

# **FDDI/9000 PCI Adapter Release Notes for HP-UX 11i**

## **HP 9000 Networking**



**Manufacturing Part Number: J3626-90024  
E1200**

United States

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## Safety and Regulatory Information

This product was tested for conformance to various national and international regulations and standards. The scope of this regulatory testing includes electrical and mechanical safety, electromagnetic emissions, immunity, acoustics, and hazardous materials.

When required, approvals are obtained from third party test agencies. Approval marks appear on the product label. In addition, various regulatory bodies require some information under the headings noted below.

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## Safety Symbols

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**WARNING**      A **WARNING** denotes a hazard that can cause personal injury.

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**CAUTION**      A **CAUTION** denotes a hazard that can damage equipment.

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## FCC Statement (USA only)

The United States Federal Communications Commission (FCC) has specified that the following notice be brought to the attention of users of this product:

FCC rules part 15, subpart A, class A devices.

Information to User (section 15.105)

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits of a Class A digital

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device, pursuant to part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by Hewlett-Packard could void the user's authority to operate this equipment.

Use of shielded interface cables is required to comply within the Class A limits in part 15 of the FCC rules.

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## **DOC Statement (Canada only)**

This Class A digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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## **Europe RFI Statement**

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.

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## Australia and New Zealand EMI Statement

This product meets the applicable requirements of the Australia and New Zealand EMC Framework.



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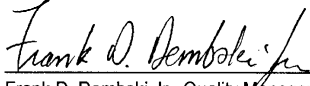
## Radio Frequency Interference (Japan Only)

VCCI, Class A (Model A4891-62001 only)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

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## Declaration of Conformity

<b>DECLARATION OF CONFORMITY</b> According to ISO/IEC Guide 22 and EN 45014	
<b>Manufacturer's Name:</b>	Hewlett-Packard Company Systems Interconnect Solutions Lab
<b>Manufacturer's Address:</b>	8000 Foothills Blvd. Roseville, CA 95747 USA
<b>declares, that the product</b>	
<b>Product Name:</b>	Universal FDDI PCI Adapter
<b>Model Number(s):</b>	A3739B-60001 (Product No. A3739B)
<b>Product Options:</b>	All
<b>conforms to the following Product Specifications:</b>	
Safety:	IEC 950:1991 + A1, A2, A3, A4 / EN 60950:1992 + A1, A2, A3, A4, A11 GB 4943-1995
EMC:	CISPR 22:1993 / EN 55022:1994 & A2 1996 - Class A <sup>1</sup> CNS 13438, GB 9254-1988, CFR47, Part 15 Class A, CISPR 24:1997 / EN 55024:1998 IEC 61000-4-2 IEC 61000-4-3 / ENV 50204 IEC 61000-4-4 IEC 61000-4-8
<b>Supplementary Information:</b>	
The product herewith complies with the requirements of the EMC Directive 89/336/EEC and carries the CE marking accordingly.	
1) The Product was tested in a typical configuration with Hewlett-Packard information technology equipment.	
Roseville, CA, May 05, 2000	 Frank D. Dembski Jr., Quality Manager
European Contact: Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE, Herrenberger Straße 130, D-71034 Böblingen (FAX: + 49-7031-14-3143)	

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## Cable Information

Below are cable specifications for the PCI FDDI Dual Attach adapter. Product safety and/or regulatory conformance may depend upon observance of the following information.

### A and B Port Connections

The A and B ports on the adapter require one (SAS) or two (DAS) standard 62.5/125 multimode fibre optic cable(s) with an SC-Duplex connector. These cables are not provided and must be furnished by the customer. For existing installations that use cables with MIC (Media Interface Connector) connectors, SC to MIC cable adapter cables must be ordered by specifying "Option 001".

