

# **ODROID USER MANUAL**

(Developer edition)

# CONTENTS

<b>SAFETY NOTICE AND PRECAUTIONS</b>	-----	<b>3</b>
<b>OVERVIEW</b>	-----	<b>6</b>
<b>Before you get started</b>	-----	<b>6</b>
<b>ODROID Description</b>	-----	<b>6</b>
<b>Debug Board Description</b>	-----	<b>7</b>
<b>Inside the box</b>	-----	<b>7</b>
<b>GETTING STARTED</b>	-----	<b>8</b>
<b>Turn on/off</b>	-----	<b>8</b>
<b>Home screen landscape mode</b>	-----	<b>8</b>
<b>Key/Touch input hold</b>	-----	<b>8</b>
<b>Buttons</b>	-----	<b>8</b>
<b>Lock the volume key</b>	-----	<b>8</b>
<b>Touch</b>	-----	<b>8</b>
<b>MicroSD card/SD card/Battery</b>	-----	<b>8</b>
<b>USB/HDMI</b>	-----	<b>9</b>
<b>ANDROID</b>	-----	<b>10</b>
<b>Home Screen</b>	-----	<b>10</b>
<b>Status and Notifications</b>	-----	<b>11</b>
<b>Applications</b>	-----	<b>12</b>
<b>Settings</b>	-----	<b>12</b>
<b>Adjusting the Volume</b>	-----	<b>13</b>
<b>USB driver</b>	-----	<b>13</b>
<b>To allow download of applications</b>	-----	<b>14</b>
<b>Entering text</b>	-----	<b>14</b>
<b>Connecting Wifi network</b>	-----	<b>15</b>
<b>Using Web</b>	-----	<b>16</b>
<b>Email</b>	-----	<b>17</b>
<b>Gallery</b>	-----	<b>18</b>
<b>Music</b>	-----	<b>19</b>
<b>Managing Your Device</b>	-----	<b>19</b>
<b>Appendix</b>	-----	<b>22</b>
<b>Specifications</b>	-----	<b>22</b>
<b>Manufacturer information</b>	-----	<b>22</b>

## SAFETY NOTICE AND PRECAUTIONS

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### Please Read Before Proceeding

THE BATTERY IS NOT CHARGED WHEN YOU TAKE IT OUT OF THE BOX. DO NOT REMOVE THE BATTERY PACK WHEN THE DEVICE IS CHARGING. 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 equipped with a USB Cable for connecting with 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 following designated Battery Pack(s): Hardkernel, Model **ODROID**.

- 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.

### 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 50°C (130°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 servicing 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.

**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.

## OVERVIEW

### Before you get started

Please insert the battery into the device to turn on.

You can check valuable information from <http://www.odroid.com> and <http://dev.odroid.com>

Android OS is mainly for phone use. So that device is called as phone on Android OS.

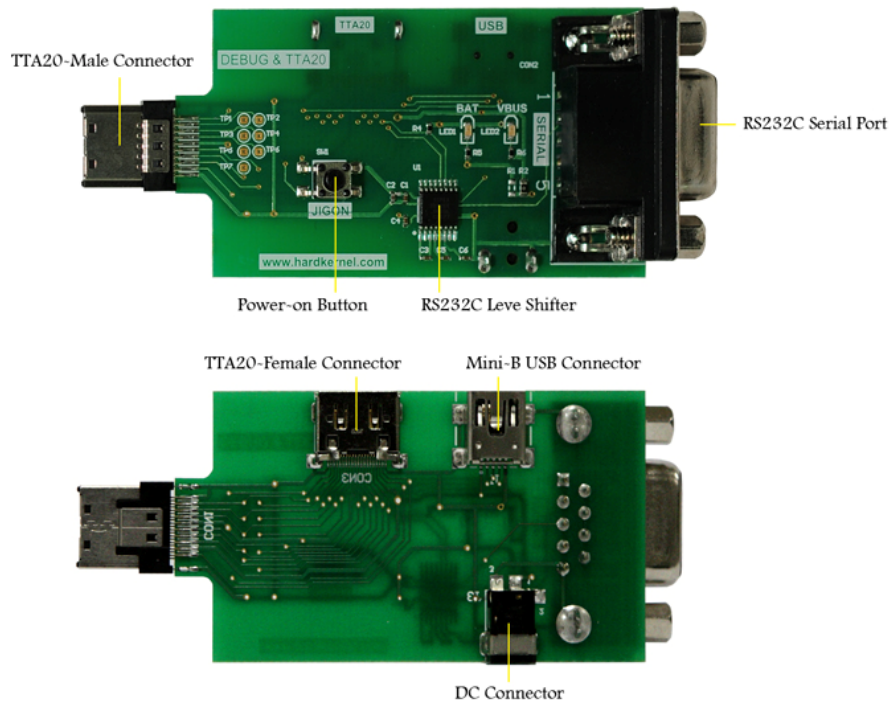
### ODROID Description







### Tips

1. Volume buttons are capacitive touch type.
2. Press Volume Up(R) long to lock the volume key.

## Debug Board Description



## Inside the box

Device	Battery	TTA 20pin USB cable	Debug board
			

## GETTING STARTED

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### Turn on/off

Slide and hold the power switch to left side for 2 seconds.

