

# Frame Buffer Library

The frame buffer drivers depend heavily on four data structures. These structures are declared in `include/linux/fb.h`. They are `fb_info`, `fb_var_screeninfo`, `fb_fix_screeninfo` and `fb_monospecs`. The last three can be made available to and from userland.

`fb_info` defines the current state of a particular video card. Inside `fb_info`, there exists a `fb_ops` structure which is a collection of needed functions to make `fbdev` and `fbcon` work. `fb_info` is only visible to the kernel.

`fb_var_screeninfo` is used to describe the features of a video card that are user defined. With `fb_var_screeninfo`, things such as depth and the resolution may be defined.

The next structure is `fb_fix_screeninfo`. This defines the properties of a card that are created when a mode is set and can't be changed otherwise. A good example of this is the start of the frame buffer memory. This "locks" the address of the frame buffer memory, so that it cannot be changed or moved.

The last structure is `fb_monospecs`. In the old API, there was little importance for `fb_monospecs`. This allowed for forbidden things such as setting a mode of 800x600 on a fix frequency monitor. With the new API, `fb_monospecs` prevents such things, and if used correctly, can prevent a monitor from being cooked. `fb_monospecs` will not be useful until kernels 2.5.x.

## Frame Buffer Memory

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\driver-api\linux-master) (Documentation) (driver-api) frame-buffer.rst, line 34)**

Unknown directive type "kernel-doc".

```
.. kernel-doc:: drivers/video/fbdev/core/fbmem.c
   :export:
```

## Frame Buffer Colormap

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\driver-api\linux-master) (Documentation) (driver-api) frame-buffer.rst, line 40)**

Unknown directive type "kernel-doc".

```
.. kernel-doc:: drivers/video/fbdev/core/fbcpmap.c
   :export:
```

## Frame Buffer Video Mode Database

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\driver-api\linux-master) (Documentation) (driver-api) frame-buffer.rst, line 46)**

Unknown directive type "kernel-doc".

```
.. kernel-doc:: drivers/video/fbdev/core/modedb.c
   :internal:
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\driver-api\linux-master) (Documentation) (driver-api) frame-buffer.rst, line 49)**

Unknown directive type "kernel-doc".

```
.. kernel-doc:: drivers/video/fbdev/core/modedb.c
   :export:
```

## Frame Buffer Macintosh Video Mode Database

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\driver-api\linux-master) (Documentation) (driver-api) frame-buffer.rst, line 55)**

Unknown directive type "kernel-doc".

```
.. kernel-doc:: drivers/video/fbdev/macmodes.c
   :export:
```

## Frame Buffer Fonts

Refer to the file lib/fonts/fonts.c for more information.