

# Intel 830M/845G/852GM/855GM/865G/915G/945G Framebuffer driver

## A. Introduction

This is a framebuffer driver for various Intel 8xx/9xx compatible graphics devices. These would include:

- Intel 830M
- Intel 845G
- Intel 852GM
- Intel 855GM
- Intel 865G
- Intel 915G
- Intel 915GM
- Intel 945G
- Intel 945GM
- Intel 945GME
- Intel 965G
- Intel 965GM

## B. List of available options

- "video=intelfb"  
enables the intelfb driver  
Recommendation: required
- "mode=<xres>x<yres>[-<bpp>][@<refresh>]"  
select mode  
Recommendation: user preference (default = 1024x768-32@70)
- "vram=<value>"  
select amount of system RAM in MB to allocate for the video memory if not enough RAM was already allocated by the BIOS.  
Recommendation: 1 - 4 MB. (default = 4 MB)
- "voffset=<value>"  
select at what offset in MB of the logical memory to allocate the framebuffer memory. The intent is to avoid the memory blocks used by standard graphics applications (XFree86). Depending on your usage, adjust the value up or down, (0 for maximum usage, 63/127 MB for the least amount). Note, an arbitrary setting may conflict with XFree86.  
Recommendation: do not set (default = 48 MB)
- "accel"  
enable text acceleration. This can be enabled/reenabled anytime by using 'fbset -accel true/false'.  
Recommendation: enable (default = set)
- "hwcursor"  
enable cursor acceleration.  
Recommendation: enable (default = set)
- "mtrr"  
enable MTRR. This allows data transfers to the framebuffer memory to occur in bursts which can significantly increase performance. Not very helpful with the intel chips because of 'shared memory'.  
Recommendation: set (default = set)
- "fixed"  
disable mode switching.  
Recommendation: do not set (default = not set)

The binary parameters can be unset with a "no" prefix, example "noaccel". The default parameter (not named) is the mode.

## C. Kernel booting

Separate each option/option-pair by commas (,) and the option from its value with an equals sign (=) as in the following:

```
video=intelfb:option1,option2=value2
```

### Sample Usage

In `/etc/lilo.conf`, add the line:

```
append="video=intelfb:mode=800x600-32@75,accel,hwcursor,vram=8"
```

This will initialize the framebuffer to 800x600 at 32bpp and 75Hz. The framebuffer will use 8 MB of System RAM. hw acceleration of text and cursor will be enabled.

### Remarks

If setting this parameter doesn't work (you stay in a 80x25 text-mode), you might need to set the `"vga=<mode>"` parameter too - see `vesafb.txt` in this directory.

## D. Module options

The module parameters are essentially similar to the kernel parameters. The main difference is that you need to include a Boolean value (1 for TRUE, and 0 for FALSE) for those options which don't need a value.

Example, to enable MTRR, include `"mtrr=1"`.

### Sample Usage

Using the same setup as described above, load the module like this:

```
modprobe intelfb mode=800x600-32@75 vram=8 accel=1 hwcursor=1
```

Or just add the following to a configuration file in `/etc/modprobe.d/`:

```
options intelfb mode=800x600-32@75 vram=8 accel=1 hwcursor=1
```

and just do a:

```
modprobe intelfb
```

## E. Acknowledgment:

1. Geert Uytterhoeven - his excellent howto and the virtual framebuffer driver code made this possible.
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6. Andrew Morton for his kernel patches maintenance.

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