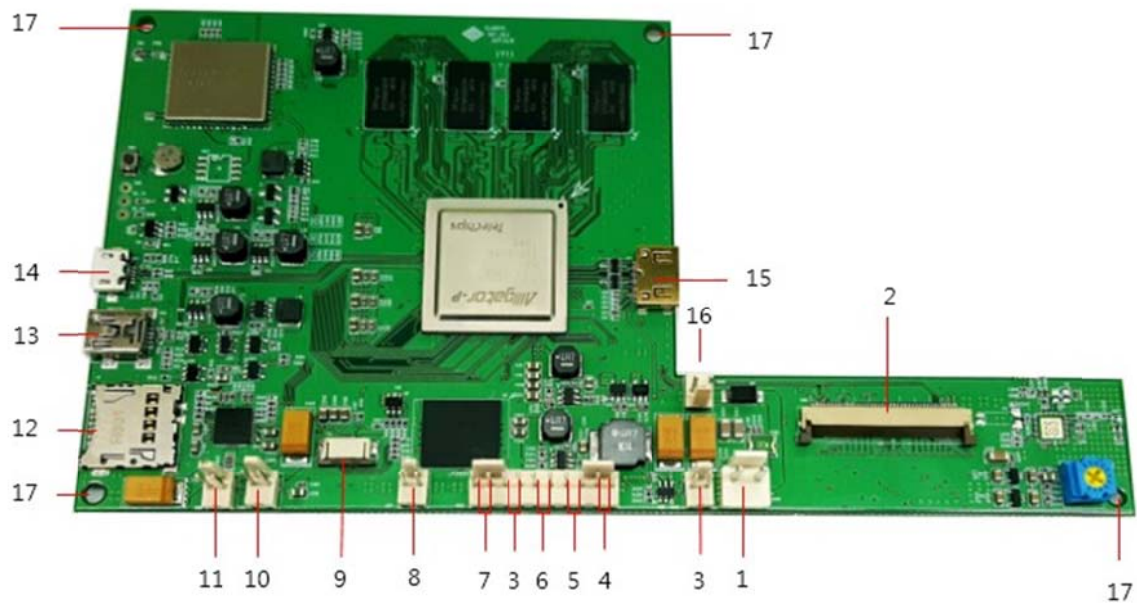


SO7 PCBA USER MANUAL

Safety Alerts and Cautions

- ◆ Do not use the board in extreme environments, when wet, or when extremely dusty.
- ◆ Do not put it in fire or water.
- ◆ Do not damage the components when carrying or moving the board.
- ◆ Do not try to change/modify the circuits/components.
- ◆ Use safe power supply only.

1. Hardware Introduction



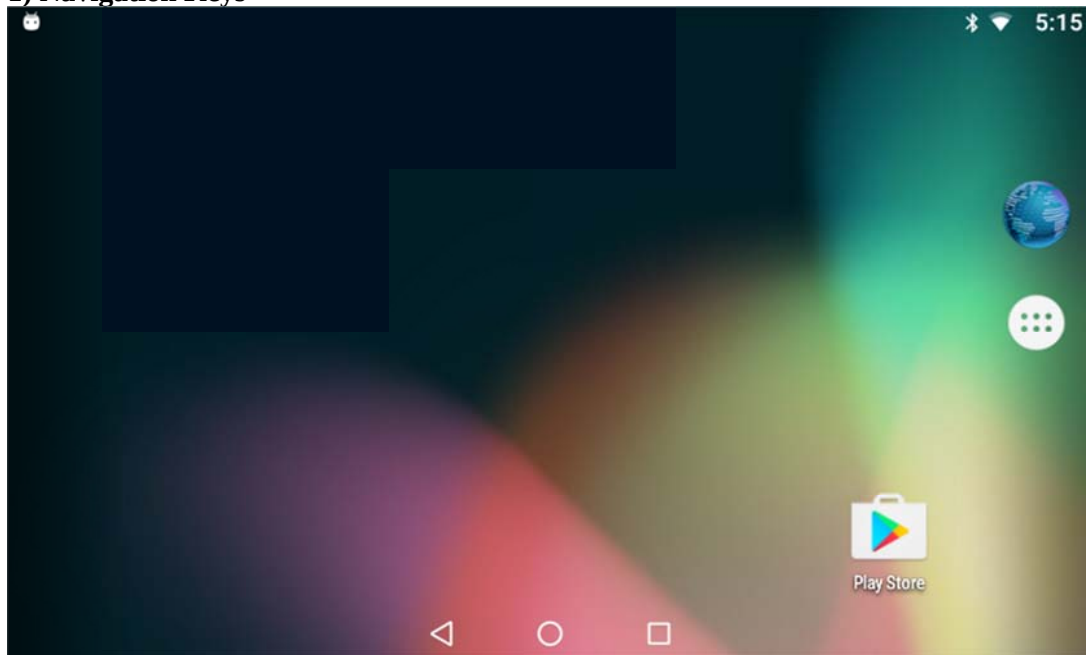
- 1) DC-IN connector(2-pin)
- 2) LCD connector(50-pin)
- 3) Reset connector(2-pin)
- 4) ESC connector(2-pin)
- 5) HOME connector(2-pin)
- 6) MENU connector(2-pin)
- 7) Power on/off connector(2-pin)
- 8) Microphone connector
- 9) Touch Panel connector(7-pin)
- 10) Speaker connector left(2-pin)
- 11) Speaker connector right(2-pin)
- 12) microSD card slot
- 13) USB Host port(miniAB type)
- 14) micro USB port
- 15) HDMI(mini) port
- 16) Power (Battery) connector
- 17) Mounting holes

