

FHDC135

All in one LED display



User manual

2025.01
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TABLE OF CONTENTS

Dear Customer	3
Use Precautions of AIO Products	3
SAFETY	4
Safety Instructions	4
Copyright.....	5
Disclaimer	5
FCC Statement	5
FCC Warning	5
Declaration of Conformity for EU Countries.....	6
WEEE	6
Eye Health	6
INTRODUCTION	7
Product Overview.....	7
Remote Control.....	8
Interface Specifications	9
Electrical	10
BASIC OPERATIONS	11
Home Screen Overview	11
OSD Menu	12
Settings	16
Apps.....	24
Additional Information.....	27
Supported Timing List	27
RS232 Protocol Function List.....	28
Optoma Global Offices	31

Dear Customer

Please read this manual carefully before making any adjustments and retain it for future reference.

Pictures in the manual are for reference only. If any details in this document are unclear, please contact your local representative

Use Precautions of AIO Products

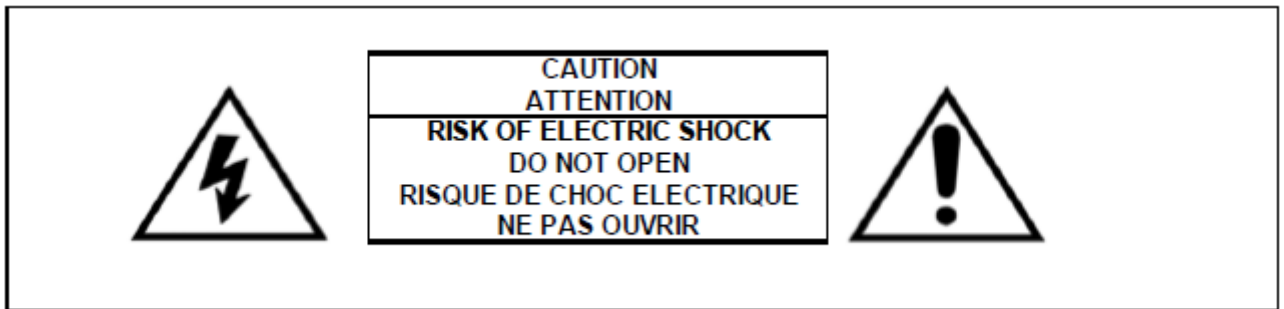
The interior design of AIO LED display screen is very sophisticated, and has no dustproof/waterproof capability. Please follow the precautions during installation and use.

- Screen storage/working environment requirements
 - Storage temperature : -20~40°C ; Relative humidity : 10%~65%;
 - Working temperature : 0~40°C ; Relative humidity : 10%~80%.
- Installation requirements
 - The installation area of LED display screen is strictly prohibited from leaking or under the air conditioner outlet to avoid damage of LED devices and oxidation of circuit board caused by moisture or condensation. The installation environment humidity must be less than 60% (non-condensation state). It is recommended to install a dehumidifier in the environment to control the humidity.
 - Do not place this screen in these environments as the screen could be susceptible to the following: Metal Dust (which could cause damage to the screen and circuit boards), excessive dust and or dusty conditions (which could affect the screen performance).
- Cleaning requirements
 - During the use of the screen, if there is any accumulation of dust on the surface, it is necessary to use anti-static soft bristle brush or dust-free cloth to clean the screen. Please be careful in the cleaning process to avoid bumping and damaging the LED. Do not use a damp cloth to scrub the screen.

SAFETY

Please follow all warnings, precautions and maintenance as recommended in this user manual.

Safety Instructions



- Always ensure that the unit is properly earthed and power connections are secured correctly.
- Only use attachments/accessories specified by the manufacturer.
- Do not block any ventilation openings. To ensure reliable operation of the device and to protect from overheating, it is recommended to install the device in a location that does not block ventilation. Do not put the device in an enclosure such as a book case or a cabinet that restricts air flow.
- Do not use the device near water or moisture. To reduce the risk of fire and/or electric shock, do not expose the device to rain or moisture.
- Do not install near heat sources such as radiators, heaters, stoves or any other apparatus, such as amplifiers, that emits heat.
- Do not let objects or liquids enter the device. They may touch dangerous voltage ports or short out parts that could result in fire or electric shock.
- Do not place the device on an unstable surface. The device may fall over, resulting in injury or damage to the device.
- Do not setup the device in places where it might be subject to vibration or shock.
- Do not use any hard or sharp object to operate the screen.
- Do not use the device if it has been physically damaged or abused. Physical damage/abuse would be (but not limited to):
 - The device has been dropped.
 - Power supply cord or plug has been damaged.
 - Liquid has been spilled on to the device.
 - The device has been exposed to rain or moisture.
 - Something has fallen in the device or something is loose inside.
- Do not attempt to service the device yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Please call Optoma before you send the device for repair.
- Disconnect the power plug from AC outlet if the device is not being used for a long period of time.
- Remove the batteries from the remote control before storage. If the batteries are left in the remote for long periods, they may leak.
- Turn off and unplug the power plug from the AC outlet before cleaning the device.
- Use a soft dry cloth with mild detergent to clean the display housing. Do not use abrasive cleaners, waxes or solvents to clean the device.
- See the device enclosure for safety related markings.
- The device should only be repaired by appropriate service personnel.

Copyright

This publication, including all photographs, illustrations and software, is protected under international copyright laws, with all rights reserved. Neither this manual, nor any of the material contained herein, may be reproduced without written consent of the author.

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Disclaimer

The information in this document is subject to change without notice. The manufacturer makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. The manufacturer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of the manufacturer to notify any person of such revision or changes.

FCC Statement

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.

FCC Warning

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.

Notice: Canadian users

This Class A digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-003 (B).

Remarque à l'intention des utilisateurs canadiens

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Declaration of Conformity for EU Countries

- EMC Directive 2014/30/EU (Including amendments)
- Low Voltage Directive 2014/35/EU

WEEE



Disposal instructions

Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle it.

Eye Health

Calculating Breaks

It is recommended to take a 10-minute break every hour of continuous screen use.

Note: *Remember to blink your eyes often to keep them healthy and avoid dryness.*

Looking at Distant Objects

During the break look at distant objects or close your eyes. This helps to relax your ciliary (focusing) muscle and avoids eye strain.

How to Exercise Your Eyes?

1. Hold your pointer finger a few inches away from your eye.
2. Focus on your finger.
3. Slowly move your finger away from your face, holding your focus.
4. Look away for a moment, into the distance.
5. Focus on your outstretched finger and slowly bring it back toward your eye.

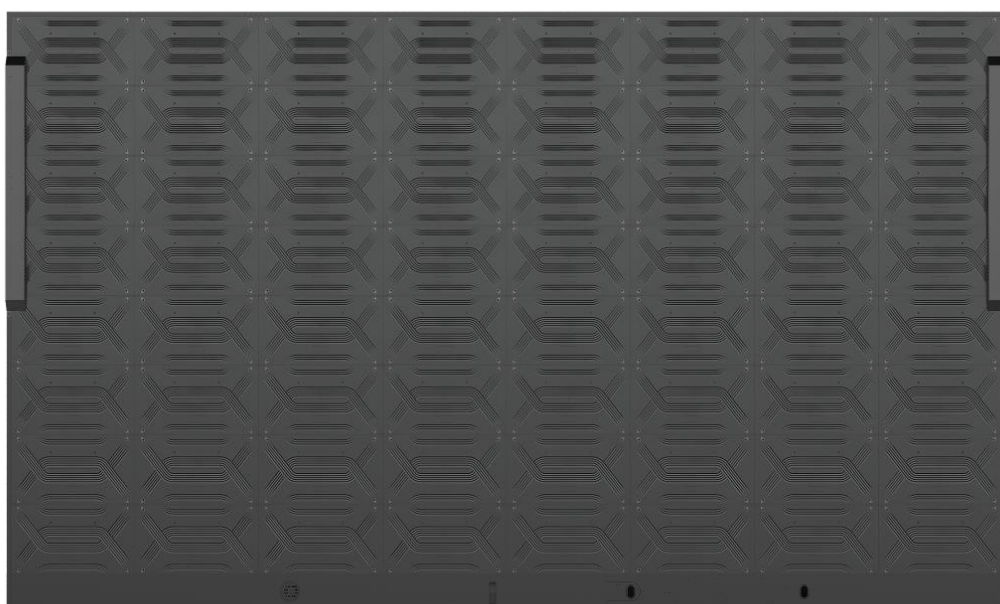
INTRODUCTION

Product Overview

Front View

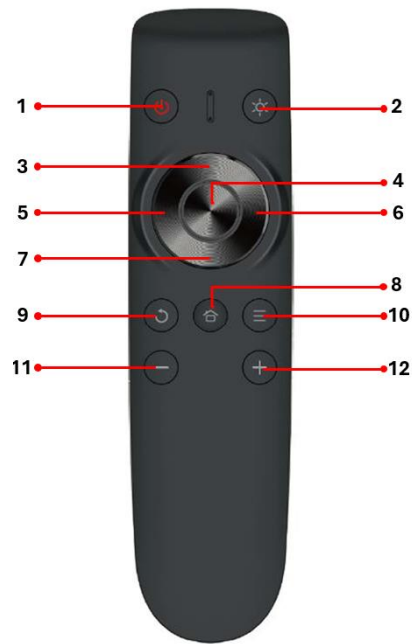


Rear View



INTRODUCTION

Remote Control



ID	Button	Description
1	Power button	Power button to turn on/off the unit
2	Brightness	Brightness Adjustment
3	Up	Direction key Up
4	Enter	Confirm the selection in OSD
5	Left	Direction key Left
6	Right	Direction key Right
7	Down	Direction key Down
8	Home	Got to Main Interface
9	Back	Back to last page/step
10	Menu	On Screen Display (OSD) menu
11	Voice+	Voice volume down
12	Voice-	Voice volume up

*Battery spec: CR2025 Lithium Coin battery 3V

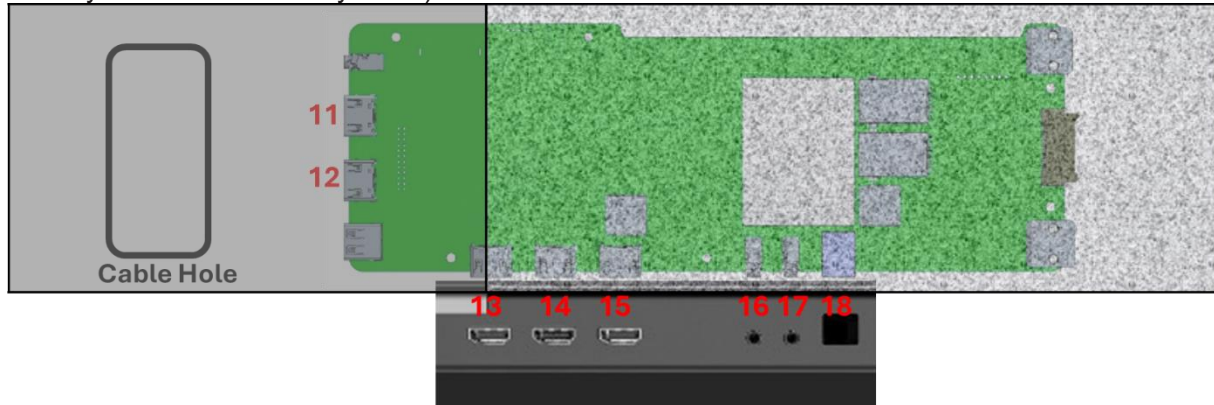
USING THE DEVICE

Interface Specifications

Right side of system box



Middle side of system box (Have to remove the cover. These two covers are magnetically attached to the case. It is easy to remove them by hand)



