

Boot the Ubuntu 7.04 Feisty Fawn cd. It will boot into a live CD environment where you can then click the Install icon to begin installation

```
Welcome [English]
Where are you? [NY EDT]
Keyboard layout [U.S. English]
Prepare disk space [Guided - use the largest continuous free space]
    This will use the free space behind the Windows XP installation
Migrate Documents and Settings [Nothing to do]
Who are you? [username: wireless, computername: wireless-tablet]
Ready to install
```

<http://ubuntuguide.org> is invaluable for getting Ubuntu configured post install.

### Updating and upgrading

```
#sudo cp -i /etc/apt/sources.list /etc/apt/sources.list_backup
#gksu gedit /etc/apt/sources.list

## See http://help.ubuntu.com/community/UpgradeNotes for how to upgrade to
## newer versions of the distribution.

## Add comments (##) in front of any line to remove it from being checked.
## Use the following sources.list at your own risk.

## Uncomment deb-src if you wish to download the source packages

## If you have a install CD you can add it to the repository using 'apt-cdrom add'
## which will add a line similar to the following:
#deb cdrom:[Ubuntu 7.04 _Feisty Fawn_ - Beta i386 (20070322.1)]/ feisty main
restricted
deb http://us.archive.ubuntu.com/ubuntu/ feisty main restricted
#deb-src http://us.archive.ubuntu.com/ubuntu/ feisty main restricted

## Major bug fix updates produced after the final release of the
## distribution.
deb http://us.archive.ubuntu.com/ubuntu/ feisty-updates main restricted
#deb-src http://us.archive.ubuntu.com/ubuntu/ feisty-updates main restricted

## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## universe WILL NOT receive any review or updates from the Ubuntu security
## team.
deb http://us.archive.ubuntu.com/ubuntu/ feisty universe
#deb-src http://us.archive.ubuntu.com/ubuntu/ feisty universe

## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## multiverse WILL NOT receive any review or updates from the Ubuntu
## security team.
deb http://us.archive.ubuntu.com/ubuntu/ feisty multiverse
#deb-src http://us.archive.ubuntu.com/ubuntu/ feisty multiverse

## Uncomment the following two lines to add software from the 'backports'
## repository.
## N.B. software from this repository may not have been tested as
## extensively as that contained in the main release, although it includes
## newer versions of some applications which may provide useful features.
## Also, please note that software in backports WILL NOT receive any review
## or updates from the Ubuntu security team.
deb http://us.archive.ubuntu.com/ubuntu/ feisty-backports main restricted universe
multiverse
```

```
#deb-src http://us.archive.ubuntu.com/ubuntu/ feisty-backports main restricted
universe multiverse

deb http://security.ubuntu.com/ubuntu feisty-security main restricted
#deb-src http://security.ubuntu.com/ubuntu feisty-security main restricted
deb http://security.ubuntu.com/ubuntu feisty-security universe
#deb-src http://security.ubuntu.com/ubuntu feisty-security universe
deb http://security.ubuntu.com/ubuntu feisty-security multiverse
#deb-src http://security.ubuntu.com/ubuntu feisty-security multiverse

## PLF REPOSITORY (Unsupported. May contain illegal packages. Use at own risk.)
## Medibuntu - Ubuntu 7.04 "feisty fawn"
## Please report any bug on https://launchpad.net/products/medibuntu/+bugs
deb http://packages.medibuntu.org/ feisty free non-free
#deb-src http://medibuntu.sos-sts.com/repo/ feisty free non-free

## CANONICAL COMMERCIAL REPOSITORY (Hosted on Canonical servers, not Ubuntu
## servers. RealPlayer10, Opera, DesktopSecure and more to come.)
deb http://archive.canonical.com/ubuntu feisty-commercial main

## enlightenment e17 beta, use at your own risk
## E17 is in Beta and may break or break your system
#deb http://edevelop.org/pkg-e/ubuntu feisty e17
#deb http://e17.dunnewind.net/ubuntu feisty e17
#deb-src http://edevelop.org/pkg-e/ubuntu feisty e17
```

```
#wget -q http://packages.medibuntu.org/medibuntu-key.gpg -O- | sudo
apt-key add -
```

```
#wget -q http://lutln.ifrance.com/repo\_key.asc -O- | sudo apt-key add -
#sudo apt-get update
#sudo apt-get upgrade
```

This will take a while!

```
Adding compilers and kernel source code
#sudo apt-get install build-essential
#sudo apt-get install linux-headers-`uname -r`
```

### **Configure Digitizer Pen (Wacom)**

Ubuntu Feisty X11 xorg.conf file comes configured for the Wacom. Additionally the serial device itself is detected and configured.

For earlier versions of Ubuntu (pre Feisty) do the following:

Identify the serial device, port, and irq numbers by searching the device messages created when the tablet boots.

```
#dmesg | grep 16550A
```

This will give you the line detailing the information you need. 16550A is the touchscreen device.