This board works with a 7inch LCD with a 50-pin connector, and a 7inch touch panel with 7-pin connector. The power supply should be 12V/2A. Please pay attention to the polarities printed on the board. You could integrate the board to your device under manufacturer's instructions.

2. Software operation guide

This board runs Android 6.0.1 operating system.

1) Navigation Keys



On the bottom middle of the screen, you will find three navigation soft keys.



Back: The back button brings you to the previous screen you were on. Once you have been on the home screen, the button will not take you back any further



Home: Bring you back to the home screen



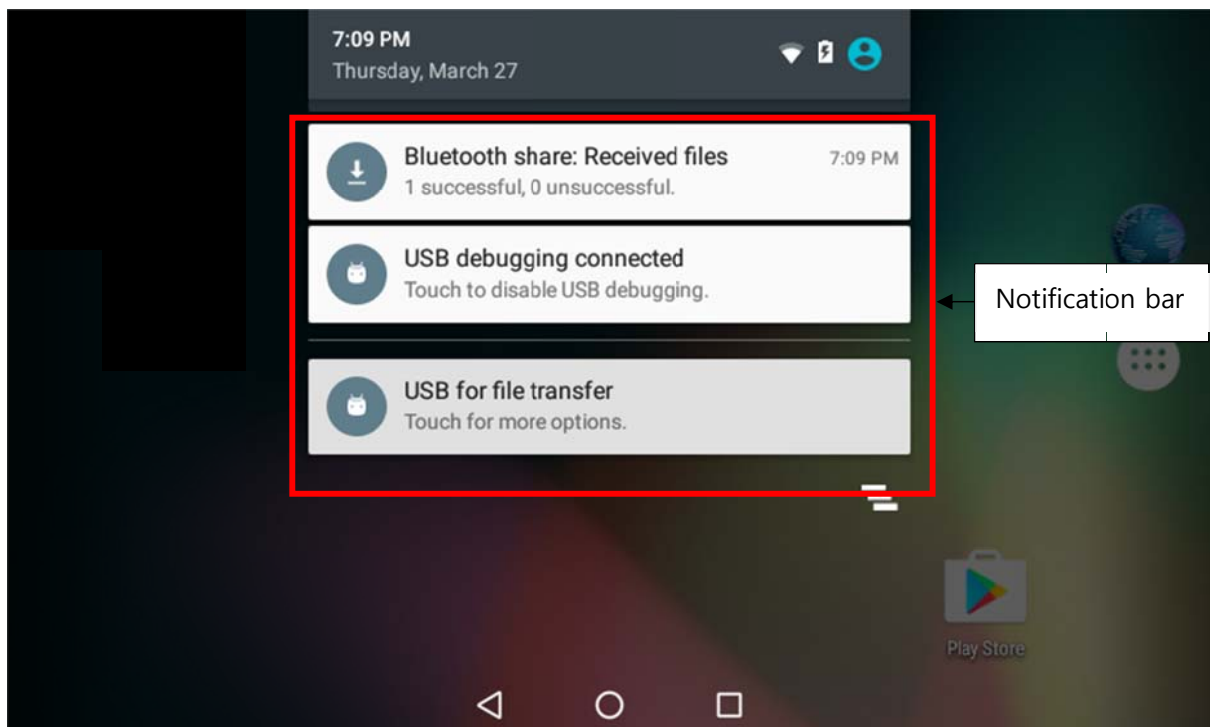
Recent apps: Displays a list of recently used apps. To open a previous app, touch it. To remove the app from the list, swipe from left or right



