

# **ODROID-T USER MANUAL**

(Developer edition)

[www.hardkernel.com](http://www.hardkernel.com)

Android™ SDK Platform R2.1

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## SAFETY NOTICE AND PRECAUTIONS

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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.

### **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 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 charge the battery to turn on.

You can find valuable information at <http://www.odroid.com> and <http://dev.odroid.com>

Android OS is mainly for phone use. As such, this device is as a phone in the Android OS.

### ODROID-T Description



### Inside Box



System area of Root Loader,  
Kernel and Android.



Schematics / Source code



Debug board



5V 2A Power adaptor



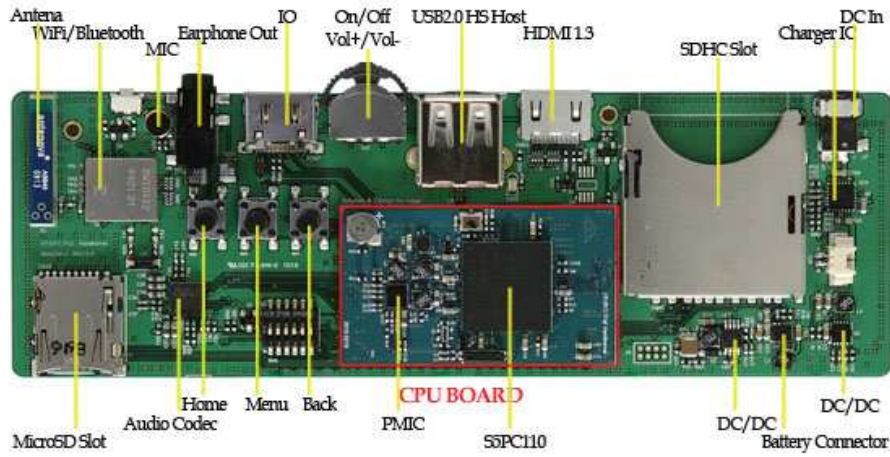
TTA20 to USB Cable



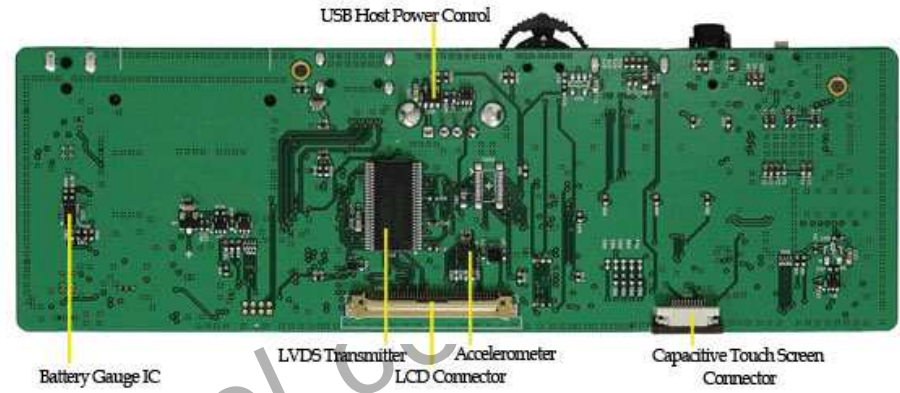
USB type GPS module

# Board Description

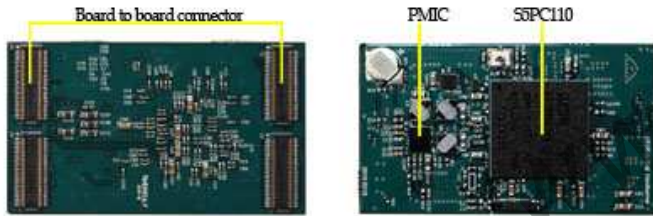
[Front]



[Back]



[CPU board]



[Debug board]



## How to connect the Debug Board

### How to connect the debug Board



Make sure to connect the power cable when you connect the debug Board.

### T-Flash location



T-Flash is located at the back side hole.

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## GETTING STARTED

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### Turn on/off

Push and hold the power switch for 2 seconds.

### 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 off the screen.	Power on / off
Volume Up(L)	Increase the volume	Rotate the sensor
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/SD card/Battery

### 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 and application 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.

### 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 data.

### Note

Some SD cards that you purchase from market might not be compatible. Make sure to check the compatibility when purchasing a new SD 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 icon  displays in the status bar of the Home screen.

### **GPS module**

Provided GPS module could be connected to USB HS Host

### **USB/HDMI**

#### **Connecting 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.

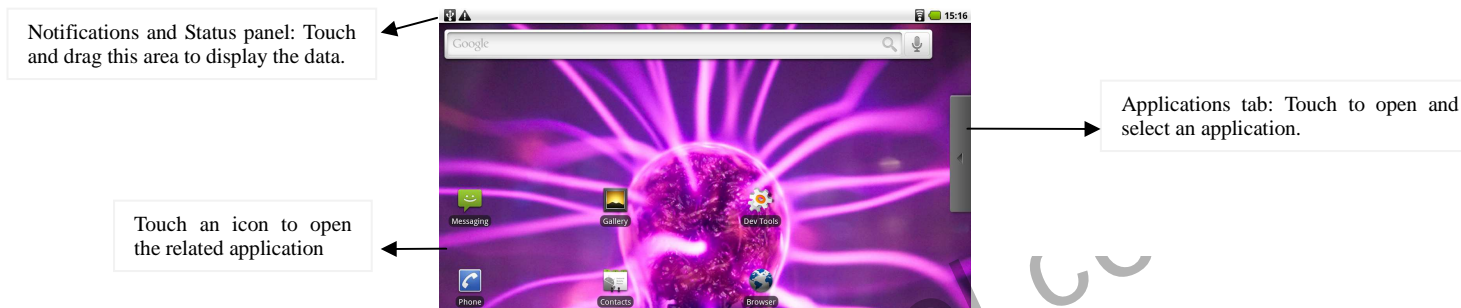
# ANDROID

## Note

Some phone and camera related 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

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.

