COB Foldable All-In-One LED Display (135 Inches)

Quick Start Guide

ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.   V1.0.1

Foreword

General

This manual introduces the functions and operations of the 135-inch COB Foldable All-In-One LED Display (hereinafter referred to as "the Device"). Read carefully before using the Device, and keep the manual safe for future reference.

Safety Instructions

The following signal words might appear in the manual.

Signal Words	Meaning
⚠ DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
⚠ CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, reductions in performance, or unpredictable results.
☞ TIPS	Provides methods to help you solve a problem or save time.
📖 NOTE	Provides additional information as a supplement to the text.

Revision History

Version	Revision Content	Release Time
V1.0.1	Content improvement.	December 2024
V1.0.0	First release.	November 2024

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, audio, fingerprints, and license plate number. You need to be in compliance with your local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures which include but are not limited: Providing clear and visible identification to inform people of the existence of the surveillance area and provide required contact information.

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.
- We are not liable for losses incurred due to operating the product in ways that are not in compliance with the manual.

- The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, see the paper user's manual, use our CD-ROM, scan the QR code or visit our official website. The manual is for reference only. Slight differences might be found between the electronic version and the paper version.
- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual. Please contact customer service for the latest program and supplementary documentation.
- There might be errors in the print or deviations in the description of the functions, operations and technical data. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and company names in the manual are properties of their respective owners.
- Please visit our website, contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the Device, hazard prevention, and prevention of property damage. Read carefully before using the device, and comply with the guidelines when using it.

Transportation Requirements

⚠

Transport the device under allowed humidity and temperature conditions.

Storage Requirements

⚠

- Stably put the device onto a support platform that is strong enough to prevent the device from falling.
- Do not place the device in a place exposed to sunlight or near heat sources.
- Store the device under allowed humidity (10%–60% (RH)) and temperature (−25 °C to +60 °C, or −13 °F to +140 °F) conditions.

Installation Requirements

⚠ DANGER

Stability Hazard

Possible result: The device might fall down and cause serious personal injury.

Preventive measures (including but not limited to):

- Only use cabinets and brackets specified for the device.
- Only use furniture and structures that can safely support the device.
- Do not place the device on the edge of the furniture or structure that is supporting it.
- Always educate children about the dangers of climbing furniture to reach the device and its controller.
- Carefully arrange the cables connected to the device to avoid people tripping over them and pulling on them.
- Make sure that the device is installed on a stable surface.
- Do not put the device on tall furniture, such as cabinets and bookcases, without first ensuring that the supporting structure is stable enough to bare the device.
- Do not place the device on fabric and other similar material.
- Do not place items, such as toys and remote controls, that may entice children to climb on top of the device or furniture on which the device is placed.

⚠ WARNING

Place the device in a location that children cannot easily access.

⚠

- Securely attach the device to a structure in the building or a mobile stand before you begin to use it.
- Do not drop or splash liquid onto the device, and make sure that there is no object filled with liquid on the device to prevent liquid from flowing into it.
- Select a suitable wall mount with a yellow label and let it be installed by professionals.
- Do not install the device in a place exposed to sunlight or near heat sources.
- Keep the device away from dampness, dust, and soot.
- Install the device on a stable surface to prevent it from falling.
- Install the device in a well-ventilated place, and do not block its ventilation.
- Please follow the electrical requirements to power the device.

    ◇ Following are the requirements for selecting a power adapter.

        ○ The power supply must conform to the requirements of IEC 60950-1 and IEC 62368-1 standards.
        ○ The voltage must meet the SELV (Safety Extra Low Voltage) requirements and not exceed ES-1 standards.
        ○ When the power of the device does not exceed 100 W, the power supply must meet LPS requirements and be no higher than PS2.

    ◇ We recommend using the power adapter provided with the device.
    ◇ When selecting the power adapter, the power supply requirements (such as rated voltage) are subject to the device label.

- The rated current is 16 A and the rated power is 2,400 W.
- The appliance coupler is a disconnection device. Keep it at a convenient angle when using it.
- Make sure to install a circuit breaker or similar devices in the external power circuit.
- Follow the instructions to safely and correctly install the device.