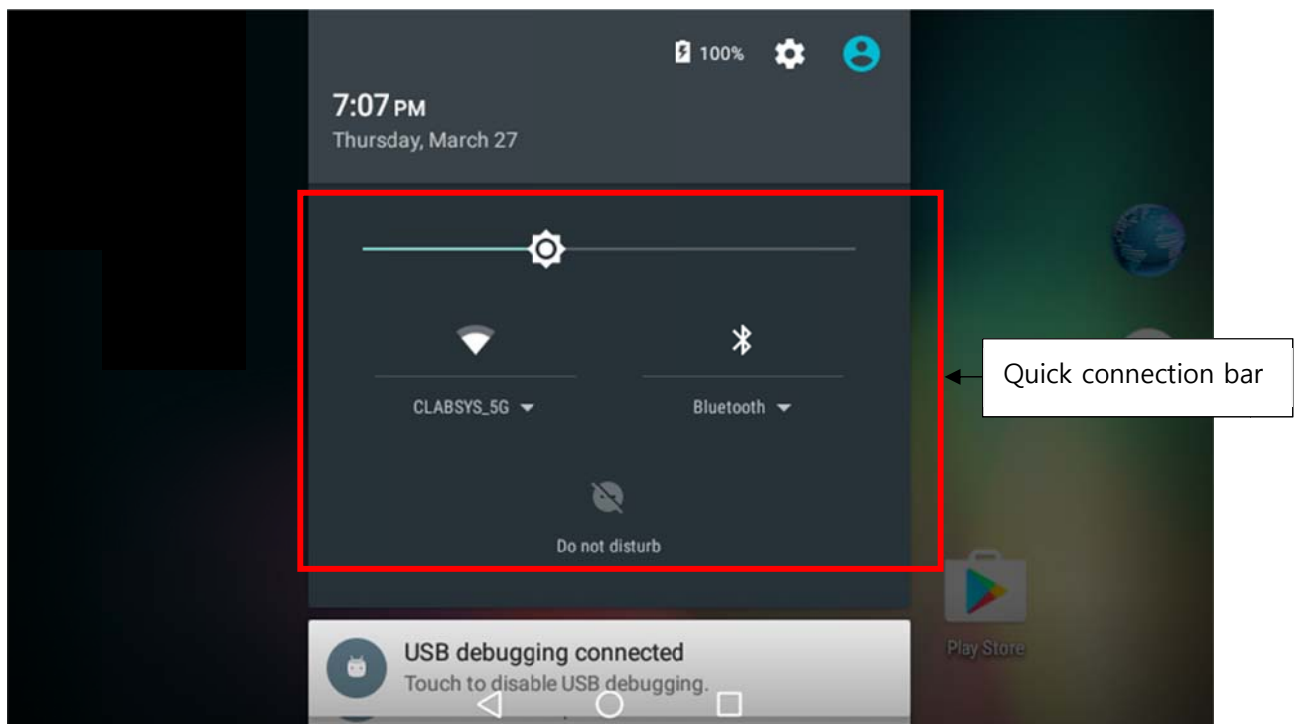
Apps: On the right middle of the screen, you will see Apps icon. After you touch it, You can the apps which are installed in your device.



System icon: system icon is placed on the right-top corner of the screen. It displays the current time and Wi-Fi or Bluetooth connection.



Notification bar: To see your notifications, swipe your finger down from the top of the screen to bottom.



Quick connection bar: It helps to control display brightness, Wi-fi connection, Bluetooth connection quickly. After open the notification bar, Touch the time state.

2) Touch & Type

Use your fingers to manipulate icons, buttons, menus, the onscreen keyboard, and other items on the touch screen.

You can also change the screen's orientation.

To select or activate something, touch it. To type something, such as a name, password, or search terms, just touch where you want to type.

A keyboard pops up that lets you type into the field.

Other common gestures include:

Touch & hold: Touch &hold an item on the screen by touching it and not lifting your finger until an action occurs

Drag: Touch &hold an item for a moment and then, without lifting your finger, move your finger on the screen until you reach the target position.

Swipe or slide: Quickly move your finger across the surface of the screen, without pausing when you first touch (so you don't drag something instead). For example, you can slide a Home screen left or right to view the other Home screens.

Double-tap: Tap quickly twice on a webpage, map, or other screen to zoom. For example, double tap a webpage in Browser to zoom in, and double-tap again to zoom out.

3) Change default wallpaper

Wallpapers are images from Gallery, images included with the system, and live images. They take the place of the default background for your Home screens.

