

INFORMATION BULLETIN LOG
CUSTOMER SERVICE

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PERQPRODUCT PERQBULLETIN NO. 001SUB-ASSEMBLY MOTHER BOARD/IO BOARD

FEBRUARY, 1982

PART NO. MOM-001/IOB-001MODIFICATIONS FOR LASER PRINTER
OPERATIONSERIAL NO. ALL

MODIFICATION
FOR LASER PRINTER OPERATION

PURPOSE:

To provide instructions to ensure that the PERQ System has the necessary modifications to ensure proper operation of the LDP-10 Laser Printer.

DISCUSSION:

This bulletin is to verify that the PERQ System has the necessary changes to ensure proper operation of the LDP-10 Laser Printer.

1. Verify that there is continuity between the backplane pins as reflected on the attached drawings.
If the wiring is missing, add the wire utilizing 30 gauge wire-wrap wire.
2. Remove IC U112 from the IOB-001 Board by cutting the chip out with a pair of miniature cutters. (See attached drawing).
(NOTE: On later revision IOB-001 Boards this IC will already be removed).
3. Add 470 ohm, $\frac{1}{4}$ watt resistors as follows:
 - a. From pin 2 to pin 7 of U118.
 - b. From pin 12 to pin 7 of U118.
 - c. From pin 2 to pin 7 of U96.
 - d. Ensure that pin 2 and pin 12 of U118 and pin 2 of U96 are not connected to ground.

NOTE: If there is a resistor pack holder installed at position U134, the above resistors are not required.

If you have any questions concerning this change, please contact the Field Service Department for assistance by calling 412-963-1911.

LASER MODS

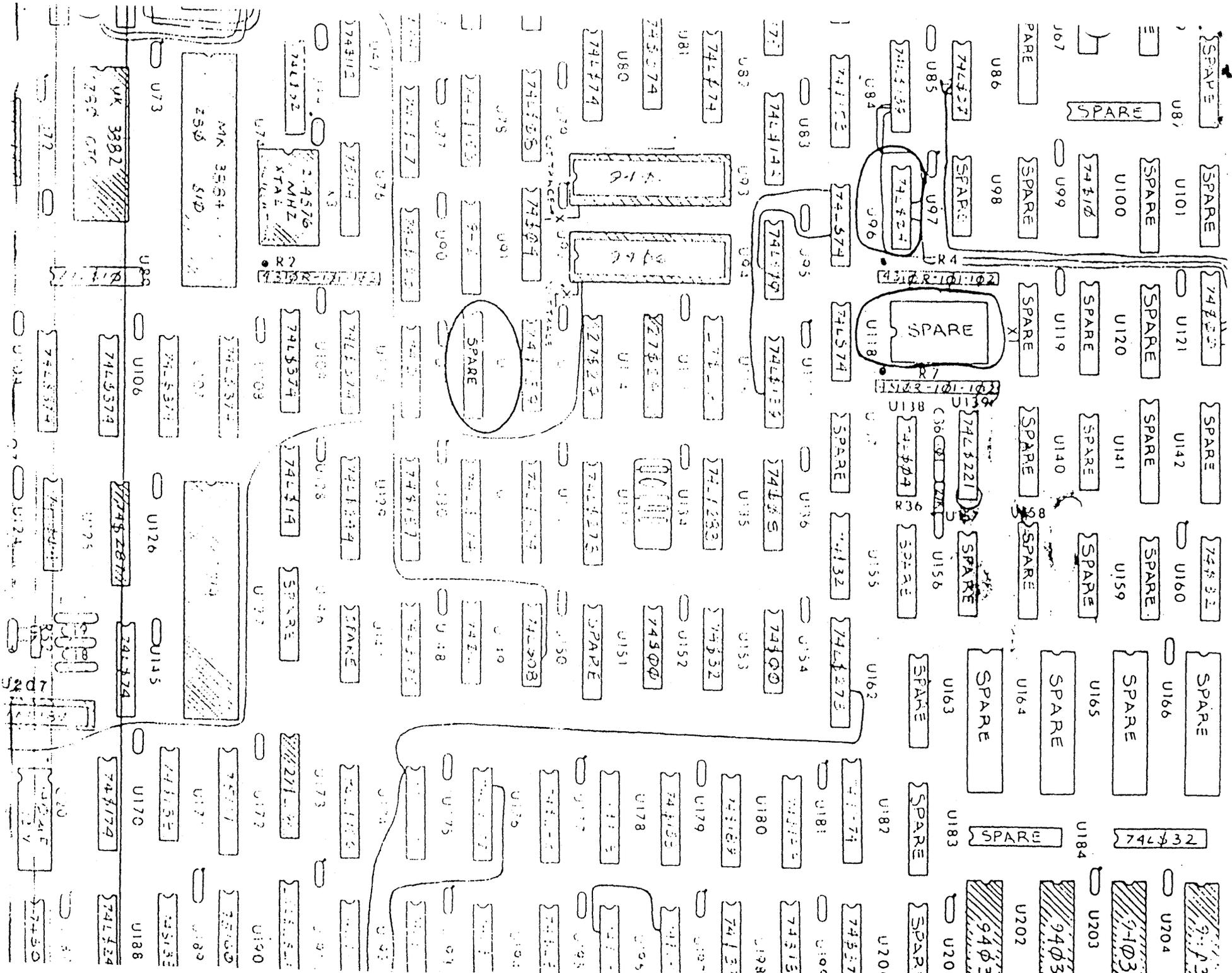
<u>SIGNAL/NAME</u>	<u>PIN #</u>	<u>CPU</u>	<u>I/O</u>	<u>I/O OPTION</u>
UNLD Ext B FiFo	J-37	---	J-37	J-37
PL Ext B FiFo	J-74	---	J-74	J-74
Ext B Req	J-173	---	J-173	J-173
Top B FiFo	J-73	---	J-73	J-73
Write Ext B FiFo	J-174	---	J-174	J-174
IOA [7]	J-166	J-166	J-166	J-166
Init L	J-182	J-87	---	J-182