Item	Port	IN/OUT	SPEC and Function
1	Light Sensor	N/A	Light Sensor
2	IR Sensor	N/A	IR Sensor
3	USB (Type C)	IN	USB Type C (5V 1A)
4	USB (Type A)	IN	USB3.0 (5V 1A)
5	USB (Type A)	IN	USB3.0 (5V 1A)
6	Menu button	N/A	Including brightness, color temperature, contrast, sound, signal source and other sub-menus)
7	Brightness	N/A	1.When the menu is Not called up, it is the brightness adjustment button, and the + and - keys are used to adjust the brightness; 2.When the menu is called up, it is used as confirm button.)
8	Left/Down/Minus	N/A	1.In the brightness adjustment mode, it is the brightness reduction key; 2.When the Menu is called up, it is the left/down/minus key 3.The default is the volume down button
9	Right/Up/Add	N/A	1.In the brightness adjustment mode, it is the brightness increase key; 2.When the menu is called up, it is the right/up/Add key 3.The default is the volume up button
10	Power	N/A	Standby/Wake up button, dual-color indicator light(red/blue)
11	HDMI_1	IN	HDMI input 2.0
12	HDMI_2	IN	HDMI input 1.4
13	HDMI_3	IN	HDMI input 1.4 (facedown)
14	HDMI_4	IN	HDMI input 1.4(facedown)
15	HDMI_Loop	OUT	HDMI output (facedown)
16	Audio OUT	OUT	3.5mm audio output(facedown)
17	Audio IN	IN	3.5mm audio input(facedown)
18	USB (Type B)	OUT	USB out

BASIC OPERATIONS

Electrical

Electrical Characteristics for FHDC135							
At 100V AC Input				At 220V AC Input			
Parameter	Unit	Rating nom.	Max.	Parameter	Unit	Rating nom.	Max.
Input current	A	6.00	15.00	Input current	A	2.73	6.82
Input freq.	Hz	50 – 60	65	Input freq.	Hz	50 – 60	65
Power	VA	600	1500	Power	VA	600	1500

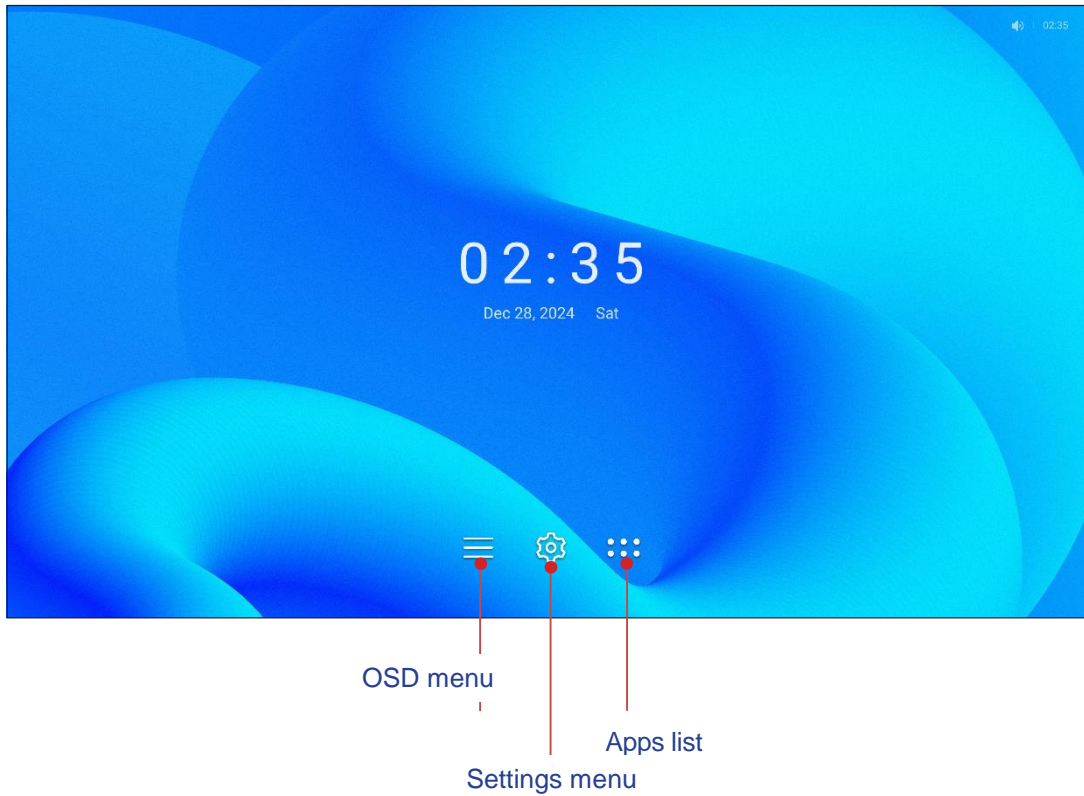
Circuit Protection

Each section of the screen should be protected by a Circuit Breaker to protect against high fault currents, and a Residual Current Device (RCD) to detect earth leakage currents

USING THE DEVICE

Home Screen Overview

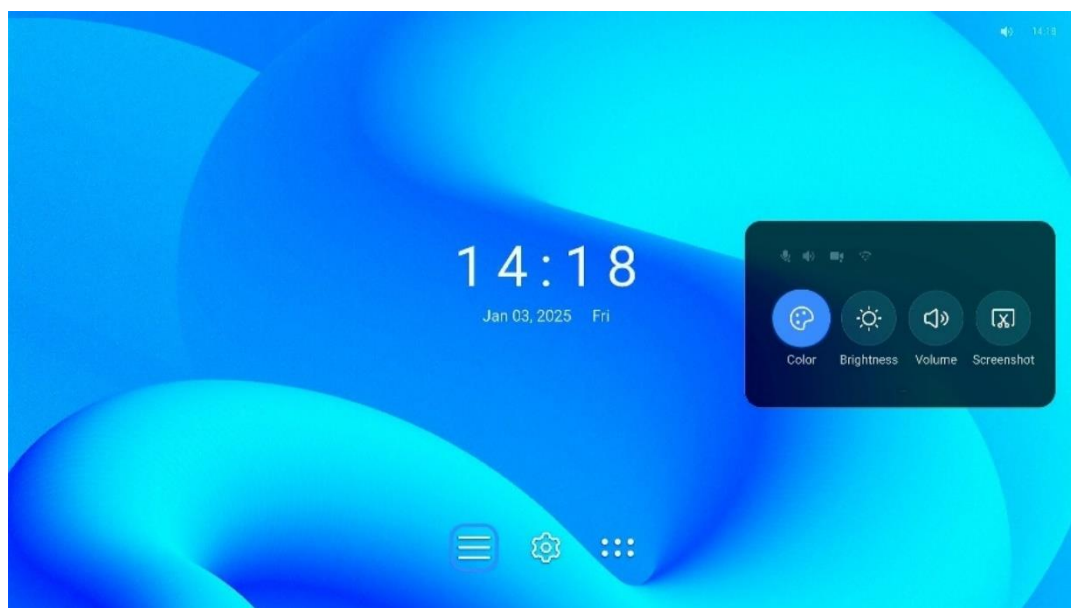
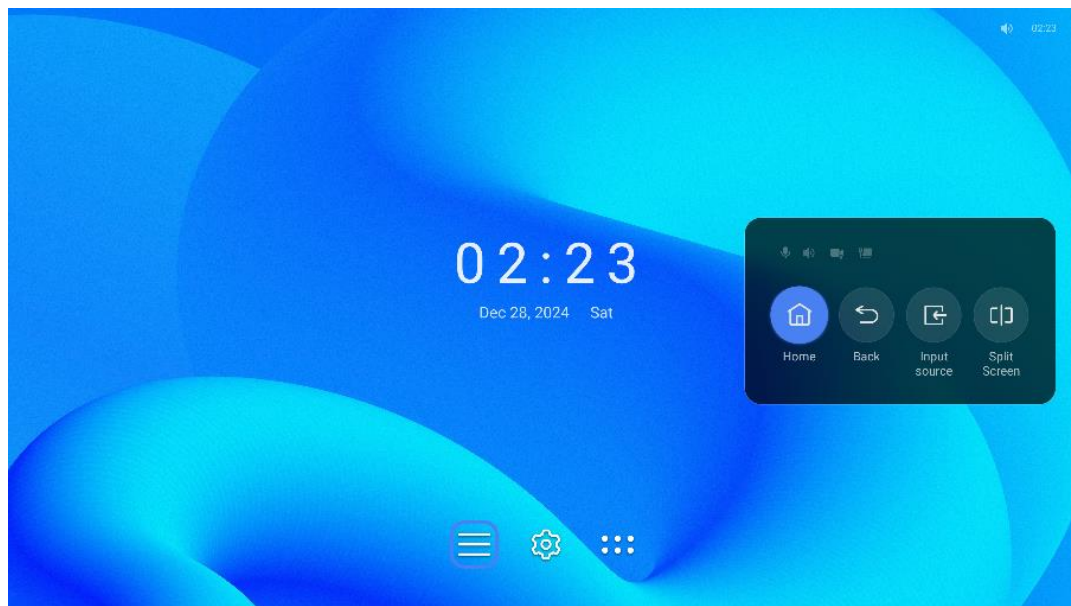
Home screen is displayed every time you start the device.



BASIC OPERATIONS

OSD Menu

To open the OSD menu, do any of the following by remote control.