1. Touch &hold anywhere on a Home screen that's not occupied. A list of options appears.

2. Touch wallpaper icon

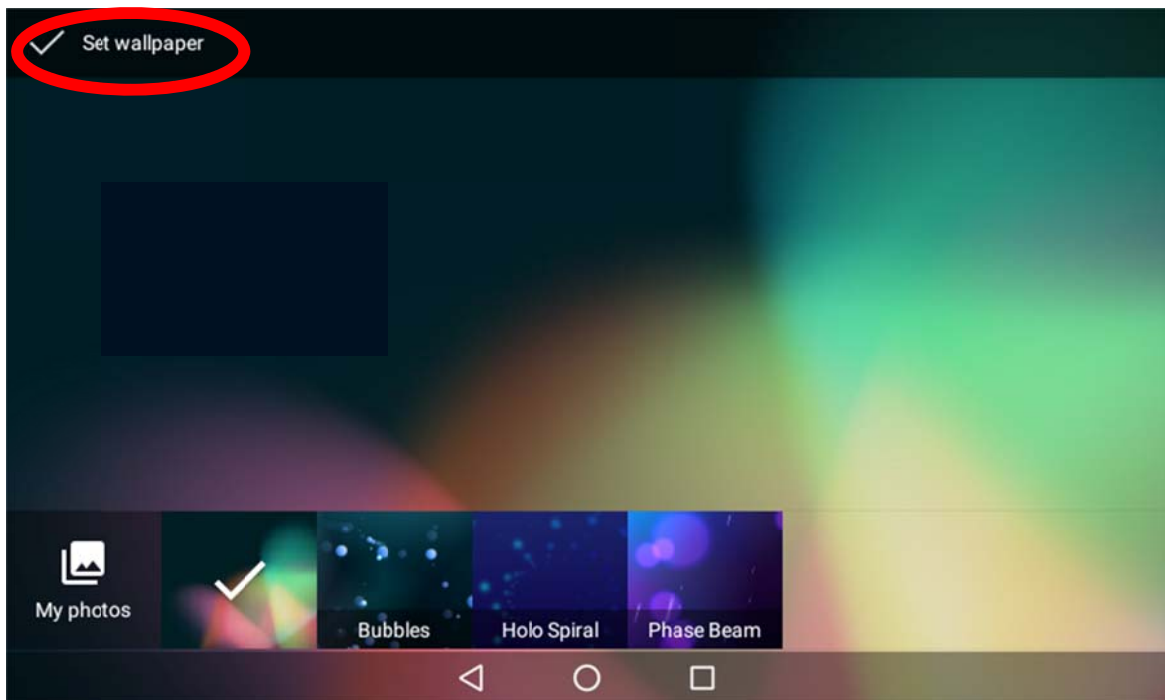


3. Choose a wallpaper source.

4. Touch a 'Set wallpaper' button.

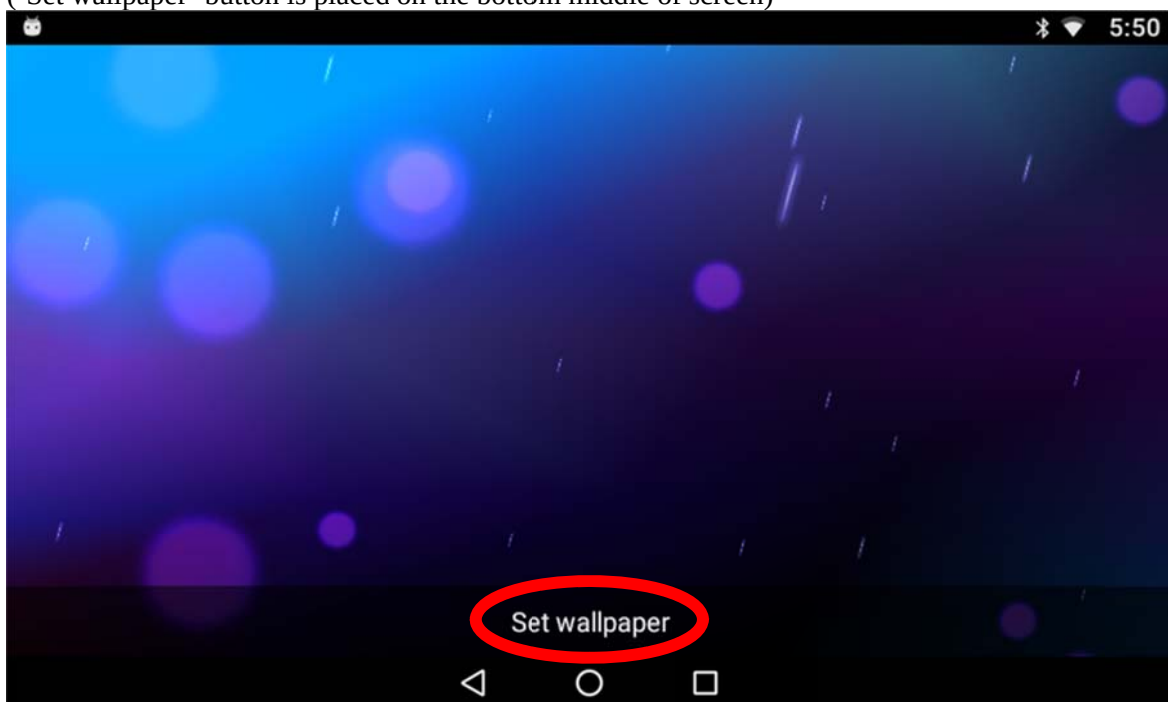
My photos: Choose a picture that you've taken with Camera or downloaded to your device.

