

DIGITAL

FCO

CATEGORY

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FIELD CHANGE ORDER

NUMBER: 9XXX-0011

APPLICABILITY: This "O" coded FCO should be installed on all VAX 9XXX systems configured with any VECTOR ACCELERATOR CPU OPTIONS and all field spares should be upgraded at the same time. This FCO incorporates ECO #P1018-A-MR002. This ECO changes the revision of the P1018-AA MCU Multi Chip Unit, to revision H02.

PROBLEM & SYMPTOM: The problem symptoms may range from undetected intermittent, incorrect results, to non-recoverable data parity errors. The symptoms resulting from these anomalies are difficult to define or model specifically. They are caused by ALPHA particle effects. These changes simulate the exposure due to ALPHA particles and add further circuit stability by use of dual feedback latch.

## SOLUTION:

1. Retrofit all current customer VAX9000 systems with installed VECTOR ACCELERATOR OPTIONS to reflect usage of the MCU with the revision indicated on Page 2.

"Continued on Page 2"

QUICK CHECK: See Page 2.

PRE/COREQUISITE FCO:

9XXX-0003

MTTI HRS

See Page 2

- TOOL/TEST EQUIPMENT: 1. Console software must be at BL14.2 minimum.  
2. VAX9000 Maintenance Guide Vol II for MCU Removal/Replacement Procedure.

## FCO PARTS INFORMATION

FCO KIT NO.	DESCRIPTION OF CONTENTS	EQ KIT VARIATION APPLICABILITY
EQ-01623-03 FA-04958-02	F6-P1018-AA;H02 VML, VBOX MULTIPLY MCU FCO Document	

## 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	N/A	N/A	N/A	N/A	N/A

## APPROVALS

CSSE  
Chris DemosCSL LOGISTICS  
Dick JosephCS PRODUCT SAFETY  
Robert Brister

CSSE MANAGER Dino Genova	This document is published on multiple media including Customer Services and MDS	FCO RELEASE DATE 24 September 1991
MICROMEDIA Diane MacDonald	Microfiche Libraries. It is also available electronically on the Service and	FCO REVISION A
POPULATION 126	Support Documents CD-ROM and via TIMA.	PARTS AVAILABILITY September, 1991

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SOLUTION (Continued)

NOTE: ONLY RETROFIT P1018-AA, VML MCU AT OR BELOW REVISION "F".

Part #	Description	OLD REV	NEW REV
F6-P1018-AA	VML, VBOX MULTIPLY MCU	E,F	H

2. Update logistics spares to reflect the latest revision of VML MCU indicated above.

QUICK CHECK (Continued)

Look for the following revision on the VML MCU within current VAX9000 customer systems;

Part #	Description	Acceptable Revision
P1018-AA	VML, VBOX MULTIPLY MCU	H

MTTI (Continued)

This FCO will take approximately 4.0 Hrs. (includes shutdown, removal, installation, and test time) for a UNI CPU configuration.

Field Installation Synopsis

1. Perform Normal Operating System Shutdown Procedures.
2. Turn Operator's Console "STARTUP" Switch to "HALT" position.
3. Show configuration of MCUs via VAX9000 console within each CPU that exists within system.

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4. Identify if any of the P1018-AA, VML MCUs are at or below revision "F".

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| NOTE: THE FOLLOWING SET OF STEPS ARE TO BE DONE ON EACH CPU |
| CONTAINING A VECTOR ACCELERATOR OPTION SEPARATELY, AND NOT |
| CONCURRENTLY ACROSS MULTIPLE CPU PLANARS!!!! |
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5. Power off the system, disconnect power and lock out the system from AC power source.
6. Replace the identified P1018-AA, VML MCU with the P1018-AA revision "H" supplied in the FCO kit # EQ-01623-03.

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| NOTE: REFERENCE THE MCU REMOVAL AND REPLACEMENT PROCEDURE |
| CONTAINED WITHIN THE VAX9000 MAINTENANCE GUIDE. |
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7. Re-connect power and remove all lock out from the system's AC power source.
8. Power on the system and wait for the System Initialization to complete.
9. Verify that all the CPU Diagnostics run without error.

