Installing Version 1 of the Number 9 GXE64Pro Display Adapter Device Driver for NEXTSTEP Release 3.2 for Intel Processors

These instructions show you how to install version 1 of   the Number 9 GXE64Pro display adapter device driver on an Intel-based computer running NEXTSTEP™ Release 3.2. The driver is distributed in an Installer package file named **Number9GXE64ProDisplayDriver.pkg**.

This new graphics driver supports the PCI version of the Number 9 GXE64Pro display adapters from Number Nine Corp.   These adapters are based on the S3-964 graphics controller chipset and support 2MB or 4 MB of VRAM.   This driver supports three configurations in the following display modes, including 1600x1200 in 16-bit color.

Note: This driver does not support the Number 9 GXE64 adapter series which are based on the S3-864 chipset and use DRAM instead of VRAM.

Caution: NeXT engineers have observed display anomolies such as waviness and snow using this driver with some Number 9 GXEPro display adapters in

SoftPC full-screen mode, generally after switching to SoftPC full-screen mode multiple times.   As an interim solution, power off and reboot your computer each time you invoke SoftPC.   In addition, in 1600x1200 mode if you move the cursor to the left edge of the display, you may notice a shaded bar across the width of the display. If you notice other display anomolies, please contact bug_next@next.com.

Number 9 GXE64Pro Display Adapter Display Modes
2 MB VRAM Lo-res

8-bit Grayscale	**16-bit Color**	**32-bit Color**
800x600	800x600	600x480
60 or 76 Hz	60 or 76 Hz	60 or 76 Hz
1024x768	1024x768	800x600
60 or 76 Hz	60 or 76 Hz	60 or 76 Hz

If you are using a high resolution display, the device driver supports the

following additional display modes.

Number 9 GXE64Pro Display Adapter Display Modes
2 MB VRAM Hi-res

8-bit Grayscale	16-bit Color	32-bit Color
1152x864 60 or 76 Hz	1152x864 60 or 76 Hz	
1280x1024 60 or 76 Hz		
1600x1200 60 Hz		

If your display adapter has 4 megabytes of VRAM, the device driver supports the following additional display modes.

Number 9 GXE64Pro Display Adapter Display Modes
4 MB VRAM

8-bit Grayscale	16-bit Color	32-bit Color
	1280x1024 60 or 76 Hz	1024x768 60 or 76 Hz
	1600x1200 60 Hz	1152x864 60 or 76 Hz

Warning: Some vendors claim that you can use their display adapters at display modes with resolutions and refresh rates that exceed what their RAMDACs can support. You can permanently damage your display adapter and computer by doing this. Read the owner's guide that comes with your display adapter or contact its manufacturer to ensure that your adapter's RAMDAC can support the display mode you set in Configure.

Supported Displays

NeXT designs and tests its display adapter device drivers using very high frequency displays that can support display modes with very high resolutions and non-interlaced refresh rates, such as the NEC 5FG, NEC 6FG, and Nokia Multigraph 445X. Read the owner's guide that comes with your display to ensure it can support the display mode you set in Configure.

Installing the Device Driver

1. If you received the **Number9GXE64ProDisplayDriver.pkg** file via NeXTmail™ or another electronic source, place a copy of the file in a location where you can access it when you log in as **root**.
2. Log in as **root**.
   Only the superuser, **root**, can install the device driver. If you're not sure how to log in as **root**, see your system administrator.
3. If you received the **Number9GXE64ProDisplayDriver.pkg** file on a floppy disk, insert the disk in the floppy disk drive and choose Check for Disks from the Workspace Manager™ application's Disk menu. When the disk icon appears in the File Viewer, double-click it to open it.

Note: Make sure Configure isn't running while you install the **Number9GXE64ProDisplayDriver.pkg** package. Otherwise the drivers you add may not appear in Configure's Add Display Devices panel.

4. Double-click the **Number9GXE64ProDisplayDriver.pkg** file.
5. Click the Install button in the Installer package window. When the panel asks you to confirm that you want to install software for Intel-based computers, click Install.
6. When the installation is complete, choose Quit from the Installer menu.
7. Start up the Configure application by double-clicking **Configure.app** (it's in **/NextAdmin**).
8. Click the Display icon at the top of Configure's Summary window. Your current adapter appears in the list at the top of Configure's Display Devices window. If the current adapter is the Default VGA Adapter, then skip the next section and continue following steps in the section "Configuring the Number 9 GXE64Pro Display Adapter." If the existing adapter is anything other than Default VGA, then continue by following the steps in the next section "Replacing an Existing Display Adapter."

Replacing an Existing Display Adapter

1. Click the Display icon at the top of Configure's Summary window. The current adapter appears as the only name in the list at the top of Configure's Display Devices window.
2. Select the current adapter in the list and click Remove.
3. Click Add.
4. In the Add Display Devices panel, click Default VGA Adapter and click Add.
5. Choose Save from Configure's Configuration menu and choose Quit.
6. Log out, turn off your computer, replace the existing display adapter with the Number 9 GXE64Pro display adapter, and then start up the computer and log in again as **root**.

Configuring the Number 9 GXE64Pro Display Adapter

1. If it's not already running, start up the Configure application.
2. Click the Display icon at the top of Configure's Summary window. The current adapter name should be Default VGA Adapter.

3. Select the Default VGA Adapter and click Remove.

Caution: Because of a known bug in Configure, at this point you have to click save, ignore the warning that there is no display adapter chosen, quit, then restart Configure, and click the display icon.   Now continue to step 4.

4. Click Add.

5. Select the 2 megabyte or 4 megabyte model of Number 9 GXE64Pro display adapter (whichever matches the display adapter in your computer) in the Add Display Devices panel. Then click Add.

6. Click Select in the Display Mode area of the Display Devices window, and in the Select Display Mode panel, select the combination of color, resolution, and refresh rate appropriate for your adapter and display (for details, see the charts earlier in this document). Then click OK.

Note: Higher resolution modes may require higher resolution displays. Refer to the manual for your display to determine valid modes.

7. Choose Save from Configure's Configuration menu and then choose Quit.

Removing the Installer Package and Restarting the Computer

1. If you had created a copy of the **Number9GXE64ProDisplayDriver.pkg** file in step 1, drag the copy to the recycler.
2. Choose Log Out from the Workspace menu and then click the Restart button in the Login window.

Note: You must restart your computer after installing and configuring the device driver. The next time you start up your computer, it will use the new driver to display NEXTSTEP in the display mode you selected in Configure.

For information about logging in and out, the Workspace Manager application, and the Installer application, see the NEXTSTEP *User's Guide*. For information about the Configure application, see *Installing and Configuring NEXTSTEP Version 1 for Intel Processors*. For information concerning compatibility issues and bugs, refer to NeXTanswers.

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