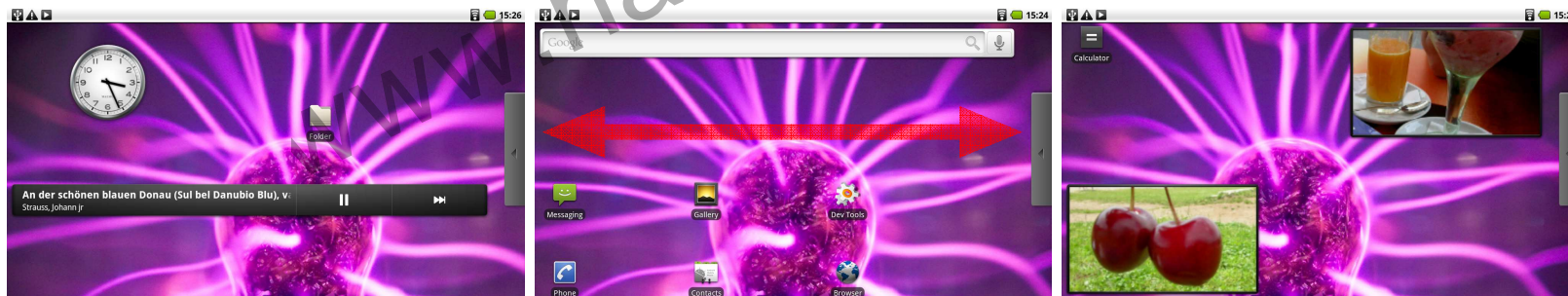


## Tip

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

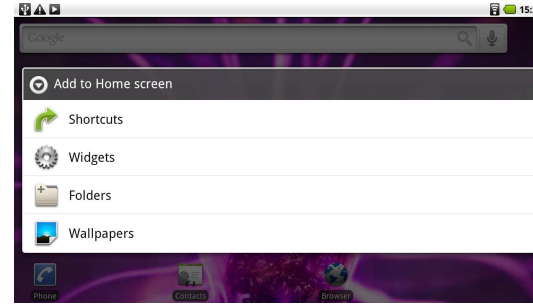
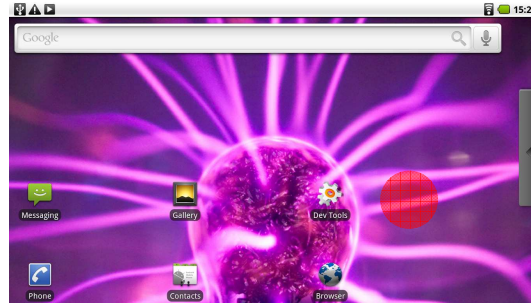
## Extended Home screen

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 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

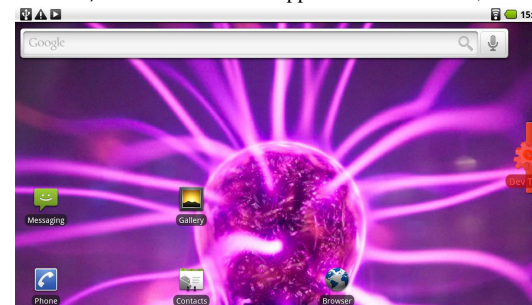
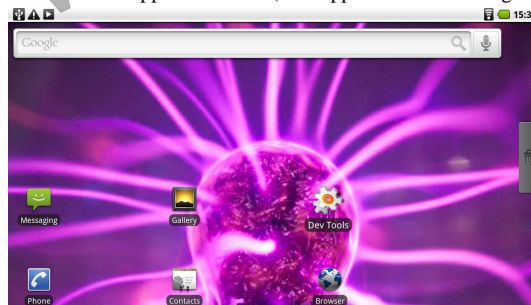
When Move mode is activated, the item magnifies. Without lifting your finger, drag the icon to the desired position on the screen, then release it. To move an item from the Home screen to an extended Home screen, touch and hold the item and then drag it to the left or right edge of the screen until the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

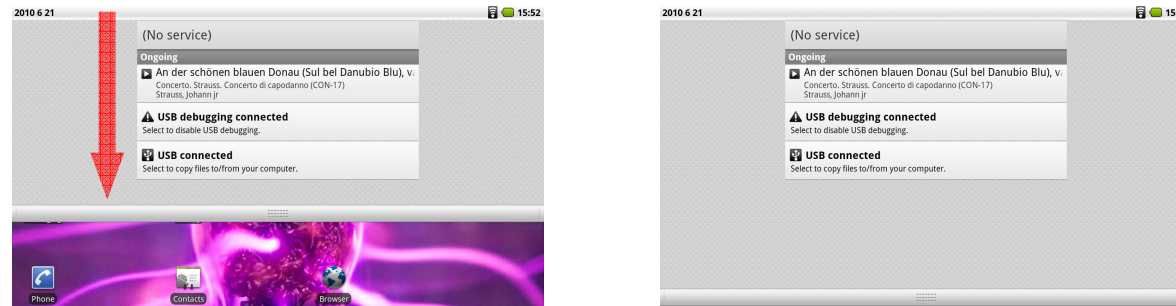
- **Status icons**

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

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## 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**.

