1.875mm Pixel Pitch with SMD LEDs

FHDQ163

All-in-one LED Display

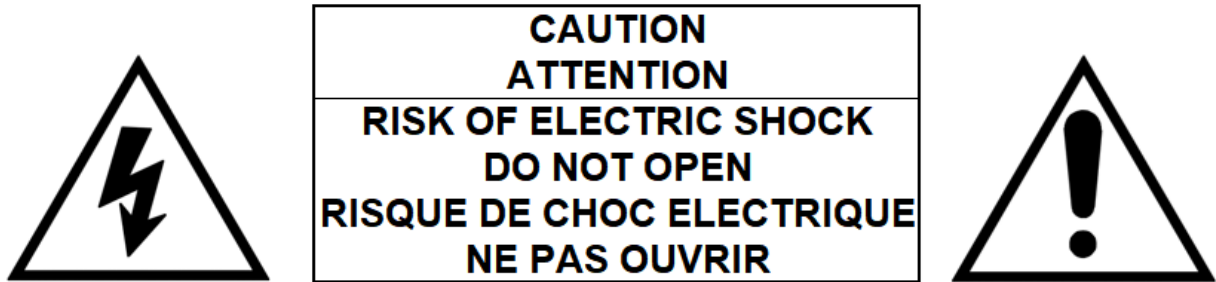**Operation Manual**

2021.04
Document version 2.4.26

TABLE
OF
CONTENTS

Important Safety Notice

CAUTION
ATTENTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

- Always ensure that the unit is properly grounded and power connections correctly made.

- This equipment must be supplied by a power system providing a protective ground connection and having a neutral connection, which can be reliably identified.

- The power outlet supplying power to the unit should be close to the unit and easily accessible.

- Ensure whole system is powered off before connecting or disconnecting the network cable.

- Do not handle the power supply plug with wet hands.

- Do not place the display on sloped or unstable surfaces, otherwise it may fall or tip over.

- Do not place any objects on top of the display.

- No open-flame sources, such as lighted candles.

- To prevent electric shock , do not remove the cover.

- No user-serviceable parts inside. Refer servicing to qualified service personnel.

- Do not lift or hold the display by any of its four corners (after assembly is complete) when you want to move it off the floor. Doing so may cause the display to become deformed and will affect the alignment. First, place the display in a vertical position, then lift straight up for mounting.

- Do not lift or hold any of the display's sheet metal during assembly, as doing so may cause the sheet metal to become deformed and affect the display's uniformity. Use only the reinforced rib.

Installation/Use Precautions of AIO Products

The interior design of the AIO LED display screen is very sophisticated, although it is not dustproof or waterproof. Please adhere to the following precautions during installation and use.

1)Screen storage/working environment requirements

Storage temperature：-10~50°C（14°F ~ 122°F）；Relative humidity：10%~60%;

Working temperature：0~40°C（32°F ~ 104°F）；Relative humidity：10%~60%.

2)Installation requirements

a）Installation of the LED display screen is strictly prohibited in areas subject to water leakage from above (such as next to an air conditioner outlet) in order to avoid damage of LED devices and oxidation of circuit boards caused by moisture and/or condensation. The installation environment must have a humidity level less than 60% (non-condensation state).It is recommended that a dehumidifier be installed in the environment to control levels of humidity.

b）Installation of the LED display screen is strictly prohibited in areas subject to metal powder, dust and other dusty environments, as dust will affect the display, while metal dust can cause damage to circuits, or may also cause a short circuit.
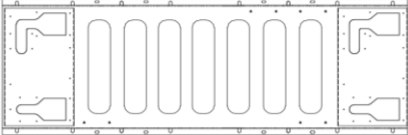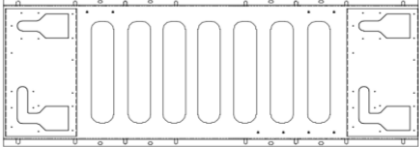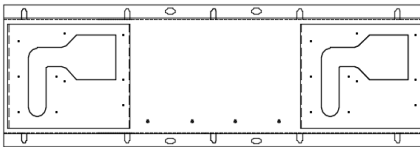
3)Cleaning requirements
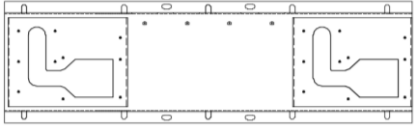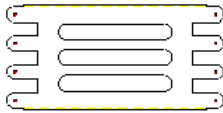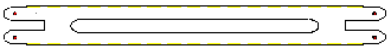
During the use of the screen, if there is any accumulation of dust on the screen's surface, use an anti-static soft bristle brush or a dust-free cloth to clean the screen. Please be careful during the cleaning process to avoid bumping and damaging the LED. Do not use a damp cloth to scrub the screen.

4)Usage requirements

It is recommended that you turn on the LED screen frequently. For any LED display screen or module that has been stored for more than 3 days, it is recommended that you increase the brightness of the display screen gradually to remove any accumulated moisture by slowly heating it.

Accessories Supplied

Item	Description	Photo	Qty.
1	AC Power Cable 14S-0BS16A-00-PF (Assembled)		1
2	AC Power Cable 14S-0UL16A-02-PF		1
3	AC Power Cable 14S-GERMAN-04-PF		1
4	STAINESS STEEL MOUNTING LOCK(3in1) 600-W60M10-10-PF 600-M25080-S0-PF		12
5	IM Replacement Tool 420-MAG130-A7-PF		1
6	M4x10 Flat Head Screw 600-FM0410-DC-PF		78
7	M8x60 Expansion Screw 600-FM0860-10-PF		40
8	HEAD SCREW M10 60S-HS1021-S0-PF		12
9	Left plate of big 420-A163MT-10-PF		1
10	Right plate of big 420-A163MT-20-PF		1
11	Left plate of small 420-A163MT-30-PF		1

12	Right plate of small 420-A163MT-40-PF		1
13	Side connection plate 420-A163MT-50-PF		2
14	middle connection plate 420-A163MT-60-PF		2
15	USB Flash Disk 333-DISK8G-00-PF		1
16	Screwdriver 690-A25SDR-10-PF		1
17	T-Hand Hex Key 690-DEM050-1A-PF		1
18	690-HEM108-10-PF		1
19	Screwdriver 690-A15PBT-10-PF		1
20	Infrared Remote Control 898-IRC001-00-PF		1
21	Anti-static Gloves 690-ASHAND-20-PF		4
22	Cordless Anti-static Wristband 690-ASWA15-00-PF		4
23	Assist grip 420-A18HAD-11-PF		2
24	MS SCREW M4x12mm 60S-WM0412-S0-PF		16
25	Sensor box		1
26	Accessories Check List		1

Parts and Functions

Item	Description	Photo	Qty.
1	Intelligent Module 0-AM4-01C872FFEB-02P		10
2	M4x10 Flat Head Screw 600-FM0410-DC-PF		42

◆ **Interface Specifications**

Access	SPECIFICATIONS	Remark
HDBaseT input	Qty : 1	
LAN	Qty : 1 Panel Control: Telnet	
3G-SDI	Qty : 1	
RS232	Qty : 2 Purpose : External Control (AMX)	In / Out
Audio Output	Qty : 1 / HIFI stereo output 1/8″ (3.5mm)TRS	
HDMI	**input** Qty : 2 **output** Qty : 1	
USB 3.0	Qty : 1 Purpose : Provide 5V Power or Image Processor FW upgrade only	
USB 2.0	Qty : 5 Purpose : supports external USB disc storage (128G in maximum) or communication equipment or wifi dongle	
USB Type B	Qty : 1 Purpose : (Service use)	
Button	1 key. Power on / Off	
LED indicator	2 indicators Power status – ON(G) / STANDBY(R)	

Remote Control

Remote controller

Function	Description
Source	Switch source
Power	Power On /Off / Standby
PIP location	Change Picture in Picture position
PIP ON/OFF	PIP ON/OFF
Switch PIP source	Switch PIP source
UP	Switch direction - UP
Left	Switch direction – Left
Right	Switch direction – Right
Down	Switch direction - Down
Menu	Main menu
Home(Android)	Switch to Home(Android)
Back	Back to previous layer(Android)
Mute	Volume mute
Display mode	Switch display modes: "Presentation", "Cinema", "Bright"
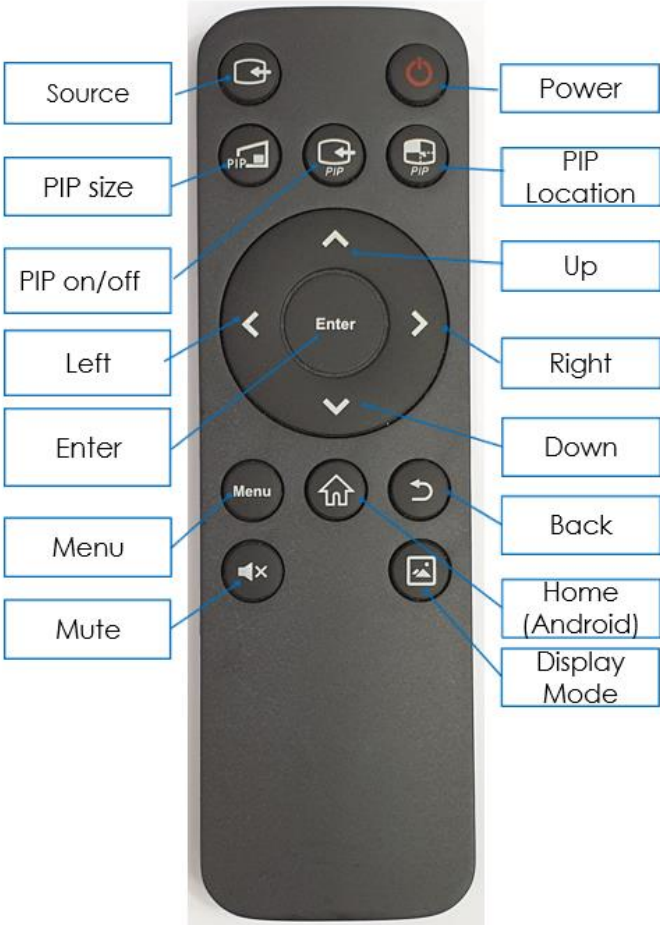
Electrical

The power distribution system used must provide adequate protection against excess line current and leakage currents to ground.

