Video Driver Update 1 Guide for Solaris 2.6 (Intel Platform Edition)

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Contents

Preface

This document provides information about x86 video devices that are now supported in the Solaris™ 2.6 computing environment. Refer to *Driver Update Guide for Solaris 2.6 (Intel Platform Edition*), supplied with Driver Update 1 for Solaris 2.6 *Intel Platform Edition*, for information about support for other devices—SCSI host bus adapters and network adapters, for example.

Typically, as new video drivers become available, they are bundled with releases on separate Video Driver Update diskettes. You can use the Video Driver Update diskettes to update your installed Solaris 2.6 system with new video drivers.

Note - The term "x86" refers to the Intel 8086 family of microprocessor chips, including the Pentium and Pentium Pro processors and compatible microprocessor chips made by AMD and Cyrix. In this document the term "x86" refers to the overall platform architecture, whereas "*Intel Platform Edition*" appears in the product name.

Before You Read This Book

This document contains additional device configuration information for supported hardware. The importance of configuring your hardware prior to installing Solaris software is discussed in the Configuring Devices module in *Information Library for Solaris 2.6 (Intel Platform Edition)*, part of Solaris 2.6 System Administrator Collection Vol 1 at `http://docs.sun.com`. This document assumes you have fully read and understood that module.

Likewise, the installation instructions in this Video Driver Update supplement the instructions in *Solaris Advanced Installation Guide.*

How This Book Is Organized

Chapter 1 describes what is new in this release.

Chapter 2 provides information about the contents, known problems, and installation instructions for this Video Driver Update.

Ordering Sun Documents

The SunDocs[SM] program provides over 250 manuals from Sun Microsystems, Inc. If you live in the U.S., Canada, Europe, or Japan, you can purchase documentation sets or individual manuals using this program.

For a list of documents and ordering information, see the catalog section of SunExpress[TM] On The Internet at `http://www.sun.com/sunexpress`.

Accessing Sun Documentation Online

The `docs.sun.com` Web site enables you to access Sun technical documentation online. You can browse the `docs.sun.com` archive or search for a specific book title or subject. The URL is `http://docs.sun.com`.

How to Obtain Technical Support

To obtain technical support:

- Contact your Sun Software Support Provider.
- In North America, you can also call 1-800-SUNSOFT and choose option 4.

CHAPTER 1

What's New in Video Driver Update 1

Video Driver Update 1 adds new support for Solaris 2.6 *Intel Platform Edition* video display adapters and notebooks. It must be used with Solaris 2.6 *Intel Platform Edition*.

This chapter provides a brief description of what's new in this Video Driver Update. A complete list of the contents, release notes, known problems, and installation instructions for all the video display support included in this release can be found in Chapter 2.

New Video Display Adapter Support

Table 1–1 contains a list of the new video display adapters supported in Solaris 2.6 *Intel Platform Edition* Video Driver Update 1.

While this table includes the resolution and color depth capabilities of each adapter, note that the resolution and color depth you select are also dependent on the capabilities of your monitor and the amount of video memory on the card. See the Configuring Devices module in *Information Library for Solaris 2.6 (Intel Platform Edition)* for more information.

TABLE 1–1 New Video Display Adapters Supported in This Video Driver Update

Vendor	Model	Bus	Chipset[1]	Resolution and Color Depth									
				800x600		1024x768		1152x900		1280x1024		1600x1200	
				8	24	8	24	8	24	8	24	8	24
ATI	All-in-Wonder	PCI	ATI Mach64GU (3D RAGE II+)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	3D Pro Turbo PC2TV	PCI	ATI Mach64GU (3D RAGE II+)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Mach64GU (3D RAGE II+) [2]	PCI	ATI Mach64GU (3D RAGE II+)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Cirrus Logic	5480 chipset[2]	PCI	GD5480	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Matrox	Millennium 220	PCI	MGA2064W–R3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium II	PCI	MGA2164W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
STB	Nitro 3D	PCI	ViRGE/GX (86C385)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Nitro 64 Video	PCI	Cirrus Logic GD5446	✓	✓	✓		✓		✓			
	Powergraph 64 3D	PCI	S3 ViRGE (86C325)	✓	✓	✓		✓		✓		✓	

1. The information in the chipset column does not guarantee that video boards made by another manufacturer using the same chipset will work. Only the specific models listed by Vendor, Model, Bus, and Chipset have been tested.
2. SunSoft does not guarantee that every video card with this chipset will work, but it is possible that your model will be one of a large number that can be used successfully.

New Notebook Support

Table 1–2 lists the new notebook displays supported in Solaris 2.6 *Intel Platform Edition* Video Driver Update 1.

