GAUSYS
GAU AXIS

Compact KIOSK

HS101 Series

User Manual V 1.0

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Precaution Segment

Changes to the HS101 user manual are listed below.

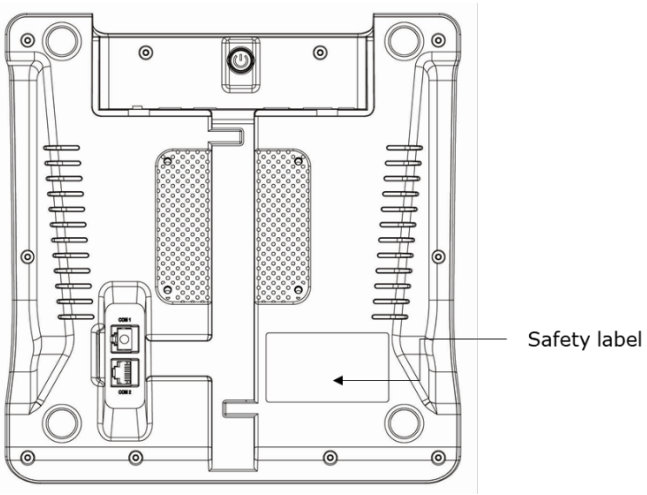
Revision No.	Revision History	Date
GS_CKHSX10	Draft	26.Nov.2019

Information

Safe Labels

HS101 devices meet or exceed the requirements of all applicable standards organizations for safe operation. However, as with any electrical equipment, the best way to ensure safe operation is to operate them according to the agency guidelines that follow. Please read these guidelines carefully before using your HS101.

Location



Safety Label,
Regulatory and safety Approvals

Parameter	Specification
European Community CE	The CE Mark on the product indicates that the system has been tested to and conforms with the provisions noted within the 89/336/EEC Electromagnetic Compatibility Directive and the 73/23/EEC Low Voltage Directive

Federal Russia	
U.S.A	This device complies with part 15 of the FCC rules. Operation is subject to the following two condition: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.
Republic of Korea	

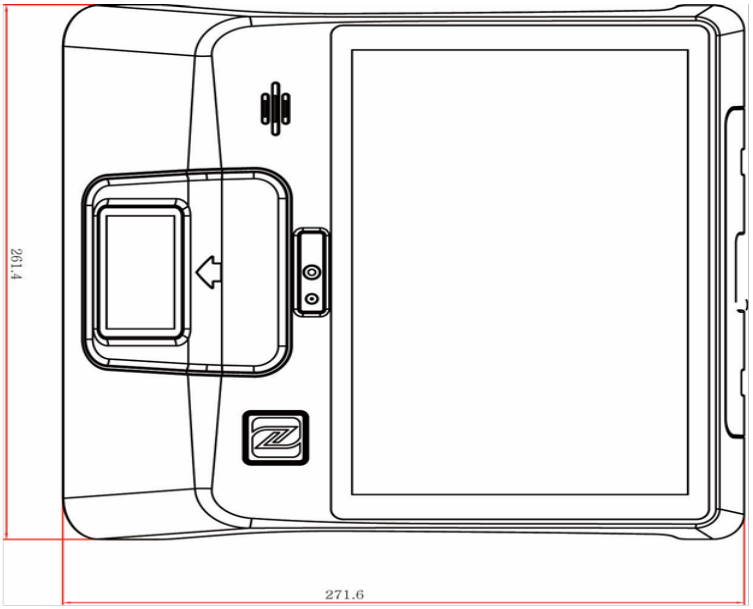
NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED
BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

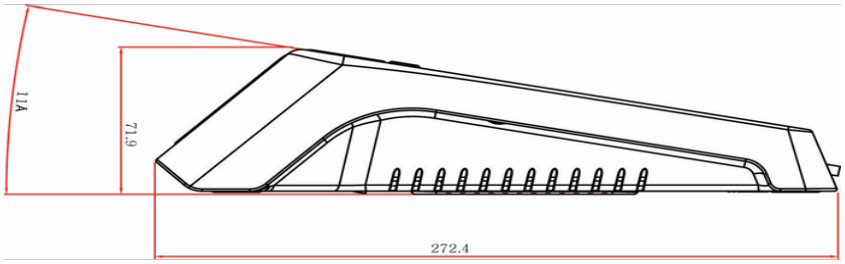
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate 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:

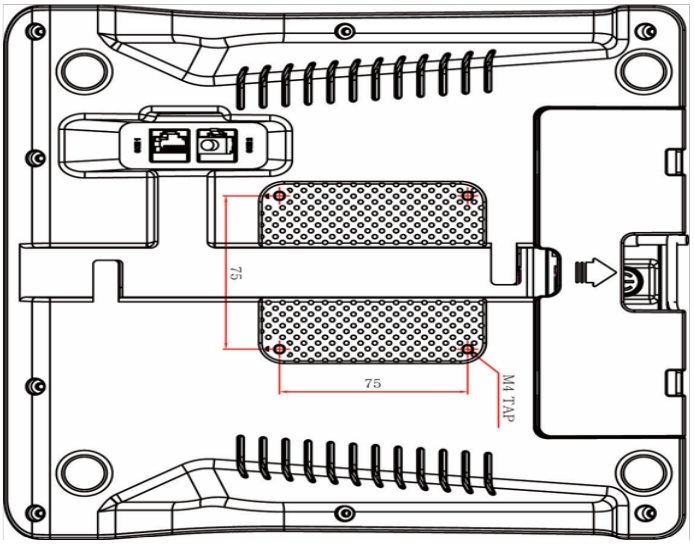
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Statement:
This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Specification – Out Dimension







HS101 Specification - Hardware

System Performance	
Processor	Rockchip RK3288, Quadcore A17 1.8GHZ
OS	Android 7.1
Memory	LPDDR3 2GB / eMMC 8GB (Up to 16GB)
Display	10.1" (1280X800) with 5-point PCAP Touch
Network (Wire)	10/100Mbps Ethernet
(Wireless, Option)	2.4GHz Wi-Fi, Bluetooth 4.0
RFID	ISO 14443 A, ISO/IEC 15693, Mifare, Mifare +, Felica(option)
I/O Port	2 USB(or 1USB, 1 OTG), 1 HDMI, 1 Audio, 2 COM(RJ45 Type), 1 Micro SD
Speaker	2W
Camera	5MP, Active array size: 2593 X 1944
Data inputs	
Decoding Capability	**1D:** Barcode (1D): JAN/UPC/EAN incl. add on, Codabar/NW-7, Code 11, Code 39, Code 93, Code 128, GS1-128(EAN-128), GS1 Databar (RSS), IATA, Industrial 2of5,Interleaved 2of5, ISBN-ISSN-ISMN, Matrix 2of5, MSI/Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey, Postal code: Chinese Post, Intelligent Mail Barcode, Korean Postal Authority code, POSTNET **2D:** Aztec Code, Aztec Runes, Chinese Sensible code, Codablock F, Composite codes, Data atrix(ECC200), Passport MRZ (OCR-B), maxi Code (mode2~5), icroPDF417, MicroQR Code, PDF417, QR Code 컵
Physical	
Dimensions	261(W) X 272(L) X 72(H)
Power	Adapter: 12V 3A
	PoE(Power over Ethernet 802.3af)
Temperature	Storage: -40°C ~ 60°C Working: 0°C ~ 50°C
Relative Humidity	0 ~ 95%
Approvals	
Certificate	KC, CE, EAC, FCC, RoHS Compliant

Warning

☆ Be sure not to sprinkle any liquid or fall any object into the unit

☆ The unit shall be used under dry, ventilated & clean environment away from sunlight.