Electrical Characteristics for ONE FHDQ163							
At 200V AC Input				At 240V AC Input			
Parameter	Unit	Rating nom.	Max.	Parameter	Unit	Rating nom.	Max.
Input current	A	6.00	15.00	Input current	A	5.00	12.50
Input freq.	Hz	50 – 60	65	Input freq.	Hz	50 – 60	65
Power	VA	1200	3000	Power	VA	1200	3000

◆ **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 ground leakage currents).

◆ **Ground Leakage Considerations**

Each FHDQ163 LED display has ground leakage current contributions from twenty-six switched-mode power supplies and a filter. The total ground leakage current per LED display can be up to 26.35mA at 240V. If a 30mA RCD is used, then the maximum number of LED display s per section should be safely limited to 1.

◆ **Inrush-current and over-current considerations**

The inrush current of the switched mode power supplies used to provide LED and logic power to each LED display is specified by the manufacturer as 1330A at 230volts for a duration of 3mS. However, maximum current in the steady-state for a LED display is considerably less: 12.50A at 240 volts and 15.00A at 200 volts. The circuit breaker used to control a section of the screen must be able to handle the short-term inrush current at switch-on, without causing unnecessary disconnection of the supply, and be able to detect excess currents due to faults within the equipment, during normal operation. 63A MCB is recommended.

◆ **Grounding**

Each LED display is separately connected to the AC power distribution system's ground through green/yellow wire connections. All exposed metalwork is also connected to this ground.

◆ **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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

*Note: Modifications not authorized by the manufacturer may void users authority to operate this device.

◆ **EMC Statement**

Installations should be located at least 30 meters from other sensitive systems or installations and if situated in close proximity to a roadway it may create interference with vehicle radio communications.

◆ **AC Power**

The AC power cable is connected to the EMI filters and distributes to the power supply units inside the display.

Color of Wire	A.C. Supply connection (200V)	A.C. Supply connection (240V)
Brown	AC. Live	AC. Live
Blue	AC. Neutral	AC. Neutral
Green/Yellow	AC. Protective ground	AC. Protective ground

◆ **DC Power**

DC power from each power supply unit provides low voltage power to the assigned electronic components, such as intelligent modules and driver boards. The corresponding colored wire represents the power connection of the relevant component. Please take note of the list below for a clear cabling configuration.

Color of wire	D.C. Supply connection
White	Red LED / Green LED / Blue LED / TTL
Black	GND

OSD

◆   **Display**

Display

- Image Settings ▸
- PIP ▸

↕ Select   ↩ Exit   › Enter

(1) Image Settings: Set up image parameters.
     Display mode: Presentation/Cinema/Bright/User
     Brightness: -50~50
     Contrast: -50~50
     Saturation: -50~50
     Hue: -50~50
     Sharpness: -4~4
     Gamma: 1.0/1.2/1.4/1.6/1.8/2.0/2.2/2.4
     Color Temperature: Warm(6500K)/Standard(8500)/Cool(10000)
     Color Settings: RGB Gain/Bias/Color Space/RGB Channel/IRE
     Reset: Reset all settings

Display		
Display : Image Settings		
Display Mode		Bright
Brightness		0
Contrast		0
Saturation		0
Hue		0
Sharpness		0
Gamma		1.0
Color Temperature		Cool
⇕ Select	↩ Exit	› Enter
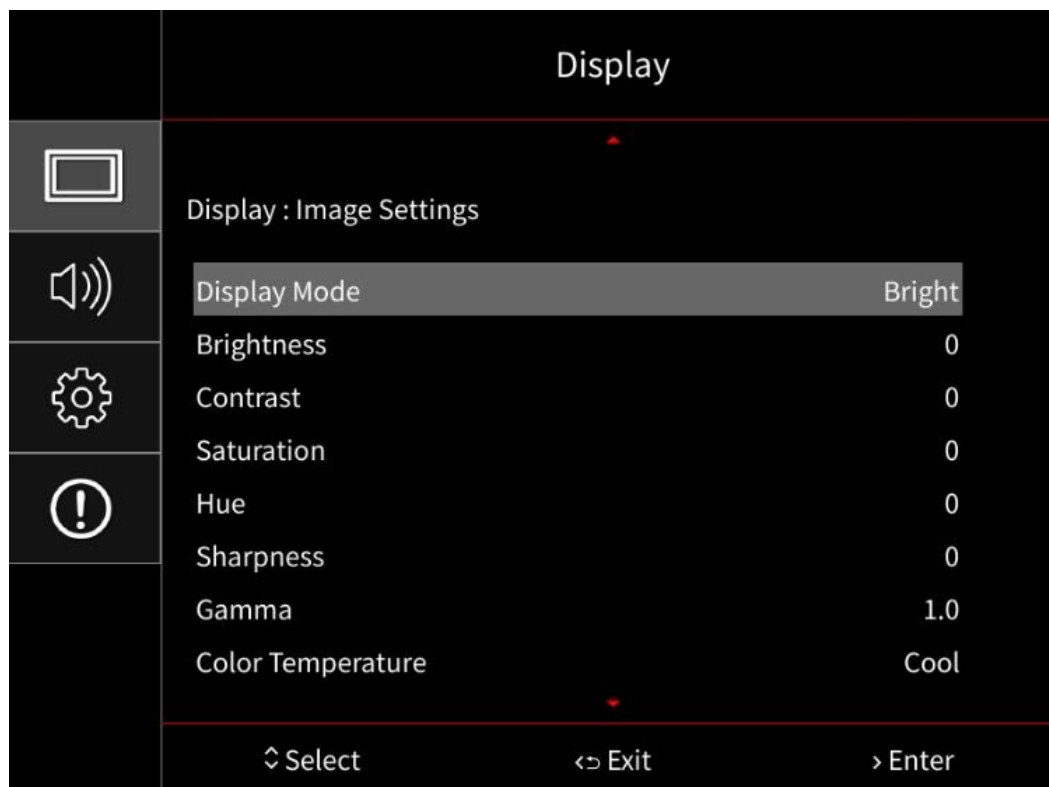
(2) PIP
Screen: PIP on/off
PIP Location: set location
PIP Size: size setting (25%, 33%, 43%)
PIP Source: input source setting (input 1, input 2)
Swap: swap 2 input sources

Display

Display : PIP

Screen	Off
PIP Location	▭
PIP Size	1/25
PIP Source	▸
Swap	

◇ Select   ◁↩ Exit   › Enter

◆ **Audio**
Mute: Mute on/off
Volume: 0~10

Audio

Mute	Off
Volume	5

◇ Select   ◁↩ Exit   › Enter
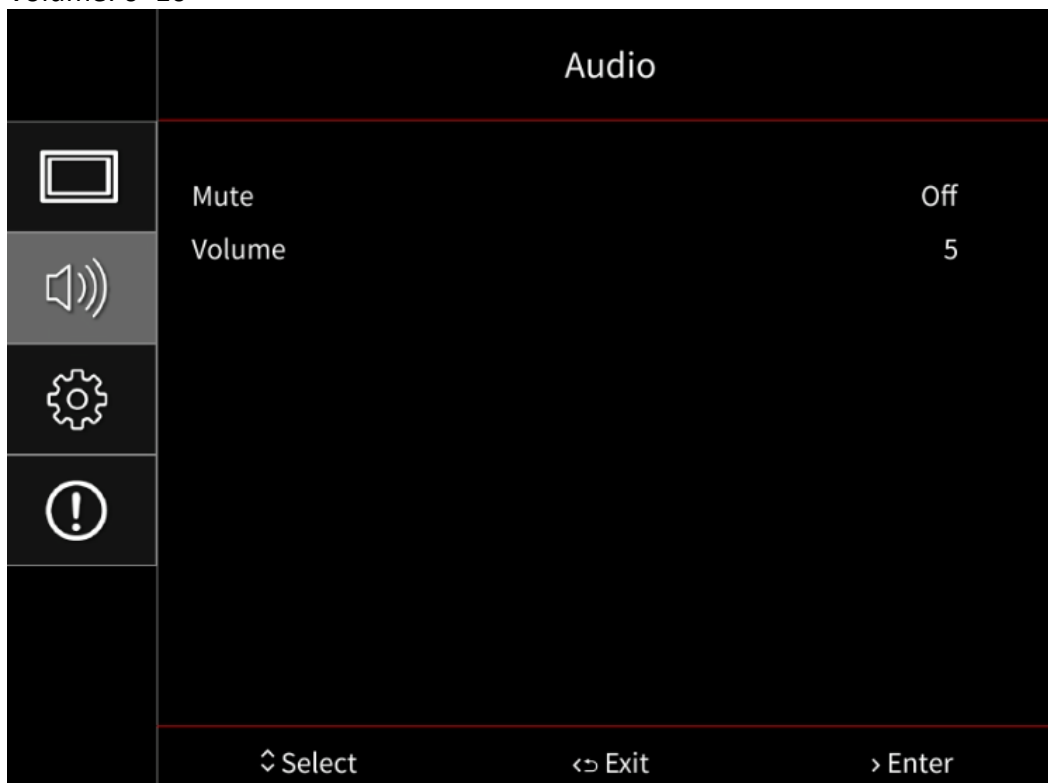
◆ **Setup**

(1) LED Settings: LED Brightness/ Auto LED Brightness/Auto LED Warm Up

(2) Power Settings: Signal Power On (only supported for HDMI 1 and HDMI 2)/ Sleep Timer/Direct Power On/Auto power off/Power Mode (Standby)

(3) Test Pattern: Off/0: Red Curtain/1: Green Curtain/2: Blue Curtain/3: Grey V Bars/4: Grey H Bars/5: Aspect Test/6: Multi Test/7: Warp Adjust/8: SMPTE/9: Pluge/10: Moving Cross

(4) Display ID: 00-99

(5) Options: Language(English/Spanish/Portuguese/French/German/繁體中文)/ Menu Settings/Input Source/Input Card/Display Mode Lock/Keypad Lock/Auto Source/Information Hide

