```
+----------------------------------------------------------------------+
|                                                                      |
|  _ _ _ _ _ _ _              Level of Urgency          Page_1_        |
| | | | | | | | | |                  +--+                    Of_14     |
| |d|i|g|i|t|a|l|       FCO          | I|                              |
| |_|_|_|_|_|_|_|                    +--+                              |
|                                                                      |
|_____|
|                                                                      |
|  FIELD  CHANGE  ORDER                       Number:   HSC70-I001     |
|_____|
|  Applicability: The L0118 Rev B* module should be installed on all CI750, |
|  CI780, CIBCI, & HSCxx nodes used in VAXclusters of 6 (six) or more CI/HSC |
|  nodes connected to a common SC008 Star Coupler.   L0118s should replace all |
|  L0100 Rev D* link modules; L0100 Rev E* can coexist with L0118s except in |
|  greater than 16 node environment.                                   |
|_____|
|  Problem/Symptom:  Clusters of 6 or more CI/HSC nodes on SC008 may exhibit |
|  CI-PATH NO_RSP or NAK, ARB-TIMEOUTS, and VC-CLOSURE.  L0118 (& L0100 Rev E*) |
|  corrects adjacent-node collision & arb problems. * FIX DETAILS ON PAGE 2. * |
|_____|
|  Quick Check:    Check that link module is part number L0118.        |
|                                                                      |
|                                                                      |
|_____|
|  Compatibility/Prerequisite FCO:          | Est. Time to Install:    |
|  CI750-I005, CI780-I006, CIBCI-I002, HSC50-I009  |   1 hour per node  |
|_____|_____|
|  Special Tools or Test Equipment:                                    |
|            See Page 2                                                |
|_____|
|                    FCO     Parts   Information                       |
|_____|
|  Order by         Quantity:        Part Number:       Description:   |
|  FCO Kit#:                                                           |
|  EQ-01454-05        1              L0118 (Rev B)      Link Module     |
|  EQ-01454-04        1                                 FA-04740-01/05  |
|  FA-04740-05        1                                 FCO Document    |
|_____|
| EQ Kit Variation System/Option Applic:      N/A                      |
|_____|
|                        Approvals                                     |
|_____|
|   CSSE Engineer   | F.S.  Product Safety   | F.S.  Logistics         |
|   Loyd Buchanan   | Bob Brister            | Ed Duggan               |
|_____|_____|_____|
|   CSSE Manager    | F.S. Microfiche Libraries| Affected Population:   |
|   Randy Elmer     |                        | 12,000/2,000            |
|_____| EP-FSNVX-LB   VAX      |-------------------------- 
|   MicroMedia Pub. |                        | Initial Kitting:        |
|   Ray LeBlanc     | VAXnotes               | 12,000/2,000            |
|_____| STARS                  |_____|
```

