newline

All-in-One Direct View LED Display

User Manual

Newline DV One+

CONTENT

Welcome to the world of Newline.

Thank you for choosing newline All-in-one Direct View LED Display. Please use this document to get the most out of your screen.

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.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class A 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The symbol of the crossed out wheeled bin indicates this product should not be placed in municipal waste. Instead, dispose of waste equipment by taking it to a designated collection point for electrical and electronic equipment recycling.

Safety Instructions

- Please read this manual carefully and follow the instructions before use.

- Please complete the installation according to the installation methods provided in the user manual.
- Please cut off the power of the screen during installation and maintenance to prevent electric shock and injury, and avoid short circuit of the live parts of the PCB board against the metal frame.
- Do not place the front of the product on an irregular surface to avoid permanent damage to the display surface of the product.
- Do not place the product on a tilted or unstable table or pallet to prevent it from falling or tipping, which may cause permanent damage to the product.
- Do not place heavy objects on the power cord to avoid damaging the cable and causing electric shock or fire.
- Do not bend or move the power or data cables repeatedly to avoid damage and cause electric shock or fire.
- Please arrange, tie and fix the power cord and network cable orderly after the installation, and separate the strong and weak current.
- Please regularly clean the screen. If you have any questions about cleaning products, please contact customer service.
- Please use the screen in a well-ventilated environment.
- Do NOT expose the product to prolonged exposure or exposure to environments containing a large amount of dust, strong acidic or alkaline substances, as this may cause permanent damage to the product.
- DO NOT place fire or any device that gives off high heat around the display.
- Please use original newline accessories. If you need to use self-purchased accessories, please consult customer service.
- Arrange professional personnel to inspect the screen regularly.

CAUTION
- High touch current. Connect to earth before connecting to supply.
- Risk of fire or explosion if the battery is replaced by an incorrect type. Dispose of Used Batteries According to the Instructions.
- Shock hazard. Connect or disconnect all power sources simultaneously.

ATTENTION
- Courant de contact élevé. Connecter à la terre avant de connecter à l'alimentation.
- Risque d'incendie ou d'explosion si la batterie est remplacée par un type incorrect. Éliminer les batteries usagées selon les instructions.
- Risque de choc. Connectez ou déconnectez toutes les sources d'alimentation simultanément.

Important Warning

Warning: Electric shock hazard.

Danger of high voltage, Non-professionals are prohibited from opening the display. It is forbidden to plug and unplug the power cord under working conditions.

Warning: DANGER OF PERSONAL CASUALTIES.

It is necessary to take corresponding protective measures for high-altitude operators to avoid accidents.

Warning: KEEP AWAY FROM FLAMMABLES AND/OR EXPLOSIVES.

Keep the screen away from flammables and explosives.

Attention: STAY AWAY FROM THE AIRCONDITIONING VENT.

• Keep away from the air outlet of the air conditioner and keep the screen dry.

Attention: PAY ATTENTION TO SCREEN GROUNDING.

• Class I equipment, EQUIPMENT, grounding treatment is required.

Attention: POWER ON REGULARLY.

• When not in use for a long time, turn on the screen power regularly to extend the product's service life.

LED display screens cannot be turned off for a long time. In high humidity environments, if the screen has not been used for more than 3 days, it is necessary to check and confirm whether there is water vapor on the surface of the screen before turning it on. If there is moisture, ventilation or dehumidification is necessary. When lighting the screen, preheating and lighting method should be used: turn on the screen for 2 hours with black color, preheat 10-20% brightness for 4-8 hours, and then adjust to normal use brightness (40% -80%) to light the screen, in order to eliminate moisture and avoid abnormalities during use (the normal use brightness can be adjusted by the user according to the usage environment).

Attention: POWER SUPPLY

• When wiring power supply, please pay attention to load balance, overload is strictly prohibited. Before installation, please ensure that the operating voltage of the display is suitable for the local grid voltage.

Unpacking

Please note the following when unpacking:
- Do Not discard the original packaging material. Please keep the original packaging materials for use during new transportation.
- Keep your documents in a safe place. This document is required for commissioning the device. It is also needed when presenting the equipment for debugging, and is part of the device.
- Check the delivered device for any obvious damage during transportation.
- Verify that the goods shipped contains the complete device and accessories you ordered separately.
  If there is any discrepancy or damage during transportation, please contact customer service.
- The product should not be exposed to the installation site under construction for a long time after unpacking.

Safety Code

- Non-professionals are not allowed to disassemble the product without permission to avoid electric shock of high voltage.
- Please consult the local power supply operator if not clear about the local grid voltage.
- Personnel working at heights shall be provided with safety protections.
- The frame structure of LED display should be designed and constructed by professionals.
- Make sure to take safety measures for grounding the equipment.

Warning Signs

Preventive measures:

For your personal safety and to avoid unnecessary property damage, it is important to pay attention to the prompts in this manual. The reminder for personal safety is indicated by ⚠ . And the reminder only related to property damage does not include a warning triangle. The warning reminder varies from high to low according to the level of danger, as follows:

⚠ **Danger**: Failure to take appropriate protective measures may result in death or serious personal injury.

⚠ **Caution**: Failure to take appropriate protective measures may result in minor personal injury.

Attention: If corresponding protective measures are not taken, it may lead to unexpected results.

Documentation

Scope of application of this document:

This article is applicable to Newline DV One +.

Copyright Notice

1 Introduction

This is a highly integrated, audio-visual integrated LED all-in-one direct view LED display. Adopting a brand-new borderless design, the thinnest frame is only 4.5mm. It has a large screen ratio and meets the aesthetic requirements of the appearance. The product can be lit with one click, quickly entering the usage state, with a full visual experience, clear data, and various oversized sizes. Meet the application requirements of education and teaching, audio and video conferencing, etc.

1.1 Product Introduction

This product is shown in the following figure. Some features have been simplified.