☆ The product is a Level A one, it may cause radio interference in a living environment. In such a case, users may need to take practical & feasible measures against interference.

☆ In case of safety faults, such as peculiar smell, abnormal sound, leakage, and other faults, you must switch off the power supply at once and then contact with the reseller.

☆ When the device is not in use, you shall switch off the power supply and cover dust guard

☆ The front is glass, so be careful about impact shock.

☆ Be careful of power connection when using PoE.

Warning:

1. Static may damage the integrated circuit in the host machine.
2. If a replaced adapter is not right, this may cause an explosion or serious damage.
   Must replace the same type of adapter similar ones recommended by the manufacturer

The manufacturer has the right to modify the contents of the instruction book but without prior announcements!

Copyright

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Warranty

We guarantee our product and its parts against defects in materials workmanship, under proper use, for a standard period of 2 years from the original date of purchase. during this period, we will repair or replace defective and/or faulty products or parts without charge to the customer for parts and labor.

The 1st year includes servicing and new or refurbished replacement parts free of charge, with one-way shipping costs borne by the seller. the customer shall, however, be responsible for the return delivery costs. The 2nd year also includes free of charge servicing and parts, but a limited warranty requires the entire shipping cost to be borne by the customer.

Products out of the warranty period or scope shall be diagnosed at the customer's expense.

In the case of product damage due to error on part of the consumer, incorrect usage, carelessness or natural phenomenon, the customer shall bear the full cost for both repair and, delivery.

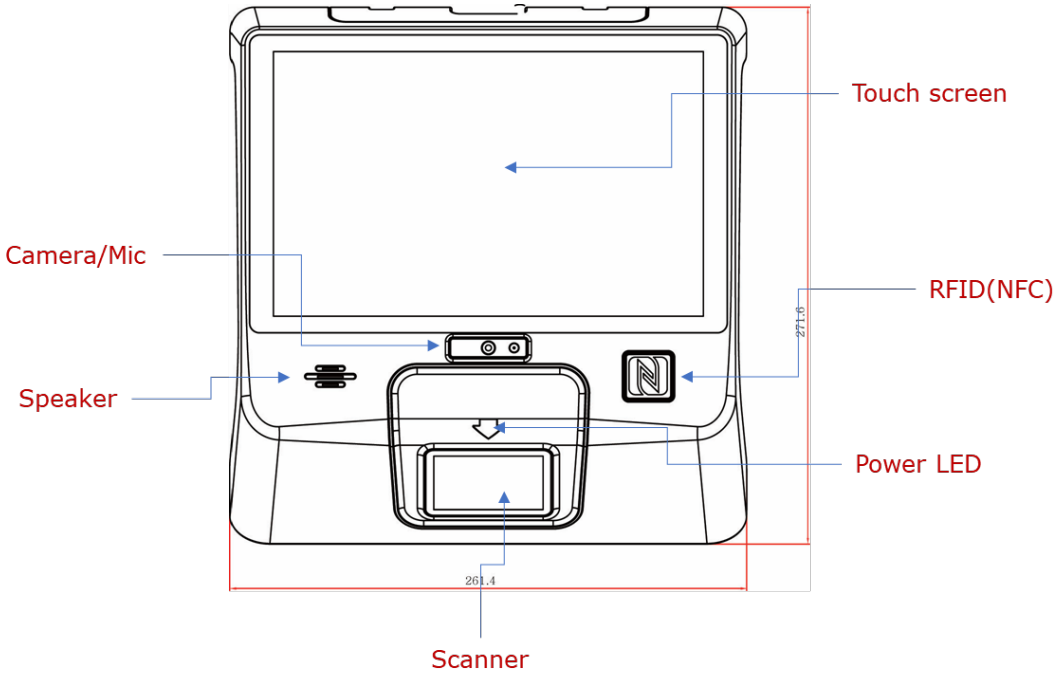
However, if there is a separate contract with the seller for warranty, the contract will take precedence.

1. Product overview

1.1 Configuration

Front Figure

This section describes features on the front of the HS101 device.



Touch Screen Display

The device features a 10.1-inch LED display that is backlight for maximum viewability, then covered with an industrial touch screen protector for maximum durability. The maximum resolution of the LCD is 1280x800 and the touch screen is a PCAP touch-type that may not work properly if you touch it with wet or oily hands. In addition, it does not work when you touch it by a product that has insulation components such as cloth or paper.

⚠ Use of objects, such as paper clips, pencils, or ink pens on the touch screen can damage the input panel and will void the warranty.

Contactless Card Reader (RFID, NFC)

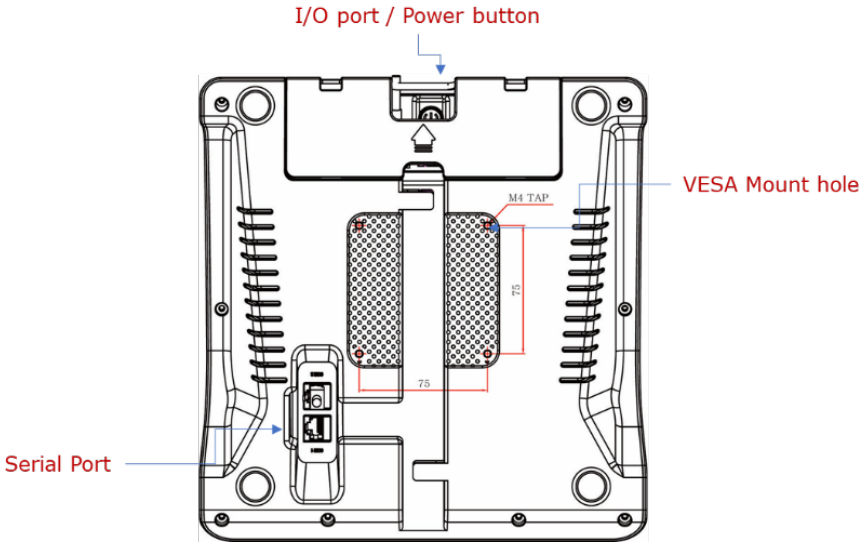
HS101 support to read the contactless card. Due to the characteristics of the reader, only one card can be recognized at a time, so if multiple cards are recognized at once, an error may occur or not be recognized. For more information about readable card type, see specification on page 12.

