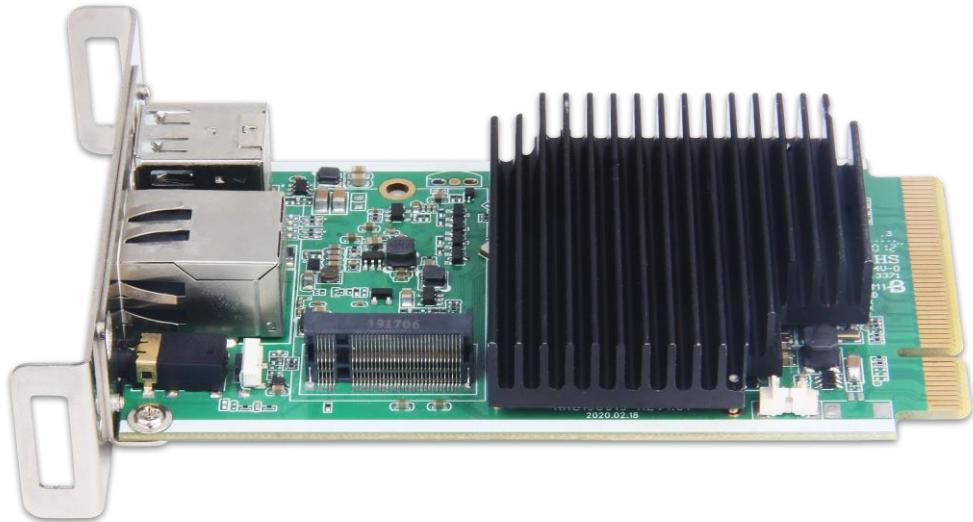




RK3399 Developer Board

SDM3399

User's Guide



Thank you for purchasing this Geniatech product.

.Before using it, be sure to read the precautions contained in this User's Guide.

.Keep the User's Guide in a safe place for future reference.

.For the most up-to-date information about this product, visit official website at

<http://www.geniatech.com>

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1. Safety Information

Read and understand all instructions before using this product. If damage is caused by failure to follow the instructions, the warranty does not apply.

1.1 Warning

To reduce the risk of electric shock, DO NOT remove the cover (or back).

DO NOT attempt to repair the product, this could lead to the risk of injury, damage to the product .

To reduce the risk of fire or electric shock, keep this product away from exposed direct sunlight, naked flames or heat, large amounts of moisture, dust, and sand.

FCC Note (for U.S.A)

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 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.
- Consult the dealer or an experienced radio/TV technician for help.
- This class B digital product meets all requirements of the Canadian Interference - Causing Equipment Regulations.

1.2 Precautions

Important Safety Instructions

Read these operating instructions carefully before using the unit. Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

1.2.1 Read these instructions.

1.2.2 Keep these instructions.

1.2.3 Heed all warnings.

1.2.4 Follow all instructions.

1.2.5 DO NOT use this apparatus near water.

1.2.6 DO NOT clean with any chemical detergent. Clean only with a dry cloth.

1.2.7 DO NOT block any ventilation openings. Install in accordance with the manufacturer's instructions.

1.2.8 DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.

1.2.9 Protect the power cord from being walked on or pinched particularly at plugs,

convenience receptacles, and the point where it exits the apparatus.

1.2.10 Only use attachments/accessories specified by the manufacturer.

1.2.11 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 tip-over.

1.2.12 Unplug this apparatus during lightning storms or when unused for long period of time.

1.2.13 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply 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.

1.3 Handling Cautions

1.3.1 DO NOT expose this apparatus to dripping or splashing. Do not put objects filled with liquids, such as vases on the apparatus.

1.3.2 To turn this apparatus off completely, you must pull the power plug out of the wall socket. Consequently, the power plug must be easily and readily accessible at all times.

1.3.3 DO NOT plug multiple electric devices into the same wall socket. Overloading a socket can cause it to overheat, resulting in a fire.

1.3.4 Before connecting other components to this player, be sure to turn them off.

1.3.5 If the product makes an abnormal noise or produces a burning smell or smoke, turn off the power switch immediately and disconnect the power plug from the wall outlet. Then, contact the nearest customer service center for technical assistance. Do not use the product. Using the product as it is may cause a fire or an electric shock.

2. Introduction

2.1 Package Contents

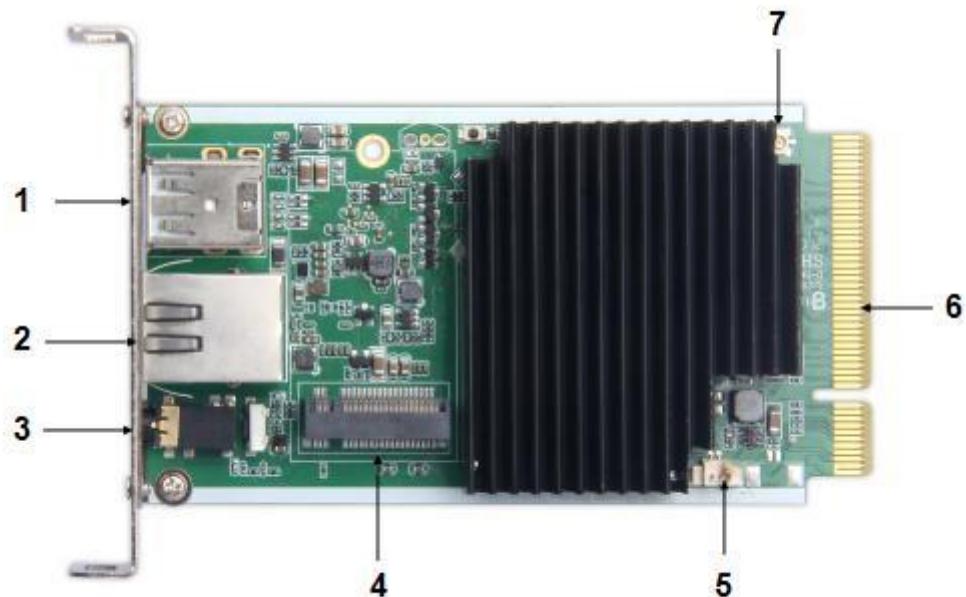
Developer Board– SDM3399
User’s Guide
HDMI Cable
Fiber Optical Cable, RJ45 Network Cable
Optional Remote Controller
 2.4G wireless Remote Controller
 USB wire/wireless Mouse & Keyboard
Power Adapter, Input: External Battery

2.2 Product Features

Rockchip RK3399 Octa-core CPU

- ARM Dual-core Cortex-A72 and quad-core Cortex-A53
- ARM Mali-T860MP4 GPU support OpenGL ES1.1/2.0/3.0, OpenCL1.2, DirectX11.1 etc.
- 2GB LPDDR4 memory(Optional 1G、4G)
- 8GB EMMC Flash(Optional 16-64G)
- Android OS 7.1
- Built-in IEEE 802.11 B/G/N AC dual band 2.4G/5G+BT4.1
- WAN RJ45 10/100/1000M Ethernet interface
- SDM Connector(Intel): PCIe*1,HDMI Out*1,USB2.0*2,Serial Port*1,Display Port Out*1
- SDK available, fully control displaying
- Support 2.4G &5G wireless Router
- Support weather, calendar, and desktop clock gadgets
- Support 2.4G wireless motion Remote Controller
- Support music player, picture player and more family entertainment
- App Installer for application installation from USB

2.3 Appearance



Note: Button Battery 2025 3V insert with correct polarity (+/-).

2.4 Interface definition

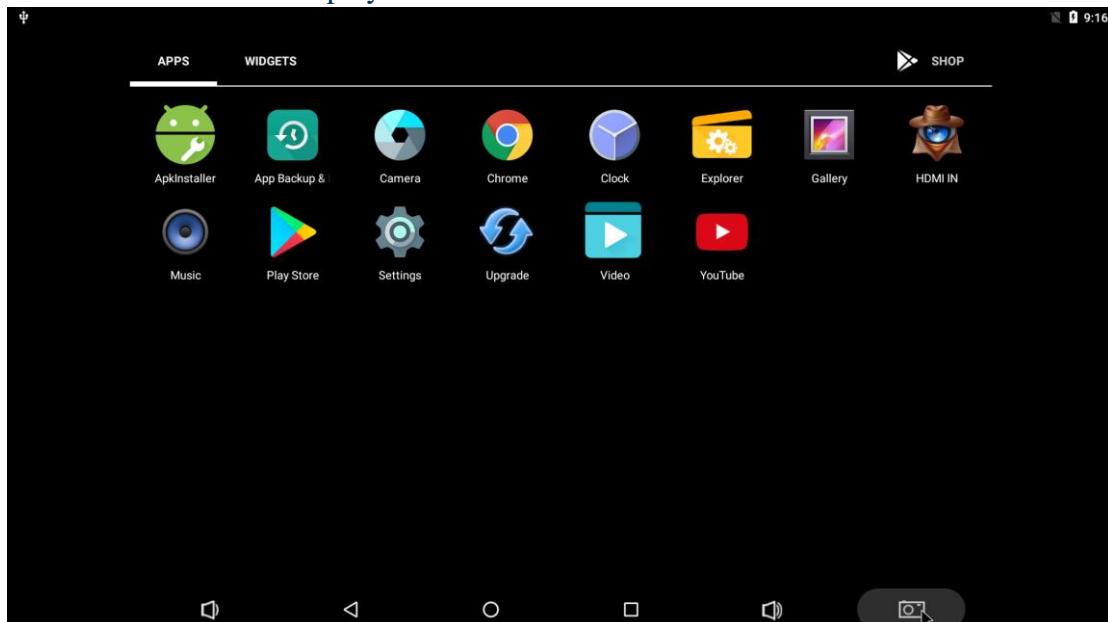
No.	Name	Description
1	USB	USB 2.0*2
2	LAN	Ethernet 10/100/1000M
3	3.5mm JACK	Audio Out
4	M.2	M.2 Interface
5	Battery Port	Two Pins Connector
6	SDM Connector	PCIe* x 8 (98pin) SMT connector
7	Antenna Interface	WiFi Antenna

2.5 Display when Power Up

2.5.1 After booting up, during the loading process, the TV will first display the "Android" interface, and then there will be a booting animation of "Enjoy TV". When the load is complete, it will go to the home screen.

