iMX.6 Processor Series

All-in-One Embedded Computer -EC21XX

User Manual



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Release Notes

Version	Release Date	Notes
1.0	August 2014	Initial release according to Lab

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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1. Package Contents

All-in-One embedded computer products include EC2107 and EC2110.

Item	Notes
EC21xx	
Power Adapter	
RS232 IDC Cable	Pin Header for DB9
CD	Software and User's Manual

2. Overview



Ubuntu enabled device showing ports on each side



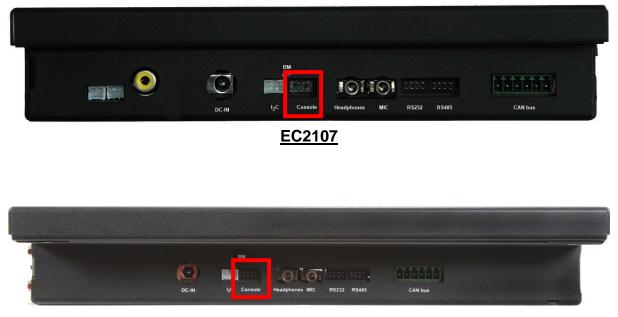
Android enabled device with wireless antennas attached

3. Setup

3.1 Connecting the Debug Port to PC

During development, it is a good idea to connect using the debug port.

• Find the debug port on EC2107 / EC2110.



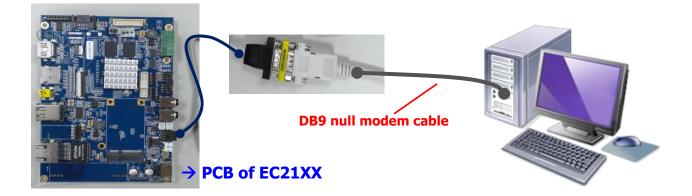
EC2110

Connect a RS232 IDC cable to the debug port

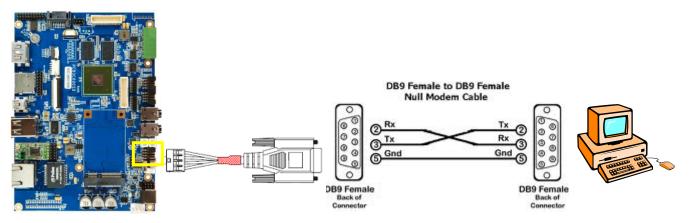


Connect to PC

Turn on the PC, run the terminal program, and open the COM port. We use *TeraTerm*. You can find this tool and the user guide on our wiki page online.



Console / Debug Port Connection Diagram

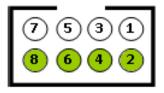


UART1 is dedicated as the debug port. UART1 default settings are <u>Baud Rate</u> <u>115200, 8 data bits, no parity, 1 stop bit and no flow control</u>.

A DB9 **<u>null modem cable</u>** (or adapter) is required when you want to connect UART1 to a PC with terminal emulation software such as TeraTerm.

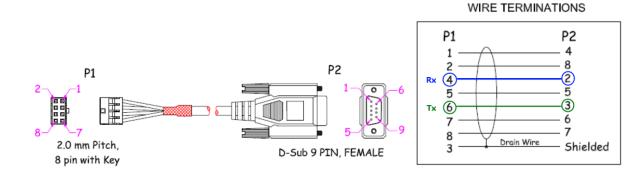
We prefer to use this kind of adapter if your DB9 cable is straight through cable. (Not cross-connected)

□ Console box header (CN3 on PCB) pin assignment

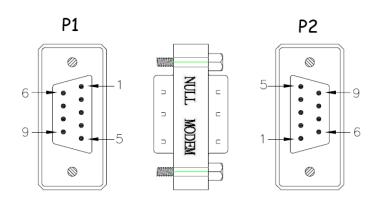




■ RS232 IDC cable: pin header for DB9



■ Null modem adapter: male-to-male for DB9



DB9 M/M ADAPTER Pin out: P1 P2 (2)3 Rx $\overline{2}$ Тх 3 4 1 6 5 5 1 4 6 7 8 8 7 G G One side: NULL MODEM The other side: MINI ADAPTER

3.2 Start Running

After connecting to the debug port, please power on the device to start.

1. Before logging into the system, you can enter into the U-Boot environment to check some variables. After powering on, quickly hit the **Enter** key within 3 seconds when you see the message below.

Hit any key to stop autoboot: 3

- 2. Type '?' or 'help' to get all U-Boot commands and more details.
- 3. Type **printev** on the U-Boot shell to see the current environmental variables

> printenv

4. Use the command below to modify an environment variable.

> setenv variable 'string value'

If you <u>need to change your output display</u>, do the following command to set the variable "**panel**"; otherwise, we <u>do not</u> recommend you doing this step.

