JOC

User Manual SPX24V2

Please read this manual before use and retain it for future reference.

Safety Instructions

Warnings and Precautions KNOW THESE SAFETY SYMBOLS



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION:TO REDUCE THE RISK
OF ELECTRIC SHOCK,
DO NOT REMOVE COVER
(OR BACK). NO USER
SERVICEABLE PARTS
INSIDE. REFER SERVICING
TO QUALIFIED SERVICE
PERSONNEL.



This symbol indicates high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.



This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

CAUTION:FCC/CSA regulations state that any unauthorized changes or modifications to this equipment may void the user's authority to operate it.

CAUTION:To prevent electric shock, match the wide blade of plug to the wide slot, and fully insert the plug. TO PREVENT DAMAGE WHICH MAY RESULT IN FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

The Socket-outlet should be installed near the apparatus and be easily accessible.



Read and follow these instructions when connecting and using your Public Information Display:

- Unplug the display if you are not going to use it for an extensive period of time.
- Unplug the display if you need to clean it with a slightly damp cloth.
 The screen many be wiped with a dry cloth when the power is off.
 However, never use alcohol, solvents or ammonia-based liquids.
- Consult a service technician if the display does not operate normally when you have followed the instructions in this manual.
- The casing cover should be opened only by qualified service personnel.
- Keep the display out of direct sunlight and away from stoves or any other heat sources.
- Remove any object that could fall into the vents or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- Keep the display dry. To avoid electric shock, do not expose it to rain or excessive moisture.
- If turning off the display by detaching the power cable, wait for 6 seconds before re-attaching the power cable for normal operation.

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- To avoid the risk of shock or permanent damage to the set do not expose the display to rain or excessive moisture.
- When positioning the display, make sure the power plug and outlet are easily accessible.
- IMPORTANT: Always activate a screen saver program during your application. If a still image in high contrast remains on the screen for an extended period of time, it may leave an 'after-image' or 'ghost image' on the front of the screen. This is a wellknown phenomenon that is caused by the shortcomings inherent in LCD technology. In most cases the afterimage will disappear gradually over a period of time after the power has been switched off. Be aware that the after-image symptom cannot be repaired and is not covered under warranty.

Important Safety Instructions

- 1. Read these instructions.
- 2. Keep these instructions.
- 3. Heed all warnings.
- 4. Follow all instructions.
- 5. Do not use this apparatus near water.
- 6. Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug

- does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11. Only use attachments/accessories specified by the manufacturer.
- 12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tipover.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15. The batteries (batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.
- 16. An all-pole MAINS SWITCH is used as the disconnect device, the location on the apparatus and the function of the switch shall be described, and the switch shall remain readily operable

WARNING:TO REDUCE THE RISK
OF FIRE OR ELECTRIC
SHOCK, DO NOT EXPOSE
THIS APPARATUS TO RAIN
OR MOISTURE.

WARNING:Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

WARNING:The batteries (batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

WARNING:The mains plug or appliance coupler is used as the disconnect device,the disconnect device shall remain readily operable.

WARNING:To prevent the spread of fire, keep candles or other open flames away from this product at all times.



WARNING:To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

WARNING:The Class I apparatus shall be connected to a mains socket outlet with a protective earthing connection.

WARNING:This equipment is compliant with Class A of EN55032/CISPR 32. In a residential environment this equipment may cause radio interference.

WARNING

Never place a television set in an unstable location. A television set may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

- Using cabinets or stands recommended by the manufacturer of the television set.
- Only using furniture that can safely support the television set.
- Ensuring the television set is not overhanging the edge of the supporting furniture.
- Not placing the television set on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television set to a suitable support.
- Not placing the television set on cloth or other materials that may be located between the television set and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television set or its controls.

If your existing television set is being retained and relocated, the same considerations as above should be applied.

CAUTION:These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock,do not perform any servicing other than that contained in the operating instructions unless you are qualitified to do so.

