

# Add display modelines

If a resolution isn't available in X while the monitor should support it, the modeline can be added manually.

First get the port names of the connected monitors:

```
xrandr
Screen 0: minimum 320 x 200, current 4080 x 1956, maximum 16384 x 16384
DP-1 connected primary 1920x1200+1080+432 (normal left inverted right x axis
y axis) 518mm x 324mm
  1920x1200    59.95*+
  1920x1080    60.00
  1600x1200    60.00
  1680x1050    59.88
  1280x1024    60.02
  1280x960     60.00
  1024x768     60.00
  800x600      60.32
  640x480      59.94
  720x400      70.08
DP-2 disconnected (normal left inverted right x axis y axis)
HDMI-1 disconnected (normal left inverted right x axis y axis)
DP-2-8 connected 1080x1920+3000+36 left (normal left inverted right x axis y
axis) 160mm x 90mm
  1920x1080    60.00*+  50.00    59.94
  1600x1200    60.00
  1680x1050    59.88
  1280x1024    60.02
  1280x960     60.00
  1280x720     60.00    50.00    59.94
  1024x768     60.00
  800x600      60.32
  720x480      60.00    59.94
  640x480      60.00    59.94
  720x400      70.08
DP-2-9 connected 1080x1920+0+0 left (normal left inverted right x axis y
axis) 160mm x 90mm
  1920x1080    60.00*+  50.00    59.94
  1280x720     60.00    50.00    59.94
  720x480      60.00    59.94
  640x480      60.00    59.94
```

Here, monitors are connected on DP-1, DP-2-8 and DP-2-9.

Calculate modeline for the resolution required:

```
cvt 1920 1200
# 1920x1200 59.88 Hz (CVT 2.30MA) hsync: 74.56 kHz; pclk: 193.25 MHz
```

```
Modeline "1920x1200_60.00" 193.25 1920 2056 2256 2592 1200 1203 1209 1245  
-hsync +vsync
```

It probably creates a 60Hz modeline, if other refresh rates are required, add the refresh rate:

```
cvt 1920 1200 50  
# 1920x1200 49.93 Hz (CVT 2.30MA) hsync: 61.82 kHz; pclk: 158.25 MHz  
Modeline "1920x1200_50.00" 158.25 1920 2040 2240 2560 1200 1203 1209 1238  
-hsync +vsync
```

Now add the relevant modes to xrandr:

```
xrandr --newmode "1920x1200_60.00" 193.25 1920 2056 2256 2592 1200 1203  
1209 1245 -hsync +vsync  
xrandr --newmode "1920x1200_50.00" 158.25 1920 2040 2240 2560 1200 1203  
1209 1238 -hsync +vsync
```

Lastly, add the mode to the relevant monitor:

```
xrandr --addmode DP-2-9 1920x1200_60.00  
xrandr --addmode DP-2-8 1920x1200_60.00  
  
xrandr --addmode DP-2-9 1920x1200_50.00  
xrandr --addmode DP-2-8 1920x1200_50.00
```

Switch to the modes and test.

Note that this is not permanent and after a reboot, the modelines do not exist any longer.

Add to rc.local / .profile or whatever best applies to your system.

This can be applied in lightdm:

</etc/lightdm/lightdm.conf.d/70-linuxmint.conf>

```
[SeatDefaults]  
user-session=cinnamon  
display-setup-script=xrandr --newmode "1920x1200_50.00" 158.25 1920  
2040 2240 2560 1200 1203 1209 1238 -hsync +vsync ;\  
xrandr --addmode DP-2-9 1920x1200_50.00 ;\  
xrandr --addmode DP-2-8 1920x1200_50.00 ;\  
xrandr --output DP-1 --primary --mode 1920x1200 --  
pos 1200x432 --rotate normal --output DP-2 --off --output HDMI-1 --off  
--output DP-2-8 --mode 1920x1200_50.00 --pos 3120x0 --rotate left --  
output DP-2-9 --mode 1920x1200_50.00 --pos 0x0 --rotate left
```

From:

<http://wuff.dyndns.org/> - **Wulf's Various Things**

Permanent link:

<http://wuff.dyndns.org/doku.php?id=linux:add-display-modelines&rev=1685357733>

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