Barcode scanner

White and green illumination is automatically activated when the movement of an object is detected. When bar codes and green illumination match and the bar codes are recognized normally, the beep sounds. See the specification on page 21.

Back Figure

This section describes features on the back of the HS101 device



I/O Port

This device supports multiple I/O ports for customer convenience. See I/O port on page 13.

Serial Port

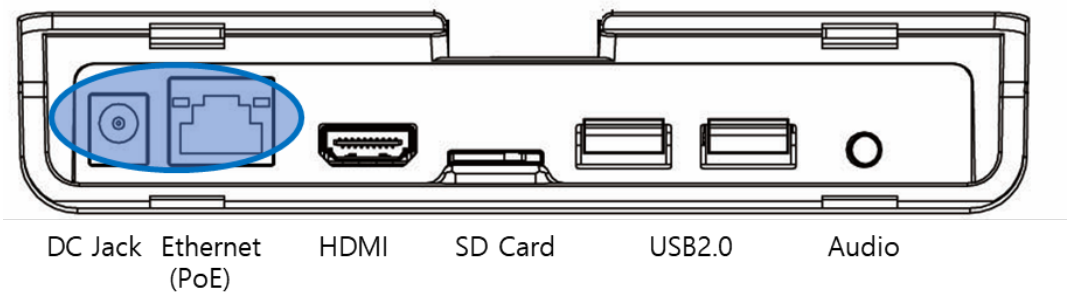
This device supports two RJ45 type Serial port for peripheral device interlocking

VESA mount hole

This device supports 75x75 standard VESA mount hole for attaching on the wall

Connector

DC Power Jack



DC power connector jack specification is outer size: Ø 6.3 inner pin size: Ø2.5

Ethernet (PoE)

This is a 10/100 Base-T communications port that supports wired ethernet communications with a standard RJ45 ethernet cable. The cable must be purchased separately. You can power the device through the ethernet cable. For more information, see on page 15.

HDMI

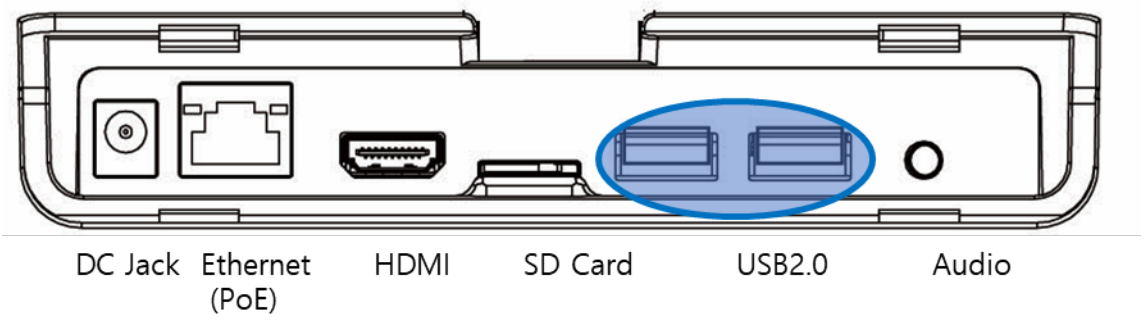
This is a 4K resolution HDMI port that supports 1080P resolution. And normally only can support clone mode.

SD card slot

This device support Micro SD card. It can support Maximum 4TB.

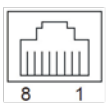
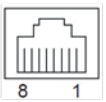
USB

The USB Host port features a 5V DC power pass-through and can host supported USB client devices. Multiple USB devices can be accommodated by plugging a USB HUB into the USB Host port. This is a four-pin connector and supports USB 2.0 communication. Debug mode is not supported by commercial products.



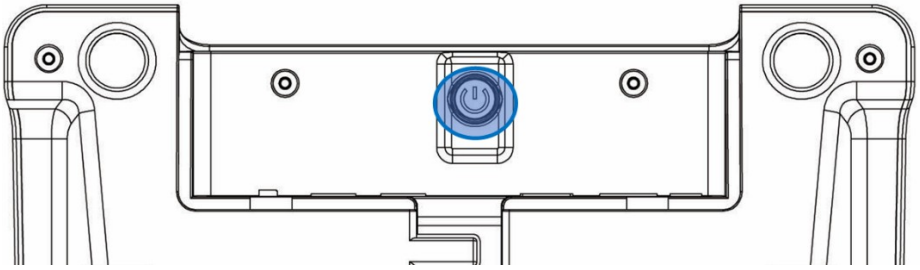
Serial Port

This device supports 2 serial ports of the RJ45 connector type. This port allows the connection of peripheral devices such as receipt printers and so on. For reference, it has to need a serial cable of the RJ45 connector type.

Com	Pin No.	Description	Remark
1	1		
	3	TX	
	4	RX	
	7	GND	
2	1		
	3	TX	
	4	RX	
	7	GND	

Power Button.

For power-on, the power button needs to be pressed for 1 second. If the system presses the power button



once while operating, the screen will turn off, and if you hold it for more than 1 second, the option to shut down the power will appear on the screen.

1.2 Connecting the Power and Communication cables

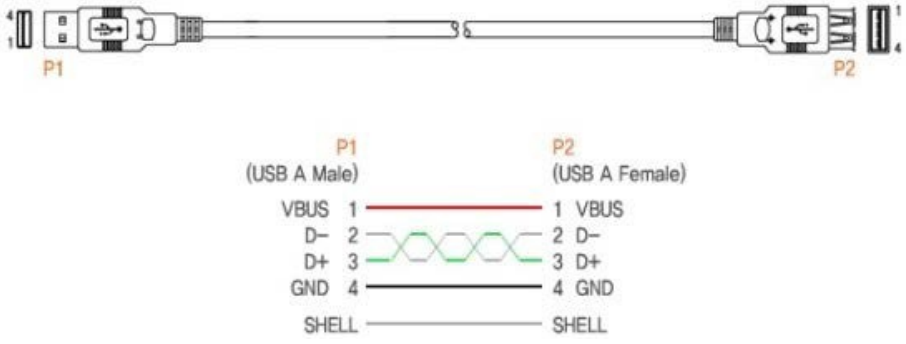
Standard Power Connection method.

The device can apply power through DC adapter and PoE. If the PoE and the DC adapter are connected at the same time, DC power is primary. However, there is no problem with the power supply even if one of the two is cut off.

