VAX 4000 BA440-Based Systems

CPU Conversion Guide

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Preface

This guide describes how to convert a VAX 4000-300, -400, -500, -500A, -505A, -600, -600A, or -700A system.

Intended Audience

This guide is intended for Digital services personnel and licensed self-maintenance customers.

Customer Responsibilities

Customers should not install the conversion kit unless they are qualified self-maintenance customers. Only qualified maintenance personnel should perform the installation procedure. If you are not a qualified self-maintenance customer, call Digital services to schedule a system conversion.

It is the customer's responsibility to perform a software backup before a Digital services representative arrives at your site.

When the conversion is complete, return the old CPU and memory modules to Digital. Appendix A contains forms that must be completed by the Digital services representative and signed by both the customer and the Digital services representative.

Digital Services/Self-Maintenance Responsibilities

The Digital services representative or the self-maintenance customer should make arrangements to have the software backed up before the conversion kit is installed.

After installation of the conversion kit, the Digital services representative or the self-maintanance customer must complete the following forms (found in Appendix A) and remove them from this guide. The forms must be signed by both the customer and the Digital services representative.

- Digital Services Worksheet
- Installation Receipt–Customer Copy
- Installation Receipt–Digital Services Copy
- Returned Material Checklist

The Digital services representative should give the customer the signed Installation Receipt–Customer Copy. The representative should include the signed Installation Receipt–Digital Services Copy with the CPU module that is being returned to Digital to ensure that the customer receives credit.

Related Documents

The following related documents provide information about conversion of VAX 4000 BA440-based system CPUs.

Documentation	Order Number
BA440/BA430 Enclosure Maintenance	EK–348AB–MG
KA681/KA691/KA692/KA694 CPU System Maintenance	EK–498AB–MG
OpenVMS License Management Utility Manual	AA–LA33A–TE

1

BA440 CPU Conversion

This chapter describes how to convert VAX 4000-300, -400, -500, -500A, -505A, -600, -600A, or -700A systems.

1.1 Related Upgrades

MS670 (L4001)-type memory modules will not function with your NVAX CPU modules. When an L4000 CPU is removed and the system is converted to an L4005–XX or L4006–XX system, memory must be upgraded as follows:

CPU Model	Memory Module	Size in Mbytes
L4005–XX	MS690–BA	32
	MS690–CA	64
	MS690–DA	128
L4006–XX	MS690–CA	64
	MS690–DA	128

A DSSI option (KFDDB) may also be installed as part of the CPU upgrade.

1.2 System Requirements

The system must have OpenVMS software, Version 5.5–2H4 or 6.1 to support the L4005–XX or L4006–XX CPUs. Also, the system must have a revision K01 or higher BA440 backplane (54–19354–01). If a backplane upgrade is necessary, see *BA440/BA430 Enclosure Maintenance*, (EK–348AD–MG).

1.3 Kit Inventory

The CPU conversion kit contains the following items:

Table 1–1 Inventory Items

Quantity	Description	Part Number
1	Backplane (if needed)	54–19354–01
1	CPU module	L4005–XX or L4006–XX
1	Return label	36–26123–07
1	Product conversion information label	36–15946–00
1	Module number label	36–26883–DX
1	Logo/model number label	36–33152–XX
1	Medallion with product name	74–40913–XX
1	Color strip	74–40914–01
1	Installation documentation	EK–VVKSY–CG
1	OpenVMS Version 5.5–2H4	QA–001AA–UW
1	User documentation set	QZ–00FAA–GZ or QZ–00F8A–GZ

1.3.1 Unpacking the Kit

Follow these instructions when unpacking the kit:

1. Make sure there is no external damage to the shipping container, such as dents, holes, or crushed corners.
2. Unpack the conversion kit and check its contents against the shipping invoice.
3. If any item is missing or damaged:
   a. Contact the customer's sales representative.
   b. Contact the customer's delivery agent.

1.3.2 Before Installing the Kit

Before installing the kit:

1. Make sure the customer has backed up the system disk before the Digital Services representative arrives.

2. Install new OpenVMS software by using the upgrade kit (*OpenVMS VAX Version 5–5.2H4 Release Notes and Update Procedure*), unless you are running OpenVMS Version 6.1.

