ODROID-7 USER MANUAL

(Developer edition)

www.hardkernel.com

ODROID-7 is open source platform and supported only through forum.

http://odroid.foros-phpbb.com

Android™ SDK Platform R2.2

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Please Read Before Proceeding

THE BATTERY IS NOT CHARGED WHEN YOU TAKE THE DEVICE OUT OF THE BOX. DO NOT REMOVE THE BATTERY PACK IN ANY CASE. YOUR WARRANTY IS INVALIDATED IF YOU OPEN OR TAMPER WITH THE DEVICE'S OUTER CASING.

Limitation of Damages

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL HARDKERNEL BE LIABLE TO USER OR ANY THIRD PARTY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES OF ANY KIND, IN CONTRACT OR TORT, INCLUDING, BUT NOT LIMITED TO, INJURY, LOSS OF REVENUE, LOSS OF GOODWILL, LOSS OF BUSINESS OPPORTUNITY, LOSS OF DATA, AND/OR LOSS OF PROFITS ARISING OUT OF, OR RELATED TO, IN ANY MANNER, OR THE DELIVERY, PERFORMANCE OR NONPERFORMANCE OF OBLIGATIONS, OR USE OF THE WEATHER INFORMATION, DATA OR DOCUMENTATION HEREUNDER REGARDLESS OF THE FORESEEABILITY THEREOF.

Important Health Information and Safety Precautions

When using this product, the safety precautions below must be taken to avoid possible legal liabilities and damages. Retain and follow all product safety and operating instructions. Observe all warnings in the operating instructions on the product.
To reduce the risk of bodily injury, electric shock, fire and damage to the equipment, observe the following precautions.

ELECTRICAL SAFETY

This product is intended for use when supplied with power from the designated battery or power supply unit. Other usage may be dangerous and will invalidate any approval given to this product.
SAFETY PRECAUTIONS FOR PROPER GROUNDING INSTALLATION CAUTION: Connecting to improperly grounded equipment can result in an electric shock to your device.
This product is equipped with a USB Cable for connecting with a desktop or notebook computer. Be sure your computer is properly grounded (earthed) before connecting this product to the computer. The power supply cord of a desktop or notebook computer has an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet which is properly installed and grounded in accordance with all local codes and ordinances.

SAFETY PRECAUTIONS FOR POWER SUPPLY

Use the provided USB cable to charge the battery. The battery must be properly inserted into the device to charge the battery.
Handle battery packs carefully. This product contains a Li-ion battery. There is a risk of fire and burns if the battery pack is handled improperly. Do not attempt to open or service the battery pack.
WARNING: Danger of explosion if battery is incorrectly replaced. To reduce risk of fire or burns, do not disassemble, crush, puncture, short external contacts, expose to temperature above 60° C (140° F), or dispose of in fire or water. Replace only with specified batteries. Recycle or dispose of used batteries according to the local regulations or reference guide supplied with your product.

Note

This product should be operated only with the designated battery pack:

- Take extra precautions
- Keep the battery or device dry and away from water or any liquid as it may cause a short circuit.
- Keep metal objects away so they don't come in contact with the battery or its connectors as it may lead to short circuit during operation.
- Do not use a battery that appears damaged, deformed, or discolored, or the one that has any rust on its casing, overheats, or emits a foul odor.
- Always keep the battery out of the reach of babies and small children, to avoid swallowing of the battery. Consult the doctor immediately if the battery is swallowed.
- If the battery leaks:
- Do not allow the leaking fluid to come in contact with skin or clothing. If already in contact, flush the affected area immediately with clean water and seek medical advice.
- Do not allow the leaking fluid to come in contact with eyes. If already in contact, DO NOT rub; rinse with clean water immediately and seek medical advice.
- Take extra precautions to keep a leaking battery away from fire as there is a danger of ignition or explosion.

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SAFETY PRECAUTIONS FOR DIRECT SUNLIGHT

Keep this product away from excessive moisture and extreme temperatures. Do not leave the product or its battery inside a vehicle or in places where the temperature may exceed 60°C (140°F), such as on a car dashboard, window sill, or behind a glass that is exposed to direct sunlight or strong ultraviolet light for extended periods of time. This may damage the product, overheat the battery, or pose a risk to the vehicle.

PREVENTION OF HEARING LOSS

CAUTION: Permanent hearing loss may occur if earphones or headphones are used at high volume for prolonged periods of time.

SAFETY IN AIRCRAFT

Due to the possible interference caused by this product to an aircraft's navigation system and its communications network, using this device on board an airplane is against the law in most countries. If you want to use this device when on board an aircraft, remember to turn off your device by switching to Airplane Mode.

ENVIRONMENT RESTRICTIONS

Do not use this product in gas stations, fuel depots, chemical plants or where blasting operations are in progress, or in potentially explosive atmospheres such as fuelling areas, fuel storehouses, below deck on boats, chemical plants, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles, such as grain, dust, or metal powders. Please be aware that sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

EXPLOSIVE ATMOSPHERES

When in any area with a potentially explosive atmosphere or where flammable materials exist, the product should be turned off and the user should obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Users are advised not to use the equipment at refueling points such as service or gas stations, and are reminded of the need to observe restrictions on the use of radio equipment in fuel depots, chemical plants, or where blasting operations are in progress. Areas with a potentially explosive atmosphere are often, but not always, clearly marked. These include fueling areas, below deck on boats, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles, such as grain, dust, or metal powders.

Avoid applying excessive pressure to the device Do not apply excessive pressure on the screen and the device to prevent damaging them and remove the device from your pockets before sitting down. It is also recommended that you store the device in a protective case and only use your finger when interacting with the touch screen. Cracked display screens due to improper handling are not covered by the warranty.

Heed service markings Except as explained elsewhere in the Operating or Service documentation, do not service any product yourself. Service needed on components inside the device should be done by an authorized service technician or provider.

Damage requiring service Unplug the product from the electrical outlet and refer vicing to an authorized service technician or provider under the following conditions:

- Liquid has been spilled or an object has fallen onto the product.
- The product has been exposed to rain or water.
- The product has been dropped or damaged.
- There are noticeable signs of overheating.
- The product does not operate normally when you follow the operating instructions.

Avoid hot areas The product should be placed away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Avoid wet areas Never use the product in a wet location.

Avoid using your device after a dramatic change in temperature When you move your device between environments with very different temperature and/or humidity ranges, condensation may form on or within the device. To avoid damaging the device, allow sufficient time for the moisture to evaporate before using the device.

NOTICE: When taking the device from low-temperature conditions into a warmer environment or from high-temperature conditions into a cooler environment, allow the device to acclimate to room temperature before turning on power.

Avoid pushing objects into product Never push objects of any kind into cabinet slots or other openings in the product. Slots and openings are provided for ventilation. These openings must not be blocked or covered.

Mounting accessories Do not use the product on an unstable table, cart, stand, tripod, or bracket. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

Avoid unstable mounting Do not place the product with an unstable base.

Use product with approved equipment This product should be used only with personal computers.

Adjust the volume Turn down the volume before using headphones or other audio devices.

Cleaning Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning, but NEVER use water to clean the LCD screen.

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Small Children Do not leave your device and its accessories within the reach of small children or allow them to play with it. They could hurt themselves or others, or could accidentally damage the device. Your device contains small parts with sharp edges that may cause an injury or which could become detached and create a choking hazard.

Repetitive Motion Injuries To minimize the risk of repetitive strain injury, when Texting or playing games with your device:

- Do not grip the device too tightly
- Press the buttons lightly
- Take lots of breaks to stretch and relax.

Operating machinery Full attention must be given to operating the machinery in order to reduce the risk of an accident.

Loud Noise This device is capable of producing loud noises which may damage your hearing.

LCD Dead Pixels The limits of LCD manufacturing technology permit a maximum of 5 abnormal or dead pixels which does not affect system performance.

Notes

Some devices and software referred to in the User Guide may not be provided and/or changed.
The product environment referred to in the User Guide may not be the same as your own environment.
The image used for the cover and text of the User Guide may not be the same as the actual guides.
The information in this document is subject to change without notice due to improving the performance of the product.
Hardkernel shall not be liable for any data loss. Please take care to avoid losing any important data and backup your data to prevent any such data loss.

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Before you get started

Please charge the battery to turn on.

Please connect the power cable when you use the debug board.

You can find valuable information at http://www.hardkernel.com , http://dev.odroid.com and http://odroid.foros-phpbb.com

ADB USB driver for Windows : http://dev.odroid.com/projects/odroid/download/13

System software is stored in Tflash(Micro SDcardd\). Please do not eject the card when the device is on. Android OS is mainly for phone use. As such, this device is as a phone in the Android OS.