Front View
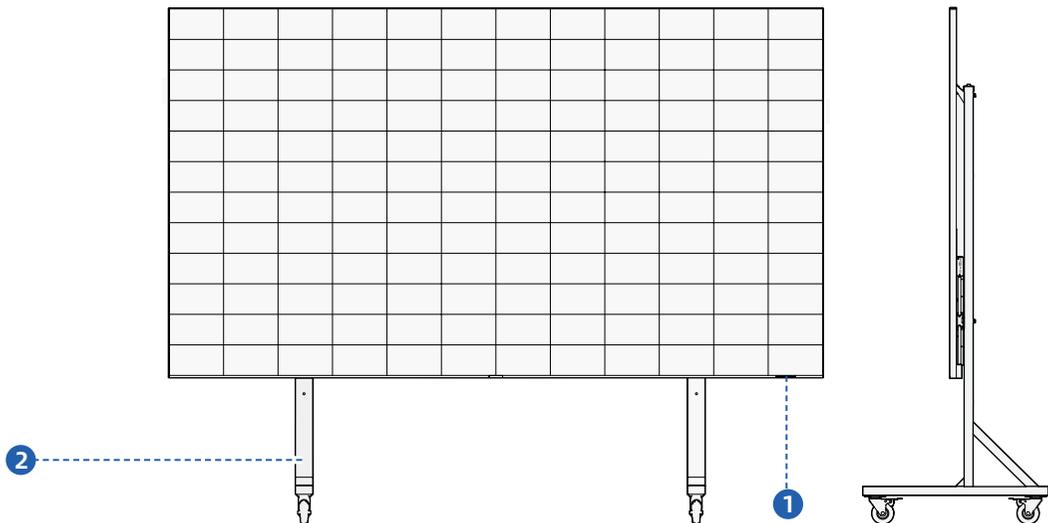
Rear View

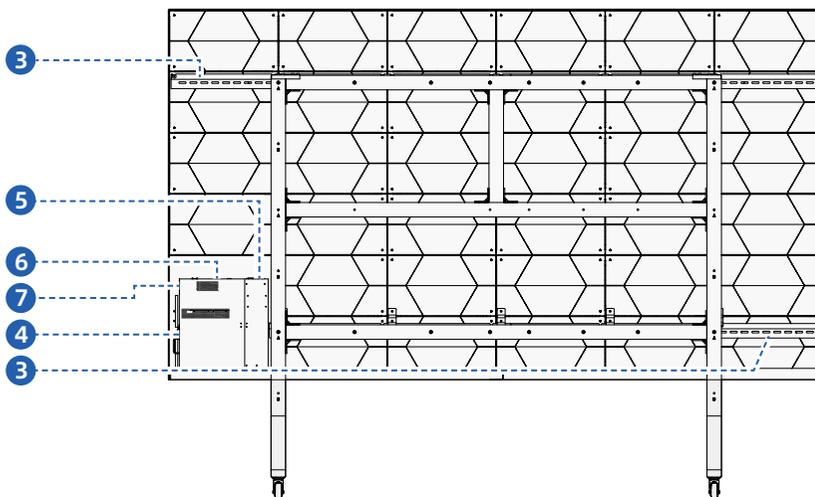| No.	Part Name	Description
❶	Front key	Control the LED display
❷	Mobile stand	A movable bracket for support structure
❸	Wall-Mounted	A bracket for support structure
❹	Wi-Fi Module	Provide the wireless network
❺	Power Input	Power supply
❻	Rear Interface(Up)	Connecting the external device
❼	Rear Interface(Side)	Connecting the external device

📖 Notes
- The product images shown are for illustration purposes only and may not be an exact representation of the product.
- The mobile stand is non-standard and only supports DV+ for 135 and 163 inches.

1.2 Keys and Interfaces Introduction

Front key
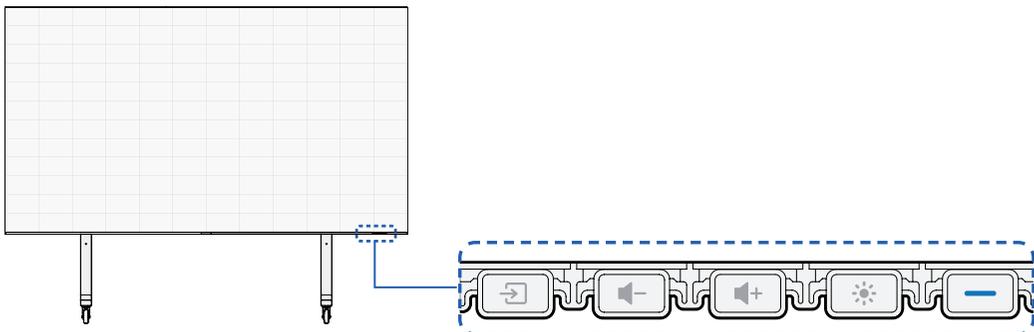
Icon	Name	Function Description
⊡	Signal source switch key	Used to switch video sources
◀−	volume -	Used for volume reduction
◀+	volume +	Used for volume increase
☀	Brightness adjustment key	Used for brightness adjustment, 1%~100% cycle
▬	Power Key	Used for switching on/off the device

Rear Interface
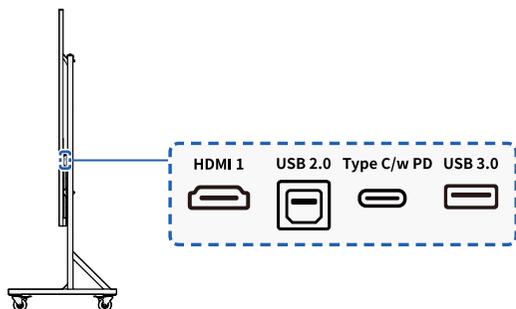
No.	Name	Function Description
1	HDMI IN interface	Used for connecting external video sources
2	USB 2.0 Type-B	Used for connecting to USB device
3	Type C/w PD interface	Used for Audio/video input, data, USB drive, supports 65W charging
4	USB3.0 interface	Used for connecting to USB device
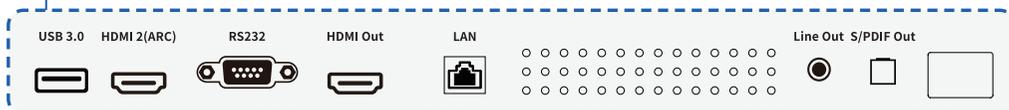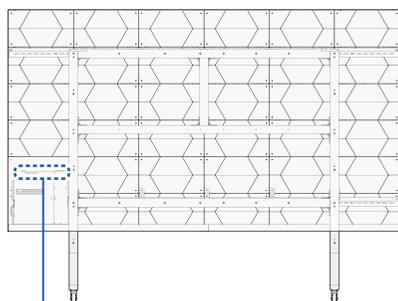
No.	Name	Function Description
1	S/PDIF output interface	Used for connecting to fiber optic speaker
2	Line output interface	Used for connecting to 3.5mm audio output devices
3	RJ45 network interface	Used for networking
4	HDMI OUT interface	Used for video output, 1080p mode
5	RS232 interface	Used for achieving centralized control
6	HDMI 2(ARC) interface	Used for external device video access
7	USB3.0 interface	Used for connecting to USB device

1.3 Remote Control Introduction
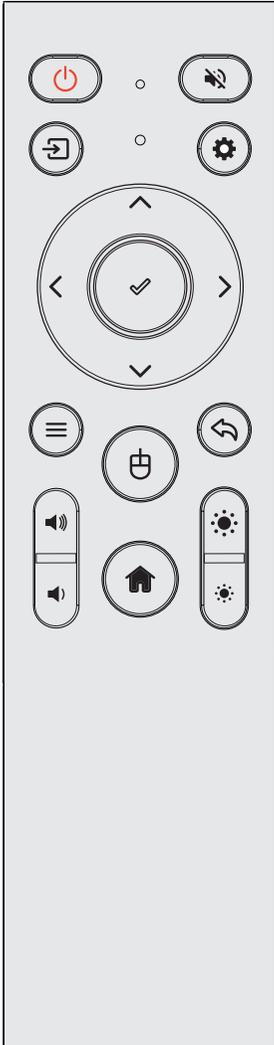
Key icon	Function Description
⏻	Power key, used for switching on/off the display.
🔇	Mute.
⏩	Signal Source.
⚙	Settings.
✅	Confirm key, used for confirming selection.
◎	Used for up, down, left, and right selection.
≡	APP List.
🖱	Turn the air mouse on or off.
↩	Return key, used to return to the previous page.
🔊 🔉	Volume adjustment key, used for volume adjustment.
🏠	Home key. Return to the homepage.
☀ ☀	Brightness adjustment key, used for brightness adjustment.