(6) Network control: Telnet on/off

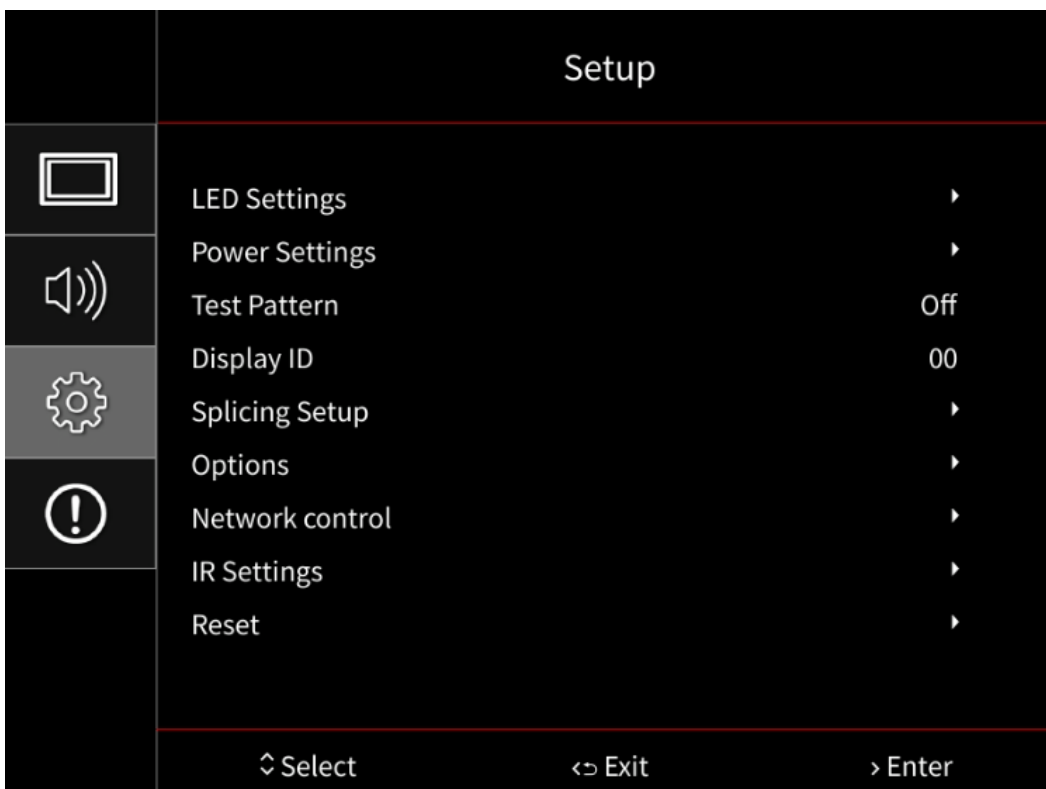(7) IR Settings: IR Receiver/IR Blaster

(8) Reset: Reset OSD/Reset to Default

Setup	
LED Settings	▶
Power Settings	▶
Test Pattern	Off
Display ID	00
Splicing Setup	▶
Options	▶
Network control	▶
IR Settings	▶
Reset	▶
↕ Select ↩ Exit › Enter	

◆ **Info**
Showing device settings and information

Info	
Regulatory	FHDQ163
Serial Number	QLF3017HAAVA0002
Source	HDMI 1
Resolution	N/A
Refresh Rate	0.000Hz
Display Mode	Cinema
Color Depth	N/A
Color Format	N/A
Power Mode(Standby)	Eco.
LED Display Hours	20h

⇕ Select   ↩ Exit   › Enter

System instructions

◆ **Control and Connecting**

(1) To operate the FHDQ163, you can use the remote control or mobile device App.(Tapcast Pro: scan via QRcode or download from APP store or Google Play)
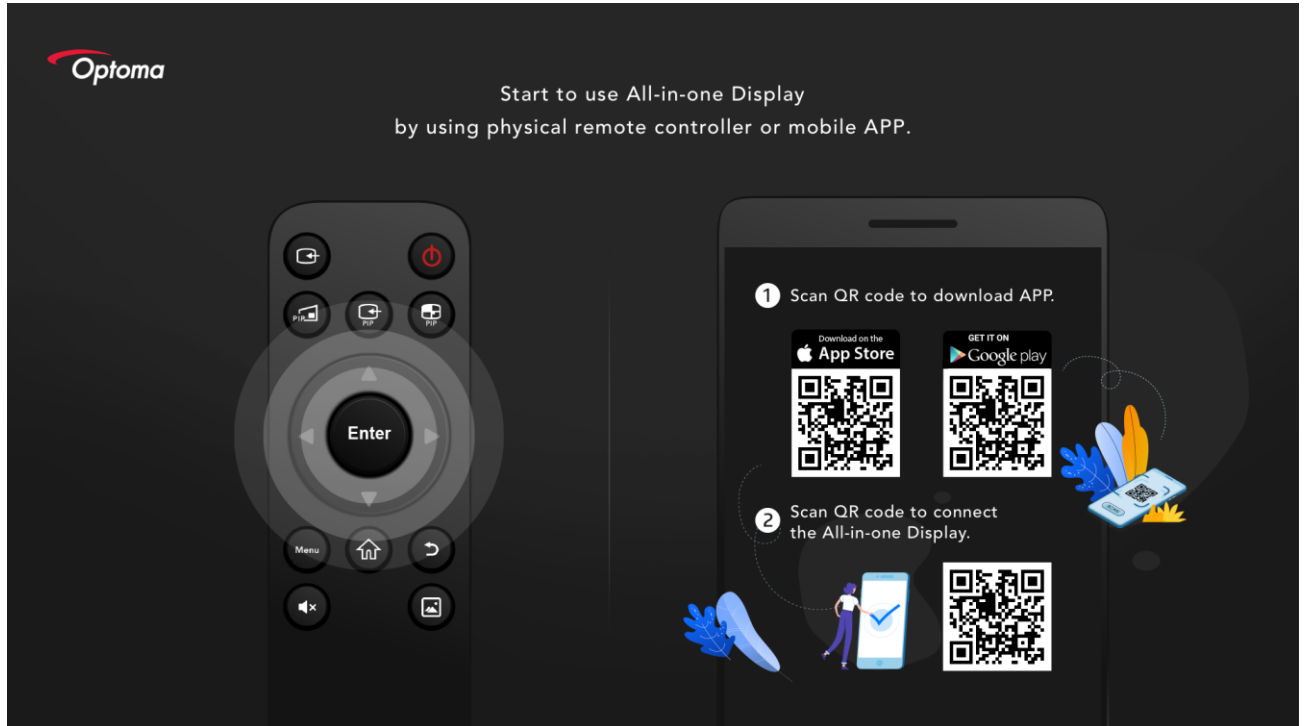
(2) Open the app and enter the password "**12345678**". Click "**Device Connect**" and then scan the QR code shown at the right-bottom of the display.
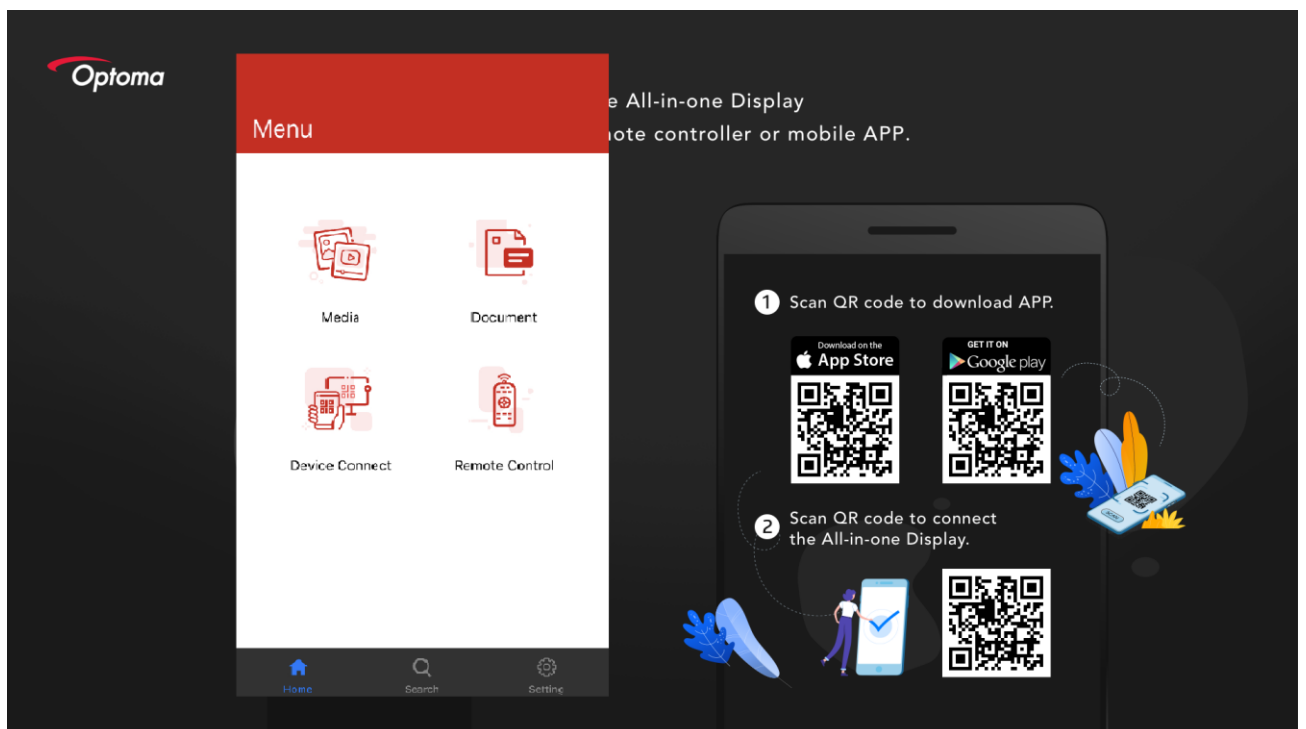
◆ **Media** (Playing internal media)