Operation Requirements

⚠ DANGER

- ⚠⊕The device or remote control contains button batteries. Do not swallow the batteries due to the risk of chemical burns.

    Possible result: The swallowed button battery can cause serious internal burns and death within 2 hours.

    Preventive measures (including but not limited to):

    ◇ Keep new and used batteries out of reach of children.
    ◇ If the battery compartment is not securely closed, stop using the product immediately and keep out of reach of children.
    ◇ Seek immediate medical attention if a battery is believed to be swallowed or inserted inside any part of the body.

- Battery Pack Precautions

    Preventive measures (including but not limited to):

    ◇ Do not transport, store or use the batteries in high altitudes with low pressure and environments with extremely high and low temperatures.
    ◇ Do not dispose the batteries in fire or a hot oven, or mechanically crush or cut the batteries to avoid an explosion.

◇ Do not leave the batteries in environments with extremely high temperatures to avoid explosions and leakage of flammable liquid or gas.
◇ Do not leave the batteries in environments with extremely high temperatures to avoid explosions and leakage of flammable liquid or gas.

● The device is a class I electrical appliance. Make sure that the power supply of the device is connected to a power socket with protective earthing. If it is connected to a power source that produces high current that reaches approximately 13 mA, the power supply must be grounded.

⚠ WARNING

● In a domestic environment this may cause radio interference in which case you may be required to take adequate measures.

● ⚠(PE)⏚Do not use multiple devices together to avoid generating high current. Preventative measure: Ground the device to protective ground before you power it on.

● There is high pressure in the device. To avoid the risk of electric shock, non-professionals should not open the back cover.

● Use the standard power adapter. We will assume no responsibility for any problems caused by the use of a nonstandard power adapter.

● Use the power cord that is recommended for the region and conforms to the rated power specifications.

● Do not overload the power socket or unplug the power cord while the adapter is powered on to avoid electric shock and fires breaking out.

● The fuse is on the neutral line of the mains power supply. The mains power supply must be disconnected to cut off the power to each conductor.

⚠

● Use the device under allowed humidity (10%–60% (RH)) and temperature (−10 °C to +45 °C, or +14 °F to +113 °F) conditions. And use the bracket under the temperature of +10 °C to +40 °C (50 °F to +104 °F).

● After the electric lifting bracket is used continuously at full load for 2 minutes, it needs to be paused for 18 minutes to prevent the motor from overheating. If it runs for a long time, the motor will enter the self-protection mode and can only be used again after cooling down.

● Operate the device within the rated range of power input and output.

● Do not disassemble the device without professional instruction.

● The appliance coupler is a disconnection device. Keep it at a convenient angle when using it.

● The device has sharp edges. Please be careful when you are next to it.

Maintenance Requirements

⚠ DANGER

Replacing unwanted batteries with the wrong type of new batteries might result in explosion.

Preventive measures (including but not limited to):

● Replace unwanted batteries with new batteries of the same type and model to avoid the risk of fire and explosion.

● Dispose of the old batteries as instructed.

⚠

● Power off the device before maintenance.

● The appliance coupler is a disconnection device. Keep it at a convenient angle when using it.

● The front cover at the lower beam of the device is used for quick maintenance. When the bottom row of light panels is removed, you must overcome the magnetic pull of the front cover. There is a safety cable connected to the front cover of the device that protects the front cover.
● Cut off the power before cleaning the device. To clean the device, do not use liquid detergents or spray detergents.
● Use the clean and soft cloth or use the special lens wiping cloth when cleaning the surface of display screen. Do not use the wet cloth to clean the display screen. Otherwise, it may do harm to the screen.

Table of Contents

1 Introduction

Driven by flexibility and convenience as well as excellent visual effects, the 135-inch COB Foldable All-In-One LED Display has carried out a comprehensive upgrade of the existing LED all-in-one display, to better meet the diversified needs of the market and expectations of customers. It keeps high-performance main control chips and a variety of intelligent functions. Besides, the new screen inward-folding technology effectively reduces the risk of collision damage, making it more convenient for transportation and storage.