CAUTION: Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphone and headphone output voltage and the sound pressure level. Therefore, to protect your hearing, adjust the equalizer to an appropriate level.

End-of-Life Disposal

Your new Public Information Display contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.

Please find out about the local regulations on how to dispose of your old display from your local dealer.

Waste Electrical and Electronie Equipment-WEEE

Attention users in European Union private households



This marking on the product or on its packaging illustrates that, under European Directive 2012/19/EU governing used electrical and electronic appliances, this product may not be disposed of with normal household waste. You are responsible for disposal of this equipment through a designated waste electrical and electronic equipment collection. To determine the locations for dropping off such waste electrical and electronic, contact your local government office, the waste disposal organization that serves your household or the store at which you purchased the product.

End of Life Directives-Recycling



Your new Public Information Display contains several materials that can be recycled for new users.

Please dispose of according to all Local, State, and Federal laws.

Warning:

This equipment is compliant with Class A of EN55032/CISPR 32. In a residential environment this equipment may cause radio interference.

Taiwan:

低功率電波輻射性電機管理辦法

取得審驗證明之低功率射頻器材,非經核准,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前述合法通信,指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在 5.25-5.35 秭赫頻帶內操作之無線資訊傳輸設備,限於室內使用。應避免影響附近雷達系統之操作。

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This manual is for reference only, please refer to the actual machine.

1. Unpacking and Installation

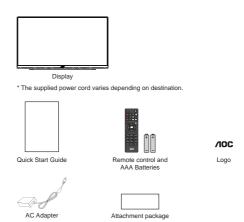
1.1. Unpacking

- This product is packed in a carton, together with the standard accessories.
- · Any other optional accessories will be packed separately.
- Move the display by at least two (2) adults.
- After opening the carton, ensure that the contents are complete and in good condition.

1.2. Package Contents

Please verify that you received the following items with your package content:

- Display
- AC Adapter
- · Attachment package
- · Quick Start Guide
- Remote control and AAA Batteries
- Logo



- * Items may differ in different locations
- * Display design and accessories may differ from the images shown.

NOTES:

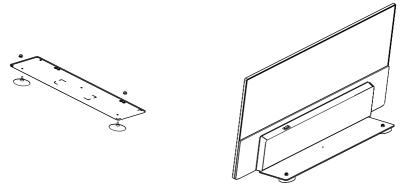
- For all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country.
- Keep the packaging materials appropriately after unpacking the product.
- Use only AC/DC Adapter listed in the user instruction.
 Manufacturer: TPV Electronics (Fujian) Co., Ltd. MODEL: ADPC2045

1.3. Installation Notes

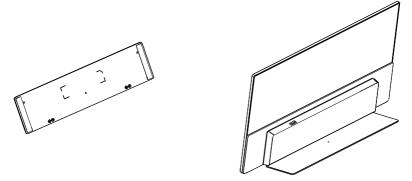
- Only use the power cable provided with this product. If an extension cord is required, please
 consult your service agent.
- The product should be installed on a flat surface, or the product may tip over. Leave a space
 between the rear of the product and the wall for proper ventilation. Do not install the product
 in a kitchen, bathroom or a place exposed to moisture, failure to do so may shorten the life
 of the internal parts.
- Do not install the product where it is 5000m and higher in altitude. Failure to do so may result in malfunctions.

1.4. 底座附件的安装

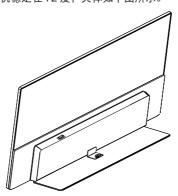
1. 在光滑平面建议使用吸盘固定,锁附方向如下图所示。



2. 在粗糙平面建议使用背胶固定,贴附方向如下图所示。

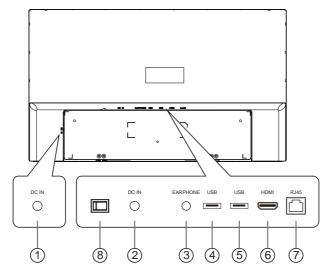


3. 使用此 L 形铁件可以使整机稳定在 72 度, 具体如下图所示。



2. Parts and Functions

2.1. Control Panel



1 DC IN / 2 DC IN

连接至直流电源适配器。

(20.0V/2.25A 直流,只能二选一接入指定适配器,不可同时连接适配器).