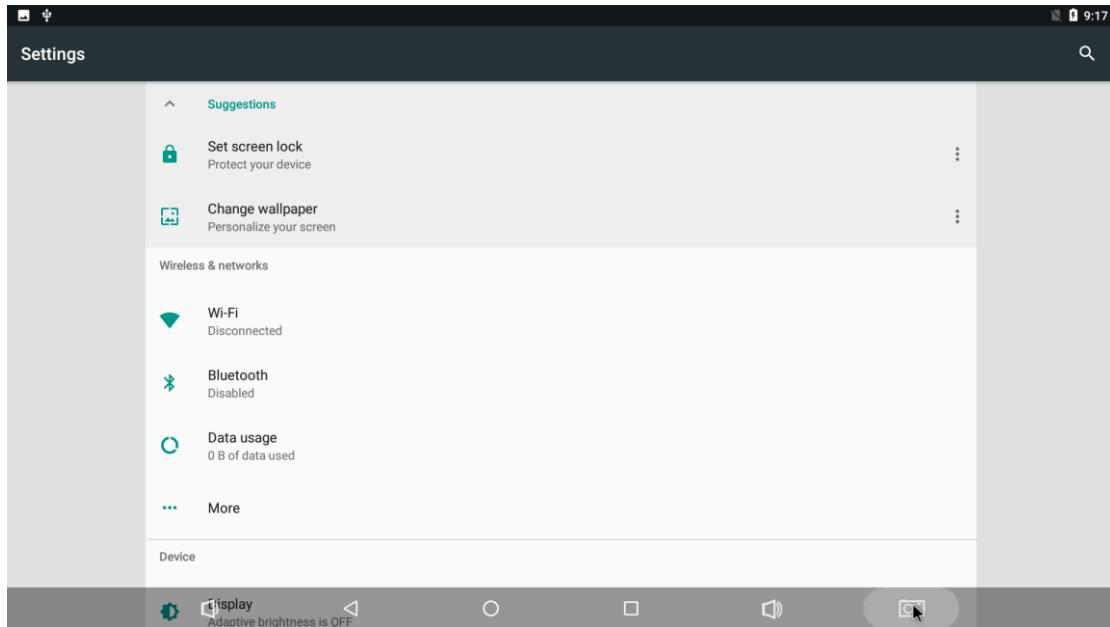


2.5.2 Home Screen display.



3. Settings

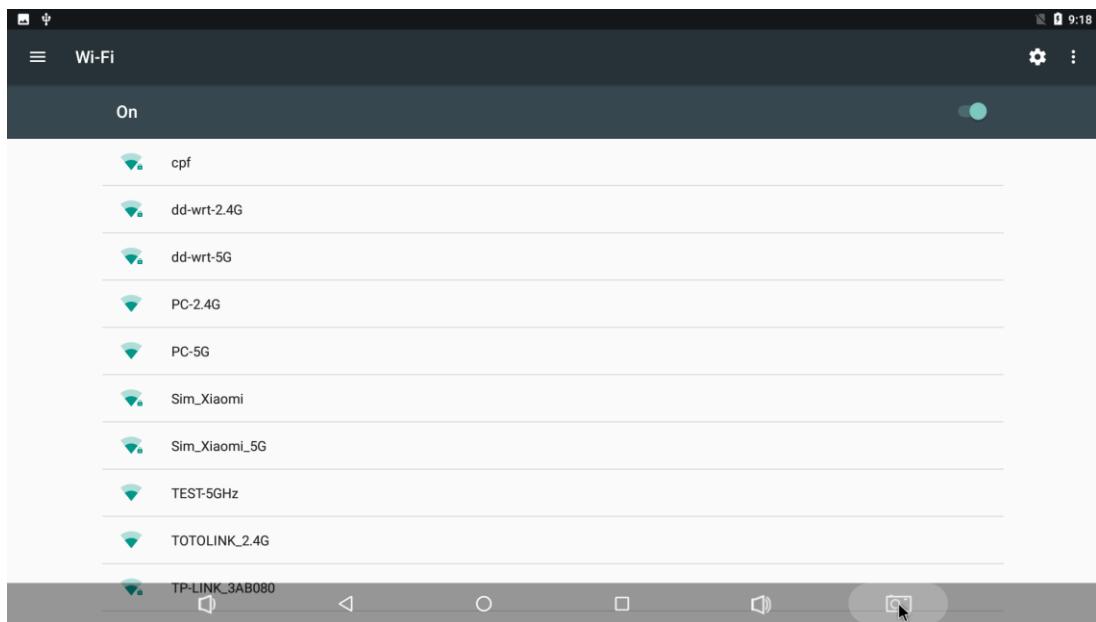
Select  icon then press OK key.



3.1 WiFi

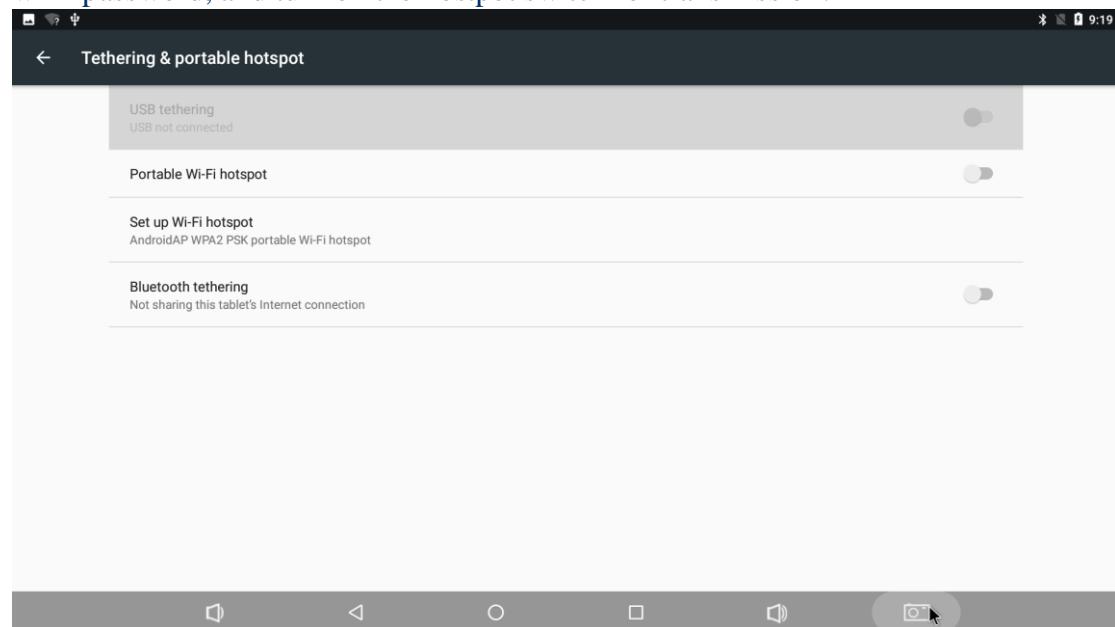
3.1.1 It will automatically scan ambient WiFi networks when select “ON”. Connect an available WiFi network. If connect a secured WiFi network, corresponding password will be input firstly. Or fail to connect and need reset password. Once build up the connection with a certain WiFi network successfully, SDM3399 will connect this WiFi network automatically when restart.

Note: If factory reset, the password of WiFi network have to be reset.

