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FIELD CHANGE ORDER	NUMBER: DHW4X-F001
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APPLICABILITY: This FCO applies to MicroVAX 3100 Models 30, 40 and 80 with a DHW41/42 asynchronous communications option that uses a revision B03 logic board 54-20662-01. The DHW41/42 family includes: DHW41-AA and -BA for the Model 30; DHW42-AA, -BA and -CA for Models 40 and 80. Hereafter, this option will be referred to as DHW4X. ECO's 5420662-TWO001 and -TWO01A apply to this FCO.

PROBLEM & SYMPTOM: The DHW4X option will "lock-up" or "hang" at intermittent intervals, depending on customer application, because of lost interrupts caused by a failure on the rev. B03 DHW4X logic board 54-20662-01 to process data. Once "lock-up" occurs, any/all devices attached to the DHW4X cannot be stopped or cleared. (Continued on Page 2)

SOLUTION: Replace the revision B03 logic board (54-20662-01) with part revision C03.

QUICK CHECK: Look for revision C03 printed on the 54-20662-01 logic board. To determine the rev. level, the system unit must be disassembled and the 54-20662-01 logic board removed for inspection. If it is at rev. B03 this FCO is required.

PRE/COREQUISITE FCO: If the 3100 CPU module has version V1.1 firmware, then FCO KA45-F001 (Models 30 and 40) or FCO KA47-F001 (Model 80) should also be installed on the system.	MTTI HRS 1.2
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TOOL/TEST EQUIPMENT: Field service tool kit and electrostatic kit.

FCO PARTS INFORMATION

FCO KIT NO.	DESCRIPTION OF CONTENTS
EQ-01668-01	54-20662-01 module
FA-05002-01	FCO DOCUMENT

FCO CHARGING INFORMATION (See Last Page)

APPROVALS

TECH. ENGINEER Greg Stillings	BUSINESS MGR. Vin Indorato	DSHQ LOGISTICS Barry Weinstein	DS PRODUCT SAFETY Robert Brister
MICROMEDIA	PARTS AVAILABILITY	FCO REVISION	FCO RELEASE DATE

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Problem/Symptom: (Continued from Page 1)

The frequency of the "lock-up" can occur hourly, daily, weekly or longer depending on the amount of data being processed through the DHW4X. The "lock-up" is especially noticeable when bar code readers are used with the DHW4X. Neither the console terminal port OPA0 nor the TTA# ports are affected by the "lock-up". Once "lock-up" occurs, system reboot is necessary to unlock the DHW4X.

Field Installation and Test Procedure

**** NOTE ****

Read these instructions completely before attempting installation of this FCO. If problems are encountered during the procedures described herein, refer to the documentation listed in Step 18.

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*****  
*                                     *  
*                               CAUTION                               *  
*                                     *  
* The internal Field Replaceable Units (FRU's) handled during this procedure*  
* are sensitive and can be damaged by electrostatic discharge (ESD).  Wear a*  
* wrist strap and place an anti-static mat under the system unit when      *  
* working with the internal parts of the system unit.                    *  
*****
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1. Operating system shutdown: Have the customer notify all affected system users and shutdown the operating system following the procedures described in the operating system documentation.
2. Display the system configuration: (for reference later on)
 - a. Press the Halt button on the back of the system unit to put the system in console mode. The system should respond with the console prompt (" >>> ") when in console mode.
 - b. Enter the command >>> SHOW CONFIG .

A sample system response follows for a system with a KA45 CPU board with 8 MB memory and version V1.1 firmware, an RZ24 system disk and TZ30 tape drive, a DSW42 synchronous communications option and a DHW42 asynchronous comm option.

4. Remove all connections from the system unit's rear panel: Disconnect from the system unit the power cord, cables, loopback connectors and terminators.
5. Remove the system unit's enclosure cover: Loosen the two captive Philips screws (12-30338-05) on the back of the system unit. Slide the cover forward and lift it up from the system unit.
6. Remove the mass storage drive mounting shelf/shelves:

** NOTE **

You can remove the drive-mounting shelf/shelves with all the mass storage devices attached and without disconnecting the power cable and SCSI cable from the mass storage devices.

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*
*                               *
*          CAUTION              *
*                               *
*  When you disconnect the SCSI cable from the CPU board, ensure that you *
*  do not damage or disturb the MS44 memory modules (SIMM).             *
*                               *
*  Be careful not to disturb any green wire connections on the CPU board. *
*                               *
*****

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- a. For the Model 30, there is one drive mounting shelf.
 1. On the power supply unit, disconnect the 'flying lead' power cable that supplies power to the mass storage devices.
 2. Loosen the three captive screws that secure the drive mounting shelf to the enclosure (2 screws) and power supply unit (1 screw).
 3. Loosen the two captive Philips screws (90-09984-07) on the right side of the enclosure.
 4. Slide the drive mounting shelf towards the front of the enclosure as far as it will go.
 5. Disconnect from the CPU board the 'flying lead' SCSI cable that extends from the drive mounting shelf. Refer to Figure 1 for the location of the SCSI connector.