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 _ _ _ _ _ _ _
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|_|_|_|_|_|_|_|
```

PROBLEMS/SYMPTOMS: Continued from Page 1.

SOLUTION SUMMARY - L0118 DESIGN AND L0100 E* ECOS

      # - Denotes changes incompatible with L0100-D1, or CIBCA
      "7-tick DELTA-TIME mode; and controlled by "COMPATIBILITY
      7/10-tick" switch on L0100-E1/E2 or L0118.

1.# BASIC QUIET-SLOT extended from 7 to 10 ticks (tick=byte=114 ns.,
    change = 800 ns. to 1140 ns.) to fix adjacent node collision
    problem at 40% CI-path utilization caused by L0100 Tx-start/Rx-
    detect logic delays when such nodes simultaneously arbitrate.

2.# HIGH/LOW-PRIORITY (Round-ROBIN) ARBITRATION COUNTER logic fixed
    to prevent "false BEATEN-BY-NODE-0" detection during ACK-
    TURNAROUND carrier-delay, resulting in biasing arb-wins to
    low-nodes. Fix requires QUIET-SLOT change, and must be
    applied to all L0100 to prevent arbitration biasing.

3. # EXTEND ACK-TURNAROUND TIME (INFO-to-ACK PACKET delay) to
    ensure CI-sender (INFO-PKT) ready to receive ACK, under
    worst-case (short,fast) propagation delays, such as with
    SC004 (dual-CI750) and short-CI-cables (6-10 meter).
    Fix requires QUIET-SLOT change.

4. Fix SYNC-DETECT "PAL" to prevent lock-up during CI-carrier
    "flood", an infrequent CI-LINK failure mode.

5. EXTEND "TRAILER TRANSMIT TIME" to ensure at least 5 bytes
    of trailer (after CRC) sent, instead of 3.5 bytes.

6. EXTEND HEADER JUMPER (not used in current CI applic.) was
    non-functional: Fix.

7. ALTER-DELTA-TIME JUMPER (7/16-tick quiet-slot) was
    non-functional: Fix. Not currently used, but intended
    for extended CI-cabling lengths, or fiber.

8. ARBITRATION STATUS REPORTING enhanced to distinguish
    ARB-TIMEOUT from "fail to xmit after successful ARB".

9. CI20 ONLY: CRC-COUNT RESET failed on SELF-DIRECTED
    packets: Fix.

10. MISCELLANEOUS L0100 Print-Set logic-drawing clean-up,
    marginal logic-design improvement, for benefit of
    future CIxxx chip-designs (CIBCA...) based on L0100.

SPECIAL TOOLS: Continued from page 1.

Field Service Tool Kit
VELOSTAT Electrostatic Field Service Kit (P/N 29-26246-00)
Loopback Attenuators (12-19907-01)

```
 _ _ _ _ _ _ _              |        FCO    HSC70-I001
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```

PARTS LIST: Continued from page 1.

Order by FCO Kit#:	Quantity:	Part Number:	Description:
EQ-01454-05	1	L0118 (Rev B1/B2)	Link Module
FA-04740-06	1		Inst. sheet for ordering kits
EQ-01454-04	1	FA-04740-01	CI750 FCO Doc.
	1	FA-04740-02	CI780 FCO Doc.
	1	FA-04740-03	CIBCI FCO Doc.
	1	FA-04740-04	HSC50 FCO Doc.
	1	FA-04740-05	HSC70 FCO Doc.

LINK MODULE UTILIZATION/SWITCH SETTINGS MATRIX

OPTION	1 - 5 NODES	6 - 16 NODES
	MODULE/REV/SLOT-COUNT	MODULE/REV/SLOT-COUNT
CI7XX, CIBCI, HSCXX	L0100 REV "D" L0100 REV "E" @ 7 TICK L0118 @ 7 TICK	L0100 REV E @ 10 TICK L0118 @ 10 TICK
CIBCA-AA	T1025 @ 7 TICK	T1025 @ 10 TICK

|_____|_____|_____|

NOTE: If all nodes in the VAXcluster system have 10 tick capability
(I.E., L0118, L0100 Rev "E" and/or CIBCA-AA and NO L0100 Rev "D"),
then all nodes should be set to 10 tick mode regardless of the
VAXcluster system size.

L0100 - Rev "E" - See page 6, step 8 for 7/10-TICK Switch setup.

L0118 - Rev "B" - See page 6, step 8 for 7/10-TICK, Cluster-size
                    Switch set-up, and Misc. Function Jumpers.

CIBCA-AA   - Add Jumper from E11 to E41 on VAXBI Backplane
                    for "10-TICK INCOMPATIBLE" mode operation.
                    Verify no jumpers D29-D59 and D30-D60 for cluster-
                    size (NODE-COUNT) of 16 or less. Refer to
                    CIBCA User Guide Pg. 2-10 to 2-13 for set-up.