The Device is ready to use immediately without cumbersome installation steps and tools, greatly enhancing the convenience for transportation. Its equipped electric lifting bracket makes height adjustment effortless. You can flexibly adjust the height to 65 cm at most, to make it show the best display effect and adapt to various environments, thereby bettering user experience.

In addition, the Device not only supports wireless screen transmission, video conferences, and security and privacy protection, but also has four major advantages of integrated design, standardized display, user-friendly operation and simple structure, fully meeting the work needs nowadays and making the collaboration process more efficient and convenient.

The Device supports the following functions and features:

- Full flip-chip COB module, with high brightness, low energy consumption and shock resistance.
- The screen can be folded inward. The electric lifting bracket is equipped with a collision sensing system to effectively prevent the screen from being bumped.
- Installation-free and direct packing, making it more convenient.
- Ultra-light and ultra-thin design: the thickness of the screen is less than 19 mm, and the thickness of the wall-mount installation is less than 39 mm.
- Built-in flip camera, which automatically pans up during use and pans down when it stops working for privacy protection.
- 8 MP wide-angle camera: Diagonal: 99°, horizontal: 87°, vertical: 49°.
- With built-in fingerprint identification module, supports fingerprint for locking and unlocking screen.
- Wi-Fi 6, which is faster than Wi-Fi 5. You can select 2.4G or 5G bands.
- Supports wireless screen projection, file transfer, screen sharing, group settings (Transmission between one device and several devices), host mode, up to 9 split screens and reverse control of the screen through PAD and phone.
- QR code scanning to share the file while automatically detecting the device's network for easy QR Code sharing between the public network and the intranet, and faster sharing experience, and QR Code-encrypted extraction to ensure data security.
- Meeting sign-in through person recognition.
- Specific left and right gestures to flip pages when reading files, and a downward scissor gesture to take screenshots with no contact.

2 Packing List

Check whether there is any obvious damage on the packing box. Unpack the box and check whether the components are complete according to the packing list.

Table 2-1 Packing list

Name	Quantity	Name	Quantity
135-Inch COB Foldable All-In-One LED Display	1	External power cords (for Europe, the UK, the US, and Australia)	4
Hub board spare parts accessory packages	3	Light module spare parts accessory packages	20
Spare parts box	1	Accessory box	1

The accessory box and spare parts box contain the following:

Table 2-2 Accessory box list

Name	Quantity	Name	Quantity
Quick start guide	1	Remote controls	2
Global regulations (for Greater Europe, the UK, the US, Africa, India and Latin America)	1	EU regulations (for Poland, Denmark, Hungary, Romania, Serbia, Turkey, France, Germany, Spain, the Netherlands, Italy and Portugal)	1
Bluetooth transceiver	1	Debugging serial port adapter cable	4
Allen wrenches	2	COB module vacuum tube suction cup	1
Antistatic gloves	5	Tool for tightening magnet sleeves of the small-pitch LED	1

Table 2-3 Spare parts box list

Name	Quantity	Name	Quantity
Ribbon cables (keyboard plate-fingerprint module)	1	Ultra-fine coaxial cable (motherboard-front interface board)	1
Cabinet-level networking cables	4	Network cable-2480 mm	1
Ultra-fine coaxial cable (motherboard-OPS)	1	DC Power Cord	1

Name	Quantity	Name	Quantity
FFC cable (motherboard-sending card)	1	M3 × 6 screws	4

3 Installation

3.1 Preparation

In the construction site, the first step is to survey the site to ensure that the Device is installed in a science-based and safe way.

Table 3-1 Preparation

Item	Description
Grounding	There are grounding requirements for the Device. The on-site grounding environment needs to meet the following standards. • The voltage difference between live wire and neutral wire: Normally between 100-240 VAC. • The voltage difference between live wire and ground wire: Normally between 100-240 VAC, consistent with that between live wire and neutral wire. • The voltage difference between neutral wire and ground wire: Normally close to 0. 📖 If the voltage exceeds 5 VAC, it needs to be confirmed by technicians.
Power supply	The power supply circuit for the Device should be independent from lighting and other circuits to avoid interference in power frequency.