Recently played: shows media files recently opened
Media: shows all media files saved and available in the Launcher
Playlist: shows playlists available
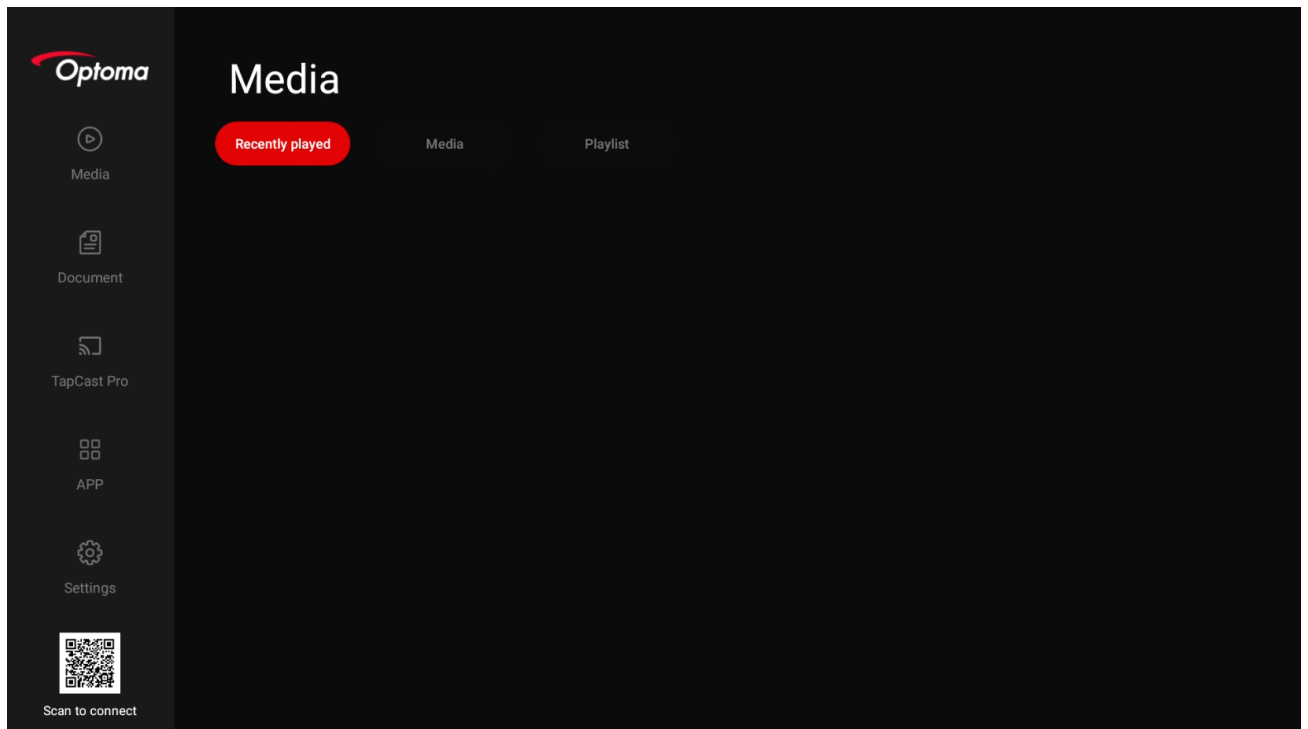
◆ **Document** (Office document viewer)

Support type: Word/Excel/PowerPoint/PDF
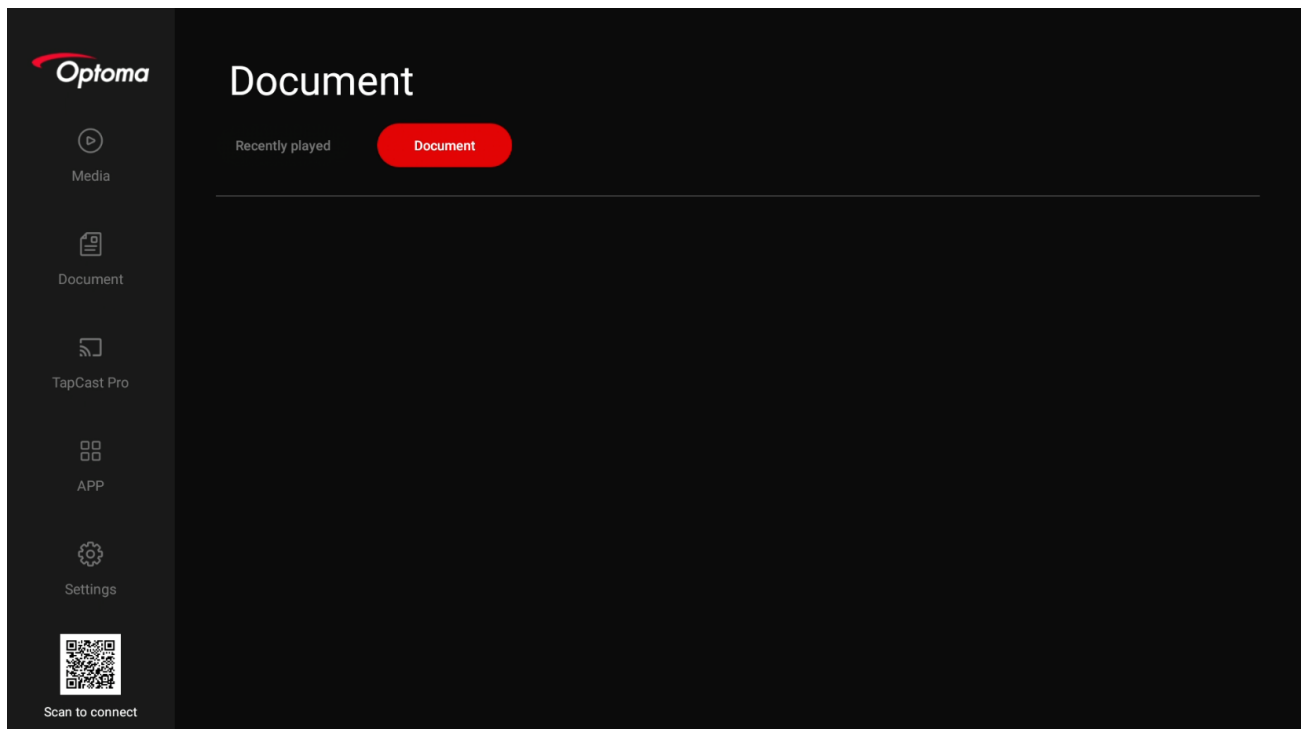
◆ **TapCast Pro**

Wirelessly display from mobile device. (please see quick start guide for more information)