6. Lift the drive mounting shelf up from the enclosure and set it aside.
- b. For Models 40 and 80, there are two drive mounting shelves; these can be removed as one unit.
1. On the power supply unit, disconnect the two 'flying lead' power cables that supply power to the mass storage devices.
 2. Loosen the two captive screws that secure the upper drive mounting shelf to the power supply unit.
 3. Loosen the two captive screws that secure the lower drive mounting shelf to the enclosure.
 4. Loosen the two Philips screws (90-09984-07) that secure the lower drive mounting shelf to the enclosure.
 5. Slide the upper and lower drive mounting shelf combination towards the front of the enclosure as far as it will go.
 6. Disconnect from the CPU board the 'flying lead' SCSI cable that extends from the drive mounting shelf combination. Refer to Figure 1 for the location of the SCSI connector.
 7. Lift the drive mounting shelf combination up from the enclosure and set it aside.

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7. Remove and inspect the 54-20662-01 logic board to determine it's revision:
 - a. Refer to Figure 1 which shows the location of the 54-20662-01 logic board that needs to be removed.
 - b. Press the latch on one of the stand-off pillars and push up the corner of the 54-20662-01 logic board until the 54-20662-01 logic board is released from the stand-off pillar.
 - c. Press the latch on the other stand-off pillar and push up the corner of the 54-20662-01 logic board until the latch releases the 54-20662-01 logic board from the stand-off pillar.
 - d. Push up the 54-20662-01 logic board until the connectors on the 54-20662-01 logic board disengage from the connectors on the CPU board.

- e. Remove the 54-20662-01 logic board from the enclosure and note the revision level of the 54-20662-01 logic board, printed on the component side of the board.
8. Re-install the desired revision level 54-20662-01 logic board: Ensure the board is at revision C03. Follow Step 7 in reverse, then go to Step 9.
9. Re-install the mass storage drive mounting shelf/shelves: Follow Step 6 in reverse, then go to Step 10.
10. Re-install the system unit's enclosure cover: Follow Step 5 in reverse, then go to Step 11.
11. Re-install all connections on the system unit's rear panel: Connect the terminators, loopback connectors, cables and the power cord to the system unit.
12. Power-up the system: Turn on the following in the order shown:
 - a. All connected expansion boxes
 - b. All connected peripheral devices
 - c. Console terminal
 - d. The system unit
13. Run system verification test: Wait for the system unit's power-up self-test to complete. Enter the command `>>> SHOW CONFIG` . Verify that:
 - * The power-up self-test is successful (ie, no hard errors)
 - * The status for all devices is the same as indicated from Step 2.b.

If problems are indicated, refer to the documentation listed in Step 18.
14. Reboot the operating system: Follow the system reboot procedures.
15. Report this FCO activity on the LARS form in the "Fail Area/Module/FCO/COMMENTS" column as follows: FCO DHW4X-F001 (See LARS example on the last page of this document).

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16. Clean-up: Tag the 54-20662-01 module as indicated below:

Part #	54-20662-01
Rev	Insert part rev from module here
Reason for return	FCO
Comments	FCO DHW4X-F001

17. Package the 54-20662-01 module into the container from the kit and return

through normal logistics channels.

18. MicroVAX 3100 Platform Maintenance Information Kit:

For more information, refer to the MicroVAX 3100 Platform Maintenance Information Kit (MIK) - part number QZ-K44AC-GZ - which contains the following documents:

Volume 1:

EK-A0512-MG	Guide to the MicroVAX 3100 Platform Maintenance Information Kit
EK-A0541-CL	Cover Letter for MicroVAX 3100 Platform Internal Options
EK-A0510-MG	BA42-A Enclosure Maintenance
EK-A0511-MG	BA42-B Enclosure Maintenance
EK-A0519-MG	Options
EK-MV310-IP	Illustrated Parts Breakdown

Volume 2:

EK-A0513-MG	KA45 CPU System Maintenance
EK-A0514-MG	KA47 CPU System Maintenance
EK-A0574-HR	CPU Reference Information

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Figure 1 - Generic Diagram of CPU Boards used in MicroVAX 3100-30, -40 & -80

{Latest revision DHW4X logic board is shown}

Back of system - I/O panel

External connectors

KA45-AA CPU board (54-20654-01)

< OR >

KA47-AA CPU board (54-20652-01)

Hardware Segment Code	111	111	111
Non Contract/Non Warranty	F	F	F
(c)RTD/Off-site Agreement	F	F	F
Product Line	01	01	031
DEC Option	DHW41-AA	DHW41-AA	DHW41-AA
	or	DHW41-BA	DHW41-BA
	or	DHW42-AA	DHW42-AA
	or	DHW42-BA	DHW42-BA
	or	DHW42-CA	DHW42-CA
OPTION ID	(As applicable)	N/A	N/A
Type of Call	M	M	M
Action Taken	D	D	I OR V
Fail Area-Module-FCO-Comments	DHW4X-F001	DHW4X-F001	DHW4X-F001
Material Used	EQ-01668-01	EQ-01668-01	EQ-01668-01

- (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/	EQ		EQ	TRAVEL/	EQ		EQ	ORDER-ADMIN, HANDLING
INSTALL	KIT	INSTALL	KIT	INSTALL	KIT	INSTALL	KIT	PKG, SHIPPING & EQ KIT
DEC	DEC	DEC	DEC	CUS	CUS	CUS	CUS	CUS

\\FCO_DOCS