1.4 Installing the Kit

Caution

Wear the antistatic wrist strap and use the antistatic mat when handling CPU or memory modules.

To install the conversion kit, do the following:

1. Unlock the front door by turning the front door key switch to the bottom position. Open both access doors simultaneously.
2. Turn off the system power to any Q–bus expander boxes connected to the system.
3. Turn off the system power.
4. Remove any Ethernet cable attached to the H3604.
5. Remove the H3604 I/O panel. To avoid breaking the DSSI bus that may be connected to other machines, do not remove the DSSI cable from the H3604.
6. Remove the old CPU module from the unit.
7. Pack the old CPU module in the conversion CPU module's packing material.
8. Insert the conversion CPU module into its slot.
   - Do not lock the CPU module in place if you are installing the DSSI upgrade option KFDDB.
   - If you are not installing the DSSI upgrade option, lock the CPU module in place now.

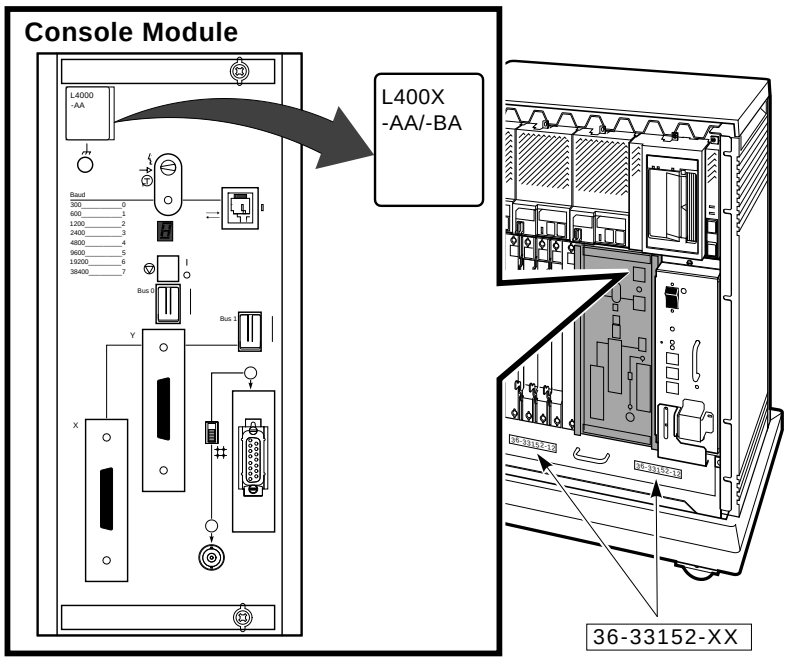
Note

If required, install the DSSI upgrade option now. Refer to *VAX 4000 (BA440-Based) Systems DSSI Upgrade Installation Guide* that is packed in the KFDDB option kit box.

After installing the KFDDB option, continue with the CPU installation, as follows.

9. Attach the new CPU label (and memory labels, if required) to the H3604 console module panel as shown in Figure 1–1. The CPU label goes on the leftmost side of the H3604. The memory labels go to the right side.