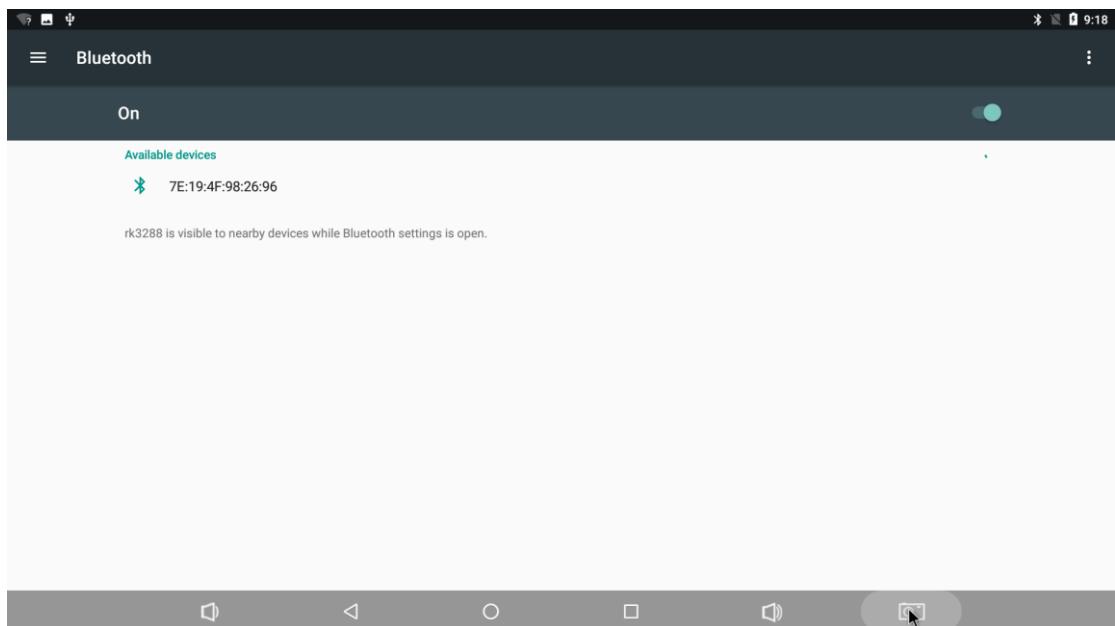


3.1.2 Tethering & portable hotspot

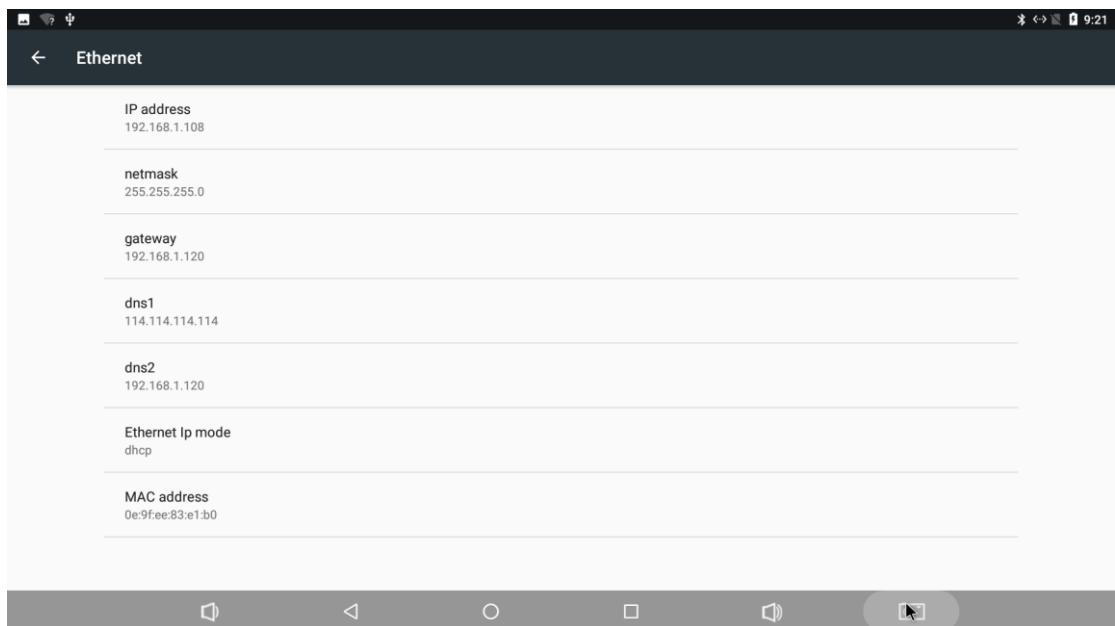
If you want to share WIFI with your friends, you can set the wi-fi hotspot here, set the wi-fi password, and turn on the hotspot switch for transmission.



3.2 Bluetooth

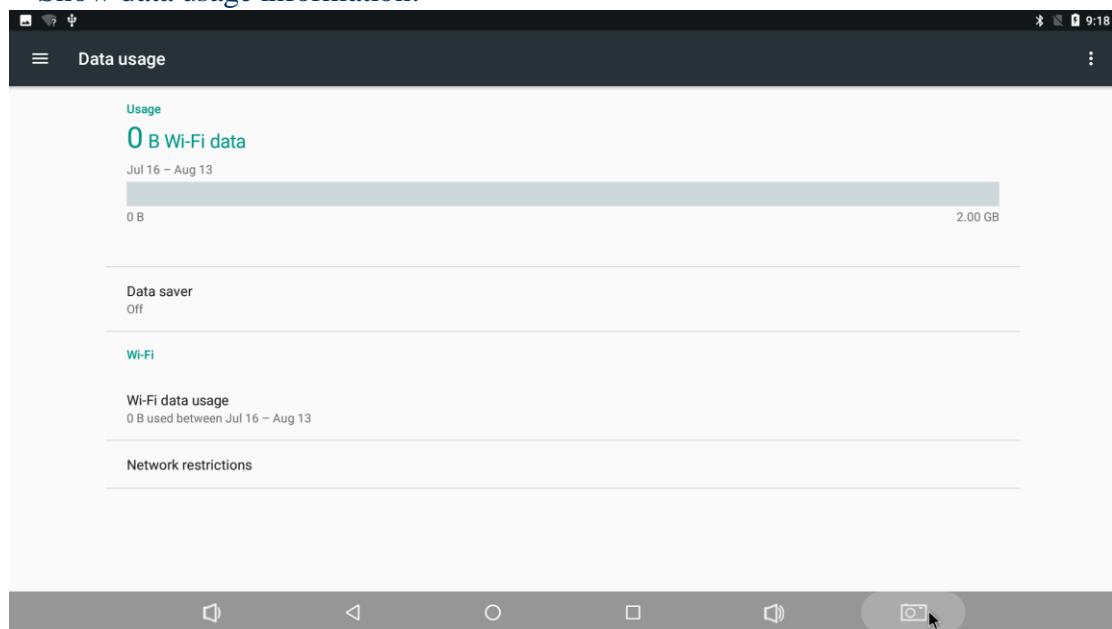


3.3 Ethernet

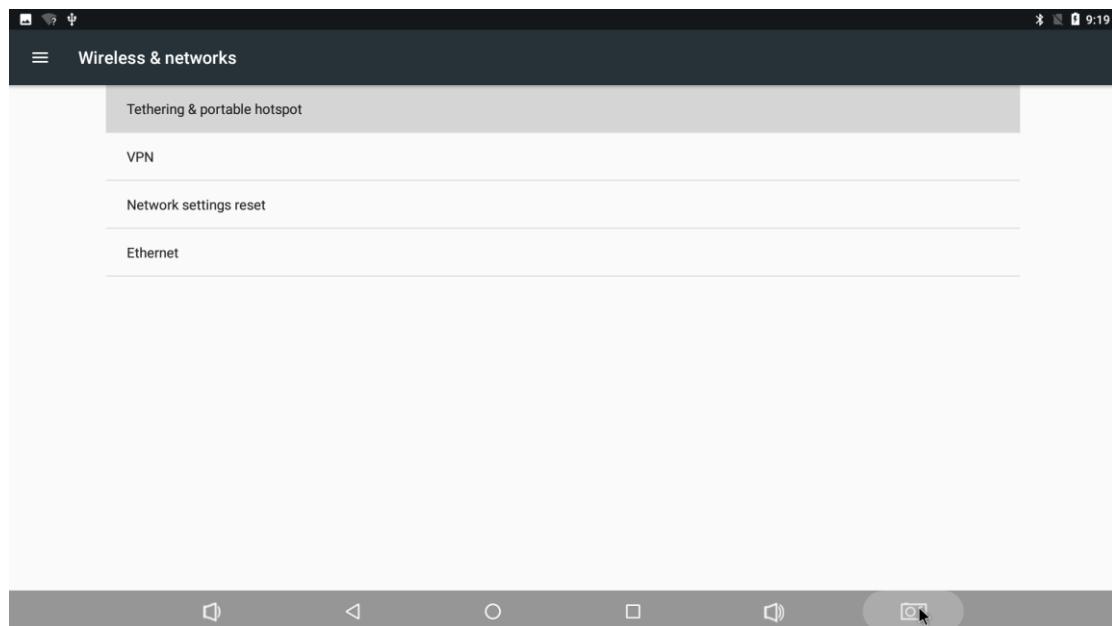


3.4 Date usage

Show data usage information.

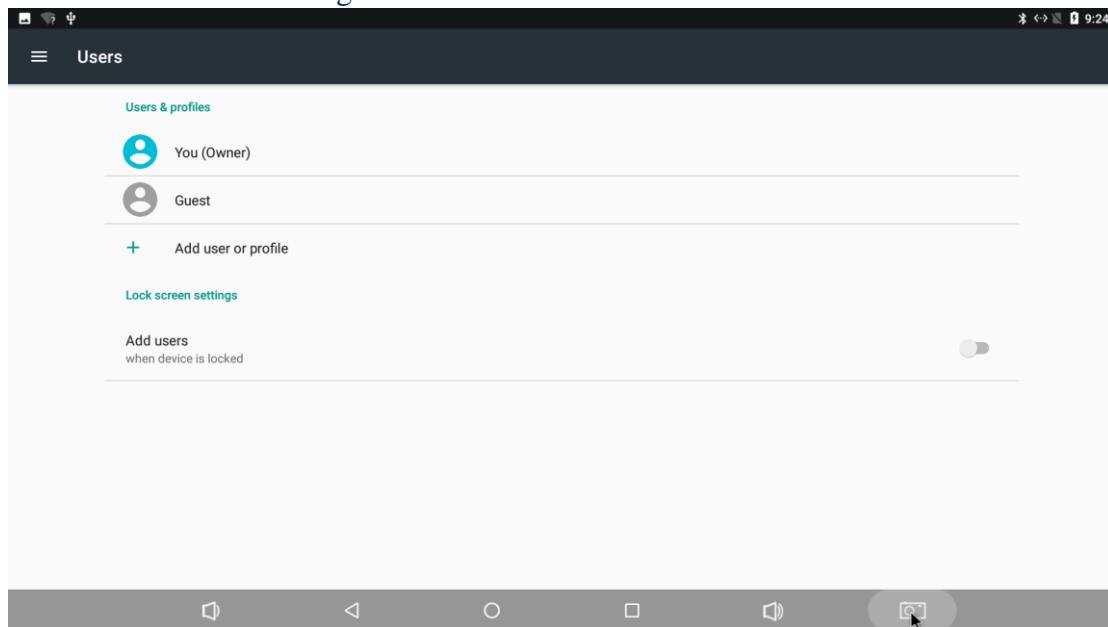


3.5 Wireless & networks



3.6 users

You can add user or configuration here



3.7 Sound

3.7.1 Volumes

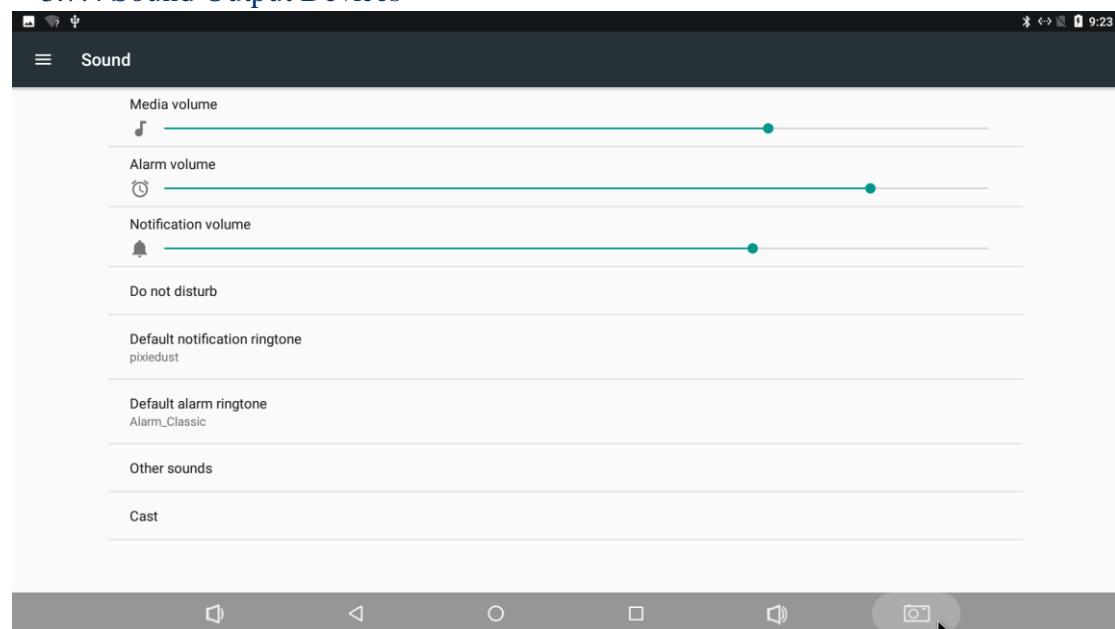
Increase or decrease sound volumes

3.7.2 Touch Sounds

If enable Touch sound, sound will be heard while move remote controller.