1.3.1 Air mouse pairing

First-time use requires Bluetooth pairing between the DV One+ and the remote control:

1. Hold the volume - and brightness - buttons simultaneously for 5 seconds to enter pairing mode; the remote control indicator light will flash;
2. Search for **DYC-Q5** in the initial pairing page or **Setting > Network > Bluetooth** for pairing.

2 Power On/Off

2.1 Power On

1 Ensure all the power cables are fully seated into the display and wall outlet before powering on the display.

135/163inch: Two power cables;
189inch: Three power cables;
216inch: Four power cables.
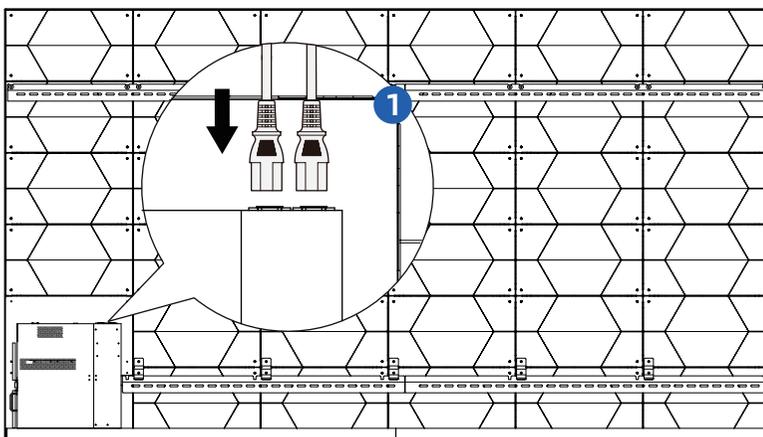
📖 Notes

The power outlet should be installed near the display and should be easily accessible.

2 Press the power button 🔲 on the front display or 🔘 on the remote control.
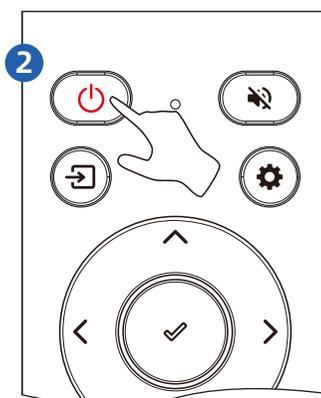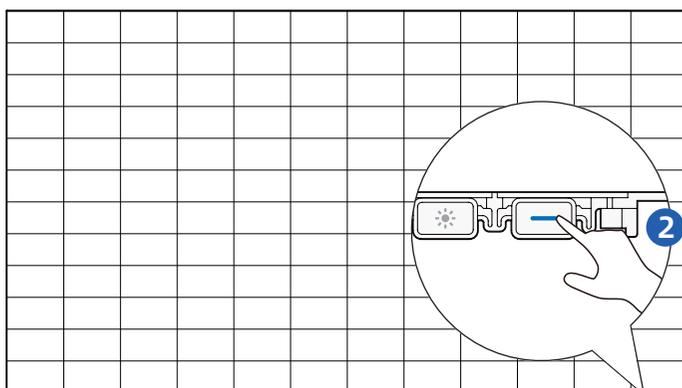
2.2 Power Off

1 Press the power button ⊟ on the front display or the power button Ⓟ on the remote control and a **Warning** dialog box will be displayed as shown in the following figure.
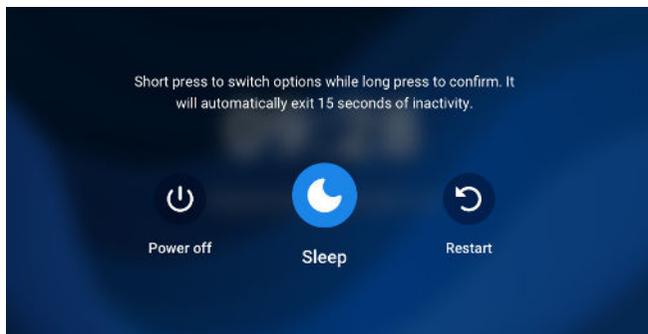
2 In the **Warning** dialog box, use the remote control to select **Power off** to turn off the display, and the power indicator will turn to red. Tap the power button ⊟ to switch the icon, long press the power button ⊟ for 3 seconds to confirm the selection.

3 If you want to completely turn off the LED display, unplug all the power cords.

📖 Notes

• Please properly shut down the device before disconnecting the power source or it may cause damage. Accidental power failure may cause damage to the device.

• Do not repeatedly turn the power on & off in a short period of time as it may cause malfunction.

3 Operating

3.1 Initial Setting

After initial use or system upgrade, the All in one display will enter the boot-up page, and users can use the remote control to set the language, region and network information according to the boot-up guide.

3.2 Launcher

After completing the boot page, the system automatically enters the home page. The home page is shown as the following figure:

No.	Name	Description
❶	Date and Time	Real-time synchronisation of time and date.
❷	Apps	Included Signal Source, Apps, Settings and newline cast.
❸	Status Icon	Network status, Bluetooth status, microphone mute icon can be displayed.

📖 Notes

- The system will enter the homepage by default, users can enter "**Settings** > **General** > **Starting Source**" to set the default signal source.
- The wallpaper is only for example, please refer to the actual situation. Users can enter "**Settings** > **General** > **Wallpaper**" to customize the wallpaper.

3.3 Signal Source

When you need to connect an external signal source, please connect the corresponding signal source port (support **HDMI1**, **HDMI2** and **Type C**), and then click the port icon to enter the signal source browsing interface.