Figure 1–1 CPU Label Location

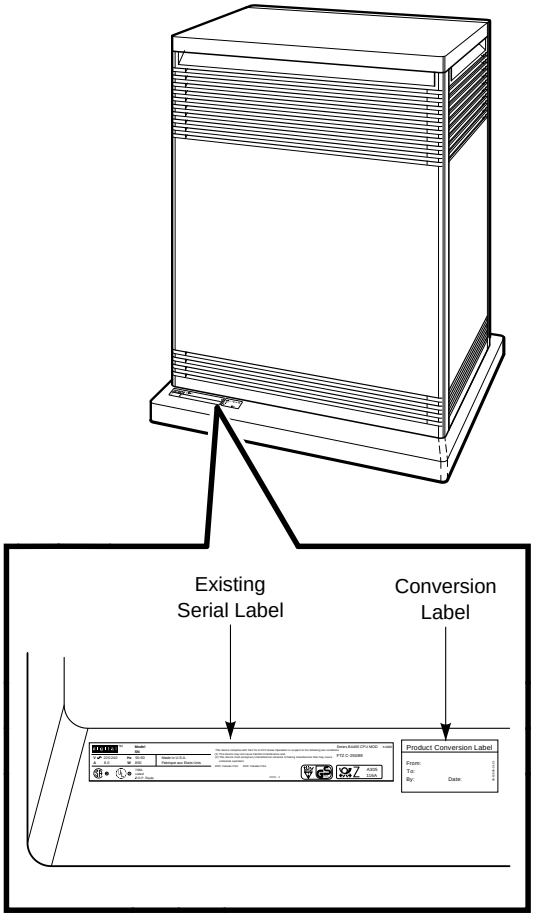


10. Turn on the power to the system and Q–bus expander boxes, if any, and run MDM diagnostics to verify system operation.

11. Place the new logo model label (36–33152–XX) over the existing label on the fan tray at the front of the chassis as shown in Figure 1–1.

12. Attach the new serial and conversion labels as shown in Figure 1–2.

Figure 1–2 Conversion Label Location



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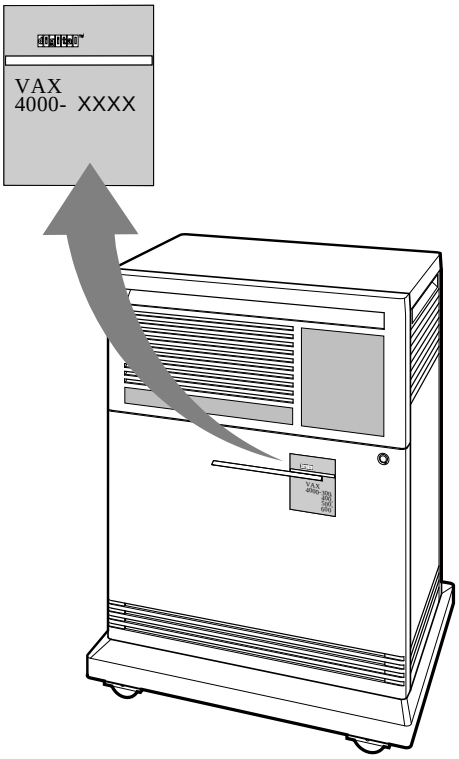
13. Remove the old medallion by using a flat-blade screwdriver to lift it off the front panel as shown in Figure 1–3.
14. Remove the color strip only if it is damaged.

Figure 1–3 Medallion Location



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15. Install the new medallion.
16. Install the new color strip, if necessary.
17. Reboot the system.
18. Complete the forms in Appendix A.

A

Mandatory Module Return Procedure and Forms

The old CPU and memory modules **must** be returned to Digital. Digital services personnel or self-maintenance customers must ensure that the instructions to repackage and return the old modules to Digital are followed. The instructions apply only to U.S. area installations.

For installations outside the U.S. area, contact the local Digital office for return destination instructions.

A.1 Return Procedure

1. Obtain the serial number of the system being upgraded. Customer Administrative Services (CAS) cannot process the order without this serial number.
2. Ensure that the serial number is on the Purchase Order.
3. Issue a hardcopy quotation to the customer, referencing the serial number, and state the following:

   Return of the replaced modules to Digital is a condition of sale for this upgrade. Failure to return the modules will result in a penalty charge. Installation of hardware by Digital services personnel is required.

4. Pack the old modules using the packaging material set aside from the carton of the conversion kit (quad-height module box).

   Pack the CPU module first in the nickel-plated bag, then in the pink plastic wrapping, and finally in the box.

5. Complete the Digital Services Worksheet in Section A.2, which documents the work you performed.

   Return the worksheet to your contract administrator at the branch office.

6. Contact your local Digital Customer Administrative Services (CAS) office to obtain information for the Installation Receipt and the Returned Material Checklist in Section A.2.

   Ask the CAS representative for a return authorization (RA) number. CAS will contact the customer to arrange for carrier pickup and return of the modules to Digital.

7. Complete both copies of the Installation Receipt.

   The first copy is the customer's receipt. It shows that the installation was completed and that Digital services contacted CAS.