Note**: For power supply via PoE, it is recommended that the UTP cable has to use on the **Category 5e or higher.

USB Cable (apply debug mode)

For the use of debug mode of device, to use debug mode of equipment, a cable with a USB A type is required at both ends to connect equipment and PCs.



Note: Debug mode is not supported for commercial products

Serial cable

To use the peripheral device with HS101, prepare the cable using the pin specifications see on page 14.

1.3 Mainboard

1.3.1 Mainboard Overview

This includes a description of the jumpers and connectors on the mainboard

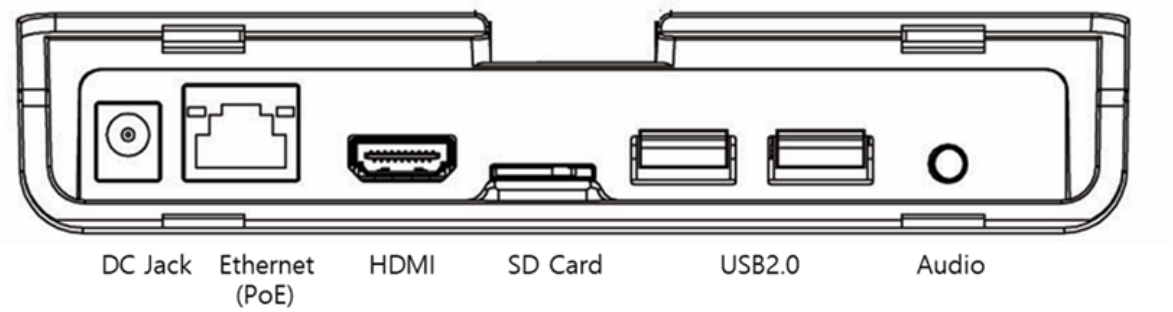
Warring

Take note of the following precautions before you install mainboard components or change any mainboard settings.

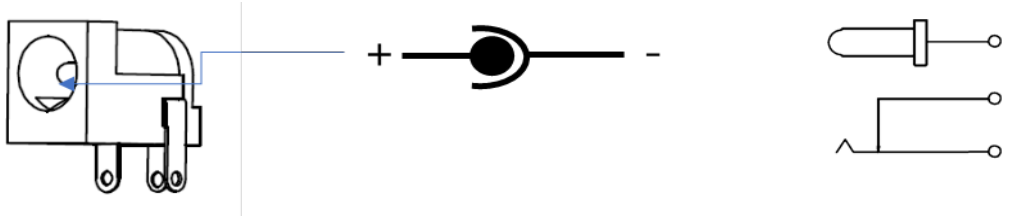
1. Unplug the power adapter (or PoE) from the wall socket (or Ethernet cable) before touching any component.
2. Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
3. Hold components by the edges to avoid touching the chipsets on them.
4. Whenever you uninstall any component, place it on a ground antistatic pad or in the bag that came with the component.
5. Before you install or remove any component, ensure that the DC power
6. Supply is switched off or the power cord is detached from the power supply. Failure to do so may cause

1.3.2 Mainboard Pin Assignment

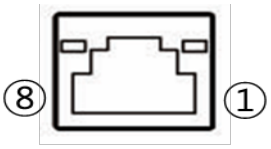
This includes description of the jumpers and connectors on the mainboard.



Power (Input) Port / Adapter Input – 12V 3A



Ethernet (PoE) Port (RJ45)



Pin Num	Description	Pin Num	Description
1	Receive +	5	+Vdc in
2	Receive -	6	TX-
3	Transmit +	7	-Vdc in
4	+Vdc in	8	-Vdc in

PoE: DC 44V~57V (PoE/PoE+), Cable CAT-5e)

1.4 Contactless Card (RFID, NFC)

NFC/HF RFID is a short-range wireless connectivity technology standard that enables secure transactions between a reader and a contactless smartcard or other NFC devices. The technology is based on ISO/IEC 14443 type A), and ISO/IEC 15693, and FeliCa standards using the HF 13.56 MHz unlicensed band.

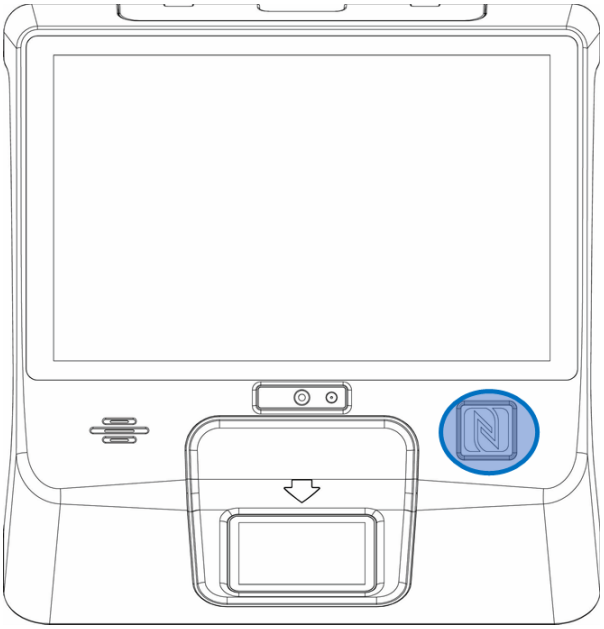
The device supports the following operating modes:

- Reader mode
- Peer-to-Peer communication
- Card Emulation mode.

Enable NFC Function:

- Exchange data with another NFC device.
- Emulate contactless cards such as payment, ticket, or Loyalty cards

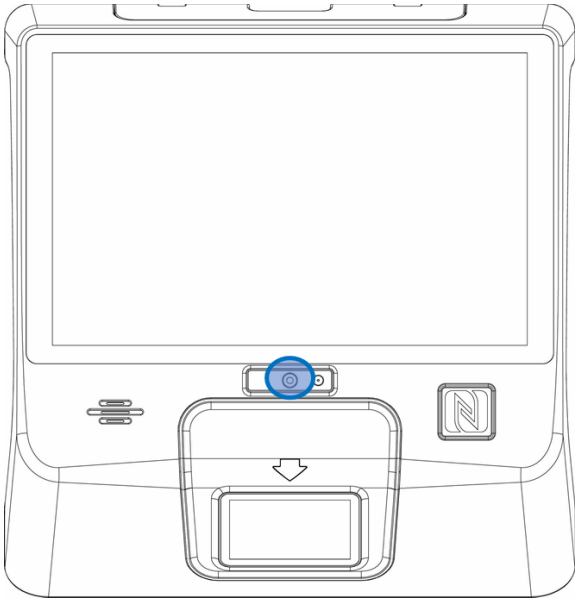
The device NFC antenna is positioned to read NFC cards from the back of the device while the device is being held. To read the NFC card, you must activate the reader's communication.