(‘Set wallpaper’ button is placed on the top left of screen)



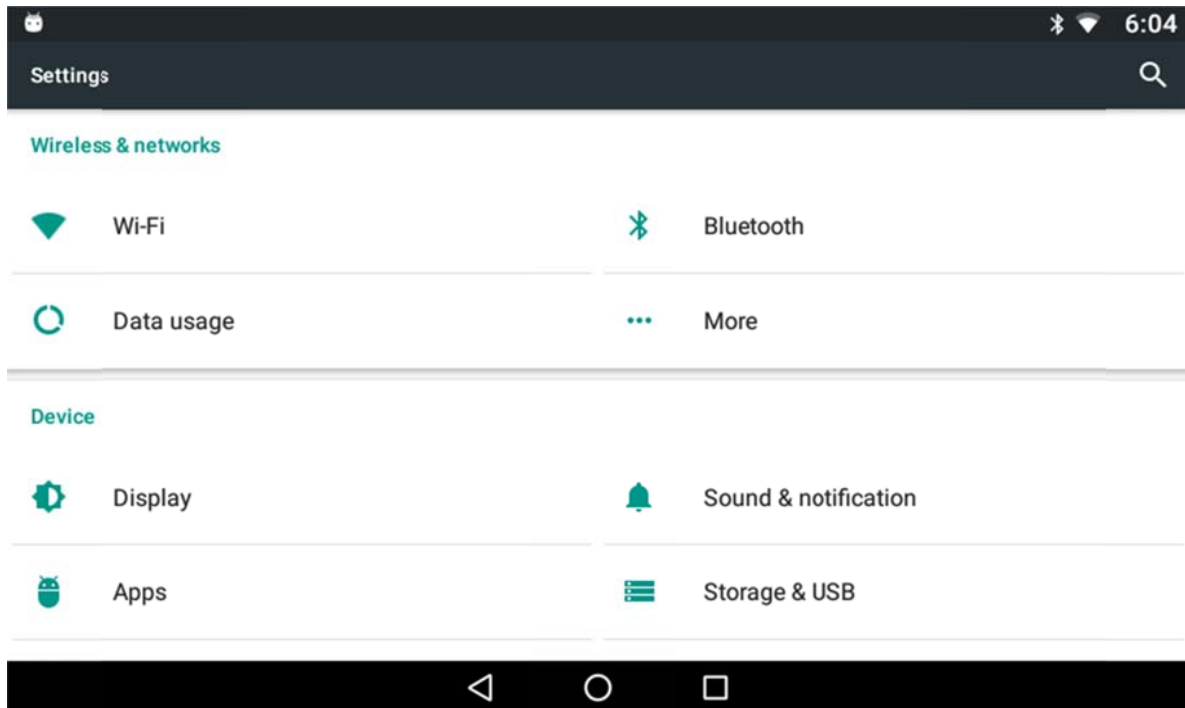
Live Wallpapers: Choose from list of animated wallpapers.

(‘Set wallpaper’ button is placed on the bottom middle of screen)



4) Settings

Touch the Apps icon  on Home screen and then touch the settings icon  you will see the following screen where you could setup your device's settings.



In the Settings menu, you can setup many options. For example, turn on/off Wi-Fi network, adjust the sound of the device and manage the apps in your device.