### Home screen landscape mode

Android **Home screen** is portrait default. Slide the power switch to right side to use the device in landscape mode. Some applications might support only portrait mode.

### Key/Touch input hold

Slide the power switch to left side for 0.5 seconds when the device is on to hold key/touch inputs. **Hold ON** message will be pop up on screen. Slide the power switch to left side for 0.5 seconds to hold off key/touch inputs. **Hold OFF** message will be pop up on screen.

### Buttons

- **Home:** While on any application or screen, press to return to the **Home screen**. Press and hold to open the recently-used applications window.
- **Menu:** Press to open a list of actions that you can do on the current screen or options menu. Press long to open onscreen keyboard.
- **Back:** Press to go back to the previous screen, or to close a dialog box, options menu, or the **Notifications panel**. Press and hold to return to the main screen of the current application. When the onscreen keyboard is open, press to close the onscreen keyboard.
- **OK:** Press to select menu
  
- Dpad Up: Up
- Dpad Down: Down
- Dpad Right: Right
- Dpad Left: Left
  
- Volume Up: Press to volume up. Press long to lock the volume input. Press long to unlock the volume key lock
- Volume Down: Press to volume down
  
- A / B / X / Y

### Lock the volume key

Press **Volume Up** key long to lock the volume input. **VOLUME-KEY Locked** message displays..

Press **Volume Up** key long to unlock the volume key when volume key is locked. **VOLUME-KEY Unlocked** message displays.

### Touch

When you want to type using the onscreen keyboard, select items onscreen such as application and settings icons, or press onscreen buttons, simply touch them with your finger.

### Touch and hold

To open the available options for an item (for example, link in a webpage), simply touch and hold the item.

### Swipe or slide

To swipe or slide means to quickly drag your finger vertically or horizontally across the screen.

### Drag

Touch and hold your finger with some pressure before you start to drag. While dragging, do not release your finger until you have reached the target position.

### Flick

Flicking the screen is similar to swiping, except that you need to swipe your finger in light, quicker strokes. This finger gesture is always in a vertical direction.

### Rotate

You can automatically change the screen orientation from portrait to landscape by turning the device sideways. When entering text using the onscreen keyboard, you can turn the device sideways to bring up a bigger keyboard.

### Note

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

## MicroSD(TFLASH) card/SD card/Battery

### Installing 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. Android OS and application data is stored in MicroSD card. Make sure not to delete data in MicroSD card to avoid any malfunction of the device.

### Note

Some MicroSD card might not be compatible. Make sure to check the compatibility when purchasing new MicroSD card.



## **Installing SD Card**

Always turn off your device before installing or replacing the SDHC card. Push the SDHC card inward until it clicks, then release it to eject it from the slot. User data and some application data are stored in SDHC card. You need to install the SDHC card before you can store the data.

### **Note**

Some SD card might not be compatible. Make sure to check the compatibility when purchasing new SD card.

## **Battery**

Your device comes with a rechargeable Lithium-ion battery and is designed to use 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 50°C (130°F).
- Replace only with the battery pack designated for this product.
- Recycle or dispose of used battery as stipulated by local regulations.

### **To install the battery**

Align the battery's exposed copper contacts with the battery connectors inside the battery compartment. Insert the contact side of the battery first then gently push the battery into place. Replace the battery cover.


### **To remove the battery**

Make sure the device is turned off. Remove the back cover. Lift the battery to remove it.

### **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 USB cable to your PC 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 icon  displays in the status bar of the Home screen.

## **USB/HDMI**

### **Connecting USB cable**

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

### **Connecting Mini HDMI cable**

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

# ANDROID

## Note

Some phone and camera related applications might not be compatible on the device.  
Hardkernel doesn't have any responsibility on applications that you download from market or any place.