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| NOTE:THE "x" IN THE FOLLOWING COMMAND LINES REPRESENT THE TARGET CPU |
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```
>>>SET LOGGING/FILE=[CONSOLE]VML.LOG ON <CR>
>>>SHOW TIME <CR>
>>>!CUSTOMER = "customer name" <CR>
>>>!ADDRESS = "street address" <CR>
>>>! "city,state/country" <CR>
>>>!SERIAL#= "system serial # " <CR>
>>>SHOW VERSION <CR>
>>>SHOW CONFIGURATION/CPU:ALL <CR>
>>>SET CLOCK/SCU/CPU:ALL OFF <CR>
>>>SHOW CLOCK/FULL <CR>
```

9. (Continued from Page 3)

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>>>SENSE SYSTEM <CR>
>>>SHOW CONFIGURATION/RINGS/CPU:x <CR>
>>>SET DEFAULT [SYSMAINT] <CR>
>>>COPY C_EDKDLJF*.SPDI CPUx_DEFAULT.SPDI <CR>
>>>SET DEFAULT [CONSOLE] <CR>
>>>TEST/SCAN/CPU:x/LOG/TRACE/ISOLATION <CR>
>>>TEST/STRUCTURE/ALL/CPU:x <CR>
>>>TEST/CPU:x <CR>
>>>INITIALIZE/KERNEL <CR>
>>>@[TOOLS]CPUx_ZFLEX.CMD <CR>
>>>INITIALIZE/KERNEL <CR>
>>>@[CONSOLE]CLEAR_MEMORY <CR>
>>>SET BOOTSET/PRIMARY:x <CR>
>>>LOAD [SYSMAINT]EVKAA.EXE <CR>
>>>START/CPU:x 200 <CR>

```

"type Control P after about 1 minute or about 15E0(X) passes"

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>>>HALT/CPU:x <CR>
>>>INITIALIZE/KERNEL <CR>
>>>@[CONSOLE]CLEAR_MEMORY <CR>
>>>SET BOOTSET/PRIMARY:x <CR>
>>>BOOT VDS <CR>
DS>SET VERIFY,TRACE,QUICK <CR>
DS>RUN EVSBA.EXE <CR>
DS>SELECT ALL <CR>
DS>RUN EVKAQ.EXE <CR>
DS>RUN EVKAR.EXE <CR>
DS>RUN EVKAS.EXE <CR>
DS>RUN EVKAT.EXE <CR>

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NOTE: IF YOUR VAX9000 IS RUNNING WITH EBOX MICROCODE VERSION
A338 OR HIGHER, IGNORE THE ERROR REPORTED WHEN RUNNING
EVKAT.EXE, TEST 25, SUBTEST 1, HALT ON ERROR AT PC 00009718
(HEXADECIMAL). THIS IS DUE TO A KNOWN "EVKAT.EXE" DIAGNOSTIC
DEFICIENCY AND MICROCODE VERSIONS A338 OR HIGHER.

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DS>RUN EVKAU.EXE <CR>
DS>RUN EVKAV.EXE <CR>
DS>RUN EVKAG.EXE <CR>
DS>RUN EVKAH.EXE <CR>
DS>EXIT <CR>
>>>SET LOGGING/FILE=[CONSOLE]VML.LOG OFF <CR>
>>>@[SYSMAINT]ADMIN.CMD <CR>

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NOTE::WHEN ADMIN.CMD PROMPTS FOR A "REASON CODE" ENTER "O" THEN
ENTER "FCO 9XXX-0011" .

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WHEN ADMIN.COMD PROMPTS FOR ANY "PREVIOUSLY PREPARED FILE"  
ENTER "[CONSOLE]VML.LOG"

PACKAGE THE TK50 WITH THE RETURNING MCU.

>>>DELETE [CONSOLE]VML.LOG.\* <CR>

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NOTE:

IF THIS FCO NEEDS TO BE DONE TO AN ADDITIONAL CPU, DUE TO MULTI-  
PLE VECTOR ACCELERATOR OPTIONS INSTALLED WITHIN THE SYSTEM, REPEAT  
STEPS STARTING WITH STEP # 5.

10. Initialize system.

>>>INITIALIZE/KERNEL <CR>  
>>>@[CONSOLE]CLEAR\_MEMORY <CR>

11. Perform Normal Operating System Boot Procedures.

12. Check the console error log.

13. Complete site management guide and report this FCO activity on the  
LARS form in the "Fail Area/Module/FCO/Comments" column as follows:  
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LARS

	USA	GIA	EUROPE
Activity -			
(a)Contract and Warranty	W	U	Y
(b)IN-DEC Contract	K		
Hardware Segment Code	111	031	
Non Contract/Non Warranty	F	F	F
(b)RTD/Off-site Agreement	F		
Product Line	031	031	
DEC Option	9XXX	9XXX	9XXX

Type of Call	M	M	M
Action Taken	D	D	I
Fail Area-Module-FCO-Comments	9XXX-0011	9XXX-0011	9XXX-0011
Material Used	EQ-01623-03	EQ-01623-03	EQ-01623-03

- (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\_DOCS

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