3.2 Device Installation

Procedure

Step 1   Unfasten the three ratchet straps on the aluminum case one by one, and then remove the ratchet straps and foam.

Step 2   Open all the butterfly catches on the aluminum case lid (turn counterclockwise to open them), remove the upper rear cover (the upper cover on the side with the movable panel), and then remove the upper front cover (the upper cover on the side without the movable panel).

⚠ DANGER

The removals must be done by at least two people.

Step 3   Open the two butterfly catches at the bottom that connect the movable panel, and then remove the movable panel by lifting it up.

Step 4   Unfasten the quick locks on both sides of the inner side of the aluminum case one by one (turn the locknut at the bottom of the quick lock counterclockwise and turn the tightening screw at the top of the quick lock clockwise), and then move them both outward.

Step 5   Remove the external power cord at the groove of the aluminum case, and then plug in the Device.

Step 6   Press the Up key on the control panel until the display screen shows 45 cm, and then release the wheels and push the aluminum case base away from the Device.

Before the casters of the Device touch the ground, there may be anti-collision sensing.

Step 7   Remove the limiting plates at the corners, unfold the screen body, and remove the foam in front of the screen. Use an Allen wrench to fasten all the edge locks on the screen body's left and right folding areas in a clockwise direction.

It may trigger the anti-collision sensor of the bracket. You need to press the key and release it, and repeat the operation to make it descend.

Step 8   (Optional) Install the OPS module in the reserved position on the back of the screen body.

Step 9   Remove the protective film from the front of the screen body, the one from the lifting bracket and the one around the screen bezel, and the camera lining.

Step 10   Turn on the Device, plug in the bluetooth transceiver, and adjust the lifting bracket to an appropriate height.

When the screen is shipped, the light modules have been installed. If you want to remove them, you can refer to the following figure.

Figure 3-1 Arrangement of the light modules

4 Appearance and Structure

Figure 4-1 Appearance
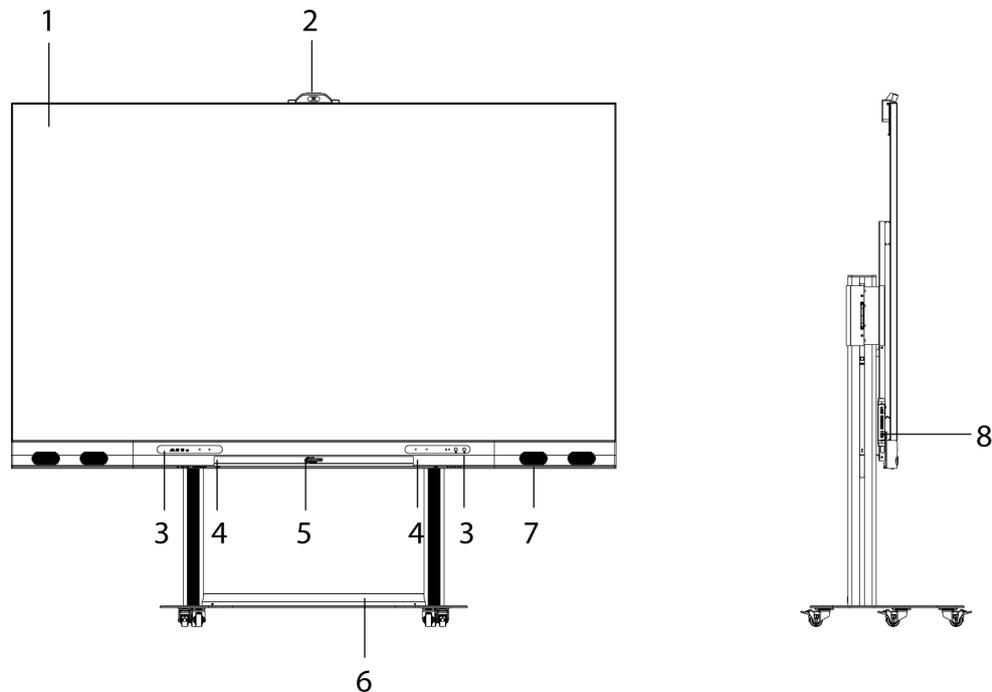
Table 4-1 Description of appearance

