

DIGITAL	FCO	CATEGORY [O]	PAGE 1 OF 9
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FIELD CHANGE ORDER	NUMBER: PB22H-0001
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APPLICABILITY:

This "O" coded FCO affects all revenue PB22H-CX/KB systems, of product family DEC2000 AXP (DECpc-150 AXP) with serial numbers within AY325xxxxx and AY312xxxxx, containing CPU module part number 54-20764-01 at revision "E03" and below.

This FCO incorporates ECO 5420674-TWO002.

PROBLEM & SYMPTOM:

System intermittently exhibits NMI errors when reading from floppy. The error is flagged by a parity error, and can result in system crash, and/or data corruption.

SOLUTION:

Board swap CPU Board, Part No. 54-20674-01, Revision "E03" or below, with Revision "E04" on all revenue systems, with serial numbers within AY325xxxxx and AY312xxxxx.

Manufacturing began shipping Revision E04 as of June 11, 1993.

QUICK CHECK:

Check that the system serial number is within AY325xxxxx and AY312xxxxx, and that motherboard components E125 and E163, are labeled with manufacturer's Part No. 74FCT374AT. Refer to instructions to locate parts.

Test to ensure data can be read from floppy under NT Beta2 and later.

PRE/CO-REQUISITE FCO:	N/A	MFIT HRS
		1.5 hrs.

TOOL/TEST EQUIPMENT: Field Service Maintenance Tool Kit

FCO PARTS INFORMATION

FCO KIT NO.	DESCRIPTION OF CONTENTS
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EQ-01687-01	1 54-20674-01 CPU Module at Revision "E04"
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FA-05023-01	1 FCO Field Applicability Document (FA)
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FCO CHARGING INFORMATION (See Last Page)

APPROVALS

TECH. ENGINEER Rudy Latortue	ENG. BUSINESS MGR. George Wright	DS LOGISTICS Marv Grote	DS PRODUCT SAFETY Robert Brister
MICROMEDIA Brenda Rogers	PARTS AVAILABILITY OCT 93	FCO REVISION A	FCO RELEASE DATE 20-OCT-93

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INSTRUCTIONS FOR INSTALLING
FCO PB22H-0001 on DECpc-150 AXP CPU 54-20674-01

Product Family PB22H-CX and PB22H-KB

***** REFERENCE *****

For more detailed information and illustrations, please refer to the DECpc AXP 150 and DEC 2000 Model 300 AXP Hardware Service Information Manual, Order Number: EK-A0637-SV. This document is also available on TIMA, in the Tools section.

Chapters of interest include:

- Chapter 4, Section 4.11, Updating the Firmware
- Chapter 6, Using The EISA Configuration Utility
- Chapter 9, Removal and Replacement

PREPARING TO REMOVE FRUs

To remove and replace FRUs, you must remove the covers from the system unit.

o Preparing to Remove the Outer Cover

The following list describes the steps that must be followed prior to removing the outer cover.

1. Shut down the operating system following the instructions listed in the operating system documentation.

2. Set the on/off switches on all peripherals connected to the system to the OFF position.
3. Set the on/off switch on the system unit to the OFF position.
4. Note or record the position of all cables attached to the rear of the system.
5. Disconnect all cables from the rear of the system.

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o Removing the Outer Cover

To access the internal components, you must remove the outer cover from the system unit. The following list describes the steps that must be followed to remove the outer cover.

1. Unlock the outer cover using the chassis key (located at the rear of the case).
2. Loosen the two captive screws with a flat screwdriver.
3. Slide the outer cover toward the rear of the system unit, and lift up to remove it.

o Removing the Inner Covers

To access the internal components, you must remove both inside covers from the system unit. The following list describes the steps that must be followed to remove both inside covers.

1. Remove the inside peripheral bay cover by inserting your finger into the circular hole and lifting it out.
2. Loosen the two screws securing the large inside cover to the chassis.
3. By inserting your finger into the large circular hole, slide the large inside cover toward the front of the system unit and remove it.

o Removing EISA or ISA Option Boards

- a) Note or record the position of all option boards.
- b) Remove the screw securing the first option board to the chassis.
- c) Carefully disconnect the option board from the connectors on the system module and remove it from the system.
- d) Repeat steps a,b,c to remove the other option boards.