Please note that the ODROID-7 developer edition is a development platform and its specifications are subject to change without notice and it may include Beta and Pre-Release software and as such not designed for end-users. Wireless devices' RF performance might not meet standard level.

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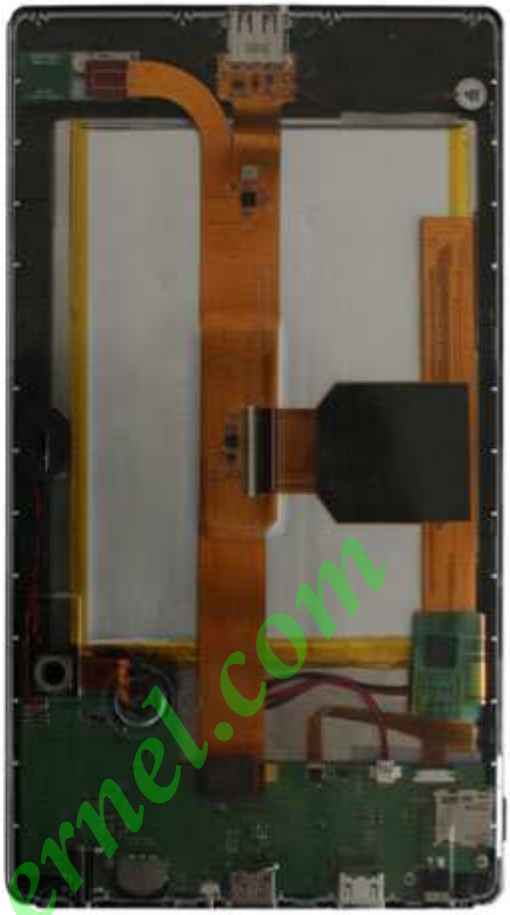

Menu **Home** **Back** **Search**

Inside Box

Schematics / Source code
System area of Boot Leader,
Kernel and Android.

Debug board

5V 2A Power adaptor

TTA20 to USB Cable

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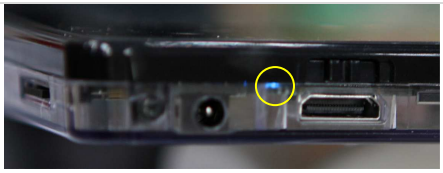
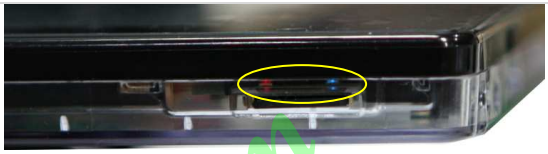
Buttons and connectors

Top	Bottom

Indicators

Power on : Blue light on	Power off - Charging : Red light illuminate - Full charged : Blue light illuminate
	

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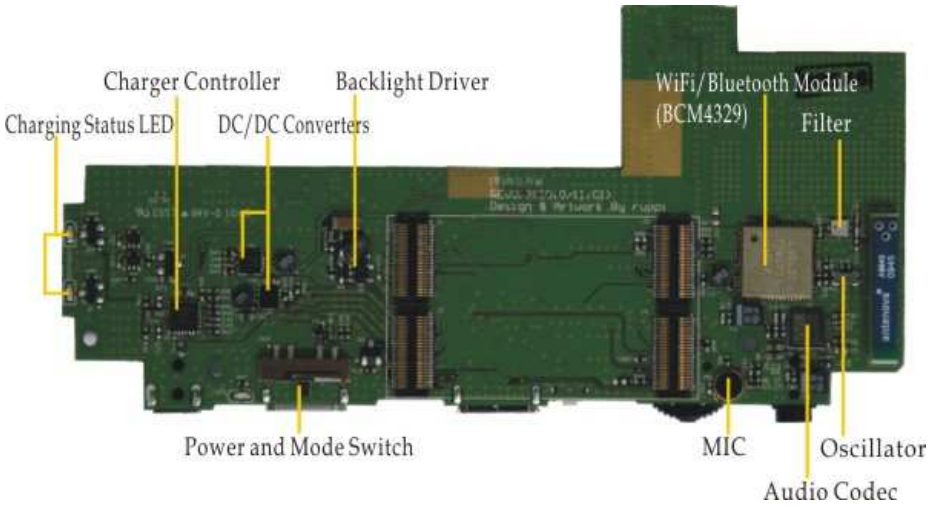
BOARD DESCRIPTION

Front



Board to board connector for CPU board

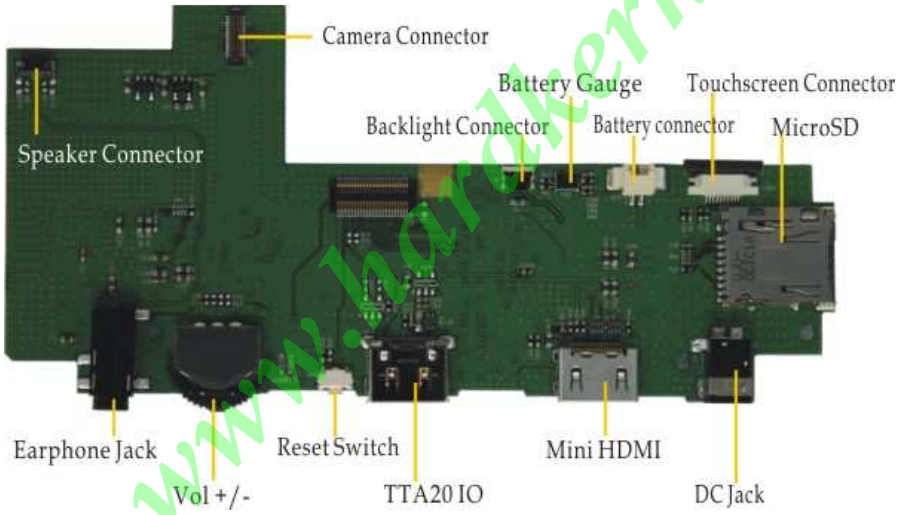
WiFi/BT Combo Module : Broadcom(BCM4329)

Audio CODEC : WM8991 is a highly integrated low power hi-fi CODEC from Wolfson

Charger Cotroller : MAX8677A, Charge Li-Polymer battery with smart power path.

DC/DC Converters : MAX1556 for LCD, GPS and sensors. XC9158 for USB host and HDMI.

Back



Acceleration Sensor: Digital 3-axial acceleration sensor from Bosch Sensortec

Battery Gauge : MAX17040

DC Jack : inner diameter 1.3mm, outer diameter 3.5mm

Touchscreen Connector : I2C with IRQ 3.3V interface.

IO(TTA20) : USB and Serial port for system monitoring

Mini HDMI : Standard type-C HDTV, support up to 1920 x 1080 resolution

MicroSD Card Slot : 4Gbyte T-flash(removable) memory card for system area of Boot Loader, Kernel and Android and user storage

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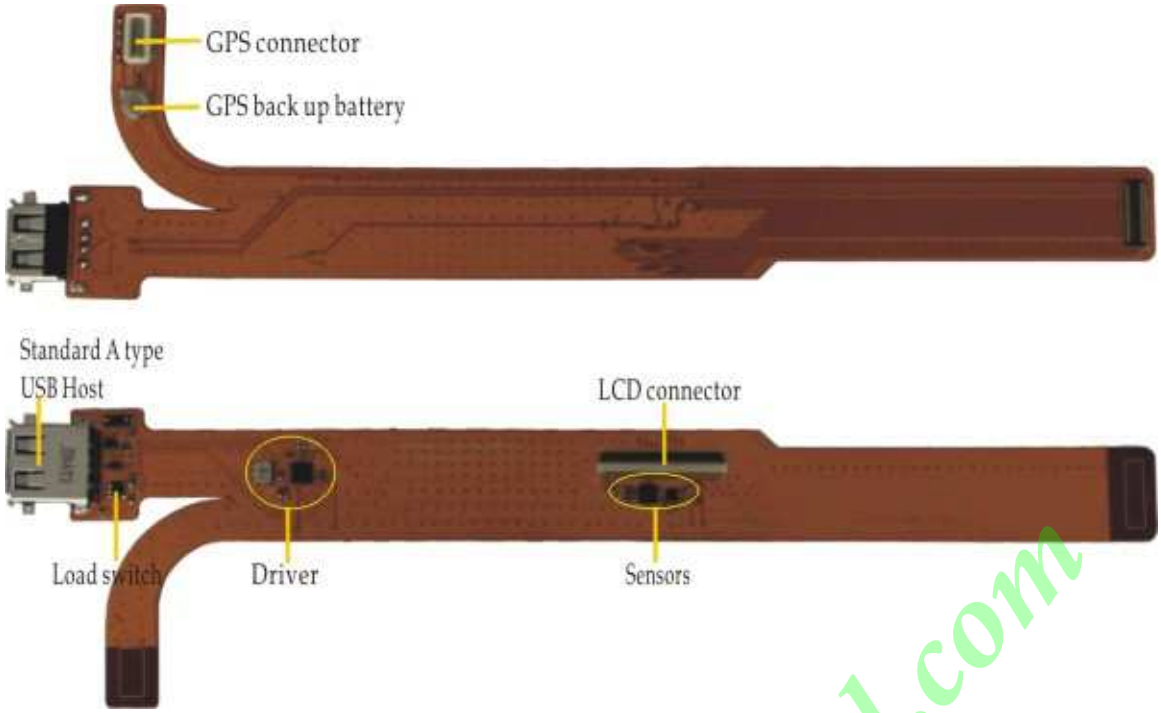
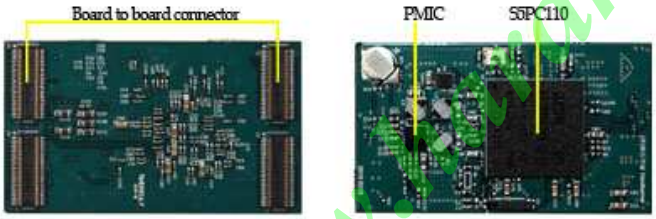
FPCB