◆ **APP**

P-Cloud: Cloud-base content management system

◆ **Settings**

(1) Device information

(2) Source change
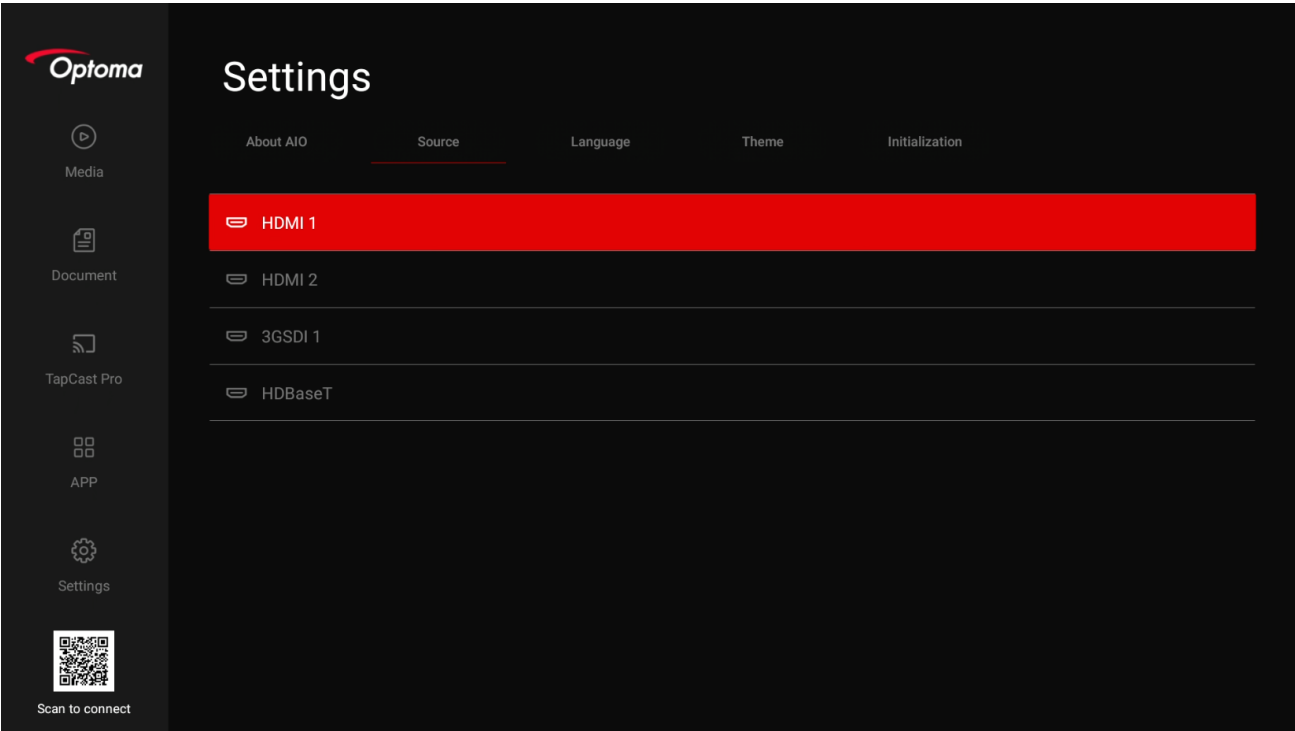
(3) Language Settings
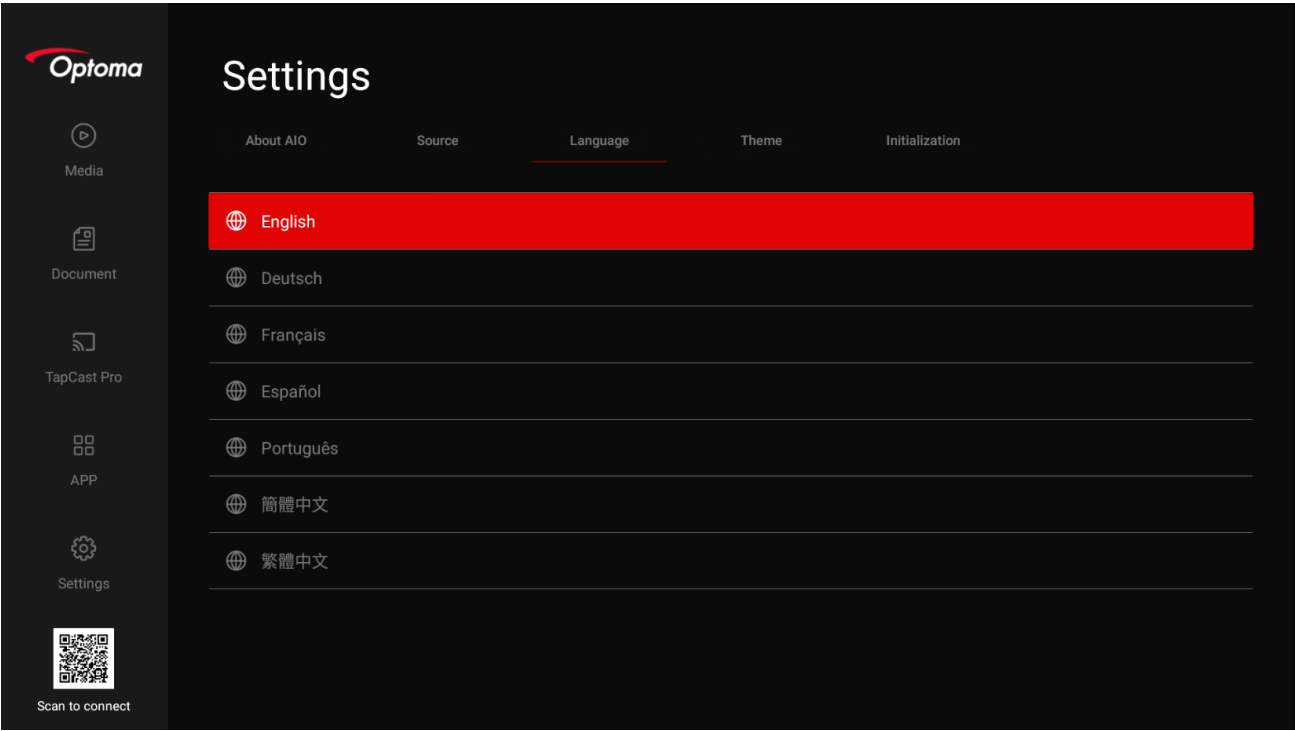
(4) Theme
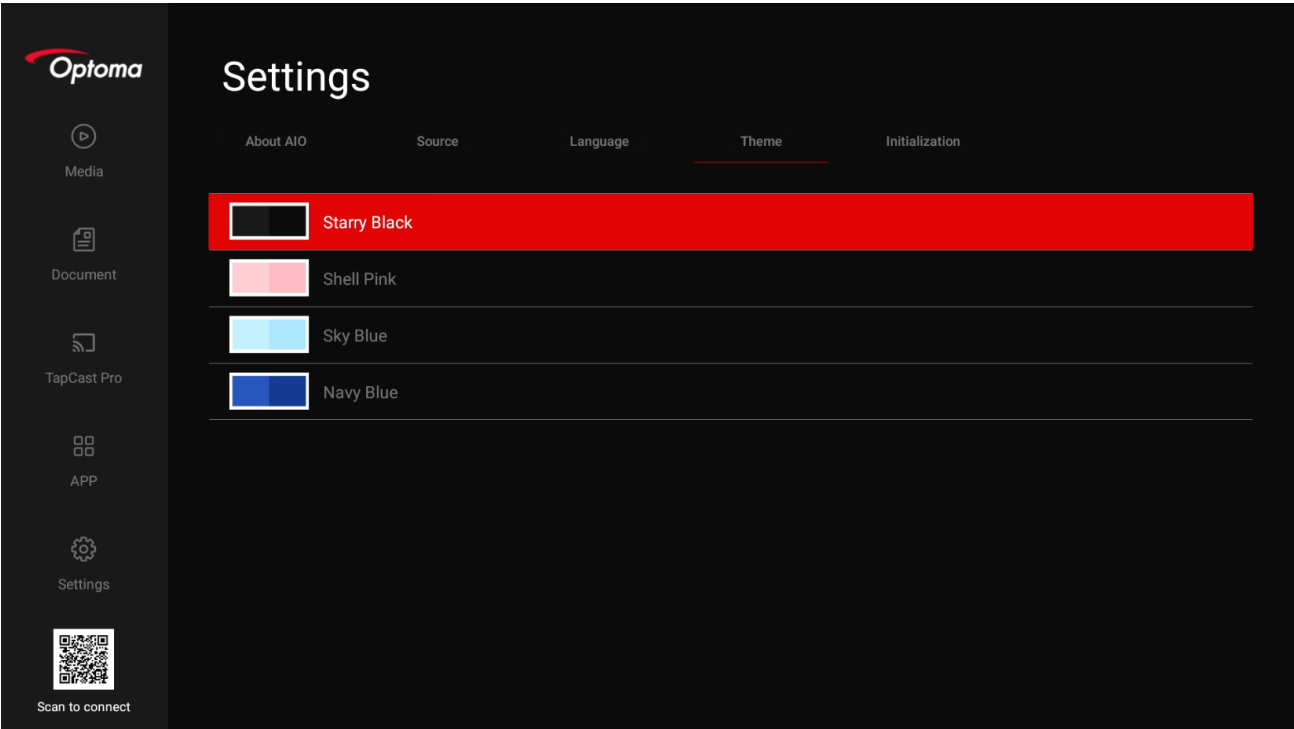
(5) Initialization
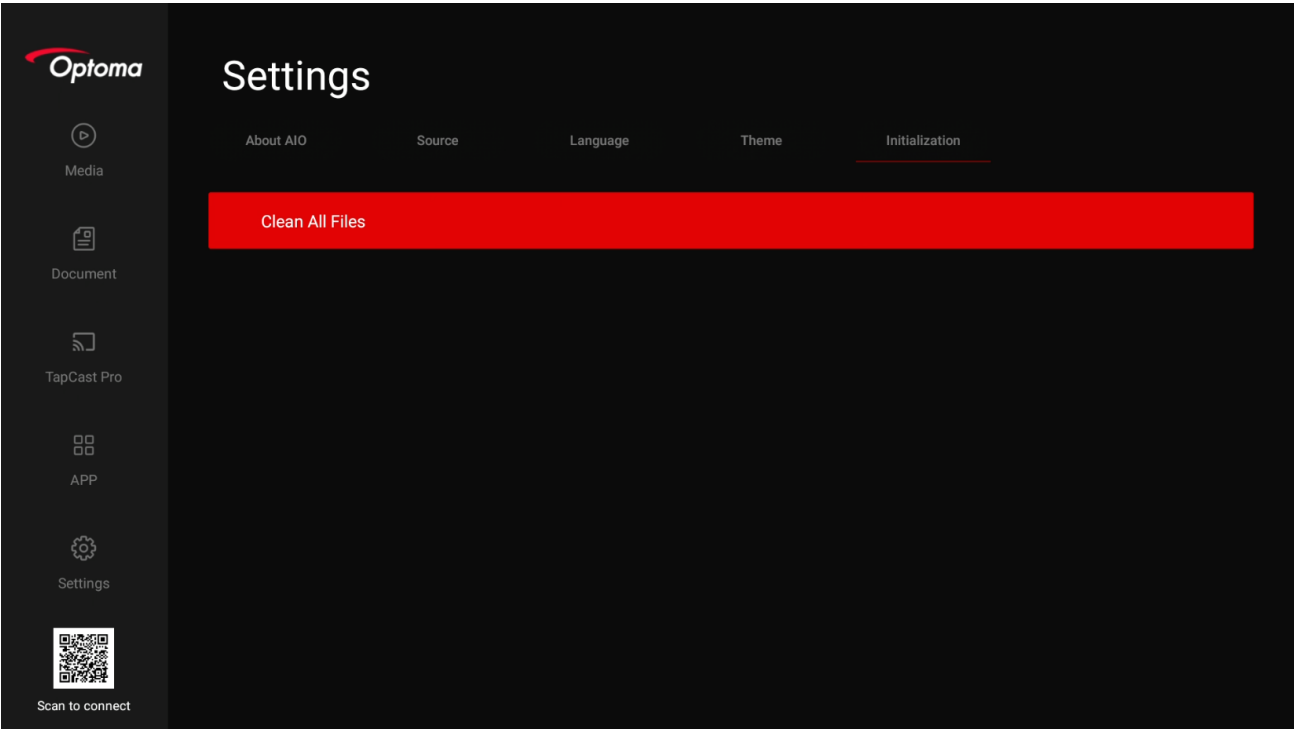
Appendix A   SPECIFICATIONS