CI-LINK MODULE FCO INSTALLATION SUMMARY

```
*********************************************************************
*           INCOMPATIBILITY WARNING  -  L0100-E1/E2 AND L0118      *
*           ----------------------------------------------------   *
*   The new L0100-E1/E2 and L0118 "10-TICK-MODE" design changes are *
*   *** INCOMPATIBLE *** with current L0100-D1 design, and CI/HSC-  *
*   LINK modules (L0100-E, CIBCA, L0118) set to "7-TICK-MODE".      *
*   Mixed "7 and 10-TICK-MODE" CI-LINK operation can have severe    *
*   impact on CI-arbitration performance and collision-rate (NO_RSP). *
*   For this reason, DEC does not support "10-TICK-MODE" CI-LINK    *
*   ROLLING-UPGRADES, thus requiring a CLUSTER SHUTDOWN to "ENABLE" *
*   10-TICK-MODE ** ONLY ** after all CI/HSC-nodes have been FCO'd. *
*                                                                  *
*        NOTE: High-availability customer exceptions to CLUSTER-    *
*        SHUTDOWN "rule" should be referred to CSSE for advice on   *
*        minimizing risks; but DEC will not assume any liabilities  *
*        for lost data/time with such CLUSTER upgrade programs.     *
*********************************************************************
```

o Forecast and obtain sufficient CI/HSCxx L0100 FCO kits for all CI7x0,
  CIBCI, HSCxx Cluster Nodes, ensuring availability of 1 (one) spare
  for every 10 (ten) FCO kits. FCO kits should NOT BE "P1 ORDERED",
  but should be ordered according to the Corporate Implementation
  Plan. CIxxx Functional Diags (EVGAA/B) from VAX Diag. Rel #31 are
  also recommended for checkout.

o Study SWITCH/JUMPER SET-UP Procedures for L0100, L0118, and CIBCA
  T1025 modules for adjusting the following CI-LINK functions/modes:

        - "7/10-TICK" DELTA-TIME/QUIET-SLOT:
              + L0118   Page 6. Step 8
              + L0100-E   Page 6, Step 8
              + T1025/CIBCA   Page 6, Step 8 and
                               CIBCA USER'S GUIDE Pg. 2-12
        - CLUSTER-SIZE of 16/32 NODES:
              + L0118   Page 6, Step 8
              + L0100-E   NOT APPLICABLE
              + T1025/CIBCA   Page 6, Step 8 and
                               CIBCA USER'S GUIDE Pg. 2-13
        - L0118 CI-LINK-MODE JUMPERS: Page 6, Step 8.

o Install L0118 set to "7-TICK/COMPATIBLE-MODE" in all CI780, CI750,
  CIBCI, and HSC50/70 Cluster nodes. There are no prerequisite/co-
  requisite CIxxx or HSCxx FCOs (modules or microcode) required for
  L0118 upgrade in "7-TICK 16-NODE MODE", but CI780.BIN Version V8.0
  and CIBCA.BIN Version V5.3 are recommended.

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```

o Schedule and perform cluster shutdown after all non-CIBCA nodes are
  upgraded/FCO'd, and have been tested and verified to function in
  "7-TICK-MODE" operation under VMS. VMS system-testing is important
  to early detection and repair of any DOA FCO modules, prior to
  disrupting VAXcluster for CI-LINK 7-to-10-TICK mode-change.

        ****
        *   IMPORTANT NOTE === IMPORTANT NOTE   *
        * Customer should be involved or perform all CLUSTER-   *
        * wide or node-specific VAX and HSC STARTUPS, BOOTS,   *
        * and SHUTDOWNS.   *
        ****

o Switch all L0100-E, L0118, and T1025/CIBCA to "10-TICK-MODE"
  "INCOMPATIBLE" operation. Ensure all CIs and HSCs are powered-off
  before changing switches/jumpers. Refer to appropriate FCO steps.
  Any planned CI-NODE-ADDRESSS changes should also be made at this
  time, with consideration of VMS SYSGEN and DECNET parameter changes
  required on reboot.

o Reboot cluster, with customer consent, starting with HSCs.

            CI-LINK MODULE FCO INSTALLATION PROCEDURE
            ----

1. Ensure the customer has suspended all traffic from all Hosts to the
    HSC70 node that is to be upgraded by ensuring that the customer has
    either dismounted all drives (disk and tape) connected to the HSC70,
    or by manually failing the units over to an alternate HSC.

    Press the INIT switch to the OUT position.

```
    *****************************************************************
    *                          NOTE                                *
    *      The first step may be precluded by shutting down         *
    *      all Host Systems that utilize the HSC70 node.            *
    *****************************************************************
```

2. Open the HSC70 front door.

3. Type a CTRL C on the HSC console. Then set the Enable/Disable
    switch on the inside front door of the HSC70 to the Enable
    position.