USB2.1 HS Host : Connect various external accessories such as GPS, camera, keyboard, external HDD, etc
Drivers and Sensors

CPU Board

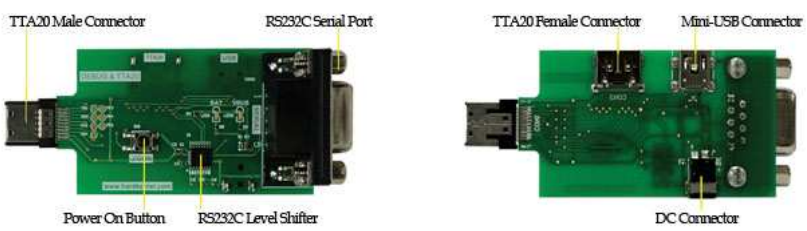


CPU : Samsung S5PC110 Cortex-A8 1Ghz with 512KB L2 cache, 3D Accelerator : SGX540 (up to 20M triangles/s and 1000M pixels/s)
Memory : OneNAND 512MB Mobile DDR 400Mhz data rate
PMIC : contains 3 Step-down DC/DCs and 9 LODs.

Board to Board connector location data(http://dev.odroid.com/projects/odroid-t/wiki/FrontPage?action=download&value=CPU_MODULE_B2B.ZIP)
This data is useful for designing your own base board. Please consider connector J1 of CPU board should be matching to J1 of Base board.

Board to Board connector pin map http://dev.odroid.com/projects/odroid-t#s-1.2.2.3

Debug Board



TTA20-Male connector : Connect to I/O port of Odroid-7.
RS232C Serial Port : Connect to Host PC RS232C Serial Port via cable.

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Recovery utility

If your Odroid-T file system is broken or damaged, you can recover the T-flash card with this utility.

http://dev.odroid.com/projects/odroid-t/download

Unplug your T-flash from ODROID-7 and connect it to your PC.

Note: This software is compatible with only Windows-XP. Perform enforcement the compatibility mode with Windows-Vista or Windows-7.

U-boot compile HOWTO

http://dev.odroid.com/projects/odroid-t/wiki/UbootPage

1 Preface
2 Build environment
3 Download and Install tool-chain for u-boot
    3.1 Download the cross tool package
    3.2 Copy the cross tool package to /usr/local/arm
    3.3 Uncompress the cross tool with tar command
    3.4 Add Path in your environment file
    3.5 Check the tool-chain path to see if it is set up correctly or not.
4 Download source code
5 Compile
6 Debug board setup
    6.1 Debug board connection
7 Transfer boot-loader to target board(Odroid)
    7.1 For Windows(XP) PC Users
    7.2 For Linux (Ubuntu) PC Users
    7.3 Where is T-flash(Micro-SD)
8 Others

Kernel compile HOWTO

http://dev.odroid.com/projects/odroid-t/wiki/KernelPage

1 Preface
2 Build environment
3 Source code download
4 Kernel compile
5 Transfer kernel image to target board(Odroid-7)
    5.1 For Windows(XP) PC Users
    5.2 For Linux (Ubuntu) PC Users
6 How to check zImage update
7 How to be a developer for this project

Android platform compile HOWTO

http://dev.odroid.com/projects/odroid-t/wiki/AndroidPage

1 Preface
2 Build environment
3 Download and Install essential packages
4 Getting source code and extraction
5 Obtain restricted files from Odroid-7
    5.1 Case 1: ADB of android-sdk
    5.2 Case 2: Extract files from T-Flash(Micro-SD) Card reader

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6 Building the code
7 Write the compiled files to T-Flash under Ubuntu (Must have Linux PC)
7.1 Copy Android system to formatted partition (Overwrite)
7.2 Copy android system to new partition (Clean & Write)
8 ramdisk-uboot.img write
9 T-flash sector map
10 Others
11 References

How to install Android SDK

http://odroid.foros-phpbb.com/software-development-f19/how-to-install-android-sdk-t48.htm

Install the Android SDK on Eclipse development platform. The tutorial applies to all platforms: MAC, WIN, LINUX. Because Eclipse is about Java.

1 - Install Eclipse: http://www.eclipse.org/downloads/
To download the Eclipse IDE for Java Developers (92 MB) is sufficient.
Once downloaded, extract the zip file in the folder.

2 - Make sure you have Java installed on the machine, but Eclipse will not work. Download: http://java.sun.com/javase/downloads/index.jsp

3 - Install the Android plugin for Eclipse:

3.1-Add Site to install plugin: Go to the menu Help / Software Updates window appears Avalia go to the Updates tab, Add and add the following site: https: / / dl-ssl.google.com/android/eclipse /

3.2-Installing the plugin: Once you add the url, you can select and give the Developer Tools installed.
IMPORTANT: Once installed you need to restart Eclipse to implement changes

Android SDK 3.3-download: http://developer.android.com/sdk/index.html
IMPORTANT: Step 3.4 is fundamental or Eclipse will give the following error

3.4-Add the path to the SDK in eclipse: Go to menu Window / Preferences and in the window that appears, add the path section Android.

4 - Now you can create a project for Android with Eclipse.

How to install Android NDK

http://odroid.foros-phpbb.com/software-development-f19/how-to-install-android-ndk-t181.htm

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PARTS DETAIL

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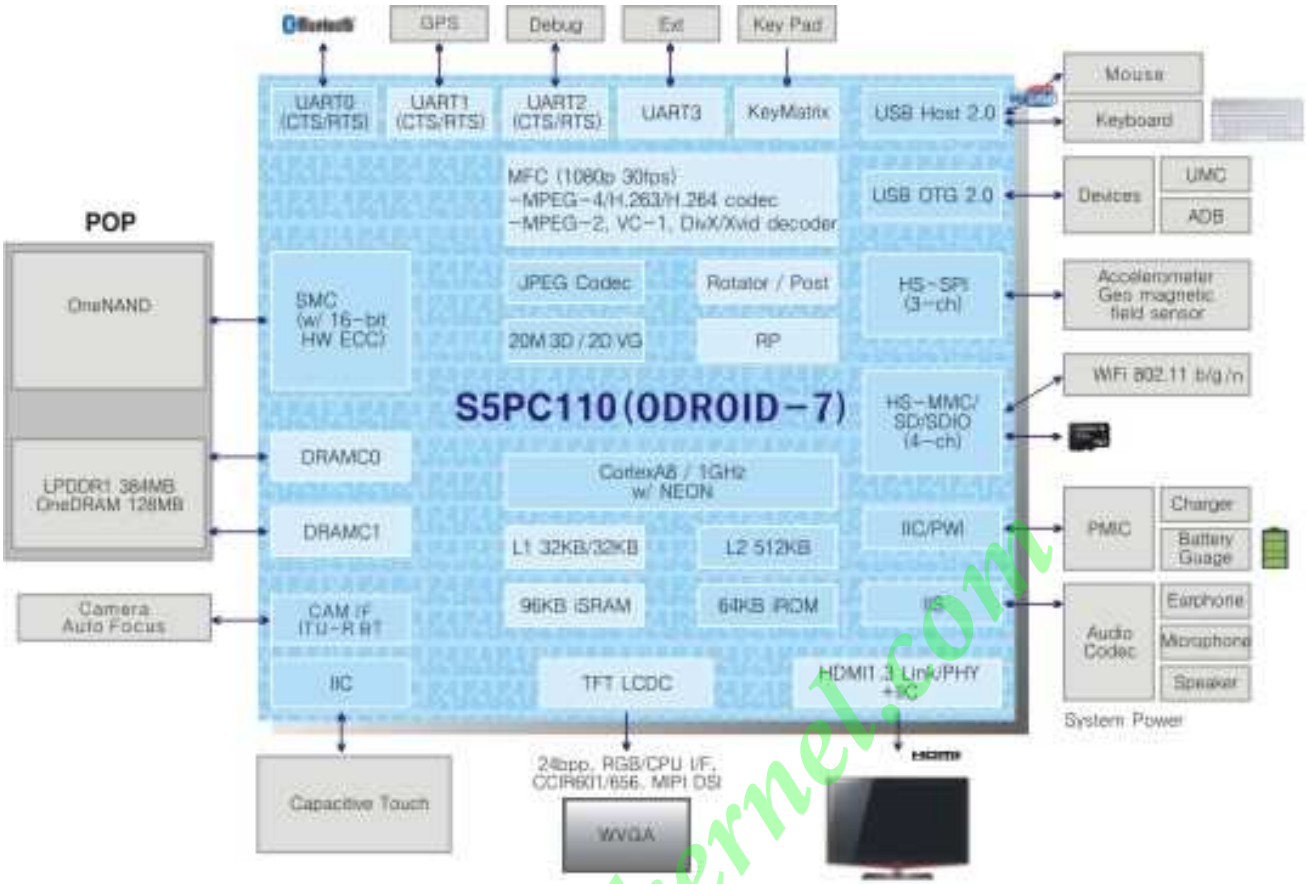
Block Diagram for ODROID-7