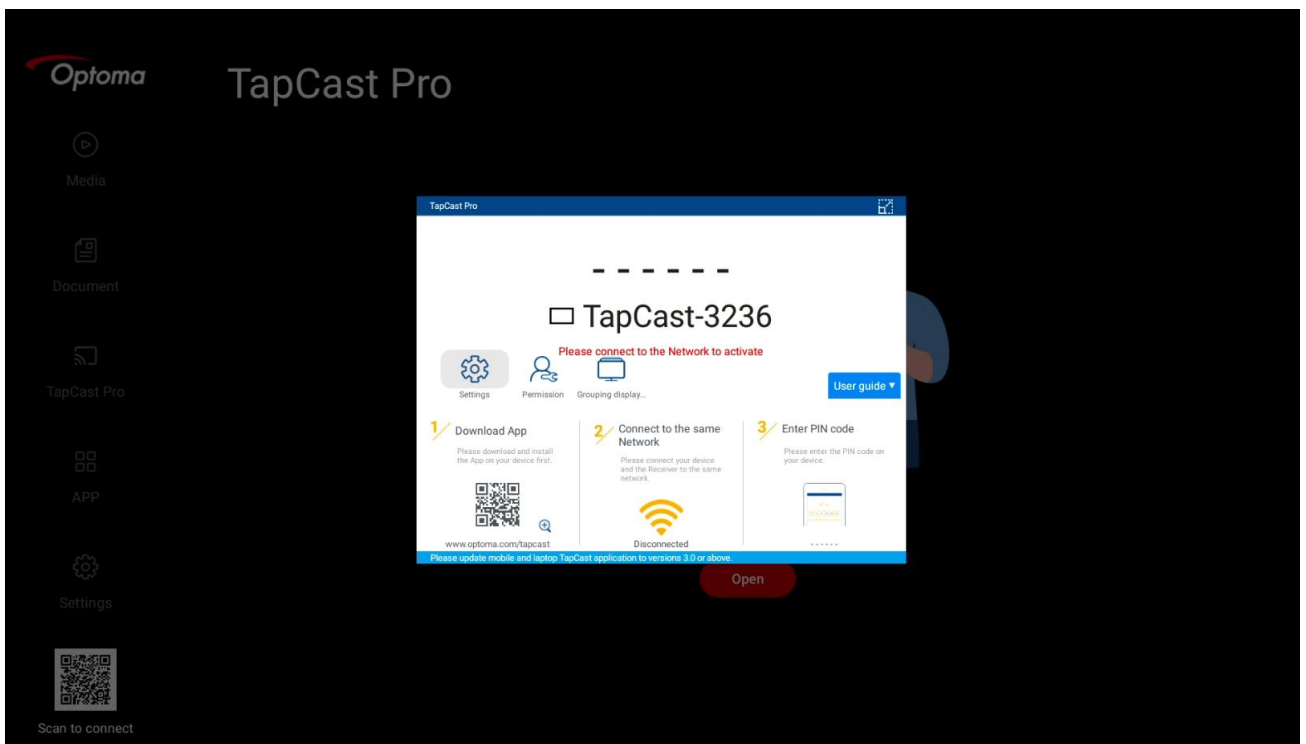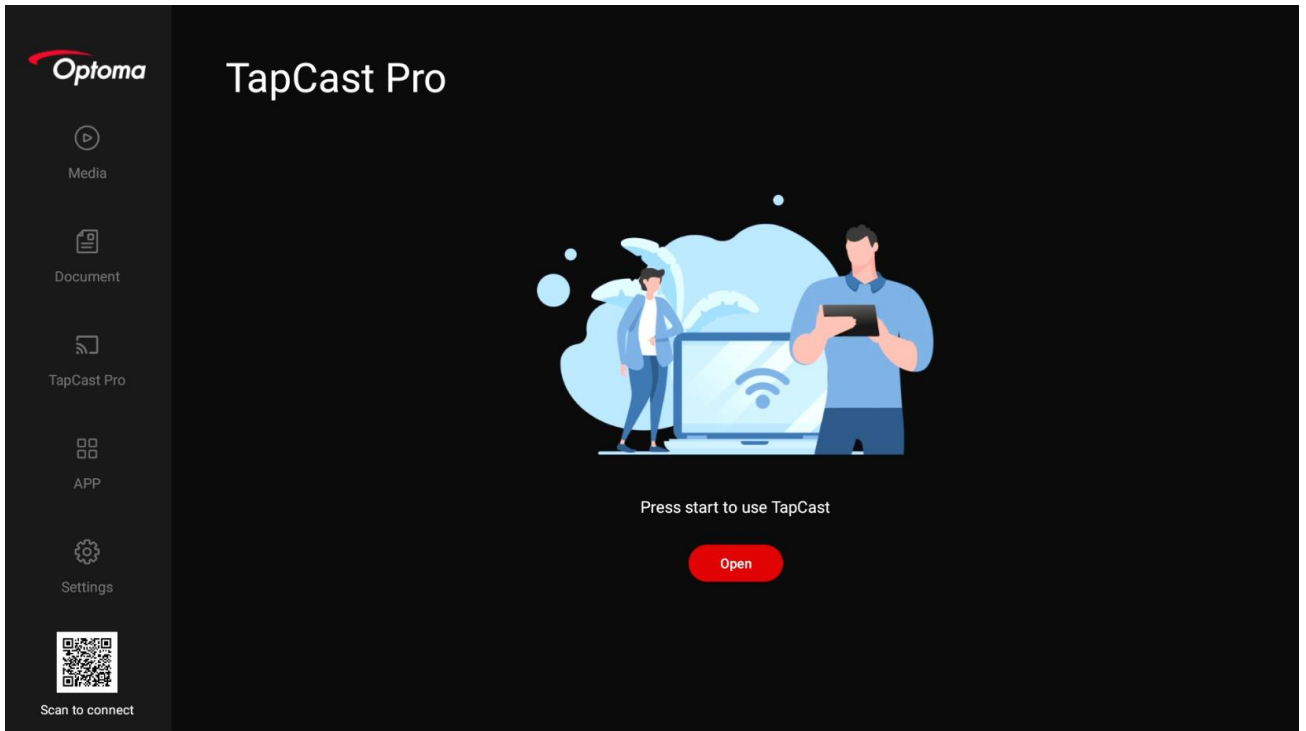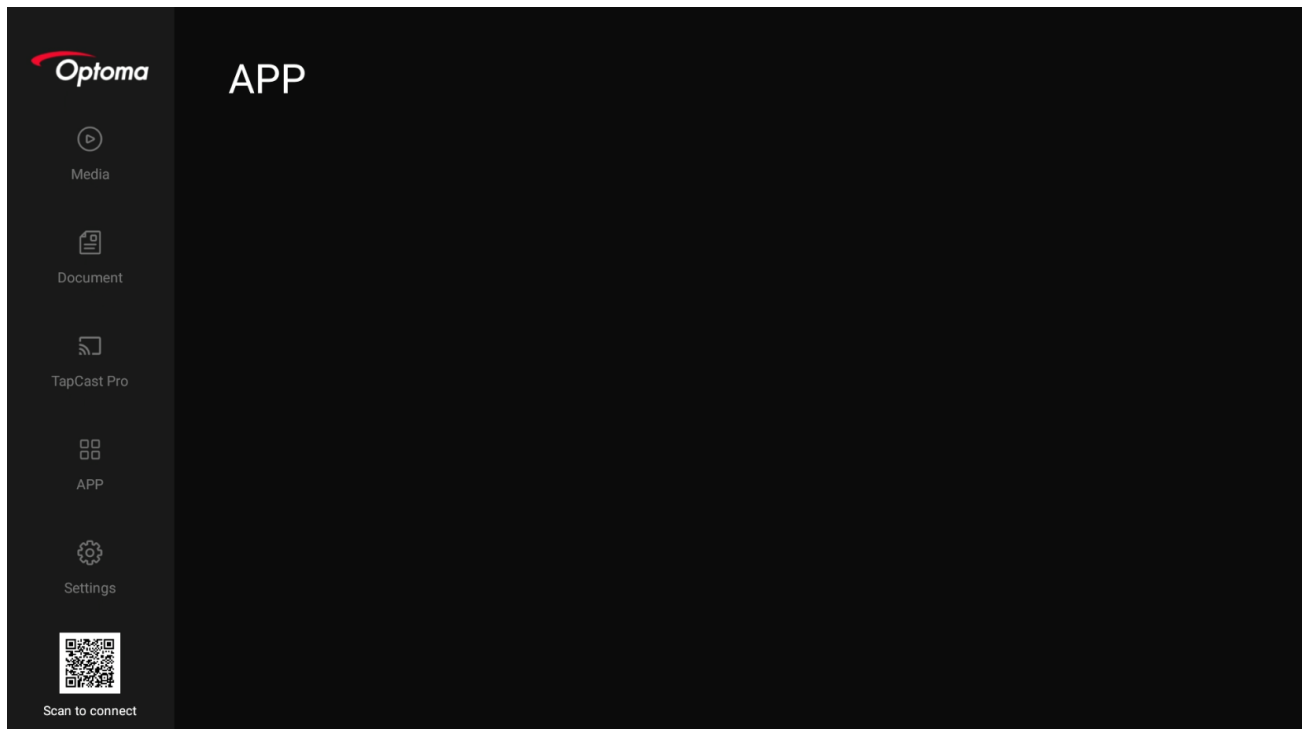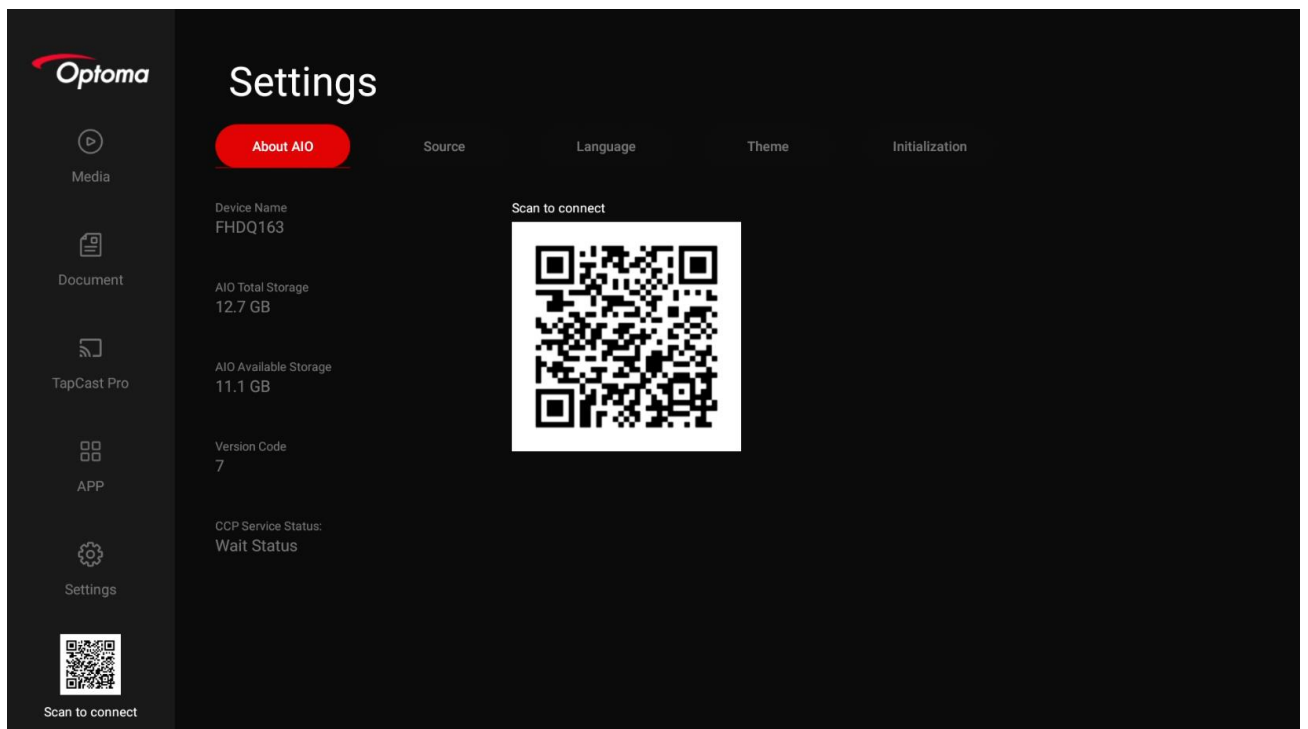| Parameter	Unit	Value	
Brightness	Nits	570±30	
Color temperature	deg. K	6,500	
Viewing angle - Horizontal (50% brightness)	deg.	140(+70/-70)	
Viewing angle - Vertical (50% brightness)	deg.	140(+70/-70)	
Panel weight(max)	kg / lb	200/441	
Weight(max)(sq.m)	kg / lb	27/60	
Panel diagonal/ Display diagonal	mm / ft	4,135.9/13.57	4,130.4/13.55
Panel width / Display width	mm / ft	3,604/11.82	3,600/11.81
Panel height / Display height	mm / ft	2,029/6.66	2,025/6.64
Panel depth(min)	mm / ft	35.5/0.12	
Panel area / Display area	sq.m / sq.ft	7.31/78.7	7.29/78.5
Panel material		Aluminum	
Panel Color	/	Pantone Matte Black	
Aspect ratio		16:9	
Ingress protection(Front/rear)	IP	IP20/IP20	
Operating / storage temperature	deg. C	0 to +40 / -10 to 60	
Operating / storage humidity	%	< 90 (Without condensation)	
LED Supplier		Prosperous Star	
LED type & configuration	R/G/B	SMD 4 in 1 LED	
Pixel pitch	mm	1.875	
Pixel matrix per Panel		1,920x1,080	
Pixels per Panel		2,073,600	
Pixel Lines per meter		533	
Pixels per sq. meter		284,444	
Recommended minimum viewing distance	m	1.8	
Colors		281 Trillion	
Grey scale (linear)	Levels	65,536 levels per color	
Brightness control	Levels	100	
Contrast ratio		5,000:1	
Processing depth	bit	16	
System type		M4	
Video frame rate	Hertz	50/60	
Display refresh rate	Hertz	≥3,560	
Input voltage (nominal)	VAC	200 to 240	
Input power frequency	Hertz	50 to 60	
Input power (max)	VA	3,000	
Lifetime (50% brightness)	Hours	≥100,000	
Panel input format		USB/HDMI/LAN/VGA/3G-SDI/WIFI	
Data interconnection		HDMI/LAN/VGA/3G-SDI/WIFI	
Mounting system		Wall Mount, Hanging or Stand with support	
Panel Maintenance		Front Access	