   Return the second copy to Digital services along with the old modules to ensure that the customer does not incur a penalty charge.

8. Complete the Returned Material Checklist.

   Return the checklist with the old modules.

9. Place the self-adhesive mailing label on the module box you are returning.

   Write the return authorization (RA) number in the space provided on the label.

10. Seal the box for shipment.

Refer questions regarding the return procedure to the local account representative.

Note

Customers who do not return their old modules will be charged a fee.

A.2 Digital Forms

This section contains the following:

- Digital Services Worksheet
- Installation Receipt–Customer Copy
- Installation Receipt–Digital Services Copy
- Returned Material Checklist

Digital Services Worksheet

This form acts as a verification of the work performed on the system and as a check on the procedures used. Please fill out this form and return it to your Contract Administrator for updating the customer's contract.

Customer: _____

System Serial Number: _____

Old System Model Number: _____

Old CPU Module Serial Number: _____

Old Memory Module Serial Numbers: _____

_____

_____

New System Name: _____

New System Model Number: _____

New CPU Module Serial Number: _____

New Memory Module Serial Numbers: _____

_____

_____

Installation Receipt–Customer Copy

For the conversion of VAX 4000-300, -400, -500, -500A, -505A, -600, -600A, and -700A systems.

This form acts as a customer receipt and as verification for Digital services that either the 694XR–XX or 691XU–XX conversion kit was installed:

Digital Services: Complete both copies of this form. Then, give a copy to the customer and a copy to the local CAS office for filing with customer documents.

Customer: Digital will contact you within the next several days to arrange for package pickup and return. Keep this copy as your record of installation by Digital.

Note

Contact the local CAS office to obtain the RA (return authorization) number. You should have the Digital order number available. Be sure to note the name of the person you speak with.

Name of CAS representative: _____

Branch Office: _____, will arrange for package pickup and return.

Return Authorization (RA) Number: _____

Digital Order Number: _____

Old CPU Module Serial Number: _____

Old Memory Module Serial Numbers: _____

Converted to: _____

New CPU Module Serial Number: _____

New Memory Module Serial Numbers: _____

Installation was performed on this date: _____

See the next page for signatures.

Module Packed for Return:

Customer Name:_____ Phone Number:_____

Customer Signature: _____

Digital Services Representative Signature:_____

Installation Receipt–Digital Services Copy

For the conversion of VAX 4000-300, -400, -500, -500A, -505A, -600, -600A, and -700A systems.

This form acts as a customer receipt and as verification for Digital services that either the 694XR–XX or 691XU–XX conversion kit was installed:

Digital Services: Complete both copies of this form. Then, give a copy to the customer and a copy to the local CAS office for filing with customer documents.

Note

Contact the local CAS office to obtain the RA (return authorization) number. You should have the Digital order number available. Be sure to note the name of the person to whom you speak.

Name of CAS representative: _____

Branch Office: _____, will arrange for package pickup and return.

Return Authorization (RA) Number: _____

Digital Order Number: _____

Old CPU Module Serial Number: _____

Old Memory Module Serial Numbers: _____

Converted to: _____

New CPU Module Serial Number: _____

New Memory Module Serial Numbers: _____

Installation was performed on this date: _____

See the next page for signatures.

Module Packed for Return:

Customer Name:_____ Phone Number:_____

Customer Signature: _____

Digital Services Representative Signature:_____

Returned Material Checklist

For the conversion of VAX 4000-300, -400, -500, -500A, -505A, -600, -600A, and -700A systems.

This form must be filled out and returned with the old modules to ensure that the customer does not incur a penalty charge.

Return Authorization (RA) Number: _____

Digital Order Number: _____

Customer Name: _____

Customer Address: _____

_____

_____

Customer Contact: _____

********** Include This Form With Your Module Return**********

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Accuracy (product works as manual says)	☐	☐	☐	☐
Completeness (enough information)	☐	☐	☐	☐
Clarity (easy to understand)	☐	☐	☐	☐
Organization (structure of subject matter)	☐	☐	☐	☐
Figures (useful)	☐	☐	☐	☐
Examples (useful)	☐	☐	☐	☐
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