You can enter the signal source interface in the following ways:

• Press the" ⊟ "icon on the remote control;

• Click the " ⊕ " icon on the Homepage;
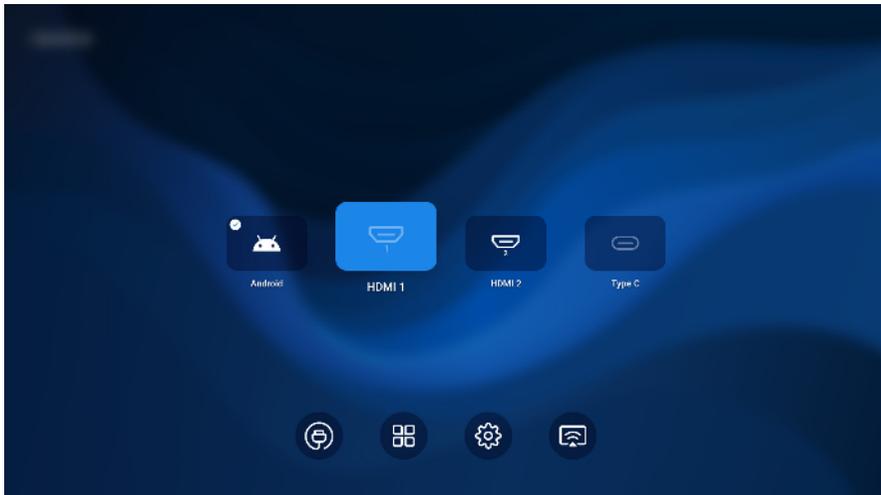
3.3.1 HDMI Input
If you are already equipped with HDMI cables, you can use HDMI cables to achieve screen sharing easily.
1 Use the HDMI cable to connect the All in one display and the device to be connected;
2 Use the remote control or external mouse, click the " ⊕ " icon on the homepage, and then select the corresponding HDMI port icon, you can achieve screen sharing.

3.3.2 Type C Input
If you are already equipped with a full-featured Type C cable, you can use the Type C cable to easily achieve screen sharing.
1 Use the Type C cable to connect the All in one display and the device ;
2 Use the remote control or external mouse, click the " ⊕ " icon on the homepage, then select the Type C port icon to achieve screen sharing.

3.4 Apps

System is pre-installed with some applications, click the " ⊞ " icon or press the " ☰ " icon on the remote control to view all the applications.

3.4.1 Newline Display Management+
Newline Display Management Plus is a remote display management solution that enables

users to centrally manage the Newline displays from the comfort of their desk. Users can deploy and install apps, configure display settings, and push updates without communicating back and forth.
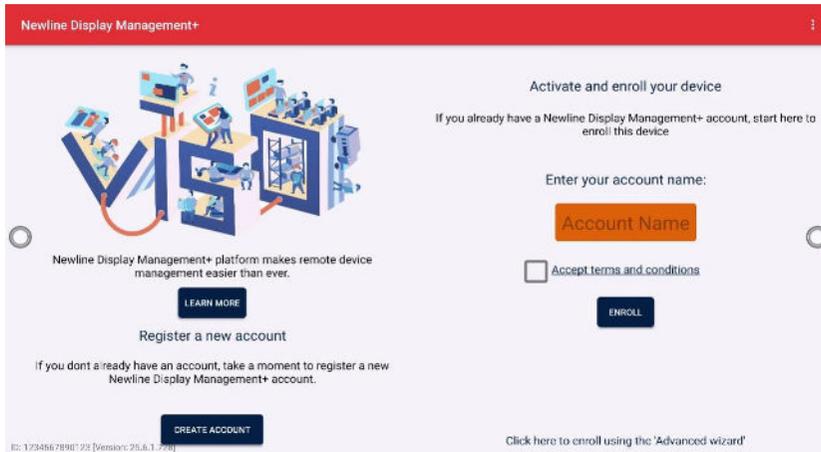
📖 Notes

Please visit our website at www.newline-interactive.com and enter **Product > software solutions** to get more details about Newline Cast and Newline Display Management.

3.4.2 Newline Cast

Multiple devices can be cast wirelessly to the display through several casting modes (Airplay, Google Cast…). To cast: tap Screen Sharing on the Home Page to enter Newline Cast. On screen directions will appear for you to follow in order to wirelessly cast to the display.
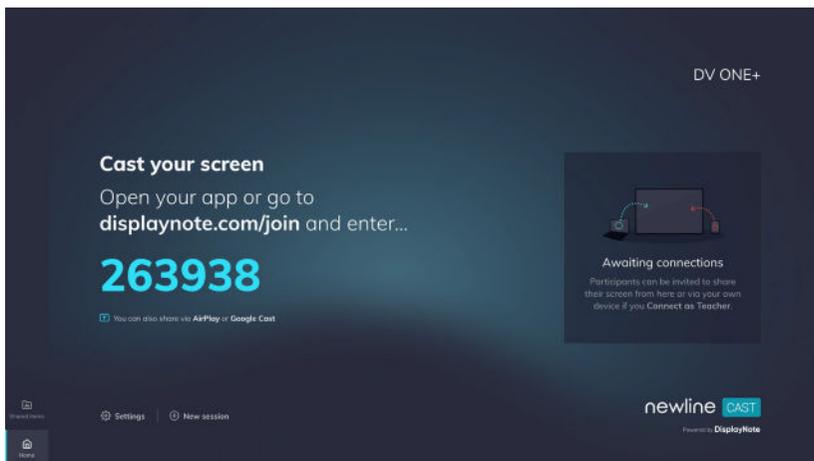
3.4.3 Newline VCS

Newline Visual Communication Solutions powered by TSN is a digital broadcast network designed to provide unified visual communications in schools and businesses. Leverage your Newline display for all your digital signage and visual communication needs.

3.4.4 File Commander

When you need to transfer files or play videos using a USB flash disk or mobile disk, you can enter the file manager to open the externally stored files.

Click the " " icon on the application page to enter the file management interface, you can view the saved pictures, files, videos and documents. If the All in one display is externally connected to a mobile device (e.g., USB storage device, removable hard drive, etc.), files in the mobile device can be viewed and moved.
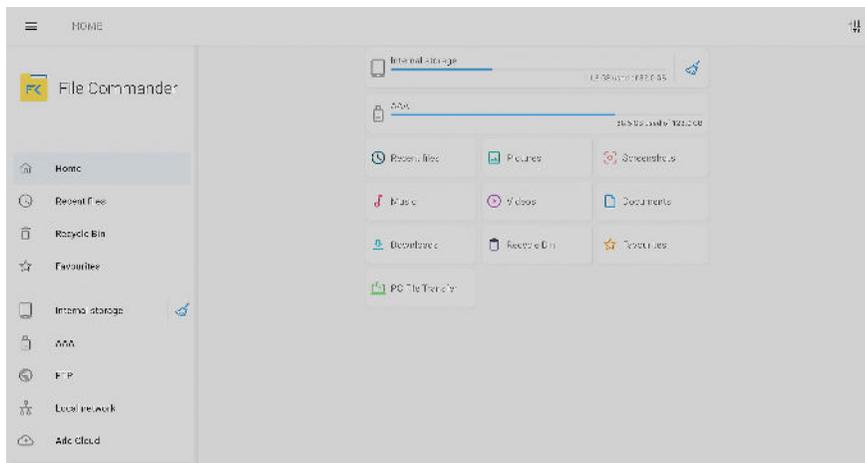
Functions	Instruction
File Preview	Tap the submenu on the left side to preview recent files, images, videos, audio, documents and downloads files, files on the external storage devices connected via the USB ports.
File Search	Tap 🔍 and enter the keywords in the search box. The system will display a list of files that match the searched for keywords.
File Filtering	Tap ⋮ on the upper right corner to choose the file sorted by name or modified.
File Operation	Tap ⋮ on the upper right corner to select, copy, paste, delete, move and share the files.