Android

//HDMI (1920 x 1080)

> setenv panel 'video=mxcfb0:dev=hdmi,1920x1080M@60,if=RGB24,bpp=32 video=mxcfb1:off cea'

//7" LCD-PT (800 x 480) with RTP

> setenv panel 'video=mxcfb0:dev=lcd,LCD-WVGA,if=RGB24,bpp=32 video=mxcfb1:off'
//7" LCD-AWT (800 x 480) with RTP

- > setenv panel 'video=mxcfb0:dev=lcd,AWT-WVGA,if=RGB24,bpp=32 video=mxcfb1:off'
 - Ubuntu

//HDMI (1920 x 1080)

> setenv panel 'video=mxcfb0:dev=hdmi,1920x1080M@60,if=RGB24 video=mxcfb1:off'
//7" LCD (800 x 480) with RTP

> setenv panel 'video=mxcfb0:dev=lcd,LCD-WVGA,if=RGB24 video=mxcfb1:off'
//7" LCD-AWT (800 x 480) with RTP

> setenv panel 'video=mxcfb0:dev=lcd,SEIKO-WVGA,if=RGB24 video=mxcfb1:off'

- ★ For other LCD / LVDS panels we support, please contact to our sales in order to get right string value.
- 5. Use the command **saveenv** to save the environment variables that you have modified. If not saved, then any changes to the variables will not persist after a restart.

> saveenv Saving Environment to SPI Flash... Erasing SPI flash...Writing to SPI flash.....SUCCESS

done

6. Use the command boot to start the operating system.

> boot

3.3 Connecting to the PC (for Android 4.2)

For Android systems, connect to a Windows PC by following the steps below:

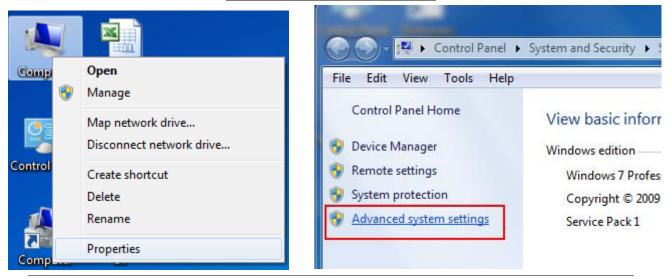
- □ Install Android SDK
- □ Connect to PC with USB OTG cable
- □ Install USB driver

3.3.1 Installing the Android SDK

This chapter is intended for developers to quickly setup an EC series and know how to launch EC series demo applications from a host PC via a USB interface. The host PC requires a Windows system (for example Windows XP or 7) and at least a few gigabytes free disk space. The first time you launch a demo app from the host PC, you will have to install a driver into the host PC.

Follow the steps below to install the driver and make the hardware connection:

- Insert the software DVD into the host PC and find the Android SDK folder. Copy to the host PC in a folder named <SDK>
- 2. Add the **<SDK>** folders to the **path** environment variable of the host PC: ;**<SDK>\tools;<SDK>\platform-tools**
- 3. The following figures illustrate the steps to add a path on a Windows 7 PC: Computer > Properties > Advanced system settings > Environment Variables... > Path > Edit...



Screenshots for Windows 7

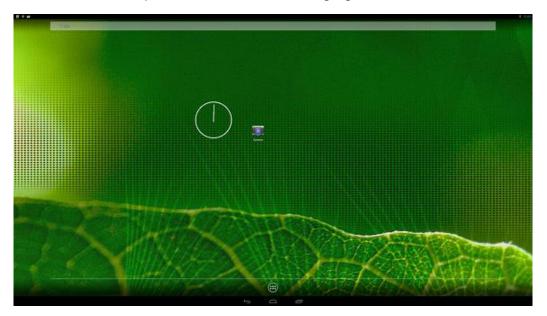
System Properties				
Computer Name Hardware Advanced System Protection Remote				
You must be logged on as an Administrator to make most of these changes.				
Visual effects, processor scheduling, memory usage, and virtual memory				
Settings				
User Profiles				
Desktop settings related to your logon				
Settings				
Startup and Recovery				
System startup, system failure, and debugging information				
Settings				
Environment Variables				
OK Cancel Apply				

nvironment Variables		
User variables fo	or may.wang	
Variable	Value	
TEMP	%USERPROFILE%\AppData\Local\Temp	
TMP	%USERPROFILE%\AppData\Local\Temp	
	New Edit Delete	
System variables		
Variable	Value	
OS	Windows NT	
Path	C:\Windows\system32;C:\Windows;C:\	
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;	
PROCESSOR_	A AMD64	
	New Edit Delete	
	OK Cancel	

3.3.2 Connecting to the PC with a USB OTG cable

Connect the power adapter to an EC21XX power jack and plug the power adapter to an AC outlet.