3.7.3 Sound Input Devices

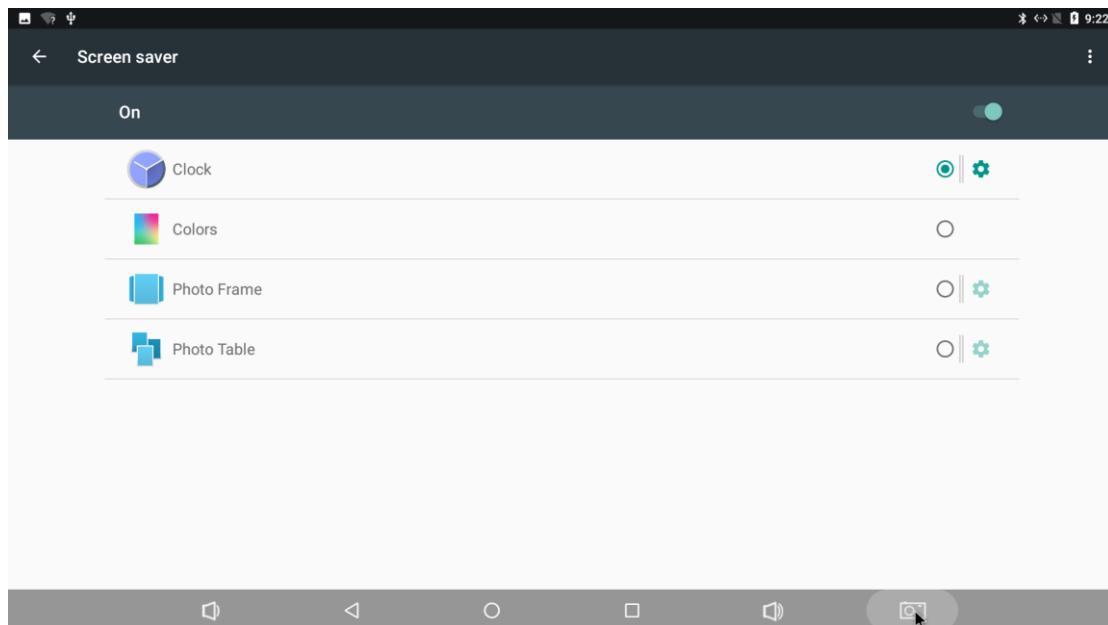
3.7.4 Sound Output Devices



3.8 Display

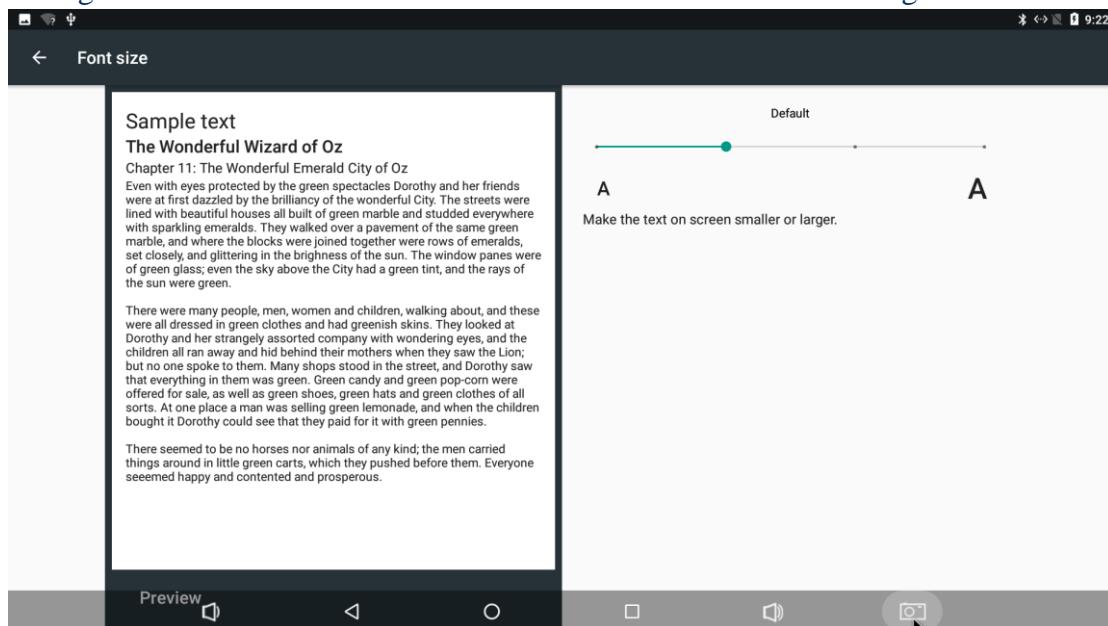
3.8.1 Display size

make the items on your screen smaller or larger. Some apps on your screen may change position.