Home

Back to Home screen

Back

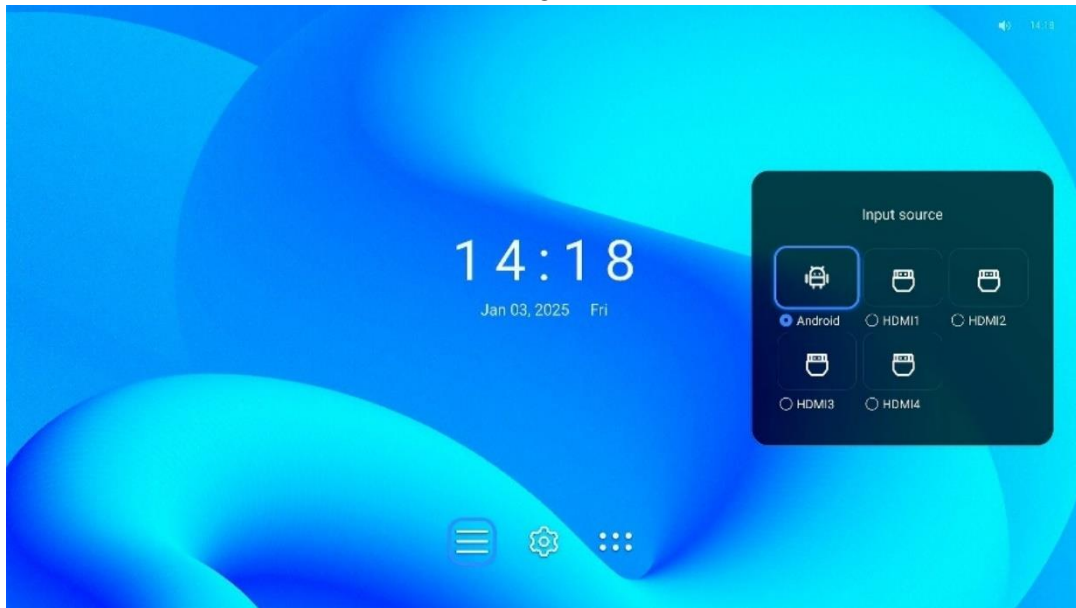
Back to previous application.

Input source

BASIC OPERATIONS

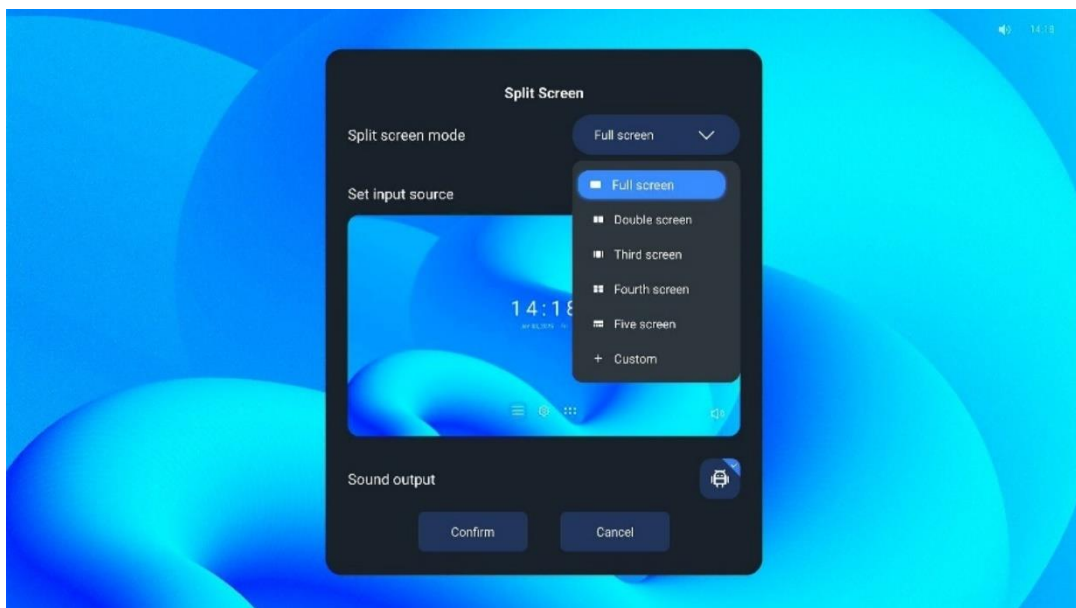
Change source (Android/HDMI1/HDMI2/HDMI3/HDMI4)

8



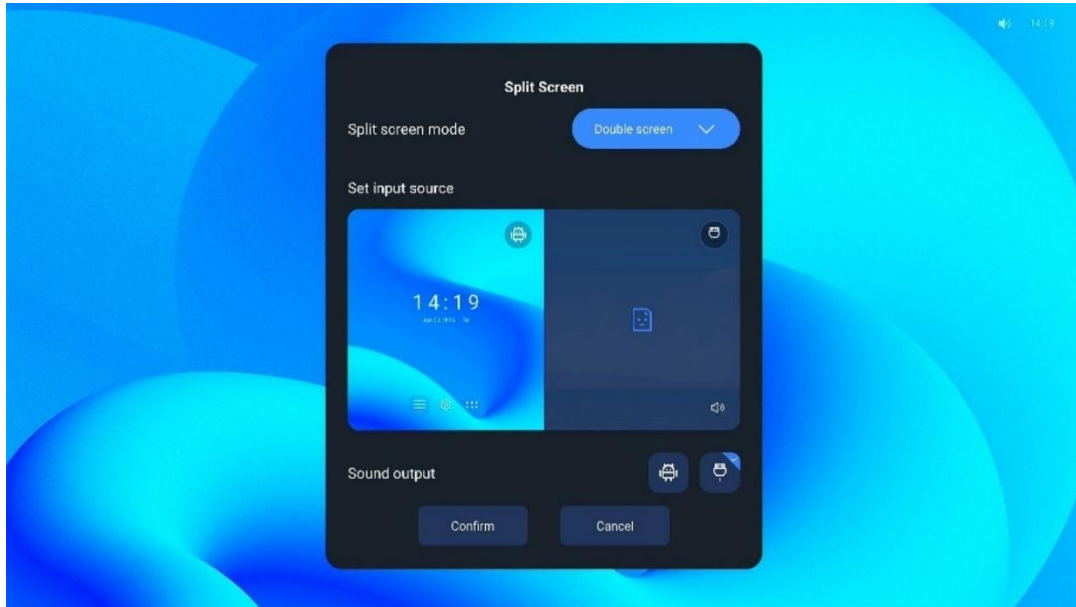
Split Screen

There are six modes: Full screen / Double screen/ Third screen/ Fourth screen/ Five screen / Custom



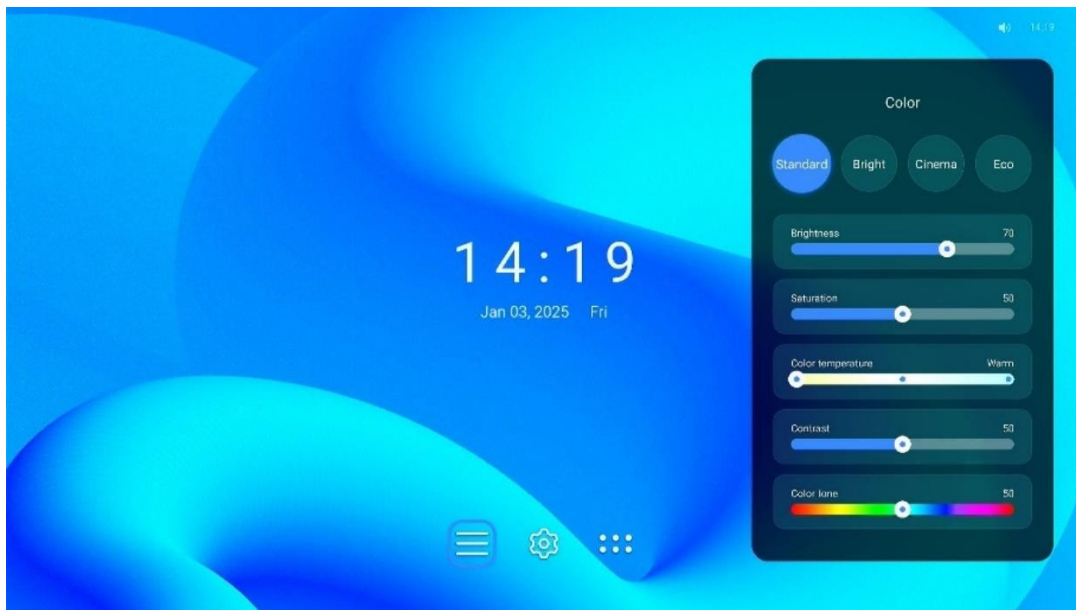
Choose the mode and set input source for each screen

BASIC OPERATIONS



Color

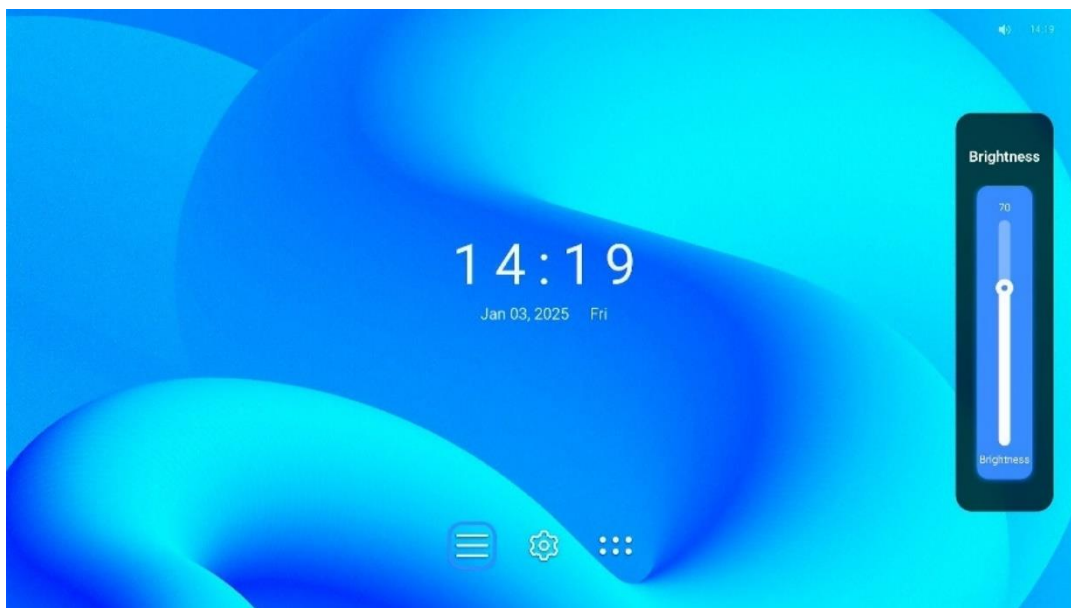
Change the color mode (Standard/Bright/Cinema/Eco)



Brightness

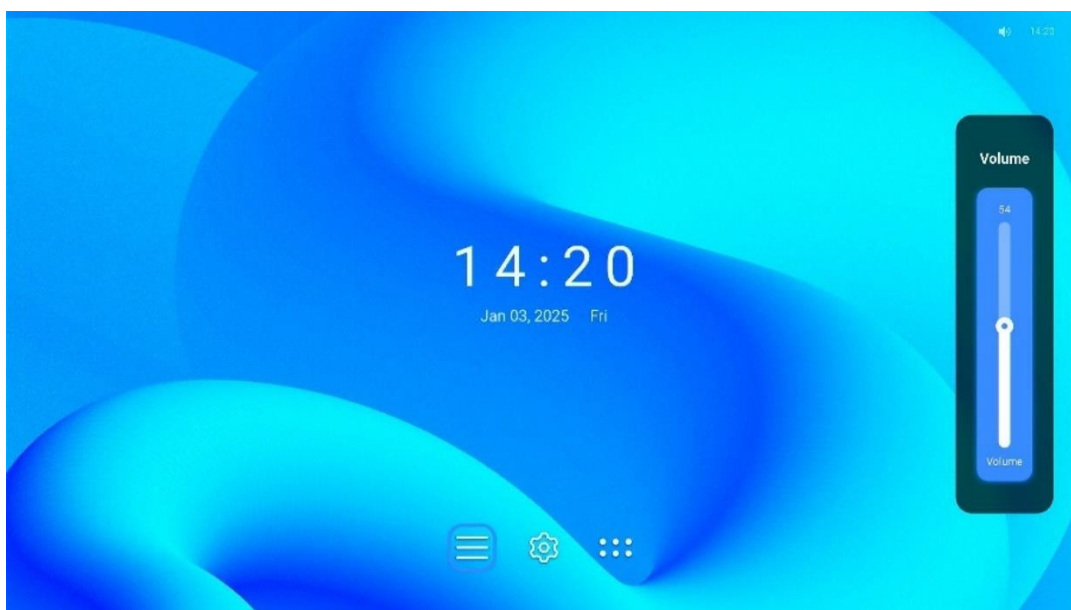
BASIC OPERATIONS

Adjust brightness. Use UP/Down key to adjust.



