L200N Series LED Monitor

User's Manual

Foreword

General

This manual introduces the installation, functions and operations of the L200N series display equipment (hereinafter referred to as " the Device "). Read carefully before using the device, and keep the manual safe for future reference.

Models

This manual applies to Dahua L200N Series monitor models . For example : DHI-LM19-L200N, DHI-LM22-L200N, DHI-LM24-L200N, DHI-LM27-L200N.

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	Update (ADD HDMI LOGO).	December 2023
V1.0.0	First release.	June 2021

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, 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.

Operation Requirements

⚠️ WARNING

- Do not tread on or squeeze the power line, especially the plug or connection point of the power line to the product.
- Please firmly grasp the plug of the connecting line when inserting and removing. Pulling the connecting line might cause damage to it.
- Turn off the power when cleaning the product.
- Do not touch any fixed components inside the product. Failure to do so can result in damage to the product or person.

⚠️

- Operating temperature : 0 ℃ to +40 ℃ (+32 ℉ to +104 ℉).
- Use the device under allowed humidity and temperature conditions.
- Make sure that the power supply of the device works properly before use.
- Do not pull out the power cable of the device while it is powered on.
- Only use the device within the rated power range.
- Transport, use and store the device under allowed humidity and temperature conditions.
- Prevent liquids from splashing or dripping on the device. Make sure that there are no objects filled with liquid on top of the device to avoid liquids flowing into it.
- Do not disassemble the device.
- Notice and observe all the warnings and illustrations.
- Make sure the power is turned off and the connecting lines are removed when moving the product. Do not use uncertified connecting lines, which might cause equipment failure.
- Avoid collisions with the product. This may cause equipment failure.
- Please turn off power for safety if not using the product for a long time.

Installation Requirements

⚠️ WARNING

- Connect the device to the adapter before power on.
- Strictly abide by local electrical safety standards, and make sure that the voltage in the area is steady and conforms to the power requirements of the device.
- Do not connect the device to more than one power supply. Otherwise, the device might become damaged.
- Do not hang or lean on the product. Doing so can cause the product to fall or become damaged. It may also cause injury to people. Pay special attention when children are nearby.

- If the product is installed on the wall, please make sure the wall's load bearing capacity is sufficient. To avoid falling and injuring people, install according to the included instructions with mounting hardware.
- Do not put the product in flammable or corrosive gaseous environment, which may cause fire or damage the product. Placing the product in proximity to flammable gas can easily result in a dangerous explosion.

⚠

- Observe all safety procedures and wear required protective equipment provided for your use while working at heights.
- Do not expose the device to direct sunlight or heat sources.
- Do not install the device in humid, dusty or smoky places.
- Install the device in a well-ventilated place, and do not block the ventilator of the device.
- Use the power adapter or case power supply provided by the device manufacturer.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Note that the power supply requirements are subject to the device label.
- Connect class I electrical appliances to a power socket with protective earthing.
- Do not block the ventilation opening. Install the product according to this manual.
- Do not place any items on the product. The product may be damaged if foreign objects enter the internal unit.
- Failure to properly secure all screws during installation can result in a fall of the product. Ensure all mounting hardware and other installation accessories are properly secured during installation.
- Mounted height: < 2m.
- ⏚ Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.
- ~ Alternating Current.

Maintenance Requirements

⚠ **WARNING**

- Cut off power and the connecting line immediately and contact the after-sales service center if the product or the connecting line is damaged for some reason. Continued use without maintenance might cause smoking or off-odor.
- Please turn off power or unplug the power cable immediately if there is smoking, off-odor, or abnormal noise. Contact the after-sales service center for maintenance after confirming there is no more smoke or odor. Further use could result in fire.

⚠

- Do not adjust, maintain or modify if you do not have appropriate qualifications.
- Do not open or remove the rear cover, box or cover board of the product. Please contact the dealer or after-sales service center when in need of adjustment or maintenance.

- Only qualified service people can maintain. If the product gets any kind of damage, such as damage to the plug, foreign matter or liquid into the unit, exposure to rain or humidity, loss of function, or dropped, please contact dealer or after-sales service center.
- Be careful during maintenance of product even if the power is off. Some components are equipped with UPS, and can continue to supply power which is dangerous to people.