(3) EARPHONE

通过此 3.5mm 耳机插孔 (CTIA 标准) 连接耳机。.

4 / 5 USB

Connect to a USB storage device.

(6) HDMI

Connect to a source device via an HDMI cable.

(7) **RJ45**

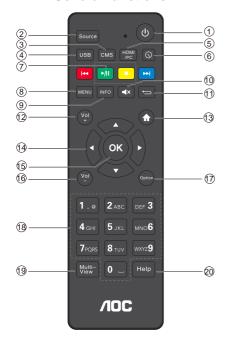
Internet function.

(8) OK /POWER

Turn the display on when the display is on standby.

2.2. Remote Control

2.2.1. General functions



① [山] POWER button

Press this key to enter the standby state, and then press this key to power on.

2 [Source] Button

Press this key to display the source list.

③ [CMS] button

Go to AOC CMS app.

(4) [USB] button

Go to USB source.

(5) [HDMI/PC] button

Quickly switch to the HDMI signal.

6 [1] Time button

Go to Time Setup SCH APP.

7 [PLAY] button

Controls media file playback.

(8) [MENU] SETTINGS button

Access the OSD menu.

(9) [INFO] button

Show Information OSD.

(10) [◀x] MUTE button

Mute or restore volume.

11 [] BACK button

Return to the previous page or exit from the previous function.

(12) [Vol+]VOLUME button

Turn up the volume.

13 [HOME button

Show disk menu.

(14) [▲] [▼] [→] NAVIGATION buttons

Up, down, left and right operation key.

15 [OK] button

Confirm an entry or selection.

(16) [Vol-] Volume button

Turn Down the volume.

(17) [Option] button

Access currently available options, for Media Input/PDF Player/CMS Console.

(18) [Number] buttons

Input figures or text.

(19) [Multi-View] button

Open multiple windows (background).

20 [Help] button

Reserved.

2.2.2. Inserting the batteries in the remote control

The remote control is powered by two 1.5V AAA batteries.

To install or replace the batteries:

- 1. Press and then slide the cover to open it.
- 2. Insert the batteries with the correct polarity (+) and (-).
- 3. Replace the cover.

Caution:

Incorrect use of batteries may cause leakage or explosion. Be sure to follow the instructions below:

- Insert "AAA" batteries with the correct polarity (+ and -).
- Do not mix battery types.
- Do not use a new battery with a used one together. Otherwise, it may cause leakage or shorten the life of the batteries.
- Remove the dead batteries immediately to avoid battery leakage in the battery compartment.
 Do not touch exposed battery acid, as it may cause injury to your skin.

NOTE: Remove the batteries from the battery compartment when not using for an extended period of time.

2.2.3. Handling the remote control

- Do not drop or apply shock to the remote control.
- Do not allow any liquid to get inside the remote control. If water has entered the remote control, wipe the remote control with a dry cloth immediately.
- Do not place the remote control near heat and steam sources.
- Do not attempt to disassemble the remote control, unless you need to place batteries in the remote control.

2.2.4. Operating range of the remote control

Point the top front of the remote control at the remote sensor on the display when you press the buttons.

NOTE:

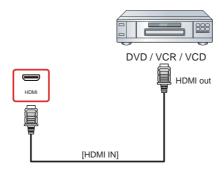
The remote control may not function properly when the remote control sensor on the display is under direct sunlight or strong illumination, or when there is an object between the remote control and the remote sensor of the display.