Common Icons

Icons	Description
$\mathcal{Q}$	Search icon, click the icon and enter a keyword in the search field, the system will display a list of files matching the keyword.
	New file.
	New folder.
	Paste(Appears only after copying or cutting files).
	Delete the selected files.
	Cut the files.
	Copy the selected items.
	Move the files to other folder.

3.5 DV+Calibration

3.5.1 Introduction

Main System Functions

- Wireless networking between cell phone and display, automatic search, one-key connection;
- Manual correction function of the display's bright and dark lines;
- Viewing, sending, adjusting the correction coefficients of the bright and dark lines of the display;
- Display box link diagram viewing and editing functions;
- Cache cleaning functions.

Device Compatibility

- Android phone: Android 10 or above
- iPhone: iOS 15 or above
- LED Display: DV ONE+

3.5.2 Setting up

(1) Install the Android version of DV+ Calibration app on DV ONE + display.

(2) Install DV+ Calibration app on the mobile phone.

　　−−How to download this app on the mobile phone, you can:

① Go to Android/iOS app store, search "**DV+ Calibration**";

② Scan the QR code(same as the following one) on the DV ONE+ device.

Scan QR code
to download APP

↓ Download APP
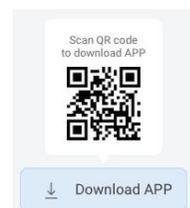
(3) Turn on the hotspot on the phone or DV ONE+, connect the DV ONE+ and the phone through the hotspot.

3.5.3 Procedures

1. Phone the DV+ Calibration app on the DV ONE and check the display screen type. Check if the selected integrated machine model is the same as the DV ONE + model used.

2. Open the DV+ Calibration app on your phone and click on "**Search display**". Click on "**Discovered display**" to enter the screen light and dark line correction interface. DV ONE+ display screen will displays pure white for easy observation of light and dark lines.

3. Click on the DV+ Calibration on your phone on the module that needs to be corrected, select the edges that need to be adjusted, and click "**+**" or "**−**" to make the adjustment.

4. Click "**Send**" to see the calibration effect. Note that clicking "**Save**" in each Box only saves the current calibration number on the phone. You need to click "**Send**" to successfully send the calibration data.

3.5.4 How to Calibrate the Screen

Integrated machine communication connection

The mobile app communicates with DV ONES+ through Wi-Fi. Therefore, before calibration, it is necessary to configure Wi-Fi communication between the phone and DV ONE+ device. Supports two methods: connecting DV ONE+ to a mobile hotspot and connecting the phone to DV ONE+ device hotspot.

LED Connect to Mobile Phone

1. Open the phone hotspot.

2. Turn on DV ONE+ WLAN. Search for mobile hotspot, enter password and connect to mobile hotspot.

LED Connect to Mobile Phone

Mobile Phone Connect to LED

1. Open the DV ONE+ hotspot.

2. Turn on your phone's WLAN. Search for DV ONE+ hotspot, enter password and connect to DV ONE+ hotspot.

Mobile Phone Connect to LED
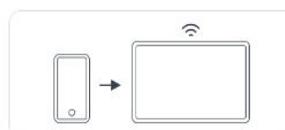
Search screen

• Normal Search

1. Open DV+ Calibration app on your phone and enter the search interface;

2. Click on "**Search display**" and the app will start searching for displays in the network;

3. After the search is completed, list and display all the displays found;

4. Click to the display name button and start calibration.
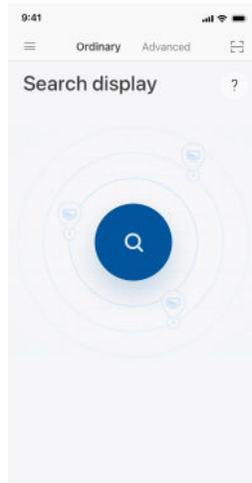
• Advanced Connection

If you know the name and IP address of the display, you can use the advanced connection function to directly connect to the display.

1. In the "**Search display**" interface, switch to Advanced.

2. Select the display screen, enter the IP address and click "**Connect**" to complete the process.

3. If the connection is successful, it will automatically enter the light and dark line adjustment interface of the display screen.
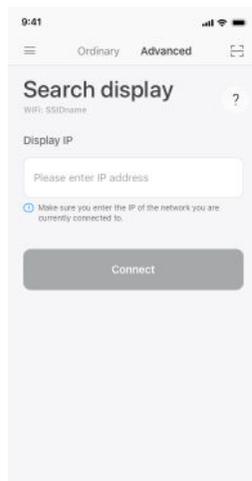
3.5.5 Light and dark line adjustment

Light and dark adjustment used to eliminate possible bright or dark lines on the display screen. You can enter the "**light and dark line adjustment**" interface through normal or advanced connection on the display screen.

After entering the "**light and dark adjustment**" interface, DV ONE+ display will automatically enters the "**white screen visual inspection**" display mode.

1. Display bright and dark line adjustment interface, including:

• Display module schematic;

• Each rectangle represents a module;

• The number in the middle of the rectangle of represents the number of the module in the display (the number starts with the module in the upper left corner of the display as 1, and increases sequentially from left to right and from top to bottom).

• The numbers at the top, bottom, left and right edges of the rectangle are the correction factors for the corresponding edges of the module. By adjusting the correction coefficients of the four edges of the module, you can eliminate the bright or dark lines appearing on the display at that place. The default correction coefficient of module side is 1.0, the range of value: 0.8~1.2, the step value is 0.01.

① If there is a bright line at the module edge, you can reduce the correction factor (0.8~1.0) to eliminate the bright line.

② If there is a dark line at the edge of the module, you can increase the correction factor (1.0~1.2) to eliminate the dark line.

③ Click Confirm to save the module calibration data.

2. Click Send to send the correction data, you can send the selected module edge correction data to the display.

3. Click Reset, a pop-up window will confirm: You will reset the unsent calibration data on your device. Click Reset to reset all the module calibration coefficients to 1.0, and cancel the selected status of all module edges.

4. Gestures to move the correction module, two fingers can zoom in and out, the maximum display of 3 columns, the smallest display of 6 columns.

Notes:

Multiple devices can calibrate a large screen at the same time, such as calibrating a module at the same time and taking the last value sent.

3.6 Settings

When you use the All in one display for the first time, you can configure the network, picture and sound to use the display better.
You can enter the settings as follows:

• Press the" ⚙ "icon on the remote control;
• Click the " ⚙ " icon on the homepage;

3.6.1 General

Under the "**General**" submenu, you can do the following setting:

Menu	Setting	Functions
Auto Power On	ON/OFF	When the function is on, the power on time function will appear.
Power On Time		Tap to set the power-on time.
Auto Power Off	ON/OFF	When the function is on, the power off time function will appear.
Power Off Time		Tap to set the power-off time.
Starting Source	Default is Android	After setting this item, the system will automatically enter the set signal source after boot. Option included: Android, HDMI1, HDMI2 and Type C.
New Input Source	ON/OFF	After the function is enabled, the system can automatically switch to the screen of the newly connected signal source.
Energy Saving	Default is never	After switching on, you can set the energy-saving time, after reaching the set time, the screen will turn off automatically without operation, the set time can be 30 minutes, 60 minutes, 90 minutes, 120 minutes or customized.

