HP 3000 Series 9x9 to HP 9000 K Class Conversion Manual

Certification and Warranty

Certification

Hewlett-Packard Company certifies that this product met its published specification at the time of shipment from the factory. Hewlett-Packard further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology (formerly National Bureau of Standards), to the extent allowed by the Institute's calibration facility, and to the calibration facilities of other International Standards Organization members.

Warranty

This Hewlett-Packard instrument product is warranted against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Hewlett-Packard Company will, at its option, either repair or replace products which prove to be defective.

For detailed warranty information, see back matter.

Safety Considerations

General

This product and related documentation must be reviewed for familiarization with this safety markings and instructions before operations.
This product is a safety Class I instrument (provided with a protective earth terminal).

Before Applying Power

Verify that the product is set to match the available line voltage and the correct fuse is installed. Refer to instructions in Chapter 1 of the Manual.

Safety Earth Ground

An uninterruptible safety earth ground must be provided from the mains power source to the product input wiring terminals or supplied power cable.
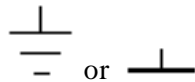
Warning Symbols Used In This Book

Instruction manual symbol; the product will be marked with this symbol when it is necessary for the user to refer to the instruction manual.
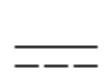
Indicates hazardous voltages.

Indicates earth (ground) terminal.

Indicates terminal is connected to chassis when such connection is not apparent.

or

Indicates Alternating current.

Indicates Direct current

WARNING

BODILY INJURY OR DEATH MAY RESULT FROM FAILURE TO HEED A WARNING. DO NOT PROCEED BEYOND A WARNING SIGN UNTIL THE INDICATED CONDITIONS ARE FULLY UNDERSTOOD AND MET.

CAUTION

Damage to equipment, or incorrect measurement data, may result from failure to heed a caution. Do not proceed beyond a *CAUTION* sign until the indicated conditions are fully understood and met.

For additional safety and acoustic noise information, see back matter.

Preface

This edition of the Conversion Guide is intended for trained and experienced Hewlett-Packard field maintenance. At the time of publication, this computer system family includes the models listed below:

HP 3000 Series 9x9

TABLE OF CONTENTS

Introduction

This manual contains the information necessary to convert the following HP 3000 Series 9x9 to HP 9000 K Class Systems:

Table 1. System Conversion Kits

From HP 3000 System	To HP9000 System	Conversion kit Number
939KS	K400 1 CPU	A3468A opt 010
959KS/100	K400 1 CPU	A3468A opt 011
959KS/200	K400 2 CPU	A3468A opt 012
959KS/300	K400 3 CPU	A3468A opt 013
959KS/400	K400 4 CPU	A3468A opt 014
969KS/100	K410 1 CPU	A3468A opt 021
969KS/200	K410 2 CPU	A3468A opt 022
969KS/300	K410 3 CPU	A3468A opt 023
969KS/400	K410 4 CPU	A3468A opt 024
969KS/120	K420 1 CPU	A3468A opt 031
969KS/220	K420 2 CPU	A3468A opt 032
969KS/320	K420 3 CPU	A3468A opt 033
969KS/420	K420 4 CPU	A3468A opt 034
979KS/100	K460 1 CPU	A3468A opt 041
979KS/200	K460 2 CPU	A3468A opt 042
979KS/300	K460 3 CPU	A3468A opt 043
979KS/400	K460 4 CPU	A3468A opt 044

The procedures in this manual are intended for use by Hewlett-Packard Customer Engineers (CEs) and those service personnel who have successfully completed authorized HP training.

The installation and environmental requirements for the conversion systems are the same as the original computer system. There may be a requirement for additional power outlets for certain conversions. Be sure to confirm the power requirements for the conversion being performed. See the *HP 9000 Configura-tion Guide* for the power guidelines.

Observe **WARNING** and **CAUTION** labels on the equipment. All conversion and service work must be done by qualified personnel.

Electrostatic Discharge

HP computers and peripherals contain assemblies and components that are sensitive to electrostatic discharge (ESD). Carefully observe the precautions and recommended procedures to ensure that system reliability is not compromised due to component damage from static electricity.

The following precautions can significantly reduce the risk of system failure or malfunction due to ESD.

- Always wear a grounded wrist strap when working around the system.

- Treat all assemblies, components, and connections as sensitive.

- When unpacking cards, interfaces, and other accessories that are packaged separately from the computer, keep the accessories in their conductive bags until they are ready to be installed.

- Before removing or replacing any components or installing any accessories, select a work area where potential static sources are minimized (preferably an anti-static work station).

- Keep body movement to a minimum during accessory installation.

- Avoid working in carpeted areas.

Unpacking and Inspection

The components, software, documentation, and circuit cards involved may be shipped in more than one container. Check to ensure receipt of all the containers specified by the carrier's *Bill of Lading*. Inspect each container for any evidence of mishandling during transit. If any of the containers are damaged, request that the carrier's agent be present when the damaged containers are opened.

Unpack each shipping container and inspect each item for external damage. Look for damage such as broken connectors or dented corners. If present, check rigid foam packing for signs of damage that could indicate rough handling in transit.

