

DIGITAL

FCO

CATEGORY

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FIELD CHANGE ORDER

NUMBER: 63XMX-F003

APPLICABILITY: Upgrade all T2011-YA/-YC spares and any CPU modules in systems which exhibit the problems described below. This FCO incorporates ECO's T2011-YA-MK001, T2011-YA-MK002, T2011-YA-TW003 and T2011-YA-TW004.

NON-CONTRACT/NON-WARRANTY CUSTOMERS: It is recommended that T2011-YA spares be upgraded to Rev. "AE01" for the T2011-YA and "AD01" for T2011-YC.

|| This supersedes previous revision, dated 18 February 1991.

PROBLEM & SYMPTOM: 1) Secondary processor intermittently fails RDB test 7 and/or ELKMP; 2) Duplicate Tag Parity Errors occur during periods of heavy XMI activity; 3) Cache Tag Parity errors and/or related bugchecks in which the exception PC equals MMG\$PAGEFAULT+10E,MMG\$PAGEFAULT+91.

SOLUTION: Replace failing T2011-YA/-YC module with revision AE01 for the T2011-YA or revision AD01 for the T2011-YC.

QUICK CHECK: Check ROM at loc. E16 (Console Rom). Should be 23-188E9-00 for the -YA and 23-192E9-00 for the -YC.

PRE/CO-REQUISITE FCO:

N/A

MTTI HRS

1 Hr.

TOOL/TEST EQUIPMENT: Field Service Tool Kit.

FCO PARTS INFORMATION

FCO KIT NO.	DESCRIPTION OF CONTENTS	EQ KIT VARIATION APPLICABILITY
EQ-01596-XX	See Page 2.	
FA-04928-01	FCO Document	N/A

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

APPROVALS

CSSE Ken Jackson	FSHQ LOGISTICS Len Pellerin	FS PRODUCT SAFETY Robert Brister
CSSE MANAGER Ric Grogan	This Document is published on multiple media including Hardcopy, Customer Services	FCO RELEASE DATE 18-MAR-1991

MICROMEDIA Diane MacDonald	Microfiche Libraries, Customer Services CD-ROM and MDS Microfiche Libraries.	FCO REVISION C
POPULATION 1,450		PARTS AVAILABILITY January, 1991

```

|_|_|_|_|_|_|_|_|_|
|d|i|g|i|t|a|l|
|_|_|_|_|_|_|_|_|_|

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FCO Parts Information: (Continued from Page 1)

FCO KIT NO. -----	CONTENTS -----
EQ-01596-01 FA-04928-01	T2011-YA FCO Document
EQ-01596-02 FA-04928-01	T2011-YC FCO Document
EQ-01596-03	TK50 (Cache Exerciser Program P/N FA-04928-02)

FIELD INSTALLATION AND TEST PROCEDURE FOR 63XMX-F003

```

*****
*                                     *
*                   NOTE 1           *
* Upon a scheduled site visit to remove and replace a failing      *
* T2011-YA/-YC experiencing "Cache Tag Parity Errors" and/or      *
* related "Fatal Bugchecks" in which the exception PC equals      *
* MMG$PAGEFAULT+10E,MMG$PAGEFAULT+91, it is recommended that the  *
* Cache Exerciser Program, EQ-01596-03, be invoked to test the    *
* remaining T2011-YA modules remaining in the system to verify the*
* cache integrity. Only those modules which exhibit the problem   *
* should be replaced. There is no need to replace all CPU modules *
* in a system. There are no compatibility problems between        *
* revisions.                                                       *
*                                     *
*                   NOTE 2           *
* It is recommended that an additional module be brought to the  *
* customer site in the event the Cache Exerciser identifies an   *
* additional failing CPU module.                                    *
*****
1. Shut down the operating system using the approved methods,
   such as @SYSS$SYSTEM:SHUTDOWN for VMS. If using SHUTDOWN,
   answer all prompts accordingly.

```


TYPE ^P (TO STOP THE PROGRAM)

?02 external halt
PC = ???

Failure. (reflects the ^P)
>>>