3. Connecting External Equipment

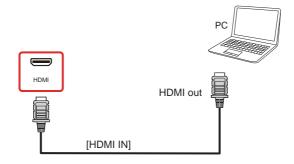
3.1. Connecting External Equipment (DVD/VCR/VCD)

3.1.1. Using HDMI video input

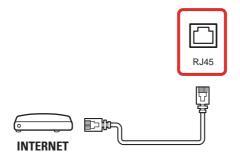


3.2. Connecting a PC

3.2.1. Using HDMI input



3.2.2. Using network interface



3.3. Connect USB



4. Operation

4.1. Media Player introduction:

 The front page of the media player, this page contains three items: "Play", "Compose" and "Settings".

Play: Choose to play the playlist.

Compose: Edit playlists.

Settings: Set the playback content.



Select the "Play" on the home page, and you should first select a playlist to play from File 1 to File 7.

The pencil icon represents the play list is not empty.



 Select the "Compose" on the home page, and you should first select a playlist to edit from File 1 to File 7.

The pencil icon represents the play list is not empty.



 If you select the empty playlist, the application will guide you to choose media sources.

All media files should be located in the

root directory. For example:

- Video at /root/movies/
- Photos /root/pictures/
- Music /root/music/



You can edit or delete non-empty playlists, just select the required playlist with pencil icons.



You could rename the playlist, just input new name after press the "OPTIONS" key on the remote control.



7. After you start editing the playlist, you will see the following screen.

Source - storage device files.

Playlist - playlist file.

7-1 in a scroll bar can help you to perform the following items:

- Select all: Select all the storage file.
- Delete all: Delete all the playlist file.
- Add/Remove: Update from the playlist.
- Sort: Sort playlists.
- Save/Abort: Storage or suspend the playlist.
- Back: return.



 If you are in a scroll bar and select "Sort", you can change the order of files one by one.



 Choose the desired file information and press button, you can get information detail.



 Choose the desired file and press the play button, you can directly play media files.



 If you make a playlist containing all of the image files, the application will ask you if you want to play background music while playing the video.



12. On the first page of "Settings", this page contains three parts:

"Repeat Mode", "Slideshow Effect" and "Effect Duration".

Repeat Mode: playback mode. Slideshow Effect: photo slide effect. Effect Duration: photo effect duration.



4.2. PDF reader play

 Home page of Pdf app, this page has three items: "Play", "Compose" and "Settings".

Play : Select playlist to play. Compose: Edit playlist.

Settings: Setting play properties.



Select "Play" on home page, first you should choose one playlist to play from File 1 to File 7.

The pencil icon means the playlist is nonempty.



 Select "Compose" on home page, first you should choose one playlist to edit from File 1 and File 7.
 The pencil icon means the playlist is nonempty.



 If an empty playlist is chosen, the app will guide you to select the media source.
 All media files should be placed in root directory.

For example,

- pdfs in /root/pdf/



You could edit or delete a non-empty playlist, just choose the desired playlist with pencil icon.



You could rename the playlist, just input new name after pressing the "OPTIONS" key on the remote control.



7. In the slide bar, it helps you to do the following:

Select all : select all storage files.Delete all : delete all playlist files.

- Add/Remove : update playlist from

source.

- sort : Sort playlist.

- Save/Abort : Save or abort playlist.

- Back: return.



8. If you choose "Sort" in the slidebar, you can change the order of files one by one.



Select "Settings" on home page, this page has two parts, "Repeat Mode" and "Effect Duration".

Repeat Mode: play mode.

Effect Duration: photo effect duration.



4.3. File Browser

4.3.1. Go to the File Browser page

- Press the USB shortcut on the remote control.
- 2. Or, press the Source until you reach the last USB source.



This menu was developed for fullscreen use, so use the Left and Right keys to go to the previous or next menu level, rather than the Back key. The Back key will exit the browser.

Storage capacity description:
The available capacity and total
EMMC size are displayed under the
root directory. After entering the
secondary directory (file system),
you will see the amount of memory
available and the file system size.

4.3.2. Switch views

- 1. Move right to the folders in column 3.
- Move down to the thumbnail.



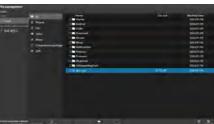
Press the OK key to switch between views.



