KN7CD CPU INSTALLATION CARD

Use this card as a quick reference to:

- Install additional KN7CD CPU modules (E2061) in an existing AlphaServer 8200/8400 system (page 2).

- Upgrade an AlphaServer system from KN7CC modules to KN7CD modules (page 7).

For details on each step in the procedures outlined in this card, refer to the *AlphaServer 8200/8400 Service Manual* (EK–T8030–SV).

To upgrade from a VAX or DEC 7000 system, use the *AlphaServer 8400 Upgrade Manual* (EK–T8430–UI*).*

Install Additional KN7CD CPU Modules

Note the configuration of CPU modules in the TLSB card cage. In an 8400, CPUs are installed beginning at slot 0, and in an 8200 CPUs begin at slot 4.

| 8400 Front		8200 Front / 8400 Rear	
3		First CPU (8200)	4
2	Additional CPUs	CPU or Memory	5
1	or Memories	I/O, CPU, Memory	6
0	First CPU (8400)	I/O or Memory	7
		I/O Module	8

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NOTE: All CPU modules must have the same version of firmware. Results are unpredictable if processor modules have different firmware revisions.

1. Note the console firmware version of the system and determine the environment variables (do a **show ***). You will use this information to rebuild EEPROMs on the newly installed modules.

2. Turn off the system at the control panel. Wait for the yellow Fault LED to stop flashing. When the LED stops flashing, power has been removed from the TLSB backplane and you may safely proceed.

3. Open the cabinet door and ground yourself to the cabinet with the antistatic wrist strap.

4. Remove terminator modules from slots where you will be installing KN7CD modules.

5. Remove all modules to the right of where you will insert a new KN7CD module.

    CAUTION: Modules must be inserted from left to right to avoid damaging EMI gaskets on the modules.

6. Disconnect all CPU modules from the backplane by releasing the handles.

7. Inspect the KN7CD module to be installed to see that the EMI gasket does not extend beyond the endplate. Also inspect top and bottom. If the gasket has moved, slide it back in position.

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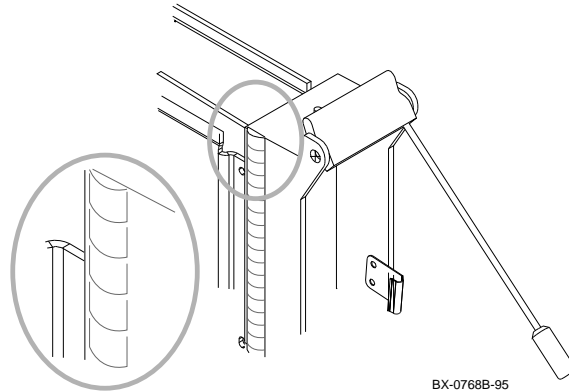
8. Release the spring-loaded handles from the stops. To do this, push both handles toward the module endplate and away from the stops.

9. Support the module with one hand and with the other hand, grasp the endplate. Align the module with the card guide and the cover with the rail.

10. Slide the module into the card cage as far as it will easily go.

11. Push both handles at the same time until they touch the module endplate. You will feel the module make contact with the connectors. Release the handles gently so they spring back into the stops.

12. Power up the system and note the console version given in the last line of the self-test display.

13. If the new module console firmware is the same version as was on the system and no other CPU modules need to be installed, go to step 16. If you need to install another module, go to step 14.

   If the console firmware is a different version than that of the system:

   1. Run LFU to upgrade the firmware (page 6).

   2. Rebuild the EEPROM and the NVRAM (page 6).

   CAUTION: Determine the environment variables before you rebuild the EEPROM (page 6).

   If no other CPU modules need to be installed, go to step 16.

   CAUTION: If the LFU is a different version than the firmware version of the existing CPU(s), you must update the firmware on each existing CPU module as well as the firmware of any new modules.

14. If you need to install more than one CPU module, power down the system, disconnect the newly installed CPU module, and repeat steps 7 to 13 for each additional module.

   CAUTION: All CPU modules other than the one whose console version is being checked should be disconnected from the backplane.

