



## DE600/DE602 Fast Ethernet NIC

Installation Addendum for AlphaServers

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This is an addendum to the NC3123, NC3131, and NC3133 Fast Ethernet NIC manuals.

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**FCC Notice:** The equipment described in this manual generates, uses, and may emit radio frequency energy. The equipment has been type tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC rules, which are designed to provide reasonable protection against such radio frequency interference. Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference. Any modifications to this device—unless expressly approved by the manufacturer—can void the user's authority to operate this equipment under part 15 of the FCC rules.

**Shielded Cables:** If shielded cables have been supplied or specified, they must be used on the system in order to maintain international regulatory compliance.

**Warning!** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**Achtung!** Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

**Attention!** Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

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## Configuration

This addendum describes how to configure and install the software drivers for the NC3123 (DE600-AA), NC3131 (DE602-AA), and NC3133 (DE602-FA) NIC products (hereafter referred to as NC31XX) on an AlphaServer running the Compaq Tru64 UNIX or OpenVMS operating system. The NC31XX NICs provide the following port configurations:

Model	Part Number	Port Description
NC3123	3X-DE600-AA	Single-port 10/100 Mbps Fast Ethernet NIC
NC3131	3X-DE602-AA	Dual-port 10/100 Mbps Fast Ethernet NIC
NC3133	3X-DE602-FA	Single-port 100Base-FX Fast Ethernet add-on

## Software Requirements

The minimum required version of Tru64 UNIX is V 4.0F.

The minimum required version of OpenVMS is 7.1-2.

## Firmware Requirements

The minimum required version of the Alpha SRM Console is V 5.5.

To update your console firmware to the latest revision, browse the website

<http://ftp.digital.com/pub/DEC/Alpha/firmware/>

Click on your AlphaServer system. Follow the directions on the platform web page and the TXT file it links to.

## Port Characteristics and Environment Variables

The Alpha SRM console uses the **ein*n*\_mode** environment variable to store the NIC communication settings (where *n* is the Ethernet port letter).<sup>1</sup>

Use the SRM **set** command to specify the port speed, cable type, and negotiation mode. The DE600 family of NICs supports standard 10/100 Ethernet AutoNegotiation and AutoSensing operation. The SRM environment variable settings are shown in the following table:

Parameter	Settings	Description
ein <i>n</i> _mode	Twisted-pair	10 Mb/s twisted-pair
	Fast	100 Mb/s twisted-pair half-duplex
	Full-duplex twisted-pair	Full-duplex twisted-pair
	Fast FD	Fast full-duplex
	Auto-negotiate	Supported
	Auto-sensing	Supported
	AUI	Not supported
	BNC	Not supported

**NOTE:** The **ein*n*\_mode** setting does not affect the Tru64 UNIX driver. By default, the driver uses AutoNegotiation to resolve the mode and speed. If AutoNegotiation fails, then 10/100 speed is determined.

The Alpha console recognizes the Ethernet device as an EI port. Use the following commands to show and set the Ethernet port characteristics:

- Use the **show** command to display characteristics of the Ethernet port. Example using port 0:
- **>>> show eia0\_mode**
- Use the **set** command to set characteristics of the Ethernet port. Example: Set port 1 for 100 Mb/s and twisted-pair  
**>>>set eib0\_mode fast**

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<sup>1</sup> Port 0 is the lowest port found by the SRM console. For device names, the console assigns letters **a**, **b**, **c**, and **d** to ports 0, 1, 2, and 3, respectively.



# AlphaServers Running Compaq Tru64 UNIX

## Software Installation

For *Tru64 UNIX* systems V 4.0F, the NC31XX NICs use the driver included in the following New Hardware Delivery:

(NHD) CD kit: QA-MT4AX-H8 - Tru64 UNIX New Hardware V 4.0F1 CD-ROM

By default, the driver uses AutoNegotiation mode. This mode either connects to the remote partner with IEEE 802.3u auto-negotiation or resolves the speed/mode using parallel detection. This NIC is designed to automatically connect to all network configurations without manual intervention; however, if manual intervention is required, `lan_config` operations are supported (see `lan_config(8)` for more information).

To access the kit and download the driver to your system, go to the following URL:

<http://www.service.digital.com/>

## Tru64 UNIX Issues

In order to use the DE600 family of NICs, the system may not contain ATM351 or Token Ring adapters.

# AlphaServers Running OpenVMS

## Software Installation

The OpenVMS NC31XX software update kits are PCSI installation files. To obtain the update files, you copy self-expanding compressed files stored on the Internet to your AlphaServer. Then you execute the compressed file to create the PCSI update file. Finally, you perform the installation by naming the PCSI file in an OpenVMS product install command. Several PCSI files may be involved. There are different files for V 7.1-2 and V 7.2.