1.5 Camera

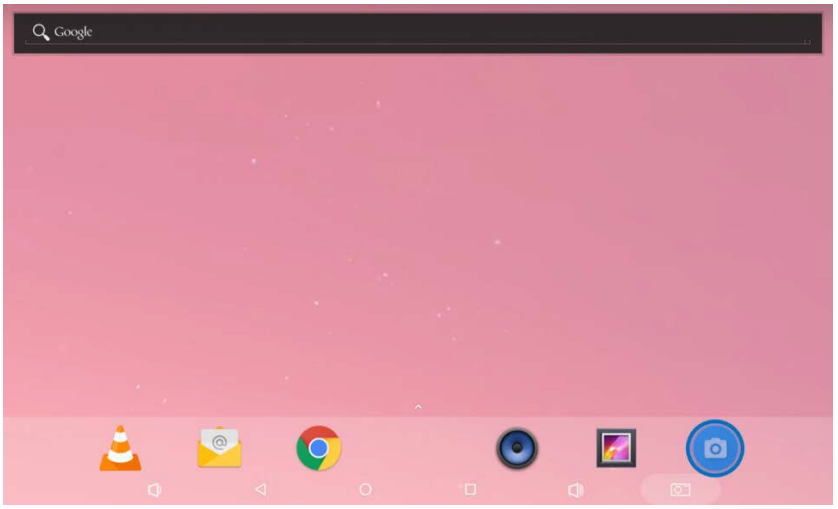
This Device support for taking photos and recording videos using the integrated digital cameras.

NOTE: The device saves photos and videos on the microSD card if installed and the storage path is changed manually. By default, or if a microSD card is not installed, the device saves photos and videos on the internal storage. The device saves photos and videos on the internal storage

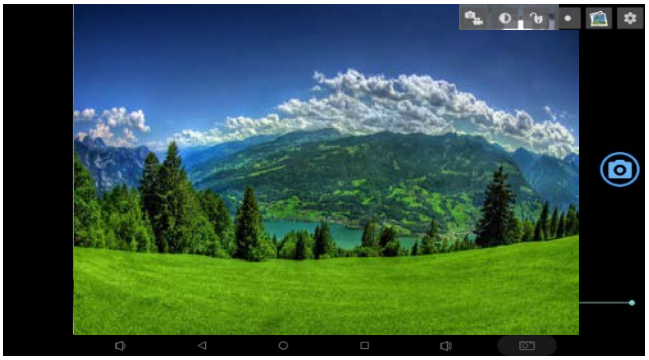


See Photo Settings for camera setting descriptions.

1. Click the Camera app on the bottom of the Home screen.



2. If necessary, take a picture touch the Camera mode icon

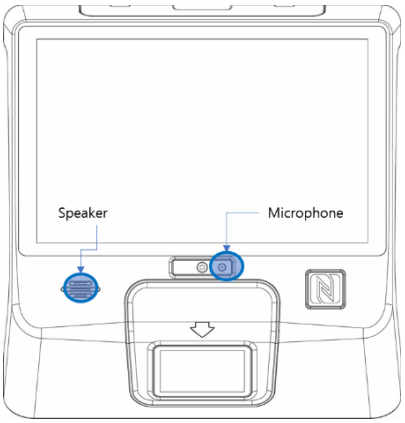


3. If you need to record a video, press the Change camera functions button.

Then the camera icon changes to the video icon.

Microphone and Speaker

HS101 has a small microphone that can record sound. It also has a 2W single speaker that can output sounds.



Remove the protective film for normal microphone use.

Be careful not to let any liquid enter the speaker hall.

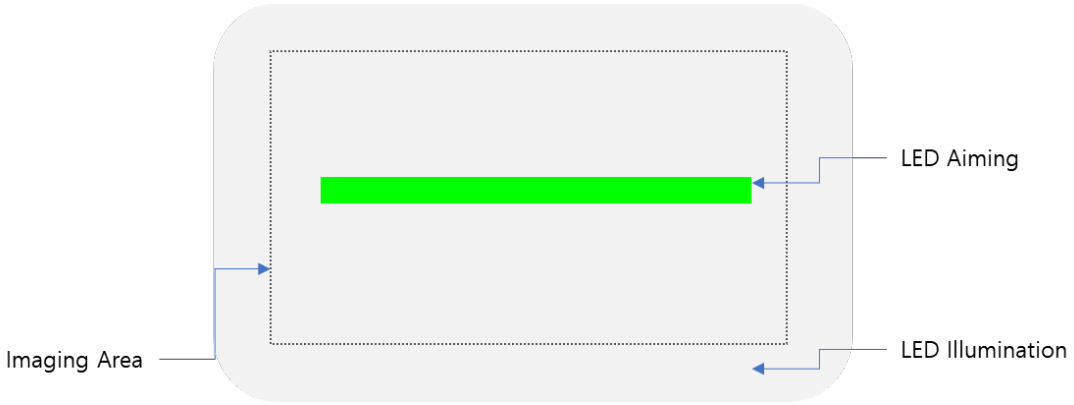
1.6 Barcode scanner

HS101 has barcode scanner for reading barcode. A few precautions are needed to ensure correct barcode reading.

1.6.1 Scan Area

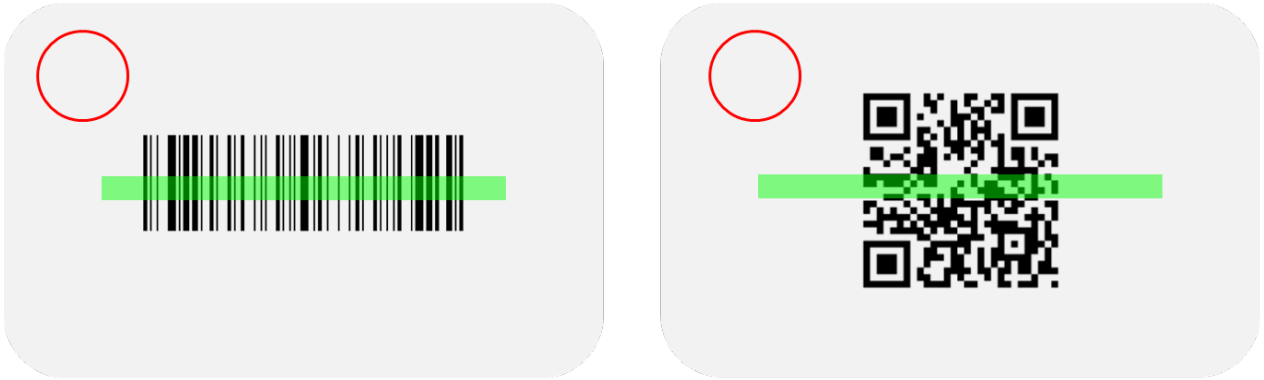
The scan engine reads the code by acquiring the image.