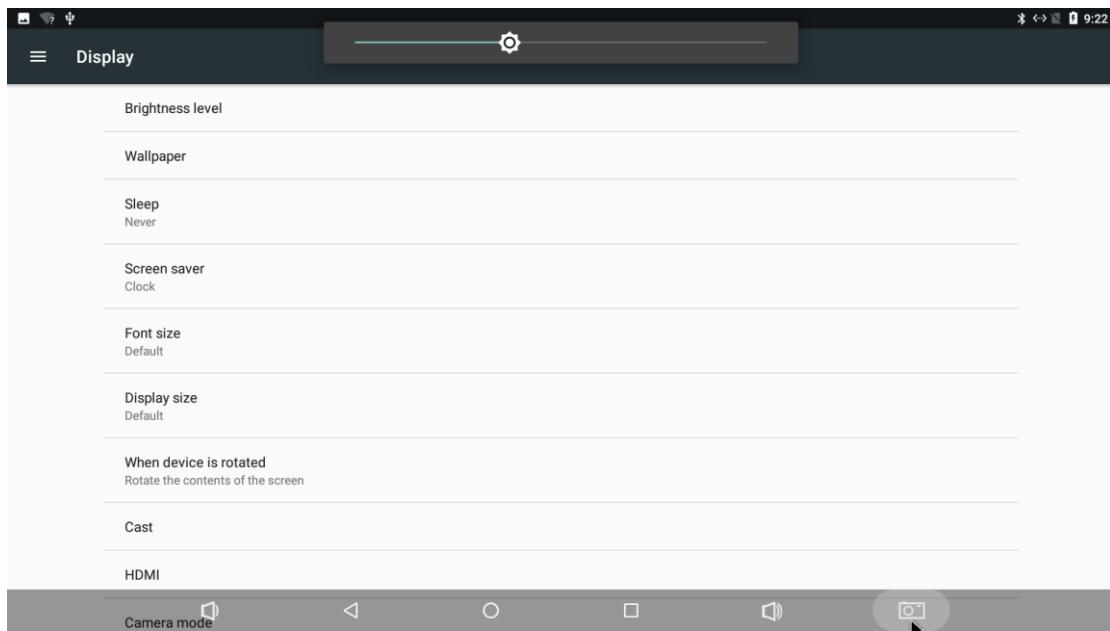


3.8.2 Font size

Change the font size of **OSD.**, Make the text on screen smaller or larger

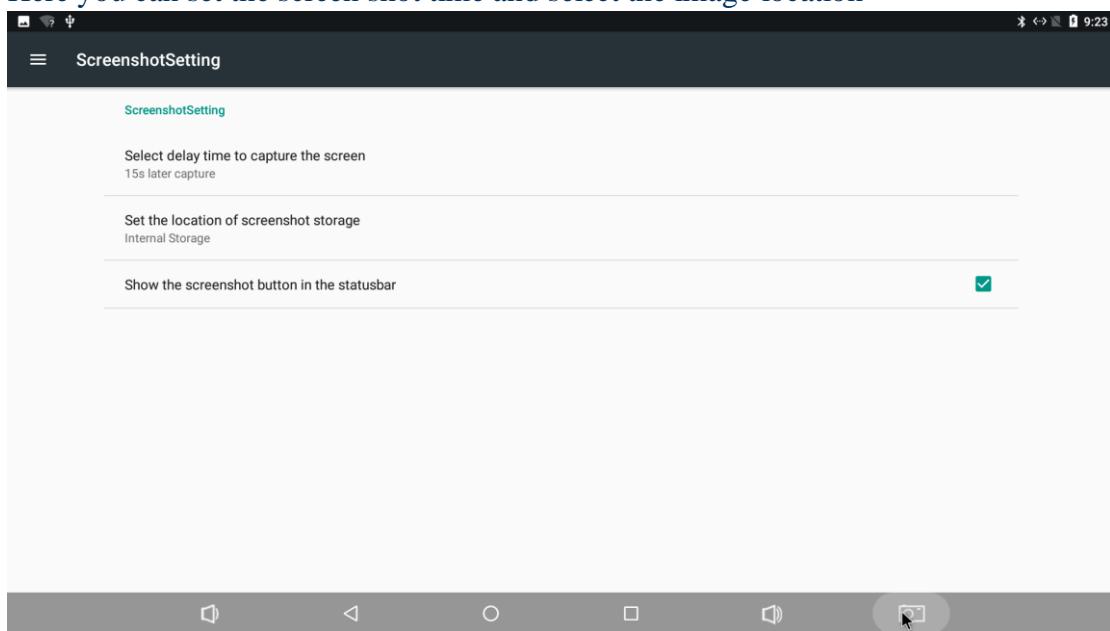


3.8.3 Cast screen



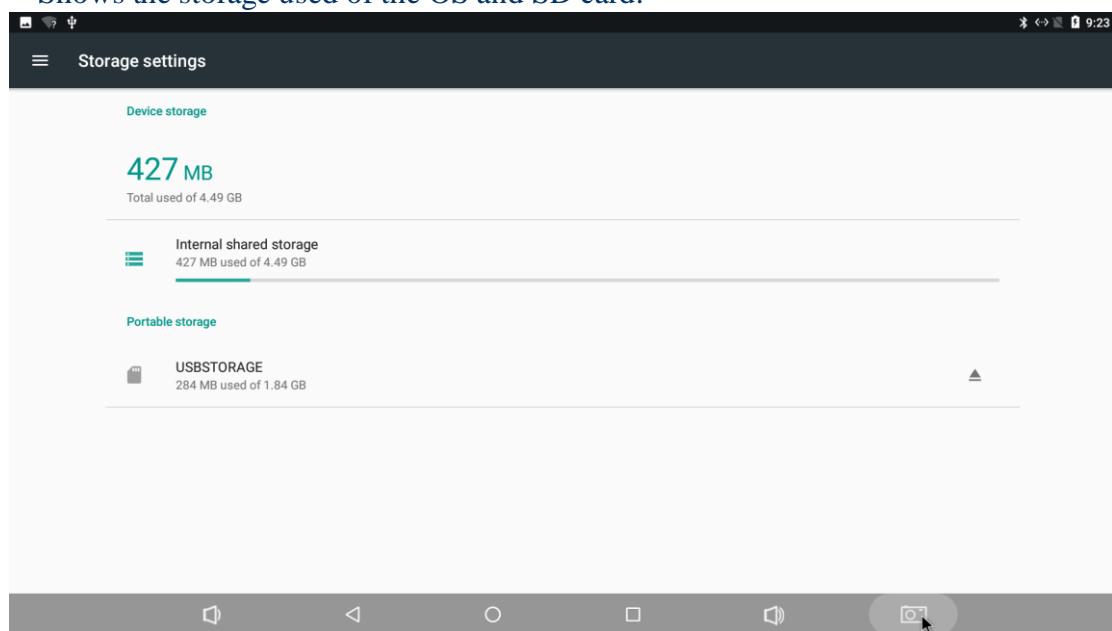
3.8.4 Screenshot

Here you can set the screen shot time and select the image location



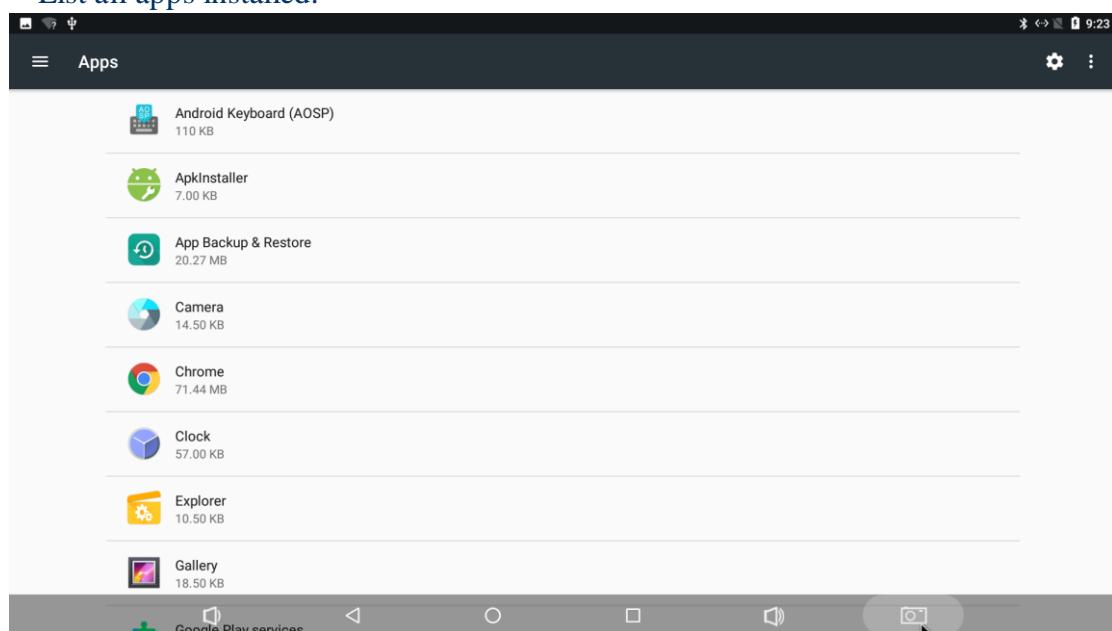
3.9 Storage

Shows the storage used of the OS and SD card.



3.10 Apps

List all apps installed.

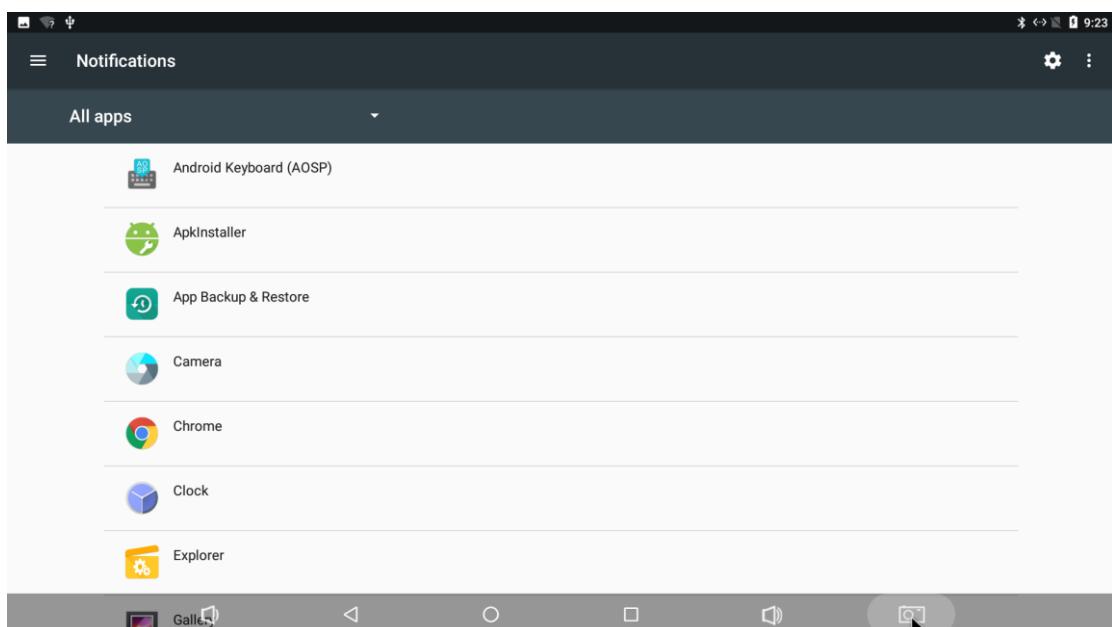


You can choose an application and force to shut down the app, uninstall the app, clear user data, move to SD card and clear cache data.