Step 3: Add 470 ohm resistors:

- a. From pin 2 to Pin 7 of U118
- b. From pin 12 to pin 7 of U118
- c. From pin 2 to pin 7 of U96

Ensure that pin 2 and pin 12 of U118 and pin 2 of U96 are not connected to ground.

NOTE: If there is a resistor pack holder at position U134 the above resistors are not required.



PERQ



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>002</u>
SUB-ASSEMBLY <u>MOTHER BOARD/IO BOARD</u>	FEBRUARY, 1982
PART NO. <u>MOM-001/IOB-001</u>	ETHERNET MODIFICATIONS
SERIAL NO. <u>ALL</u>	

MODIFICATIONS
FOR NETWORK OPERATION

PURPOSE:

To provide instructions to ensure that the PERQ System has the necessary modifications to ensure proper operation of the network option.

DISCUSSION:

This bulletin is to verify that the PERQ System has the necessary changes to ensure proper operation of the network option.

1. Verify that there is continuity between the backplane pins as reflected on the attached drawings.
If the wiring is missing, make the appropriate adds utilizing 30 gauge wire-wrap wire.
2. Remove IC U112 from the IOB-001 Board by cutting the chip out with a pair of miniature cutters. (See attached drawing).
(NOTE: On later revision IOB-001 Boards, this chip will already be removed.)
3. Add a 470 ohm, 1/4 Watt resistor as follows:
 - a. From pin 2 to pin 7 of U118.
 - b. From pin 12 to pin 7 of U118.
 - c. From pin 2 to pin 7 of U96.
 - d. Ensure that pin 2 and pin 12 of U118 and pin 2 of U96 are not connected to ground.

NOTE: If there is a resistor pack holder installed at position U134, the above resistors are not required.

If you have questions concerning this change, please contact the Field Service Department for assistance by calling 412-963-1911.