## 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

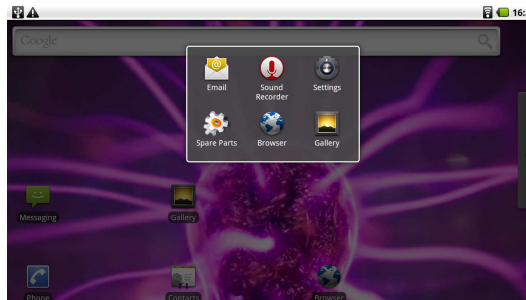
To open applications quickly, you can add the icons of frequently-used applications to the Home screen or to folders which you have created.

### 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.

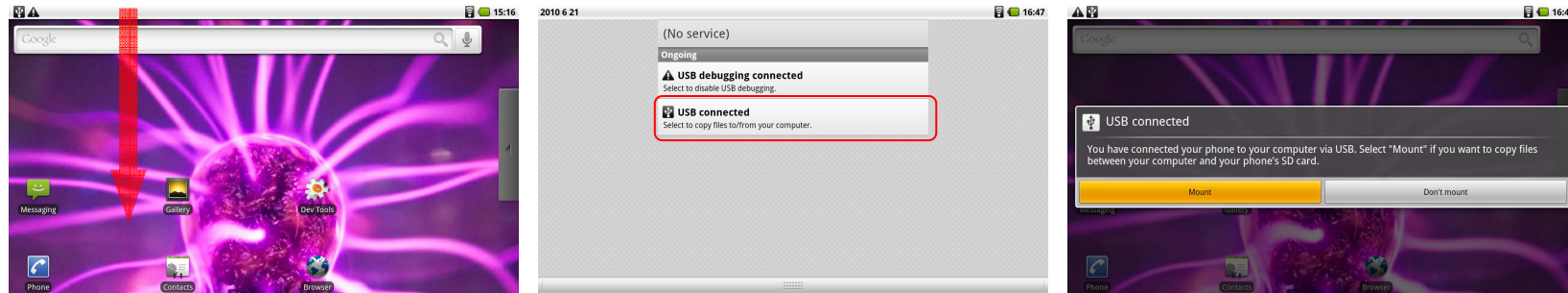
## Adjusting the Volume

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

### Using the storage card as a USB drive

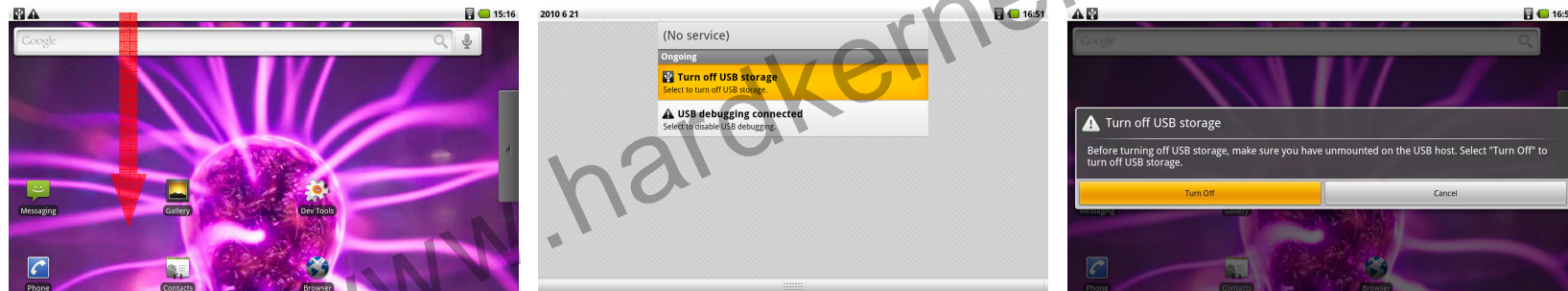
To transfer music, pictures, and other files from your computer to your device's storage card, you need to set the device's storage card as a USB drive.



### 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**

### To format the SD card

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

Scroll down the screen, then touch **SD card & phone storage**.

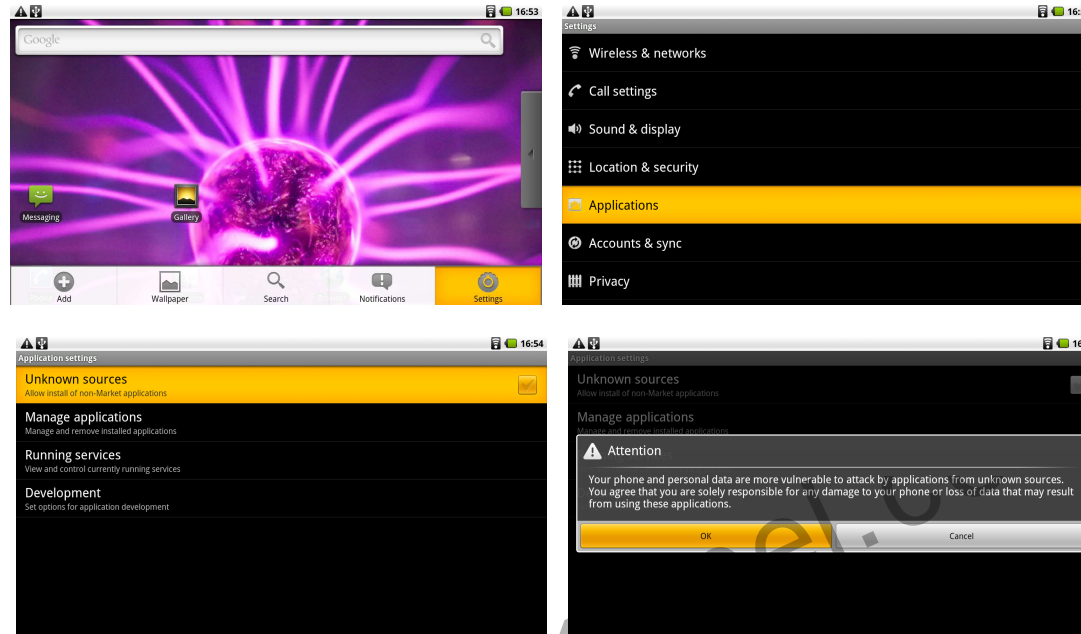
Touch **Unmount SD card**. This enables the **Format SD card** option.

