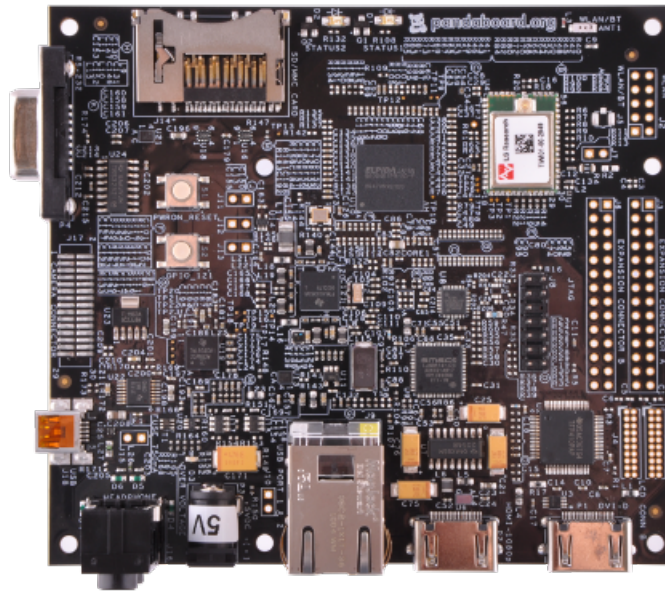




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Pandaboard Guide: Installing Ubuntu

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Abstract

In this guide, I will describe how to install Ubuntu 12.04 on Pandaboard step by step. This guide uses ready made image provided by Ubuntu. This guide targets beginners who are just getting started on the Pandaboard and want to play around with Ubuntu. These instructions will work for Pandaboard as well as Pandaboard ES.

Accessories Needed

- HDMI wire
- 8GB sd card
- 5V/4A power supply
- USB Keyboard, mouse

Setup

- I used an Ubuntu 12.04 64 bit machine.
- I used Pandaboard ES for this guide.

Steps

- Download the Ubuntu 12.04 Image

<http://cdimage.ubuntu.com/releases/12.04/release/>

Now download the Texas Instruments OMAP4 (Hard-Float) preinstalled desktop image.

Preparing the SD card

I am using Ubuntu 12.04 running on a 64 bit machine and I would request the users to also use the Ubuntu environment if possible. If you are not familiar with Ubuntu, don't worry. I have made a video on '**Getting Started With Ubuntu**' which will help all the novices in learning Ubuntu. The link for the video is below:

<http://www.youtube.com/watch?v=6Cb-227Ogzw>

Now insert your SD card into the computer but make sure that it is not mounted. Now, identify the correct raw device name (like /dev/sde - not /dev/sde1). You can do this by opening disk utility in Ubuntu and clicking on the sd card. Now navigate to the folder where you have downloaded the image using the terminal. Type the following code into the terminal to write the image to the sd card:

```
$ ./ubuntu-12.04-preinstalled-desktop-armhf+omap4.img.gz |sudo dd bs=4M  
of=/dev/sdb  
$ sudo sync
```

This will take some time. If the process is successful, you will see the cursor jump to the next line and text input will be available. Now remove the sd card.

Booting up the Pandaboard

Now, insert the sd card into the pandaboard. Connect the HDMI/DVI cable to the monitor and the Pandaboard. Connect your mouse, keyboard to the USB ports on the pandaboard. Now, power up the Pandaboard. If all went well, you should see a familiar Ubuntu installation screen.

Installing Ubuntu 12.04 on Pandaboard

The installation procedure is quite simple. You just have to follow the on screen instructions. Mind you, this process will take a very long time and hence be patient.

Installing TI ppa update

* Add TI OMAP release PPA

```
$ sudo su -  
# export http_proxy=<your proxy if any>  
# export https_proxy=<your proxy if any>  
# add-apt-repository ppa:tiomap-dev/release
```

* Perform the upgrade:

```
$ sudo apt-get update  
$ sudo apt-get dist-upgrade  
$ sudo apt-get install ubuntu-omap4-extras
```

* You can now re-run a dist-upgrade for safety at the end, then reboot

* After the installation/update, it is advised to log as default user and to execute:

On Panda 4430:

```
$ /usr/bin/alsaucm -c Panda set _verb HiFi
```

On PandaES 4460:

```
$ /usr/bin/alsaucm -c PandaES set _verb HiFi
```

* Change the bootargs:

Open /boot/boot.script file and make the change mentioned below

```
Please          replace          "vram=40M          mem=456M@0x80000000  
mem=512M@0xA0000000" or any vram or split mem settings with:  
"mem=1G@0x80000000"
```

Example of the bootargs I am using:

```
fatload mmc 0:1 0x80000000 uImage  
fatload mmc 0:1 0x81600000 uInitrd  
setenv bootargs ro elevator=noop console=ttyO2,115200n8  
mem=1G@0x80000000 root=/dev/mmcblk0p2 fixrtc splash  
bootm 0x80000000 0x81600000
```

* You need to force installation of new bootloaders through command:

```
$ sudo /usr/sbin/flash-kernel -update-bootloader
```