The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI Trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

Table of Contents

1 Packing List

Figure 1-1 Packing list

Table 1-1 Packing list

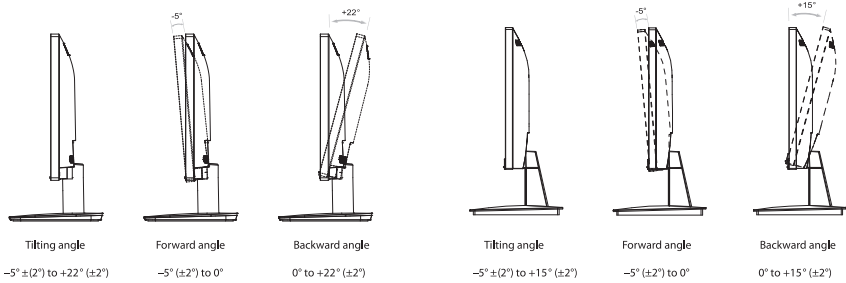| No.	Name
1	Power adapter
2	Base/Stand
3	Signal cable
4	Installation guide
5	Legal and regulatory information
6	User's manual QR code sticker

📖 NOTE

The images above are for reference only. Please refer to actual device for detailed information.
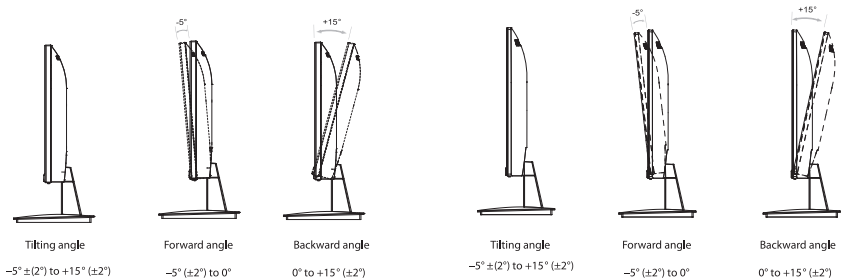
2 Angle Adjustment

The screen can be adjusted by inclining forward and backward; however, the specific adjustment depends on the specific model of the device. Generally, it may be inclined -5±2° forward and 15±2° backward or -5±2° forward and 22±2° backward. (as shown below)

Figure 2-1 Angle adjustment

Tilting angle	Forward angle	Backward angle
−5°±(2°) to +22°(±2°)	−5°(±2°) to 0°	0° to +22°(±2°)

DHI-LM19-L200N

Tilting angle	Forward angle	Backward angle
−5°±(2°) to +15°(±2°)	−5°(±2°) to 0°	0° to +15°(±2°)

DHI-LM22-L200N

Tilting angle	Forward angle	Backward angle
−5°±(2°) to +15°(±2°)	−5°(±2°) to 0°	0° to +15°(±2°)

DHI-LM24-L200N

Tilting angle	Forward angle	Backward angle
−5°±(2°) to +15°(±2°)	−5°(±2°) to 0°	0° to +15°(±2°)

DHI-LM27-L200N

NOTE

● When adjusting the angle of the monitor, be sure not to touch or press the area of the screen.
● The images above are for reference only. Please refer to actual device for detailed information.
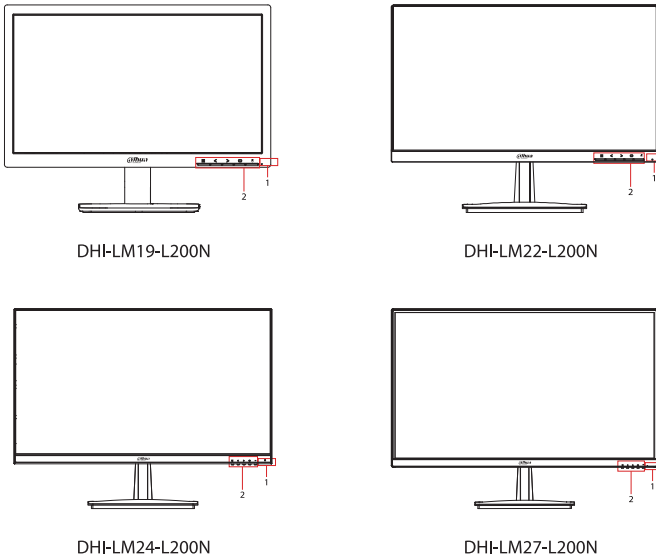
3 Button Description