## 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.

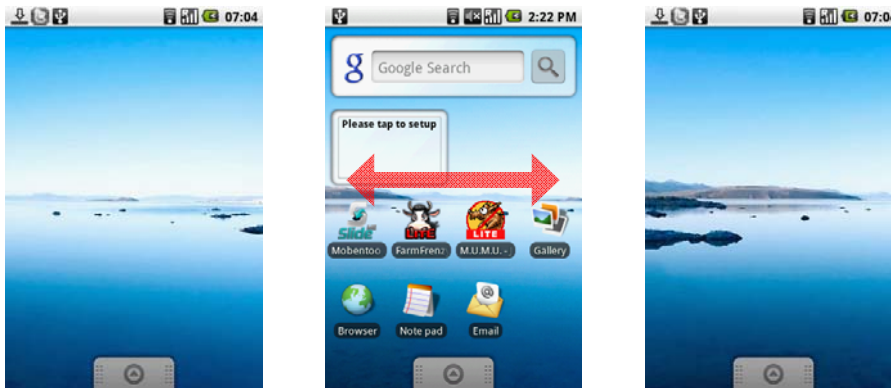


## Tip

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

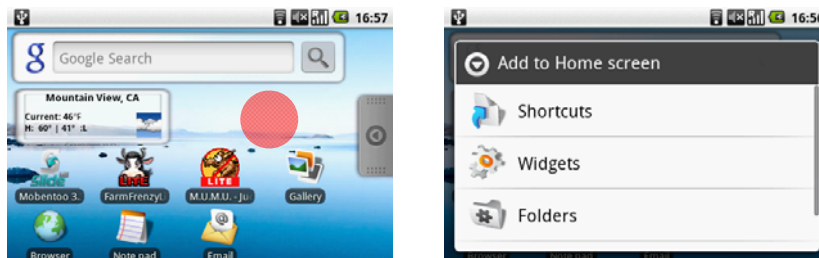
## Extended Home screen

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.

## 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 Search 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.

### 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.

## 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

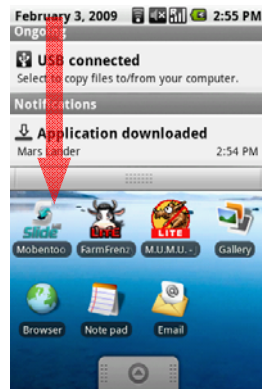
-  Wifi connected
-  Bluetooth is on
-  Connected to another Bluetooth device
-  Airplane mode
-  Alarm
-  Battery status

#### ● Notifications panel

Notification icons report the arrival of new messages, alarms set and ongoing settings. You can open the Notifications panel to open the message and see the wireless service provider name.

## 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.



Touch to clear all notifications

Touch and hold, then slide up to close 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**.

## Applications

The Applications tab holds all applications on your device. All applications that you downloaded and installed are also added to the Applications tab.

### To open the Applications tab

Press **HOME**, then touch . You can also touch the Application tab and then drag it up to open it.

### Tip

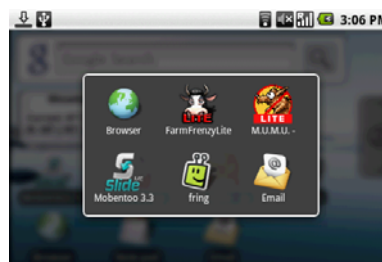
To open applications quickly, you can add the icons of frequently-used applications to the Home screen or to folders which you have created.

### To close the Applications tab

Touch .

### Recently-used applications

#### To open a recently-used application



Press and hold the **HOME** button to open the recently-used applications window. The window displays the last six applications you have used.

Touch an icon in the window to open the related application.

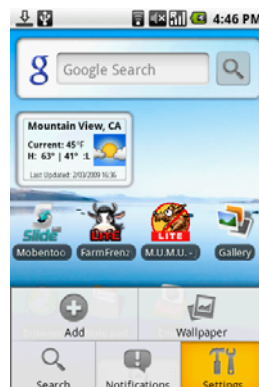
## Settings

Control and customize device settings on the **Settings** screen.

To open the **Settings** screen, do one of the following:

Press **HOME**, then press **MENU**, and then touch **Settings**.

Press **HOME**, then open the Applications tab, and then touch **Settings**.



### Wireless controls

Configure your device's wireless connections, such as Wi-Fi and Bluetooth, enable the Airplane mode.

### Sound & display

Set the sound, or set the screen brightness and screen timeout.

## Applications

Manage applications and installation of new programs.

## Storage

To its factory default settings, or format the SD card.

## Date & time

Set the date, time, time zone, and date or time format.

## Locale & text

Set the operating system language and region. You can also set onscreen keyboard options.

## About phone

View the device status such as the battery power level. You can also view the software version of your device.

## Adjusting the Volume

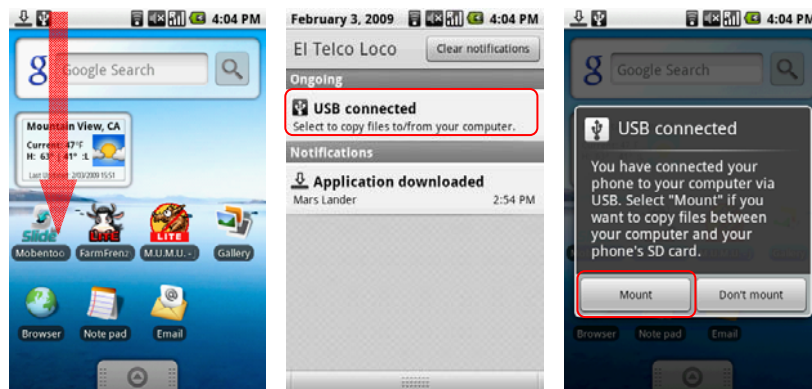
Adjusting the Media volume changes the volume level of sound notifications and music or video playback.

**To adjust the media volume** When playing music or watching video, press the **VOLUME Up** or **VOLUME Down** buttons on the upper side of the device to adjust the media volume. The Music/video volume window appears on the screen to display the volume level. You can also adjust the media volume on the Settings screen. Press **HOME**, then press **MENU**, and then touch **Settings**. Touch **Sound & display** > **Media volume**. When the Media volume window appears, move the slider to the left (to lower the volume) or to the right (to increase the volume). Touch **OK** to close the window.