Volume

Adjust volume. Use UP/Down key to adjust.



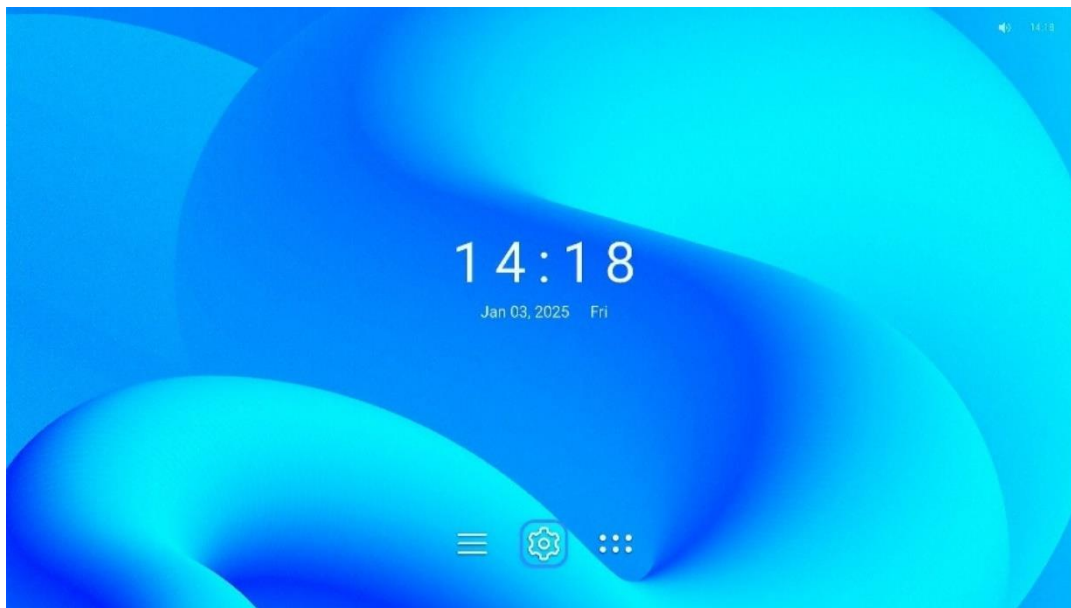
Screenshot

Capture the screen.

BASIC OPERATIONS

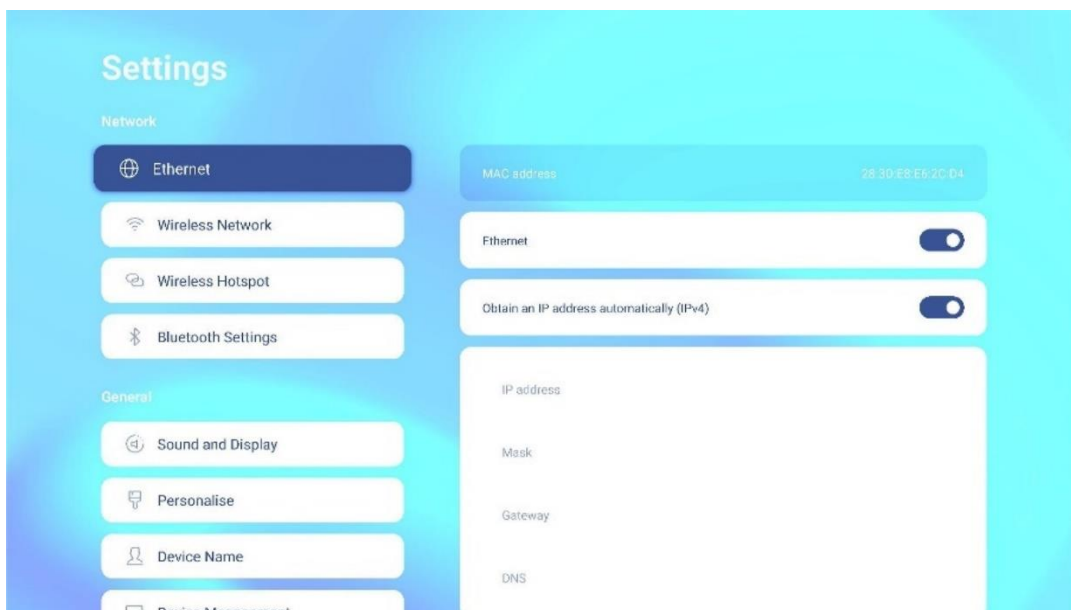
Settings

To open the Settings menu, choose the Settings icon by remote control.