Key features of Samsung S5PC110

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GETTING STARTED

Turn on/off

Slide the power switch right side for 2 seconds to turn on/off the device.

Buttons

Button	Press	Press & hold
Back	Opens the previous screen you were working in. If the onscreen keyboard is open, closes the keyboard.	
Menu	Opens a menu with items that affect the current screen or application.	
Home	Opens the Home screen. If you're viewing the left or right extended Home screen, opens the central Home screen.	Opens the most recently used applications screen.
Power	Turns on/off the screen.	Power on / off
Volume Up(L)	Increase the volume	
Volume Down(R)	Decrease the volume	

Touch

The main way to control Android features is by using your finger to manipulate icons, buttons, menu items, the onscreen keyboard, and other items on the touchscreen. You can also change the screen's orientation. Touch to act on items on the screen, such as application and settings icons, to type letters and symbols using the onscreen keyboard, or to press onscreen buttons, you simply touch them with your finger.

Touch & hold

Touch & hold an item on the screen by touching it and not lifting your finger until an action occurs. For example, to open a menu for customizing the Home screen, you touch an empty area on the Home screen until the menu opens.

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. You drag items on the Home screen to reposition them, as described in "Customizing the Home screen", and you drag to open the Notifications panel.

Swipe or slide

To swipe or slide, you quickly move your finger across the surface of the screen, without pausing when you first touch it (so you don't drag an item instead). For example, you slide the screen up or down to scroll a list.

Double-tap

Tap quickly twice on a webpage or other screen to zoom. For example, you double-tap a section of a webpage in Browser to zoom that section to fit the width of the screen. You can also double-tap to control some applications.

Rotate the screen

On most screens, the orientation of the screen rotates with the device as you turn it from upright to its right side and back again. You can turn this feature on and off, as described in "Sound & display settings".

Note

The **Orientation** check box in **HOME > MENU > Settings > Sound & display** needs to be selected for the screen orientation to automatically change.

MicroSD card(Tflash)

MicroSD Card

Always turn off your device before installing or replacing the MicroSD card. Push the MicroSD card inward until it clicks, then release it to eject it from the slot. The Android OS, application data and user data is stored in the MicroSD card. Make sure not to delete data in the MicroSD card to avoid any malfunction of the device.

Note

Some MicroSD cards that you purchase from market might not be compatible. Make sure to check the compatibility when purchasing a new MicroSD card.

Battery

Your device comes with a rechargeable Lithium-polymer battery and is designed for use with only manufacturer-specified original batteries and accessories. Battery performance depends on many factors, including network configuration, signal strength, the temperature of the environment in which you operate your device, the features and/or settings you select and use, items attached to connecting ports, and your voice, data, and other program usage patterns.

Warning!

To reduce risk of fire or burns:

- Do not attempt to open, disassemble, or service the battery pack.
- Do not crush, puncture, short external contacts, or dispose of in fire or water.
- Do not expose to temperatures above 60°C (140°F).
- Replace only with the battery pack designated for this product.
- Recycle or dispose of used battery as stipulated by local regulations.

Charging the Battery

New batteries are not charged when shipped. Before you start using your device, you need to install and charge the battery. Some batteries perform best after several full charge/discharge cycles. Plug the supplied AC adaptor to start charging the battery. As the battery is being charged while the device is on, the charging battery icon is displayed in the status bar of the Home screen. After the battery has been fully charged, the Notification LED shows a solid green light and a full battery

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icon displays in the status bar of the Home screen.

USB/HDMI

Connecting TTA20 to USB cable

The provided USB cable is a standard TTA20 to USB which is used for some mobile phones. The USB icon displays on the notification bar when the USB is connected.

Connecting mini HDMI cable

The mini HDMI cable is an optional accessory. Some cables might not be compatible with the device. Make sure to check the compatibility when you purchase the cable.

USB HS Host

You can connect external devices such as keyboard, mouse, storage, etc. There might be compatibility issue.

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! Note

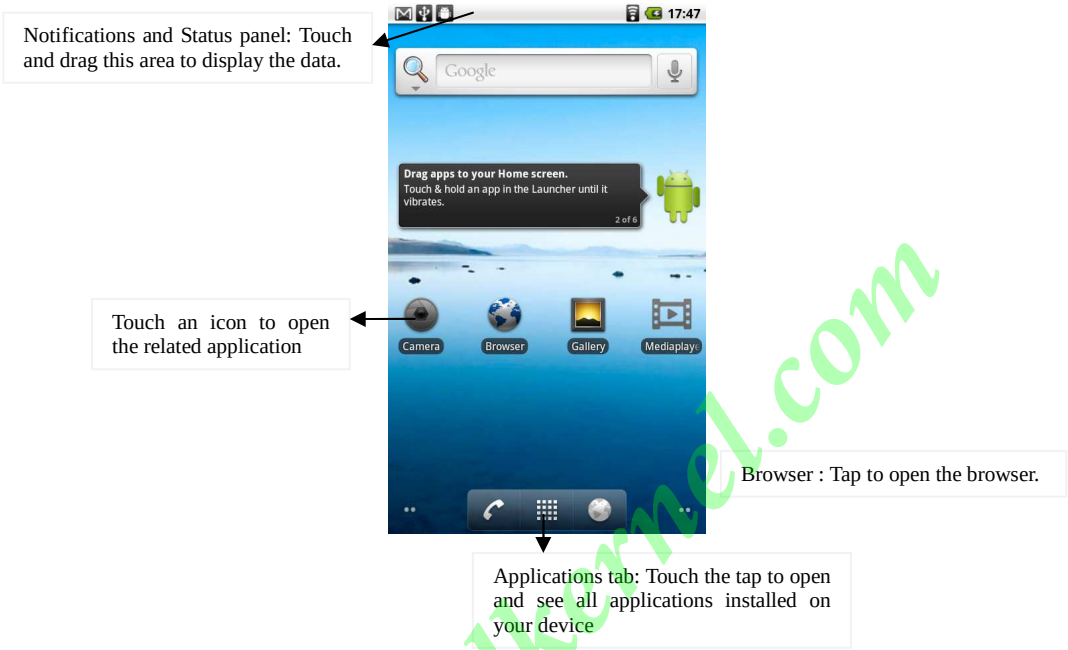
Some applications might not be compatible with this device.

Hardkernel has no responsibility for applications that you download from the market or any place.

HOME SCREEN

Home Screen

The Home screen is your starting point for using the applications on your device. You can customize the Home screen to display application icons, shortcuts, folders, and widgets.

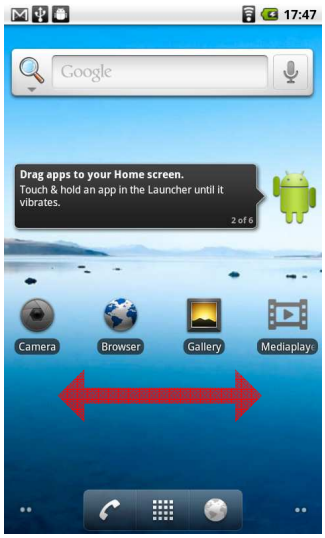


Tip

While in any application, press **HOME** to go back to the Home screen.

Extended Home screen

The Home screen extends beyond the screen width to provide more space for adding icons, widgets, and more. Press **HOME**, then slide your finger horizontally across the screen to go to the left or right side of the extended Home screen.