4.3.3. Using the remote control

1. Highlight a directory and press OK to go to the next level of the directory.





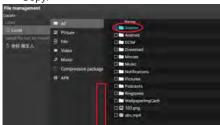
2. Short press OK to open the file.



3. Press and hold the OK key to highlight the file or folder.



4. Move down to the list, and then right to Copy.



Move up and to the left to return to the parent directory, or go left again to return to the root directory and select internal storage.



6. Repeat Step 4 and select Paste.



Important Note: This menu was developed for full-screen use, so use the Left and Right keys to go to the previous or next menu level, rather than the Back key. The Back key will exit the browser.

4.4. Introduction to AOC Cloud CMS Software

- The following is the main functional interface of the CMS software. It is used for program media playback from the cloud server. Please contact your dealer for instructions on the proper use of the software.
- Figure 1 shows the main interface: Used play content edited in the cloud.
 Primary display states: Information about the currently connected network. Cloud server connection status. Equipment authorization status.
- Figure 2 shows the terminal details interface: From the main interface (Fig. 1), short-press Option on the remote control to bring up this interface. This interface mainly displays the terminal name, terminal IP address, and terminal MAC address.
 - Description of button functions (from left to right):
 - Switch languages: Currently, the software supports Simplified Chinese, Traditional Chinese, English, Indonesian, and Russian.
 - Network settings: Jump to the system's network settings interface to set up a network connection. Terminal configuration: This is used to configure cloud server information for cloud-edited content.
- 4. Figure 3 shows the server connection configuration interface: Click "Terminal Configuration" in the interface shown in Figure 2 and fill in the CMS server address and authentication key so that you can connect to the cloud server and complete authentication.



Figure 1



Figure 3



Figure 2

Notes:

- 1. Press the "Options" key on the remote control to go to the interface shown in Fig. 2.
- 2. This function cannot be used with the USB AutoPlay application because the two functions are for different scenarios. In the event of a conflict, we recommend you disable the USB playback function when using the Cloud CMS app.
- 3. These images are for reference only and may differ from the actual interface display.

4.5. Operation on the OSD menu:

Column 1	Column 2	Column 3	Column 4	Notes
		Ethernet		
		Connection type	DHCP / Static IP	
		MAC address		
	Ethernet	IP address		
		Netmask		
		DNS address		
		Gateway		
Connection	Proxy	Proxy		
Connection		Proxy server host		
		Proxy server port		
	RS232	RS232 Control		
		RS232 Source	RS232/IOT	
		Lan to RS232		
	Lan to RS232	Server IP		
		Server Port		
	Monitor ID			

	Picture Mode	Airport and train station/Hotel and convenient store/Dining and clothing/ Security control and monitoring/ Office/Outdoor/ Customize		
	Brightness	0~100		
	Black Level	0~100		
	Contrast	0~100		
	Sharpness	0~100		
	Dynamic Brightness			
	Color Temperature	Standard/Warm/ Cool/Native/User	R Gain/G Gain/B Gain	
	Eye Protect Mode			
	Black and			
Picture	White Mode HDMI RGB	Auto/Full Range/		
licture	Range	Limited Range		
	Aspect ratio	Full/Real/4:3/14:9		
	PC Mode	Auto/PC/Video	"If the system automatically detects an error in PC Timing or Video Timing, the timing can be switched manually, and the option will be grayed out when there is no signal." If the resolution appears abnormal in terms of color, this can often be resolved by switching between PC/Video mode.	
	Over Scan	-20~20		
	Pixel Shift			
	Polish Screen	On/Off		
	Polish Type	Power On Start Time Start		
	Polish Time	Hour: minute		
	Picture Reset			