Touch **Format SD card**

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

Download and save the USB driver from <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

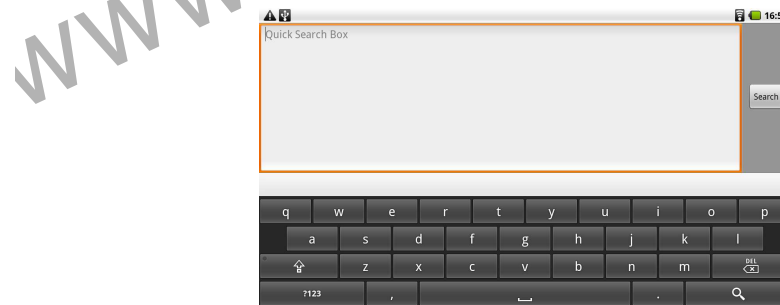


Before you can download applications, you must first enable downloading option from the settings. Press **HOME** > **MENU**, and then touch **Settings** > **Applications**. Select the **Unknown sources** check box. When the Attention dialog box opens, touch **OK**.

**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 come from unknown sources. To protect your device and personal data, download applications only from trusted sources.

## Entering text



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

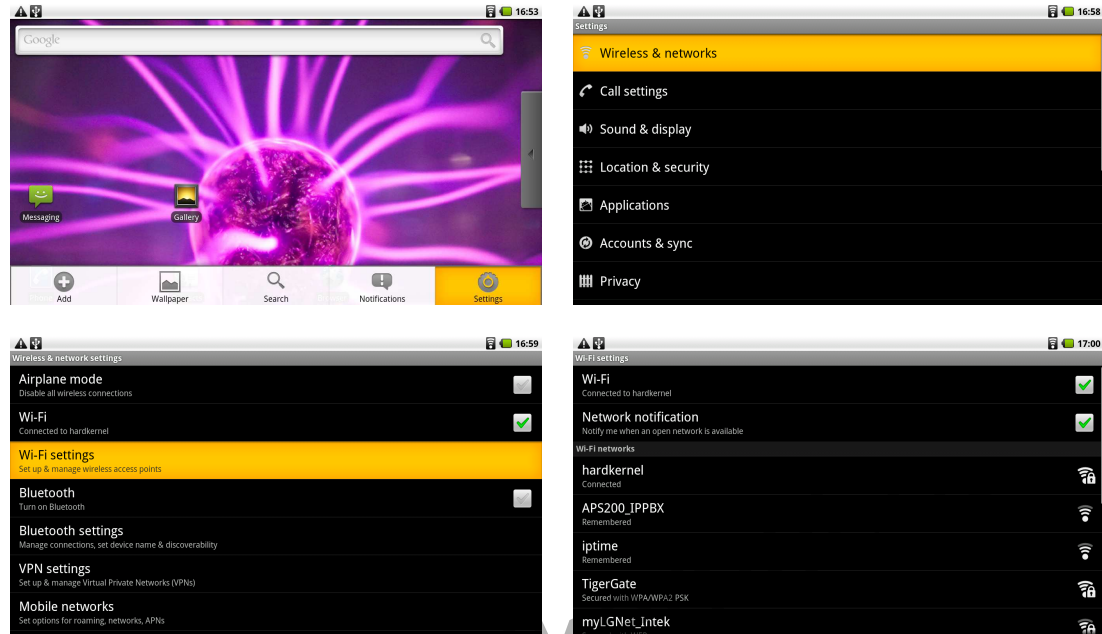
### To set onscreen keyboard options

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

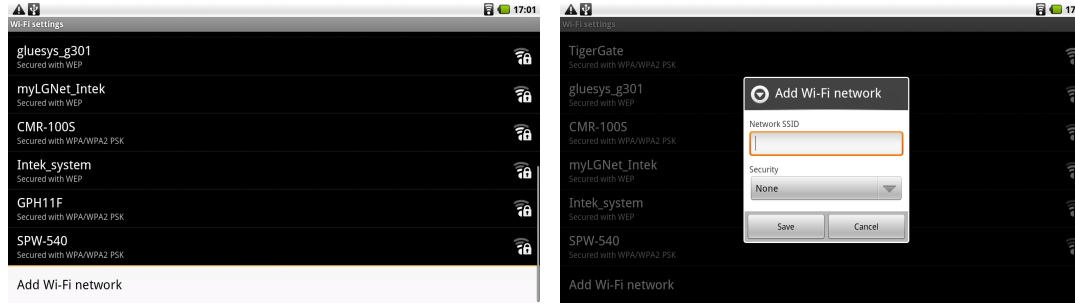
Press **HOME** > **MENU**, and then touch **Settings** > **Wi-Fi settings**. Select the **Wi-Fi** check box to turn Wi-Fi on. The device will scan for available wireless networks. Touch **Wi-Fi settings**. The network names and security settings (Open network or Secured with WEP) of detected Wi-Fi networks 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.