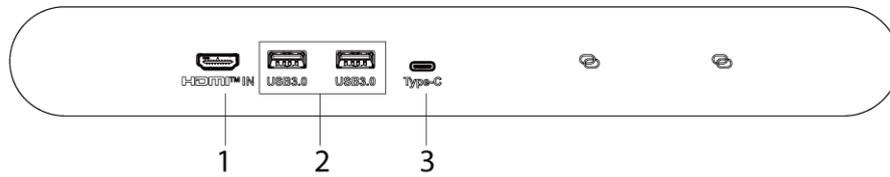| No.	Description
1	LED.
2	Camera.
3	Front panel.
4	Bottom panel.
5	Indicator light. The light is red when the Device is on standby and blue when the Device is in normal use. 📖 You can set the display mode of the indicator light as needed.
6	Rear panel.
7	Speaker. Plays multi-media sound.
8	Reserved external bracket for the OPS module. The OPS module can increase the computing power of the Device. 📖 The OPS module does not come with delivery. Please purchase it as needed.

Front Panel

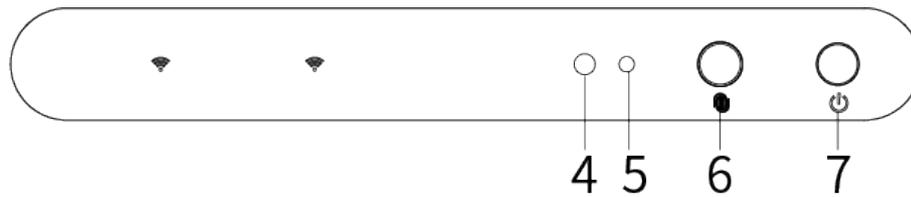Figure 4-2 Front panel (1)

Figure 4-3 Front panel (2)

Table 4-2 Front panel description

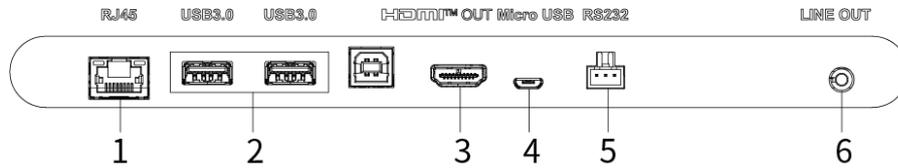| No.	Description
1	HDMI IN. HD audio and video signal input port. Connects to the computer, set-top box, and other video devices with HDMI output ports.
2	USB 3.0. Connects to USB devices such as mobile hard disk, USB flash drive, USB keyboard, and USB mouse. They are accessible both from the built-in Android system and the optional OPS computer module. 📖 USB 3.0 Type A, supports 5V 1A (MAX).
3	Type-C. Connect a laptop or other devices to the Device through the Type-C port for screen sharing and other operations. 📖 Type-C supports 5V 3A, 9V 3A, 15V 3A and 20V 3A (MAX).
4	IR sensor. Receives signals from the remote control.
5	Light sensor. The Device recognizes the ambient brightness through the light sensor and automatically adjusts the backlight brightness according to the ambient brightness.
6	Fingerprint reader. After adding your fingerprint, you can unlock the Device through fingerprint recognition.
7	Power button. Turn on or turn off the screen.

Bottom Panel

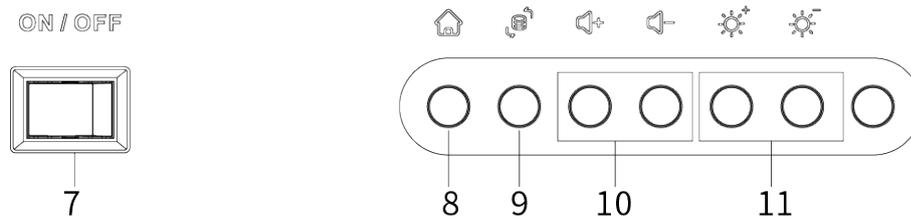Figure 4-4 Bottom panel (1)