## USB driver

### Using the storage card as a USB drive

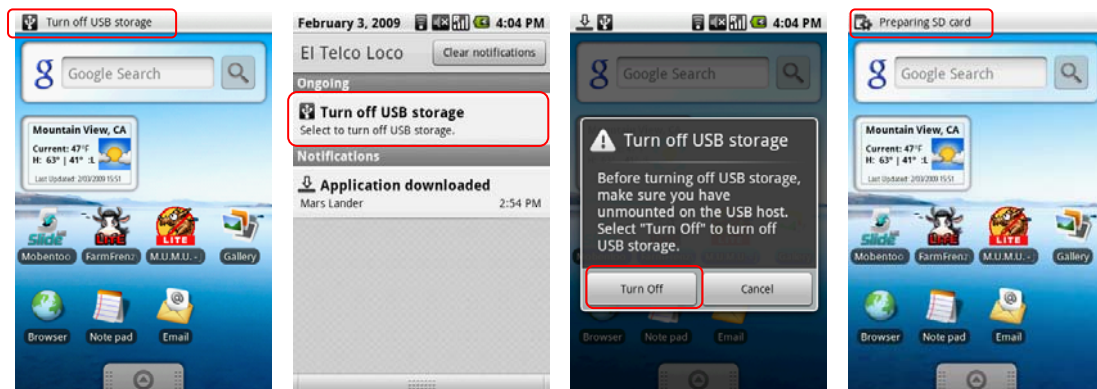
To transfer music, pictures, and other files from your computer to your device's storage card, you need to set the device's storage card as a USB drive.



### 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.

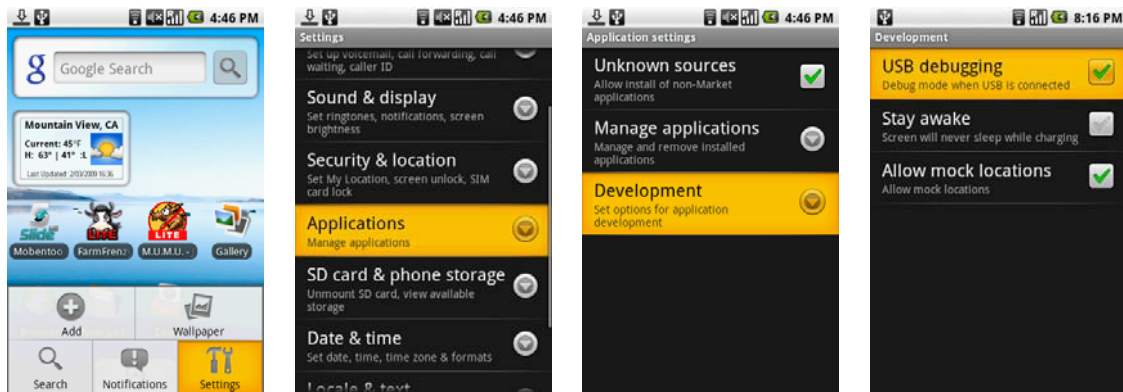
When you select Mount, the device will not recognize the storage card when it is connected to a computer. You will not be able to use some of the applications. You need to turn off USB storage for the device to recognize the storage card when the device is connected to a computer. Refer to the next procedure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



### 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 use USB connection. **Home Screen>Menu>Setting>Applications>Development>USB debugging**



**To install the Android USB driver on Windows XP for the first time:**

Download and save the USB driver from [dev.odroid.com](http://dev.odroid.com)

Connect the device to your computer's USB port. Windows will detect the device and launch the Hardware Update Wizard.

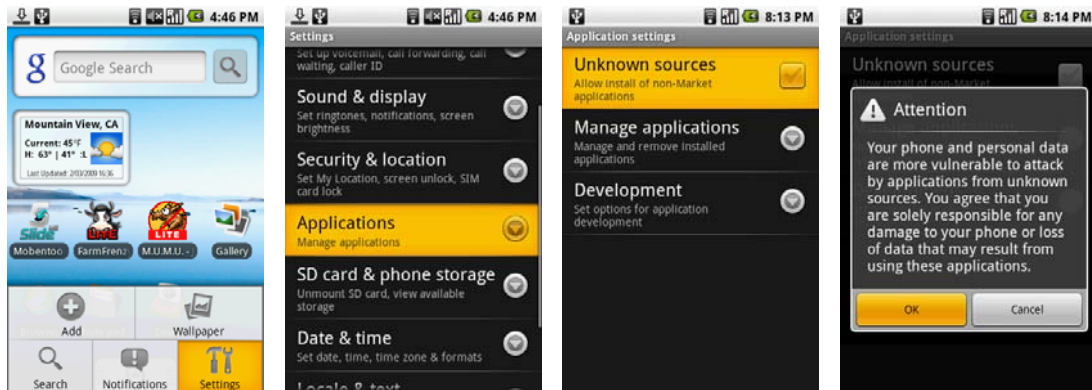
Select "Install from a list or specific location" and click "Next."