[1] Wireless & networks

Menu	Description
Wi-Fi	Enable to see the accessible Wi-fi list and to select Wi-fi.
Bluetooth	Enable Bluetooth connections.
Data usage	Monitor your device's data usage.
Wi-Fi Direct	Direct device-to-device connections using Wi-Fi
VPN	Set up and manage your Virtual Private Networks(VPNs)

[2] Device

- Display: Adjust the screen brightness and font size to suit your preference. And you can set up sleep mode and daydream mode.

Menu	Description
Brightness level	Set the display brightness.
Sleep	Choose options for when the device is on inactivity state.
Daydream	Control what happens when the phone is on inactivity state.
Font size	Choose the default font.

- Sound & notification: You can turn off sounds or select the sounds about several notification and function. Also, you can adjust Media, Alarm, Notification volume for device.

Menu	Description
Media volume	Adjust the Media volume
Alarm volume	Adjust the Alarm volume
Notification volume	Adjust the Notification volume
Do not disturb	Enable to make some rules for free from notification
Default notification ringtone	Set the default notification sounds for apps
Other sounds	Set the options about turn on/off sounds of some functions

- Apps: This menu displays all app list that be installed. (It includes all preloaded apps and apps that you downloaded)
- Storage & USB: View the device memory and USB memory usage. Also you can check the contents that are stored in device or USB memory

[3] Personal

- Security: The security settings let you set unlocking your phone, customize lock screen options, encryption options, password, administration, and credential storage options.

Menu	Description
Screen lock	Set your screen lock type.
Lock screen message	Set message on lock screen
Encrypt tablet	Set encrypt your tablet for security
Make passwords visible	Set passwords visible option
Device administrators	Allow or deny access to device by device administrators.
Unknown Sources	Allow or deny installation of apps from sources other than the Google Play store app.
Storage type	Select a storage location for credential contents.
Trusted credentials	Set to enable/disable credentials
Install from SD card	View folders and files located on the optional SD card (not included). This option only appears if an optional SD card is installed.
Trust agents	Set your preferred system and user credentials.
Screen pinning	Set locks or pins the screen to a particular app.
Application with usage access	Set authorization of apps to access

- Accounts : The Accounts settings menu lets you add your Google Account.

You will need a Google Account to access several device apps such as Google, Play Store, and apps that related with google that you will download. Before you are able to access Google applications, you must enter your account information. These applications sync between your device and your online Google Account.

- Google: You can set your google service options.
- Language & input: Language and input settings let you select a language for the menus and keyboards and configure keyboard settings, speech input settings, and pointer speed options.

- Apps: If you touch it, you will see all the installed apps list on the window, and you can tap anyone of them to uninstall it or clean data for that app.
- Language & input: touch it you can change your device's language and input method.
- Backup & reset: This menu lets you back up your device's data and settings to Google servers. And it also has Factory data reset function. Once implement reset function, all data will be erased from the device's application storage, including:
 - Your Google account
 - All other email and social networking accounts
 - System and application data and settings
 - Downloaded applications

Before Reset, back-up is recommended

[4] System

- Date & time: Use the Date and Time settings menu either to automatically use the network-provided date and time or manually set these values, as well as select time and date format options.
- Accessibility: The Accessibility menu lets you enable and manage accessibility-related applications.
- Developer options: Hidden in the settings on your phone, (really, they are hidden by default) are settings used for debugging and application development
- About device: The About device menu lets you access important device information, search for and apply updates, and view legal and safety information.

3. Major Function Introduction and How to use those.

[1]Connect to networks & devices

- Connect to Wi-Fi networks

To use many apps or functions that are related with(to) internet, you connect to a wireless Wireless Fidelity(Wi-Fi) or Wireless internet. Some are open and you can simply connect to them. Others require steps of security to set up, such as digital certificates or other ways to ensure that only authorized users can connect. To extend the life of your battery between charges, Recommend to turn off Wi-Fi when you're not using it.

Turn Wi-Fi on and connect to a Wi-Fi network If you're adding a Wi-Fi network when first setting up your device, Wi-Fi is turned on automatically.

How to set your wi-fi network

1. Touch All Apps button  on screen.



2. Touch Settings
3. Touch Wi-Fi.
4. Slide the Wi-Fi switch to the 'On' position. The device scans for available Wi-Fi networks and displays the names of those it finds. Secured networks are indicated with a Lock icon. If the device finds a network that you connected to previously, it connects to it directly.
5. Touch a network name to see more details or connect to it. If the network is secured, you're prompted to enter a password or other credentials. (Ask your network administrator for details.)