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o Removing the CPU Module

Use ALL ESD safety precautions to prevent DOA's on material in kit.

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*****
*                               C A U T I O N                               *
*                               *                                           *
* The module, as with all modules, contain electrostatic discharge *
* sensitive devices (ESDS). The use of the Velostat Kit or ESD *
* module box is essential to prevent damage which may not be *
* noticed immediately. *
*****

```

Setting up the Velostat Kit

1. Unfold the Velostat mat to full size (24" x 24").
2. Attach the 15 foot ground cord to the Velostat snap fastener on the mat.
3. Attach the alligator clip end of the ground cord to a good ground on the cabinet.
4. Attach the wrist strap to either wrist and the alligator clip to a convenient portion of the mat.
5. Remove the module from it's CPU option slot and place it on the mat.

OR:

```
*****
*                               C A U T I O N                               *
*                               *                                           *
* If using a module in an ESD box, insure wrist strap is connected *
* to the box and the box is connected to chassis of the device *
* being upgraded. *
*****
```

NOTE: The removal and installation of the CPU board may be easier if the system enclosure is placed onto a table with the open side facing up. Be careful not to drop tools, screws or other materials inside the enclosure.

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1. Turn off power to the system.
2. Follow the steps described in the previous pages for removing the outer cover.
3. Follow the steps described in the previous pages for removing the inner cover.
4. Follow the steps described in the previous pages for removing the ISA and/or EISA option cards.
5. Disconnect the mouse and keyboard cables from the rear of the enclosure.
6. Disconnect power cables (PS1, PS2, and PS3) from the CPU module.
7. Disconnect the front panel signal cable from the CPU module.
8. Disconnect the battery cable from the CPU module.
9. Disconnect the fan power cable from the CPU module.
10. Remove all of the screws (qty. 9) which fasten the CPU module to the enclosure.
11. Gently move the CPU module toward the front of the enclosure until the serial and parallel port connectors do not interfere

with the enclosure.

12. Lift the CPU module out of the case while slightly tilting the module to eliminate interference with the enclosure.

13. Follow the steps described in the previous pages, and remove the SIMM memory modules from the CPU module.

14. Return the CPU module adapter card to Digital.

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o Removing Memory Modules

Use ALL ESD safety precautions to prevent DOA's on material in kit.

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*****
*                               C A U T I O N                               *
*                               *                                           *
* The module, as with all modules, contain electrostatic discharge *
* sensitive devices (ESDS). The use of the Velostat Kit or ESD *
* module box is essential to prevent damage which may not be *
* noticed immediately. *
*****

```

OR:

```

*****
*                               C A U T I O N                               *
*                               *                                           *
* If using a module in an ESD box, insure wrist strap is connected *
* to the box and the box is connected to chassis of the device *
* being upgraded. *
*****

```

NOTE: Memory modules must be re-installed in the locations from which they are removed. Make note of the location of SIMM modules for reference.

1. Remove memory modules by holding back the metal clips on the memory module connector, tilting the memory module and lifting it out of its connector.

o Installing the New CPU Module

1. Remove the new CPU module Part No. 54-20674-01 from its packaging, and verify that it is at revision level E04. The revision level tag is typically located at the left of the bottom two EISA slots.

Also verify that the system firmware is at level 2.0 or later. If the firmware is at a lower level, contact the Digital office for a copy of the latest revision.

QUICK CHECK:

Position the motherboard so that the EISA slots are at bottom left position, and memory slots are at top left. E163 is located below the second memory slot, and starting at the right end of the slot, it is the third component to the left. E125 is located below the sixth memory slot and starting from the right end of the slot, it is the third component to the left.