Tip While on an extended Home screen, you can also press **HOME** to return to the main Home screen.

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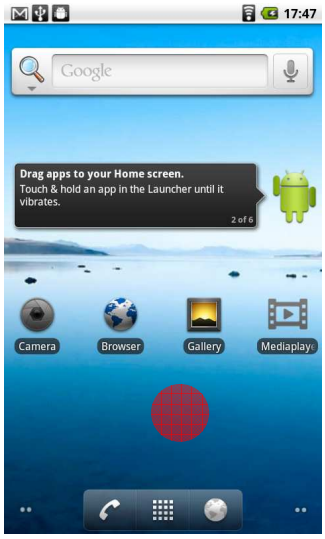
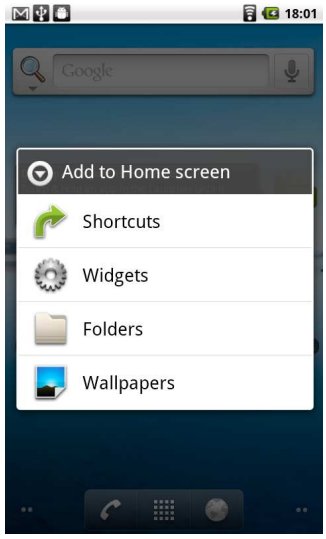
Customizing the Home screen





To add a Home screen item

Press **HOME**, then touch and hold an empty area on the screen.

When the Add to Home options menu opens, select the item you want to add to the Home screen:

- **Shortcuts**: Add shortcuts such as applications, a bookmarked web page, a favorite contact, or a music playlist.

  Tip

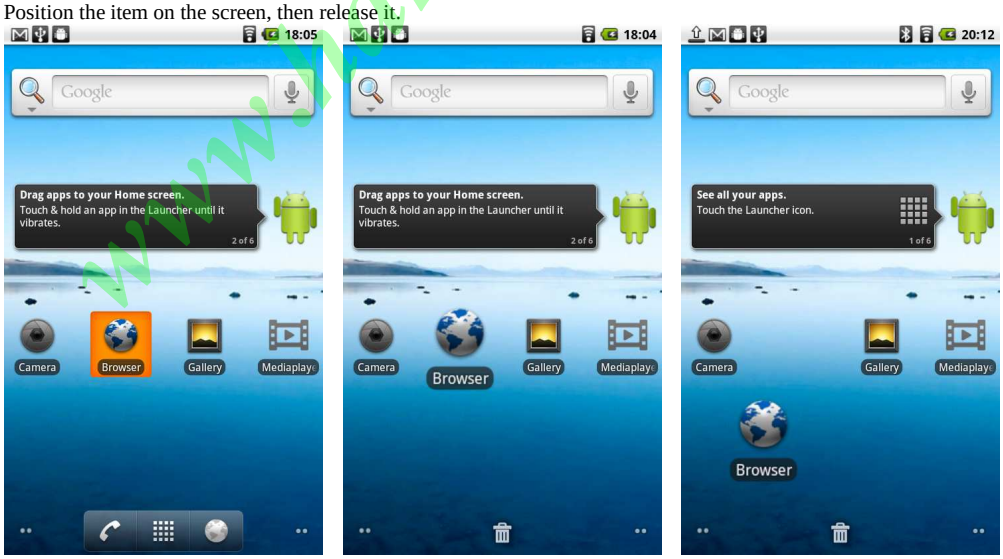
  To quickly add an application shortcut that is on the **Applications tab** to the Home screen, touch and hold an application icon. When the icon is magnified, release the icon on an empty area on the Home screen.
- **Widgets:** Add a clock, music player, a picture frame, or the Google bar that shows upcoming appointments.
- **Folders:** Add a folder where you can organize Home screen items.
- **Wallpapers**: Change the Home screen wallpaper.

To reposition a Home screen item

Touch and hold the item on the screen you want to reposition to activate Move mode.

Note

When Move mode is activated, the item magnifies. Without lifting your finger, drag the icon to the desired position on the screen, then release it. To move an item from the Home screen to an extended Home screen, touch and hold the item and then drag it to the left or right edge of the screen until the display shifts to the extended Home screen. Position the item on the screen, then release it.



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To remove a Home screen item

Touch and hold the item on the screen you want to remove to activate Move mode.

Note

When Move mode is activated, the item magnifies. Drag the icon to the Applications tab (The Applications tab changes into). When the icon and Application tab turn red, release it.

To change the Home screen wallpaper

While on the Home screen, press **MENU** and then touch **Wallpaper**. Touch **Pictures** or **Wallpaper gallery**. Touch **Pictures** to use a picture that you have copied to your device. You can crop the picture before setting it as a wallpaper. Touch **Wallpaper gallery** to use preset wallpapers that came with the phone. Touch **Save** or **Set wallpaper**.

To create a folder and add items to it

You can create folders on the Home screen to hold application icons or shortcuts. Press **HOME**, press **MENU**, and then touch **Add > Folders**. A new folder appears on the screen. Touch and hold an application icon or a shortcut on the Home screen to activate Move mode, then drag it on top of the folder. To access the items inside a folder, touch the folder to open it and then touch the icon of the application or shortcut you want to open.

Tip

To delete a folder, follow the same procedure when you want to remove a Home screen item.

To rename a folder

Touch the folder to open it. Touch and hold the folder's title bar to open the Rename folder dialog box. Enter the Folder name and then touch OK.

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Status and Notifications

On top of the device screen is the status bar. The left side of the status bar displays notification icons while the right side of the status bar displays the device status.

Tip

When the status bar is full, touch to display hidden icons/notifications.

- **Notification icons**
  - New email message
  - Music is playing
  - Problem
  - More (not displayed) notifications
  - Storage card is full
  - Uploading data
  - Downloading data
  - Content downloaded
  - Wifi is on and wireless networks are available
  - Device connected to computer via USB cable

- **Status icons**
  - Wifi connected
  - Bluetooth is on
  - Connected to another Bluetooth device
  - Airplane mode
  - Alarm
  - Battery status

To open the Notifications panel

When a new notification icon displays in the status bar, touch and hold the status bar, then slide your finger downward to open the Notifications panel.

If you have several notifications, you can scroll down the screen to view more notifications.

Tip

You can also open the Notifications panel on the Home screen by pressing **MENU** and then touching **Notifications**. To close the Notifications Panel, touch and hold the bottom bar of the Notifications panel, then slide your finger up the screen or press **BACK**.

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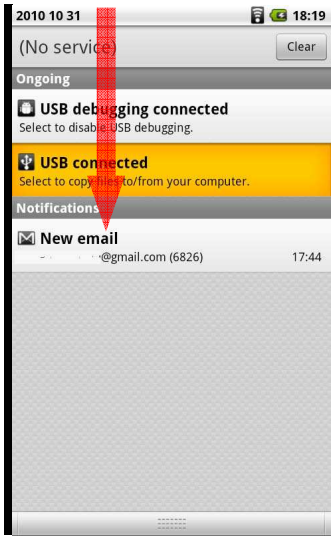
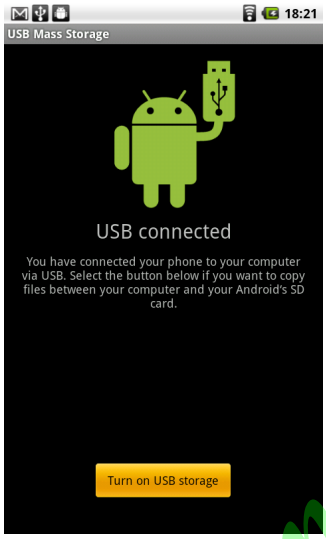
USB drive

Using the storage card as a USB drive

To transfer music, pictures, and other files from your computer to your device's storage card, you need to set the device's storage card as a USB drive.





To set the device's storage card as a USB drive

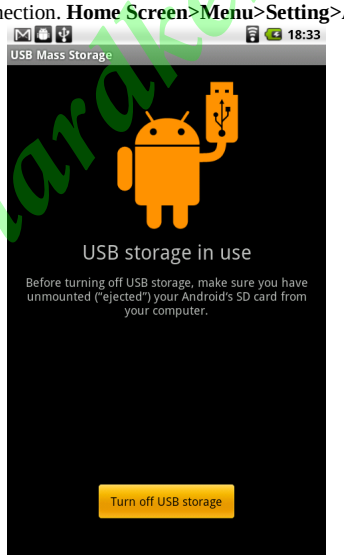
Connect the device to the computer using the USB cable. A notification icon appears in the status bar. Open the Notifications Panel. In the Notifications Panel, touch USB connected and then touch Mount.