TABLE 1–2 New Notebook Displays Supported in This Video Driver Update

Notebook Display Video Support										
			Resolution and Color Depth E=With External Monitor I=With Internal Monitor							
			640x480		**800x600**		**1024x768**		**1280x1024**	
Vendor	**Model**	**Chipset**	**8**	**24**	**8**	**24**	**8**	**24**	**8**	**24**
Toshiba	Satellite 200CDS	Chips&Technology 65550			E,I		E		E	
	Satellite 220CDS	Chips&Technology 65554			E,I		E		E	
	Tecra 530CDT	Chips&Technology 65555					E,I		E	

See “Notebook Support” on page 5 for important information on configuring your notebook.

Modified Video Driver Update Distribution and Installation Instructions

The Solaris 2.6 *Intel Platform Edition* Video Driver Update is distributed as a DOS diskette image.

Video Driver Update Diskette

The contents of the diskette are discussed in Chapter 2.

For a complete list of the known problems that are fixed in this Video Driver Update, see the `README` file that gets installed in the patch directory `/var/sadm/patch/`<*patch-number*>, where <*patch-number*> for Solaris 2.6 *Intel Platform Edition* Video Driver Update 1 is one of the patch numbers listed in the next section.

Patch Structure in This Release

In Video Driver Update 1, there are six different patches, each associated with a particular driver.

105191-01 (`v-ati`)
105192-01 (`v-cirrus`)
105193-01 (`v-ct55x`)
105194-01 (`v-s3`)
105195-01 (`v-matrox`)
105200-01 (`v-common`)

After installing this Video Driver Update as described in Chapter 2, at the system prompt, type:

```
% pkgparam SUNWxwpls TOPDRVLIST
```

This will provide a sorted list showing all video drivers installed on the system as well as the current version number of each.

CHAPTER 2

Video Driver Update 1 for Solaris 2.6 (Intel Platform Edition)

This chapter contains a brief description of the video and notebook support included in this Video Driver Update, followed by release notes, known problems, and installation instructions. Read the entire chapter once before installing the Video Driver Update.

Video Driver Update Contents

This release contains one diskette labeled Solaris 2.6 Video Driver Update 1 Diskette . The release should be used on Solaris 2.6 *Intel Platform Edition* systems only.

Video Display Adapter Support

For new display adapter support added in this Video Driver Update, see “New Video Display Adapter Support” on page 1.

Notebook Support

For notebook support added in this Video Driver Update, see “New Notebook Support” on page 3.

Note - When running a Solaris 2.6 window system on most newer notebooks, the resolution to use for the internal notebook display will be automatically determined. However, you must still run `kdmconfig` to configure the notebook as well as the characteristics of a possible external display. In `kdmconfig`, you should select the Monitor Type, Screen Size, and Resolution / Colors entries that apply to your external display. If you do not plan to use an external display, select one of the Notebook entries as your Monitor. The window system software will automatically switch between the available resolution for your internal notebook display and the configured resolution for the external monitor.

If you have an older notebook for which the resolution of the display is not automatically determined, the resolution selected by `kdmconfig` will be used on both internal and external displays. On these notebooks, make sure you don't select a resolution that is higher than the internal display supports, because this may damage the display.

Video Driver Update Release Notes

- If your video adapter is not included in the list of supported adapters, make a note of its graphics chip (engine). If you can find an entry for another adapter with this graphics chip, this support may work for your video adapter.
- This Video Driver Update also includes software fixes to some known problems. For a list of the known problems that are fixed in this Video Driver Update, see the `README` file that gets installed in the patch directory `/var/sadm/patch/`<*patch-number*>.

Known Problems

- (4076832) On boards using the Cirrus Logic GD5480 at 1280x1024 resolution with 24–bit color depth, moving windows aound may cause the X Server to crash.

  Workaround: Select a different resolution..

- (4074595) Boards using ATI 3D RAGE II+ chips may display background vertical noise lines at certain resolutions and refresh rates.

  Workaround: Select a different resolution or refresh rate.

- (4033255) Boards using S3 ViRGE/VX (86C988) chips are not able to switch from 24-bit color depth resolutions to 8-bit color depth resolutions without rebooting.
- (4023063) The display at resolution 800x600 on the Intel TMI/IPG system is not correct. In a window system environment, the right edge of the screen appears to have synchronization problems.
- (4023057) `XSun` core dumps when attempting to display raster files. Using Image Tool to display raster files on the Intel TMI/IPG system using the WD9031A-based video adapter fails.