Wait for the EC21XXto boot up and show a standard desktop on the LCD screen. A standard Android desktop is similar to the following figure.



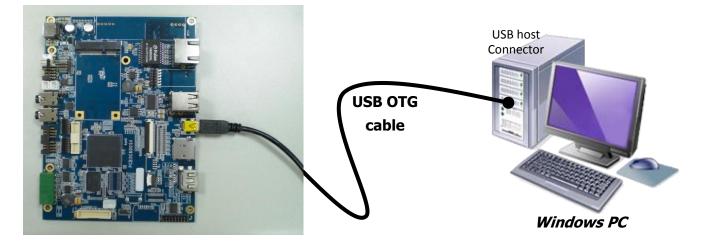
Connect a USB cable to EC21XXmini-USB connector.



Connect the USB cable to a USB port on the host PC.



The following diagram shows a USB connected EC series and a Windows PC.



3.3.3 Installing the USB Driver (Android ADB Interface)

When first connected, the host PC will prompt you about detecting an unknown USB device and ask you to install a driver. Choose to install software from a specific location.

Find the USB driver in the software DVD and copy it to the host PC. Add the path of Android USB driver as the search path for the wizard:

```
;D:\android-sdk-windows\extras\google\usb_driver
```

After the driver is successfully installed, you will find an "Android Phone" with the Android ADB interface in Device Manager.

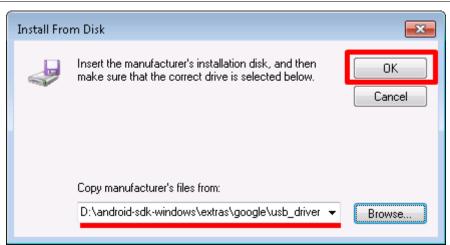
Screenshots for Windows 7

6	<u>n</u> (Jpdate Driver Software - TCC8900		×
	Hov	v do you want to search for driver software?		
	•	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.		
	٦	Browse my computer for driver software Locate and install driver software manually.		
			Can	cel

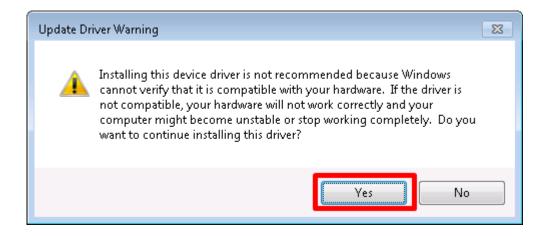
User Manual

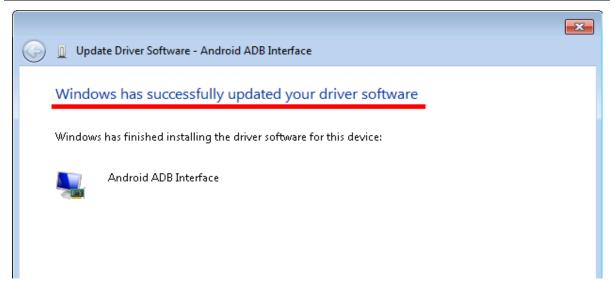
		×
9	Update Driver Software - TCC8900	
	Browse for driver software on your computer	
	Search for driver software in this location:	
	▼ Browse	
	✓ Include subfolders	
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.	
	Next Can	ncel
		×
9	Update Driver Software - TCC8900	
	Select your device's type from the list below.	
	Common hardware types:	
	Show All Devices	

Common hardware types: Show All Devices	•
61883 Device Class	
School Device class	E
VC Devices	
Batteries	
Biometric Devices	
8 Bluetooth Radios	
👝 Disk drives	
🔜 Display adapters	
BVD/CD-ROM drives	
🛃 Floppy disk drives	-



🚱 🧕 Update Driver Software - TCC8900	×
Select the device driver you want to install for this hardware Select the manufacturer and model of your hardware device and disk that contains the driver you want to install, click Have Disk.	
Model Android ADB Interface Android Bootloader Interface Android Composite ADB Interface	
This driver is not digitally signed! Tell me why driver signing is important	Have Disk
	Next Cancel





🚔 Device Manager	
File Action View Help	
▲ 🚙 user-PC01b	
🔺 📲 Android Phone	
🔜 🛄 Android ADB Interface	
⊳	
Disk drives	
🕞 🔊 📲 Display adapters	
DVD/CD-ROM drives	
Floppy disk drives	
Floppy drive controllers	
🕞 🖉 Human Interface Devices	
Description: De	
Keyboards	
A Reference and anti-construction of the second se second second sec	

To verify whether or not the driver is correctly installed, you can type adb devices at the Windows command prompt. The attached EC21XXdevice will be listed with the device ID. If it does not show any attached devices, repeat the previous steps to install the driver again.

