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FIELD CHANGE ORDER

Number: KDB50-R001

Applicability: All VAXBI systems using the KDB50 DSA disk controller.  
 This FCO incorporates ECO's T1002-CX008,  
 T1002-CX009 and T1002-CX010

| This revised FCO supersedes the original release dated 28 October  
 | 1986. It has been revised to correct part Rev identification to  
 | the T1002 module.

Problem/Symptom: See page 2

Quick Check: See page 2

Compatibility/Prerequisite FCO:	Est. Time to Install
Module must be at revision level D or higher	2.0 hours

Special Tools or Test Equipment: N/A

## FCO Parts Information

Order by	Quantity:	Part Number:	Description:
FCO Kit#:			
EQ-01429-01	1	70-23910-01	See page 2
FA-04714-01	1		FCO Documentation

EQ Kit Variation System/Option Applic: N/A

## Approvals

CSSE Engineer	F.S. Product Safety	F.S. Logistics
Glenn Scadden	Jerry Gannelli	Ed duggan

CSSE Manager	F.S. Microfiche Libr.	Affected Population:
Mike Mayfield		900

-----	EP-FSNVX-LB VAX	-----
ESD&P Micropub.		Initial Kitting:

Ray LeBlanc	VAXnotes	900
Revision: B	STARS	Hardcopy Publication 1,000
FCO Release Date 6-Mar-87		Parts Availability November 1986

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Problem/Symptom: Continued from page 1

#### PROBLEM I STATEMENT

This problem exists only on a read of the disk, of either eight or twelve bytes, written to a memory buffer which is not longword aligned and does not cross an octaword boundary. The KDB50 will overwrite the two bytes of data following the buffer area. This is caused by the valid bits, for the first two bytes, not being cleared in the BCAI by the microcode after the full word transfer.

#### PROBLEM II STATEMENT

This problem occurs only when the KDB50 controller is directed to write the disk from a memory buffer starting on a non-octaword aligned address, within an octaword of a 64K boundary. When crossing the 64K boundary, the controller fails to increment the upper 16 bits of addressing and reads data from the start of the original 64K chunk of memory instead of the following 64K chunk, thus writing incorrect data to the disk.

#### PROBLEM III STATEMENT

When the KDB50 completes a data transfer after crossing a 64K memory address boundary by writing a word (not a longword) to a word location, the last data word is written to the wrong address. All of the data written before that last word is correct and in the correct location. The address of the last word gets written to is 64K addresses lower than it should have been.

NOTE: REFER TO SECTION I FOR VAX 8500/8700/8800 FIELD INSTALLATION AND TEST PROCEDURES.  
REFER TO SECTION II FOR VAX 8200/8300 FIELD INSTALLATION AND TEST PROCEDURES.

Quick Check: Continued from page 1

Part number on PROM at E97, 23-127F6-00.

If PROM 23-127F6-00 is already installed in

socket E97 on the KDB50 microprocessor module, then this FCO does not need to be performed.

Comp/Prereq: Continued from page 1

If the T1002 module is below Rev D, replace it with one that is above Rev D and do the FCO if needed.

FCO Parts Information: Continued from page 1

Order by	Quantity:	Part Number:	Description:
FCO Kit#:			
EQ-01429-01	1	70-23910-01*	6 piece PROM set
	1	*	Jumper 02POS(1x02).100CC
	1	*	Rev Label
FA-04714-01	1		FCO Documentation

\* NOTE: ALL 8 (EIGHT) PARTS ARE INCLUDED UNDER PART NUMBER 70-23910-01

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I. VAX 8500/8700/8800 - FIELD INSTALLATION AND TEST PROCEDURES FOR KDB50-R001

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*                                     *
*                               NOTE   *
*                                     *
*   IT IS RECOMMENDED THAT A COMPLETE BACKUP BE PERFORMED PRIOR   *
*   TO DOING THIS CHANGE ORDER.                                         *
*                                     *
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1. Shut down the system by executing the shutdown command procedure.

\$ @SYS\$SYSTEM:SHUTDOWN

After VMS shuts down, type HALT....You will now be in console mode prompt is >>>

2. Using the 8800 console command, power 8800 off, open right rear door of CPU cabinet and set CB1, the main circuit breaker on the 876 power controller to the "OFF" (O) position.

>>>POWER OFF (CR)

Now turn CB1 off.



T1002 is above Rev K1, the ROM part number sequence may not match the above (due to ECOs applied to the T1002 after Rev K1).

10. Locate the jumpers W100,W200,W300,W400 on the right hand side of the module (FIGURE 1). Set the jumpers according to the chart (FIGURE 2).
11. Locate the revision level label along the top edge of the module and replace the label with the new revision label from the upgrade kit. The new revision label should indicate Rev K1 as the new Rev.
12. Replace module in the BI module cage. Insure that the module is properly seated and replace covers.
13. Set circuit breaker CB1 on the 876-A power controller to the ON (1) position. Close and latch cabinet doors.