Figure 4-5 Bottom panel (2)

Table 4-3 Bottom panel description

No.	Description
1	Network port. Connects to network cable to access network.
2	USB 3.0 port. Connects to USB devices such as mobile hard disk, USB flash drive, USB keyboard, and USB mouse. They are accessible both from the built-in Android system and the optional OPS computer module.
3	HDMI OUT. HD audio and video signal output port. Transmits uncompressed HD video and multi-channel audio data.
4	Micro USB. Used for debugging Android system.
5	RS-232 port. Transmits data between devices. You can connect to central control devices with RS-232 port.
6	LINE OUT. An audio output port that connects to the earphone or speaker.
7	Power switch. Turn on or turn off the power supply of the Device.
8	Go back to the home screen.
9	Select signal sources.
10	Adjust the column.
11	Adjust the brightness of the screen.

Rear panel

Figure 4-6 Rear panel

Table 4-4 Rear panel description

No.	Description
1	Power input port. Inputs 100–240 VAC power.
2	Ascending key. Press it to make the Device ascend.
3	Descending key. Press it to make the Device descend.
4	Memory position 1, 2 and 3.
5	Memory storage key. After the bracket runs to the position to be stored, hold down the key. The digital display screen will show "S" and flash for 2 seconds. Within this time, press the memory position key you want to store to. At this time, the digital display screen will show 1 or 2 or 3, and this position will be stored. A maximum of 3 memory positions can be stored. After the position is set, press a certain memory position, and the bracket will automatically run to the memorized height.
6	Digital display screen. Displays height information in CM or INCH. The default unit is CM.
7	T-shaped splitter. Plug in the bluetooth adapter at this position.

5 Electric Lifting Bracket Operation

The electric lifting bracket has a free lifting range of 65 cm. You can use the remote control or the control panel to flexibly adjust the height of the electric lifting bracket for different needs. The bracket should be used under the temperature between 10℃ and 40℃ (50°F −104°F) .

Remote Control

Figure 5-1 Remote control

- ▲ : Press to make the bracket ascend.

- ▼ : Press to make the bracket descend.

- ▲+▼ : Press simultaneously to pair the remote control with the bracket.

  Operation steps

  1. Press and hold the Up key and Down key on the remote control simultaneously, and then the remote control will enter the pairing mode. After pairing and connecting to the bluetooth, the LED indicator light will stay on for 2 seconds to indicate that it is connected.
  2. Press and hold the Up key on the remote control, the bracket will ascend. Press and hold the Down key on the remote control, the bracket will descend. The screen can be controlled to be at an appropriate height.

Bluetooth Adapter

Figure 5-2 Bluetooth adapter

Insert the bluetooth adapter into the T splitter. Within 10 seconds, the adapter will enter the pairing mode. The pairing process will last for 3 minutes and is indicated by a blue flashing LED light passing through the transparent plastic.

Appendix 1 Security Commitment and Recommendation

Dahua Vision Technology Co., Ltd. (hereinafter referred to as "Dahua") attaches great importance to cybersecurity and privacy protection, and continues to invest special funds to comprehensively improve the security awareness and capabilities of Dahua employees and provide adequate security for products. Dahua has established a professional security team to provide full life cycle security empowerment and control for product design, development, testing, production, delivery and maintenance. While adhering to the principle of minimizing data collection, minimizing services, prohibiting backdoor implantation, and removing unnecessary and insecure services (such as Telnet), Dahua products continue to introduce innovative security technologies, and strive to improve the product security assurance capabilities, providing global users with security alarm and 24/7 security incident response services to better protect users' security rights and interests. At the same time, Dahua encourages users, partners, suppliers, government agencies, industry organizations and independent researchers to report any potential risks or vulnerabilities discovered on Dahua devices to Dahua PSIRT, for specific reporting methods, please refer to the cyber security section of Dahua official website.