Ethernet

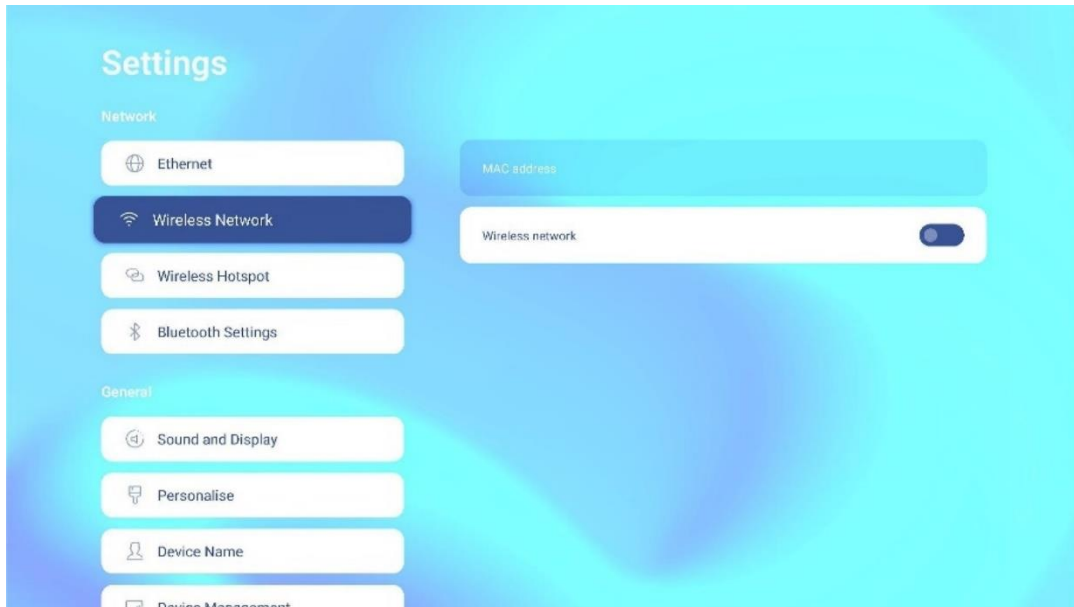
Enable/disable Ethernet network



BASIC OPERATIONS

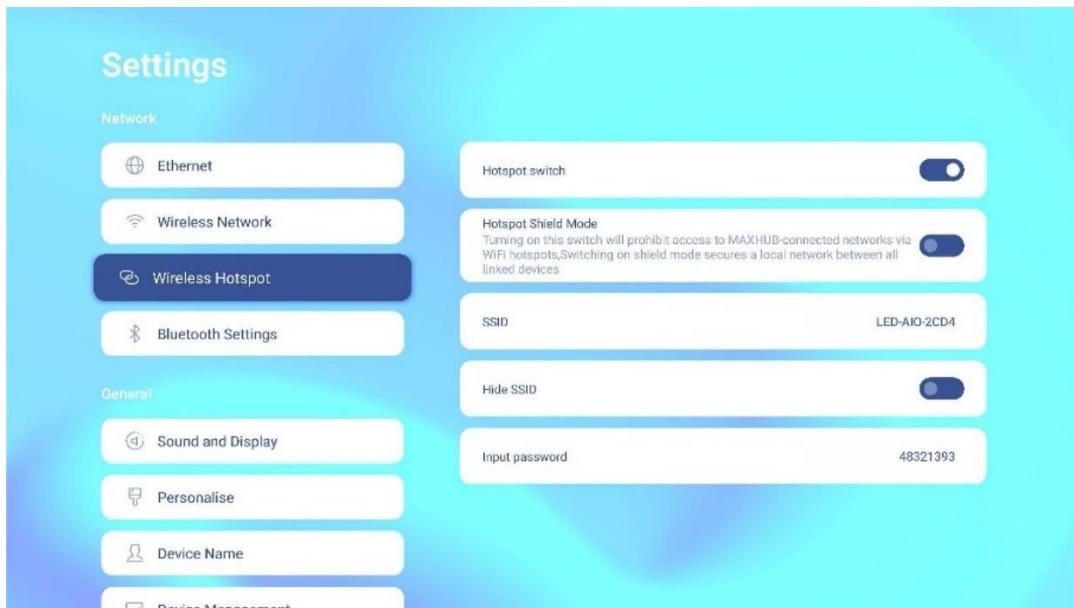
Wireless Network

Enable/disable wireless network



Wireless Hotspot

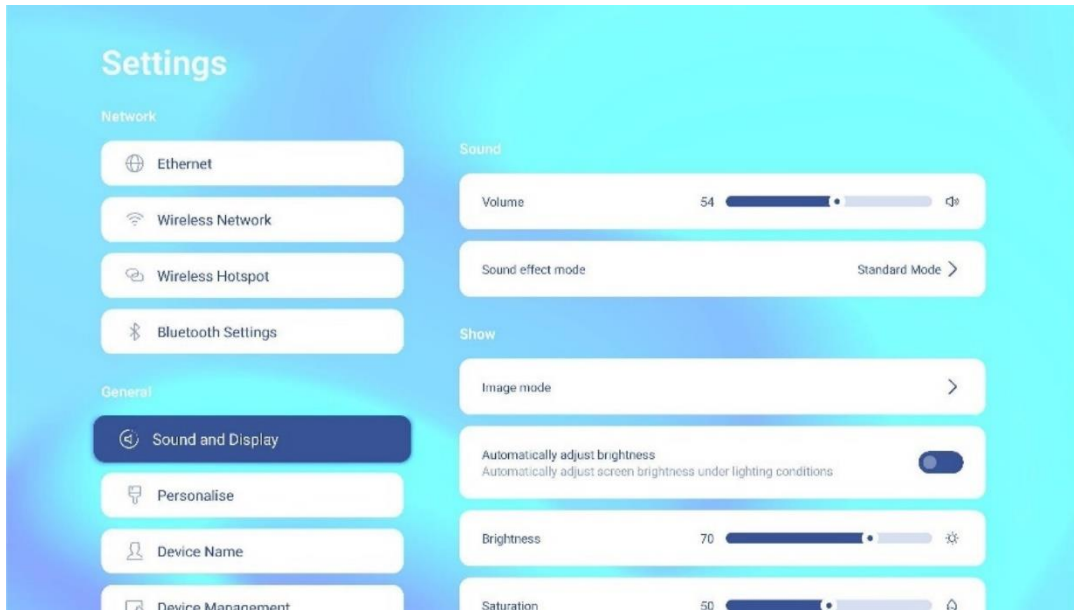
Set wireless hotspot



BASIC OPERATIONS

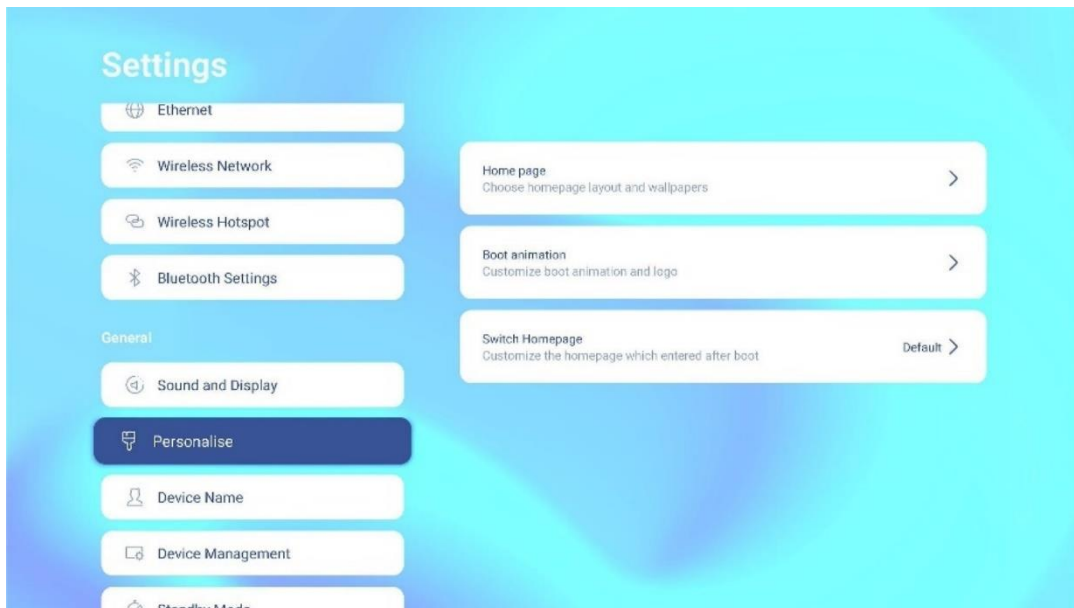
Sound and display

Adjust sound and image settings



Personalise

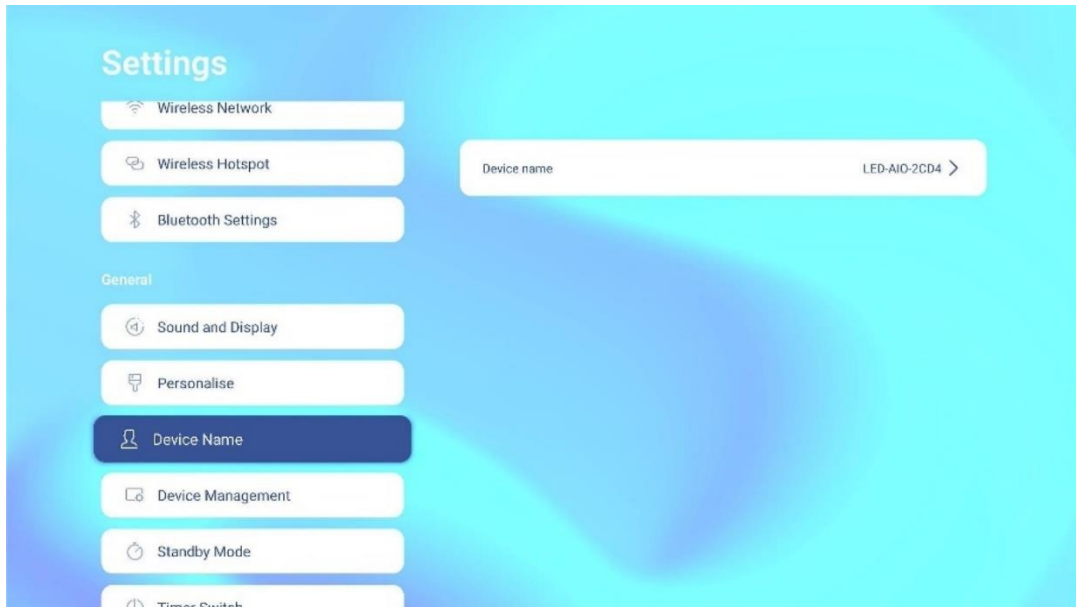
Set homepage layout/wallpaper/boot logo



BASIC OPERATIONS

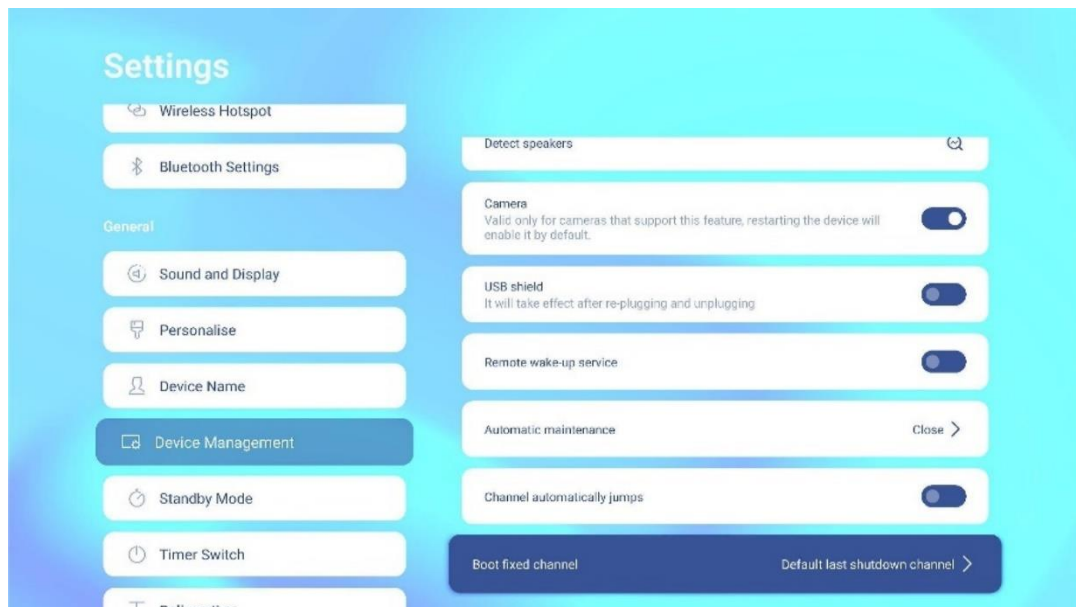
Device name

Set device name



Device management

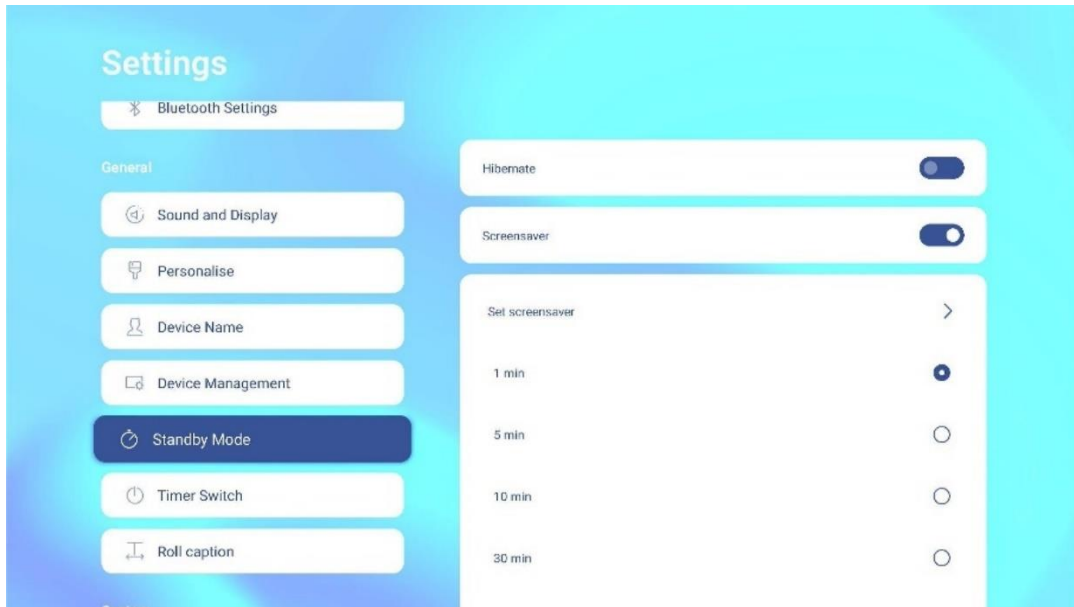
Device hardware setting: Speaker/Camera/USB shield/Remote wake-up service/
Automatic maintenance/Channel automatically jumps