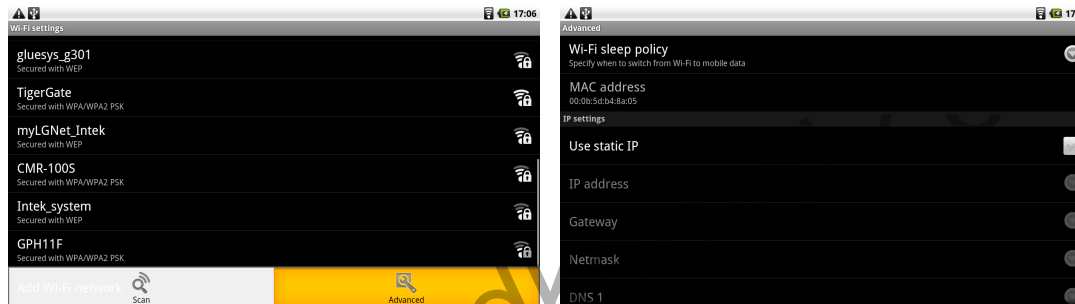
Wi-Fi networks are self-discoverable, which means no additional steps are required for your device to connect to a Wi-Fi network. It may be necessary to provide a username and password for certain closed wireless networks.

## To add Wi-Fi network



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

## 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.

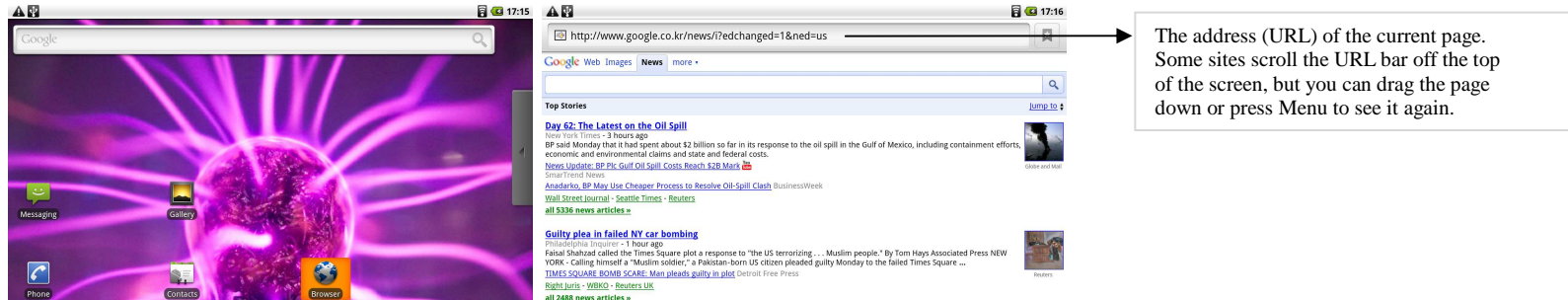
**Note** If the wireless network you want to connect to is not in the list of detected networks, scroll down the screen, then touch **Add Wi-Fi network**. Enter the wireless network settings, then touch **Save**.

## Using the Web

### Using Browser

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

**Note** You must have Wi-Fi connection to access the Internet.

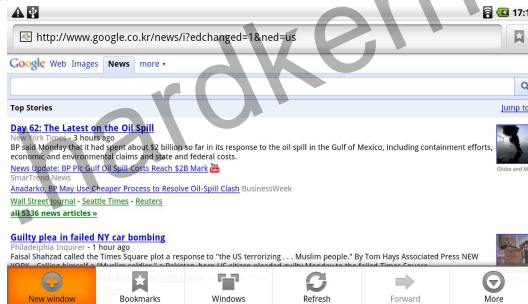


Do one of the following:

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.



### 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 device sideways to view the web page in landscape mode. The screen orientation automatically adjusts to how you hold the device.

**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. Double tap to zoom in and out.

#### 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**.

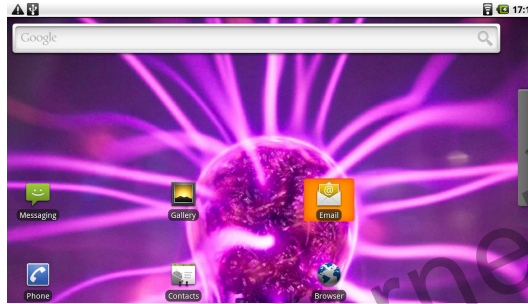
While viewing a web page, press **MENU** and then touch **More**. More menus are **Find on page/select text/Page info/Share page/Downloads/Settings**