Select "Search for the best driver in these locations"; un-check "Search removable media"; and check "Include this location in the search."

Click "Browse..." and locate the folder where you copied the installation package.

Click "Next" to install the driver.

**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**.

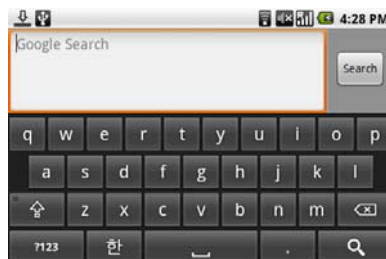
**Note**

All downloaded applications are saved to the storage card. Before you download an application from the web, make sure that you have installed a storage card on your device.

**Warning**

Applications downloaded from the web can be from unknown sources.

**Entering text**



When you start a program or select a field that requires text or numbers, the onscreen keyboard becomes available. Press **Menu** button long at Home screen to display onscreen keyboard.

**To set onscreen keyboard options**

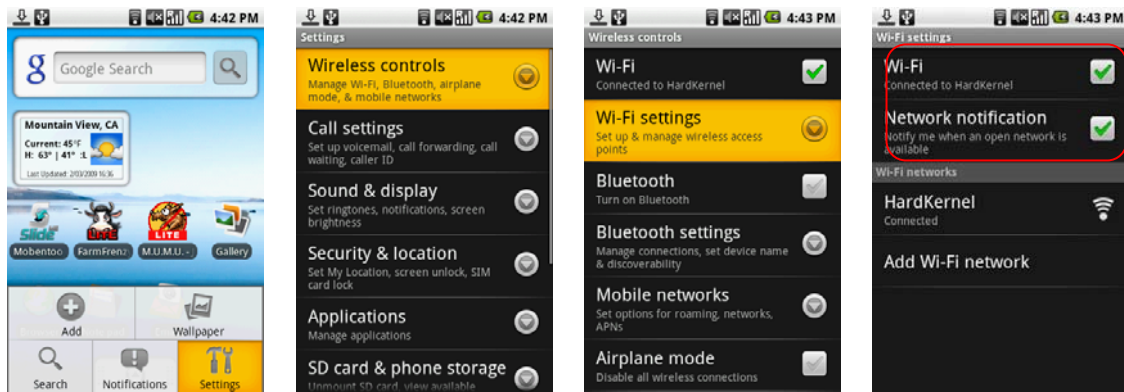
Press **HOME**, then press **MENU**, and then touch **Settings > Locale & text > Android keyboard**. Set the options you want to use for the onscreen keyboard.

**Tip**

If you select the Quick fixes, Show suggestions, and Auto-complete options, the device offers you smart word suggestions as you type, so you can enter text more quickly and accurately on the onscreen keyboard.



## 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** > **Wireless controls**. 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.

### To check the wireless network status

You can check the current wireless connection status from the following : appears in the status bar and tells you the approximate signal strength (number of bands that light up). If **Network notification** in Wi-Fi settings is enabled, this icon  appears in the status bar whenever the device detects an available wireless network within range. Wi-Fi networks On the Wireless controls screen, touch **Wi-Fi settings**, then touch the wireless network that the device is currently connected to. The Wi-Fi network name, status, speed, signal strength, security information, and IP address are displayed.



### 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

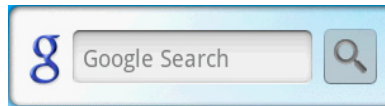
To manually scan for available Wi-Fi networks, on the Wi-Fi settings screen, press **MENU** and then touch **Scan**. Touch another Wi-Fi network to connect to it.


### 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**.

## Using Web

### Google Search



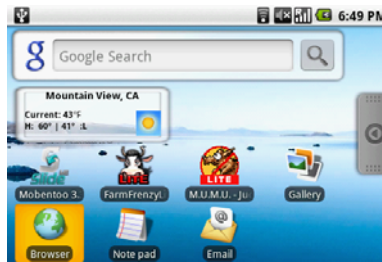
When Wifi network is connected, touch Google Search box and enter to search information, and touch Google Search box or 

### Using Browser

Open Browser to start surfing the web. Browser is fully optimized and comes with advanced functionalities that let you enjoy Internet browsing on your device.

#### Note

You must have Wi-Fi connection to access the Internet. to open Browser



Do one of the following:

Press **HOME**, then touch **Browser**.

Press **HOME**, touch the Applications tab, and then touch **Browser**.

#### Note

Browser automatically opens when you touch a web link in an email or text message.



To go to web page on the Browser screen, press **MENU** and then touch **Go**. Enter the web page address using the keyboard. As you enter the address, matching web page addresses will appear on the screen. Touch an address to go directly to that web page or continue entering the web page address. Touch **Go**. To set your home page . Press **MENU** and then touch **More > Settings > Set home page**. Enter the URL of the web site you want to use as your home page and then touch **OK**.

### View web pages

Browser offers a host of features that let you view web pages just like on a desktop computer.

#### To change the screen orientation to landscape view

Turn your phone sideways to view the web page in landscape mode. The screen orientation automatically adjusts to how you hold the phone.

