

Feisty ATI Dual Head Setup

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You must have the ATI driver setup and working. To setup the ATI drivers on Kubuntu 7.04 Feisty read this .

After installing the proprietary ATI driver and your default monitor you can setup dual head, if your card supports it, with full 3-D. This is for the ATI Radeon X1300/X1550 Series, but you can try it with other multi-monitor cards supported by the proprietary ATI Linux driver. This should also work on laptops for the external display. You may also try setting it up in System Settings, but I haven't had luck with that.

First things first: BACK UP XORG.CONF!

open a terminal and type, which will place a copy of your xorg.conf in your home directory:

```
sudo cp /etc/X11/xorg.conf ~/
```

If thing hose, boot into safe mode in grub and at the command line type:

```
sudo cp /home/your_user_name/xorg.conf /etc/X11/xorg.conf
```

Then reboot.

Make sure your driver is working. open the terminal and type with 3-D and the ATI driver:

```
sudo kwrite /etc/X11/xorg.conf
```

(Gnome users use gedit instead of kwrite, or your favorite text editor.)

Find Section "Device" and make sure driver is set to use fglrx, i.e. driver "fglrx". If not change it.

Hit Ctrl+Alt+Backspace if you changed it otherwise continue.

Back in the terminal type:

```
fglrxinfo
```

You should see something similar to this:

```
display: :0.0 screen: 0
OpenGL vendor string: ATI Technologies Inc.
OpenGL renderer string: Radeon X1300/X1550 Series
OpenGL version string: 2.0.6334 (8.34.8)
```

Next test 3-D, should run fast if everything is working, type:

```
fgl_glxgears
```

You should see something similar to this:

```
Using GLX_SGIX_pbuffer
3362 frames in 5.0 seconds = 672.400 FPS
3464 frames in 5.0 seconds = 692.800 FPS
3441 frames in 5.0 seconds = 688.200 FPS
```

Finally type this:

```
glxgears
```

If it runs fairly fast life is good.

Understanding the xorg.conf file and video.

If you do not have a Wacom tablet and remove all wacom references. The example below is devoid of Wacom settings if you wish to use it as a reference. Don't forget to remove it from "ServerLayout" section, should be

three lines;

```
InputDevice "Stylus" "SendCoreEvents"
InputDevice "Eraser" "SendCoreEvents"
InputDevice "Cursor" "SendCoreEvents"
```

NOTE: At anytime you can use the example xorg.conf at the bottom of the article for reference. It is a working xorg.conf with my specific monitor removed. Be careful if you copy and paste this file! Some editors hide characters from webpages that will cause x to crash when it reads this file. If you want to copy and paste use kwrite, kedit, Gedit, or even better, Vim - stay away from kate.

IMPORTANT:

If you copy and paste my xorg.conf add your monitor and screen SETTINGS from your xorg.conf and point to the identifiers for each, you can leave my identifiers in place and remove those created in your xorg to make life easier, but you want your screen size, refresh rates, and other specifics in place - the settings in the example will crash X!

Basically setup your default monitor and copy SCREEN and MONITOR from your xorg.conf. Save them...

Copy everything in your properly setup xorg.conf between Section "screen" and EndSection and paste to my xorg.conf in your screen sections and do the same for the monitor section. Leave my identifier intact and remove the one create in your xorg.

OR

Copy your Screen, Monitor, and Device sections from your properly setup xorg.conf. Paste them to your xorg, leaving the originals in place and add a 2 to each sections identifier, i.e. Identifier "my_whatever2". You now have two of each:

```
my_whatever
my_whatever2
```

Then add the second screen to Serverlayout:

```
screen "my_whatever" 0 0
screen "my_whatever2" RightOf "my_whatever"
```

Use my xorg as a reference as to what needs to be added.

I will go through this so you understand this a bit better:

MODULE section:

This is where modules get loaded, for this tutorial you should see:

```
Load "dri" # Maybe missing, add it.
Load "glx"
Load "GLcore"
```

SERVERLAYOUT section:

This is what calls all our linked sections.

```
screen "Default Screen" 0 0 will call "Default Screen",
which in turn loads the ati "device" section
and your monitor "monitor" section.
```

Think of it as a chain reaction, if I name my screen "larry"

I would call screen "larry" 0 0 in the server section.

It will go to larry in Section "Screen". In section screen if

I called my device section "moe" and my monitor "curly" larry will execute moe and curly.

screen "Secondary Screen" RightOf "Default Screen" is simply a repeat of your default chain reaction with different names so that the two screens, monitors, and drivers do not clash.

What we end up with is this without all the other stuff
to cloud the view:

```
Section "Screen"
  Identifier "larry"
  Device "moe"
  Monitor "curly"
  Your screen settings
EndSection
```

```
Section "Device"
  Identifier "moe"
  Your video card/driver settings
EndSection
```

```
Section "Monitor"
  Identifier "curly"
  Your monitor settings
EndSection
```

This is the second display.

```
Section "Screen"
  Identifier "larry1"
  Device "moe1"
  Monitor "curly1"
  Your screen settings
EndSection
```

```
Section "Device"
  Identifier "moe1"
  Your video card/driver settings
EndSection
```

```
Section "Monitor"
  Identifier "curly1"
  Your monitor settings
EndSection
```

Execute our layout.

```
Section "ServerLayout"
  Identifier "Default Layout"
  screen "larry" 0 0
  screen "larry1" RightOf "larry"
EndSection
```

The only other thing you need to be aware of with the ATI driver is that "Composite" should be disabled in the Extensions section as it is not supported.