C: \>	
C: \>	
C:>>	
C:>>	
C:\>	
C: \>	
C:\>adb devices	
List of devices attached	
00001201201534570012 device	
C: \>	
C: \>	=
C: \>	Ŧ

Now you can use the **adb** command at the command line to manage your connected device. This allows you to copy files/directories to or from the device, run a remote shell, install files/apps to the device, and can even run applications you develop directly through an emulator.

We list some basic ADB command options here. This link has more details.

adb push <local> <remote></remote></local>	Copy file/dir to device
adb pull <remote> [<local>]</local></remote>	Copy file/dir from device
adb sync [<directory>]</directory>	Copy host->device only if changed (-l means list but don't copy)
adb shell	Run remote shell interactively

3.3.4 Installing Extra Apps

This part shows you how to install extra apps from the PC to the connected device.

After installing the Android ADB interface, connect the EC21XXdevice to the PC and verify that the device is attached.



The install file should be an **.apk** file. Type the command:

adb install <APK_file>

Command Prompt	x
c:\temp}adb devices	^
List of devices attached	
0123456789ABCDEF device	
c:\temp>adb install CPU_Stats.apk 1321 KB/s (1041926 bytes in 0.770s) pkg: /data/local/tmp/CPU_Stats.apk Success c:\temp>	Ш

When it shows Success, your app has installed successful.

3.4 Update firmware via USB dongle (for Android 4.2)

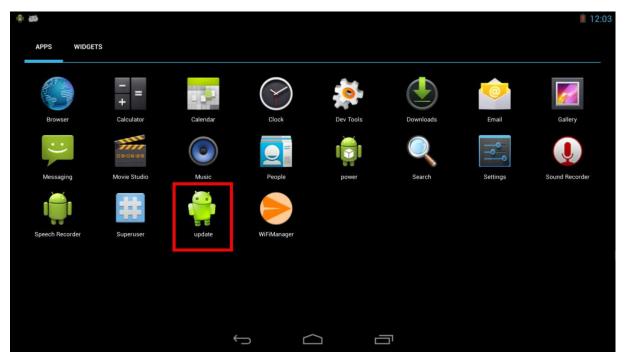
This section shows you how to update the firmware easily via USB dongle. You only need to prepare the necessary image file and script file to achieve it.

- Hardware preparation:
 1. Empty USB mass storage device (USB dongle) or empty MicroSD card.
- Software preparation:
 - 1. The script file

(This can be found in your resource CD which is attached to the shipment and the files are under the folder: \Tool\Android\System Update\)

 Latest firmware image file.
 (This can be found in your resource CD which is attached to the shipment and the files are under the folder: \Binary Images\)

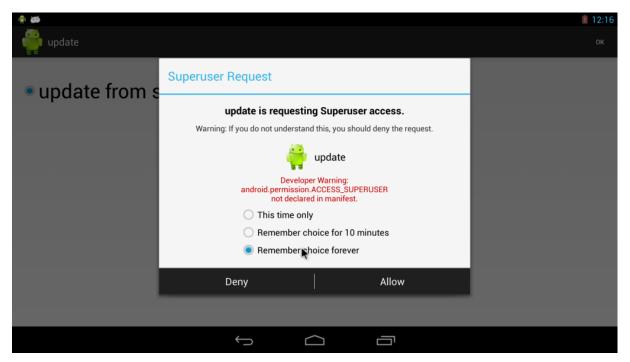
In your system application programs collection, there is an APP named "update" which is for you updating the system firmware more easily.



Step 1: copy the system update files(\Tool\Android\System Update\) into the empty USB mass storage or microSD card.

Step 2: copy the latest image files(\Binary Images\) into the empty USB mass storage or MicroSD card.

Step 3: Execute the "update" app and the superuser authorization dialog will pop-up, select the "**remember choice forever**" and click the button "**Allow**".



Step 4: Insert the USB mass storage or MicroSD card and press "OK".

# #				12:19
🦆 update				ок
• update from sd or us	sb disk			
	Û	\Box		

Step 5: The system will be restart and update the firmware after finished the process.

Step 6: Unplug the power adaptor to reboot the device, then the device is accomplished the system update procedure.