## 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**.

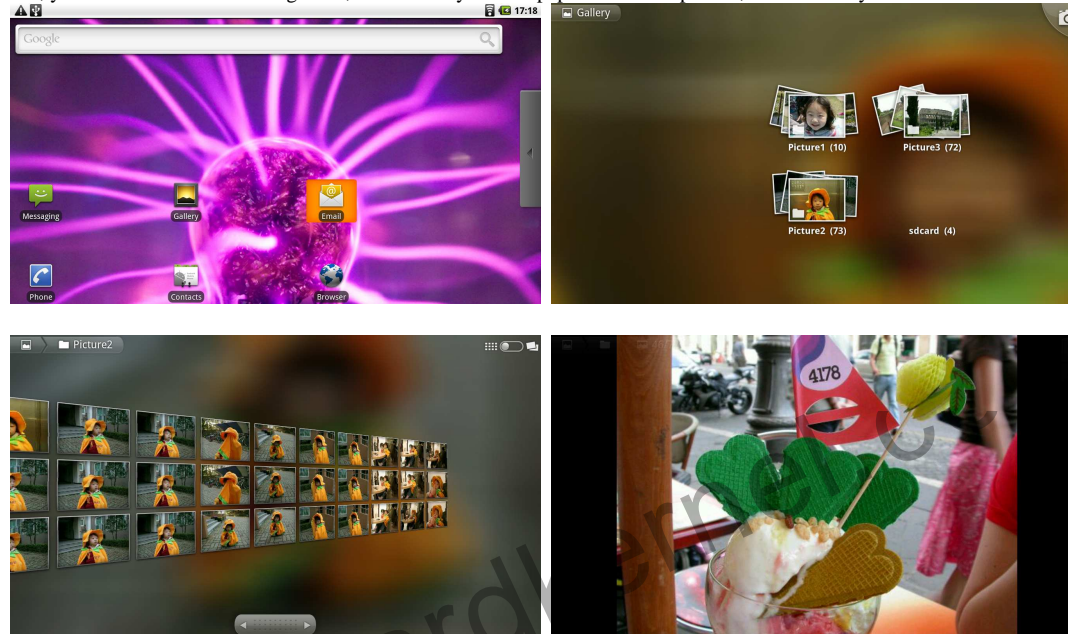
### Notes

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.

## Gallery

### Using 3D Gallery

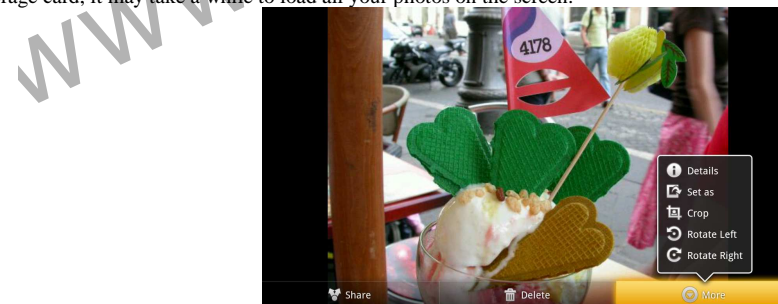
Gallery lets you view photos and play back videos. For photos, you can also do basic editing tasks, set them as your wallpaper or contact picture, and share to your friends.



### 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.

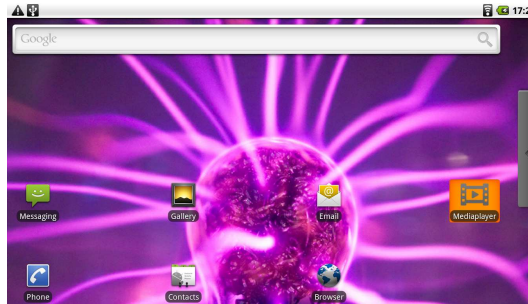


### To view pictures

On the Gallery screen, touch an album to view the pictures inside the album. You can also edit pictures by touching the picture **>More**

## Media Player

Press **HOME**, touch the **Applications tab** and then touch **Medioplayer**. And select the folder that stores videos.



## 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.

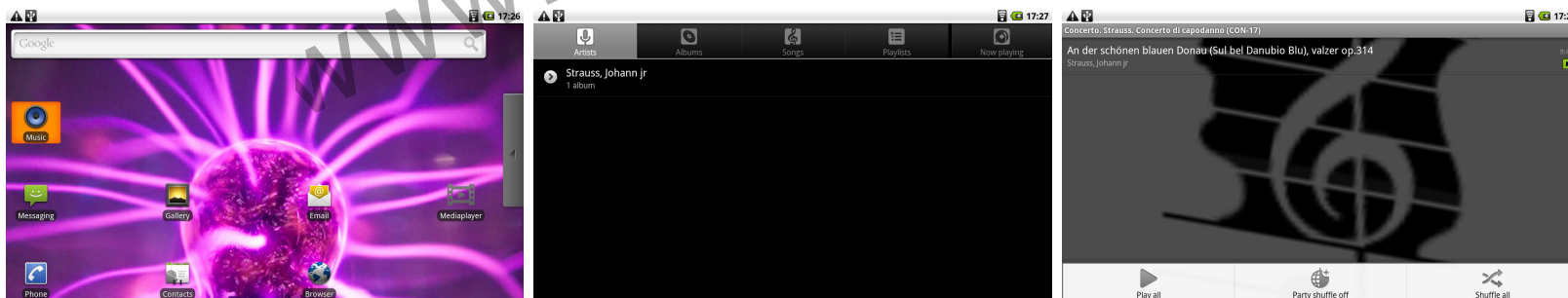
### To open Music

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**.

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

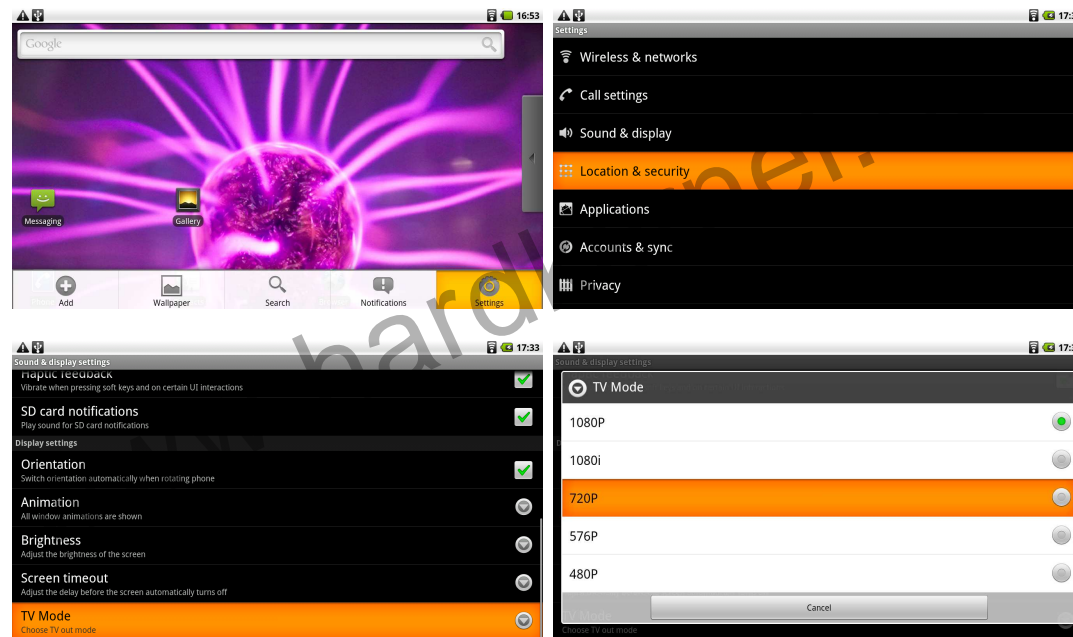
Press **HOME** > **MENU**, and then touch **Settings**. Scroll down the screen, then touch **Date & time**. Clear the **Automatic** check box.

