

# Screen resolutions, dimensions and DPI

## General tips

The ultimate solution to ugly fonts is to use more pixels to draw them. That translates to using a larger nominal pixel size. when that has the effect of making fonts too big, more screen resolution is required at the same physical size. More pixels has a cubic effect, meaning it doesn't require much more in nominal size to have a big effect.

Sometimes in order to make all screen objects bigger, people use a lower screen resolution than the optimal one a screen supports. This has the opposite effect, making fonts spindly or otherwise ugly. IOW, if your screen supports 1920x1080 but you are using 1366x768, a switch to using 1920x1080 and an increase nominal font sizes in settings is required.

I keep screen DPI set to 120 on a 24" 1920x1200 screen. The combination of 24" and 1920x1200 calculates to a DPI of 94. The application of a logical DPI of 120 results in fonts big enough to see that are never ugly. A 12pt font @120 DPI uses ~200px per glyph, compared to ~128 used @96 DPI, >56% more at the same physical size. The screen can't actually produce that much resolution, but the effect of trying by the X server, with or without subpixel, hinting or anti-aliasing, works like magic.

## Envy

```
pvd@Envy:~> xrandr
Screen 0: minimum 320 x 200, current 1920 x 1080, maximum 16384 x 16384
eDP-1 connected primary 1920x1080+0+0 (normal left inverted right x axis y axis) 344mm x 194mm
    1920x1080    60.00*+  40.00
DP-1 disconnected (normal left inverted right x axis y axis)
DP-2 disconnected (normal left inverted right x axis y axis)
HDMI-1 disconnected (normal left inverted right x axis y axis)
```

DPI=140,093023256

of

# lesie

```

sietske@lesie:~> xrandr
Screen 0: minimum 320 x 200, current 1920 x 1080, maximum 8192 x 8192
eDP-1 connected primary 1920x1080+0+0 (normal left inverted right x axis y axis) 344mm x 194mm
    1920x1080    60.03*+  60.01   59.97   59.96   59.93

DISPLAY: 15.6", Full HD (1920 x 1080), IPS
Diagonal    15.6"
Pixel density 141.21 ppi
Panel Type  IPS
Resolution  1920 x 1080
Becomes "Retina" from 24 inches (62 cm)

```

# HP elitebook 8570p

```

Horizontal pixels: 1600
Vertical pixels: 900
Diagonal size (inches): 15,77

Pixels per Inch    PPI:    116.41
Dot Pitch:        0.22
Screen Width:     13.74
Screen Height:    7.73

pvdm@lapx:~> xrandr
Screen 0: minimum 320 x 200, current 1600 x 900, maximum 16384 x 16384
LVDS connected primary 1600x900+0+0 (normal left inverted right x axis y axis) 345mm x 194mm
    1600x900    60.0*+  40.0
    1440x900    59.9
    1280x854    59.9
    1280x800    59.8
    1280x720    59.9

```

1152x768	59.8
1024x768	59.9
800x600	59.9
848x480	59.7
720x480	59.7
640x480	59.4

# samsung rv720 bla

```
samsie:~ # xrandr
```

```
Screen 0: minimum 320 x 200, current 1600 x 900, maximum 16384 x 16384
```

```
LVDS connected primary 1600x900+0+0 (normal left inverted right x axis y axis) 345mm x 194mm
```

1600x900	60.03*+ 40.02
1440x900	59.89
1280x854	59.89
1280x800	59.81
1280x720	59.86
1152x768	59.78
1024x768	59.92
800x600	59.86
848x480	59.66
720x480	59.71
640x480	59.38

116 DPI PvdM

# tabel

resolutie	Dichtheid
7" 15:9 15,3x9,15	
800x480	133
8,9" 16:9 19,55x11,45	
1024x600	133
10,2" 16:9 22,3x13,05	
1024x600	117
10,6" 15:9 23,1x13,8	
1280x768	141
11,1" 16:9 24,9x13,8	

1366x768	141
12" 4:3 24,7x18,5	
1024x768	105
1400x1050	144
12,1" 16:10 26,1x16,3	
1280x800	125
1440x900	140
13" 16:9 29x16,35	
1366x768	120
1600x900	140
13.1" 16:10 28,5x17,9	
1280x800	114
1440x900	128
14" 4:3 28,5x21,4	
1024x768	91
1400x1050	125
14,1" 16:10 30,4x19	
1280x800	107
1440x900	120
15" 4:3 30,4x22,8	
1024x768	86
1400x1050	117
1600x1200	134
15,4" 16:10 33,15x20,82	
1280x800	98
1440x900	110
1680x1050	129
1920x1200	147
16" 16:9 35,3x19,9	
1366x768	98
1920x1080	138
16,4" 16:9 36,3x20,4	
1600x900	112
1920x1080	134
17,1" 16:10 36,8x23	
1440x900	98
1680x1050	116
1920x1200	133
18,4" 16:9 40,9x23	
1680x945	104
1920x1080	119

19" 16:10 41x25,6	
1440x900	89
20" 16:10 43,4x27,1	
1680x1050	98

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Revision #3

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