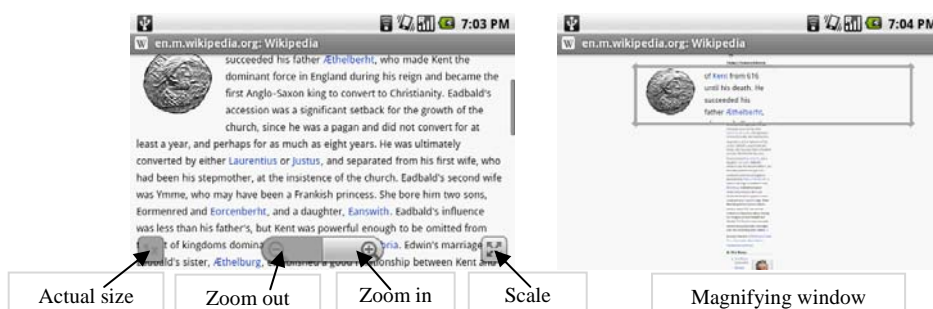
#### Note

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

#### To navigate on a web page

You can press the **Dpad** or slide your finger on the screen in any direction to navigate and view other areas of the web page. You can also use scale and scroll to magnify an area of the web page for easy viewing.

Touch and hold the magnifying window, then drag it to the area of the page that you want to view more closely.





### To zoom in or out on a web page

Slide your finger to one direction on the screen to activate the zoom controls.

### To open a new browser window

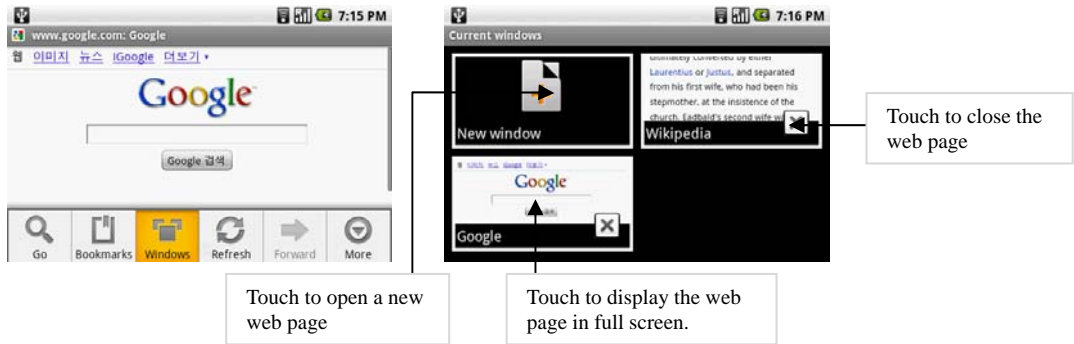
Open multiple browser windows to make it easier for you to switch from one web site to another. You can open up to 8 browser windows. To open a new window, press **MENU** and then touch **New window** while browsing a web page. A new browser window opens and goes to the home page that is set.

#### Note

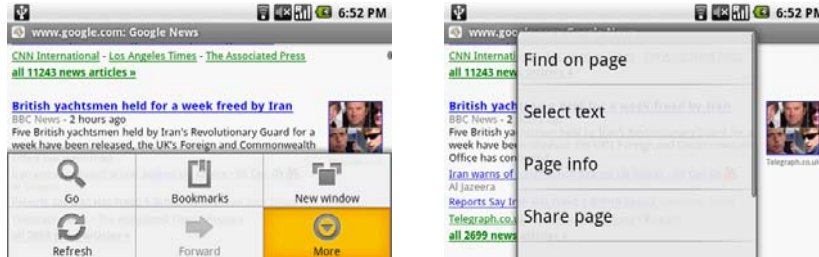
If you have two or more browser windows opened, press **MENU** and then touch **Windows** to let you add more browser windows.

### To switch between browser windows

On a browser window, press **MENU** and then touch **Windows**.



### More features on browser



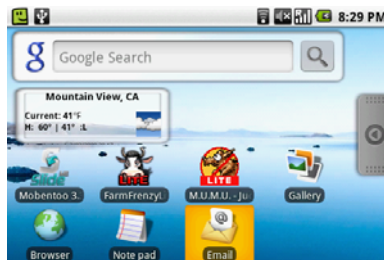
While viewing a web page, press **MENU** and then touch **More**. More menus are **Find on page/select text/Page info/Share page/Downloads/Settings**

## Email

### Using Email

The Email application comes with an email wizard that lets you add external POP3 or IMAP email accounts from popular web-based email service providers on your device.

### To open Email



Press **HOME**, then touch the Applications tab, and then touch **Email**.

#### Add an email account

Press **HOME**, then touch the Applications tab, and then touch **Email**. In the Your accounts screen, touch **Next**. Enter the email address and password of the email account you want to set up and then touch **Next**.