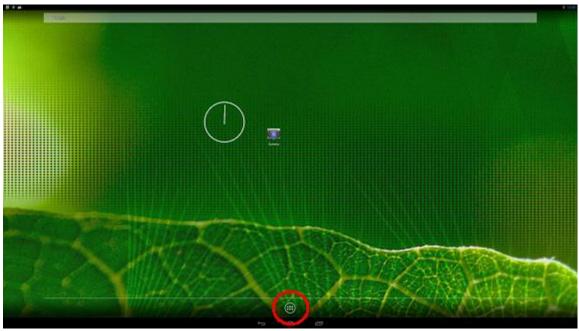
4. Running Software

4.1 Android

4.1.1 Settings

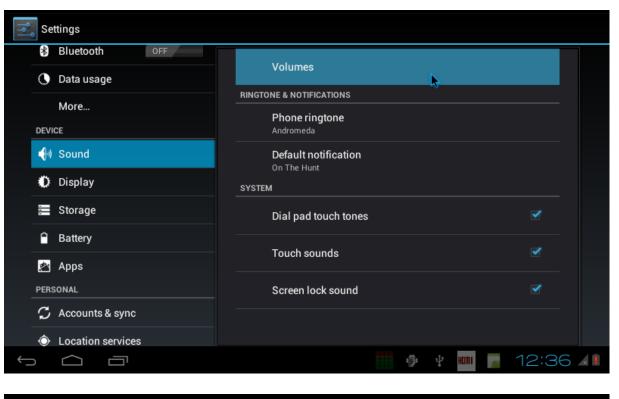


Click the app drawer icon



	APPS	WIDGETS						
		- =				0	٢	
	Browser	Calculator	Calendar	Camera	Clock	Dev Tools	Downloads	
			:)	-ESIGN-SR	۲	D		
	Email	Gallery	Messaging	Movie Studio	Music	Notepad v3	People	
	\$	Q	٩٩			1		
	Phone	Search	Settings	Sound Record	Speech Record	Superuser	System Profile	
	\triangleright							
	WiFiManager							
ţ					đ.	₽ <mark>Homi</mark>	12:01	d 🗓

Adjust the volume



	Se	ttings							
	0	Data usage	Volumes						
		More							
		CE		ames, & other media					
	4 0)		4 [4]						
	₽	Display	Ringtone & noti	ifications					
		Storage	<i>•</i> –	•					
		Battery	Alarms						
	2	Apps	0 —						
				ок					
	I	Accounts & sync							
		Location services							
<u>(</u>)				ø	e Cat	HOMI	12:35	×

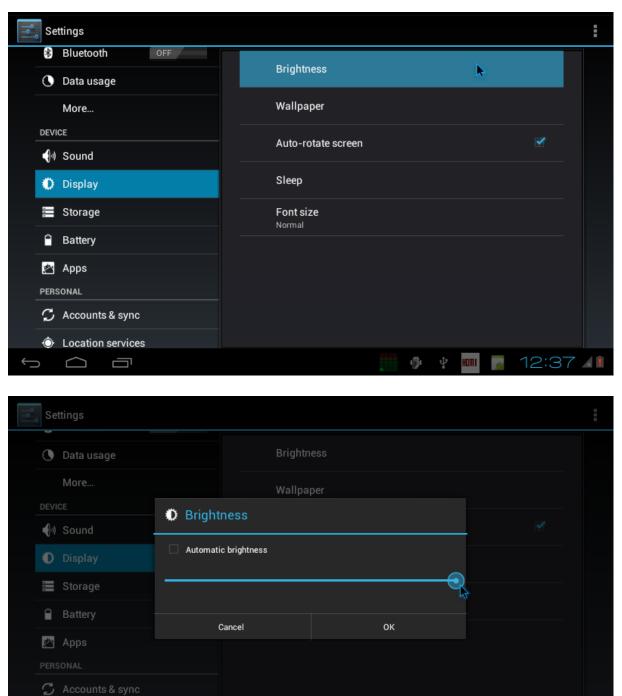
Display

Location services

Ū

 \frown

Adjust the brightness, if supported by the panel.



Note: In our Android system, like most of normal Android, there is the sleep mode for power manages.

ŵ

You can set the time out of sleep mode in Settings > Display > Sleep. The minimum is 15 s. When time is up, the screen will be dim.

12:36 💵

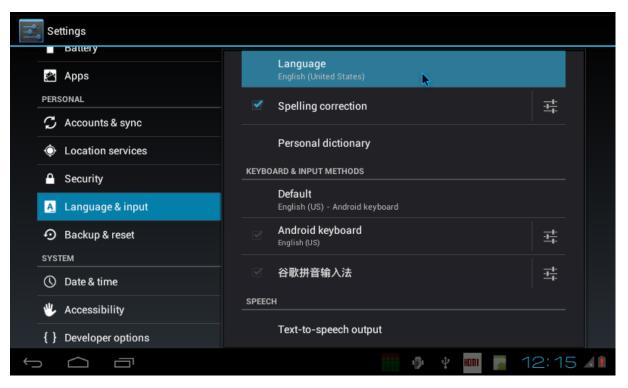
Apps

Manage all apps. You can force-stop or uninstall an app that you have installed.