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2. Install the SIMM memory modules which were removed from the original CPU module onto the revision E04 CPU module. To install, carefully insert the memory module at the proper angle (approximately 45 degrees) into the connector, and then rotate back so that it is latched-in by the metal clips.
3. Lower the CPU module into the case while slightly tilting the module to avoid interference with the enclosure.
4. Gently move the CPU module toward the rear of the enclosure until the serial and parallel port connectors insert into the openings in rear of the enclosure.
5. Make sure the screw holes are aligned with the stand-off's in the enclosure.
6. Install all of the screws (qty. 9) which fasten the CPU module to the enclosure. (DO NOT over tighten any of the screws.)
7. Re-connect power cables (PS1, PS2, and PS3) to the CPU module.
8. Re-connect the front panel signal cable to the CPU module.
9. Re-connect the battery cable to the CPU module.

10. Re-connect the fan power cable to the CPU module.
11. Install the Adaptec SCSI adapter card. Ensure the SCSI bus and floppy cables are re-connected properly.
12. Re-install all other ISA and/or EISA option cards, and associated internal cables.

o Installing EISA or ISA option boards in the system unit.

Use ALL ESD safety precautions to prevent DOA's on material in kit.

```
*****
*                                     C A U T I O N                                     *
*                                                                              *
* The module, as with all modules, contain electrostatic discharge *
* sensitive devices (ESDS). The use of the Velostat Kit or ESD *
* module box is essential to prevent damage which may not be *
* noticed immediately. *
*****
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OR:

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*****
*                                     C A U T I O N                                     *
*                                                                              *
* If using a module in an ESD box, insure wrist strap is connected *
* to the box and the box is connected to chassis of the device *
* being upgraded. *
*****
```

The following list describes the steps that must be followed to install EISA or ISA option boards.

- a) Using the information recorded during removal, determine the correct slot for the option board on the CPU board.
- b) Carefully insert the first option board into the appropriate connectors on the CPU module and press it firmly into place.

c) Secure the option board to the chassis using the appropriate screw.

d) Follow steps a - d to install all other option boards.

13. Re-install the inner and outer covers.

14. Re-connect the mouse and keyboard cables at the rear of the enclosure. Note that the keyboard port is the one closest to the edge of the enclosure.

15. Re-connect the video monitor signal cable.

16. Re-connect any other cables previously disconnected.

17. Insure that all connection are to the original configuration.

18. Turn on power to the system. If an NVR failure occurs during the first power-up, turn off the power and power-up again.

19. Run the EISA Configuration Utility program (ECU) according to the procedure outlined in the DECpc AXP 150 and DEC 2000 Model 300 AXP Hardware Service Information Manual, Order No. EK-A0637-SV. This manual is also on TIMA in the Tools section.

FINAL STEP

Report this FCO activity on the LARS form in the "Fail Area/Module/FCO/Comments" column as follows: FCO PB22H-0001. (See Page 9)

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LARS

CATEGORY	O	USA	GIA	EUROPE
Activity -				
(a)Contract		W	U	K
Warranty		W	U	W
(b)IN-DEC Contract		K	U	A
Non Contract/Non Warranty		F	F	F
(c)RTD/Off-site Agreement		F	U	F
Hardware Segment Code		111	111	111
Product Line		007	007	007

DEC Option	PB22H-CX/KB	PB22H-CX/KB	PB22H-CX/KB
Option ID	X	N/A	N/A
Type of Call	M	M	M
Action Taken	D	D	I/V
Fail Area-Module-FCO-Comments	PB22H-0001	PB22H-0001	PB22H-0001
Material Used	EQ-01687-01	EQ-01687-01	EQ-01687-01

(a) Warranty Optimum, Warranty Standard and Warranty Basic (on-site) Agreements; * Note material (only) free of charge for all customers.

(b) Applies to IN-DEC Area Only

(c) RTD=Return to Digital or Off-site Agreements; If Field Engineer On-site, use Activity Code "F".

FCO CHARGING INFORMATION

WARRANTY/CONTRACT		NONWARRANTY/NONCONTRACT						
ON-SITE		OFF-SITE		ON-SITE		OFF-SITE		MATERIAL ONLY
TRAVEL/ INSTALL	EQ KIT	INSTALL	EQ KIT	TRAVEL/ INSTALL	EQ KIT	INSTALL	EQ KIT	ORDER-ADMIN, HANDLING PKG, SHIPPING & EQ KIT
DEC	DEC	DEC	DEC	CUS	CUS	CUS	CUS	CUS

\\ FCO_DOCS