	Volume	0~100		
	Audio Source	HDMI/Line in		
	Sound Mode	Standard/News/ Music/Movie/User		
Audio	Balance	-50~50		
	Treble	-8~8		
	Bass	-8~8		
	Audio Reset			
			Automatic Date & Time	
			Set Date	
		Date and Time	Set Time	
	Time		Time zone	
			NTP Server	
		Schedule Settings		
		Sleep Time	Off/10 Minutes/ 20 Minutes/30 Minutes/ 1 Hour/1.5 Hours/2 Hours	
System		Auto Sleep	Off/10 Seconds/ 30 Seconds/60 Seconds/ 180 Seconds	
		Screensaver		
		Screensaver Resources		
	Language	简体中文 / 繁體 中文 /English/ Indonesian		
		Wallpaper		
	Desktop	Screen Orientation	0°/90°/180°/270°	Some timing settings are not supported for HDMI source matching.
		Default Home	Default Home Screen/AOC Cloud CMS	
	Regular System Optimization	Off/3 Day/7 Day/14 Day/30 Day		

				Default Password: 0000
				Admin Password: 6098
System				When Key Lock is set to on:
				Step 1: After 15s without operations, remote control, button, and mouse functions are locked.
	Key Lock			Step 2: After functions are locked, press and hold the Menu key for 5s and enter the password to unlock temporarily. If you want to unlock completely, press the Menu key again (only if Key Lock is set to Off).
				Step 3: When no action is performed, repeat Step 1.
				Note: The power keypad must be locked
	Change Password			
	Auto Switch Source	Auto Switch Source		
		Input source first		
		Source Rank	Auto/Custom	
	HDMI Version	1.4/2.0		Not support
	USB flash disk lock			
	Uplayer Setting			
Advanced	Wake On Signal			
	Power On Mode	Power On/ Standby/Last State		
	Boot on source	Home/HDMI1/ HDMI2/Cloud CMS/PDF/Media/ URL/USB/Custom/ Last Source		Signal interfaces are machine-specific.
	Custom Source List	HDMI1/HDMI2/ Cloud CMS/PDF/ Media/URL/USB/ Custom		

Advanced	Custom	Custom Bootlogo		1. The user sets a custom static logo to display upon power on. 2. When set to ON: If the device cannot detect a logo. jpg file in the USB flash drive, a pop-up prompt appears: "Please insert a USB drive. The file must be stored in the root directory of the USB drive with the name: logo jpg". 3. When set to ON: When the device detects a logo.jpg file in the USB drive, a pop-up screen will ask the user to confirm whether or not to replace the device logo. 4. When the device recognizes a USB key with the logo.jpg file on any interface and Custom Logo is set to ON: A pop-up screen will ask the user to confirm whether to replace the original logo. 5. After setting a custom power-on static logo, if Custom Logo is set to OFF, the device will switch back to the factory default logo. 6. After setting a custom static logo, you can unplug the USB drive and the custom logo will be displayed as normal.
		Custom Bootanimation		
		boot logo		
		CUSTOMER		
		Select APP	Not Selected/Schedule/PD Clone	Based on actual machine

	CPU	4 Core	
	Memory	2G	Based on actual machine
	Remaining space/Storage space.	11.72GB/16.0G	Based on actual machine
	Serial Number		
	Total Time		
A lat	Android Version	9	
About	Software Version		
		Local Update	
	System Update	Online Update	When you switch from OFF to ON, a pop-up prompt will appear: "You must restart the system for this feature to take effect."
		OTA Upgrade package status	
	Reset		

Note: Do not power down within 15s after adjusting OSD function list settings, otherwise data may not be saved.

Options may vary depending on the device model and particular device. The software portion of this manual is intended to be illustrative only. Subsequent software system upgrades may cause the actual interfaces to differ somewhat from those shown.