Settings				:
Bluetooth OFF	DOWNLOADED ON SD CARD	RUNNING	ALL	
🕒 Data usage		NUNNING		
More	Superuser 1.29MB			
DEVICE	🦲 WiFiManager			
Sound	492КВ	►		
Display				
E Storage				
Battery				
🖄 Apps				
PERSONAL				
🗘 Accounts & sync				
O Location services		Internal storage		
		ı.	🕴 🎟 🚪 12:25	5 4 1
Settings				
	WiFiManager version 1.0			
Bluetooth OFF	WiFiManager version 1.0 Force stop		Uninstall	
Bluetooth OFF Data usage	version 1.0	ß	Uninstall	
Bluetooth OFF Data usage More	Force stop	₽	Uninstall 492KB	
Bluetooth OFF Data usage More DEVICE Nound	Version 1.0 Force stop STORAGE Total App		492КВ 492КВ	
Bluetooth OFF Data usage More DEVICE Image Image	Force stop STORAGE Total App USB storage app		492КВ 492КВ 0.00В	
Bluetooth OFF Data usage More DEVICE Image Image Image	Version 1.0 Force stop STORAGE Total App		492КВ 492КВ	
Image OFF Image More DEVICE Image Image Image I	Version 1.0 Force stop STORAGE Total App USB storage app Data		492КВ 492КВ 0.00В 0.00В	
Bluetooth OFF Data usage More DEVICE Image Image Image	Version 1.0 Force stop STORAGE Total App USB storage app Data SD card		492КВ 492КВ 0.00В 0.00В 0.00В 0.00В	
Bluetooth OFF Data usage More DEVICE Nound Display Storage Battery Apps PERSONAL	Version 1.0 Force stop STORAGE Total App USB storage app Data SD card Clear data		492КВ 492КВ 0.00В 0.00В 0.00В 0.00В	
Bluetooth OFF Data usage More DEVICE Nound Display Storage Battery Apps	Version 1.0 Force stop STORAGE Total App USB storage app Data SD card Clear data CACHE		492KB 492KB 0.00B 0.00B 0.00B 0.00B Move to SD card	
Bluetooth OFF Data usage More DEVICE Nound Display Storage Battery Apps PERSONAL	Version 1.0 Force stop STORAGE Total App USB storage app Data SD card Clear data CACHE		492KB 492KB 0.00B 0.00B 0.00B Move to SD card 0.00B	

Language & Input

You can change the UI display language and the default input methods.



Settings		
Apps	العربية	
PERSONAL	فارسى	
 Location services 	हन्दि	
Security	ไทย	
A Language & input	한국어	
Backup & reset SYSTEM	中文 (简体)	
() Date & time	中文 (繁體)	
Accessibility S Developer options	日本語	
	🎹 🆸 🕴 🔤 12:17 🗸	×

4.2 Ubuntu Linux

Root Password: *linaro*

4.2.1 System Settings

You can reach settings and information for personal, hardware, and system here.

					🖂 🗢 📣)	10:33 👤 linaro 🔱
0	ConnectU	Utils	WebCam_Show			
	CPU_Perfor		VebCam_Viewer			
	ICN_Den					
	System : Real_Time_U Run in Teri	NAMES OF TAXABLE PARTY OF TAXAB				
	Run in Terr ystem Sett					
						Q
Persona	al					
						Π
Appea	arance	Keyboard Layout	Language Support	Online Accounts	Screen	Ubuntu One
Hardwa	ire					
2000		*	*			
Addit Driv		Bluetooth	Color	Displays	Keyboard	Mouse and Touchpad
	•					Ż
	work	Power	Printing	Removable Media	Sound	Wacom Graphics Tablet
System	I					
	2		Ô	\odot	Ŕ	28
Bac	kup	Software Sources	System Info	Time & Date	Universal Access	User Accounts

Screen

If you want to disable screen lock or disable turn off/dim screen, go to the **Screen** option to change the settings.

