Field Application Document (FA)

DIGITAL	FCO	CATEGORY	PAGE 1
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FIELD CHANGE ORDER   NUMBER: KN20-AA-O001

APPLICABILITY: This FCO is for the Alphastation 600 systems with system board revisions F01 or below and shipped prior to September 1995. All revision H01 and above do not need this FCO. This FCO is Field Service installable and should be considered a required update to all customers.

PROBLEM & SYMPTOM: There is a potential problem (branch misprediction) found in an early revenue version of the 21164 (EV5) CPU chip. This problem occurs only under extremely RARE and unlikely circumstances. It was found with an experimental version f Digital UNIX (but could potentially affect OpenVMS and Windows NT).

SOLUTION: The solution for this problem is to replace the system module with the new system module rev H01 or higher.

QUICK CHECK: See attached list of systems that will need this FCO.

PRE/CO-REQUISITE FCO: None	MTTI HRS
	1.5

TOOL/TEST EQUIPMENT: Philips screw driver, power-up diagnostics and booting system is all that is needed.

FCO PARTS INFORMATION

FCO KIT NO.	DESCRIPTION OF CONTENTS
EQ-01736-01	FA-05071-01 FA Document, 54-23242-02 266mhz mother board, 23-310Y1-00 PAL and 36-46114-01 safety label.
FA-05071-01	This FA Document.

FCO CHARGING INFORMATION (See Page 5)

APPROVALS

TECH. ENGINEER	ENG. BUSINESS MGR.	DSHQ LOGISTICS	DS PRODUCT SAFETY
John Leeds	Sandy McPherson	Scott Almeida	
MICROMEDIA	PARTS AVAILABILITY	FCO REVISION	FCO RELEASE DATE
Dianne MacDonald	Scott Almeida	2.0	25-JUl-1996

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        *********************************************************
        * INSTRUCTIONS FOR CHECK AND REPLACING THE SYSTEM MODULE *
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                        ***********
                        * CAUTION *
                        ***********
             WEAR A STATIC WRIST STRAP AND USE A STATIC MAT.

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                        * NOTE *
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 Refer to section 3 of the AlphaStation 600 Series User
 Information Guide (EK-AS800-UI) for more detailed instructions.

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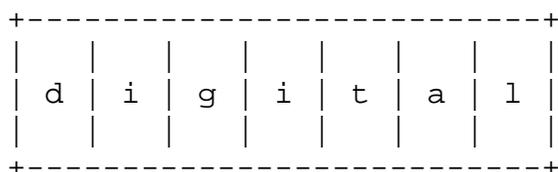
1. Have the customer run shutdown on the system. After the system
    has been shutdown, at the >>> type SHOW <cr>. This will give a
    list of all the system parameters. Write the values of the
    following parameters down so that you can reset them back on
    he system at the end of the installation of this FCO.

```
os_type
bus_probe_algorithm
bootdef_dev
boot_osflags
boot_reset
ewa0_mode
sys_serial_num
language
tga_sync_green
auto_action
ewa0_protocol
console
And any other site-specific parameters
```

2. Power off the system and remove all cables from the back of the
    system.

3. Remove the left side panel by turning the key counterclockwise
    to a vertical position and slide the panel toward the rear of
    the system and remove it.

4. Remove the cache hold-down bracket.

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* NOTE *
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The hold-down bracket is used for shipping purposes only. Store it
in a safe place so that you can replace it if you need to ship or
move the system.

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5. Remove the upper and lower memory tower brackets.

    6. Remove the the upper and lower memory towers and the three
    cache modules. The cache modules are located between the upper
    and lower memory towers.

7. Remove any internal ISA, EISA and PCI expansion modules. Make
    note of the slots they were installed in so they can be put
    back in the same slots.

8. Disconnect the three power cables and the fan cable on the top
    of the system module, the two ribbon cables and speaker cable at
    the bottom right side of the system module.

9. Remove the 15 mounting screws that hold the system module in
    place and remove the module.

10. Take the new system module from the kit and install it into
    the system by inserting the left side of the board first, so
    that the external connectors on the upper left side of the
    board can be positioned properly. Ensure that the two locating
    pins attached to the back wall of the enclosure engage the two
    locating holes in the right corners of the system board.

11. Reinstall the 15 mounting screws, three power cables, fan cable,
    two ribbon cables and speaker cable.

12. Reinstall all the internal ISA, EISA and PCI expansion modules
    except for the P2SE module (54-24101-01).

13. Take the P2SE module (54-24101-01) and check the revision. If
    is revision H01 then reinstall the module and go to step 15. If
    the module is F01 then take the module with the gold pins facing

down and the thinwire Ethernet connector on the bottom left
side, and find jumper W6. On the left side next to the W6 jupmer,
there is a removable PAL. This PAL is square, with a socket size
of 5/8" X 5/8". Using a paper clip remove the PAL by inserting
the paper clip in the slots in the socket and pry the PAL up.

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14. Take the new PAL (23-310Y1-00) from the kit and install it in the
    socket that you just removed the old PAL from, making sure that
    the edge with the notch in it is aligned with the bottom left side
    of the socket. Place the H01 label over the F01 label on the P2SE
    module and reinstall the module back into the system. You can
    discard the old PAL.

15. Reinstall the upper and lower memory towers and the three cache
    modules.

16. Looking into the left side of the system, look at the lower
    right front (power supply cover), and if you don't see the safety
    label installed on the power supply cover panel, then install
    the safety label that came in the kit.

17. Reinstall the side cover and all external cables and put the
    safety label (36-46114-01) on the back of the system.

18. Power up the system and at the >>> type SHOW <cr>. Compare
    the settings with the ones you wrote down in step 1 and set
    them so they will be the same as they were when you started.

19. If there are ISA or EISA modules in the system, and the customer
    is running Open VMS or Digital Unix, you will need to run the
    ECU configuration utility. Refer to Appendix A of the AlphaStation
    600 Series run on how to run the ECU configuration utility.

20. After running the ECU configuration utility power cycle the
    system and if the power-up tests pass, boot the operating system.
    If the system boots without any errors, fill out your LARS and
    the FCO is complete.

    21. Report this FCO activity on the LARS form in the
        "Fail Area/Module/FCO/Comments" column as follows: FCO-KN20-AA-O001.

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LARS

CATEGORY   O   USA   APA   EUROPE

Activity –
(a)Contract   W   U   K
   Warranty   W   U   W

(b)IN-DEC Contract   K   U   A
   Non Contract/Non Warranty   F   F   F
(c)RTD/Off-site Agreement   F   U   F

   Hardware Segment Code   111   111   111
   Product Line   031/001 031/001   031

DEC Option   KN20-AA   KN20-AA   KN20-AA
Option ID   X   N/A   N/A
Type of Call   M   M   M
Action Taken   D   D   I/V
Quality Codes   M,L,J,R,X,A,Y,Z
Fail Area-Module-
      FCO-Comments   KN20-AA-O001 KN20-AA-O001 FCO-KN20-AA-o001

Material Used   EQ-01736-01 Eq-01736-01 01736-01

(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".

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| FCO CHARGING INFORMATION |
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WARRANTY/CONTRACT		NONWARRANTY/NONCONTRACT
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ON-SITE	OFF-SITE		ON-SITE	OFF-SITE	MATERIAL ONLY
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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
_____	_____	_____	_____		_____	_____	_____	_____	_____