4. Remove D.C. power to the HSC70 by pushing the D.C. power switch on
    the side of the RX33 Disk Drive to the 0 (OFF) position.

5. Open the HSC70 card cage cover by releasing the card cage cover
    locks.

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```

6. Set up VELOSTAT KIT.

    a. Unfold the VELOSTAT mat to full size (24" x 24").
    b. Attach the 15 foot ground cord to the VELOSTAT
        snap fastener on the mat.
    c. Attach the alligator clip end of the ground cord
        to a good ground on the system.
    d. Attach the wrist strap to either wrist and the
        alligator clip to a convenient portion of the mat.

7. Remove the L0100 or L0118 module from its HSCxx module slot
    and place it on the mat. Check the revision and module type:

        - L0100-E1/E2, or L0118, reinstall in same slot, and
          go to step 11 (no upgrade needed).
        - L0100 below Rev. E1/E2, go to step 8 to continue with upgrade.

    Record old CI-NODE ADDRESS settings on SW1 and SW2 switches
    (8-switch DIP on module handle).

8. With L0118 (EQ-01454-05) on ESD Mat, configure and verify CI-LINK
    mode jumpers/switches for "7-TICK COMPATIBLE" mode operation.
    The L0118 also contains CLUSTER-SIZE switch and 4 (four) jumpers
    for MISC-FUNCTIONAL-MODES which should be checked. Install the
    new L0118 in the HSCxx option slot.

        ****
        *   IMPORTANT - NOTE   *
        * Copy old CI-NODE ADDRESS to new L0100/L0118.   *
        * Ensure "7-TICK COMPATIBLE" mode is ENABLED/SET to avoid   *
        * CI-PATH errors with L0100-D1 or other "7-TICK" CI/HSC   *
        * nodes! The "10-TICK INCOMPATIBLE" mode cannot be used   *
        * with L0100-D1 in cluster. Default L0100/L0118 manuf.   *
        * switch setting should be "7-TICK COMPATIBLE" mode.   *
        ****

    SET L0100-E1 COMPATIBILITY JUMPER AS FOLLOWS:
    ----
    o 7/10-TICK COMPAT. MODE SET BY 1 JUMPER @ E177 stake-pins.

        - "7-TICK   COMPAT.-MODE": jumper E177-11 to E177-12
        - "10-TICK INCOMPAT.-MODE": jumper E177-9 to E177-10

    o NO CLUSTER-SIZE OR FUNCTION-MODE JUMPERS/SWITCHES.

    o L0100-E1 QUICK-CHECK (PART-REVISION VERIFY):

        - ECO wires at E177-13 and E177-9.
        - STAKE-PINS (for jumper) @ E177-9,10,11,12.
        - ETCH REV-C: P/N "50-14430C-0" marking.

      "ECO-FIX OFF"   "ECO-FIX ON"
        "7-TICK"   "10-TICK"
      "COMPATIBLE"   "INCOMPATIBLE"
        20   +-+   20   12 11

```
..................|.|..          ......................... 
| . . . . . . . . | | |          | . . . . . . . . . |
|      E177        | |           |      E177          |
| . . . . . . . . . |            | . . . . . . . . . |
|...................|            |.................|.|.|
  1              9 10              1                 | |
                                                     +-+
```
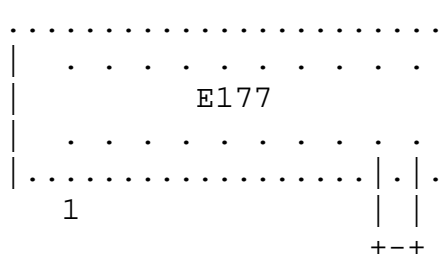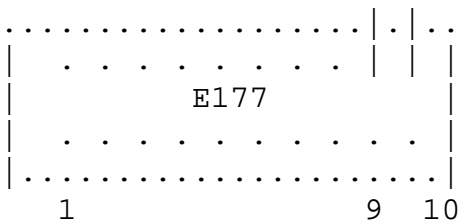
SET L0100-E2 SWITCH SETTINGS AS FOLLOWS:
----
o 7/10-TICK COMPAT. MODE SET BY DIP-SWITCH SW3-1 LOCATED AT
  TOP CENTER OF L0100-E2 TO RIGHT OF E118:

    - "7-TICK   COMPAT.,ECO OFF": SW3-1 SWITCH "OFF"
    - "10-TICK INCOMPAT.,ECO ON ": SW3-1 SWITCH "ON" .
              NOTE: SW3-2 IS NOT USED, BUT SET SAME
              AS SW3-1 TO AVOID CONFUSION.

o NO CLUSTER-SIZE OR FUNCTION-MODE JUMPERS/SWITCHES.

o L0100-E2 QUICK-CHECK (PART-REVISION VERIFY):

    - SW3 DUAL-SWITCH-DIP-PACK AT TOP-CENTER, RIGHT OF E118.
    - ETCH REV-D: P/N "50-14430-0-0 D1-P4" marking.

SET L0118 SWITCH/JUMPER SETTINGS AS FOLLOWS:

    ****
    *   NOTE: REFER TO L0118 FIGURES ON FCO PAGES 13 *
    *   AND 14 FOR SW3 AND JUMPERS W1-W4 LOCATIONS. *
    ****


```
 _ _ _ _ _ _ _            |     FCO    HSC70-I001
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```

o 7/10-TICK COMPAT. MODE SET BY DIP-SWITCH SW3-4 LOCATED AT
  TOP CENTER OF L0118 TO LEFT (BELOW IF VERTICAL) OF 2 CI-
  NODE-ADDRESS 8-SWITCH PACKS.
    - "7- TICK   COMPAT.,ECO OFF": SW3-4 SWITCH "OFF".
    - "10-TICK INCOMPAT.,ECO ON" : SW3-4 SWITCH "ON" .
    - SWITCHES SW3-2 AND SW3-3 MUST BE "OFF" (AFFECTS
      DELTA-TIME/QUIET-SLOT).

o CLUSTER-SIZE FOR 16/32-NODE ADDRESSING AND ARBITRATION IS
  CONTROLLED BY SWITCH SW3-1. DEFAULT = 16-NODE-MODE = "OFF".
    - 16-NODE MODE (DEFAULT WITH NO CISCE): SW3-1 "OFF".
    - 32-NODE MODE (CISCE 24-NODE CLUSTER): SW3-1 "ON" .

o L0118 FUNCTION-MODE JUMPERS W1-W4 DEFAULT SETTINGS CHECK:

View module with HANDLE-UP and FINGERS-DOWN.
Refer to L0118 Figures on FCO pages 13 and 14.

- L0118-B1 HAS ECO-WIRES ON E83-3 and E150-1:
  = W1 located left of E2: plugged on left 2
    stake-pins, marked with "box".
  = W3 located between E54 and E75: plugged on
    horizontal stake-pins, marked with "box".
  = W2 and W4 located as 4 stake pins below E24
    and E62: W2 and W4 "OUT".
- L0118-B2 HAS NO ECO-WIRES TO E83-3 AND E150-1:
  = W1 located left of E2: W1 on left 2
    stake-pins, marked with "box".
  = W3 located between E54 and E75: W3 on
    horizontal stake-pins, marked with "box".
  = W2 located below junction of E24 and E62:
    W2 on left 2 stake-pins marked with "box".
  = W4 located below E24: W4 plugged on left 2
    stake-pins marked with "box".

SET CIBCA BACKPLANE JUMPER SETTINGS AS FOLLOWS:(FOR QUICK REFERENCE)

    Refer to CIBCA Users Guide Pg. 2-10 to 2-13
    All jumpers are located behind T1015 Module.
    Jumper changes DO NOT take effect until SELF-TEST
    EXECUTED.