😣 🖨 System Se	ttings				Q
Personal E Appearance	Keyboard Layout	Language Support	Online Accounts	Screen 🕅	U Ubuntu One
Hardware Millional Drivers	Bluetooth	olor 💥	D isplays	Keyboard	Mouse and Touchpad
network	Power	Printing	Removable Media	Sound	Wacom Graphics Tablet
System	Software Sources	کی System Info	S Time & Date	T Universal Access	User Accounts

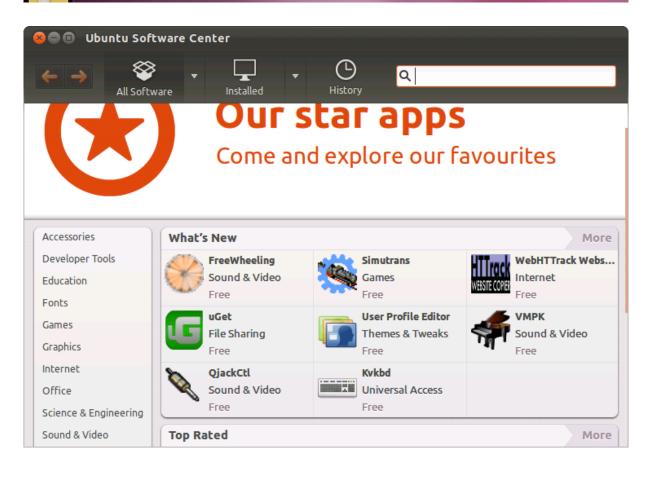
😣 🖨 Screen	
All Settings	
Brightness	
	\lor
Dim screen to set	ave power
Turn off after:	Never 💌
Lock	
OFF	
Lock screen after:	Screen turns off 💌

<u>Note</u>: In our Ubuntu system which release after 2014/5/20, we remove dim screen function. So after you set like above, the screen would not turn off.

4.2.2 Software Center

You can use the Ubuntu Software Center to install extra software.

		\bowtie	\bigtriangledown	((۱)	10:36	👤 linaro	ψ
0	ConnectUtils WebCam_Show						
	CPU_Performace WebCam_Viewer						
	Ubuntu Software Center						
	ICN_Demo						
	Real_Time_Update_ Run_in_Terminal						



4.2.3 Update Manager

If the Update Manager for Ubuntu appears, **please close it**. Do not use it to update the system. We do not offer any support should you use the system update manager.

800	Update Manager	
	Software updates are available for this computer If you don't want to install them now, choose "Update Manager" from Applications later.	
 ✓ ✓ ✓ ✓ ✓ ✓ ✓ Descr 	Not all updates can be installed Run a partial upgrade, to install as many updates as possible. This can be caused by: * A previous upgrade which didn't complete * Problems with some of the installed software * Unofficial software packages not provided by Ubuntu * Normal changes of a pre-release version of Ubuntu Partial Upgrade Close Description of updates	5
Setting		
	Update Manager Software updates are available for this computer If you don't want to install them now, choose "Update Manager" from Applications later. mportant security updates	
	You must check for updates manually Your system does not check for updates automatically. You can configure this behavior in <i>Software Sources</i> on the <i>Updates</i> tab.	
	Check Close	
Li ▶Desc We Re Settin	ription of update gs Close	

User Manual

😣 🖨 💷 Update Manager	
Software updates are available for this computer If you don't want to install them now, choose "Update Manager" Applications later.	from
Important security updates	
The GNU assembler, linker and binary utilities binutils (Size: 2.3 MB)	
system service to manage device colour profiles – system daemon colord (Size: 89 kB)	
348 updates have been selected. 210.4 MB will be downloaded.	
○ You may not be able to check for updates or download new updates.	
Check	tall Updates
▶ Description of update	
Settings	Close 🎝

5. Touch Panel Calibration

5.1 Android RTP re-calibrate procedure

If you want or need to calibrate the touch for any reason such as:

- Touch is not accurate
- You have changed output
- It is your first boot after you updated firmware and set output.

Use the commands to calibrate after devices boot.

When device power on, please notice the messages from console show '**adb_open**', while the message occurred, quick input or paste character "**stop**" and press "Enter" key to stop the system booting process. Further then input below commands:

1 Contraction of the second	
adb_bind_config	
adb_open	
	i
1	1
# stop	i i
· · · · · · · · · · · · · · · · · · ·	1
//now the system would stop and display stays at penguin icon	i i
//now the system would stop and display stays at penguin con	1
# ts_calibrator	1
i de la constante de	i i
//now there would be a white ' $+$ ' at left, it is calibration point	1
// now there would be a write T at left, it is calibration point	
1 Contraction of the second	1
1	

Here is an example of the console message.



When the calibration point '+' shows, please quickly and accurately touch the cross on panel. Be careful that this calibrator is with timeout function. If it is timeout, just input **ts_calibrator** again.

f

After touching several crosses, there will appear a green and red small square. Touch the left green one a while. It is accurate confirmation function; all blue crosses should be within the green square. If not, the calibrator will let you calibrate again automatically.