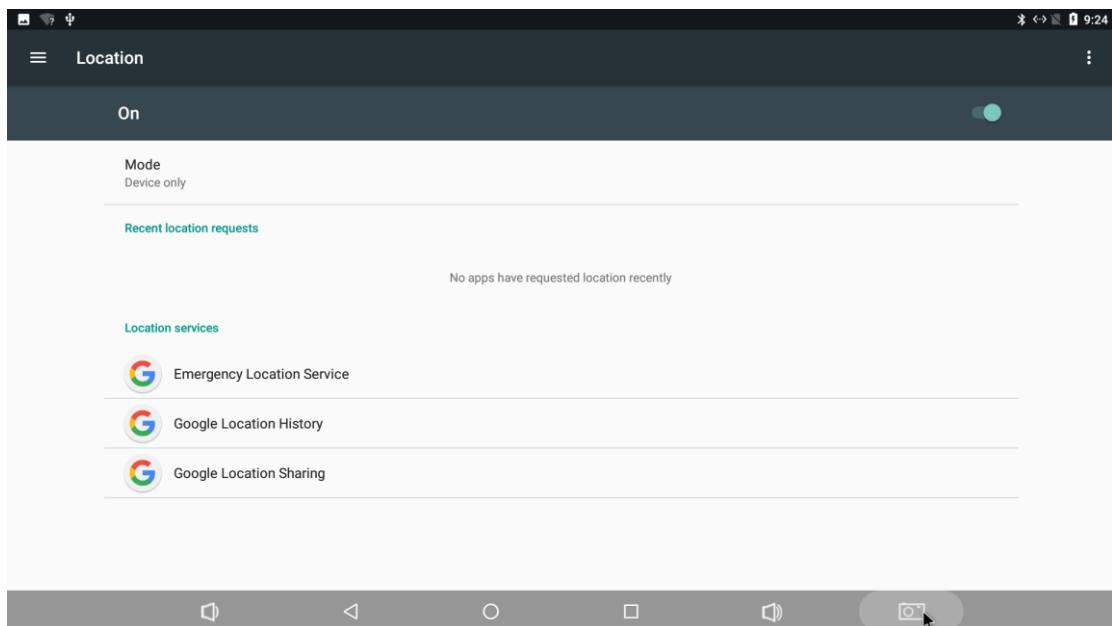
3.11 Google services



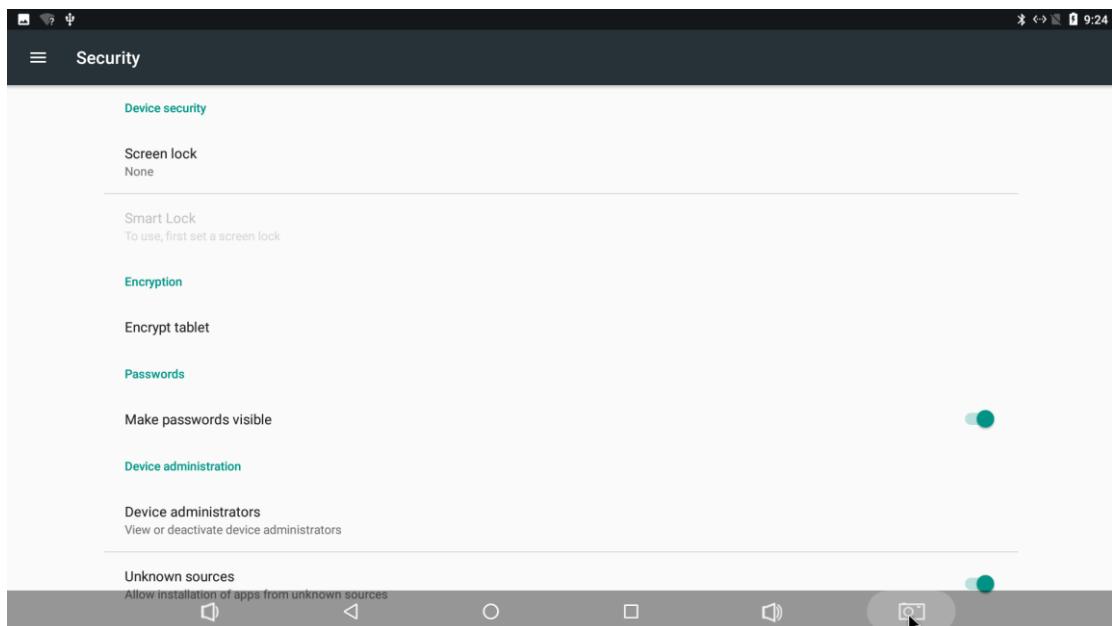
3.12 Notification



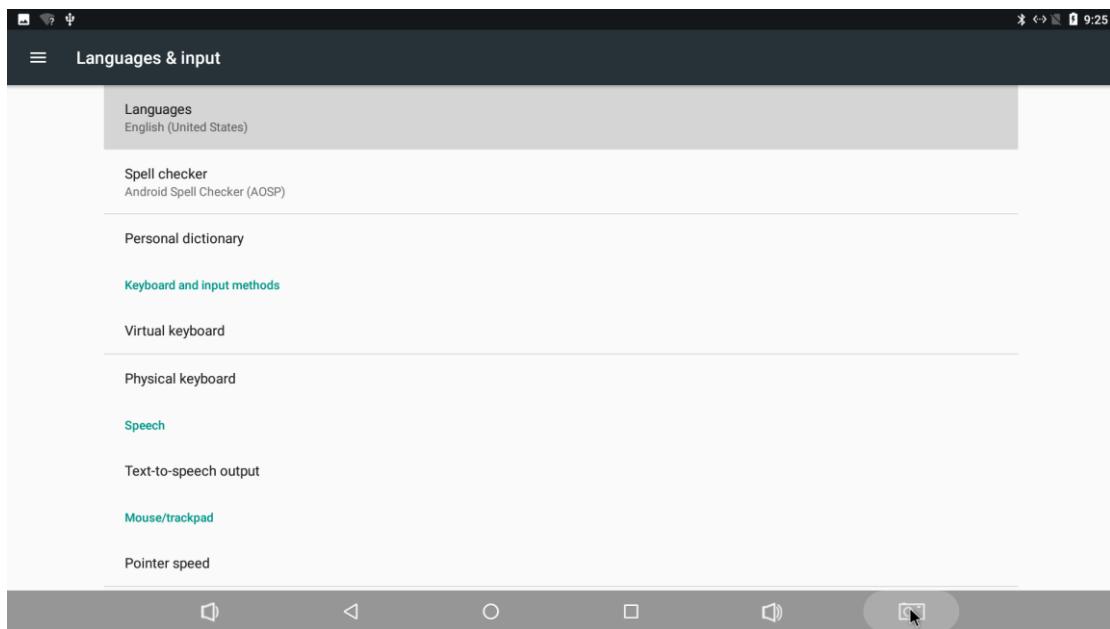
3.13 Location



3.14 Security



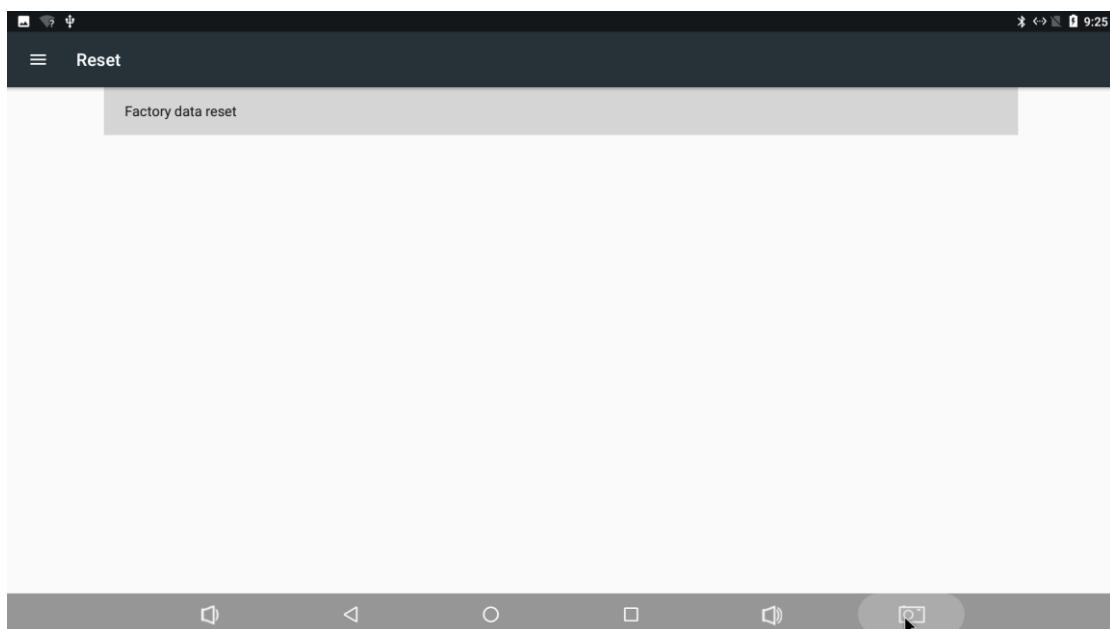
3.15 Language & input



Change OSD language and input method.

The default input method is android standard keyboard.

3.16 Reset



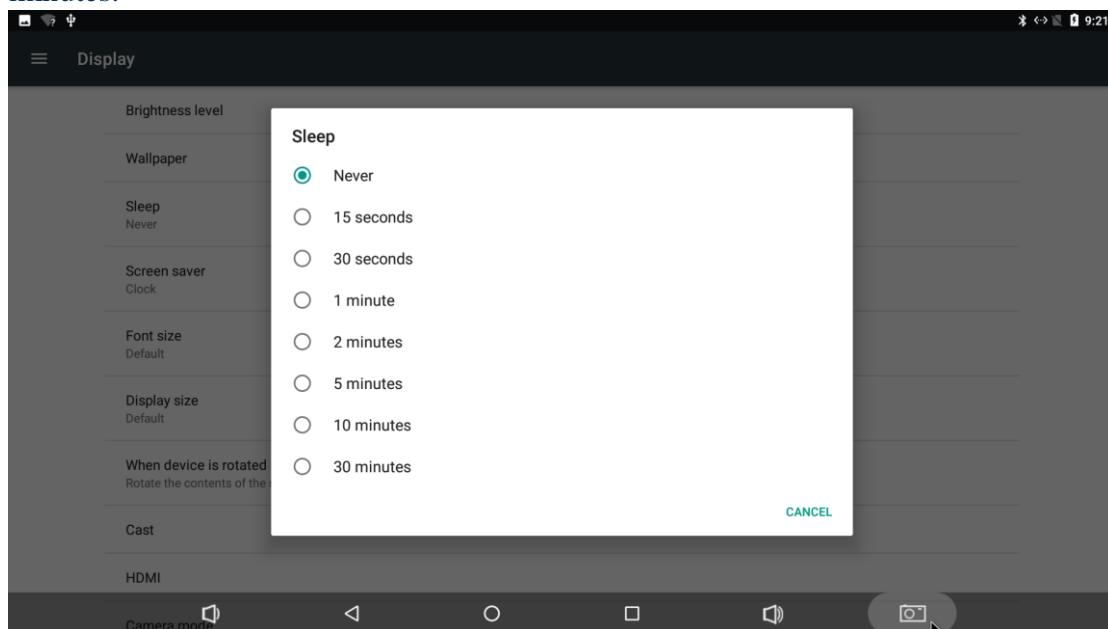
Factory data rest:

You can reset all the settings and apps to factory default.

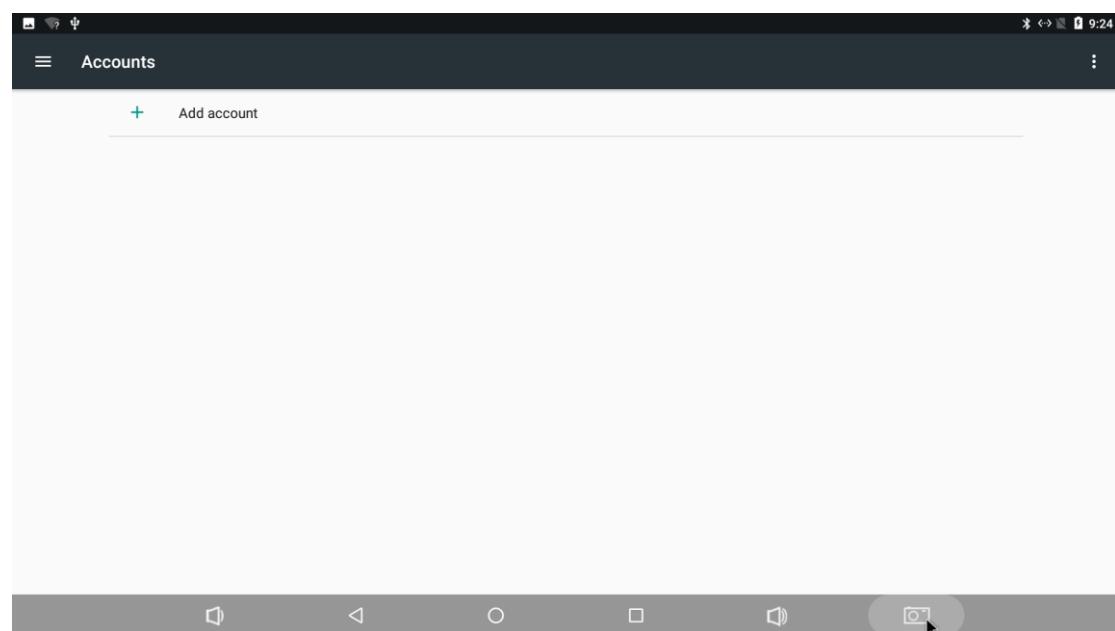
Note: You might want to backup important data before resetting the box. Once you choose to rest to factory default, all data/apps will be deleted.