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**WARNING**      **Never look directly into an optical fiber port. While not used or supported by this adapter, some fiber optic equipment can emit laser light that can injure your eyes. Always assume the cable is connected to a light source.**

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### Optical Bypass Relay Connection

The Optical Bypass Relay (OBR) connector allows the OBR device to maintain integrity of the dual FDDI rings if the adapter fails or if system power is removed. The OBR connector is an RJ-12 modular jack connector. The pin assignments (counting from right to left, with pin 1 in the rightmost position) are described in the list below.

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**WARNING**      **Do not insert telecommunications cabling into the optical bypass relay connector.**

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### OBR RJ-12 Connector Pin Assignments

- Pin 1, 2: Relay drive +5.0 V dc
- Pin 3, 4: Bypass enable
- Pin 5: Bypass present
- Pin 6: Return grounded internally

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## **Operating Environment**

The list below shows the recommended operating environment for the PCI FDDI Dual Attach Adapter.

### Operating Environment

Operating Temperature Range: 5 to 30 degrees C

Non-operating Temperature Range: -40 to 70 degrees C

Recommended Operating Temperature Range: 20 to 30 degrees C

Temperature Shock Immunity (Max rate of change): 20 degrees C

Non-operating Humidity Range: 15 to 90% RH

Operating Humidity Range @ 22 degrees C: 15 to 80% RH

Recommended Operating Humidity Range @ 22 degrees C: 15 to 80% RH

Recovery Procedure from Condensation: None



# What's New in This Version

The following information is for FDDI/9000 PCI LAN adapters on HP-UX version 11i.

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## Enhancements in this release

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**NOTE** Three enhancements have been provided in this release:

- OLAR functionality
- Replacement of the A version card with the B version
- Cable Disconnect

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The following describes the FDDI/9000 HPPB products for the A-Class, N-Class, L-Class, V-Class and Superdome servers and B-Class, C-Class and J-Class workstations.

## On Line Addition and Replacement (OLAR)

### PCI Card OLAR Concepts

#### Introduction

The letters O, L, A and R stand for On Line Addition [and] Replacement. This, of course, refers to the ability of a PCI I/O card to be replaced (replaced and/or added) to an HP-UX computer system designed to support this feature without the need for completely shutting down, then re-booting the system or adversely affecting other system components. The system hardware uses the per-slot power control combined with operating system support to enable this feature.

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**IMPORTANT** Certain "Classes" of hardware are not intended for access by users. At this time this includes V-Class and Superdome systems. HP recommends that these systems only be opened by a qualified HP Engineer. Failure to observe this requirement can invalidate any support agreement or warranty to which the owner might otherwise be entitled.

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#### Important Terms and Concepts

The addition or replacement of an OLAR-compatible card may be done in either one of two ways:

1. Using the SAM utility.
2. Issuing command-line commands using *rad*.

If detailed information about the use of either of these two procedures is required, you should refer to the following document:

Configuring HP-UX For Peripherals, HP Part Number B2355-90698

This document may be ordered from HP, or you may view, download and print it from the following website: **[www.docs.hp.com](http://www.docs.hp.com)**

**Table 0-1. Important Terms**

<b>Term</b>	<b>Meaning</b>
OLAR	All aspects of the OLAR feature including On-line Addition (OLA) and On-line Replacement (OLR).
Power Domain	A grouping of 1 or more interface card slots that are powered on or off as a unit. (NOTE: Multi-slot power domains are not currently supported)
target card / target card slot	The interface card which will be added or replaced using OLAR, and the card slot in which it resides.
affected card / affected card slot	Interface cards and the card slots in which they reside, and which are in the same power domain as the target slot.

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**IMPORTANT** In many cases, other interface cards and slots within the system are dependent upon the target card. For example:

- If the target card is a multiple-port card, suspending or deleting drivers for the target card slot also suspends individual drivers for the multiple hardware paths on that card).

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During a card replacement operation, SAM performs a *Critical Resource Analysis*, which checks all ports on the target card for critical resources that would be temporarily unavailable while the card is shut down.