o "7/10-TICK ALTER-DELTA-TIME" CONTROLLED BY JUMPER ON
  T1015 BACKPLANE PINS E11-E41, E09-E39, and E10-E40:
  - ENSURE E09-E39 and E10-E40 JUMPERS "OUT".
  - "7 -TICK COMPAT., ECO-OFF": Jumper OUT E11-E41.
  - "10-TICK INCOMPAT.,ECO-ON" : Jumper IN E11-E41.

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 _ _ _ _ _ _ _                 |      FCO   HSC70-I001
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```

o CLUSTER-SIZE FOR 16/32-NODE ADDRESSING and ARBITRATION IS
  SET BY JUMPER ON T1015 PINS D30-D60 and D29-D59:
  - Ensure E29-E59 out for both 16 or 32-NODE mode.
  - 16-NODE mode (default no CISCE): D30-D60 "OUT".
  - 32-NODE mode (CISCE 24-NODE   ): D30-D60 "IN" .

10. Close the HSC70 card cage cover and close the card cage locks.

11. Ensure that the HSC70 auxiliary terminal is powered on and is
    ON-LINE.

12. Locate the "HSC70 OFF-LINE DIAGS" Floppy. This is typically stored
    in the disk storage tray inside the HSC70 front door.

13. Ensure that the silver tab on the floppy is in place to write protect the "HSC70 OFF-LINE DIAGS" Floppy.

14. Locate the RX33 drive inside the front door.

15. Insert the "HSC70 OFF-LINE DIAGS" Floppy into drive 0 of the RX33.

16. Restore DC power to the HSC70 by pushing the DC power switch located on the RX33 Disk Drive, to the 1 (ON) position.

17. The HSC70 will automatically boot the "HSC70 OFF-LINE DIAGS" Floppy.

18. After two minutes of loading the "HSC70 OFF-LINE DIAGS" Floppy into the HSC70 memory, the HSC70 auxiliary terminal will print:

    HSC70 OFL Diagnostic Loader, Version Vnnn-nnn
    Radix - Octal, Data Length = Word, Reloc = 00000000
    ODL>

19. At the ODL> prompt, type:

    TEST K

    This command loads and starts the off-line K test selector. The TU58 Drive 0 run indicator will light as the test is loaded.

    After the diagnostics is loaded, you will receive the following display:

    HSC70 OFL K TEST SELECTOR, VERSION Vnn-nn

    The off-line K test selector first prompts:

    REQUESTER # (1 THRU 7) [ ]?

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```

20. Respond with a number "1" for K.CI Test.

    Then hit a Carriage Return.

21. The test then prompts:

    TEST # (1 THRU 11) (0) [ ]?

    Run #1 first time through.

22. The port processor module is the selected requester, run octal test
    numbers 1 thru 4, 6, 7, 10 and 11 two times each.