- Connect to Bluetooth devices

Bluetooth is a short-range wireless communications technology used to communicate between devices over a distance of about 8 meters. The most common Bluetooth devices are headsets for making calls or listening to music, hands-free kits for cars, and other portable devices, including laptops. To connect to a Bluetooth device, you must turn on your device's Bluetooth. The first time you use a new Bluetooth device, you must pair it with, so that both devices know how to connect securely to each other. After that, they connect automatically. To extend the life of your battery between charges, turn off Bluetooth when you're not using it. You may also be required to turn Bluetooth off in some locations.

System icons indicate Bluetooth status.

■ How to set your Bluetooth turn on/off

1. Touch Apps button  on screen.



2. Touch Settings
3. Touch Bluetooth.
4. Slide the Bluetooth switch on or off.

■ How to change your Bluetooth name

Your device has a generic Bluetooth name by default, which is visible to other Bluetooth device when you connect them. You can change the name so that it is more recognizable.

1. Implement steps to turn on Bluetooth and stay on Bluetooth screen.
2. In the Bluetooth screen, touch the icon  on right top on screen and then choose 'Rename this device'
- 3 Type a new name and touch 'Rename'.

■ Pair your device with a Bluetooth device

You must pair your device with a device before you can connect to it. Once you pair your device with a device, they stay paired unless you unpair them.

1. Implement steps to turn on Bluetooth
2. Your device automatically scans all available Bluetooth devices in range.
- 3.Touch the ID of the Bluetooth device in the list to pair with it. And then follow the instructions to complete the pairing

6) Manage Apps

To see all your apps, touch the Apps icon on Home screen.

The main Apps screen opens. This is where you can see all your apps, including those downloaded from Android Market. You can move app icons to any of your Home screens.

From All Apps, you can

Move between screens: Swipe left or right.

Launch an app: Touch its icon.

Place an app icon on a Home screen: Touch & hold the app icon, slide your finger, and lift your finger to drop the icon in place.

Get more apps: Enter app 'Play Store'

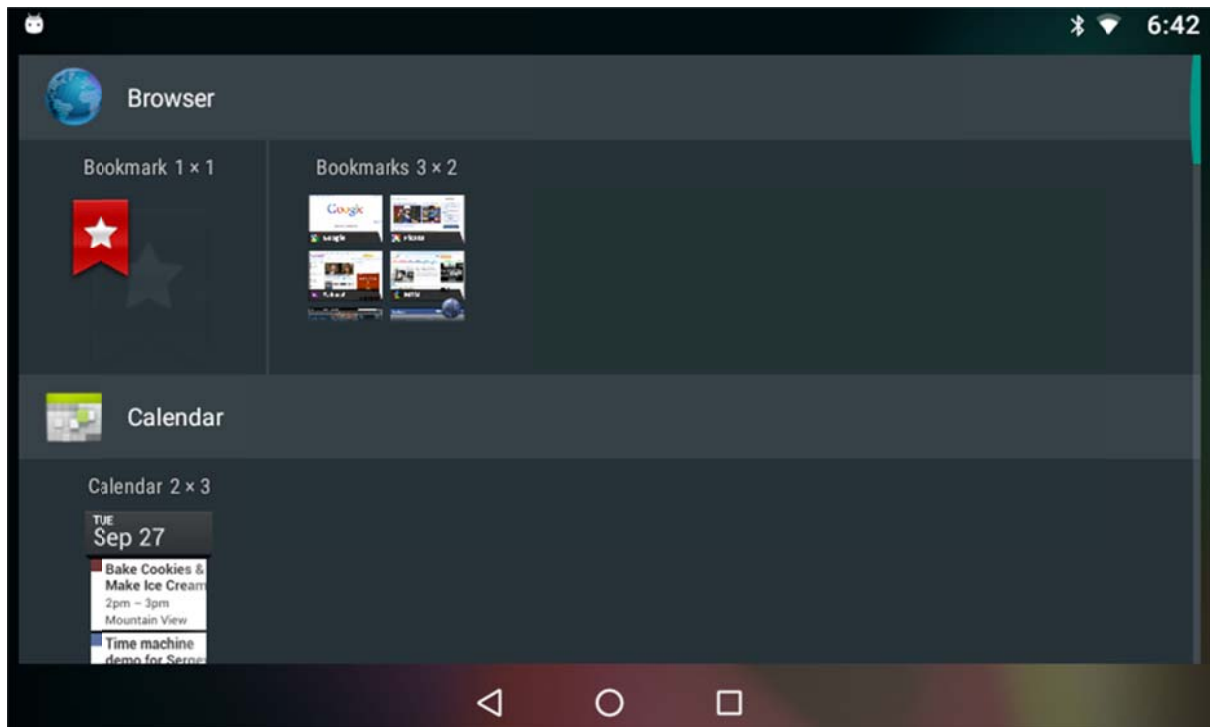
To remove an app icon from the Home screen, touch and hold it, slide your finger toward the left side of the screen, and drop the app over the Remove icon.