BASIC OPERATIONS

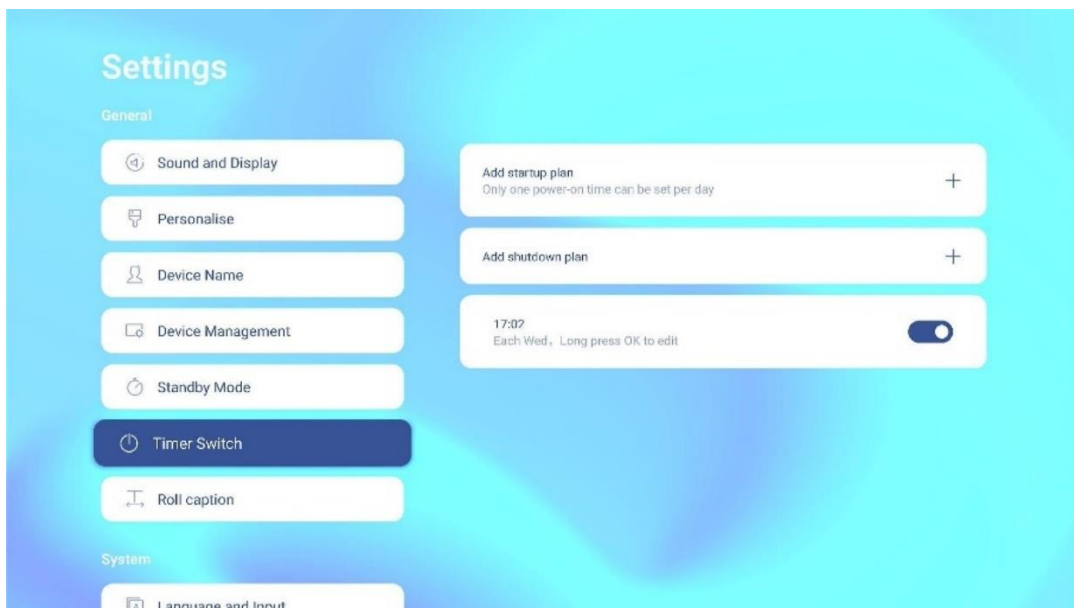
Standby mode

Set parameters of standby mode



Timer Switch

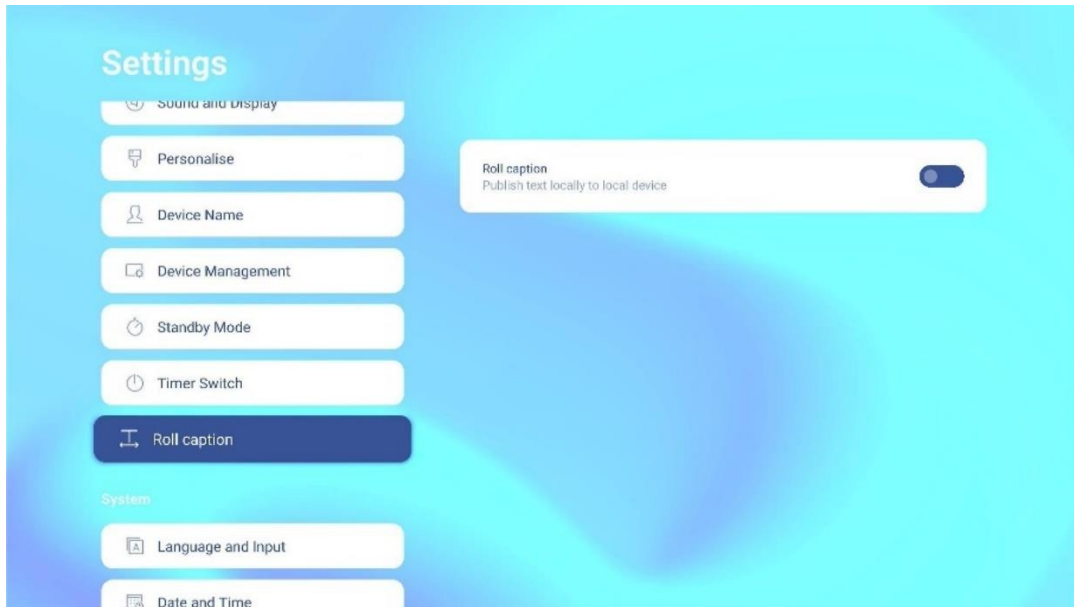
Set parameters of Timer Switch



BASIC OPERATIONS

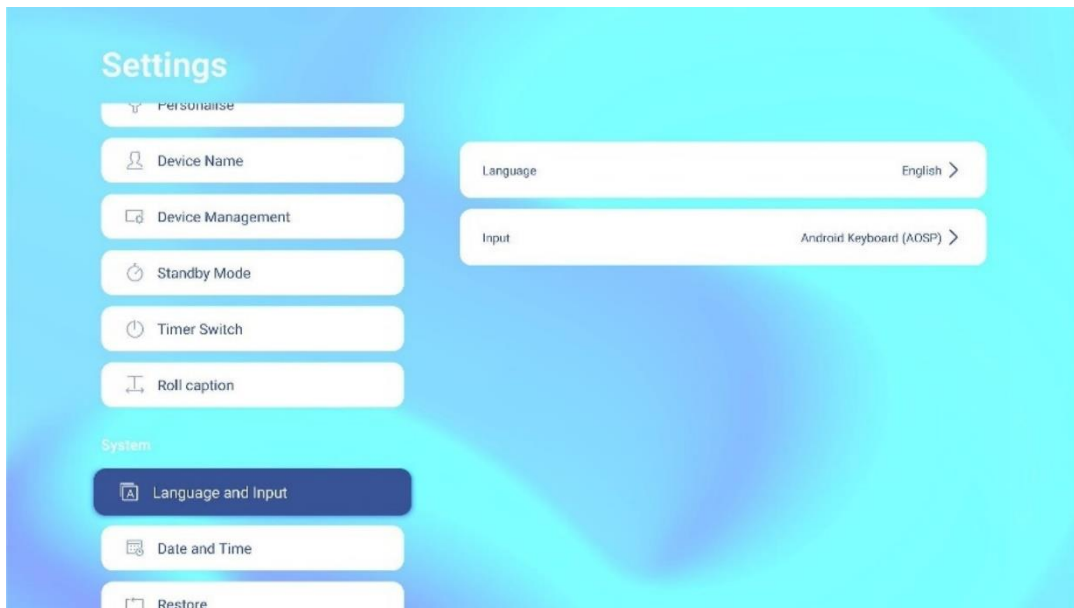
Roll caption

Enable/Disable Roll caption



Language and input

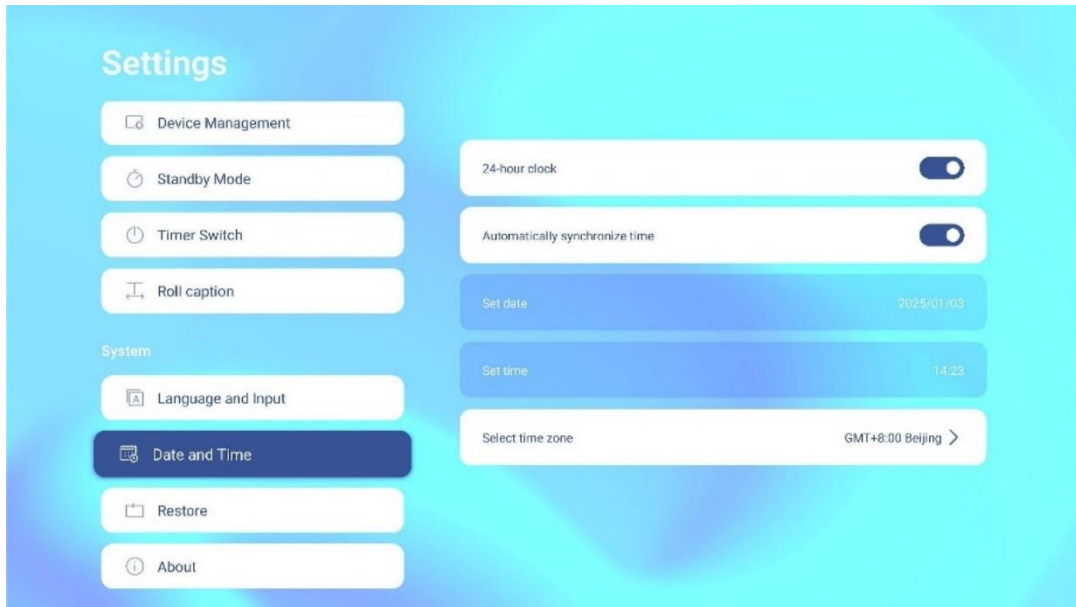
Change language (English/简体中文/繁體中文/ Español /French/Italian/日本語/한국어/ Русский) and input