  Workaround: Use the program `xv`.
- (1250528) Onboard mouse configuration for the Dell Latitude XPi 75D notebook computer will fail due to interrupt conflicts with the `pcic` driver.

  Workaround: Edit `/kernel/drv/pcic.conf` and remove IRQ 12 from the `res-irq` line as shown below. Change:

```
res-irq=3,5,9,11,12,15
```

  to:

```
res-irq=3,5,9,11,15
```

  Run `kdmconfig` to reconfigure the mouse.
- (1192967) Due to hardware conflicts on some VESA local bus (VLB) systems, the Diamond Viper Pro VLB card may not function when configured at the default memory address (0xA0000000). If you see a blank screen and your system appears hung after starting window system software, do the following:

1. **Reboot your system.**
2. **Run the `kdmconfig` program and choose a different memory address from the Memory Address screen. The three possible choices are: 0x20000000, 0x80000000, or 0xA0000000.**
3. **Restart the window system software.**

   Follow these steps for each address until your system works correctly.

- (1179340) Using the Intel Professional GX High Resolution system in 1280x1024 with 256 colors mode and an 80-kHz monitor causes problems when returning to text mode after exiting the window system. The foreground color is set to purple; the background color is set to blue.

  Workaround: Select either a different resolution or a different monitor frequency when configuring the window system.
- (1179339) The ATI Graphics Ultra Pro VLB video card with a Mach32 graphics chip, a TI68875 BFN RAMDAC, and 2 Mbytes of DRAM may not

work properly if the “ATI Graphic Ultra Pro (2MB)” entry is selected when configuring the window system. Vertical bars get displayed on the screen.

Workaround: If you have this version of the card, choose the “ATI Graphic Ultra Pro (1MB)” entry when configuring the window system, but note that you will not be able to use a resolution of 1280x1024. Note also that the ATI Graphics Ultra Pro VLB video card with VRAM does not have this problem.

- (1173773) After running `xlock`, there may be a white border around the screen on systems with video cards that use the Tseng Labs W32p chipset. This border disappears after the screen is unlocked.
- (1176285) Programs that use the Solaris™ PEX™ extension may fail if a user’s `XGLHOME` variable is set incorrectly. If the `XGLHOME` shell environment variable points to a nonexistent path (or one that doesn’t contain the XGL™ runtime binaries), then any program that uses the Solaris PEX extension (including XGL programs on most display adapters) will cause the server to abort.

  Workaround: Be careful when setting `XGLHOME` prior to starting the window system. Before you start the window system, make sure your `XGLHOME` environment variable is not set or that it points to a valid path for the system you are using.
- (1161494) Under the Solaris operating environment, the Diamond Viper video card based on the P9000 chipset is not compatible with a motherboard that has a Symphony chipset. This combination may cause the system to panic or reboot. If the Symphony chipset is present on the motherboard, do not use the Diamond Viper video card.
- Video adapters based on the Cirrus Logic 5424 chipset with 512-Kbyte DRAM may not perform well in 800x600x256 mode in a window system environment, particularly if the selected monitor refresh rate is 60 Hz or higher. This is a hardware limitation. To obtain the best performance in 800x600x256 mode, choose the “Multifrequency–38kHz” monitor type when configuring the window system.
- The VLB versions of the Diamond Viper and Diamond Viper Pro adapters do not work on some systems that have both PCI and VESA local bus support on the motherboard. The window system will fail with an error message when you attempt to start it. The Solaris software expects a PCI version of the Diamond Viper boards if the system supports PCI.

  Workaround: Use a PCI version of the Diamond Viper adapters on those systems that support both bus types.
- The VLB version of the Diamond Viper SE adapter is not supported in this release.
- Some versions of the Orchid Kelvin 64 VLB video card have memory addressing limitations that may cause problems if your system contains 32 Mbytes or more of RAM. A newer revision of this board addresses these

problems. Unfortunately, there is no distinction made between revisions of this card. If your system has 32 Mbytes or more of RAM and you observe symptoms such as a fuzzy display or random vertical lines when using the window system, contact Orchid Technology to request a newer version of this card.

- The Number Nine Imagine 128, the #9GXE64, and #9GXE64 Pro video cards do not support interlaced mode. Configuring the window system using a monitor type of "MultiFrequency-38kHz (up to 1024x768 interlaced)" or "MultiFrequency-56kHz (up to 1280x1024 interlaced)" will cause the window system to fail.

  Workaround: Use a monitor that can support 1024x768 or 1280x1024 in non-interlaced mode.

The following problems apply only to 24-bit depth color:

- (1174561) The STB LIGHTSPEED VL video card used in 800x600 resolution, 24-bit color mode, does not work properly with the Sony CPD 1604S monitor.