Product security requires not only the continuous attention and efforts of manufacturers in R&D, production, and delivery, but also the active participation of users that can help improve the environment and methods of product usage, so as to better ensure the security of products after they are put into use. For this reason, we recommend that users safely use the device, including but not limited to:

Account Management

1. **Use complex passwords**

   Please refer to the following suggestions to set passwords:

   - The length should not be less than 8 characters;
   - Include at least two types of characters: upper and lower case letters, numbers and symbols;
   - Do not contain the account name or the account name in reverse order;
   - Do not use continuous characters, such as 123, abc, etc.;
   - Do not use repeating characters, such as 111, aaa, etc.

2. **Change passwords periodically**

   It is recommended to periodically change the device password to reduce the risk of being guessed or cracked.

3. **Allocate accounts and permissions appropriately**

   Appropriately add users based on service and management requirements and assign minimum permission sets to users.

4. **Enable account lockout function**

   The account lockout function is enabled by default. You are advised to keep it enabled to protect account security. After multiple failed password attempts, the corresponding account and source IP address will be locked.

5. **Set and update password reset information in a timely manner**

   Dahua device supports password reset function. To reduce the risk of this function being used by threat actors, if there is any change in the information, please modify it in time. When setting security questions, it is recommended not to use easily guessed answers.

Service Configuration

1. **Enable HTTPS**

   It is recommended that you enable HTTPS to access Web services through secure channels.
2. **Encrypted transmission of audio and video**

   If your audio and video data contents are very important or sensitive, we recommend you to use encrypted transmission function in order to reduce the risk of your audio and video data being eavesdropped during transmission.
3. **Turn off non-essential services and use safe mode**

   If not needed, it is recommended to turn off some services such as SSH, SNMP, SMTP, UPnP, AP hotspot etc., to reduce the attack surfaces.

   If necessary, it is highly recommended to choose safe modes, including but not limited to the following services:

   ● SNMP: Choose SNMP v3, and set up strong encryption and authentication passwords.
   ● SMTP: Choose TLS to access mailbox server.
   ● FTP: Choose SFTP, and set up complex passwords.
   ● AP hotspot: Choose WPA2-PSK encryption mode, and set up complex passwords.
4. **Change HTTP and other default service ports**

   It is recommended that you change the default port of HTTP and other services to any port between 1024 and 65535 to reduce the risk of being guessed by threat actors.

Network Configuration

1. **Enable Allow list**

   It is recommended that you turn on the allow list function, and only allow IP in the allow list to access the device. Therefore, please be sure to add your computer IP address and supporting device IP address to the allow list.
2. **MAC address binding**

   It is recommended that you bind the IP address of the gateway to the MAC address on the device to reduce the risk of ARP spoofing.
3. **Build a secure network environment**

   In order to better ensure the security of devices and reduce potential cyber risks, the following are recommended:

   ● Disable the port mapping function of the router to avoid direct access to the intranet devices from external network;
   ● According to the actual network needs, partition the network: if there is no communication demand between the two subnets, it is recommended to use VLAN, gateway and other methods to partition the network to achieve network isolation;
   ● Stablish 802.1x access authentication system to reduce the risk of illegal terminal access to the private network.

Security Auditing

1. **Check online users**

   It is recommended to check online users regularly to identify illegal users.
2. **Check device log**

By viewing logs, you can learn about the IP addresses that attempt to log in to the device and key operations of the logged users.

3. **Configure network log**

Due to the limited storage capacity of devices, the stored log is limited. If you need to save the log for a long time, it is recommended to enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

Software Security

1. **Update firmware in time**

According to the industry standard operating specifications, the firmware of devices needs to be updated to the latest version in time in order to ensure that the device has the latest functions and security. If the device is connected to the public network, it is recommended to enable the online upgrade automatic detection function, so as to obtain the firmware update information released by the manufacturer in a timely manner.

2. **Update client software in time**

We recommend you to download and use the latest client software.

Physical Protection

It is recommended that you carry out physical protection for devices (especially storage devices), such as placing the device in a dedicated machine room and cabinet, and having access control and key management in place to prevent unauthorized personnel from damaging hardware and other peripheral equipment (e.g. USB flash disk, serial port).

ENABLING A SMARTER SOCIETY AND BETTER LIVING