Power up the CPU by typing the following command:

>>>POWER ON <CR> AT THE CONSOLE.

14. Verify that the KDB50 passes self test by observing that the amber light is illuminated on the T1002 module.
15. Run diagnostic EVRLF for three passes and diagnostic EVRLG for ten minutes. If the diagnostics run error free, then continue. If you run any diagnostic in the user data area of the disk, be sure that the customer's data is backed up.
16. Reboot the customers system and return the system to the customer.
17. Update site management guide to reflect FCO change.
18. Complete LARS form as per attached.

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II VAX 8200/8300 - FIELD INSTALLATION AND TEST PROCEDURE FOR KDB50-R001

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\* NOTE \*  
\* IT IS RECOMMENDED THAT A COMPLETE BACKUP BE PERFORMED PRIOR \*  
\*\*\*\*\*

- 1. Shut down the system by executing the shutdown command procedure.  
\$ @SYS\$SYSTEM:SHUTDOWN
- 2. Remove the processor cabinet front and rear doors.
- 3. Turn the upper keyswitch on the console panel to the fully counter-clockwise position. Then set the main circuit breaker at the back of the BA32 box to the "OFF" (DOWN) position.

WARNING

IF BATTERY BACKUP H7231 IS PRESENT AS AN OPTION,  
 THE DEC-PWR-BUS CABLE 17-00931-0X MUST BE IN PLACE  
 BETWEEN THE 877 POWER CONTROLLER AND THE H7231 PRIOR  
 TO THE BA32 CIRCUIT BREAKER BEING PLACED IN THE OFF  
 POSITION. IF THIS CABLE IS NOT IN PLACE, BATTERY  
 BACKUP MAY BECOME ACTIVATED. THE CIRCUIT BREAKER ON  
 THE 877 POWER CONTROLLER MUST NOT BE UTILIZED.

- 4. From the front of the CPU cabinet, fully extend the cabinet stabilizer leg.
- 5. From the rear of the processor cabinet, release the BA32 box track lock.
- 6. Slide the BA32 box out of the cabinet.
- 7. Remove the BA32 box top cover.
- 8. Put on the wrist strap found in the holding bag on the front base of the cabinet.

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NOTE

THE USE OF E.S.D. PROTECTION IS A MUST IN THIS PROCEDURE.

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*   WHEN HANDLING COMPONENTS OF THIS NATURE IT IS STANDARD *
*   PRACTICE TO BE GROUNDED TO THE DEVICE VIA E.S.D. WRIST *
*   STRAP. COMPONENT DAMAGE WILL OCCUR IF PROPER GROUNDING *
*   IS NOT OBSERVED. *
* *
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9. Locate the T1002 module (KDB50 Microprocessor Module) in the BI module cage and raise the actuating lever and remove the module.
10. Check the revision of the T1002 module in the machine. If the T1002 module is at REV K1, reinstall it in the same slot and proceed to step 20. If the module revision is below revision K1, proceed to step 11.
11. Locate the six PROM sockets in the upper left hand portion of the module (FIGURE 1).
12. Carefully remove the current PROMs and set them aside.
13. Insert the new PROMs in the following order:

Socket	PROM part number
-----	-----
E 50	23-120F6-00
E 61	23-121F6-00
E 72	23-126F6-00
E 83	23-123F6-00
E 92	23-124F6-00
E 97	23-127F6-00

This sequence of ROM part numbers are for a Rev K1 T1002 module. If the T1002 is above Rev K1, the ROM part number sequence may not match the above (due to ECOs applied to the T1002 after Rev K1).

14. Locate the jumpers W100,W200,W300,W400 on the right hand side of the module (FIGURE 1). Set the jumpers according to the chart (FIGURE 2).
15. Locate the revision level label along the top edge of the module and replace the label with the new revision label from the upgrade kit. The new revision label should indicate Rev K1 as the new Rev.
16. Replace module in the BI module cage. Insure that the module is properly seated and replace covers.

17. Place the top cover on the BA32 box but do not secure it with the 14 screws.
18. Power up the CPU by turning on the circuit breaker on the back of the BA32 box to the ON (1) position and turning the upper keyswitch on the front console panel to enable. The KDB50 self-test runs upon power up. Check that the yellow led on the T1002 lights. If the amber LED does not light, try reseating the module.
19. Run diagnostic EVRLF for three passes and diagnostic EVRLG for ten minutes. If the diagnostics run error free, then continue. If you run any diagnostic in the user data area of the disk, be sure that the customer's data is backed up.
20. Secure the BA32 box's top cover.
21. Slide the BA32 box back into the cabinet making sure that cables are not harmed.
22. Replace the two ground straps in the bag on the cabinet floor.
23. Replace and latch the processor cabinet front and rear doors.
24. Bring up the operating system.
25. Reboot the customers system and return the system to the customer.
26. Update site management guide to reflect FCO change.
27. Complete LARS form as per attached.



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