BASIC OPERATIONS

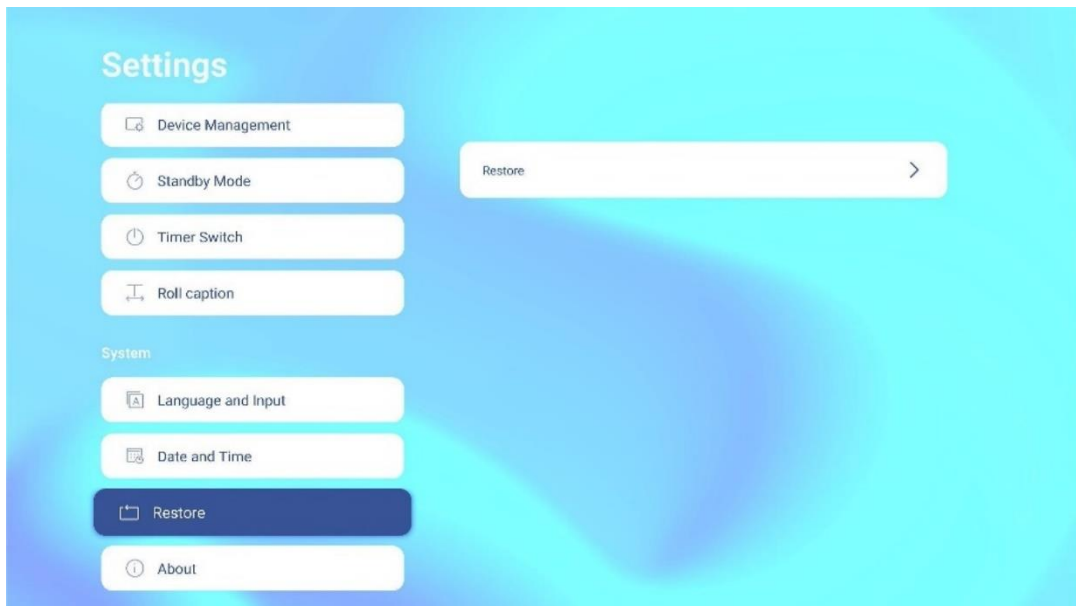
Date and Time

Set date and time



Restore

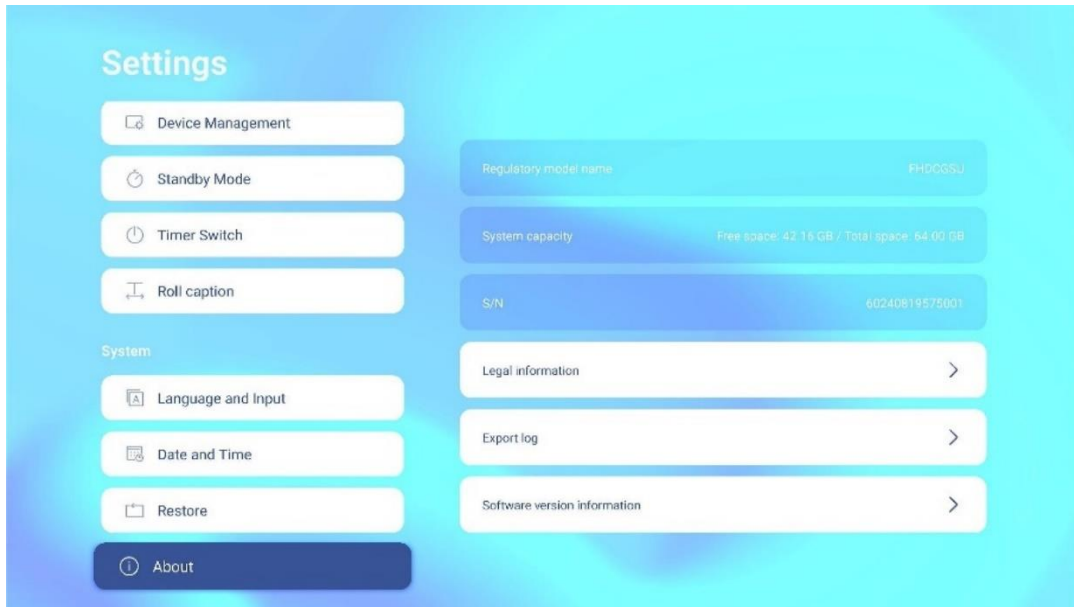
Restore the system



BASIC OPERATIONS

About

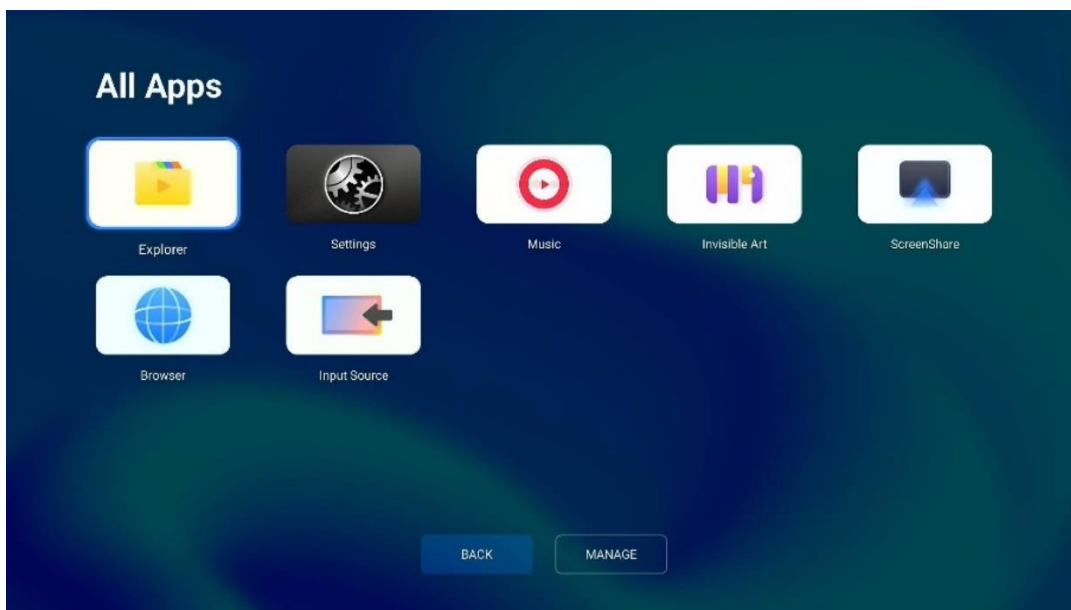
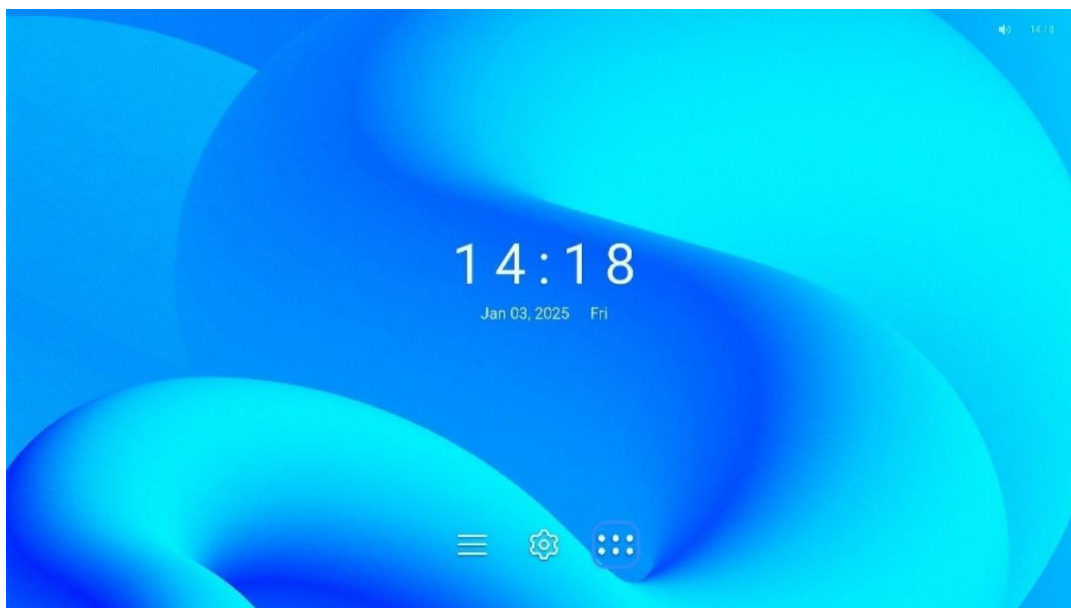
System information: Model name/Storage/SN



BASIC OPERATIONS

Apps

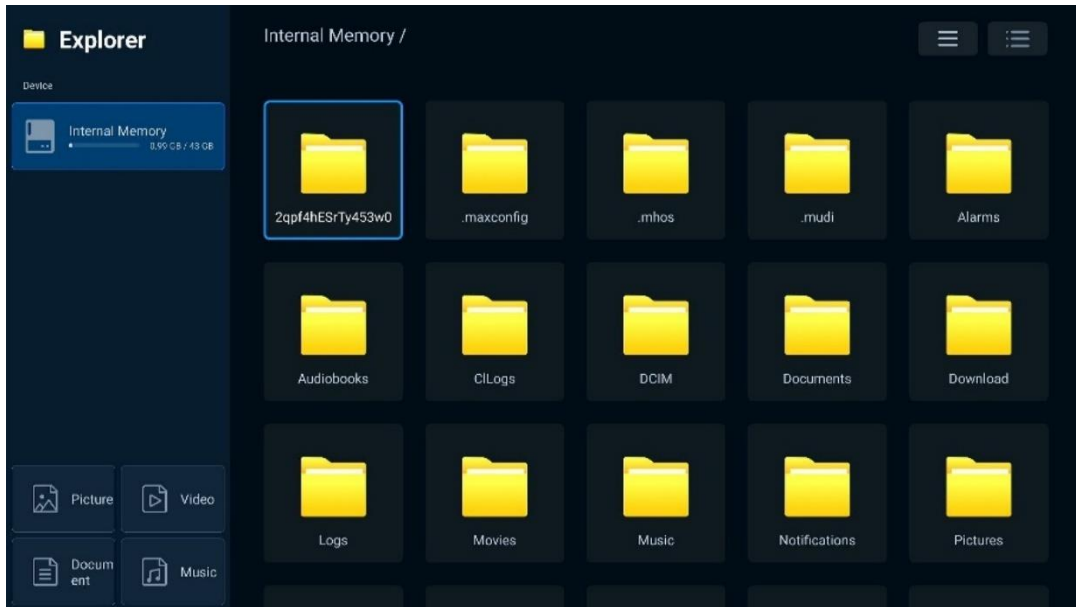
To open the Apps menu, choose the Apps icon by remote control.