7) Add widgets

Widgets are convenient function. It likes windows into your apps. To add widgets on home screen, You need to follow some steps below.

■ How to add widgets on home screen:

1. Touch & hold anywhere on a Home screen that's not occupied. A list of options appears.
2. Touch Widgets at the bottom of the screen.
3. Choose a widget you want. By swiping your finger down and up, you can see all kinds of widgets.
4. Touch and hold the widget's icon, slide your finger where you want to place it, and lift your finger.



8) Manage notifications

Notifications report the arrival of application notice, calendar events, and alarms, as well as ongoing events. When you receive a notification, its icon appears in the top left corner of the screen. Depending on your Sound settings, you may also hear a sound.

See your notifications: Swipe your finger down from the top of the screen.

Respond to a notification: Touch it.

Dismiss a notification: Swipe it sideways.

Dismiss all notifications: Touch the button  in the bottom right corner on notification bar

9) Preloaded app list

Apkinstaller

Browser

Calculator

Calendar

Clock

Dev Tools

Downloads

Gallery

Google

Music

Play store

Search

Settings

Sound Recorder

Video Player

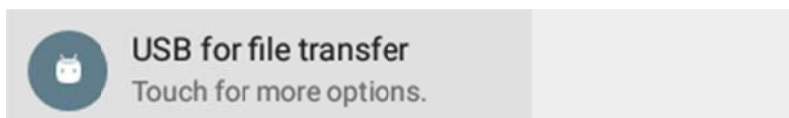
Voice Search

WFDSink

10) USB Connection

Transfer files between your device and pc

- 1.Connect your device and PC via USB cable
2. 'USB for file transfer' appears automatically on Notification bar.



- 3.Click 'USB for file transfer'.
4. Choose and click your USB connection way.
4. If notification bar disappeared, now your device has been connected to your pc successfully.

3. Specification

HARDWARE			
CPU		Telechips TCC3830	
		Cortex-A53 Quad / 1GHz + Cortex A7 Single / 1GHz	
Memory	Storage	Samsung eMMC 32GB	
	RAM	Hynix DDR3 2GB(512M x 4)	
Wifi & Bluetooth Combo		Wi-Fi(IEEE 802.11ac)	
		Bluetooth 4.1	
Audio Decode		MP3, AAC	
Video Decode		MPEG1,2 , H.263, H.264, MPEG1/2, MPEG4-ASP, VC-1, MVC, MJPEG/JPEG, VP8, HEVC, VP8, HEVC, VP9	
Photo		JPG, PNG	
Buttons		Support external button (HOME , MENU, RST, BACK , etc)	
Power		12V/2A	
Environment Conditions	Temperature Humidity	Operation	-10 ~ +70℃
		Storage	-10 ~ +60℃
	Humidity	Operation	4%~90%RH
		Storage	40%RH
Physical			Demension : Weight : 80g

Information to Users

According to the FCC Part 15.19, 15.21, 15.109 and 15.212 rules, for this EUT, the instructions or operation manual furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

This device complies with the following radio frequency and safety standards.

Important to OEM Manufacturer: This following FCC Warning must be included in the HOST User Manual.

FCC Warning This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Note 1: This device is only authorized for use in a mobile application. At least 20 cm of separation distance between the transmitting antenna device and the user's body must be maintained at all times.

Note 2: Any modifications made to the module will void the Grant of Certification, this module is limited to OEM installation only and must not be sold to end-users, end-user has no manual instructions to remove or install the device, only software or operating procedure shall be placed in the end-user operating manual of final products.

Note 3: The device must not transmit simultaneously with any other antenna or transmitter.

Note 4: To ensure compliance with all non-transmitter functions the host manufacturer is responsible for ensuring compliance with the module(s) installed and fully operational. For example, if a host was

previously authorized as an unintentional radiator under the Declaration of Conformity procedure without a transmitter certified module and a module is added, the host manufacturer is responsible for ensuring that after the module is installed and operational the host continues to be compliant with the Part 15B unintentional radiator requirements.

Note 5: FCC ID label on the final system must be labeled with “Contains FCC ID: 2ALVHSO7” or “Contains transmitter module FCC ID: 2ALVHSO7”.

The transmitter module must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the host product.