```
        *********************************************************
        *                          NOTE                         *
        *                                                        *
        *       OCTAL TEST 11 REQUIRES THAT ONE CI CHANNEL BE    *
        *       LOOPED BACK WITH AN ATTENUATOR.                  *
        *                                                        *
        *********************************************************
```

23. The test then prompts:

    # OF PASSES TO PERFORM (D) [ ]?

    Answer with a 2 and a RETURN.

24. The I/O control processor now instructs the requester to perform the
    selected test. If the requester fails to complete the test within
    the allotted time, the I/O control processor will display a
    requester error message. Refer to Chapter 4 of the HSC Service
    Manual.

25. The following prompt will ask you if you want to repeat this
    diagnostic.

    RE-USE PARAMETERS (Y/N) [Y]?

    Reply N and repeat steps 20 through 26 for TWO passes of each
    recommended test.

26. Type a CTRL C to end this routine after all tests have been
    completed.

27. Install the HSC70 system Floppy into Drive 0.

    Now press and release the INIT switch.

```
    ****************************************************************************
    *                               NOTE                                       *
    *       INSURE THE SYSTEM FLOPPY IS WRITE ENABLED BY THE                    *
    *       ABSENCE OF THE SILVER TAB ON THE RIGHT-HAND CORNER.                 *
    ****************************************************************************
```

28. Wait approximately 1.5 minutes for the system disk to boot.

After it has booted, the console will say:

HSC70 Version V3nn 3-Nov-1987 00:00:00 System XXXXXX

29. Now push the on-line switch in, located on the HSC70 front door.
    This will allow Virtual Circuits to be established with any host
    CPU's that will be using the HSC70.

30. Resume normal disk-activity on HSCxx using disk/HSC-failover
    or VAX/VMS remount/reboot, if necessary, to ensure HSC receives
    system testing in 7-TICK mode. IT IS PREFERRED THAT THE CUSTOMER
    PERFORM THIS STEP!

        EVERY UPGRADED CI/HSC NODE WITH NEW L0100-E*/L0118 SHOULD
        BE TESTED UNDER VMS IN "7-TICK ECO-OFF MODE" TO SYSTEM-TEST
        NEW FCO PARTS PRIOR TO CLUSTER-WIDE CI-LINK-MODE TRANSITION.

31. Upgrade remaining CI750, CI780, CIBCI, HSC50, and HSC70 nodes
    that do not contain L0100-E1/E2 or L0118 CI-LINK modules.

    *** REPEAT STEP 1 UNTIL ALL NODES ARE COMPLETED. ***

32. Set all CI/HSC nodes to "10-TICK, INCOMPATIBLE, ECO-ENABLED
    MODE" operation. *** THIS REQUIRES ENTIRE CLUSTER-SHUTDOWN
    TO AVOID CI-PATH FAILURES, CLUSTER-MEMBER LOSS, AND RISKS TO
    DATA-INTEGRITY !! *** Ensure each CI is powered off when
    changing jumpers.

    Set "10-TICK, INCOMPATIBLE, ECO-ENABLED MODE" by referring
    to Page 6, Step 8; or use following quick reference chart:

| | L0100-E1 | L0100-E2 | L0118 | CIBCA |
| | E177 | SW3-1 | SW3-4 | T1015 |
	JUMPER	SWITCH	SWITCH	E11-E41
7 -TICK:	11-12 IN	"OFF"	"OFF"	"OUT"
10-TICK:	9-10 IN	"ON"	"ON"	"IN"

    Only L0100 Rev E* needs to be removed in order to set to 10-TICK.

33. Set the Secure/Enable switch on the HSC70 inside the front door,
     to the Secure position.

34. Close the HSC70 front door and secure it by locking the front door
    key lock.

35. Boot all systems back into VAXcluster, starting with HSCs, using
    customer's "standard operating procedures". IT IS PREFERRED
    THAT THE CUSTOMER PERFORM THIS STEP!

    Have the customer resume normal activity on the HSC70. This could
    mean either restarting the host system, or just logically connecting
    the HSC70 to each system it is attached to and mounting all drives
    connected to this HSC70.

36. Verify proper operation of the HSC70 subsystems with the customer.
    (Normal system activity is acceptable.) Also ensure that all tape
    drives connected to this HSC70 will function properly with a host
    system.

37. Report the FCO activity on the LARS form in the "module/fail/area/
    FCO" column as "FCO HSC70-I001" as indicated.

                            LARS

                    USA   GIA   EUROPE

Activity -
    Contract and Warranty   W   U   Y
    Non Contract/Non Warranty   F   F   F
DEC Option   HSC70   HSC70   HSC70
Type of Call   M   M   M
Action Taken   D   D   I
Fail Area-Module-FCO-Comments   HSC70-I001   HSC70-I001   HSC70-I001
Material Used   EQ-01454-05   EQ-01454-05   EQ-01454-05
                                EQ-01454-04   EQ-01454-04   EQ-01454-04


```
 _ _ _ _ _ _ _           |        FCO     HSC70-I001
| | | | | | | | |        |
|d|i|g|i|t|a|l|          |        PAGE   13   OF   14
|_|_|_|_|_|_|_|          |
                         |
_____|_____
```

            FIGURE 1 - L0118 LINK MODULE SETTINGS


```
 _ _ _ _ _ _ _           |        FCO     HSC70-I001
| | | | | | | | |        |
|d|i|g|i|t|a|l|          |        PAGE   14   OF   14
|_|_|_|_|_|_|_|          |
                         |
```

_____|_____

FIGURE 2 - L0118 LINK MODULE SETTINGS

\^ HSC70
\\HSC70
\\BUCHANAN
\\1988
\\JUN
\\FCO_DOCS