Menu	Setting	Functions
Wallpaper		Support for uploading images and adding up to 8 custom wallpapers.
CEC Auto Power On	ON/OFF	Tap to enable the function, when the HDMI port of the display is connected to a CEC device (such as a DVD), and both the CEC device and the display are turned off, if the CEC device is turned on, the display automatically turns on after receiving command from the CEC.
CEC Auto Power Off	ON/OFF	Tap to enable the function, Allows the display to turn off the power of the connected devices. When the HDMI port of the display is connected to a CEC device, and both the CEC device and the display are turned on, if the display is turned off, the CEC device automatically turns off after receiving the command; if the CEC device is turned off, the display automatically turns off after receiving the command.
EDID Switch		Tap to set the EDID, option included:1.4 and 2.0.
Signal Source Wake-Up	ON/OFF	When the All in one display is in standby mode, access to the signal source can wake up the All in one display.
App Auto-Launch	Default is none	Tap to select the app(Newline VCS, Newline Cast and DV+ Calibration)or a URL automatically running on startup, the app auto-launch only acts on Android system. 1. Only one Newline app can be selected at a time; 2. Enter the link, boot automatically jump to the URL.

3.6.2 Network

Under the "**Network**" submenu, you can view network status information, set up wired network, wireless network and hotspot, and view network status information.

Menu	Setting	Functions
Ethernet	ON/OFF	Default is on
	Ethernet config	Automatically obtain the LAN IP address or set static IP address according to requirements.
	Network Status	View IP address, MAC address and work time of the screen.

Menu	Setting	Functions
Wi-Fi	ON/OFF	Tap to enable the Wi-Fi function, and the system will automatically search the Wi-Fi nearby.
	Add network	Input the network name and security to add a new Wi-Fi.
Wake On Lan & Wake On Wireless Lan	ON/OFF	Default is off Tap the button to enable the function, connecting the wired network can wake up the display, connecting the wireless network can wake up the display.
IP Control	ON/OFF	IP Control uses the internet and Internet Protocol to transmit data and enable devices to communicate wirelessly.
Hotspot & tethering	ON/OFF	Switch on/off
	Set up Wi-Fi Hotspot	Customizable hotspot name and password, select AP band.
Bluetooth	ON/OFF	Default is on, Bluetooth communication can be used after successful pairing with other devices via Bluetooth.
Others		Tap to view Proxy, encryption and credential information.

3.6.3 Picture

Under the "**Picture**" submenu, you can view and set the picture mode.

Menu	Functions
Picture mode	Includes Standard, Soft, Movie and Conference modes, you can set the values for brightness, saturation, contrast, color temperature and color values.
Parameter adjustment	Set the values for Brightness, Saturation, Contrast, Color Temperature and Hue.
Rese	Resets the settings to the default values.
Screen Eye Filters	Tap to turn on the Adaptive brightness; Tap to turn on the Bluelight Filter and set the Filter level, the filter level tints your screen amber, this makes it easier to look at your screen or read in light.

3.6.4 Sound

Under the "**Sound**" submenu, you can set the system sound and select the sound output mode with the following options: Speaker, Line Out, Mixed, S/PDIF and ARC.

Menu	Functions
Volume	Swipe left or right to adjust the volume.
Sound output selections	Speaker: Select this option, sound will come out of the IFPD speaker.
	ARC: Select this option, sound will come out of the device connected to HDMI out(ARC) port.
	Line Out: Select this option, sound will come out of the device connected to Line out port.
	Mixed: Select this option, sound will be output from all four of these options simultaneously.
	S/PDIF: Select this option, sound will come out of the device connected to SPDIF port.

3.6.5 System

Enter the system interface, you can set the date and time, language and input, you can view device information, system upgrade and restore factory settings.

Menu	Functions
Date & Time	Turn on the set time Automatically; Set the date and time manually when turning off automatic date & time; Set time zone; Set the time format as 24 hours.
Language &Input	Support for multiple languages, English is default; "Kika" input method is default.
Apps	View all applications on the system, view individual application memory and data sizes, and clear cached data.
About	Check the system info such as Model, serial number, system version, firmware version, IP address, MAC address…etc.
System update	Options are as follows: OTA and over the air update method updates. After turning on OTA notification, if a new version is detected, the system can be upgraded on this page.
Security locks	**Installation lock**: When you enable the Installation lock, under the smart system, you will not be able to install software through the app store or USB flash drive. **Settings lock**: When you enable the setting lock, the setting-related icons will be displayed as locked, if you would like to do the setting, need to enter the settings > system to turn it off. **Power button lock**: When you enable the power button lock, the power button will be locked no matters on Android or any external sources. **Front button lock**: When you enable the front button lock, the front button will be locked.
Reset	This option performs a factory reset operation, which erases all data from the device. Please use with caution!

4 Video Signal Specification

Resolution/refresh rate	HDMI IN	HDMI OUT	Type-C
800x600@60Hz	√	×	√
800x600@72Hz	√	×	√
800x600@75Hz	√	×	√
1024x768@60Hz	√	×	√
1024x768@70Hz	√	×	√
1024x768@75Hz	√	×	√
1280x768@60Hz	√	×	√
1280x768@70Hz	√	×	√
720p@50Hz	√	×	√
720p@60Hz	√	×	√
1280x1024@60Hz	√	×	√
1280x1024@75Hz	√	×	√
1360x768@60Hz	√	×	√
1680x1050@60Hz	√	×	√
1920x1080@60Hz	√	√	√
1080i@50Hz	√	×	√
1080i@60Hz	√	×	√
1080p@50Hz	√	×	√
1080p@60Hz	√	×	√
3840x2160@24Hz	×	×	√
3840x2160@30Hz	×	√	√
3840x2160@60Hz	×	√	×

5 Multimedia Support Format

Types	Format
Image	JPEG, BMP, PNG
Video	MPEG1, MPEG2, MPEG4, H.264, H.265, VP8, VP9, Motion JPEG, HEVC, Sorenson H.263
Audio	MPEG1/2 LAYER1, MPEG1/2 LAYER2, MPEG1/2/2.5 LAYER3, AAC, HEAAC, VORBIS, LPCM, IMA ADPCM, MS ADPCM, MU_LAW, FLAC
USB Flash	TFAT32

6 Serial Port Control

RS232 communication cable (please use cross data cables)

PIN	This Device	Functions
1	NC	NC
2	RXD0	TXD0
3	TXD0	RXD0
4	NC	NC
5	GND	GND
6	NC	NC
7	NC	NC
8	NC	NC
9	NC	NC
Cover	GND	GND
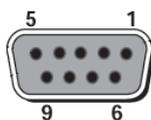
RS232 port of panel

Connect RS-232 port to the PC or controlling product. Enable RS-232 serial port connection and complete the following configuration.