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.

#### Sound & Display settings

To change sound settings Press **HOME** > **MENU**, and then touch **Settings**. Touch **Sound & display**. **If you monitor or TV can't support 1080p input, you need to change the display option.**



##### 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

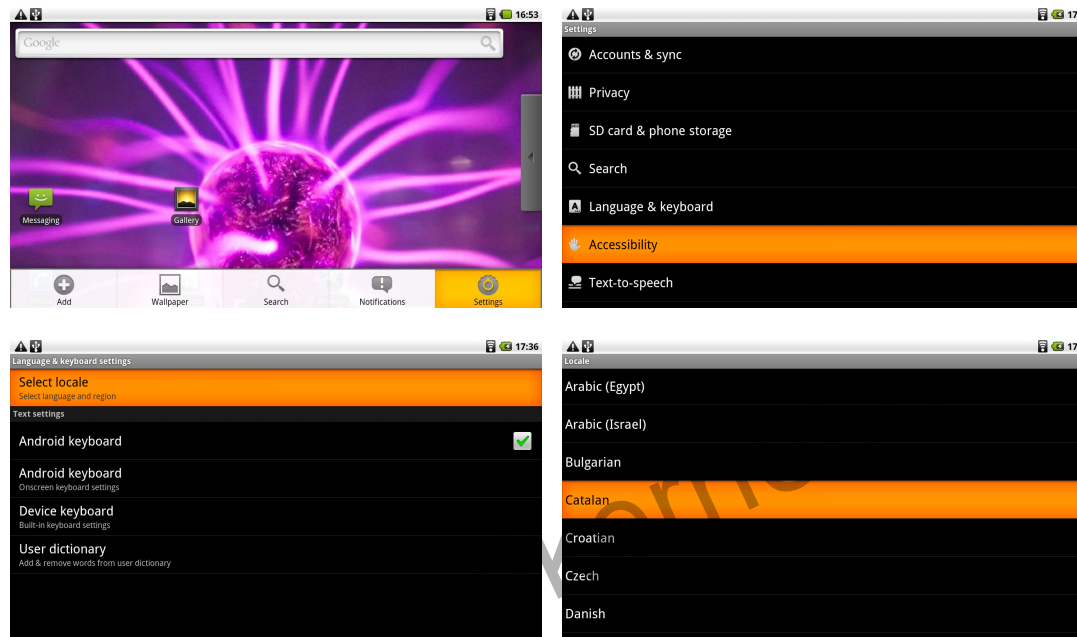
By default, the screen orientation automatically adjusts depending on how you hold the device. Press **HOME** > **MENU**, and then touch **Settings**. Touch **Sound & display**. Scroll down the screen, then clear the **Orientation** check box.

## 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 **Language & keyboard** > **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**.

## Resetting the device

Resetting the device deletes all data, including downloaded applications, and resets the device back to its initial state.

### Important

Make sure to back up important data you have on the device before you perform a factory data reset.