ETHERNET MODS

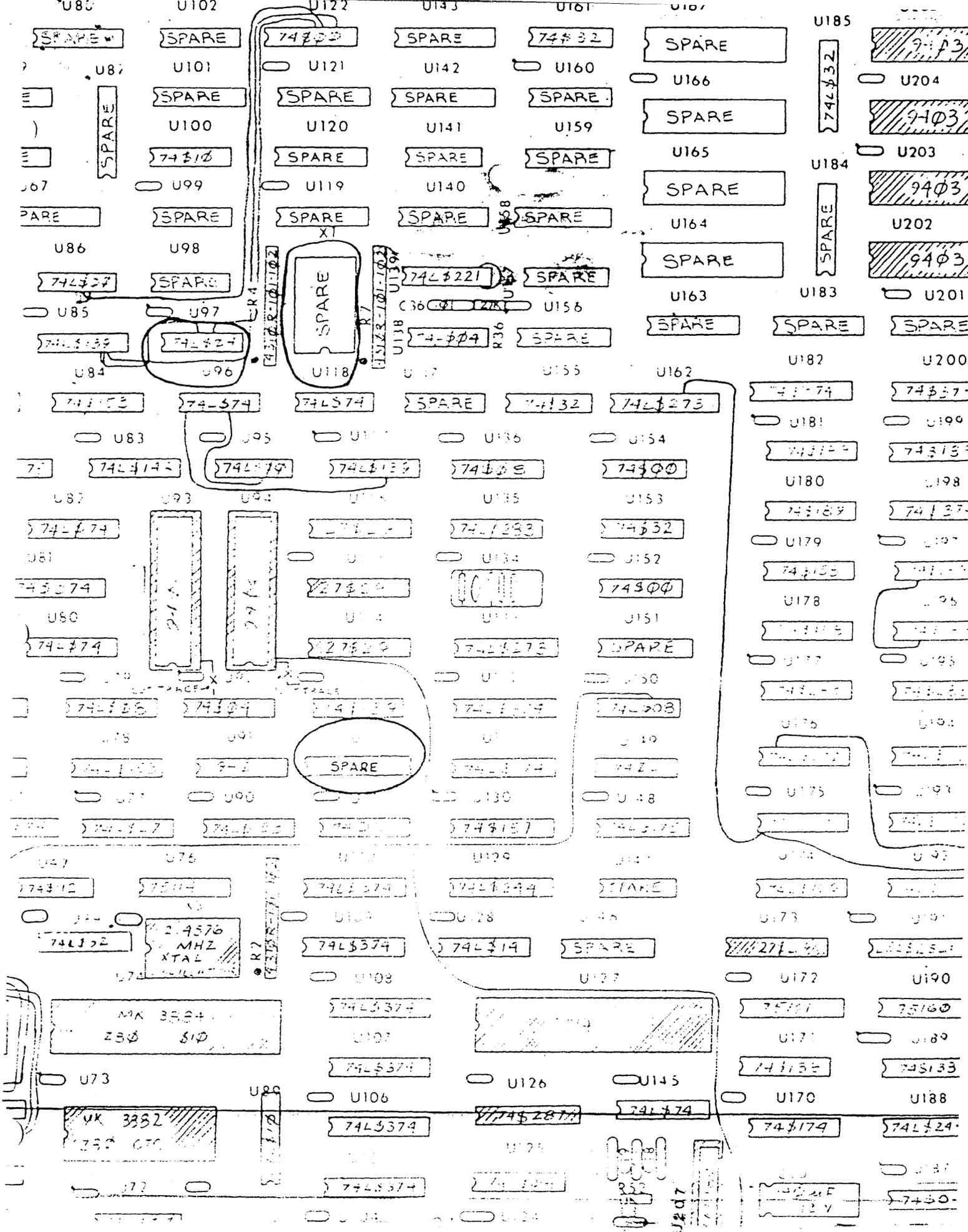
<u>SIGNAL/NAME</u>	<u>PIN #</u>	<u>CPU</u>	<u>I/O</u>	<u>I/O OPTION</u>
PL Ext A FiFo	J-104	---	J-104	J-104
Ext A Req	J-103	---	J-103	J-103
Top Ext A FiFo	J-4	---	J-4	J-4
Write Ext A High	J-154	---	J-154	J-154
X Init L	J-181	J-187	---	J-181
UNLD Ext A FiFo	J-137	---	J-137	J-137
IOA [7]	J-166	J-166	J-166	J-166
Init L	J-179	J-72	---	J-179

Step 3: Add 470 ohm resistors:

- a. From pin 2 to pin 7 of U118.
- b. From pin 12 to pin 7 of U118.
- c. From pin 2 to pin 7 of U96.

Ensure that pin 2 and pin 12 of U118 and pin 2 of U96 are not connected to ground.

NOTE: If there is a resistor pack holder at position U134 the above resistors are not required.





PRODUCT <u>PERQ</u>	BULLETIN NO. <u>003</u>
SUB-ASSEMBLY <u>N/A</u>	APRIL, 1982
PART NO. <u>N/A</u>	MICROCODE RESTRICTION
SERIAL NO. <u>N/A</u>	

PURPOSE:
 To advise Three Rivers Computer Corporation user's of a microcode restriction to ensure CPU timing problems do not occur.