Port: COM1 (Set according to PC or controlling product's port number)			
Baud rate	19200	Odd/even check	None
Data bits	8	Stop bit	1

● The following tables list controlling codes, querying codes and return codes.

Function	This Device	Functions
Power on	7F 08 99 A2 B3 C4 02 FF 01 00 CF	7F 09 99 A2 B3 C4 02 FF 01 00 01 CF
Power off	7F 08 99 A2 B3 C4 02 FF 01 01 CF	7F 09 99 A2 B3 C4 02 FF 01 01 01 CF
Sleep Mode On	7F 08 99 A2 B3 C4 02 FF 01 04 CF	7F 09 99 A2 B3 C4 02 FF 01 04 01 CF
Sleep Mode Off	7F 08 99 A2 B3 C4 02 FF 01 03 CF	7F 09 99 A2 B3 C4 02 FF 01 03 01 CF
Mute/Unmute	7F 08 99 A2 B3 C4 02 FF 01 02 CF	7F 09 99 A2 B3 C4 02 FF 01 02 01 CF
Signal source	7F 08 99 A2 B3 C4 02 FF 01 06 CF	7F 09 99 A2 B3 C4 02 FF 01 06 01 CF
Display status	7F 08 99 A2 B3 C4 02 FF 01 09 CF	7F 09 99 A2 B3 C4 02 FF 01 09 01 CF
HDMI 1	7F 08 99 A2 B3 C4 02 FF 01 0A CF	7F 09 99 A2 B3 C4 02 FF 01 0A 01 CF
HDMI 2	7F 08 99 A2 B3 C4 02 FF 01 52 CF	7F 09 99 A2 B3 C4 02 FF 01 52 01 CF

Function	Controlling codes	Return codes
Type C	7F 08 99 A2 B3 C4 02 FF 01 51 CF	7F 09 99 A2 B3 C4 02 FF 01 51 01 CF
Page up	7F 08 99 A2 B3 C4 02 FF 01 13 CF	7F 09 99 A2 B3 C4 02 FF 01 13 01 CF
Page down	7F 08 99 A2 B3 C4 02 FF 01 14 CF	7F 09 99 A2 B3 C4 02 FF 01 14 01 CF
VOL -	7F 08 99 A2 B3 C4 02 FF 01 17 CF	7F 09 99 A2 B3 C4 02 FF 01 17 01 CF
VOL +	7F 08 99 A2 B3 C4 02 FF 01 18 CF	7F 09 99 A2 B3 C4 02 FF 01 18 01 CF
Menu	7F 08 99 A2 B3 C4 02 FF 01 1B CF	7F 09 99 A2 B3 C4 02 FF 01 1B 01 CF
Home page	7F 08 99 A2 B3 C4 02 FF 01 1C CF	7F 09 99 A2 B3 C4 02 FF 01 1C 01 CF
Return (exit)	7F 08 99 A2 B3 C4 02 FF 01 1D CF	7F 09 99 A2 B3 C4 02 FF 01 1D 01 CF
OK	7F 08 99 A2 B3 C4 02 FF 01 2B CF	7F 09 99 A2 B3 C4 02 FF 01 2B 01 CF
←	7F 08 99 A2 B3 C4 02 FF 01 2C CF	7F 09 99 A2 B3 C4 02 FF 01 2C 01 CF
→	7F 08 99 A2 B3 C4 02 FF 01 2D CF	7F 09 99 A2 B3 C4 02 FF 01 2D 01 CF
↑	7F 08 99 A2 B3 C4 02 FF 01 2E CF	7F 09 99 A2 B3 C4 02 FF 01 2E 01 CF
↓	7F 08 99 A2 B3 C4 02 FF 01 2F CF	7F 09 99 A2 B3 C4 02 FF 01 2F 01 CF
Set volume	7F 08 99 A2 B3 C4 02 FF 05 XX CF	7F 09 99 A2 B3 C4 02 FF 05 XX 01 CF Note: XX indicates the value of volume (0-100), corresponding to the hexadecimal number system (00- 64).
Query the firmware version number	7F 08 99 A2 B3 C4 02 FF 01 3D CF	7F 09 99 A2 B3 C4 02 FF 01 3D XX CF Note: XX indicates version (e.g.:V1.0.63-20240515113904)
Set display mode	7F 08 99 A2 B3 C4 02 FF 06 XX CF	7F 09 99 A2 B3 C4 02 FF 06 XX 01 CF Note: XX indicates the mode. 00-Standard; 01-ECO mode; 02-Custom; 03-Auto.
Set picture mode	7F 08 99 A2 B3 C4 02 FF 07 XX CF	7F 09 99 A2 B3 C4 02 FF 07 XX 01 CF Note: XX indicates the mode. 00-Standard; 01-Soft; 02-Movie; 03-Conference.
Increase backlight brightness	7F 08 99 A2 B3 C4 02 FF 01 47 CF	7F 09 99 A2 B3 C4 02 FF 01 47 01 CF

Function	Controlling codes	Return codes
Decrease backlight brightness	7F 08 99 A2 B3 C4 02 FF 01 48 CF	7F 09 99 A2 B3 C4 02 FF 01 48 01 CF
Set the value of backlight brightness	7F 08 99 A2 B3 C4 02 FF 09 XX CF	7F 09 99 A2 B3 C4 02 FF 09 XX 01 CF
Switch backlight	7F 08 99 A2 B3 C4 02 FF 01 15 CF	7F 09 99 A2 B3 C4 02 FF 01 15 XX CF
Settings	7F 08 99 A2 B3 C4 02 FF 01 20 CF	7F 09 99 A2 B3 C4 02 FF 01 20 01 CF
Mute On	7F 09 99 A2 B3 C4 02 FF 0F 00 CF	7F 09 99 A2 B3 C4 02 FF 0F 00 01 CF
Mute Off	7F 09 99 A2 B3 C4 02 FF 0F 01 CF	7F 09 99 A2 B3 C4 02 FF 0F 01 01 CF
Switch Backlight On	7F 09 99 A2 B3 C4 02 FF 0E 01 CF	7F 09 99 A2 B3 C4 02 FF 0E 01 01 CF
Switch Backlight Off	7F 09 99 A2 B3 C4 02 FF 0E 00 CF	7F 09 99 A2 B3 C4 02 FF 0E 00 01 CF
Set Display message on the OSD	7F 09 99 A2 B3 C4 02 FF 1A XX CF	7F 09 99 A2 B3 C4 02 FF 1A 00 XX CF NOTE: XX indicates the value of text content up to 50 characters. XX = 01 indicates set OSD OK. XX = 00 indicates set OSD failed.
Activate Newline cast	7F 08 99 A2 B3 C4 02 FF 00 0D CF	7F 09 99 A2 B3 C4 02 FF 00 0D 01 CF
Close Newline cast	7F 08 99 A2 B3 C4 02 FF 01 0D CF	7F 09 99 A2 B3 C4 02 FF 01 0D 01 CF
Activate Newline broadcast	7F 08 99 A2 B3 C4 02 FF 00 0F CF	7F 09 99 A2 B3 C4 02 FF 00 1F 01 CF
Close Newline broadcast	7F 08 99 A2 B3 C4 02 FF 01 0F CF	7F 09 99 A2 B3 C4 02 FF 01 1F 01 CF

Function	Querying codes	Return codes
Power supply	7F 08 99 A2 B3 C4 02 FF 01 37 CF	7F 09 99 A2 B3 C4 02 FF 01 37 XX CF Notes: XX indicates the power on/off state. XX = 01: power on state; XX = 00: power off state.
Speaker	7F 08 99 A2 B3 C4 02 FF 01 82 CF	7F 09 99 A2 B3 C4 02 FF 01 82 XX CF Notes: 01: mute; 00: non-mute.