3.17 Sleep

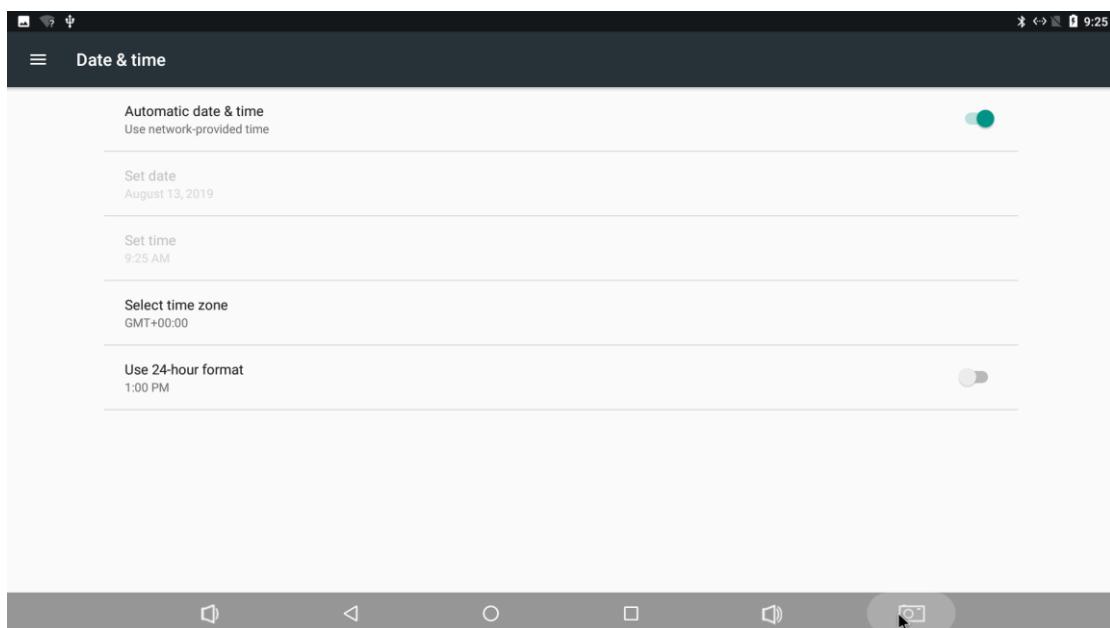
Find the display button and find Sleep. You can select the Sleep time of the product. There are 8 options for sleep time. The shortest is 'Never' and the longest is 30 minutes.



3.18 Add an account

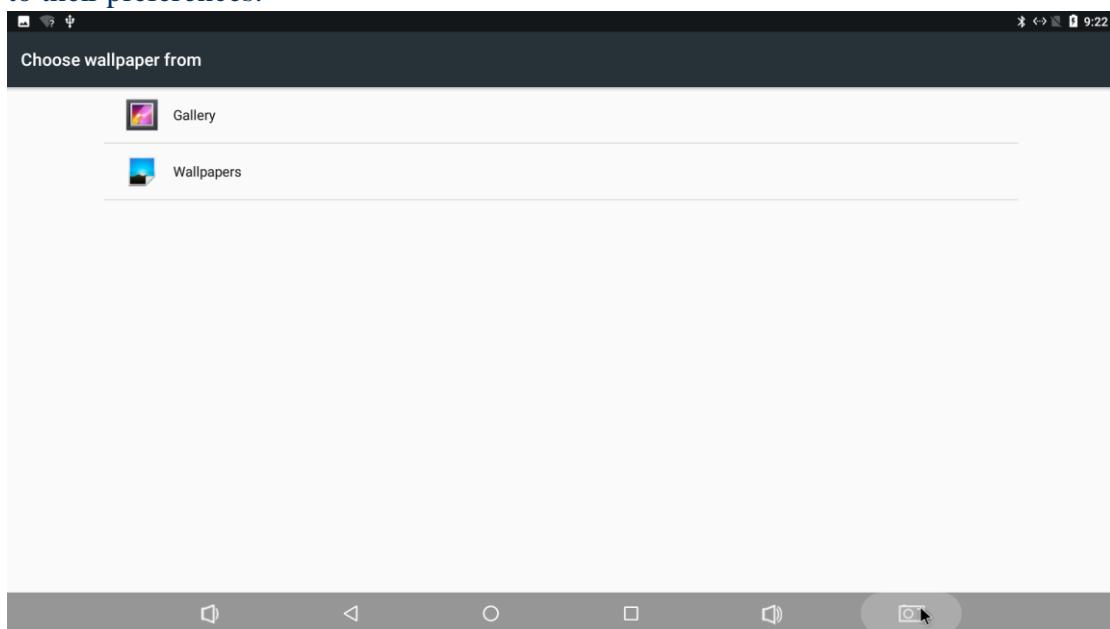


3.19 Date & time



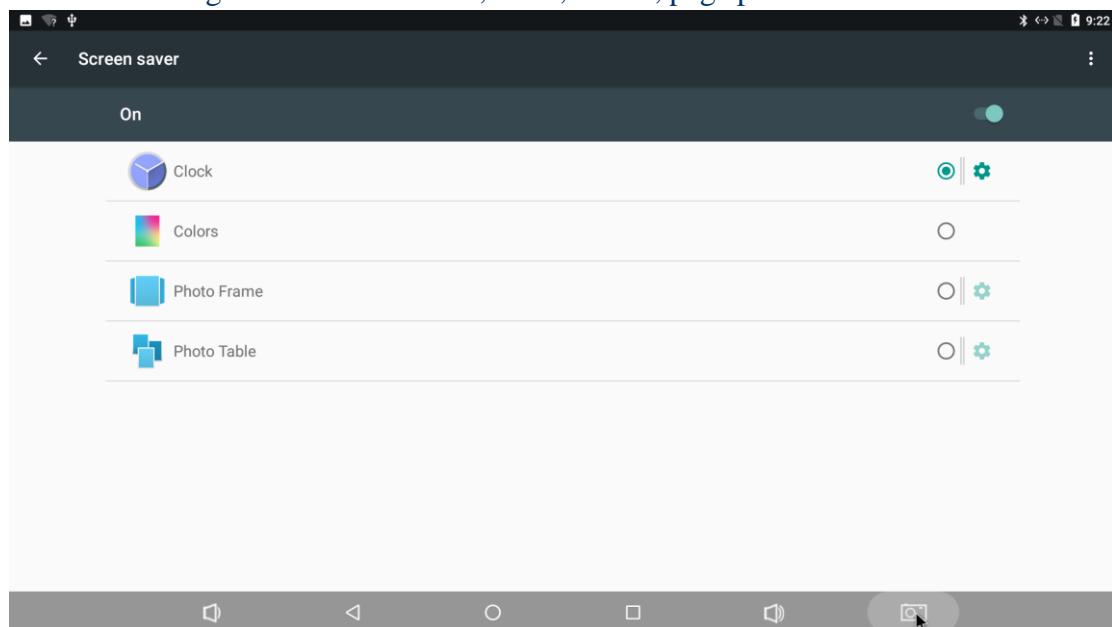
3.20 Choose wallpaper from

Users can choose wallpaper photos from albums and historical wallpapers according to their preferences.

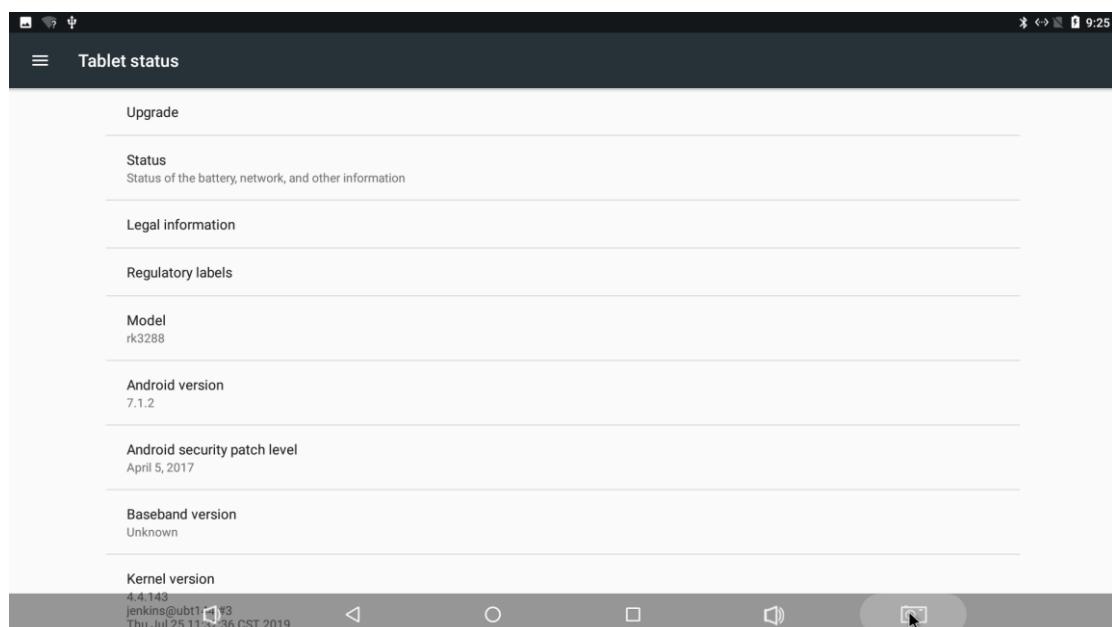


3.21 Screen saver

Interface Settings: can set the clock, color, theme, page photos.