We will also need couple additional packages installed.  
#apt-get install setserial wacom-tools

Edit /etc/rc.local and add the line below to configure the serial interface to the tablet.

```
/bin/setserial /dev/ttyS4 port 0x0238 irq 4 autoconfig
```

(For all versions) Next we need to configure the button on the pen for right click. By default, for some strange reason, the button acts as "paste" instead. Edit /etc/X11/xorg.conf file and add the following four lines to the **stylus** device section.

```
Option      "Mode"          "Absolute"
Option      "Button3"       "2"
Option      "Button2"       "3"
Option      "TPCButton"     "on"
```

Next time you restart X Server you should be all set!

### Onscreen Keyboard at Login

Ubuntu Feisty Fawn comes with a nice onscreen keyboard written in python during the Google Summer of Code. This little app is called onboard.py

Edit onboard to change keyboard size

```
gedit /usr/share/onboard/KbdWindow.py
```

lines 21-25

```
..... .
#if x and y:
# self.set_default_size(x,y)
#else:
self.set_default_size(600,180)
#self.set_type_hint(gtk.gdk.WINDOW_TYPE_HINT_DOCK)
..... .
```

Play with the number 600, 180, change them till you get the desired size for your keyboard.

Aware: the language is tab sensitive, so u have to remove the initial tab in the line  
self.set\_default\_size(600,180)  
to allineate with the surrounding code or it doesn't function and the login keyboard disappear.

```
#cp /etc/gdm/Init/Default /etc/gdm/Init/Default.backup
Ensure the last three lines of the file look like this:
```

```
fi
exec onboard &
exit 0
```

Afterwards, open the menu:  
System->Administration->Login Window

The window containing the preferences of the Login Window will open. In this window do the following:

- choose the tab named 'Local'
- click on the popup at the right of 'Style' and set it to 'Plain'.

```
(mine was set to 'Themed')
- close the window
```

After you add it to the login screen you will notice, if you try, that the keyboard appears smack in the middle of the screen and you can't move it! So you need to edit another file so it will appear in the top corner instead.

```
#gedit /usr/share/onboard/sok.py
```

```
Line 100 change it to
    self.window.do_set_gravity(gtk.gdk.GRAVITY_SOUTH_EAST)
```

### **Install XVKBD if you don't like onboard**

```
#apt-get install xvkbd
#cp /etc/gdm/Init/Default /etc/gdm/Init/Default.backup
#gedit /etc/gdm/Init/Default
```

Ensure the last three lines of the file look like this:

```
fi
exec xvkbd &
exit 0
```

Afterwards, open the menu:  
System->Administration->Login Window

The window containing the preferences of the Login Window will open. In this window do the following:

- choose the tab named 'Local'
- click on the popup at the right of 'Style' and set it to 'Plain'. (mine was set to 'Themed')
- close the window

### **Create Screen Rotation Icon**

```
#gedit /bin/rotate.sh
```

```
#!/bin/sh
orientation="`/usr/bin/X11/xrandr --query | /bin/grep 'Current
rotation' | /usr/bin/awk '{print $4}'`"
if [ "$orientation" = "normal" ]; then
    # Rotates screen orientation to the right
    /usr/bin/X11/xrandr --orientation right
    # Rotates the stylus coordinate plane
    /usr/bin/xsetwacom set stylus rotate CW
elif [ "$orientation" = "right" ]; then
    # Rotates the screen back to normal
    /usr/bin/X11/xrandr --orientation normal
    # Rotates the stylus coordinate plane to normal
    /usr/bin/xsetwacom set "stylus" Rotate 0
fi
```

```
#chmod 777 /bin/rotate.sh
```

Create an icon with that script and enjoy screen rotation!

### **Madwifi - latest version**

```
#apt-get install madwifi-tools
```

**NOTE: Ubuntu Feisty comes preinstalled with a version of madwifi that is suitable. If you want the latest version then follow the steps below.**

```
#apt-get install subversion
#apt-get install sharutils
#svn checkout http://svn.madwifi.org/trunk madwifi
#cd madwifi/trunk
#make
#make install
```

NOTE: if the svn link does not work go to <http://madwifi.org> to get the up-to-date link.

### **Kismet**

```
#apt-get install flex m4 bison
#apt-get install gpsd sox
#apt-get install libgmp3-dev libexpat1-dev libmagick9-dev
```

Download the latest stable version of libpcap from <http://www.tcpdump.org> (currently libpcap-0.8.3)

```
#tar zxvf libpcap-0.8.3.tar.gz
#cd libpcap-0.8.3
#./configure
#make && make install
```

Download the latest stable version from <http://www.kismetwireless.net> (currently 2007.01.R1b)

```
#tar zxvf kismet-2007-01-R1b.tar.gz
#cd kismet-2007-01-R1b
```

Patch for GOOGLE MAPS

```
#wget http://parknation.com/gmap/files/gpsmap-gmap-0.1.tgz
#tar zxvf gpsmap-gmap-0.1.tgz
#patch -p0 < gpsmap-gmap-0.1/gpsmap-gmap-0.1.diff
```

Compile and install

```
#!/configure
#make
#make install
```

You need to install a web server in order to view the output from generating a google/kismet map

```
#apt-get install apache
#mkdir /var/www/gpsmap
```

Copy the files that came with the patch over to the directory you just created.

```
#cd gpsmap-gmap-0.1
#cp -R mapfiles /var/www/gpsmap
#cp index.html /var/www/gpsmap
```

You also need to get an api key for using google maps from google (<http://www.google.com/apis/maps/signup.html>). Insert this key into the top of the **index.html** file in the location of KEYHERE

NOTE: See *Creating Google Maps with Kismet* below for the next step in using gpsmap to create a gps plotted google map.