BASIC OPERATIONS

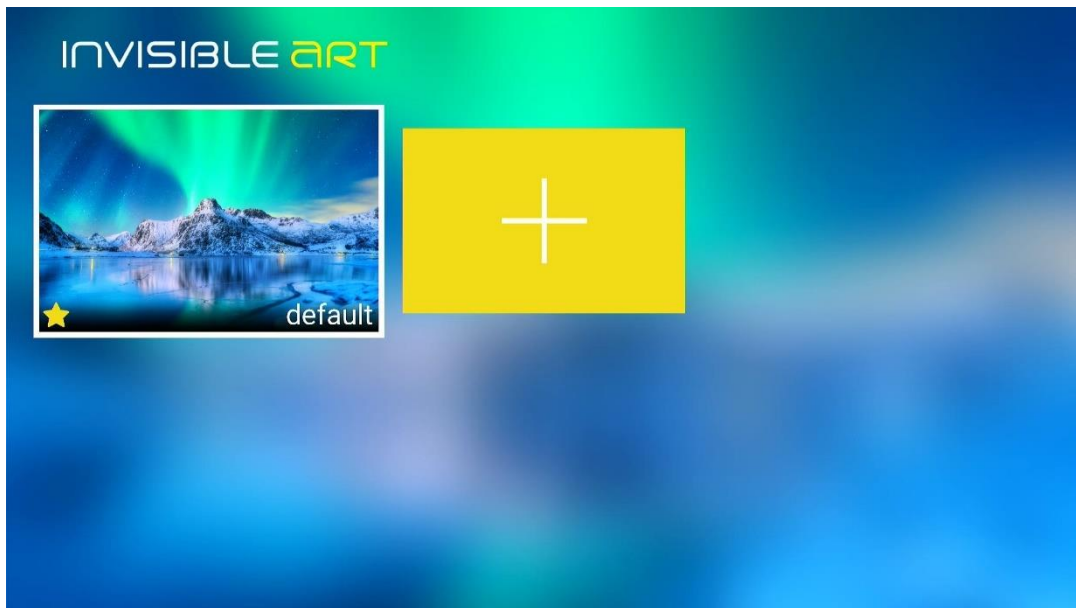
Explorer

Allow users to browse and operate files



Invisible Art

Custom lock screen content

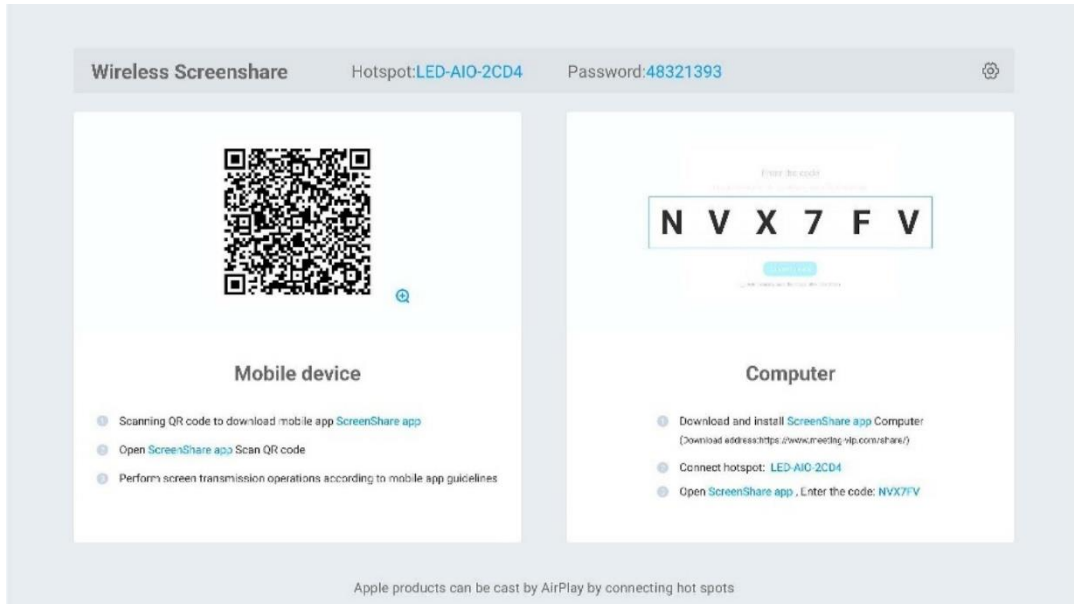


BASIC OPERATIONS

ScreenShare

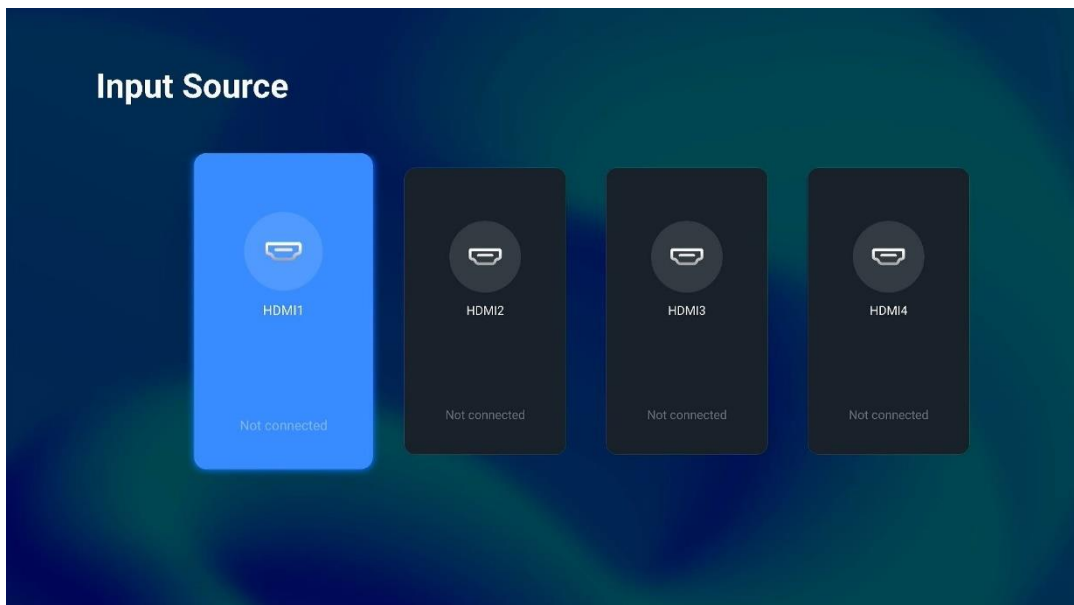
Mobile device:

1. For Android device, scan the QR code to download the mobile app.
2. Connect to display wireless hotspot
3. For Android device, find the [Screen Mirroring] module for screen mirroring in the app.
4. For Apple devices, use AirPlay for screen mirroring



Input Source

Change input



ADDITIONAL INFORMATION

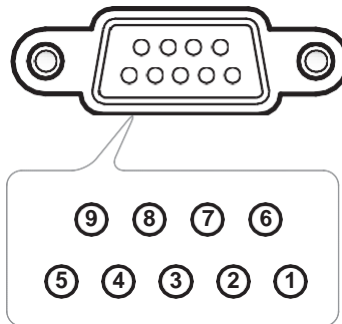
Supported Timing List

Format	Resolution	Frame Rate (Hz)	HMDI 1 (2.0)	HMDI 2 (1.4)	HMDI 3 (1.4)	HMDI 4 (1.4)
SVGA	VESA 800 x 600	50	V			
		59.94	V			
		60	V			
XGA	VESA 1024 x 768	50	V			
		59.94	V			
		60	V			
720p	1280 x 720	30	V			
		50	V			
		59.94	V			
		60	V			
WXGA	VESA 1280 x 800	50	V			
		59.94	V			
		60	V			
SXGA	VESA 1280 x 1024	50	V			
		59.94	V			
		60	V			
FWXGA	VESA 1366 x 768	50	V			
		59.94	V			
		60	V			
SXGA+	VESA 1400 x 1050	50	V			
		59.94	V			
		60	V			
WXGA+	VESA 1440 x 900	50	V			
		59.94	V			
		60	V			
UXGA	VESA 1600 x 1200	50	V			
		59.94	V			
		60	V			
1080i	1920 x 1080	50	V			
1080p		59.94	V			
		60	V			
		25	V	V	V	V
		30	V	V	V	V
		50	V		V	
		59.94	V		V	
		60	V		V	
UWFHD		2560x1080	50	V		
	59.94		V			
	60		V			
WQHD	2560x1440	50	V			
		59.94	V			
		60	V			
WQXGA	2560x1600	50	V			
		59.94	V			
		60	V			
4K UHD	3840x2160	30	V			
		50	V			
		59.94	V			
		60	V			

RS232 Protocol Function List

Note: DEVICE supports RS232 and RJ45 control command.

RS232 Pin Assignments



PIN No.	Spec (from display side)
1	N/A
2	TXD
3	RXD
4	N/A
5	GND
6	N/A
7	N/A
8	N/A

RS232 RJ45 Control Connection

RS232 Settings	
Baud Rate	9600
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

LAN Control Settings	
IP	Machine IP
Port	23

~	X	X	X	X	X	N	CR	
Lead Code	Device ID (where 01 indicates Device ID = 01)		Command ID			Space	Variable	Carriage return

ADDITIONAL INFORMATION

SET Command

Type	Category	Parameter	CMD		Hex Code CMD	Response	
						Success	Failed
SET	Gamma	2.2	~xx35	7	7E 30 30 33 35 20 37 0D	P	F
		2.4	~xx35	12	7E 30 30 33 35 20 31 32 0D	P	F
		2.8	~xx35	4	7E 30 30 33 35 20 34 0D	P	F
	Color Temperature	Warm(5500)	~xx36	1	7E 30 30 33 36 20 31 0D	P	F
		Standard(6500)	~xx36	2	7E 30 30 33 36 20 32 0D	P	F
		Cool(7500)	~xx36	2	7E 30 30 33 36 20 32 0D	P	F
	LED Brightness	1-100	~xx251	1-100	7E 30 30 32 35 31 20 31 0D to 7E 30 30 32 35 31 20 31 30 30 0D	P	F
	Power	Power off	~xx00	0		P	F
		Power on	~xx00	1		P	F
		Restart	~xx00	3		P	F
	Input Source	Android	~xx12	24	7E 30 30 31 32 20 32 34 0D	P	F
		HDMI1	~xx12	1	7E 30 30 31 32 20 31 0D	P	F
		HDMI2	~xx12	15	7E 30 30 31 32 20 31 35 0D	P	F
		HDMI3	~xx12	16	7E 30 30 31 32 20 31 36 0D	P	F
		HDMI4	~xx12	29	7E 30 30 31 32 20 32 39 0D	P	F
	Audio Mute	Off	~xx03	0	7E 30 30 30 33 20 30 0D	P	F
		On	~xx03	1	7E 30 30 30 33 20 31 0D	P	F
		Off	~xx03	2	7E 30 30 30 33 20 32 0D	P	F
	Audio Volume	0-100	~xx81	0~100	7E 30 30 38 31 20 30 0D to 7E 30 30 38 31 20 31 30 30 0D	P	F
	Broadcast Text	ReSync	~xx210	n: 1-30 characters	7E 30 30 32 31 30 20 6E 3A 0D		

GET Command




Type	Category	Parameter	CMD		Hex Code CMD	Response		
						Success	Failed	
GET	Color Temperature	Warm(5500)	~xx128	1	7E 30 30 31 32 31 20 31 0D	OK	3	F
		Standard(6500)	~xx128	1	7E 30 30 31 32 31 20 31 0D	OK	0	F
		Cool(7500)	~xx128	1	7E 30 30 31 32 31 20 31 0D	OK	1	F
	LED Brightness	1-100	~xx125	1	7E 30 30 31 32 35 20 31 0D	OK	1~100	F
	Power	Power off	~xx124	1	7E 30 30 31 32 34 20 31 0D	OK	0	F
		Power on	~xx124	1	7E 30 30 31 32 34 20 31 0D	OK	1	F
	Input Source	Android	~xx121	1	7E 30 30 31 32 31 20 31 0D	OK	20	F
		HDMI1	~xx121	1	7E 30 30 31 32 31 20 31 0D	OK	7	F
		HDMI2	~xx121	1	7E 30 30 31 32 31 20 31 0D	OK	8	F
		HDMI3	~xx121	1	7E 30 30 31 32 31 20 31 0D	OK	9	F
		HDMI4	~xx121	1	7E 30 30 31 32 31 20 31 0D	OK	25	F
	Audio Mute	Off	~xx356	1	7E 30 30 33 36 35 20 31 0D	OK	0	F
		On	~xx356	1	7E 30 30 33 36 35 20 31 0D	OK	1	F
		Off	~xx356	1	7E 30 30 33 36 35 20 31 0D	OK	0	F
	Audio Volume	0-100	~xx120	1	7E 30 30 31 32 30 20 31 0D	OK	0-100	F
	IP Address		~xx451	2	7E 30 30 34 35 31 20 32 0D	OK	aaa_bbb_ccc_ddd	F
	Mac Address		~xx555	1	7E 30 30 35 35 35 20 31 0D	OK	nn:nn:nn:nn:nn:nn	F
	Network (Connect Status)	0	~xx87	1	7E 30 30 38 37 20 31 0D	OK	0	F
		1	~xx87	1	7E 30 30 38 37 20 31 0D	OK	1	F
	Led Display Hours		~xx108	1	7E 30 30 31 30 38 20 31 0D	OK	a = hours	F
Serial Number		~xx353	1	7E 30 30 33 35 33 20 31 0D	OK	a001 = serial number	F	
Device Model Name		~xx151	3	7E 30 30 31 35 31 20 33 0D	OK	FHQC135	F	
Device Type		~xx149	1	7E 30 30 31 34 39 20 31 0D	OK	3	F	
Android version		~xx122	2	7E 30 30 31 32 32 20 32 0D	OK	android version	F	

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