```
|_|_|_|_|_|_|_|_|_|
|d|i|g|i|t|a|l|
|_|_|_|_|_|_|_|_|_|
```

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10. After running the Tag Verification Program, make note of all CPU modules which exhibited cache tag parity errors including the original failing module.
11. Before powering down the system, set the console terminal speed to 1200.

Do not worry if the console writes strange characters after issuing the command. This means your terminal is set to some baud rate other than 1200 baud.

12. Press the SETUP key on your terminal and set the baud rate of your terminal to 1200 baud. SAVE this setting. This allows you to issue console commands once the new T2011-YA/YC(s) are installed.
13. Power down the system by turning the upper key switch on the front control panel to the OFF position. Pull the circuit breaker on the AC power controller (H405) to the OFF position and unplug the system from the source.
14. Open the front cabinet door.
15. Remove the clear plastic cover in front of the XMI cage.

```
*****
*                               C A U T I O N                               *
*                               *                                           *
*      All VAX modules contain electrostatic discharge                    *
*      sensitive devices (ESDS). The use of an antistatic                 *
*      wrist strap attached to the cabinet is essential when             *
*      when handling modules.                                             *
*****
```

16. Remove the failing T2011-YA/-YC module(s) from the cardcage and install the new T2011-YA/-YC(s) from EQ-01596-01 or -02 into the slot(s) from which the original module(s) were removed.

17. Re-install the XMI cardcage cover assembly and tighten retaining

screw.

_	_	_	_	_	_	_	_	_
d	i	g	i	t	a	l		
_	_	_	_	_	_	_	_	_

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```

*****
*                               **NOTE 1**                               *
* THE NEW XMI BASED SYSTEMS HAVE NECESSITATED CHANGES TO THE          *
* PROCESSOR CONSOLE ROM FOR SUPPORT.  WHEN THESE PROCESSOR              *
* MODULES ARE CYCLED INTO THE FIELD AS ADD-ON OPTIONS, SPARES,          *
* OR DUE TO AN FCO, IT MAY RESULT IN VAX 6000 SYSTEMS HAVING          *
* PROCESSOR MODULES WITH CONSOLE ROMS AT DIFFERENT REVISIONS IN        *
* THE SAME SYSTEM.                                                       *
*                               -                                           *
* YOU MAY SEE CONSOLE ROM MISMATCH MESSAGES PRINTED DURING            *
* SYSTEM INITIALIZATION. THESE DO NOT IDENTIFY A PROBLEM. THESE        *
* SHOULD BE CONSIDERED INFORMATIONAL FOR LISTING ROM REVISIONS.        *
*                               **NOTE 2**                               *
* DO NOT USE "SAVE/RESTORE EEPROM" AND/OR "UPDATE ALL" COMMANDS        *
* WITH MULTIPLE CPU SYSTEMS WHICH MAY CONTAIN MIXED VERSIONS OF        *
* CONSOLE/DIAGNOSTIC ROMS. USE INSTEAD, "PATCH UPDATE UTILITY",      *
* EVUCA.                                                                   *
*****

```

18. Power on the system by setting the upper front panel keyswitch to ENABLE. Ensure Self Test is completed successfully on all T2011-YA/-YC modules. If some modules fail selftest, you may have to ensure the processor modules are seated correctly in the backplane. It is not uncommon to have to reseat the boards once or twice.

19. Move the lower key switch to the Update position and restore the system serial number and boot specifications recorded in Steps 7 and 8, to the T2011-YA/-YC(s) just installed. Do the following:

```
>>>SET CPU n
```

where n is the node number.