Figure 3-1 Angle adjustment

DHI-LM19-L200N   DHI-LM22-L200N

DHI-LM24-L200N   DHI-LM27-L200N

Table 3-1 Button description
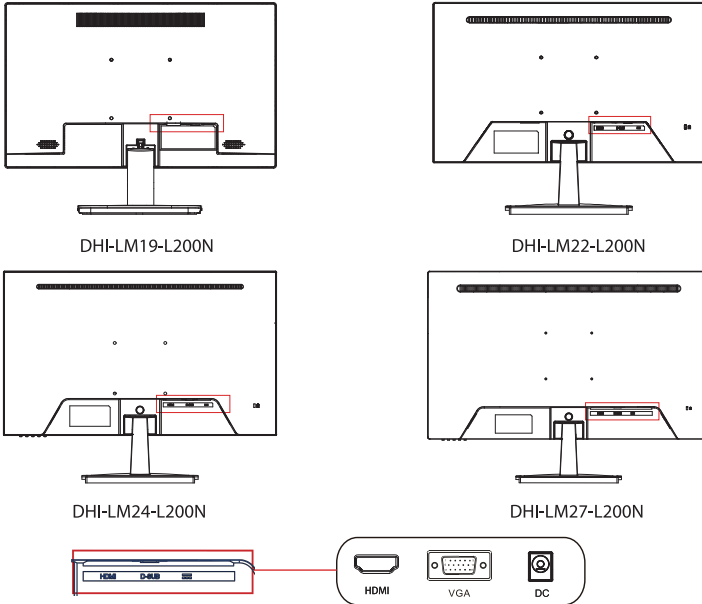
No.	Name	Description
1	LED indicator light	• The light is green when the screen is turned on. • The light is orange when the screen enters energy saving mode. • The light is off when the screen is turned off.
2	OSD/Power button	Press the button to turn on the monitor.

Table 3-2 OSD buttons

OSD Button	Function
🗏	Shows main choice menus
<	Adjust the options-move up or lower/Hot key(option)
>	Adjust the options-move down or higher/Hot key(option)
⊡	Exit main menu, or when no menus-Signal switching
⏻	Power ON/OFF button

4 Cable Connection

Figure 4-1 Input and output ports

DHI-LM19-L200N

DHI-LM22-L200N

DHI-LM24-L200N

DHI-LM27-L200N

NOTE

The images above are for reference only. Please refer to actual device for detailed information.

HDMI interface	VGA interface
Use the HDMI cable to connect the HDMI IN interface of the product to the HDMI OUT interface of a PC.	Use a VGA cable to connect the VGA interface of the product to the VGA interface of the PC.

Power Adapter
Please connect the power adapter plug to the corresponding power port of the monitor, and connect the other end to a properly grounded power outlet.

5 Menu Description

- The color and shape of the OSD menu of the actual computer may be slightly different from them shown in the figure.
- Specifications of the OSD menu may change with improvements of functions without prior notice.

The on-screen display (OSD) menu can be used to adjust the settings of the monitor and is displayed on the screen after turning on the monitor and pressing the ▤ button.

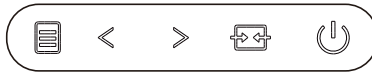Step 1   Press one of the buttons to activate the browser screen.

Figure 5-1 Browser screen

Table 5-1 Browser screen description

Icon	Function
▤	Menu/Enter
≪	Up
≫	Down
⊡	Auto/Exit
⏻	Power ON/OFF

Step 2   Press ▤ to enter the OSD screen.

Figure 5-2 OSD screen

Luminance	Brightness		80
Image Setup	Contrast		50
Color Setup	Eco Mode	< Standard >
OSD Setup	DCR	< Off >
Reset	Over Drive	< Off >
Extra			

Step 3   Press ≪ or ≫ to browse through the functions.

- Select the desired function, then press the ▤ button to enter the submenu.
- Press ≪ or ≫ to browse the sub-menus, and then press ▤ to confirm the selection of the desired function.
- Press ≪ or ≫ to select an option, then press ▤ to confirm the setting and exit the current menu.

Step 4 Press ⊡ to exit the menu interface.

6 ECO Modes

Press ≪ to switch ECO modes . These modes (Standard, RTS, FPS, Text, Movie, and Game) can be used to optimize settings according to your activity. Standard mode is suitable for most activities.

Figure 6-1 Standard mode

7 Operation Menu (OSD) Function Descriptions

Functions of the monitor vary with models, and the functions in this manual are for reference only.