### **Planning and Preparation**

For the most part SAM prevents you from performing OLAR procedures that would adversely affect other areas of the server. Refer to *Configuring HP-UX For Peripherals*, HP Part Number

What's New in This Version

## On Line Addition and Replacement (OLAR)

B2355-90698 for detailed information.

### On-Line Addition and/or Replacement (OLAR)

#### Critical Resources

Replacing a card that is still operating can have extensive ramifications. Since power to the slot must be off when the old card is removed and the new card is inserted, the effects of shutting down the card's functions must be considered.

This is particularly important if there is no on-line failover or backup card to pick up those functions. For example:

- Which mass storage devices will be temporarily disconnected when the card is shut down?
- Will a critical networking connection be lost?

A critical resource is one that would cause a system crash or prevent the operation from successfully completing if the resource were temporarily suspended or disconnected. For example, if the SCSI adapter to be replaced connects to the unmirrored root disk or swap space, the system will crash when the card is shut down.

During an OLAR procedure, it is essential to check the targeted card for critical resources, as well as the effects of existing disk mirrors and other situations where a card's functions can be taken over by another card that will not be affected.

Fortunately SAM performs a thorough critical resource analysis automatically, and presents options to you based on its findings. If you determine that critical resources will be affected by the procedure, you could replace the card when the server is off-line, or if you must take action immediately, you can use `rad` to attempt an on-line addition of a backup card and deletion of the target card.

For those wishing to use OLAR, your system may need to update its firmware. For additional details, please refer to the *Readme Before Installing or Updating to HP-UX 11i* document provided with your HP product.

#### Card Compatibility

##### On-Line Addition (OLA)

When on-line adding an interface card, the first issue that must be resolved is whether the new card is compatible with the system. Each OLAR-capable PCI slot provides a set amount of power. The replacement card cannot require more power than is available.

The card must also operate at the slot's bus frequency. A PCI card must run at any frequency lower than its maximum capability, but a card that could only operate at 33 MHz would not work on a bus running at 66 MHz. `rad` provides information about the bus frequency and power available at a slot, as well as other slot-related data.

## On-Line Replacement

When on-line replacing an interface card, the replacement card must be identical to the card being replaced or at least able to operate using the same driver as the replaced card. This is referred to as *like-for-like* replacement and should be adhered to because using a similar but not identical card may cause unpredictable results. For example, a newer version of the target card which is identical in terms of hardware may contain an updated firmware version that could potentially conflict with the current driver.

The PCI specification allows a single physical card to contain more than one port. A single-port SCSI bus adapter can not be replaced by a dual-port adapter, even if the additional port(s) on the card was identical to the original SCSI bus adapter.

When the replacement card is added to the system, the appropriate driver for that card must be configured in the kernel before beginning the operation. SAM ensures the correct driver is present. (In most cases, the replacement card will be the same type as a card already in the system, and this requirement will be automatically met.) If you have any question about the driver's presence, or if you are not certain that the replacement card is identical to the existing card, you can use `ioscan` together with `rad` to investigate.

- If the necessary driver is not present and the driver is a dynamically loadable kernel module (DLKM), you can load it manually. Refer to the section Dynamically Loadable Kernel Modules in Chapter 2 of the document: *Configuring HP-UX for Peripherals*, HP Part Number B2355-90698, for more information.
- If the driver is static and not configured in the kernel, then the card cannot be On-line Added. The card could be physically inserted on-line, but no driver would claim it.

What's New in This Version

**Upgrade Information: Obsolescence of the A card**

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## **Upgrade Information: Obsolescence of the A card**

The FDDI version A card, HP Part Number A3739A, has been obsoleted and replaced with version B, HP Part Number A3739B. In this upgrade, the version A card is fully supported by the 11i operating system.

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## **Behavior of Networking Links on Cable Disconnect**

For the 11i operating system enhancements have been made for consistency with the definitions of:

- *lanscan* output
- *lanadmin* statistics output
- logging

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## **Fixes**

None

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## **Known Problems and Workarounds**

None.

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## **Patches and Fixes for this Version**

None