（PB）

* Specification subjected to change without prior notice

PC Compatibility

PC Compatibility							
Mode	Resolution	Refresh Rate (Hz)	SDI	HMDI 1	HDBT	HDMI 2	PC Compatibility
SVGA	800 x 600	56	NO	YES	YES	YES	YES
		60	NO	YES	YES	YES	YES
XGA	1024 x 768	60	NO	YES	YES	YES	YES
720p	1280 x 720	50	YES	YES	YES	YES	YES
		60	YES	YES	YES	YES	YES
WXGA	1280 x 800	60	NO	YES	YES	YES	YES
SXGA	1280 x 1024	60	NO	YES	YES	YES	YES
FWXGA	1366 x 768	60	NO	YES	YES	YES	YES
SXGA+	1400 x 1050	60	NO	YES	YES	YES	YES
WXGA+	1440 x 900	60	NO	YES	YES	YES	YES
UXGA	1600 x 1200	60	NO	YES	YES	YES	YES
1080i		50	YES	YES	YES	YES	YES
		60	YES	YES	YES	YES	YES
1080p	1920 x 1080	24	YES	YES	YES	YES	YES
		30	YES	YES	YES	YES	YES
		50	YES	YES	YES	YES	YES
		60	YES	YES	YES	YES	YES

Appendix B Optional Module

◆ **GIM (Optional module)**
GIM is is extra slot-card for AIO display. Please contact local sales for more detailed information.

◆ **OPS**
Compatible with Intel standard 80-pin OPS system. OPS Power spec: 60W(max), 12V, 5A.
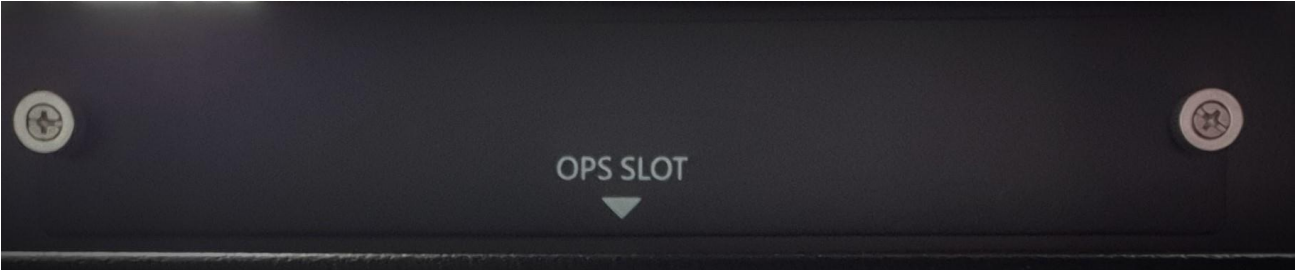
Appendix C Procedure for Intelligent Module Replacement

If the intelligent module malfunctions, you can replace it using the following procedure:

1. Power off the LED display;
2. Locate the non-functioning intelligent module;
3. Remove the intelligent module using the magnetic tool;
4. Mount a new intelligent module back in the same position as the malfunctioning one;
5. Make sure the intelligent module is firmly mounted;
6. Power on the LED display ;
7. Please check and make sure that the replacement intelligent module is functioning properly.

Appendix D Troubleshooting Guide

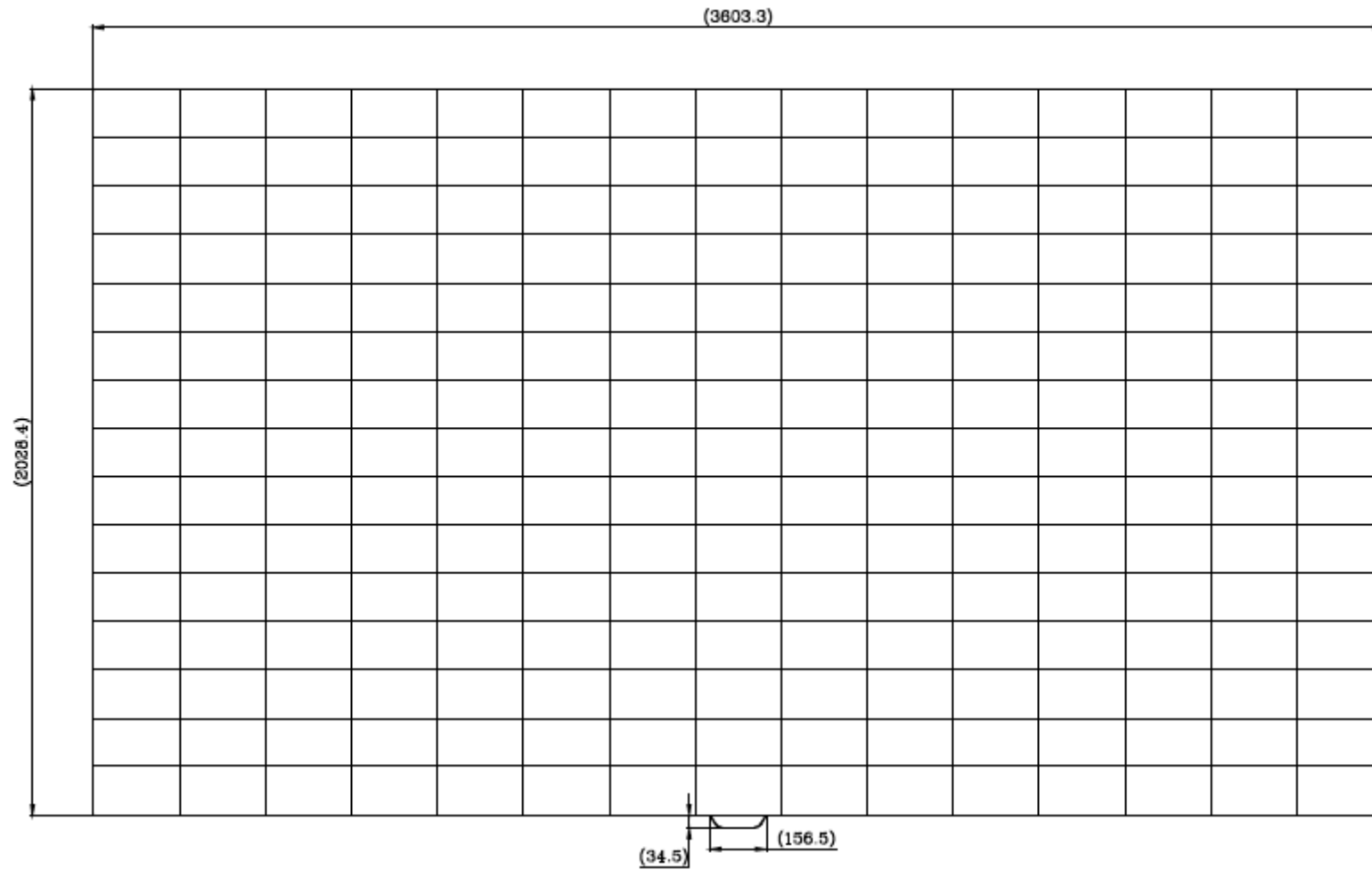|	Description	Inspection	Remove/replace
1	The screen is blurred.	Check to see if the source is correct. Check to see if the wire and connector are damaged.	Signal source, signal source connection wire
2	Picture discontinuity.	Check to see if the screen reference has been modified.	Recorrect screen parameters (reference manual or operated by a professional)
3	The picture is too dark.	Check to see if the source is correct. Check to see if the wire and connector are damaged. Use the remote control to adjust the brightness or use the on-screen buttons to adjust the brightness.	–
4	Unable to enter system.	Professional after-sales support required.	–
5	The green light keeps flashing after starting.	Professional after-sales support required.	–
6	The remote control is not working.	Check and replace with the same type of remote control battery, Check to see if the IR is aligned with the screen when using.	Replace with the same type of remote control battery.
7	The left and right of the screen are not horizontal.	Check to see if placement is horizontal. Confirm that the screen is installed correctly.	–
8	No audio output	Check the remote control battery and replace with the same type of battery, Check to see that the IR is aligned with the screen when using. Check to see if the signal source has audio or not. The audio is not controlled by remote control when synchronizing signals.	–
9	Audio output volume is too low.	Check to see if the signal source has an audio source or not. The volume cannot be controlled on the screen when synchronizing signals. Check to see if the IR is aligned with the screen when using. Check if the screen button function is normal.	–