Table 7-1 Menu description

Menu	Sub Menu	Value Range	
Luminance	Brightness	0-100	
	Contrast	0-100	
	Eco Mode	Standard Game Movie Text FPS RTS	
	DCR	ON/OFF	
	Over Drive	ON/OFF	
Image Setup	H.Position	0-100	
	V.Position	0-100	
	Clock	0-100	
	Phase	0-100	
	ImageRatio	Wide/4:3	
Color Setup	Color Temp.	Warm	
		Standard	
		Cool	
		sRGB	
		User	Red
			Green
			Blue
	LowBlue Mode	Off/On	
OSD Setup	Language	12 languages	
	H.Position	0-100	
	V.Position	0-100	
	Timeout	5-60	
	Transparence	0-100	
Reset	Auto Config.	–	
	AutoColor	–	
	Reset*	–	
Extra	Input Select	VGA/HDMI	

*Current Operation will increase product energy consumption.
Do you want to continue?
Yes
No

8 Product Specifications

Product Model		DHI-LM19-L200N	DHI-LM22-L200N	DHI-LM24-L200N	DHI-LM27-L200N
Screen Size		19.5"	21.5"	23.8"	27"
Aspect Ratio		16:9	16:9	16:9	16:9
Viewing Angle		90°(H) / 65°(V)	178°(H) / 178 ° (V)	178°(H) / 178 ° (V)	178°(H) / 178 ° (V)
Contrast ratio		600:1(Typ.)	3000:1(Typ.)	3000:1(Typ.)	3000:1(Typ.)
Colors		16.7M	16.7M	16.7M	1.07B
Resolution		1600x900	1920x1080	1920x1080	1920x1080
Maximum refresh rate		75Hz	100Hz	100Hz	100Hz
Product Dimensions	Without base	464.8x283.5x48.3mm	493.1x290.8x48.4mm	540.4x325.2x51.7mm	615.0x365.7x50.0mm
	With base	464.8x362.4x179.9mm	493.1x384.2x190.0mm	540.4x419.1x190.0mm	615.0x461.3x190.0mm
speaker		N/A			
Height range		N/A			
Rotation angle		N/A			
Vertical angle		N/A			
Tilting angle		Forward tilting : 5° ± 2°; Backward tilting:22°± 2°	Forward tilting : 5° ± 2°; Backward tilting: 15° ± 2°		
Environmental conditions	Action	Temperature: 0℃～40℃ (32℉～104℉) Humidity: 10%～90% RH (non-condensing)			
	Storage	Temperature: -20℃～60℃(-4℉～140℉) Humidity: 5%～90% RH (non-condensing)			

◻ NOTE

The actual application of the above parameters shall be subject to the specific model.

Appendix 1 Troubleshooting

Appendix Table 1-1 FAQ

Faults Occurring	Possible Solutions
The power indicator light is not on	● Check if the power is on. ● Check if the power cord is connected.
Plug and play failed	● Check if the function of plug-and-play of the device is compatible with PC. ● Check if the display card is compatible with the plug-and-play function.
Dimming picture	Adjust brightness and contrast.
Flickering picture or picture with ripples	There may be electrical appliances or equipment with electronic disturbance.
The power indicator light is on (flickering), but the monitor has no pictures.	● Check if the PC power is on. ● Check if the PC display card is inserted properly. ● Check if the signal cable of the monitor is correctly connected with the PC. ● Check the signal cable plug of the monitor and make sure every pin has no bending. ● Observe the indicator light by pressing the Caps Lock key on the PC keyboard and check if the PC is working.
Color shortage (red, green and blue)	Check the signal cable of the monitor and make sure every pin has no bending.
The picture is not in the middle, or the size is not right	Hot key (AUTO)
Picture with color difference (white looks not white)	Adjust RGB color or reselect color temperature.
Screen font blur under VGA/HDMI signal	Select M to automatically adjust the image.

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User's Manualocr

Appendix 2 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's 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:

1. Account Management

1.1 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.

1.2 Change passwords periodically

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

1.3 Allocate accounts and permissions appropriately

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

1.4 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.

1.5 Set and update password reset information in a timely manner

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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.

2. Service Configuration

2.1 Enable HTTPS

It is recommended that you enable HTTPS to access Web services through secure channels.

2.2 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.

2.3 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.

2.4 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.

3. Network Configuration

3.1 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.

3.2 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.

3.3 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.

4. Security auditing

4.1 Check online users

It is recommended to check online users regularly to identify illegal users.

4.2 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.

4.3 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.

5. Software Security

5.1 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.

5.2 Update client software in time

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

6. 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