Function	Querying codes	Return codes
Current signal source	7F 08 99 A2 B3 C4 02 FF 01 50 CF	7F 09 99 A2 B3 C4 02 FF 01 50 XX CF Notes: HDMI 1 = 19 HDMI 2 = 1F Type-C = 18
Speaker volume	7F 08 99 A2 B3 C4 02 FF 01 33 CF	7F 09 99 A2 B3 C4 02 FF 01 33 XX CF Notes: XX indicates current volume value (XX is a hexadecimal value, range: 00~64). For example, XX = 20 indicates current volume value is 32 (decimal value), XX = 00 indicates mute state.
D.Mode	7F 08 99 A2 B3 C4 02 FF 01 35 CF	7F 09 99 A2 B3 C4 02 FF 01 35 XX CF Notes: XX indicates the mode. XX = 00-standard; XX = 01-ECO mode; XX = 02-custom; XX = 03-auto.
Picture mode	7F 08 99 A2 B3 C4 02 FF 01 36 CF	7F 09 99 A2 B3 C4 02 FF 01 36 XX CF Notes: XX indicates the mode. 00-Standard; 01-Soft; 02-Movie; 03-Conference.
Backlight brightness	7F 08 99 A2 B3 C4 02 FF 01 49 CF	7F 09 99 A2 B3 C4 02 FF 01 49 XX CF Notes: XX indicates the value of backlight brightness (1 - 100), corresponding to the hexadecimal number system (01 - 64).
Backlight status	7F 08 99 A2 B3 C4 02 FF 01 81 CF	7F 09 99 A2 B3 C4 02 FF 01 81 XX CF Notes: XX = 00 indicates the backlight is on. XX = 01 indicates the backlight is off.
Sleep Mode Status	7F 08 99 A2 B3 C4 02 FF 01 45 CF	7F 09 99 A2 B3 C4 02 FF 01 45 XX CF Notes: XX indicates the sleep wake up/sleep state. • XX = 01: Sleep Mode Off state • XX = 00: Sleep Mode On state

Function	Querying codes	Return codes
Return to system state of the previous options	7F 08 99 A2 B3 C4 02 FF 0A 00 CF	7F 08 99 A2 B3 C4 02 FF 0A 00 AB CD EF GH IJ OP QR ST UV CF Notes: AB: Power supply; CD: Speaker; EF: Current signal source; GH: Speaker volume; IJ: D.Mode; OP: Backlight brightness; QR: Backlight state.

7 Maintenance

7.1 Precautions

- Before maintenance, the power supply must be shut off to prevent electric shock and injury, and avoid short circuit of the live parts of the PCB board against the metal frame.
- Please pay attention to protect the LED display surface when using the front maintenance tools, and do not damage the module surface.
- Please pay attention to anti-static measures when using the front maintenance tools, and wear anti-static gloves to prevent static damage to LED.
- Pay attention to take out the module vertically to avoid damage and falling of LED lamp due to collision with edge of adjacent module.

7.2 LED Display Cleaning

During use, dust or other stains may adhere to the surface of the display. The cleaning steps of the product are as follows:

Step 1: Turn off the power of the display.

Step 2: Confirm the dirty place of the display.

Step 3: Use the dry soft cloth to wipe the dirty area and use the air gun to blow the clean place at the same time.

📖 Notes

- Do not use industrial grease cleaning agents or hard bristles during the cleaning process.
- Take anti-static measures to prevent static electricity from damaging the lamp beads.
- Pay attention to keeping the wiping direction consistent.

7.3 Common Fault Analysis

Fault	Analysis	Solution
Blank screen	Signal cable poor contact.	Check whether the signal cable connection or the signal cable are in good condition.
	Power cable poor contact.	Check if the power cord connection is normal.
No video signal output after connecting HDMI cable	Signal source mismatch	Check if the signal source channels match and match the signal source.
	HDMI cable damaged	Check for poor contact and correct direction of the HDMI cable, and replace the HDMI cable.

8 Transportation and Delivery

8.1 Transportation

Packed products are suitable for air freight, shipment, and inland transport. It is not allowed to be loaded in an open cabin or compartment during long-distance transportation and shall not be stored in the open warehouse during midway transportation. It is not allowed to ship with inflammable, explosive, and corrosive articles in the same vehicle (or other means of transportation) during transportation, and it is necessary to protect the products from rain, snow or other liquid substances and mechanical damage.

8.2 Storage

During storage, the products shall be stored in the original packing box. The environmental temperature of the warehouse where the products are stored is -10 ℃ ~ 45 ℃ , the relative humidity is < 60%RH with no condensation. No hazardous gases, inflammable and explosive products and corrosive chemicals are allowed in the warehouse, and there is no strong mechanical vibration, impact, or magnetic field.

Note: Risk of damage to the device!

- Attention should be paid to extreme changes in temperature when transporting the box in cold weather. In this case, make sure there is no droplets (condensation) on or inside the device. If condensation on the device, Before turning on the device, contact customer service personnel to guide related operations, and ventilate and dry it. Do not power on without authorization.
- Keep the storage environment ventilated if the box is wet. After the box is dry, put it back in the original packing box for storage.
- Unpack and inspect the deliveries.

9 Warranty

1.The warranty of the product is subject to the contract signed by both parties.

2.Product failures caused by the following conditions are not covered by the warranty:

- Exceeding the effective warranty period and coverage; the warranty is inconsistent, altered, or lost.
- Any damage or changes of warranty caused by force majeure.
- Excessive product loss or malfunction due to unsuitable environment of use.
- Other failures caused by reasons other than normal loss (normal loss refers to the loss of the product itself, parts, and software systems, etc. that occur under the premise of this document).

3.Newline shall not be responsible for any personal, property, or other losses caused by failure to comply with the contents of this document, including but not limited to guidance, steps, specifications, warnings, etc.

10 Recycling of Discarded Goods

Improper disposal of product waste may harm personal safety or damage the natural environment. It is recommended that consumers comply with local safety and environmental regulations and hand over the product to a local distributor or qualified waste recycling department for disposal when it is abandoned, in order to avoid environmental pollution and improve the material recycling rate.

For More Information

Please visit our website (https://newline-interactive.com) and select your regional website.

newline-interactive.com

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