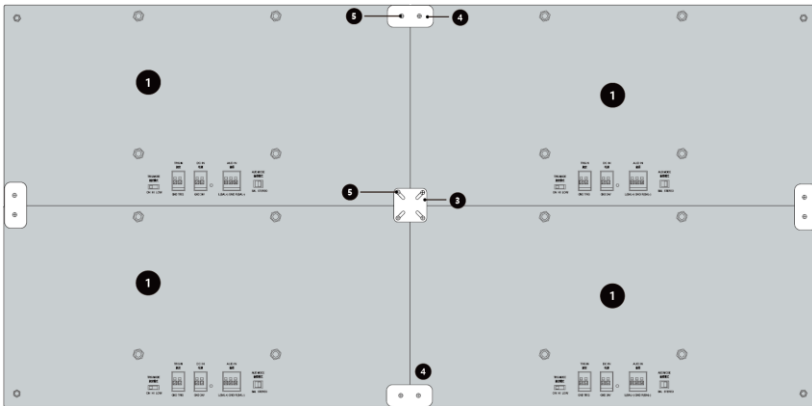
4 2-panel spliced piece

5 M3*5 Round head screw

Splicing Diagram of Two Cube-01 Units:



Splicing Diagram of four Cube-01 Units:



5.5 Audio Playback and Volume Adjustment

Use an audio player (such as a smartphone, tablet, computer, MP3 player, or TV) to output the audio signal and adjust the volume.

Note: Using high-quality audio files with clear sound can provide a more comfortable and better playback experience.

5.6 Audio Playback Distance

The directional speaker features high directivity, enabling precise sound source localization. The audio can also reflect and propagate via surfaces. To achieve optimal sound quality, it is recommended that listeners maintain a distance of at least one meter from the device during playback and volume adjustment.

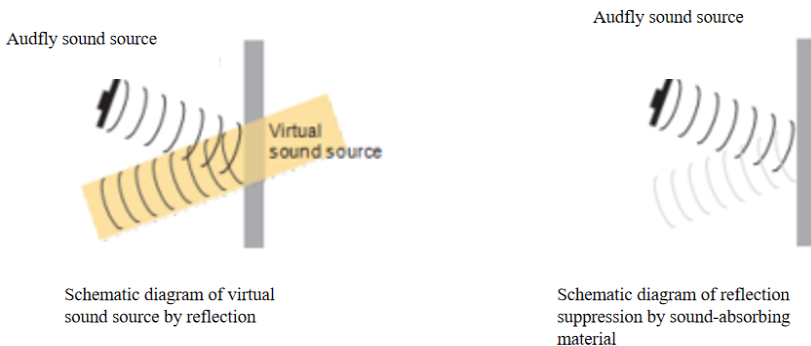
Note: Do not position the listener too close to the directional speaker. Ensure a minimum distance of 1 meter for the best auditory experience.

5.7 Playback Application Solutions

The Directional Sound Projector features high directionality, with a sound beam

that is significantly narrower than that of traditional speakers. It is an effective solution for reducing noise pollution and protecting the environment. It can meet the following needs:

- ① Zonal playback with controllable sound sources and no cross-interference between areas.
- ② Clear sound quality makes listening comfortable.
- ③ Simulated auditory experience;



1. Reflected sound source

A unique feature of the Directional Sound Projector is that its emitted sound beam can utilize surface reflection to create a virtual sound source, as illustrated in the example below.

Note: Using sound-absorbing materials on reflective surfaces is the primary method for suppressing unwanted reflections.

2. Directional playback

Audfly speakers is able to control sound within a local area, without interference to others. The location and angle of the speaker can be adjusted based on the target user and working environment.

Note: The customer is responsible for selecting the appropriate installation

location and installing hardware, to ensure the proper and safe installation of the speaker. The speaker must be installed and suspended by professionals. Unstable installation may result in serious injury and damage to the speaker.

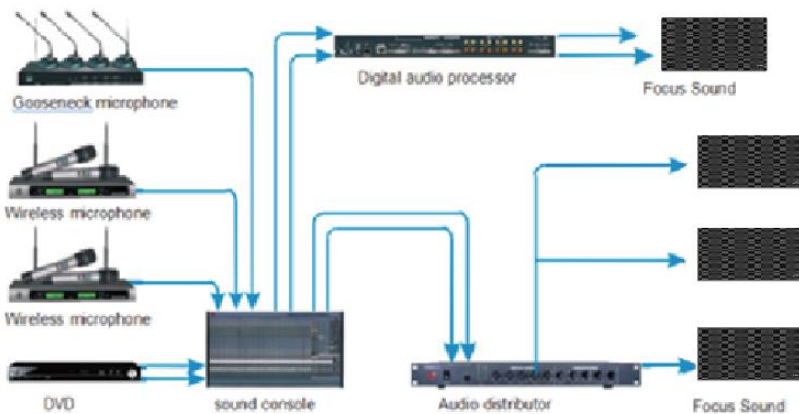
5.8 Integration of Audfly speakers and Conventional Amplifier System

Audfly ultra-directional speaker has an external active amplifier.