Finally, reset power or keyin start to continue system.	
	1
# stort	
# start	

5.2 Ubuntu RTP re-calibrate procedure

5.2.1 Ubuntu 11.10

For the Ubuntu 11.10 version, if you want to re-calibrate the touch function, please kindly key in following commands on the console terminal after system booted:

rm -f /etc/pointercal

//delete calibration file

shutdown –r now

//then reboot

5.2.2 Ubuntu 12.04

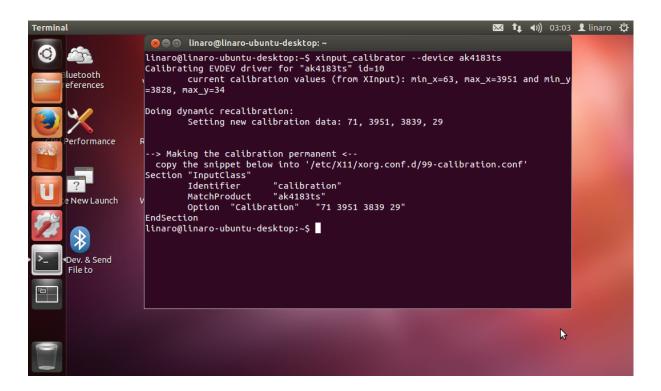
For the Ubuntu 12.04 version, if you want to re-calibrate the touch accuracy, please kindly follow below steps to accomplish the calibration:

- 1. First, connected keyboard, mouse and Internet (Ethernet port).
- 2. Open Ubuntu terminal window which on the left hand side shortcut list.
- 3. On the terminal window, please input below command line.
 - ~\$ xinput_calibrator --device ak4183ts

<u>Note</u>

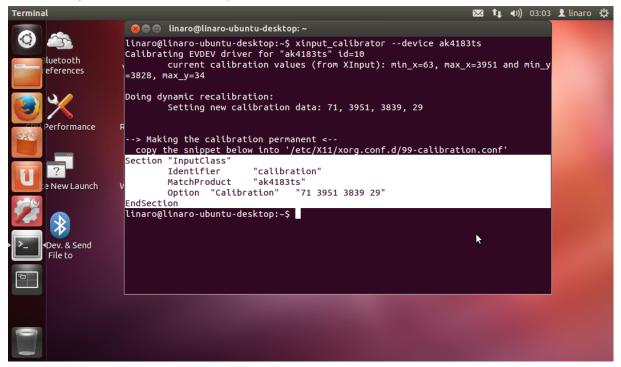
If you can't do [xinput_calibrator], please try to get the app first as following below step: On the terminal screen, please input the command line which in red. ~\$ sudo apt-get install xinput-calibrator And input password: linaro

4. Now you can start calibrating. When calibration is successful, program will be closed automatically and showed some information.



5. Now, test the touch function is functional or not. If not, please go to step 3 and calibrate again.

6. Copy the content between [Section "InputClass"] and [EndSection] (refer below picture in white block)



7. On terminal screen, please input

~\$ sudo gedit And input password: linaro

8. Paste the content what you copied just now in the gedit.

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File Edit View Search Tools Documents Helpdevice ak4183ts		
📄 📄 Open 🔹 💆 Save : 💾 : 🦐 Undo 🌧 : 💥 🖷 🏥 : 🔍 🛠 🛛 nin_x=63, max_x=3951 and min_y		
📄 *Untitled Document 1 🗱		
Section "InputClass" Identifier "calibration" MatchProduct "ak4183ts" Option "Calibration" "71 3951 3839 29" EndSection		
1/99-calibration.conf'		
Plain Text 🔻 Tab Width: 8 💌 Ln 6, Col 1 INS		

9. Save the file under the path /usr/share/X11/xorg.conf.d/ And named the file as 99-ak4183ts.conf

Then, close gedit.

Text Editor			\bowtie	tµ,	€))	03:09	👤 linaro	<u></u> ф
😣 Save As								
	k4183ts.conf Isr share X11 xorg.conf.d		Create Folde	şL	ind i	min_y		
Places	Name	 Size 	Modified					
🔍 Search	10-evdev.conf	1.1 kB	10/16/13					
Recently Used	11-evdev-quirks.conf	590 byte	es 06/13/12					
📠 root	11-evdev-trackpoint.conf	364 byte	es 06/13/12					
File System	50-synaptics.conf	956 byte	es 08/31/12					
	50-wacom.conf	842 byte	es 10/16/12					
	51-synaptics-quirks.conf	590 byte	es 08/31/12					
Character Encoding:	Current Locale (UTF-8) 🔻 Line Ending: Unix/Linux 🔻	A	ll Files 🔹	-				
		Cancel	Save	4				

10. Finally, reboot to check whether touch is correct or not.