DISCUSSION:
 This bulletin is to advise of a microcode restriction to ensure that CPU timing problems do not occur. The restriction is as follows:

When the ShiftOnR special function is used, the W bit must be zero (ie you may not write to XY registers) and you may not use a Y register. A BMUX constant is okay.

An example which will not work on all machines is:
 Tmp := Shift and 377, ShiftOnR; !Writes XY register,
 not allowed.

This would have to be recoded as:
 Tmp := Shift and 377;
 Tmp, ShiftOnR;

If you have any questions concerning this restriction, please contact the Field Service Department by calling 412-963-1911.



PRODUCT <u>EXTENDER BOARD</u>	BULLETIN NO. <u>004</u>
SUB-ASSEMBLY <u>N/A</u>	APRIL, 1982
PART NO. <u>100033-00 (EXT-001)</u>	EXTENDER BOARD PROBLEM
SERIAL NO. <u>ALL</u>	

PURPOSE:

To advise Three Rivers Computer Corporation user's that have extender boards of potential problems with this sub-assembly.

DISCUSSION:

Please check to see that the wire that is added to the non-component side of the extender board runs from foil pad 103 to foil pad 203.

This will be the third foil from the top on the connector side. To the second foil from the top on the MOM board side.

If you have any questions concerning this subject, please contact the Field Service Department by calling 412-963-1911.



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>005</u>
SUB-ASSEMBLY <u>IO BOARD</u>	MAY, 1982
PART NO. <u>100043-00 (IOB-001)</u>	ECO #66 IO BOARD MODIFICATION
SERIAL NO. <u>ALL REVISIONS - F & G</u>	

ECO #66

MODIFICATION INSTRUCTIONS

PURPOSE:

To provide instructions for installation of ECO #66 to the IO Board.

DISCUSSION:

It has been discovered that state machine (U93, U94) has been found to be mis-stepping when executing the software, thus causing files to be overwritten on the disk drive.

To correct this problem, ECO #66 must be installed as detailed below utilizing the attached drawings for reference.

DELETES:

1. Cut trace that goes from U93, pin 1, to U46, pin 6 on the component side of the board.
2. Cut trace that goes from U93, pin 1, to U150, pin 10.
 - a. "G" boards component side.
 - b. "F" boards non-component side.
3. Cut trace that goes from U169, pin 3 to U150, pin 10.

INFORMATION BULLETIN

BULLETIN #005

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ADDS:

Using 30 gauge, single strand wire-wraps wire, make the following adds to the component side of the board.

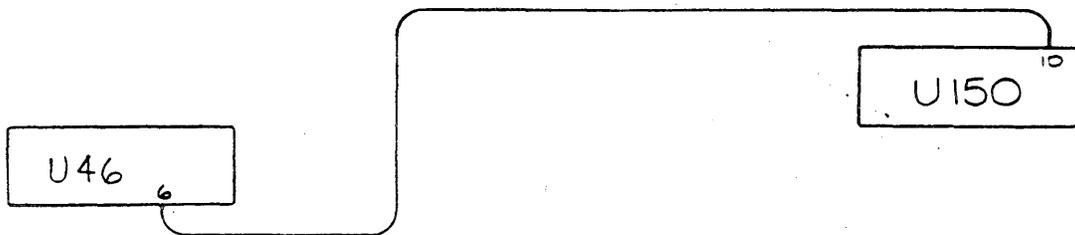
1. Add a mod wire from U46, pin 6 to U150, pin 10.
2. Add a mod wire from U72, pin 6 to U169, pin 3.
3. Add a mod wire from U112, pin 10 to U112, pin 18.
(The IC will not be present and you will actually be connecting pin 10 to pin 18).

The IO Board can be identified as to whether it is an "F" or "G" revision by reading the markings on the non-component side of the board near the upper card securing handle.

This change is considered mandatory on all Field machines and if you have any questions concerning this change or would like Three Rivers Computer Corporation to up-grade your IO Board, please contact our Field Service Department by calling 412-963-1911, EXT 53.

MOD WIRE FROM U46 PIN 6
TO U150 PIN 10.