  Workaround: Do not use this particular monitor type at that resolution and color depth.

- (1173985) Icon Editor dies when saving a 24-bit image to a file.

- Wabi™ will not run under 24-bit depth mode.

- The IslandPaint application does not work properly under 24-bit mode. All of the button icons on the left side of the window are either missing images or display incorrect ones.

Installing the Video Driver Update

The contents of the Video Driver Update diskette are installed as patches on your Solaris 2.6 *Intel Platform Edition* system. To do this, you must already have the Solaris 2.6 *Intel Platform Edition* Driver Update installed and running on your system.

In Video Driver Update 1, there are six patches, each associated with a particular driver:

105191-01 (`v-ati`)
105192-01 (`v-cirrus`)
105193-01 (`v-ct55x`)
105194-01(`v-s3`)
105195-01(`v-matrox`)
105200-01(`v-common`)

After installing this Video Driver Update as described in this chapter, at the system prompt, you may type:

```
% pkgparam SUNWxwpls TOPDRVLIST
```

to see a sorted list showing all video drivers installed on the system as well as the current version number of each.

Note - If you are installing Solaris 2.6 *Intel Platform Edition* software on a system that contains one of the video display adapters listed in Table 1-1 or on a notebook listed in Table 1-2, your video display adapter or notebook will not be supported during the installation. When you get to the point in the Solaris installation when the `kdmconfig - Introduction` screen appears, press F4_Bypass to skip the window system configuration at this time. Skipping the configuration allows you to install with a non-window-system interface. Toward the end of the installation, you will be given the opportunity to install the Video Driver Update. When you reboot the machine following the installation, `kdmconfig` will be run again, and you can configure your display adapter or notebook at this time.

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1. **Exit your window system to install the Video Driver Update. If you are running the Common Desktop Environment (CDE), exit it and use Options to start a Command Line Login. If you are running the OpenWindows environment, exit it.**
2. **Become root.**
3. **Type** `ps -ef | grep vold` **to see if the Volume Management software is running on the machine you are updating.**

   For more information about managing diskettes and drives, see *System Administration Guide*.
4. **If Volume Management is running, temporarily stop it:**

   ```
   # /etc/init.d/volmgt stop
   ```

5. **If you obtained the Video Driver Update file** `du1vid1.bin` **from an online source, you must transfer it to diskette. Insert a writable diskette into your diskette drive and type:**

   ```
   # dd if=du1vid1.bin of=/dev/rdiskette bs=10240
   ```

   After the copy completes, you should see the messages:

```
144+0 records in
144+0 records out
 #
```

6. **Insert Solaris 2.6 Video Driver Update 1 Diskette into the diskette drive.**

7. **Mount Solaris 2.6 Video Driver Update 1 Diskette at the `/mnt` mount point:**

```
# mount -F pcfs /dev/diskette /mnt
```

Note - You must mount Solaris 2.6 Video Driver Update 1 Diskette at this point in the file structure to update your system successfully.

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8. **Execute the install script on the diskette by typing:**

```
# /mnt/DU/sol_26/i86pc/Tools/install.sh -i
```

   The `install.sh` script searches for all new drivers on the diskette. When a new driver is found, the following prompt is displayed:

```
Install patch driver-name? [y]
```

9. **If the driver is the one you want to install, at the prompt, type `y` for yes or press Enter. If the driver is not the one you want to install, type `n` or no.**

   If you specify yes, the `install.sh` script installs the driver you indicated.

Note - Whenever the driver `v-common` is available in a Video Driver Update, you should always install it.

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10. **When you're done and the `install.sh` script exits, unmount the diskette by typing the following command at the system prompt:**

```
# umount /mnt
```

11. **Remove Solaris 2.6 Video Driver Update 1 Diskette from the diskette drive.**

12. **If Volume Management was turned off in** Step 4 on page 10**, you may turn it on again.**

```
# /etc/init.d/volmgt start
```

13. **Configure the window system.**

    After the Video Driver Update software has been installed, you should reconfigure the window system.

14. **Type**:

```
# kdmconfig
```

    `kdmconfig` attempts to identify your video device, monitor, keyboard, and pointing device. The identification may be incorrect in some cases, so you should verify each selection. `kdmconfig` will give you an opportunity to change each of these selections, as well as the desired resolution and color depth. After the selections are made, `kdmconfig` will allow you to test the selected configuration by displaying a sample screen.

15. **When you are satisfied with the configuration, click the Yes button on the sample screen to save the configuration and exit** `kdmconfig`**.**

16. **End your root login session and restart the CDE or OpenWindows environment.**