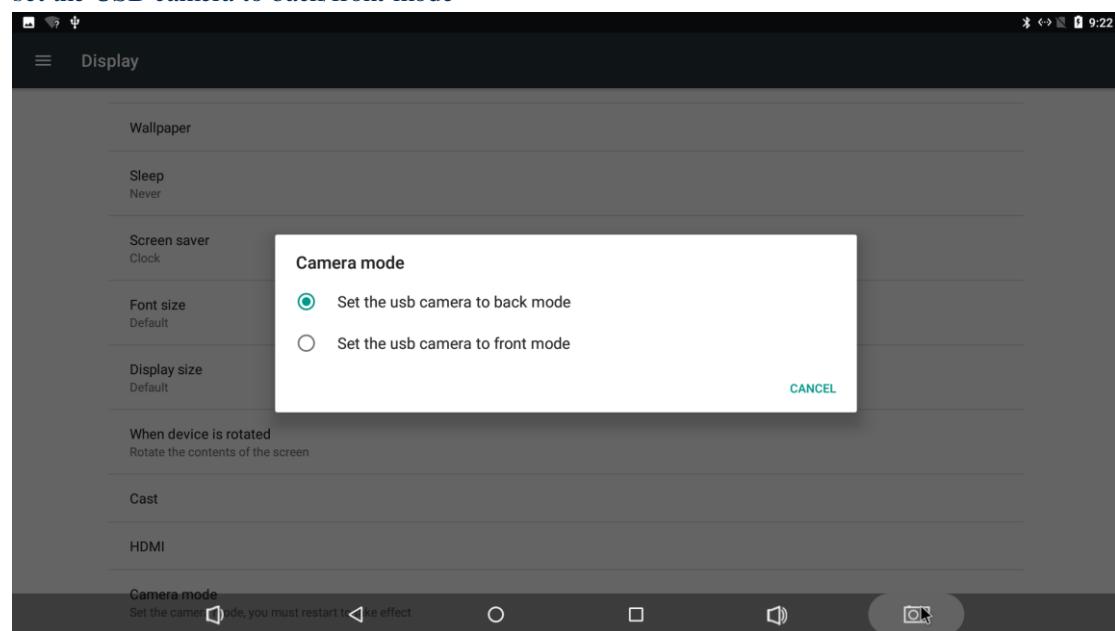


3.22 About device.



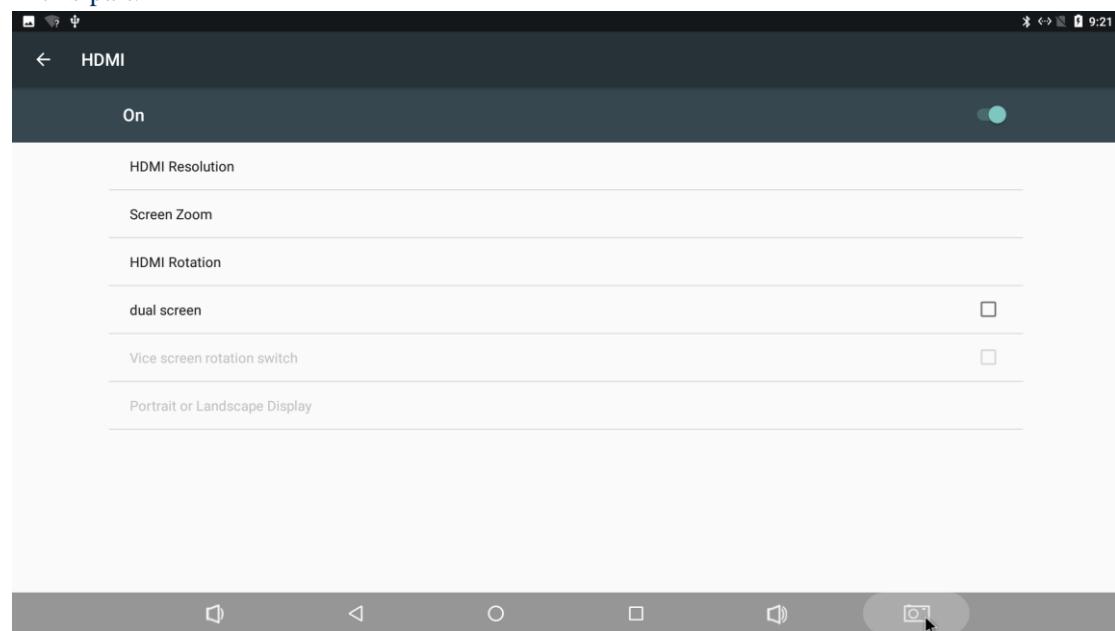
3.23 Camera mode

set the USB camera to back/front mode



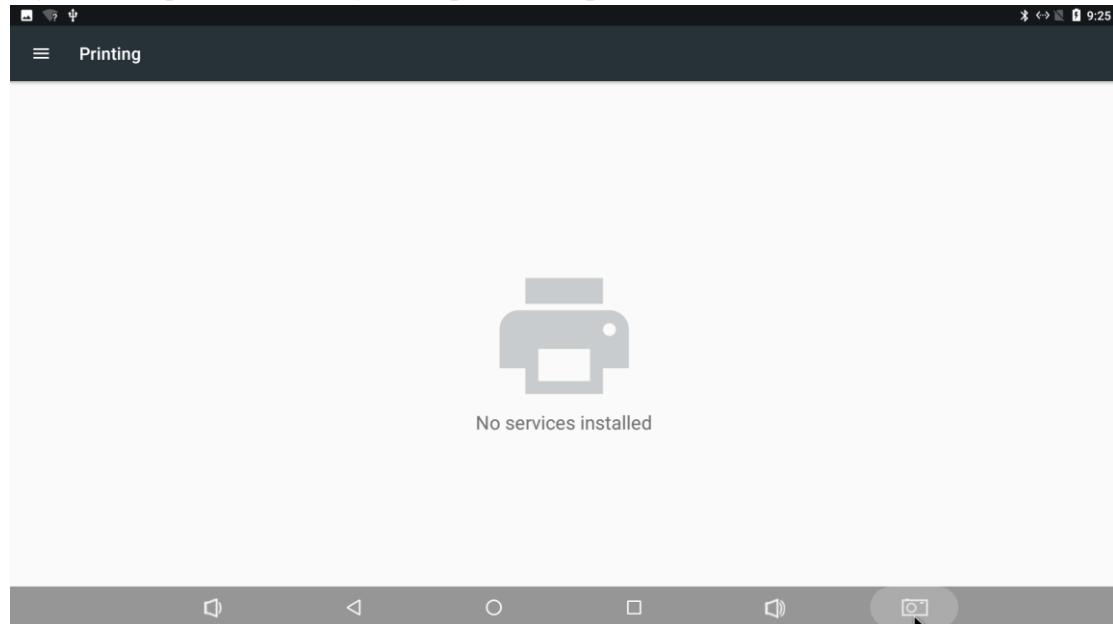
3.24 HDMI

User can set the screen, display resolution, zoom in/out screen, rotate screen, dual screen display in this part.



3.25 Printing

If you have a printer installed, you can print in this part.



4. Apps Install & Uninstall

On SDM3399, you can install apps from Android Market over the Internet or other sources, such as other online sources, the internal storage and the USB storage device and SD card that you have mounted onto SDM3399.

You also can manage apps on SDM3399 and SD card, install/uninstall apps, stop running apps, or select other options.

5. Firmware Update

You can download newest firmware from Geniatech Official website:
www.geniatech.com

6. Trouble Shooting/FAQ

6.1 No Picture

Refer to the TV user manual for how to select the correct video input channel.

6.2 USB Content cannot be read

- . The format of USB storage device is not supported
- . The supported memory size is 32G maximum.
- . Make sure that this player supports these files.

6.3 Remote Controller cannot respond quickly to the pressing of keys

Make sure that batteries have enough power.

6.4 The firmware updating is not complete after a long time

If you update the firmware over the online service, it may take a long time to download the firmware update files from the server. To save your time, update the firmware through the SD card.

7. Repairs

If you contact us to repair your player, an administration fee may be charged if either:

An engineer is called out to your home at your request and there is no defect in the product.

You bring the unit to a repair center and there is no defect in the product.

We will provide you with the amount of the administration fee before we make a home visit or begin any work on your player.

We recommend you read this manual thoroughly, search for a solution on line at www.geniatech.com, or contact Geniatech Customer Care before seeking to repair your player.

8. Specification

CPU	Dual-core Cortex-A72 up to 1.8GHz and Quad-core Cortex-A53 up to 1.4GHz
GPU	Mali-T860MP4 GPU (ARM Frame Buffer Compression)
RAM	2G LPDDR4
ROM	8G eMMC
OS	Android 7.1
USB	USB2.0 * 2
Battery Port	External Battery
3.5mm jack	Headphone(audio out)
TYPE-C	1* OTG(support USB upgrade)
SDM	
Connector(Intel)	PCIe* x 8 (98pin) SMT connector
M.2	M.2*1
LAN	RJ45 10/100/1000M Ethernet interface
WiFi	IEEE 802.11 AC 2.4G & 5.8G(optional)
BT	Optional
Video/Picture Decoder	<p>MMU embedded</p> <p>Real-time video decoder of MPEG-1, MPEG-2, MPEG-4, H.263, H.264, H.265, VC-1, VP9, VP8, MVC</p> <p>H.264/AVC, Base/Main/High/High10 profile @ level 5.1; up to 4Kx2K @ 30fps</p> <p>H.265/HEVC, Main/Main10 profile @ level 5.1 High-tier; up to 4Kx2K @ 60fps</p> <p>VP9, profile 0, up to 4Kx2K @ 60fps</p> <p>MPEG-1, ISO/IEC 11172-2, up to 1080P @ 60fps</p> <p>MPEG-2, ISO/IEC 13818-2, SP@ML, MP@HL, up to 1080P @ 60fps</p> <p>MPEG-4, ISO/IEC 14496-2, SP@L0-3, ASP@L0-5, up to 1080P @ 60fps</p> <p>VC-1, SP@ML, MP@HL, AP@L0-3, up to 1080P @ 60fps</p> <p>MVC is supported based on H.264 or H.265, up to 1080P @ 60fps</p> <p>Supports frame timeout interrupt, frame finish interrupt and bit stream error interrupt</p>
Audio	<p>Support video encoder for H.264 UP to HP@level4.1, MVC and VP8,</p> <p>Only support I and P slices, not B slices,</p> <p>Support error resilience based on constrained intra prediction and slices,</p> <p>Image size is from 96x96 to 1920x1080(Full HD),</p> <p>Maximum frame rate is up to 1920x1080@30FPS</p> <p>input data format:</p> <ul style="list-style-type: none">YCbCr 4:2:0 planarYCbCr 4:2:0 semi-planarYCbYCr 4:2:2CbYCrY 4:2:2 interleavedRGB444 and BGR444

RGB555 and BGR555
RGB565 and BGR565
RGB888 and BRG888
RGB101010 and BRG101010

Size 60 mm * 100 mm * 25mm
Optional Remote 2.4G wireless Remote Controller with Nano receiver
Controller USB wire/wireless Mouse & Keyboard

9. Trademark Notice



The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in United States and other countries.