When you select Mount, the device will not recognize the storage card when it is connected to a computer. You will not be able to use some of the applications. You need to turn off USB storage for the device to recognize the storage card when the device is connected to a computer

To turn off USB storage

Open the Notifications Panel. In the Notifications Panel, touch **Turn off USB storage** and then touch **Turn Off**.

Note : **USB debugging** must be checked to enable a USB connection. **Home Screen>Menu>Setting>Applications>Development>USB debugging**



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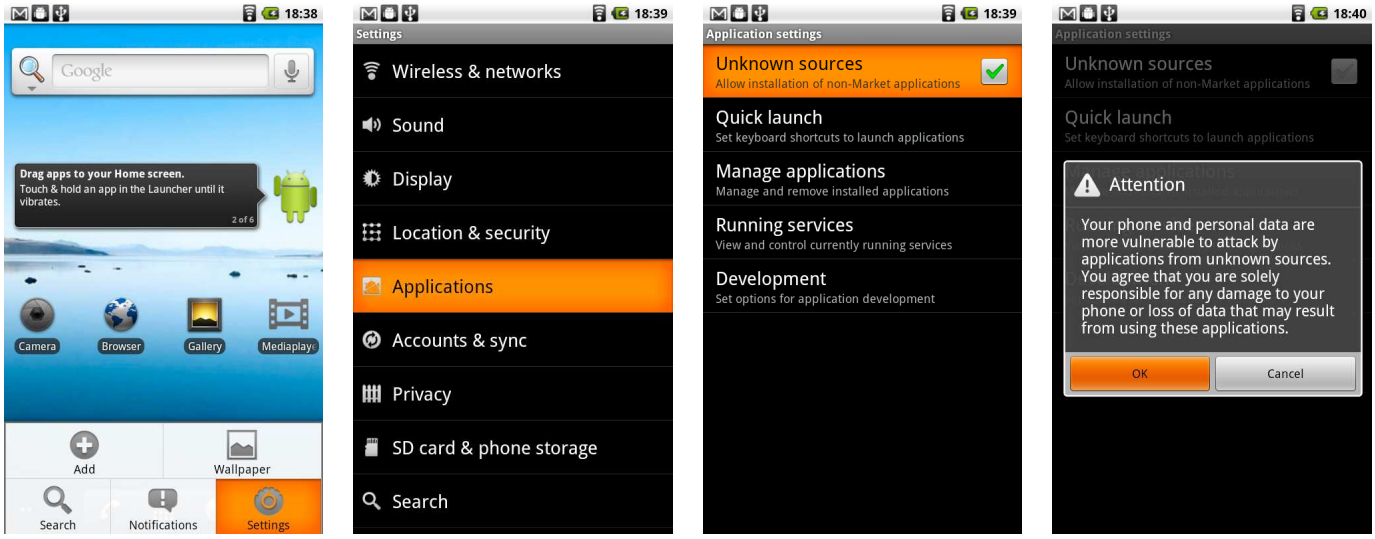
To allow download of applications



Before you can download applications, you must first enable downloading option from the settings. Press **HOME** > **MENU**, and then touch **Settings** > **Applications**. Select the **Unknown sources** check box. When the Attention dialog box opens, touch **OK**.

Note All downloaded applications are saved to the SDcard folder.

Warning Applications downloaded from the web can come from unknown sources. To protect your device and personal data, download applications only from trusted sources.

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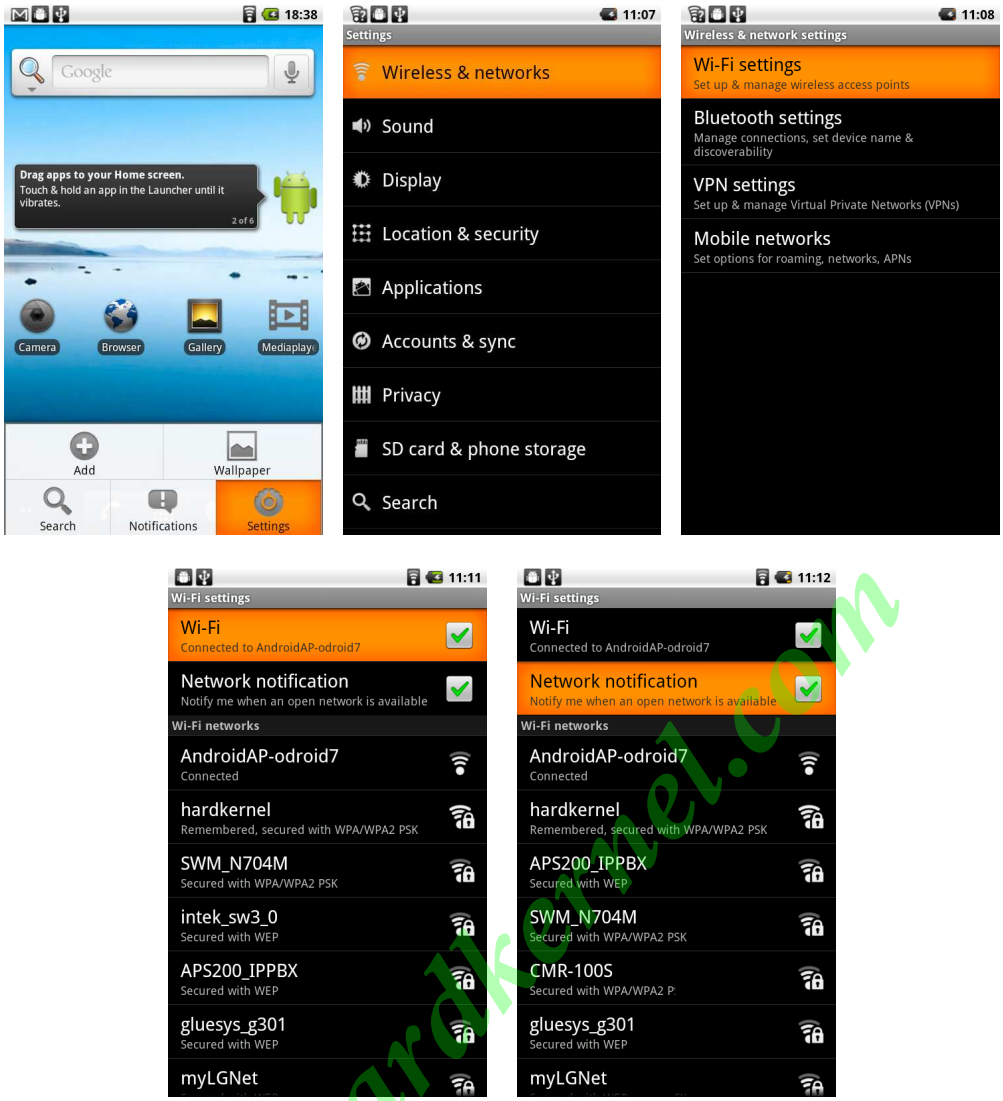
Connecting Wifi network



To use Wi-Fi on your device, you need access to a wireless access point or “hotspot”.

Note

The availability and range of the Wi-Fi signal depends on the number, infrastructure, and other objects through which the signal passes.

To turn Wi-Fi on and connect to a wireless network

Press **HOME** > **MENU**, and then touch **Settings** > **Wi-Fi settings**. Select the **Wi-Fi** check box to turn Wi-Fi on. The device will scan for available wireless networks. Touch **Wi-Fi settings.** The network names and security settings (Open network or Secured with WEP) of detected Wi-Fi networks are displayed in the Wi-Fi networks section. Touch a Wi-Fi network to connect. When you selected an open network, you will be automatically connected to the network. If you selected a network that is secured with WEP, enter the WEP (security) key and then touch **Connect**.

Notes

The next time your phone connects to a previously accessed secured wireless network, you will not be prompted to enter the WEP key again, unless you reset your device to its factory default settings.

Wi-Fi networks are self-discoverable, which means no additional steps are required for your device to connect to a Wi-Fi network. It may be necessary to provide a username and password for certain closed wireless networks.

Checking Network notification check box, there will be notification when wireless network is available.

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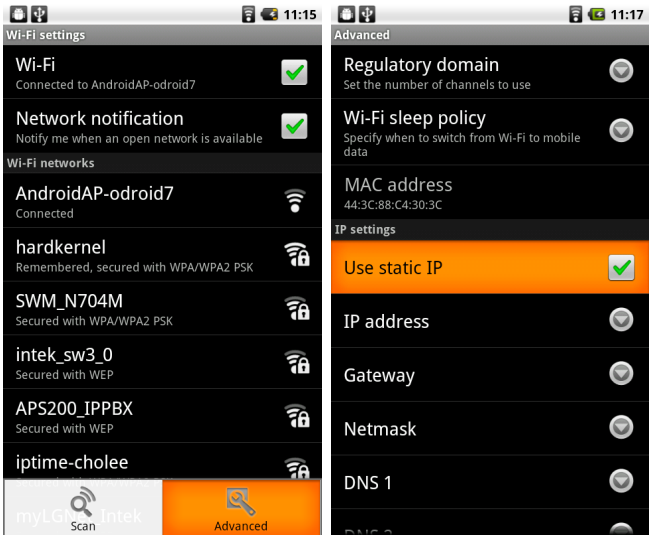
To add static IP



Press **HOME** > **MENU**, and then touch **Settings** > **Wireless & networks** > **Wi-fi settings,** and then touch **MENU**

Note If you want to remove the wireless network settings on your phone, touch **Forget** on this window. You will need to enter the settings again if you want to connect to this wireless network.