In sound amplification applications such as conferences and halls, the audio signals from the sound console or audio processor can be connected to the power amplifier of Audfly speakers directly or through the audio distributor.

Note: Different microphones vary in terms of the working voltage, and their output voltages may exceed the allowable range of Audfly speaker's amplifier. Because of noise differences in output signals, microphones cannot be directly connected to Audfly speaker's amplifier.

Topology of Focusound amplifier application:



6. Troubleshooting

6.1 Indicator Light Meanings and Fault Diagnosis

Indicator Light (Blue): Indicates that the power is on. Under normal operating conditions, the light should be blue. If the light is off, please check whether the power adapter is properly connected.

6.2 Low Sound or No Sound

① Check whether the audio signal source is connected and capable of outputting a signal level.

② Check whether the trigger mode switch is set incorrectly.

③ Check whether the audio mode switch is set incorrectly.

④ Check whether the speaker is properly aimed at the target area.

⑤ Check whether the power cable is plugged in and whether the main unit's LED is functioning.

⑥ Check whether the speaker wires are damaged (e.g., worn, cut, etc.).

⑦ Ensure that wires and terminals are not in contact with each other (which may cause a short circuit).

⑧ Due to the device's high directionality, installation position and angle significantly affect perceived sound. If the volume is low or there is no sound, try adjusting the placement or angle to find the optimal position.

7. Warranty

7.1 Warranty Coverage

The warranty liabilities of Audfly Technology (Suzhou) Co., Ltd. are limited to the terms below:

Audfly Technology (Suzhou) Co., Ltd. will provide one-year warranty services in terms of material or quality problems of the hardware from the date of purchase.

In case of any defect, Audfly Technology (Suzhou) Co., Ltd. will provide warranty services depending on the actual situation:

- ① Use new or refurbished parts and repair the product free of charge;
- ② Replace the original product with a brand new one that has the same

function;

The remaining warranty period of the original product applies to the new part used for replacement or the repaired product. The new product or part for replacement will be your property, while the replaced one will belong to Audfly Technology (Suzhou) Co., Ltd.

7.2 How to Obtain Warranty Service

Please call the Customer Service Department of Audfly Technology (Suzhou) Co., Ltd. at (0086) 0512-68071105. If the product is not purchased directly from Audfly Technology (Suzhou) Co., Ltd., please contact the authorized agent, authorized dealer or authorized installation company from which you purchase this product. If this product is returned for warranty, the customer is responsible for secondary damage during transportation and shall make claims against the transport company as appropriate.

Audfly Technology (Suzhou) Co., Ltd. will send the repaired product by reasonable means to you, and bear the freight arising therefrom. If you do not purchase this product directly from Audfly Technology (Suzhou) Co., Ltd., please contact the authorized agent, authorized dealer or authorized installation company from which you purchase this product, to understand the corresponding transportation and service terms.

For repair, please provide the following information: customer name, company name, address, work phone number, product model, email, purchase date, and defect details.

7.3 Disclaimer

The warranty of Audfly Technology (Suzhou) Co., Ltd. does not apply to the loss or damage caused by the following factors:

- ① Improper installation or failure to follow the installation instructions of Audfly Technology (Suzhou) Co., Ltd.;
- ② Failure to follow the instructions in the product maintenance manual or on the website of Audfly Technology (Suzhou) Co., Ltd.;
- ③ Product use beyond the rated capacity or parameter range;
- ④ Modification, change or repair without the permission of Audfly Technology (Suzhou) Co., Ltd. or its authorized agent, authorized dealer or authorized installation company;
- ⑤ Force majeure, including but not limited to: riots, wars, acts of public enemies, terrorist activities, floods, fires, earthquakes, vandalism and other natural disasters;
- ⑥ All legal or regulatory restrictions apply to this product, except those that

take effect after product delivery;

⑦ Product abuse, misuse, improper operation or maintenance, unauthorized modification or accident;

⑧ Inappropriate voltage;

⑨ Installation of components, replacement parts, accessories or others without permission of Audfly Technology (Suzhou) Co., Ltd. or its authorized agent, authorized dealer or authorized installation company;

⑩ Audfly speakers that is not directly purchased from Audfly Technology (Suzhou) Co., Ltd. or its authorized agent, authorized dealer, or authorized installation company;

⑪ Failure to follow the standard operating procedures or instructions of Audfly Technology (Suzhou) Co., Ltd. or provide a suitable environment for use;

⑫ Please use any Audfly speakers in accordance with relevant national laws and policies as well as the principles of safeguarding national interests and protecting national security. Do not use Audfly speakers to release, disseminate and store any information that does not comply with national laws and regulations and is harmful to national security, reunification or social stability, or any contents that violate national laws, regulations, and policies such as insults, defamation, pornography, violence, or participate in any similar incidents. Users shall be liable for any violations of national laws, regulations and policies, and Audfly speakers and Audfly Technology (Suzhou) Co., Ltd. will not assume any responsibility. In case of losses, Audfly speakers and Audfly Technology (Suzhou) Co., Ltd. shall have the right to request compensation by the user, immediately stop services, keep related records and cooperate with judicial organs in ascertaining responsibilities;

8. Contact Information

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