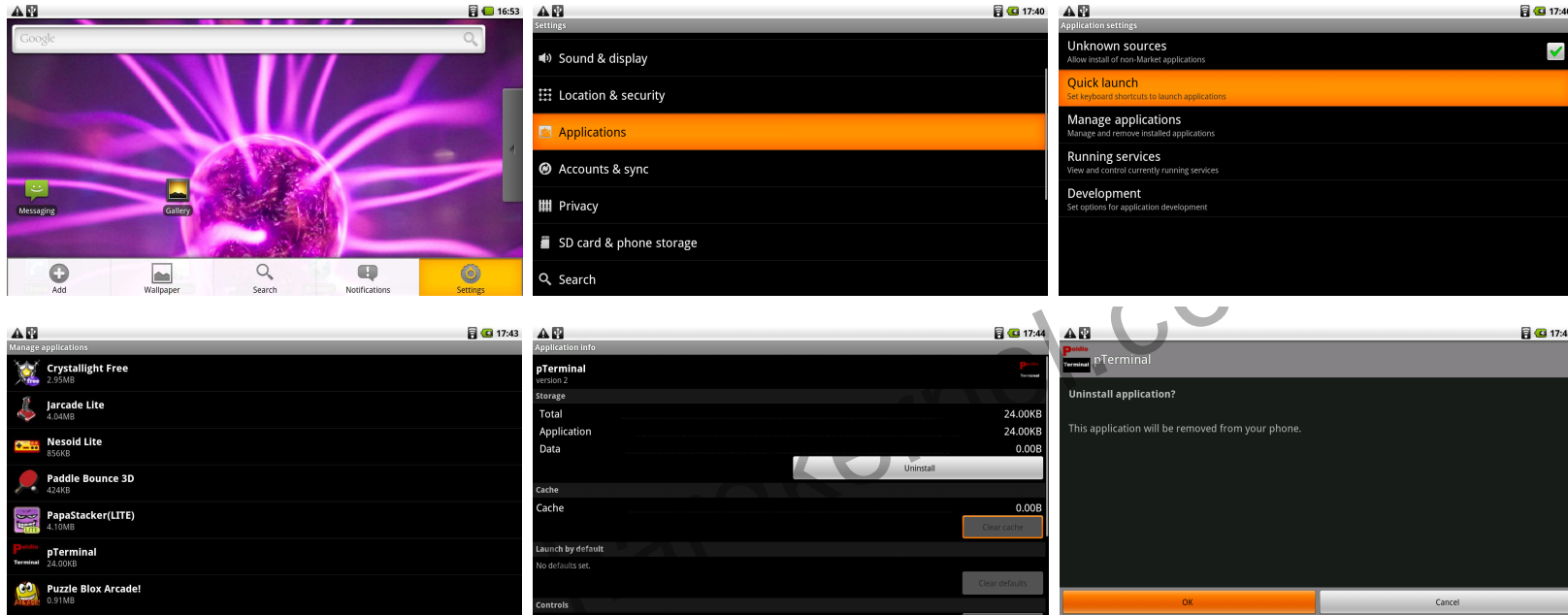


### To reset the device

Press **HOME > MENU**, and then touch **Settings**. Scroll down the screen, then touch **SD card & phone storage**. Navigate to the Internal device storage section, then touch **Factory data reset**. On the Factory data reset screen, touch **Reset phone**.

### Managing applications

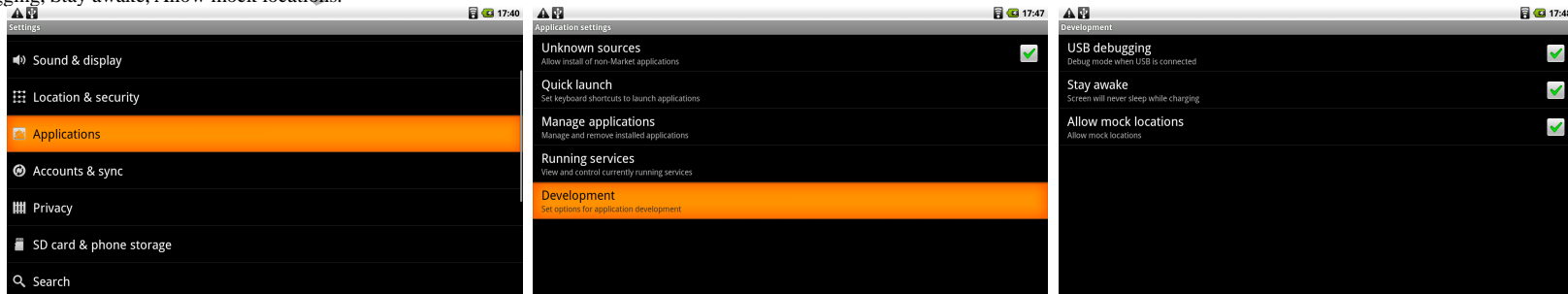
Press **HOME > MENU > Settings > Applications > Manage applications**, and then touch the applications to manage.



### Application Development Settings

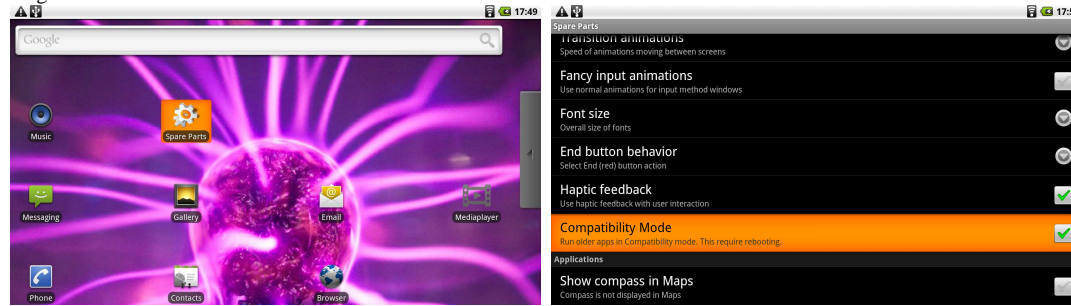
Press **HOME > MENU > Settings > Applications > Development**

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



## Application Compatibility Settings

Spare Parts > Compatibility Mode This Require Rebooting!



Some applications shows at full screen mode with Compatibility Mode uncheck.

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## Appendix

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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 400Mhz data rate

**Flash** | OneNAND 512MB

**Micro-SD slot** (2GB bundle)

**Standard SDHC slot**

**Display** | 10.1-inch, 1360 x 768 LVDS interface with capacitive 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** | USB 2.0 HS Host (standard A type connector)

**WiFi** | 802.11 b/g

**Bluetooth** | 2.0 + EDR

**Other Features** | 3-axis accelerometer, External GPS, Geo magnetic field sensor

**System Software** | u-boot 1.3.4, Kernel 2.6.29, Android Eclair 2.1

**Dimensions** | 275 x 155 x 18 mm

**Weight** | 620g(with battery)

**Battery** | 6000 mAh rechargeable Lithium-Polymer

### DEBUG BOARD

**TTA20-Male Connector** | Connect to I/O port of Odroid-T.

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

**Power On Button** | Turn on Odroid-T.

**DC Connector** | External power supply connection

**TTA20-Female Connector** | External power supply connection

**Mini-B USB Connector** | Connect Odroid-T to host PC

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### 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>