BUT FIRST . . .

### *Configure Kismet*

Edit /usr/local/etc/kismet.conf (NOTE: kismet.conf may be installed elsewhere. Run **find / -name kismet.conf** to find it)

```
#vim /usr/local/etc/kismet.conf
```

```
    # Kismet config file
    # Most of the "static" configs have been moved to here -- the
    command line
    # config was getting way too crowded and cryptic.  We want
    functionality,
    # not continually reading --help!

    # Version of Kismet config
    version=2004.10.R1

    # Name of server (Purely for organiational purposes)
    servername=Kismet

    # User to setid to (should be your normal user)
13    suiduser=wireless

    # Sources are defined as:
    # source=cardtype,interface,name[,initialchannel]
    # Card types and required drivers are listed in the README.
    # The initial channel is optional, if hopping is not enabled it
can be used
    # to set the channel the interface listens on.
    # YOU MUST CHANGE THIS TO BE THE SOURCE YOU WANT TO USE
21    source=madwifing_b,wifi0,madwifi
```

**NOTE: the line numbers may change slightly per installation of kismet (newer version). The lines we are editing should be around where I specified.**

Change the bolded lines to what is listed (your source may be different and will require research)

```
SMC2532W-B = hostap
Cisco a/b/g = madwifing_b
Proxim a/b/g = madwifing_b
Intel ipw2100 (internal tablet wireless) = ipw2100
```

You may also specify the source at the command line when starting kismet

```
#kismet -c ipw2100,eth1,ipw
```

**NOTE: for detailed info on Source types see O'Reilly Security Power Tools p.109**

You may want to change the columns that are displayed on the screen when you start kismet. Edit kismet\_ui.conf  
#vim /usr/local/etc/kismet\_ui.conf

```
# columns are valid.
columns=decay,name,type,wep,channel,packets,flags,ip,size
# What columns do we display for clients? Comma seperated.
clientcolumns=decay,type,mac,manuf,data,crypt,size,ip,signal,quality,noise
```

I like to see the signal strength on the screen

```
# columns are valid.
columns= name,type,wep,decay,channel,signal,packets,flags,ip,size
# What columns do we display for clients? Comma seperated.
clientcolumns=decay,type,mac,manuf,data,crypt,size,ip,signal,quality,noise
```

Also change showintro=false and sound=false. The introscreen and sound are annoying.

Starting GPSD

Gpsd is the daemon that facilitates communication between a gps capable program (i.e. kismet) and the gps hardware. Gpsd supports most all popular gps chipsets and they can be connected via usb, serial, Bluetooth, or pcmcia/compact flash.

When connecting the gps device run dmesg from the command prompt to see how the device was detected and what filename it was assigned. This will be required when starting gpsd.

Example:

```
#dmesg -tail 10
[ 1723.424000] usb 2-1: configuration #1 chosen from 1 choice
[ 1724.200000] usbcore: registered new interface driver usbserial
[ 1724.200000] drivers/usb/serial/usb-serial.c: USB Serial support registered for generic
[ 1724.200000] usbcore: registered new interface driver usbserial_generic
[ 1724.200000] drivers/usb/serial/usb-serial.c: USB Serial Driver core
[ 1724.228000] drivers/usb/serial/usb-serial.c: USB Serial support registered for pl2303
[ 1724.228000] pl2303 2-1:1.0: pl2303 converter detected
[ 1724.228000] usb 2-1: pl2303 converter now attached to ttyUSB0
[ 1724.228000] usbcore: registered new interface driver pl2303
[ 1724.228000] drivers/usb/serial/pl2303.c: Prolific PL2303 USB to serial adaptor driver
```

When starting gpsd

```
#gpsd /dev/ttyUSB0
```

**Test to make sure it works:**

```
#telnet 127.0.0.1 2947
```

When in telnet type **R** and you should see gpsd spit gps output to the screen (NOTE: you don't need to be outside to test this)  
**ctrl-]** then **quit** to exit out of telnet.

By default kismet is configured to connect to gpsd on port 2947.

## *Creating Google Maps with Kismet*

gpsmap options:

- j = use googlemaps
- o = output file
- u = draw convex hull of data points
- r = draw estimated range circles

**gpsmap -j -o gpsdata.js -u -r <path\_to\_Kismet\_Gps\_File>**

After running **gpsmap** on a **.gps** file copy the output **.js** file to the same folder as the **index.html** file and name it **gpsdata.js**. You will also need to make the file world readable.

```
#cp gpsdata.js /var/www/gpsmap  
#chmod +r /var/www/gpsmap/gpsdata.js
```

Now browse to your webserver with a browser (e.g. **http://localhost/gpsmap/index.html**)