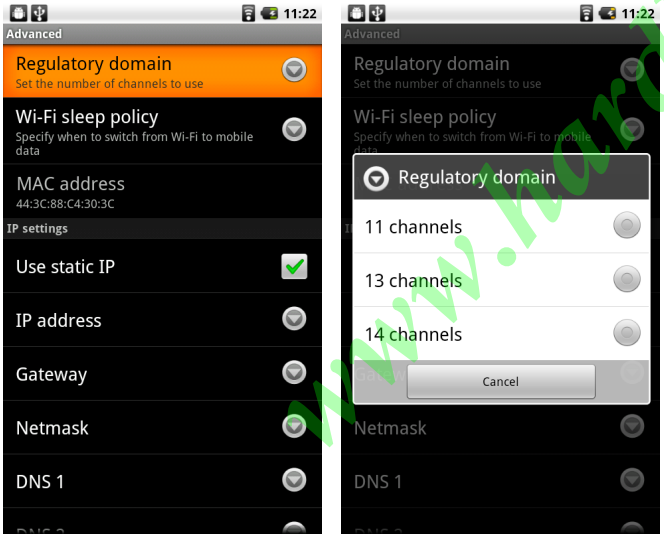
To connect to another Wi-Fi network

On the Wireless controls screen, touch **Wi-Fi settings**. Detected Wi-Fi networks are displayed in the Wi-Fi networks section.

Tip To manually scan for available Wi-Fi networks, on the Wi-Fi settings screen, press **MENU** and then touch **Scan.** Touch another Wi-Fi network to connect to it.

Note If the wireless network you want to connect to is not in the list of detected networks, scroll down the screen, then touch **Add Wi-Fi network**. Enter the wireless network settings, then touch **Save**.

Regulatory domain



Home > Setting > Wireless & networks > Menu > Advanced > Regulatory domain

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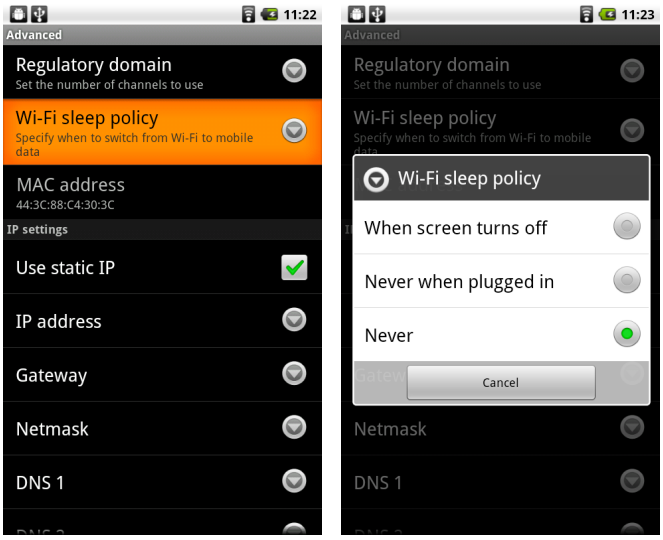
WiFi sleep policy



Home > Setting > Wireless & networks > Menu > Advanced > Wi-Fi sleep policy

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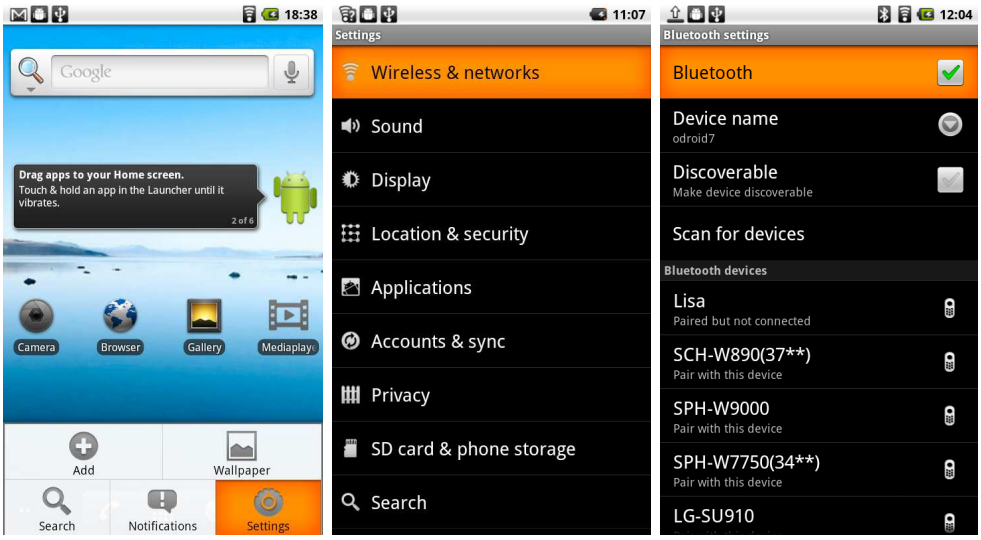
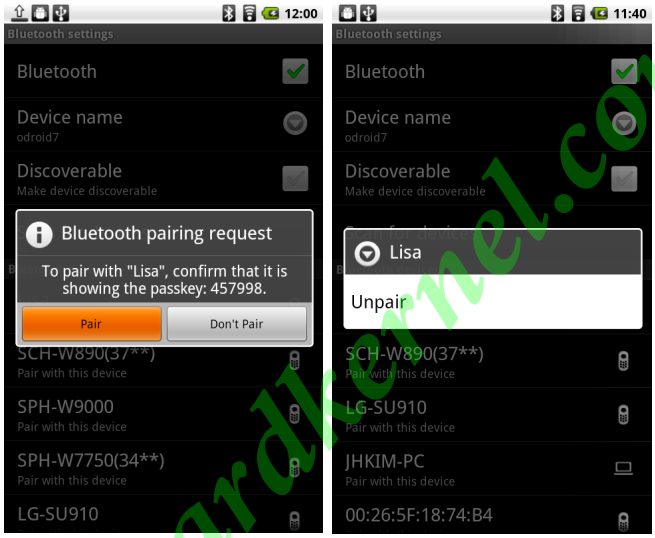
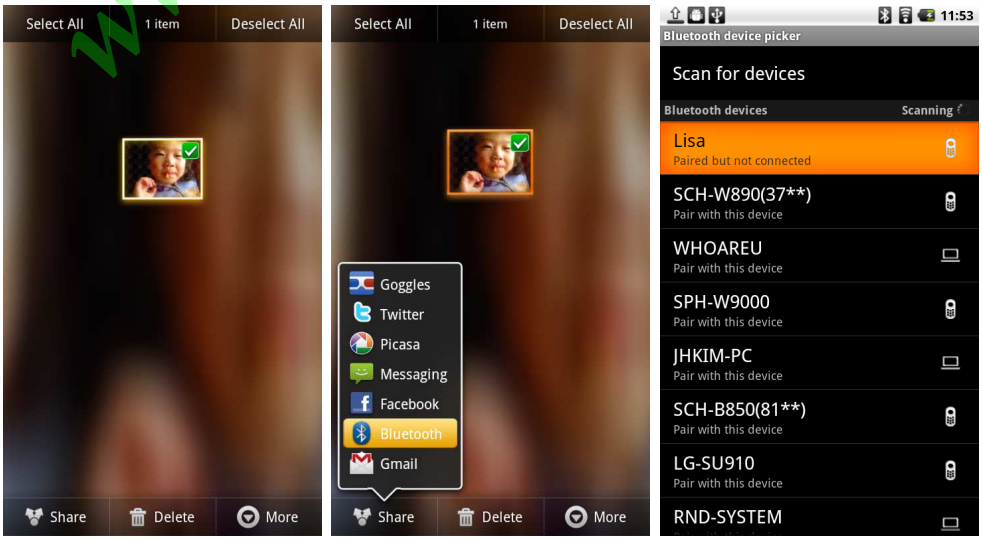
Bluetooth settings





Home > Settings > Wireless & networks > Bluetooth
Select the device and Pair.
To unpair, touch the device long and Unpair.