15. When you have updated the console version of all the KN7CD CPU modules, power down the system and reconnect all the disconnected modules.

16. Reinstall any module pulled out during the procedure. Check that terminator modules are installed in all unused slots.

17. Verify the system (page 5).

18. Reset the environment variables. From the primary processor issue **set <envar>** commands to restore customized environment variables.

19. Close the cabinet door.

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Verify the System

1. Power up the system. Power sequencing begins, and the system runs self-test.

2. Check the self-test display to make sure that the system recognizes the new modules. In Example 1 two dual-processor modules are in slots 0 and 1 (see ❶).

3. Check the ST lines to see that the KN7CD modules passed testing (see ❷).

Example 1

```
F  E  D  C  B  A  9  8  7  6  5  4  3  2   1   0   NODE #
                     A  A  M  .  .  .  M   P   P   TYP    ❶
                     o  o  +  .  .  .  +   ++  ++  ST1    ❷
                     .  .  .  .  .  .  .   EE  EB  BPD
                     o  +  +  .  .  .  +   ++  ++  ST2    ❷
                     .  .  .  .  .  .  .   EE  EB  BPD
                     +  +  +  .  .  .  +   ++  ++  ST3    ❷
                     .  .  .  .  .  .  .   EE  EB  BPD

                     .  +  +  +  +  +  +   +       C0  PCI  +
    +  .  +  .  +  +  +  .  .  .  +   +   +   +     C1  XMI  +

    +  .  +  .  +  +  +  .  .  .  +   +   +   +     C4  FBUS +
    +  .  +  .  +  +  +  .  .  .  +   +   +   +     C5  XMI  +
    +  .  +  .  +  +  +  .  .  .  +   +   +   +     C6  XMI  +
    +  .  +  .  +  +  +  .  .  .  +   +   +   +     C7  XMI  +
                     .  .  A1  .  .  .  A0  .   .   ILV
                     .  .512  .  .  .512  .   .   1GB
AlphaServer 8400 Console V2.1-1,SROM V1.0, Jan 2 1996 10:32:03
P00>>>
```

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Running LFU

Boot LFU and enter the **update** command.

```
P00> boot dka500 -fl 0,a0
UPD> update kn7cd*
Confirm update on:
kn7cd-ab1
[Y/(N)]y
WARNING: updates may take several minutes to complete for each
device.
                        DO NOT ABORT!
kn7cd-ab1    Updating to 2.1543...Verifying 2.1543...  PASSED.
UPD> exit
Initializing...
                [self-test display appears]
```

Building the EEPROM

Whenever you update the console firmware on a KN7CD
module, you should build the EEPROM on that module.

Enter the **build -e** command.

*NOTE: You will lose the environment variable settings
when doing a **build -e** command. To preserve a copy,
attach a printer and do a **show *** before you perform the
build -e command.*

```
P00>>> build -e kn7cd-ab0
Build EEPROM on kn7cd-ab0 ? [Y/N]> y


   EEPROM built on kn7cd-ab0
P00>>> init
```

Building the NVRAM

Enter the **build -n** command.

```
P00>>> build -n
Build NVR on kn7cd-ab0 ? [Y/N]> y


   NVR built on kn7cd-ab0
P00>>> init
```

Upgrade the System with KN7CD CPUs

To replace all KN7CC CPU modules in an AlphaServer 8200/8400 system with KN7CD CPU modules, proceed as follows:

1. Determine the environment variables (do a **show ***). You will use this information to restore the environment variables following the upgrade.