Unpack Conversion Kit Components

Unpack the conversion kit components as follows:

1. Open the carton.
2. Remove the component.
3. Remove the component from the anti-static packing (adhering to EDS guidelines) and visually inspect it for damage.
4. Put the component back into the anti-static packing until installation is performed.

If the visual inspection reveals damage to a component, follow the instructions in the *Claims Procedures* section.

Claims Procedures

Notify the nearest Hewlett-Packard Sales and Support Office if the shipment is incomplete or damaged. If the damage occurred in transit, notify the carrier as well.

Hewlett-Packard will arrange for replacement or repair without waiting for settlement of claims against the carrier. In the event of damage in transit, retain the shipping container and packing material for inspection.

Repacking

The containers and shipping materials used in factory packaging should be used if reshipment of components becomes necessary. If these are not available, containers and shipping material identical to those used in the factory are available through the HP Sales and Service Office. Similar commercially available material can also be used for shipment.

If the components are returned to the factory for servicing, attach a tag to the component specifying the required service, computer model number, and full serial number (found on the System Information Label). In any subsequent correspondence, refer to the computer model number and full serial number of the system in question.

Be sure to mark the container **FRAGILE**. Whenever possible, arrange shipment with a qualified electronics equipment mover.

Storage

HP computer equipment can be stored or shipped in environments that are within the following limits:

Specification	Limit
Storage Temperature:	-40° C to 65° C(-40° F to 149° F)(without internal DDS drive)
	-40° C to 45° C (-40° F to 113° F) (tape media specification)
Non-operating Humidity:	5% to 80% RH non-condensing, less than 30% RH/hr rate of change

The components should be protected at all times from environmental extremes that can cause condensation within the component. When installing components or a new system, allow time before operation for the temperature of the equipment to stabilize.

Returning Components

If you replaced the Processor board as part of the conversion, it is the property of Hewlett-Packard. The replaced Processor board must be returned in the packing material supplied with the conversion, using the return form and prepaid postage label included in the conversion kit.

Note

> Prepaid return is not available in all countries. If the conversion kit does not contain a country approved prepaid label, please ensure that all components are returned to the *Order Processing Department* of the local HP sales office.

Return Procedures:

1. Locate the return form and the prepaid postage label or regular (non-prepaid) label included in the conversion kit.

2. Fill in the required information on the return form, according to the instructions printed on the form.

3. Package the replaced parts, if possible, in the conversion kit shipping materials.**Be sure to place the return form inside the package**.

4. Affix the prepaid postage label or regular label over the shipping label on the original container.

5. Mail the return package.

Note

> If the original packing containers and materials are not usable, commercially comparable materials should be used.

Conversion Procedures

This chapter provides a general outline for the procedures to perform a variety of system hardware changes, including the following:
- Modifying the Console, Primary and Alternate boot paths
- Replacing the Core I/O card
- Installing the Mux panel cable and the console cable
- Updating Stable Storage
- Updating the System labels
- Changing the Nameplate

The detailed procedures for performing these general steps are listed in the *Service Manual for the HP3000 and HP9000 Model 9x9KS and Series Kx00 systems (P/*N A2375-90004). Be sure to have the *Service Manual* available before starting an conversion.

Use *Table 1* on page 1 to identify the conversion kit you need, then use *Table 2* following to find out what procedures to perform in this chapter for your type of system conversion..

Table 2. System Conversion Procedures

Parts Included in Conversion Kits	Use These Procedures:
Core I/O card	Replacing the CoreI/O card
Modem Distribution Panel, cables and Console cable (p/n A2442A opt. 001 or 002)	Installing the MDP and cables
K Class Nameplate	Changing the Nameplate
HP 9000 system labels	Updating the system labels.

Caution

Be sure to follow all Electrostatic Discharge guidelines stated in*Chapter 1*. Failure to do so could result in component damage and loss of system reliability.

Required Tools

- #10 & #15 TORX head driver
- Standard CE hand tools
- Service Manual (P/N A2375-90004) most current edition.

- If the computer is in a rackmount cabinet, a #15 and #25 TORX head driver are needed.

If the HP 9000 computer to be worked on is mounted in a rack, it may need to be removed for certain procedures. Refer to the *Cabinet Installation Guide* part number A2375-90007, or *the Computer Cabinet Users Manual* part number C2785-90001 for detailed procedures on removal of the computer from the rackmount cabinet. The *Service Manual* also contains Removal and Replacement procedures for the rackmount cabinet.

Modifying the Console, Primary and Alternate boot paths

The Console path is identical for the HP3000 and HP9000, However the Primary/Alternate boot paths, UPS, LAN and Modem paths are different and must be modified. The following are the default paths for the HP9000:

- Console   10/4/0.0
- Primary Boot   10/0.6
- CDROM   10/12/5.2
- DDS   10/12/5.0

The default values identified above may or may not apply to the customer's configuration. Using the appropriate PDC commands, set the boot paths to the correct value.

