

This chapter describes how to change the display resolution on the SX Frame Buffer (cgfourteen). If you want to run OpenWindows on a SPARCstation 10SX system or a SPARCstation 20 system, you may need to perform additional configuration tasks after the initial installation.

You can use the `/usr/kvm/cg14config` utility to:

- Specify a different screen resolution.
- Change the values in the gamma lookup table.

For more information, see the `cg14config` man page.

SX Supported Monitors

Table 4-1 lists the monitors supported by the SX Frame Buffer and the alternate screen resolutions, if any, that each monitor supports.

Table 4-1 Monitors Supported by SX

Model	Sun Part Number	Type and Size	Monitor ID Sense Code	Supported Resolution and Refresh Rate
GDM-20D10	365-1167-01	Color 20"	4	1152 × 900 at 76 Hz 1280 × 1024 at 67 Hz 1280 × 1024 at 76 Hz 1152 × 900 at 66 Hz
GDM-1955A15	365-1081-01	Color 19"	3	1152 × 900 at 66 Hz
GDM-1962	365-1095-01	Color 19"	4	1152 × 900 at 76 Hz 1280 × 1024 at 67 Hz 1152 × 900 at 66 Hz
GDM-1962B	365-1160-01	Color 19"	4	1152 × 900 at 76 Hz 1280 × 1024 at 67 Hz 1152 × 900 at 66 Hz
GDM-1604A15	365-1079-01	Color 16"	3	1152 × 900 at 66 Hz
GDM-1662B	365-1159-01	Color 16"	6	1152 × 900 at 76 Hz 1152 × 900 at 66 Hz 1280 × 1024 at 67 Hz
CPD-1790	365-1151-01	Color 16"	3	1152 × 900 at 66 Hz 1024 × 768 at 76 Hz
GDM-20S5	365-1168-01	Grayscale 20"	2 or 4*	1280 × 1024 at 67 Hz 1152 × 900 at 76 Hz
17SMM4 A	365-1100-01	Grayscale 17"	6	1152 × 900 at 76 Hz
Non-Sun	--	Unknown	7	1152 × 900 at 66 Hz

Resolutions in **bold type** are the default resolution at power-on initialization.

* Monitor ID sense code is user-selectable by switch on rear.

Default Screen Resolutions

Table 4-2 lists the default screen resolutions by monitor ID sense code.

Table 4-2 SX Frame Buffer Monitor Sense Codes

Code	Screen Resolution
7	1152 × 900 at 66 Hz
6	1152 × 900 at 76 Hz
5	1024 × 768 at 60 Hz
4	1152 × 900 at 76 Hz
3	1152 × 900 at 66 Hz
2	1280 × 1024 at 76 Hz*
1	1600 × 1280 at 76 Hz*
0	1024 × 768 at 60 Hz

* The 4-Mbyte VSIMM drops to 8 bits per pixel at these resolutions.

Changing the Screen Resolution

To change the screen resolution, use the `cg14config` command with the following format:

```
# /usr/kvm/cg14config -d device -r resolution
```

where

device is the cgfourteen device to configure. The default is `/dev/fb`.
resolution is one of the values listed in Table 4-3.

Table 4-3 SX Supported Screen Resolutions

resolution	Screen Resolution
1600x1280@66	1600 × 1280 at 66 Hz
1280x1024@66	1280 × 1024 at 66 Hz
1152x900@66	1152 × 900 at 66 Hz
1152x900@76	1152 × 900 at 76 Hz
1024x800@84	1024 × 800 at 84 Hz
1024x768@70	1024 × 768 at 70 Hz
1024x768@66	1024 × 768 at 66 Hz
1024x768@60	1024 × 768 at 60 Hz

For example, to change the screen resolution to 1280 × 1024 at 66 Hz, enter:

```
# /usr/kvm/cg14config -d /dev/fb -r 1280x1024@66
```

Changing the Pixel Depth

After starting OpenWindows, the window server configures the SX Frame Buffer to support the maximum pixel depth for the screen resolution and frame buffer memory size that you selected. Typically, 32 bits are allocated to each display pixel. But, on the 4-megabyte SX frame buffer, you can increase the screen resolution by choosing a depth of 16 bits per pixel, with some loss of features.

Any frame buffer memory not visible on the monitor display is available to the window server for storing pixmaps. If you want to maximize the amount of off-screen pixmap storage available for your applications, you may need to add the line

```
pixelmode="8"
```

to the `cg14` frame buffer entry in the `/usr/openwin/server/etc/OWconfig` file. This forces the window server to initialize the SX Frame Buffer at 16 bits per pixel, regardless of the frame buffer memory size. Table 4-4 summarizes the available features at the 16-bit and 32-bit pixel depths.

Table 4-4 SX Frame Buffer Visuals and Double-buffering

Underlay Visuals	32-bit	16-bit
24-bit TrueColor	Yes	No
8-bit PseudoColor	Yes	Yes
8-bit StaticColor	Yes	Yes
8-bit Greyscale	Yes	Yes
8-bit StaticGrey	Yes	Yes
8-bit TrueColor	Yes	Yes
8-bit DirectColor	Yes	Yes
Overlay Visuals		
8-bit PseudoColor	Yes	Yes
Double Buffering		
24-bit pixmaps	Software	No
8-bit pixmaps	Hardware	Software

Note: Overlay visuals are limited to 230 colors.

To support the addition of overlay visuals in Solaris 2.4, the minimum SX Frame Buffer depth has been increased from 8 bits to 16 bits per pixel. If you are using `pixelmode="8"` and also upgrading from the Solaris 2.3 to Solaris 2.4 software environment, you may notice some performance degradation of some of the Xlib functions in OpenWindows.