#### Notes

If the email account you want to set up is not in the device's email database, you will be prompted to manually enter the email account settings, such as the email server, protocol and more after touching **Next**. Touch **Manual setup** instead of **Next** to directly enter the incoming and outgoing settings for the email account you are setting up. Enter the name for the account and the name you want displayed in outgoing emails and then touch **Done**. After creating one email account, you need to press **MENU**, then touch **Add account** to create another email account.

## Compose and send emails

Press **HOME**, then touch the Applications tab, and then touch **Email**. In the Your accounts screen, touch the email account you want to use. In an email account inbox, press **MENU**, then touch **Compose**. Enter the message recipient's email address in the **To** field. As you enter information, matching contacts will appear on the screen. Touch the recipient or continue entering the email address. If you are sending the email to several recipients, separate the email addresses with a comma. Enter the subject, then compose your message. Touch **Send**.

### Note

Touch **Save as draft** or press the **BACK** button to save the message as a draft.

## Manage emails on your external email account

### To delete a message

On the email account inbox, touch and hold the email you want to delete. On the options menu, touch **Delete**.

### Edit or delete an external email account

You can edit or delete an external email account on your device. Press **HOME**, touch the Applications tab, then select **Email**. Do one of the following

- To delete, touch and hold the account you want to remove, then touch **Remove account** on the options menu. When prompted to confirm deletion, touch **OK**.
- To edit, touch and hold the account you want to edit, then touch **Account settings** on the options menu.

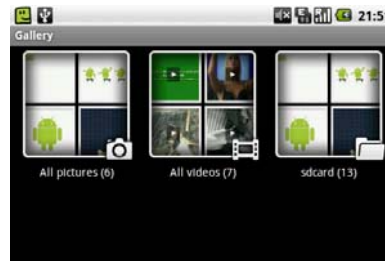
### Add more email accounts

On the Your accounts screen, press **MENU** and then touch **Add account**.

## Gallery

### Using Gallery

Gallery lets you view photos and play back videos. For photos, you can also do basic editing tasks, set them as your wallpaper or contact picture, and share to your friends.



### To open Gallery

Press **HOME**, touch the Applications tab and then touch **Gallery**. If you stored your files in folders (directories) on the storage card, **Gallery** will display these folders as separate albums. The top left album contains all the pictures in the storage card.

### Note

Depending on the number of pictures stored on the storage card, it may take a while to load all your photos on the screen.

### To view pictures

On the Gallery screen, touch an album to view the pictures inside the album

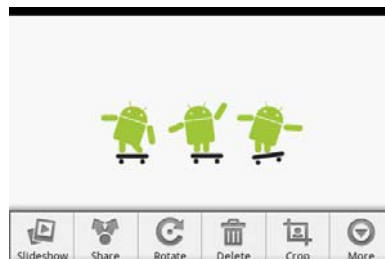
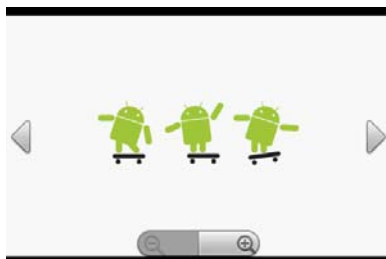
### Note

If there are no picture albums, slide your finger upward or downward the screen. Touch a thumbnail to view it in full screen. You can also touch and hold the thumbnail, then touch **View** on the options menu to open it.

**Tip** You can choose to display small or large thumbnails or sort your album and display the latest pictures first or last. On the Gallery screen, press **MENU** and then touch **Settings**. Navigate to the General settings section, touch **Display size** or **Sort order**, then adjust the settings accordingly. **To browse through pictures**

When viewing pictures in full screen, do one of the following:

- Touch the left area of the screen to view the previous picture, or touch the right area of the screen to view the next picture.
- Touch the screen to display the scroll arrows. Touch the left arrow to view the previous picture, or touch the right arrow to view the next picture.



### To watch videos

On the main Gallery screen, touch a video album and then touch the video you want to watch to start playing back the video. Touch the screen to show the playback controls.

## Music

Music plays digital audio files from the phone's storage card. Since Music only plays audio files saved on the storage card of your device, you must copy your audio files to the storage card before you open Music.

### To copy music into the storage card

Set the device's storage card as a USB drive. On the computer, navigate to the USB drive and open it. Create a folder on the root folder of the storage card.

### Tip

You can also create and use folders to organize your music inside the Music folder you have created. Copy the music into the folder you have created. After copying music, unmount or eject the drive as required by your computer's operating system to safely remove the device. Disconnect the device from the computer.

### To open Music

Press **HOME**, touch the Applications tab, and then touch **Music**. The Music library screen displays.

### Music library

Your music is organized into four categories: **Artists**, **Albums**, **Songs**, and **Playlists**. Touch a category to view the list within each.

When inside a category, keep touching the screen until you reach the music you want to play.



## Managing Your Device

### Changing Basic Settings

#### Set the date, time zone, and time

##### To manually adjust the date, time zone, and time

Press **HOME** > **MENU**, and then touch **Settings**. Scroll down the screen, then touch **Date & time**. Clear the **Automatic** check box.

Touch **Set date**. On the Change date window, touch + - to adjust the date, month, and year, then touch **Set** when finished.