If you are curious about the DRI it just sets permissions for any user to access DRI.

Finally Option "AIGLX" "off" The proprietary Ati driver does not support AIGLX, which is enabled by default on (K)Ubuntu. You must use XGL for Beryl and Compiz. You can omit this safely in most cases.

One setup you can go into System Settings under the KDE start menu and view or setup screens.

Here is my xorg.conf:

```
# /etc/X11/xorg.conf (xorg X Window System server configuration file)
#
# If you have edited this file but would like it to be automatically updated
# again, run the following command:
```

```
# sudo dpkg-reconfigure -phigh xserver-xorg
#

Section "Files"
  Fontpath "/usr/share/fonts/X11/misc"
  Fontpath "/usr/share/fonts/X11/cyrillic"
  Fontpath "/usr/share/fonts/X11/100dpi:unscaled"
  Fontpath "/usr/share/fonts/X11/75dpi:unscaled"
  Fontpath "/usr/share/fonts/X11/Type1"
  Fontpath "/usr/share/fonts/X11/100dpi"
  Fontpath "/usr/share/fonts/X11/75dpi"
  # path to defoma fonts
  Fontpath "/var/lib/defoma/x-ttcidfont-conf.d/dirs/TrueType"
EndSection

Section "Module"
  Load "i2c"
  Load "bitmap"
  Load "ddc"
  Load "extmod"
  Load "freetype"
  Load "int10"
  Load "vbe"
  Load "dri"
  Load "glx"
  Load "GLcore"
  Load "v4l"
EndSection

Section "InputDevice"
  Identifier "Generic Keyboard"
  Driver "kbd"
  option "CoreKeyboard"
  option "XkbRules" "xorg"
  option "XkbModel" "pc105"
  option "XkbLayout" "us"
  option "XkbOptions" "lv3:ralt_switch"
EndSection

Section "InputDevice"
  Identifier "Configured Mouse"
  Driver "mouse"
  option "CorePointer"
  option "Device" "/dev/input/mice"
  option "Protocol" "ImPS/2"
  option "ZAxisMapping" "4 5"
  option "Emulate3Buttons" "true"
EndSection

# DEFAULT VIDEO DRIVER MAIN DISPLAY!
Section "Device"
  identifier "ATI Video Card"
  boardname "ATI Radeon (fglrx)"
  busid "PCI:1:0:0"
  driver "fglrx"
  screen 0
  vendorname "ATI"

# SPECIFIC FOR DUAL DISPLAY!!
Option "MergedFB" "True"
Option "EnablePageFlip" "True"
Option "AGPMode" "4"
Option "AGPFastWrite" "True"
Option "MergedXineramaCRT2IsScreen0" "True"
Option "CRT2Position" "RightOf"
```

EndSection

SECOND ATI DRIVER FOR SECONDARY DISPLAY!

Section "Device"

identifier "ATI Video Card2"
boardname "ATI Radeon (fglrx)"
busid "PCI:1:0:1"
driver "fglrx"
screen 1
vendormame "ATI"

EndSection

DEFAULT MONITOR, should be setup through System Settings.

Section "Monitor"

identifier "default_monitor" # IMPORTANT monitor section identifier.

!!! PASTE YOUR SETTINGS HERE. !!!

vendormame "your_monitor brand"
modelname "your_monitor model"
HorizSync 31.0-115.0
VertRefresh 55.0-160.0
modeline "640x480@60" 25.2 640 656 752 800 480 490 492 525 -vsync -hsync
gamma 1.0

EndSection

#SECONDARY MONITOR - GENERIC!

Section "Monitor"

Identifier "second_monitor"
Option "DPMS"
Gamma 1.0

EndSection

DEFAULT SCREEN, can be setup through System Settings.

Section "Screen"

Identifier "Default Screen"
Device "ATI Video Card"
Monitor "default_monitor" # IMPORTANT, Should point to monitor section identifier.
Defaultdepth 24
SubSection "Display"
depth 24
!!! PASTE YOUR SETTINGS HERE. !!!

EndSubSection

EndSection

SECONDARY SCREEN, can be setup through System Settings.

Section "Screen"

Identifier "Secondary Screen"
Device "ATI Video Card2"
Monitor "second_monitor"
Defaultdepth 24
SubSection "Display"
Depth 24
Modes "1280x1024" "1024x768" "800x600"

EndSubSection

EndSection

Section "ServerLayout"

Identifier "Default Layout"
screen "Default Screen" 0 0
screen "Secondary Screen" RightOf "Default Screen"
Inputdevice "Generic Keyboard"
Inputdevice "Configured Mouse"

EndSection

Give users permissions for DRI

Section "DRI"

Mode 0666

EndSection

Not supported by the proprietary ATI driver!

On by default in the Ubuntu lines of Linux...

Section "ServerFlags"

Option "AIGLX" "off"

EndSection

Required if you use an ATI.

Section "Extensions"

Option "Composite" "Disable"

EndSection