Transfer file through Bluetooth



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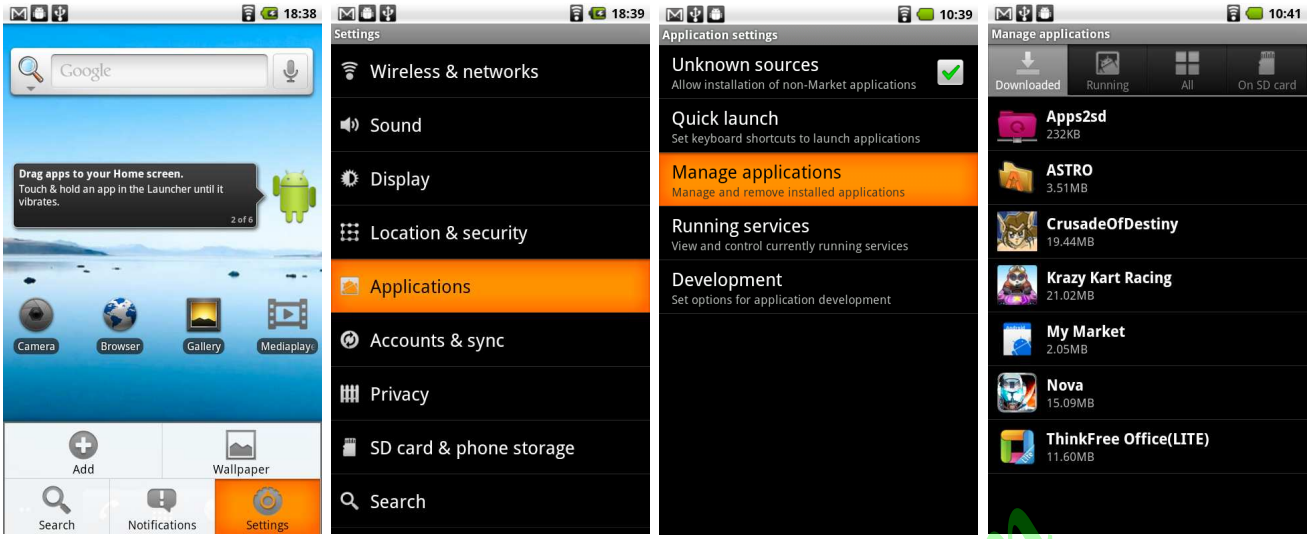
Managing applications

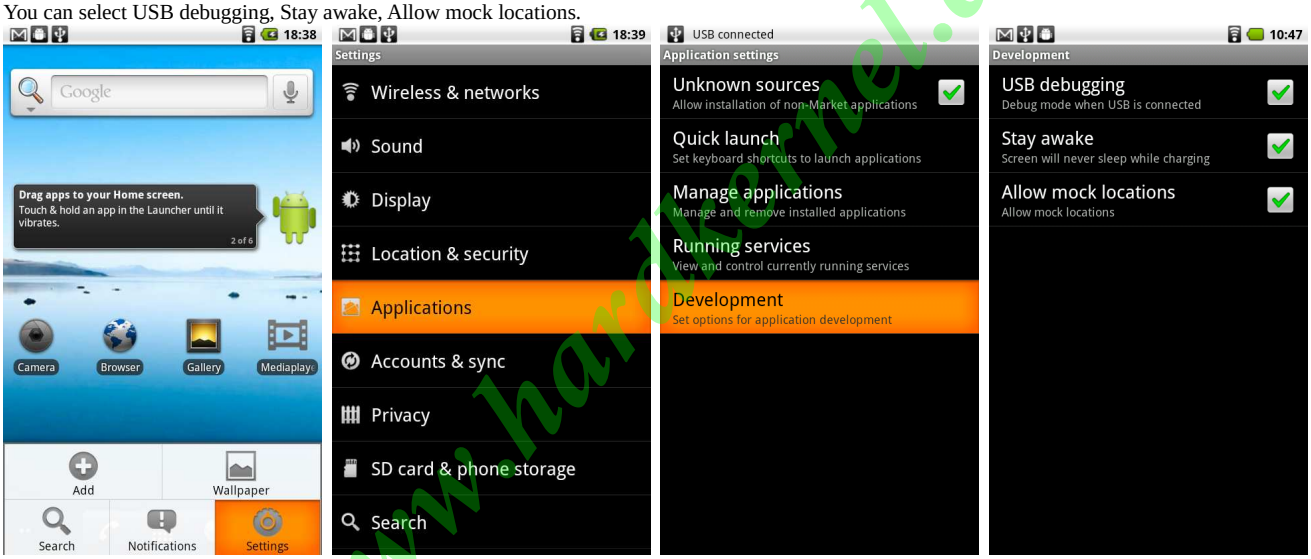
Press **HOME** > **MENU** > **Settings** > **Applications** > **Manage applications** , and then touch the applications to manage.



Application Development Settings

Press **HOME** > **MENU** > **Settings** > **Applications** > **Development**

You can select USB debugging, Stay awake, Allow mock locations.



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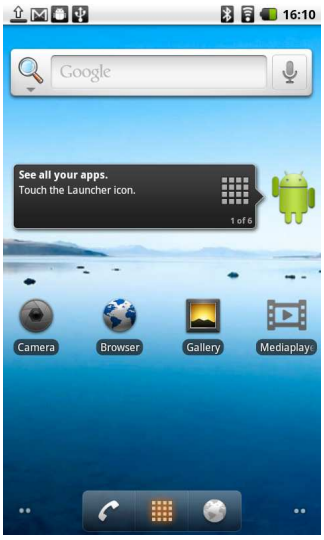
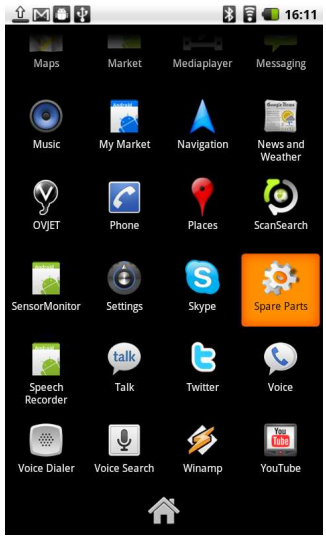
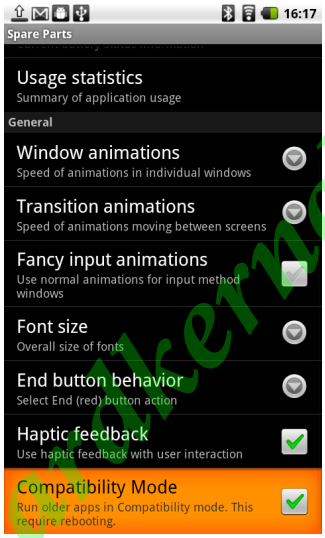
Spare Parts





Compatibility Mode



This Require Rebooting! Some applications shows at full screen mode with Compatibility Mode uncheck.

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Specifications

Processor | Samsung S5PC110 Cortex-A8 1Ghz with 512KB L2 cache

3D Accelerator | SGX540 (up to 20M triangles/s and 1000M pixels/s)

Memory | 512MB Mobile DDR 400Mega data rate

Micro-SD slot (4GB bundle)

Display | 7 inch, 800 x 480 RGB interface with capacitive multi-touch screen.

Video | supports 1080p via HDMI cable (H.264+AAC based MP4 container format)

Video Out | mini-HDMI connector with SPDIF audio

Audio | Built-in speaker and microphone, standard 3.5mm headphone jack

I/O | USB 2.0 HS Device for ADB/Mass storage, UART/JTAG for development

DC Jack | 5V 2A power

USB | USB2.0 HS Host(Standard A type connector)

WiFi | 802.11 b/g/n(Broadcom BCM4329)

Bluetooth | 2.1 + EDR

GPS | Built-in non-directional antenna

Camera | 5 Mega pixel autofocus(conditionally 2Mega pixel accessible)

Other Features | 3-axis accelerometer, , Geo magnetic field sensor, Linear motor

System Software | u-boot 1.3.4, Kernel 2.6.32.9, Android 2.2(Froyo)

Battery | 5600 mAh rechargeable Lithium Polymer

Dimensions | 220 x 121 x 13mm

Weight | 430g(with battery)

DEBUG BOARD

TTA20-Male Connector | Connect to I/O port.

RS232C Serial Port | Connect to Host PC RS232C Serial Port via cable.

Mini-B USB Connector | Connect to host PC.

Manufacturer information

Please contact odroid@hardkernel.com for any question.

Company name : Hardkernel Co., Ltd
Homepage : http://www.hardkernel.com
Resources : http://dev.odroid.com
Official forum : http://odroid.foros-phpbb.com/

Made in Korea

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