5. Media Formats

5.1. Function Specifications

No.	Specifications
1	Supports a wide range of audio and video package formats, including: MP3, MP4A, WAV, FLAC
2	Supports multiple video encoding protocols, including: H264, H265, MPEG, MPEG4, VP8, VP9, MJPEG, AVS, AVS+, AVS2
3	Supports multiple audio encoding protocols, including: MP3, FLAC, M4A, WAV
4	Supports multiple online playback protocols, including: HTTP, HTTPS, RTSP, RTMP, HLS
5	Supports Android standard image formats, including: JPEG (hardcoded), PNG, GIF, BMP

6. Input Mode

HDMI computer mode (SPF432A)

Standard	Available resolution ratio		Refresh		
resolution ratio	Horizontal pixel	Perpendicular line	rate	Pixel rate	Aspect ratio
VGA	640	480	60 Hz	25.175 MHz	4:3
VGA	640	480	75 Hz	31.5 MHz	4.3
WVGA	720	400	70 Hz	28.32 MHz	4:3
SVGA	800	600	60 Hz	40 MHz	4:3
XGA	1024	768	60 Hz	65 MHz	4:3
WXGA	1280	720	60 Hz	74.5 MHz	5:3
SXGA	1280	1024	60 Hz	108 MHz	5:4
WXGA	1440	900	60 Hz	106.5 MHz	16:9
HD1080	1920	1080	60 Hz	148.5 MHz	16:9

Recommended resolution ratio: 1920*1080@60Hz

HDMI video mode:

	Enable Resolution				
Standard Resolution	Horizontal Pixels	Vertical Columns	Refresh Rate	Pixel Rate	Aspect Ratio
1080 P 59.94/60 Hz	1920	1080	60 Hz	148.5 MHz	16:9
1080 P 50 Hz	1920	1080	50 Hz	148.5 MHz	16:9
1080 P 29.97/30 Hz	1920	1080	30 Hz	74.25 MHz	16:9
1080 P 25 Hz	1920	1080	25 Hz	74.25 MHz	16:9
1080 P 23.97/24 Hz	1920	1080	24 Hz	74.25 MHz	16:9
1080 I 59.94/60 Hz	1920	1080	60 Hz	74.25 MHz	16:9
1080 I 50 Hz 16:9	1920	1080	50 Hz	74.25 MHz	16:9
720 P 50 Hz 16:9	1280	720	50 Hz	74.25 MHz	16:9
720 P 59.94/60 Hz	1280	720	60 Hz	74.25 MHz	16:9
576 I 50 Hz 4:3	720	576	50 Hz	13.5 MHz	4:3
576 I 50 Hz 16:9	720	576	50 Hz	13.5 MHz	16:9
480 I 59.94/60 Hz	720	480	60 Hz	13.5 MHz	4:3
576 P 50 Hz 4:3	720	576	50 Hz	27 MHz	4:3
576 P 50 Hz 16:9	720	576	50 Hz	27 MHz	16:9
480 P 59.94/60 Hz	720	480	60 Hz	27 MHz	16:9
480 P 59.94/60 Hz	720	480	60 Hz	27 MHz	4:3

7. Cleaning and Troubleshooting

7.1. Cleaning

Caution When Using the Display

- Do not bring your hands, face, or objects close to the ventilation holes of the display.
 The top of the display is usually very hot due to the high temperature of exhaust air being released through the ventilation holes. Burns or personal injuries may occur if any body parts are brought too close. Placing any object near the top of the display could also result in heat related damage to the object as well as the display itself.
- Be sure to disconnect all cables before moving the monitor. Moving the monitor with its cables attached may damage the cables and thus cause fire or electric shock.
- Disconnect the power plug from the wall outlet as a safety precaution before carrying out any type of cleaning or maintenance procedure.

Front Panel Cleaning Instructions

- The front of the display has been specially treated. Wipe the surface gently using only a cleaning cloth or a soft, lint-free cloth.
- If the surface becomes dirty, soak a soft, lint-free cloth in a mild detergent solution.
 Wring the cloth to remove excess liquid. Wipe the surface of the display to remove dirt.
 Then use a dry cloth of the same type to dry.
- Do not scratch or hit the surface of the panel with fingers or hard objects of any kind.
- Do not use volatile substances such as inert sprays, solvents, and thinners.