2. Power down the system.

3. Open the cabinet door and ground yourself to the cabinet with the antistatic wrist strap.

4. Remove all CPU modules. Remove any memory modules from the front of the 8400 card cage. Then remove the clock module.
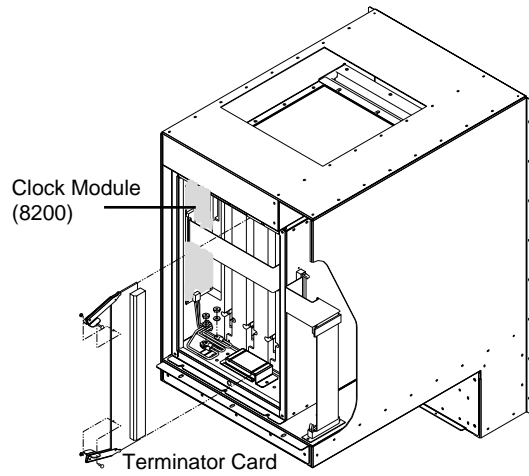
   (See page 8 for the location of the clock module in the AlphaServer 8200 card cage.)
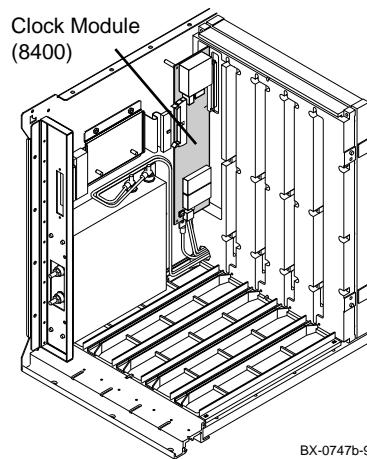

Clock Module
(8400)

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5. Install the KN7CD clock module (54-21728-06).

6. On an AlphaServer 8200, install two E2034-AB
    terminator cards at the rear of the card cage.

Clock Module
(8200)

Terminator Card

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7. Inspect the KN7CD module to be installed to see that
    the EMI gasket does not extend beyond the endplate.
    Also inspect top and bottom. If the gasket has moved,
    slide it back in position.

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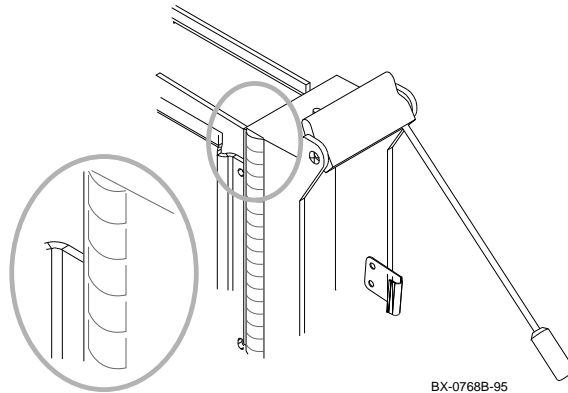
8.   Release the spring-loaded handles from the stops. To do this, push both handles toward the module endplate and away from the stops.

9.   Support the module with one hand and with the other hand, grasp the endplate. Align the module with the card guide and the cover with the rail.

10. Slide the module into the selected slot (slot 0 for the first CPU module on AlphaServer 8400) of the card cage as far as it will easily go.

11. Push both handles at the same time until they touch the module endplate. You will feel the module make contact with the connectors. Release the handles gently so they spring back into the stops.

12. Power up the system. If no other CPU modules are to be installed, go to step 16. If additional CPU modules need to be installed, note the console firmware version given in the last line of the self-test display and compare it with the LFU version. If it is different from the LFU version, you must run LFU to update the console version of the newly installed module, as explained in step 14.

CAUTION: Modules must be inserted from left to right to avoid damaging EMI gaskets on the modules.

13. Disconnect the newly installed CPU module from the backplane by releasing its handles. Install another CPU module following steps 7 to 12 above.

14. Power up the system and note the console version of the new CPU module. If it is the same as that of the system and no additional modules are to be installed, go to step 16.

If the console firmware is a different version:

1. Run LFU to upgrade the firmware (page 6).

2. Rebuild the EEPROM and the NVRAM (page 6).

CAUTION: Determine the environment variables before you rebuild the EEPROM (page 6).

If no other CPU modules need to be installed, go to step 16. Repeat steps 13 and 14 for each additional module.

15. When you have updated the console version of all the KN7CD CPU modules, power down the system and reconnect all the disconnected modules.

16. Reinstall any module pulled out during the procedure. Check that terminator modules are installed in all unused slots.

17. Verify the system (page 5).

18. Reset the environment variables. From the primary processor issue **set <envar>** commands to restore customized environment variables.

19. Close the cabinet door.