

DIGITAL	FCO	CATEGORY [0]	PAGE 1 OF 5
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FIELD CHANGE ORDER	NUMBER: 9XXX-0016
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APPLICABILITY: This "0" coded FCO will replace the DBX MCU on all VAX 9XXX systems. All Field spares should also be upgraded at the same time. This FCO incorporates ECO P1020-A-MR001, revision F02

PROBLEM & SYMPTOM: 1. ECC reporting rate throttle. 2. Truncated refresh fix. 3. Mode switching fix (from STEP to NORMAL). 4. Address to MACs sometimes only holds for 1 cycle instead of the intended 2 cycles, therefore, causing MAC Address Parity errors. 5. Byte writes in step mode causes a hang, then MEM HANDSHAKE SEQUENCE ERROR. 6. Missing B.O.D. (Beginning Of Data). All of the problems were related to memory ECC error reporting and/or stopping and starting of VAX 9000 system clock.

SOLUTION: The problems were fixed by a relayout of the DBX MCU to rev. F02.

QUICK CHECK: Look for revision F02 on the P1020 DBX MCU.

PRE/CO-REQUISITE FCO: N/A	MTTI HRS	2.5 hrs
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TOOL/TEST EQUIPMENT: See page 2

FCO KIT NO.	FCO PARTS INFORMATION DESCRIPTION OF CONTENTS	EQ KIT VARIATION APPLICABILITY
EQ-01644-01	F6-P1020-AA DBX MCU, Rev F02	
FA-04980-01	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	N/A	N/A	N/A	N/A	N/A

APPROVALS

SPE Dave Younkin	DSHQ LOGISTICS Dick Joseph	DS PRODUCT SAFETY Robert Brister
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SPE Manager Dino Genova	This document is published on multiple media including	FCO RELEASE DATE 16 April 1992
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MICROMEDIA Anne James Smith	Customer Services and MDS Microfiche Libraries. It is also available electronically via TIMA and the SSD	FCO REVISION A
POPULATION 600	CD-ROM. PARTS AVAILABILITY April 1992	

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TOOLS REQUIRED (Cont.)

- a. 29-28230-01
 VAX 9000 Connector Torque Tool Kit
- b. Standard Field Service Tools
- c. 29-28267-01 Cleaning Swabs

EK-KA901-MG - VAX 9000 Family System Maintenance Guide, Volume 1

GENERAL COMMENTS

This document is the DBX MCU Field Advisory. It contains the procedures you will need to install DBX MCU, rev F02. If you have a DBX MCU without the necessary software and documentation, this document will supply the procedures needed.

Because of the limited options available upon installing this FCO, it is recommended that BL15.0 already be installed and running on the system before attempting the DBX FCO. The procedure for building a BL15.0 console tape is available over the ENET. In addition to the ENET release, two other methods are available for obtaining the BL15.0 console.

- A. The following represent a set of TK50 tapes in which to build a console.

- Console Image Tape AQ-PAKHC-ME
- Logic Tape AQ-PAKJC-ME
- Server Logic Tape AQ-PH5XB-ME
- Server Upgrade Logic Tape AQ-PHN4B-ME
- Diagnostic Tape AQ-PAKKC-DE
- Digital Service SDD/Diags AQ-PBE9C-AE

- B. The following representst a Pre-built console.

Procedure plus Pre-Built RD54 QZ-K23AG-FS

It is recommended that the console software upgrade be performed "independent" of the DBX 9XXX-0016 FCO.

MINIMUM revisions:

- a. CPU: B6 Kernel revision C
- b. SCU: B3
- c. SPU: BL15.0 Console software MUST be at revision BL15.0.

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This FCO, from a hardware perspective will be contained within the SCU (System Control Unit) cabinet only, and is configuration dependent.

- a. Configuration "A" - A system containing "full" memory. Both ACU0 and ACU1 present for 512 megabytes. Replace MCU DB0 and DB1.
- b. Configuration "B" - A system Containing "half" memory. Only ACU0 present for 256 megabytes. Replace DB0 MCU.

This FCO requires BL15.0 console software. If the console is not at BL15.0, you must upgrade the console software before this FCO is installed.