Cabinet Cleaning Instructions

- If the cabinet becomes dirty, wipe it with a soft, dry cloth.
- If the cabinet is extremely dirty, soak a lint-free cloth in a mild detergent solution. Wring
 the cloth to remove as much moisture as possible. Wipe the cabinet. Use another dry
 cloth to wipe over until the surface is dry.
- Avoid cleaning plastic parts with any solution containing grease, as contact with grease may lead to deterioration and cracking.
- Do not allow any water or detergent to come into contact with the surface of the display.
 If water or moisture gets inside the unit, operating problems, electrical, and shock hazards may result.
- Do not scratch or hit the cabinet with fingers or hard objects of any kind.
- Do not use volatile substances such as insert sprays, solvents and thinners on the cabinet.
- Do not place anything made from rubber or PVC near the cabinet for any extended period of time.

7.2. Troubleshooting

Symptom	Possible Cause	Solution
No picture is displayed	The power cord is disconnected The main power switch on the back of the display is not switched on. The selected input has no connection. The display is in standby mode.	Plug in the power cord. Make sure the power switch is switched on. Connect a signal connection to the display.
Interference displayed on the display or audible noise is heard	Caused by surrounding electrical appliances or fluorescent lights.	Move the display to another location to see if the interference is reduced.
Color is abnormal	The signal cable is not connected properly.	Make sure that the signal cable is attached firmly to the back of the display.
Picture is distorted with abnormal patterns	The signal cable is not connected properly. The input signal is beyond the capabilities of the display.	Make sure that the signal cable is attached firmly. Check the video signal source to see if it is beyond the range of the display. Verify that the specifications comply with the information in this display's specification section.
Display image doesn't fill up the full size of the screen	The zoom mode is not set correctly. Scan Mode may be set incorrectly to Full Scan. If the image exceeds the screen size, Scan Mode may need to be set to Full Scan.	Use the Zoom mode or Custom zoom function in the Screen menu to fine tune the display effect and clock rate parameters.
Can hear sound, but no picture	Source signal cable is connected improperly.	Make sure that both video inputs and audio inputs are correctly connected.
Can see picture but no sound is heard	Source signal cable is connected improperly. Volume is turned all the way down. {Mute} is turned on. No external speaker is connected.	 Make sure that both video inputs and audio inputs are correctly connected. Press the [+] or [-] button to hear sound. Unmute the display by using the [IIII] button. Connect external speakers and adjust the volume to a suitable level.
Some picture elements do not light up	Some pixels of the display are off.	This display is manufactured using an extremely high level of precision technology: however, sometimes some pixels of the display may not display. This is not a malfunction.

After-Images can still be seen on the display after the display is powered off. (After-images can include logos, video game images, computer images, and images displayed in 4:3 normal mode)		Do not allow a still image to be displayed for an extended period of time as this can cause a permanent after-image to remain on the display.
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8. Technical Specifications

Item	Specifications
Screen Size (Active Area)	23.8 in (60.4 cm)
Aspect Ratio	16:9
Pixel pitch	1920 (H) x 1080 (V)
Visible area	0.2745 (H) x 0.2745 (V) [mm]
Displayable colors	16.7M colors
Brightness (typical)	700 cd/m ²
Contrast ratio (typical)	3000:1
Viewing angle	178 degrees

General:

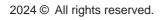
Item	Specifications
Internal memory	16GB eMMC
Power	20.0VDC,2.25A
Power consumption (max)	TBD W
Power consumption (typical)	TBD W
Power consumption (standby & shutdown)	<0.5 W
Dimensions (Without Stand) [W x H x D]	540.24 x 320.97 x 122.34mm

Environmental Conditions:

Item		Specifications
Temperature	Operations	0 ~ 40°C
	Storage	-20 ~ 60°C
Humidity	Operations	20 to 80% RH (No condensation)
	Storage	10 to 90% RH (No condensation)
Altitude	Operations	0 ~ 5,000 m
	Storage / Shipment	0 ~ 9,000 m

Internal Speakers:

Item	Specifications
Туре	2
Input	8 W X 2
Impedance	8 Ω
Frequency Response	160 Hz ~ 13 KHz



Specifications are subject to change without notice.