The following figure shows the reading LED illumination, LED aiming and imaging range.

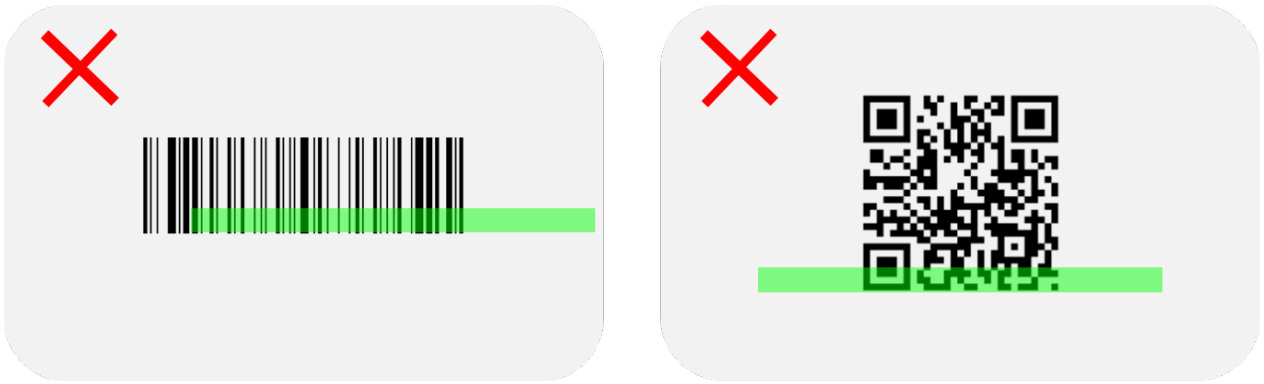


Appropriate LED aiming.

If the code including quiet zone is within the view angle, 360° rotation reading is possible.



Not appropriate LED aiming



1.6.2 Technical Specifications

Standard model reading characteristic

Item	Specificiatoin	Note
Minimum Resolution	Code 39 : 0.1 mm DS1 DataBar : 0.169mm Composite Code : 0.169mm PDF417 : 0.169mm QR Code : 0.169mm Data Matrix : 0.169mm	OPTOELECTRONICS test chart
Barcode width	Possible to read: Width 100 mm Code 39 Resolution 0.2 mm (DOF: 170 mm)	
Motion tolerance	Possible to read: UPC 100% moving at 2.54 m/s (DOC: 130 mm)	

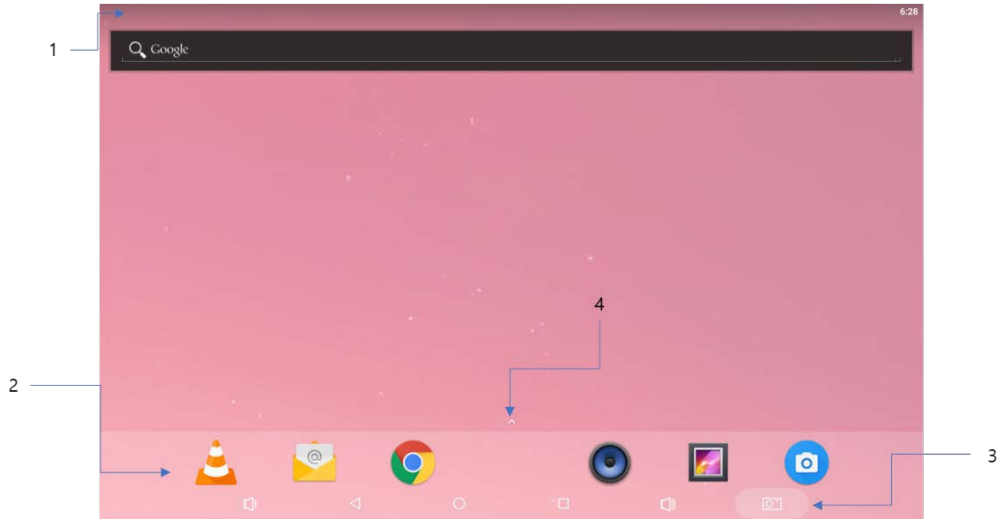
Standard model (UD) reading depth of field

Resolution mm(mil)	Symbology type	PCS(MRD)	Guaranteed Value		Typeical Value	
			Near	Far	Near	Far
0.076mm (3mil)	Code39	0.9 (0.8)	37mm (1.5")	58mm (2.3")	30mm (1.2")	67mm (2.6")
0.127mm (5mil)	Code39	0.9 (0.8)	37mm (1.5")	70mm (2.8")	25mm (1.0")	84mm (3.3")
0.254mm (10mil)	Code39	0.9 (0.8)	66mm (2.6")	95mm (3.7")	55mm (2.2")	110mm (4.3")
0.33mm (13mil)	UPC/EAN	0.9 (0.8)	68mm (2.7")	104mm (4.1")	52mm (2.1")	122mm (4.8")
0.084mm (3.3mil)	QR Code	0.9 (0.8)	44mm (1.7")	47mm (1.9")	35mm (1.4")	57mm (2.2")
0.381mm (15 mil)	QR Code	0.9 (0.8)	31mm (1.2")	94mm (3.7")	24mm (0.9")	111mm (4.4")
0.084mm (3.3mil)	Data Matrix	0.9 (0.8)	45mm (1.8")	50mm 2.0")	37mm (1.5")	57mm (2.2")
0.254mm (10mil)	Data Matrix	0.9 (0.8)	35mm (1.4")	74mm (2.9")	24mm (0.9")	88mm (3.5")

2. Software

2.1 Home Screen

When the device power on, the Home screen displays.

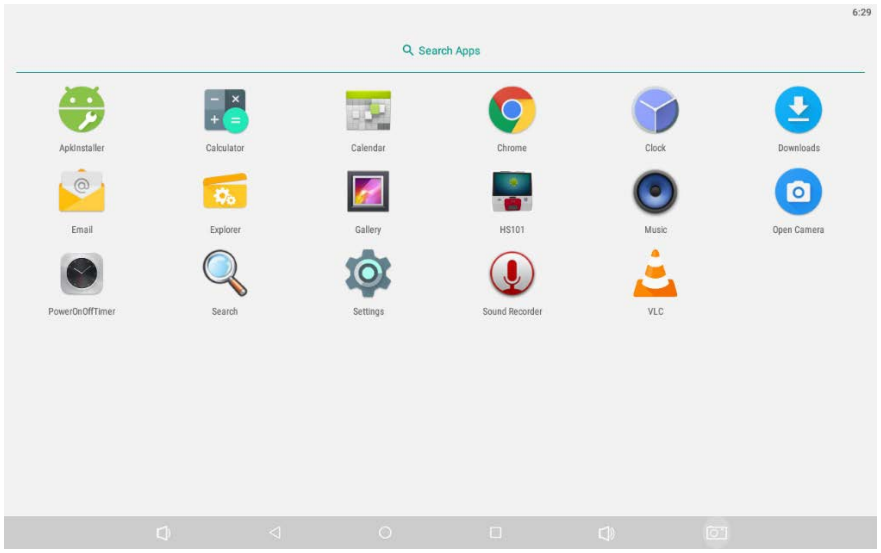


	Item	Description
1	Status Bar	Displays the time, status icons(right side), and notification icons(left side)
2	Shortcut Icons	Opens apps installed on the device
3	Home button	Valume up / Back / Home / Runed App / Valume Down / Screen Capture
4	All Apps	Opens the Apps window.