Additionally, the following paths are different for the HP9000:

- UPS   10/4/0.1
- Modem   10/4/0.7
- LAN   10/12/6

Replacing the Core I/O card

To replace the Core I/O card;
- Loosen the top and bottom screws securing the Core I/O card to the chassis
- If the existing Core I/O has extractor handles:
    1. Lift the extractor handles and slide the Core I/O card out of the chassis.
    2. The new Core I/O card no longer incorporates extractor handles, so the metal tabs used by the extractor handles must be removed from the chassis before the new Core I/O card can be installed. These tabs are located at the top and bottom of the slot occupied by the Core I/O card and are secured by a #15 Torx screw. Discard the metal tabs after removing them.

- If the existing Core I/O DOES NOT have extractor handles, pull the card out of the chassis using the pull ring located at the top of the board and slide the Core I/O out of the chassis.

- Install the new HP 9000 Core I/O card.

Installing the Modem Distribution Panel cable and the console cable

To install the Modem Distribution Panel (MDP);
- Install the Overlay on the MDP
- Connect the ADP cable to the MUX connector on the Core I/O card
- Connect the ADP cable to the MDP
- Remove the console cable from the console and connect the new cable to the console and the port on the Core I/O marked "Console"
- If there is a Remote Support Modem, connect its cable to the port on the MDP marked "Remote Console"

UPS Connection

If a UPS is connected to the UPS port on the HP 3000 Core I/O card, move its cable to the "UPS" port on the new HP9000 Core I/O card.

Updating Stable Storage

Stable Storage must be updated to include the new values appropriate for the HP 9000 being converted to.   SW_ID will not need to be changed.

Updating the System Labels

The System Labels located on the back side of the front door and on the rear of the system cabinet must be updated to reflect the new HP 9000 product and Model number. The original product number and serial number must be retained for SW_ID and customer asset purposes.

Using the labels provided in the Conversion kit, apply them to the following areas of the system labels:

On the Front door label and the Rear cabinet label:

- Place the CURRENT PRODUCT label in the "Current Product" box
- Place the MODEL NUMBER label over the HP3000 Model number
- Place the USER LICENSE label over the USER LICENSE Information area.

Changing the Nameplate

To replace the old nameplate with the nameplate with the new product number, perform the following steps:

1. From the back of the front bezel, compress the three posts and push them out of the front bezel, removing the nameplate .
2. Align the snap-in posts of the new nameplate to the holes in the front bezel, and firmly push the nameplate into place.

Figure 1. HP9000 Nameplate

If any additional internal peripherals have been added to the computer chassis with this conversion, the product number and serial number have to be written on the information label by hand. Be sure to use ink.

Perform a power on self test and verify system operation.

Installing the HP UX Operating System

Note

Although HP UX OS is ordered with this Conversion Kit, it is shipped separately .

Install the HP UX Operating System using the installation manuals provided with the software media.

Caution

Once this process has begun, the MPE iX operating system will be overwritten.

Return the old Core I/O card. Refer to *Returning Components* located in *Chapter 1* of this manual.

Investment Protection Program

Fill out the Investment Protection Program Installation Report that is included in the Conversion Kit. This report is necessary to upgrade your Customer Support Contract.

Warranty (con't)

For warranty service or repair, this product must be returned to a service facility designed by HP. Buyer shall prepay shipping charges to HP and HP shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties, and taxes for products returned to HP from another country.

HP warrants that its software and firmware designed by HP for use with an instrument will execute its programming instructions with properly installed on that instrument. HP does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error free.

Limitation of Warranty

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by Buyer, Buyer-supplies software or interfacing, unauthorized modification or misuse, operation outside the environmental specifications for the product, or improper site preparation or maintenance. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. HP SPECIFICALLY DISCLAIMS THAT IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusive Remedies

THE REMEDIES PROVIDED HEREIN ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES. HP SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.

Assistance

Product maintenance agreements and other customer assistance agreements are available for Hewlett-Packard products.

For any assistance, contact your nearest Hewlett-Packard Sales and Service Office.

Safety Information (con't)

Warning

Any interruption of the protective grounding conductor (inside or outside the instrument) or disconnecting the protective earth terminal will cause a potential shock hazard that could result in personal injury. (Grounding one conductor of a two conductor outlet is not sufficient protection.)

Whenever it is likely that the protection has been impaired, the instrument must be made inoperative and be secured against any unintended operation.

If this instrument is to be energized via an autotransformer (for voltage reduction) make sure the common terminal is connected to the earthed pole terminal (neutral) of the power source.

Instructions for adjustments while covers are removed and for servicing are for use by service-trained personnel only. To avoid dangerous electric shock, do not perform such adjustments or servicing unless qualified to do so.

For continued protection against fire, replace the line fuse(s) only with 250V fuse(s) of the same current rating and type (for example, normal blow, time delay). Do not use repaired fuses or short circuited fuseholders.

Acoustic Noise Emissions

LpA<47 dB at operator position, at normal operation, tested per ISO 7779. All data are the results from type test.

GERÄUSCHEMISSION

LpA<47 dB am Arbeitsplatz, normaler Betrieb, geprüft nach DIN 45635 Teil 19. Die Angaben beruhen auf Ergebnissen von Typprüfungen.

Warranty and Safety