15x15 IM

(3603.3)

(2028.4)

(34.5) (156.5)
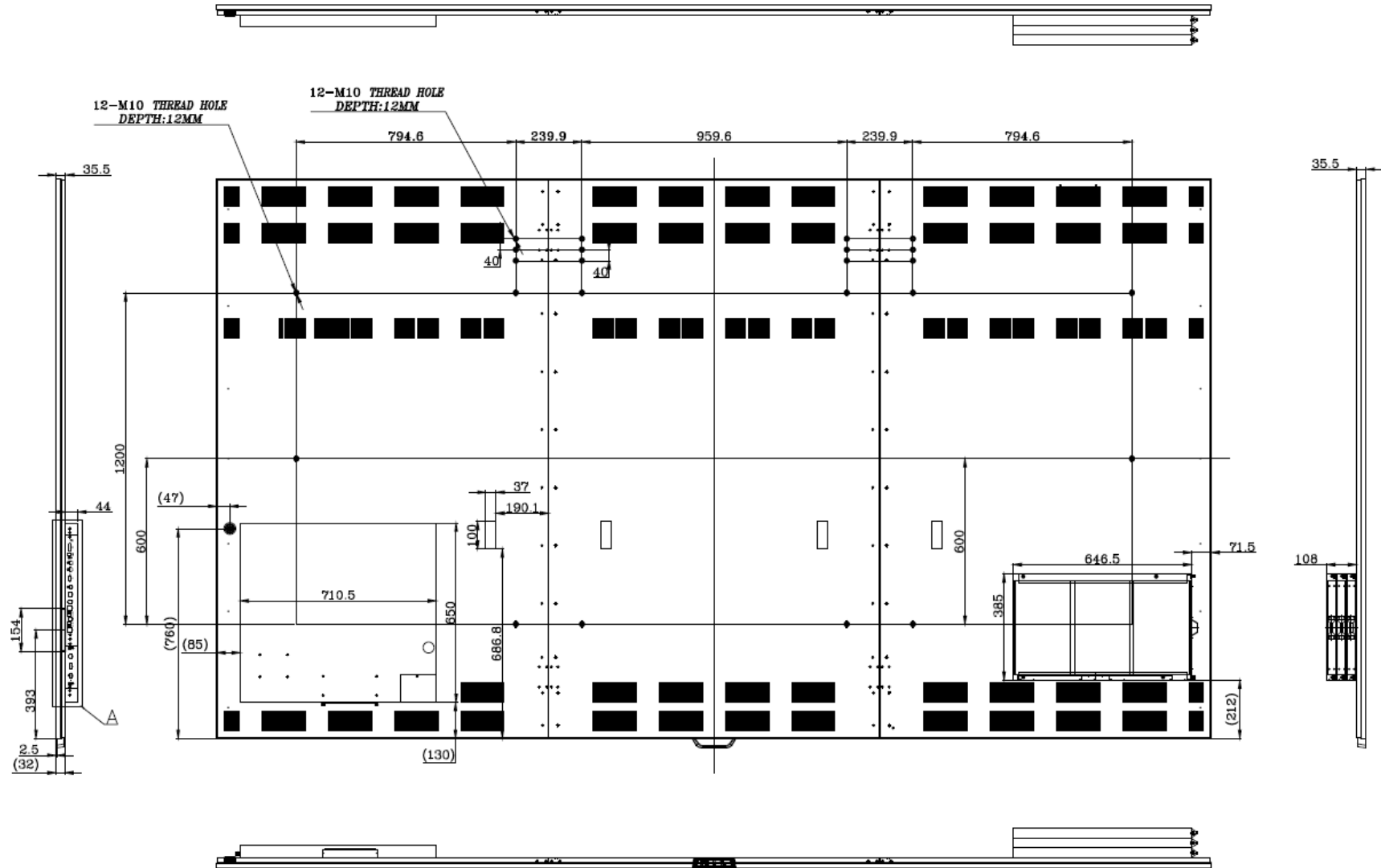
Appendix F RS232 Command List

Function	Values	Default Value	CMD	CMD	Set Para.	HEX Code	Fail	Pass	Read CMD	Read CMD	CMD Value	Read HEX Code	Fail	Pass
Brightness	0 ~ 100	100	~ X X 2 1	~XX21	0~100	7E 30 30 32 31 20 30 0D to 7E 30 30 32 31 20 31 30 30 0D	F	P	~XX125	~ X X 1 2 5	1	7E 30 30 31 32 35 20 31 0D	F	o k 0~100
Main Input	HDMI1	HDMI1	~ X X 1 2	~XX12	1	7E 30 30 31 32 20 31 0D	F	P	~XX121	~ X X 1 2 1	1	7E 30 30 31 32 31 20 31 0D	F	o k 7
	HDMI2		~ X X 1 2	~XX12	15	7E 30 30 31 32 20 31 35 0D	F	P	~XX121		1	7E 30 30 31 32 31 20 31 0D	F	o k 8
	VGA		~ X X 1 2	~XX12	5	7E 30 30 31 32 20 35 0D	F	P	~XX121		1	7E 30 30 31 32 31 20 31 0D	F	o k 2
	3G-SDI		~ X X 1 2	~XX12	22	7E 30 30 31 32 20 32 32 0D	F	P	~XX121		1	7E 30 30 31 32 31 20 31 0D	F	o k 18
	HDBaseT		~ X X 1 2	~XX12	21	7E 30 30 31 32 20 32 31 0D	F	P	~XX121		1	7E 30 30 31 32 31 20 31 0D	F	o k 16
	Multimedia		~ X X 1 2	~XX12	23	7E 30 30 31 32 20 32 33 0D	F	P	~XX121		1	7E 30 30 31 32 31 20 31 0D	F	o k 17
PIP Input	HDMI1	HDMI2	~ X X 3 0 5	~XX305	1	7E 30 30 33 30 35 20 31 0D	F	P	~XX131	~ X X 1 3 1	1	7E 30 30 33 33 31 20 31 0D	F	o k 7
	HDMI2		~ X X 3 0 5	~XX305	4	7E 30 30 33 30 35 20 34 0D	F	P	~XX131	~ X X 1 3 1	1	7E 30 30 31 33 33 31 20 31 0D	F	o k 8
	VGA		~ X X 3 0 5	~XX305	2	7E 30 30 33 30 35 20 32 0D	F	P	~XX131	~ X X 1 3 1	1	7E 30 30 31 33 31 20 31 0D	F	o k 2
	HDBaseT		~ X X 3 0 5	~XX305	10	7E 30 30 33 30 35 20 31 30 0D	F	P	~XX131	~ X X 1 3 1	1	7E 30 30 31 33 31 20 31 0D	F	o k 16
	3G-SDI		~ X X 3 0 5	~XX305	11	7E 30 30 33 30 35 20 31 31 0D	F	P	~XX131	~ X X 1 3 1	1	7E 30 30 31 33 31 20 31 0D	F	o k 17
PIP Input	Off	Off	~ X X 3 0 2	~XX302	0	7E 30 30 33 30 32 20 30 0D	F	P						
	Enable		~ X X 3 0 2	~XX302	1	7E 30 30 33 30 32 20 31 0D	F	P						
PIP Location	PIP-Bottom Right	PIP-Top Left	~ X X 3 0 3	~XX303	4	7E 30 30 33 30 33 20 34 0D	F	P						
	PIP-Bottom Left			~XX303	3	7E 30 30 33 30 33 20 33 0D	F	P						
	PIP-Top Left			~XX303	1	7E 30 30 33 30 33 20 31 0D	F	P						
	PIP-Top Right			~XX303	2	7E 30 30 33 30 33 20 32 0D	F	P						
PIP Size	Large	Large	~ X X 3 0 4	~XX304	1	7E 30 30 33 30 34 20 31 0D	F	P						
	Medium			~XX304	2	7E 30 30 33 30 34 20 32 0D	F	P						
	Small			~XX304	3	7E 30 30 33 30 34 20 33 0D	F	P						
Audio	0 ~ 15	15	~ X X 8 1	~XX81	0~15	7E 30 30 38 31 20 30 0D to 7E 30 30 38 31 20 31 35 0D	F	P						
Phase	0 ~ 31	0	~ X X 7 4	~XX74	0~31	7E 30 30 37 34 20 30 0D to 7E 30 30 37 34 20 33 31 0D	F	P						
Factory Reset	1		~ X X 1 1 2	~XX112	1	7E 30 30 31 31 32 20 31 0D	F	P						
Power On	1		~ X X 0 0	~XX00	1	7E 30 30 30 30 20 31 0D	F	P	~XX124	~ X X 1 2 4	1	7E 30 30 31 32 34 20 31 0D	F	o k 1
Power Off	0		~ X X 0 0	~XX00	0	7E 30 30 30 30 20 30 0D	F	P	~XX124	~ X X 1 2 4	1	7E 30 30 31 32 34 20 31 0D	F	o k 0
FW Version	1								~XX122	~ X X 1 2 2	1	7E 30 30 31 32 32 20 31 0D	F	o k nnnn

Appendix G Wi-Fi Hotspot SSID and Password

Password:123456789