2.2 Accessing Apps

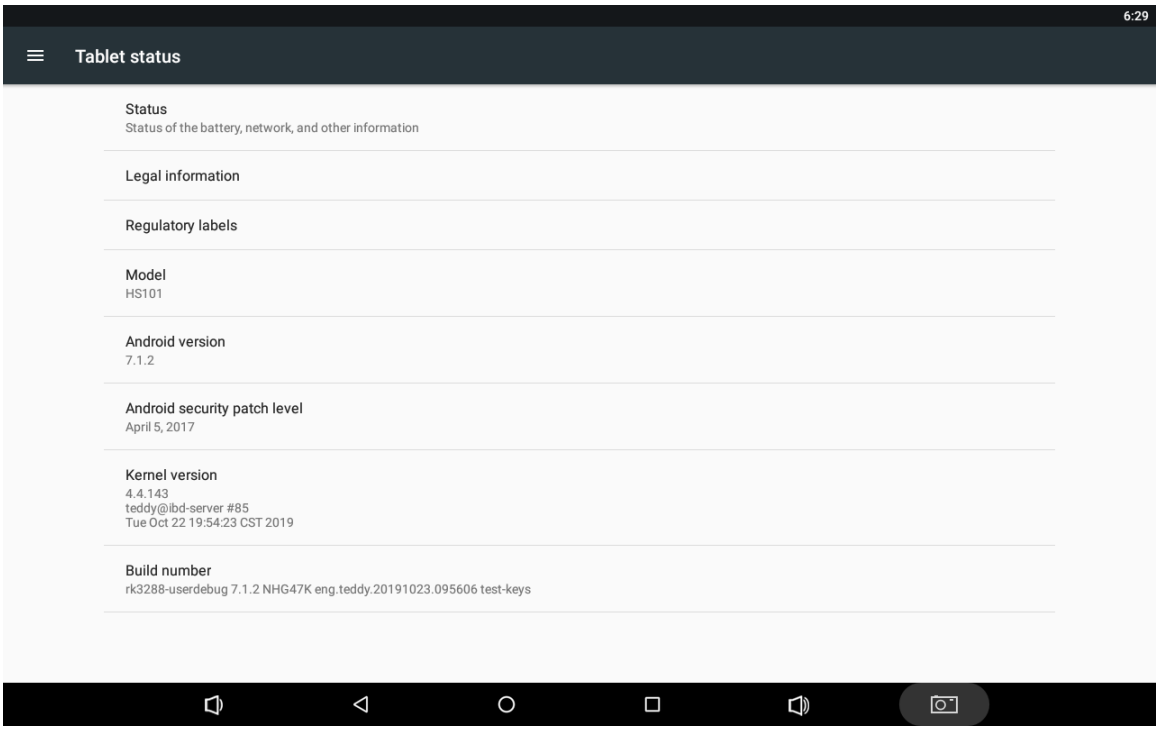
All apps installed on the device are accessed using the APPS windows

1. On the Home screen, swipe up from the bottom of the screen.



2. Slide the APPS window up or down to view more app icons. Touch an icon to open the app.

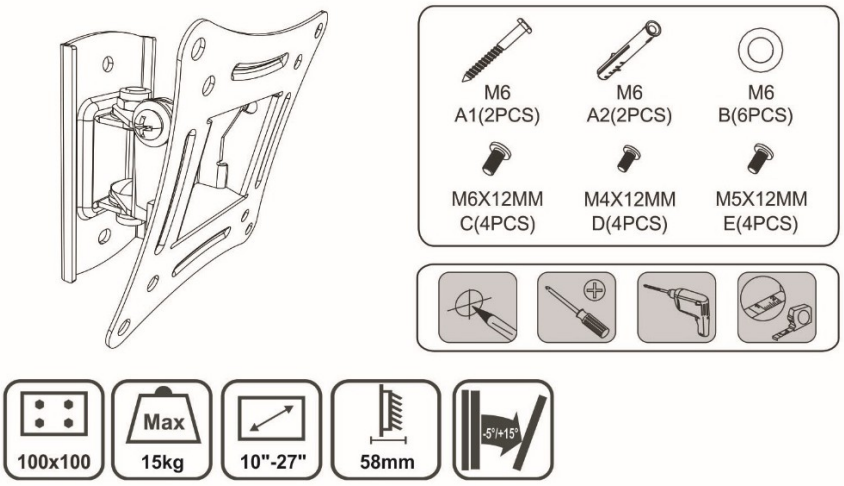
2.3 Check Device OS Image Version



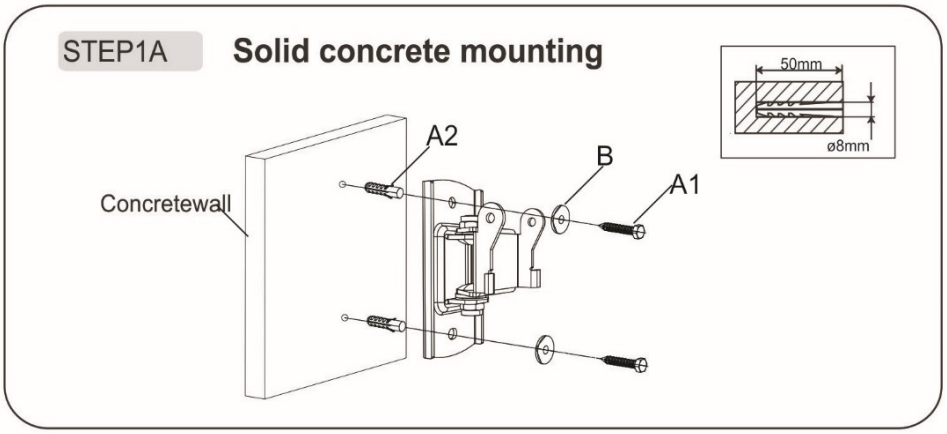
1. Can check OS Image version of Device through Build number.