Touch **Set time**. On the time window, touch + - to adjust the hour and minute, then touch **AM** to change to **PM** or vice versa. Touch **Set** when finished. Select the **Use 24-hour format** check box to toggle between using a 12-hour or a 24-hour format. Touch **Select date format** then select how you want dates to display on your device.

#### Display settings

##### To adjust the screen brightness

Press **HOME** > **MENU**, and then touch **Settings**. Touch **Sound & display**, scroll down the screen, then touch **Brightness**. Drag the brightness slider to the left to decrease or to the right to increase the screen brightness. Touch **OK**. To adjust the time before the screen turns off. After a period of inactivity, the device screen turns off to conserve battery power. You can set the idle time before the screen turns off. Press **HOME** > **MENU**, and then touch **Settings**. Touch **Sound & display**. Scroll down the screen, then touch **Screen timeout**. Touch the time before the screen turns off.

##### To prevent the screen orientation from automatically changing

By default, the screen orientation automatically adjusts depending on how you hold the device. Press **HOME** > **MENU**, and then touch **Settings**. Touch **Sound & display**. Scroll down the screen, then clear the **Orientation** check box. **To keep the screen on while charging the device**

#### Sound settings

To change sound settings Press **HOME** > **MENU**, and then touch **Settings**. Touch **Sound & display**. You can change the sound settings.

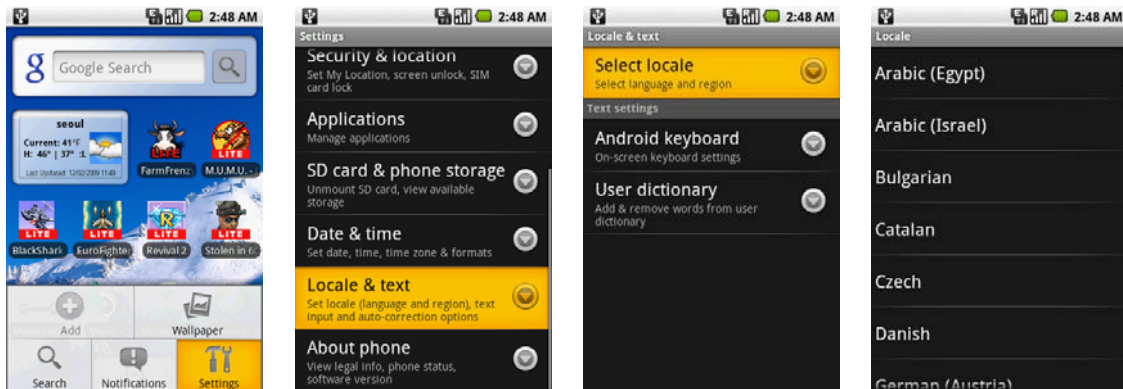


## Language settings

You can change the operating system language of the device.

### To change the language of the operating system

Press **HOME** > **MENU**, and then touch **Settings**. Touch **Locale & text** > **Select locale** and then select the language you want to use.



## Managing Memory

### To see how much memory is available for use

Press **HOME** > **MENU**, and then touch **Settings**.

Scroll down the screen, then touch **SD card & phone storage**. The available memory is displayed.

### To see the available storage card space

Press **HOME** > **MENU**, and then touch **Settings**.

Scroll down the screen, then touch **SD card & phone storage**. The total and available storage card space display in the **SD card** section.

### To clear application cache and data

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

In the Manage applications list, touch the application whose cache and/or data you want to delete.

### Tip

Press **MENU** to bring up sort and filter options. In the Application info screen, touch **Clear data** and/or **Clear cache**.

## Appendix

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### Specifications

**Processor**

Samsung S5PC100 (CortexA8) 833Mhz

**Operating System**

Android™

**Memory**

ROM: 2GB(TFLASH)

RAM: 512 MB(DDR2)

**Size**

About (LxWxT) 150 x 76 x 16 (mm)

**Weight**

About 165g(with battery)

**Display**

3.5-inch TFT-LCD capacitive touch

320 x 480 (HVGA) resolution

**Device Control**

4way DPAD

8keys (Home, Menu, Back, Enter, A, B, X, Y)

Capacitive touch volume

**Sensor**

Accelerometer sensor

**Note** Please note that the **ODROID** 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.

**Connectivity**

Bluetooth® 2.X

Wi-Fi®: IEEE 802.11b/g

**Input and Output**

3.5 mm audio jack

HDMI type-C Connector

TTA-20 (USB, Charging, Line-out/in)

**Audio**

AAC, AAC+, MP3

**Video**

MP4, H.264

**Battery**

Detachable Li-Ion battery 1300 mAh

**Storage & Expansion Slot**

Standard SD/SDHC card (up to 32GB)

Standard

**Keyboard**

Onscreen touch keyboard

### Manufacturer information

Please contact [odroid@hardkernel.com](mailto:odroid@hardkernel.com) for any question.

**Company name** : Hardkernel Co., Ltd

**Homepage** : <http://www.odroid.com>

**Developer website** : <http://dev.odroid.com>

**Made in Korea**