### V 7.1-2 Installation

1. With a Web browser, access the following URL:  
<http://ftp.service.digital.com/public/vms/axp/v7.1-2/>
2. Select the following file and copy it to a directory on your system:  
**dec-axpvms-vms712\_update-v0300--4.pcsi-dcx\_axpexe**  
This file is the minimum kit required with NC31XX support and may be superseded at a later date.
3. If running DECnet Plus (also called DECnet OSI or DECnet Phase-V) under VMS V 7.1-2, the DE60\* devices will not be automatically configured by the `NET$CONFIGURE` configuration utility. To correct this problem, go to the following URL:  
<http://ftp.service.digital.com/public/vms/axp/v7.1/decnet/7.1/>

Select the following remedial file and copy it to a directory on your system:

**dec-axpvms-dnvosieco05-v0701--4.pcsi-dcx\_axpexe**

This problem is not seen if running Phase-IV DECnet, and does not exist under VMS V 7.2.

4. Once the files are copied to a directory on your system, enter DCL commands similar to the following to expand *each* file into a PCSI installation file:

**\$run dec-axpvms-vms712\_update-v0300--4.pcsi-dcx\_axpexe**

5. Enter a series of DCL command similar to the following to install each file:

**\$ product install <product-name> /source=<path to kit>**

For example:

**\$ product install VMS\_hardware /source=sys\$common:[sysmgr.kits]**

You can eliminate the /source= string by setting the default to the directory that contains the PCSI kit, or by issuing a Define PCSI\$source=<path to PCSI file> prior to issuing the product install command.

For additional PCSI installation instructions, enter the following at the DCL prompt:

**\$ help product install**

6. After you complete the software update installation procedure, install the NC31XX in the AlphaServer system.
7. Set the **ein0\_mode** console environment variable for the desired NIC operating speed and duplex mode.

## V 7.2 Installation

1. With a Web browser, access the following URL:  
**<http://ftp.service.digital.com/public/vms/axp/v7.2/>**

Select the following file and copy it to a directory on your system:

**dec-axpvms-vms72\_hardware-v0100--4.pcsi-dcx\_axpexe**

This file is the minimum kit required with NC31XX support and may be superseded at a later date.

2. Once the files are copied to a directory on your system, enter DCL commands similar to the following to expand *each* file into a PCSI installation file:

**\$run dec-axpvms-vms72\_hardware-v0100--4.pcsi-dcx\_axpexe**

3. Enter a series of DCL command similar to the following to install each file:

**\$ product install <product-name> /source=<path to kit>**

For example:

**\$ product install VMS\_hardware /source=sys\$common:[sysmgr.kits]**

You can eliminate the /source= string by setting the default to the directory that contains the PCSI kit, or by issuing a Define PCSI\$source=<path to PCSI file> prior to issuing the product install command.

For additional PCSI installation instructions, enter the following at the DCL prompt:

**\$ help product install**

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4. After you complete the software update installation procedure, install the NC31XX in the AlphaServer system.
5. Set the **ei0\_mode** console environment variable for the desired NIC operating speed and duplex mode.

## OpenVMS Issues

If running UCX software to obtain TCP/IP support, you will need to manually define the device type for the DE60\* network devices, since UCX will not automatically recognize/configure them. The command to use is:

**UCX> define communication\_controller ei/internet\_interface=e/type=ethernet/description=tornado**

In this command, internet\_interface indicates any available interface type ("e" was used in the previous example). Available interfaces can be obtained from the following UCX command:

**UCX> LIST COMMUNICATION\_CONTROLLER.**

After defining the interface, the DE60\* can be configured using the normal procedure under UCX\$CONFIG.

This command is not required if running the next generation TCP/IP software (V 5.0), to obtain TCP/IP support.

## LEDs

The NC3131 (DE602-AA) has two LEDs built into the RJ-45 connector on the card. These LEDs indicate the network speed and state as described in the following table:

Color	Speed	Steady	Blinking
Green	100 Mbps	Link	Activity
Amber	10 Mbps	Link	Activity

## Compaq Technical Support

You can reach Compaq automated support services 24 hours a day, every day, at no charge. The services contain the most up-to-date information about Compaq products. You can access installation instructions, troubleshooting information, and general product information from the Compaq Worldwide Web server or from the Compaq FTP server.

### Compaq Worldwide Web Server

**<http://www.compaq.com/support>**

Navigate to a specific product, then look for support information from this list of support resources.

### **Compaq FTP Server**

**<ftp.compaq.com>**

Navigate to the following for a complete list of available SoftPak files:

**<ftp.compaq.com/pub/softpak/allfiles.html>**

### **Electronic Mail**

Send e-mail to:

**[support@compaq.com](mailto:support@compaq.com)**

### **PAQFAX**

To use the fax-on-demand system, you must be in North America and you must have a fax machine or fax modem to receive the automated fax transmittals.

To use the fax-based information retrieval system that provides product-specific information, call 1-800-345-1518, option 1, and request a product catalog. When you receive it, call and order documents you wish to receive.

### **Calling the Compaq Support Line**

Compaq has technical support centers worldwide. Many of the centers are staffed by technicians who speak the local languages.

For a list of Compaq support centers, go to:

**<http://www.compaq.com>**

From the Compaq Worldwide Web homepage, select your country and click “Go,” or select “Key Contacts” on the Compaq home page to find the nearest Compaq office.