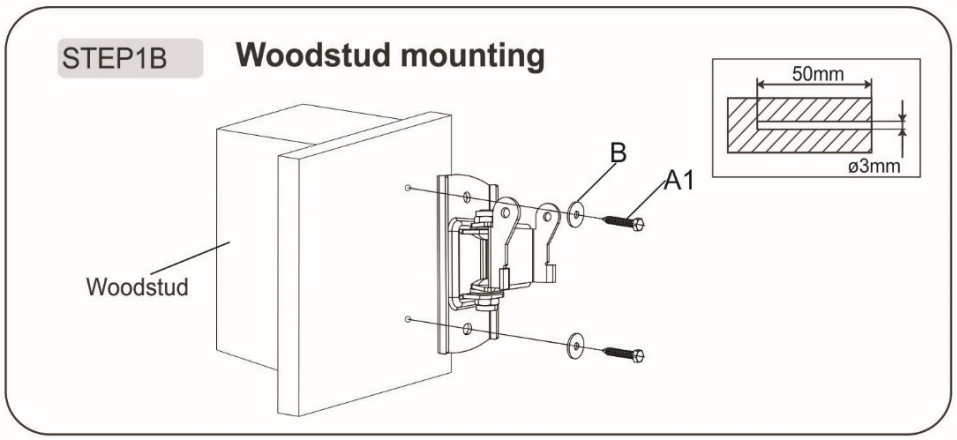
3. Install Wall Mount Bracket

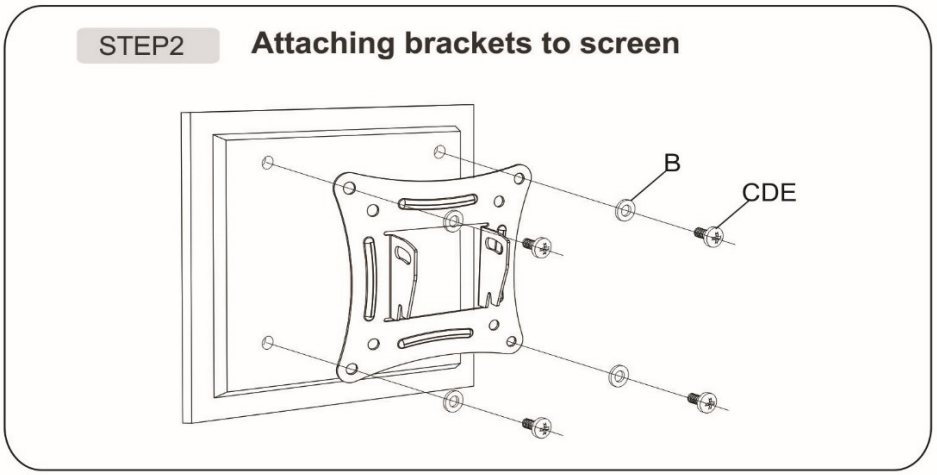
HS101is possible installation at the wall by a bracket. Installation is recommended by the following procedure.

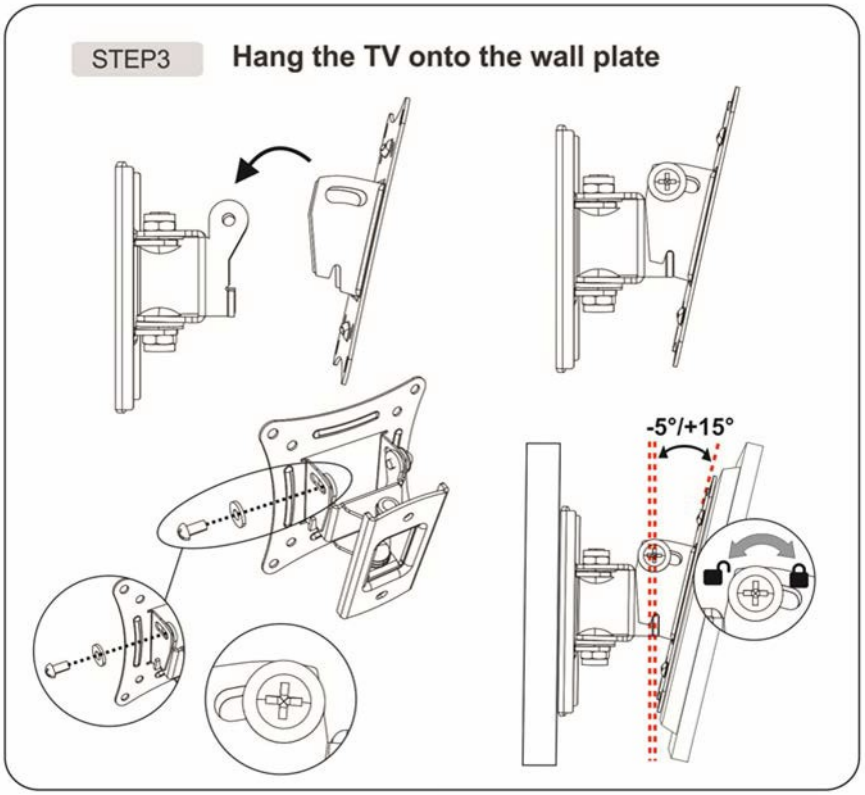


[Wall Mount Bracket package]


STEP1A
Solid concrete mounting
50mm
ø8mm
A2
B
A1
Concretewall


STEP1B
Woodstud mounting
50mm
ø3mm
B
A1
Woodstud


STEP2
Attaching brackets to screen
B
CDE


STEP3
Hang the TV onto the wall plate
-5°/+15°

4. Troubleshooting

- Network Issues

Symptom	Corrective Procedure
Cannot access LAN	◇ Check if hub or switch is working correctly ◇ Check RJ45 cable connection ◇ Check if LAN LEDs are on/off ◇ Reinstall LAN card ◇ Replace mainboard

- USB Issues

Symptom	Corrective Procedure
USB port doesn't work	◇ Check USB device state and connection ◇ Change USB device ※ There may be USB devices that are not supported on Android.

- Display Issues

Symptom	Corrective Procedure
Display doen't work	◇ Check LCD cale connection ◇ Check FPCB cable state and connection ◇ Change LCD panel

- Touchscreen Issues

Symptom	Corrective Procedure
Touchscreen doesn't detect touch operations	◇ Check touch-screen cable connection ◇ Check mainboard and Touchpanel cable connection ◇ Factory initialize

- Barcode scanner Issues

Symptom	Corrective Procedure
Scanner doesn't work	◇ Check Scanner LED status (scanner power state) ◇ Check Scanner Beep sound status (scanner sensor state) ◇ Check Scanner cable connection ◇ Check Barcode damage state

Compact KIOSK Manufacture

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