20. Enter the <CTRL/3>SET SYSTEM SERIAL command, using the serial number you recorded in Step 8.

Following is a sample output from the command:

```
>>> $^?SET SYSTEM SERIAL
System Serial Number>>> AG83701988
Serial number read as: AG83701988
```

Update EEPROM? (Y or N) >>> Y
?73 System serial number updated.

```
  _ _ _ _ _  
 |d|i|g|i|t|a|l|  
 | _ _ _ _ _ |
```

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-
21. Now, enter the boot specifications you saved in Step 7, using the SET BOOT command. Here is sample output from the command:

```
>>> SET BOOT DEFAULT /XMI:E/BI:4 DU3D
```

It may be helpful to check the boot specification you just entered. Enter the SHOW BOOT command to check the boot specification or specifications. If your system contains more than one processor, entering the SET BOOT command causes the boot specification to be copied to all processors, so this command does not need to be repeated on each processor.

22. In Step 5 you recorded which of the CPUs were prevented from becoming primaries. You need to set that condition again.

```
>>> SET CPU [n] /NOPRIMARY
```

where n equals the node number.

23. Press RESET on the control panel or enter the INITIALIZE command and ensure the console prints no error messages.
24. Return the lower front panel keyswitch to the position you recorded in Step 3.
25. Run the Diagnostic Supervisor (VAX/DS) ELSAA.
26. Run EVSBA - VAX Diagnostics Autosizer program.
27. If multiprocessors are present run EVUCA to patch ROMS.

```
*****  
*                               NOTE 1                               *  
* EVUCA REQUIRES VAX DIAGNOSTIC SUPERVISOR (VAX/DS) VERSION 14.0 *  
* OR LATER AND BINARY FILE ELUCB.BIN BE PRESENT FOR VAX6000-3XX. *  
*                               *  
*                               NOTE 2                               *  
* DO NOT USE "SAVE/RESTORE EEPROM" AND/OR "UPDATE ALL" COMMANDS *  
* WITH MIXED VERSIONS OF CONSOLE/DIAGNOSTIC ROMS. USE INSTEAD, *  
* "PATCH UPDATE UTILITY", EVUCA *  
*****
```

28. Load and run the following diagnostics:

ELKAX	Functionality
ELKMP	Multiprocessor Exerciser
EVKAQ	Basic Instructions Exerciser Part I
EVKAR	Basic Instructions Exerciser Part II
EVKAS	Floating Point Instructions Exerciser Part I
EVKAT	Floating Point Instructions Exerciser Part II
EVKAU	Privileged Architecture Exerciser Part I
EVKAV	Privileged Architecture Exerciser Part II

29. Upon successful completion of the diagnostics, exit the VAX/DS.

30. Bring up the operating system.

31. Update Site Management Guide to reflect this FCO.

32. Return the old Rev. T2011-YA(s)/-YC(s) in the ESD container for upgrading.

33. Report this FCO activity on the LARS form in the "Fail Area/Module/FCO/Comments" column as follows: FCO 63XX-F003.

LARS	USA	GIA	EUROPE
Activity -			
(a)Contract and Warranty	W	U	Y
(b)IN-DEC Contract	K		
Hardware Segment Code	111		
Non Contract/Non Warranty	F	F	F
(c)RTD/Off-site Agreement	F		
Product Line	01		
DEC Option	63XX	63XX	63XX
Type of Call	M	M	M
Action Taken	D	D	I
Fail Area-Module-FCO-Comments	63XX-F003	63XX-F003	63XX-F003
Material Used	EQ-01596-01/ EQ-01596-02/ EQ-01596-03	EQ-01596-01/ EQ-01596-02/ EQ-01596-03	EQ-01596-01/ EQ-01596-02/ EQ-01596-03

(a) Warranty Optimum, Warranty Standard and Warranty Basic (on-site) Agreements.

(b) Applies to INDEC AREA ONLY

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

\^ 63XMX
\63XMX
\FCO_DOCS
\MAR
\1991
\T2011-YA
\T2011-YC
\JACKSON