INSTALLATION PROCEDURE:

- 1. Before removing the existing MCU'(s), execute the following diagnostics to ensure system intergety and testability.

```

>>>SENSE SYSTEM
>>>SHOW CONFIG/RINGS/SCU

```

(verify that there are no mismatches)

```

>>>TEST/SCAN/LOG/TRACE/ISOLATION/SCU
>>>TEST/SCU

```

```
>>>TEST/STRUCTURE/ALL/LOG/SCU
```

```
>>>@[TOOLS]CPUUn_ZFLEX
```

```
>>>TEST/JXDI
```

```
>>>@[SYSEXE]TEST_SJI
```

2. Edit [SYSEXE]SITESPECIFIC.CMD on the SPU console to reflect the new CDB and revision level of the SCU and Kernel.

```
!DEFINE/SYSTEM CDB$DEFAULT_CPU0 B6_CPU.CDB ! CDB for CPU0
!DEFINE/SYSTEM CDB$DEFAULT_CPU1 B6_CPU.CDB ! CDB for CPU1
!DEFINE/SYSTEM CDB$DEFAULT_CPU2 B6_CPU.CDB ! CDB for CPU2
!DEFINE/SYSTEM CDB$DEFAULT_CPU3 B6_CPU.CDB ! CDB for CPU3
DEFINE/SYSTEM CDB$DEFAULT_CPU B6_CPU.CDB ! CDB for all CPUs
+++ DEFINE/SYSTEM CDB$DEFAULT_SCU B4_SCU.CBD ! CDB for SCU
*** !DEFINE/SYSTEM CDB$DEFAULT_SCU B3_SCU.CDB ! CDB for SCU
DEFINE/SYSTEM SYS$CPU_REVISION B6 ! Revision of CPU
+++ DEFINE/SYSTEM SYS$SCU_REVISION B4 ! Revision of SCU
*** !DEFINE/SYSTEM SYS$SCU_REVISION B3 ! Revision of SCU
+++ DEFINE/SYSTEM SYS$KERNEL_REVISION D ! Revision of kernel
*** !DEFINE/SYSTEM SYS$KERNEL_REVISION C ! Revision of kernel
```

*** Comment out any reference to B3 SCU.

+++ Add new code defining the new CDB, new revision levels of the SCU and KERNEL.

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3. Using the recommended lock-out/tag-out procedures, power down the system. This reference material is documented in the VAX 9000 Family System Maintenance Guide, Volume 1.
4. Using the recommended removal/replacement procedures, documented in the VAX 9000 Family System Maintenance Guide, Volume 1, replace the DBX MCU'(s) in the system. In a system with 512 megabytes of memory, both DB0 and DB1 will have to be changed at the same time. This is the result of loading a different/new CDB file in the SCU (System Control Unit).
5. Remove locks and tags and bring power up.
6. Verification of the new DBX MCUs

```
>>>SENSE SYSTEM
```

```
>>>SHOW CONFIG/RINGS/SCU
```

(verify that there are no mismatches)

```
>>>TEST/SCAN/LOG/TRACE/ISOLATION/SCU
```

```
>>>TEST/SCU
>>>TEST/STRUCTURE/ALL/LOG/SCU
>>>@[TOOLS]CPUn_ZFLEX
```

7. Load VDS and run the following MACRO level Diagnostics:

```
EVKAQ KVKAU
EVKAR EVKAV
EVKAS  KWKAX
EVKAT KWKMP
```

8. Boot VMS:

NOTE: While UETP is running, execute [TOOLS]ADMIN.COMD for the MCU'(s) removed from the SCU. Every MCU that is returned must have a TK50 tape created by the ADMIN.COMD procedure. Assuming that the DBX MCU'(s) just removed from the SCU were in good working order, it should be clearly identified as; "RETURN FOR UPGRADE", "THIS IS A B3 SCU MCU, DBX".

9. Report this FCO activity on the LARS form in the "Fail Area/Module/FCO/Comments" column as follows: FCO 9XXX-0016
(See page 5)

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LARS

CATEGORY O	USA	GIA	EUROPE
Activity -			
(a)Contract and Warranty	W	U	Y
(b)IN-DEC Contract	K	U	
Hardware Segment Code	111	111	
Non Contract/Non Warranty	F	F	F
(c)RTD/Off-site Agreement	F	U	
Product Line	031		
DEC Option	9XXX	9XXX	9XXX
Type of Call	M	M	M
Action Taken	D	D	I
Fail Area-Module-FCO-Comments	9XXX-0016	9XXX-0016	9XXX-0016
Material Used	EQ-01644-01	EQ-01644-01	EQ-01644-01

- (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 - Warranty Optimum, Warranty Standard and Warranty Basic (on-site) Agreements.
- (c) RTD=Return to Digital or Off-site Agreements; If Field Engineer

On-site, use Activity Code "F".

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