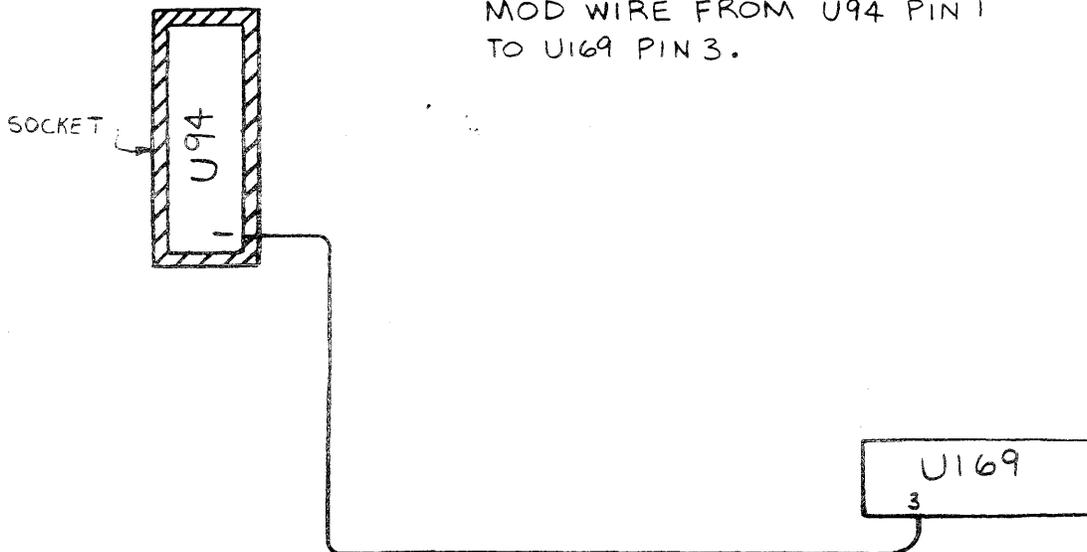
LTR	ECO #	DATE	APPV'D
H	00066	1/19/82	HMS



MOD WIRE FROM U72 PIN 6
TO U169 PIN 3.



MOD WIRE FROM U94 PIN 1
TO U169 PIN 3.



NEXT ASSY

THIS DOCUMENT IS NOT TO BE REPRODUCED IN ANY FORM,
OR TRANSMITTED IN WHOLE OR IN PART, WITHOUT PRIOR
WRITTEN AUTHORIZATION OF Three Rivers Computer.

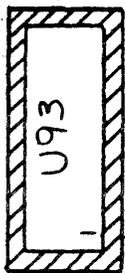
TITLE DETAILED ECO WORK
OF ECO * 00066



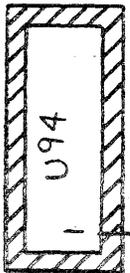
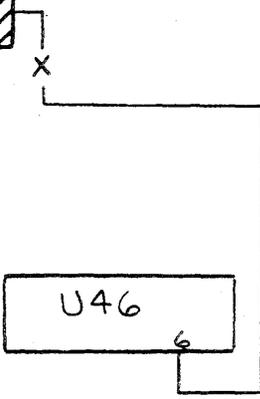
**Three
Rivers
Computer**

DRAWN	ED	1/19/82	SIZE	CODE	IDENTIFICATION	VAR	REV
CHECKED	<i>Ant</i>	2/12	A	M00	-00130-01-E		H
APPV'D			PROJ	JOB #/6 BOARD		SHT	1 OF 2

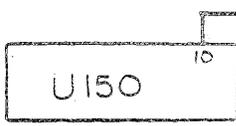
REVISIONS			
LTR	ECO #	DATE	APPV'D
H	00066	1/19/82	HMD
I	WORK ORDER #36	4-2-82	HMD



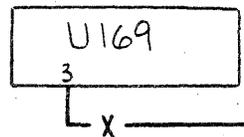
CUT TRACE THAT GOES FROM U93, PIN 1, TO U46, PIN 6. CUT TRACE CLOSE TO U93.



CUT TRACE THAT GOES FROM U94, PIN 1, TO U150, PIN 10. CUT TRACE CLOSE TO U94



CUT TRACE THAT GOES FROM U169, PIN 3, TO U150, PIN 10. CUT TRACE CLOSE TO U169.



NOTE
MAKE CUT FOR 10B-F BOARD, ON SOLDER SIDE. MAKE CUT FOR 10B-G BOARD, ON COMPONENT SIDE OF BOARD.

NEXT ASSY

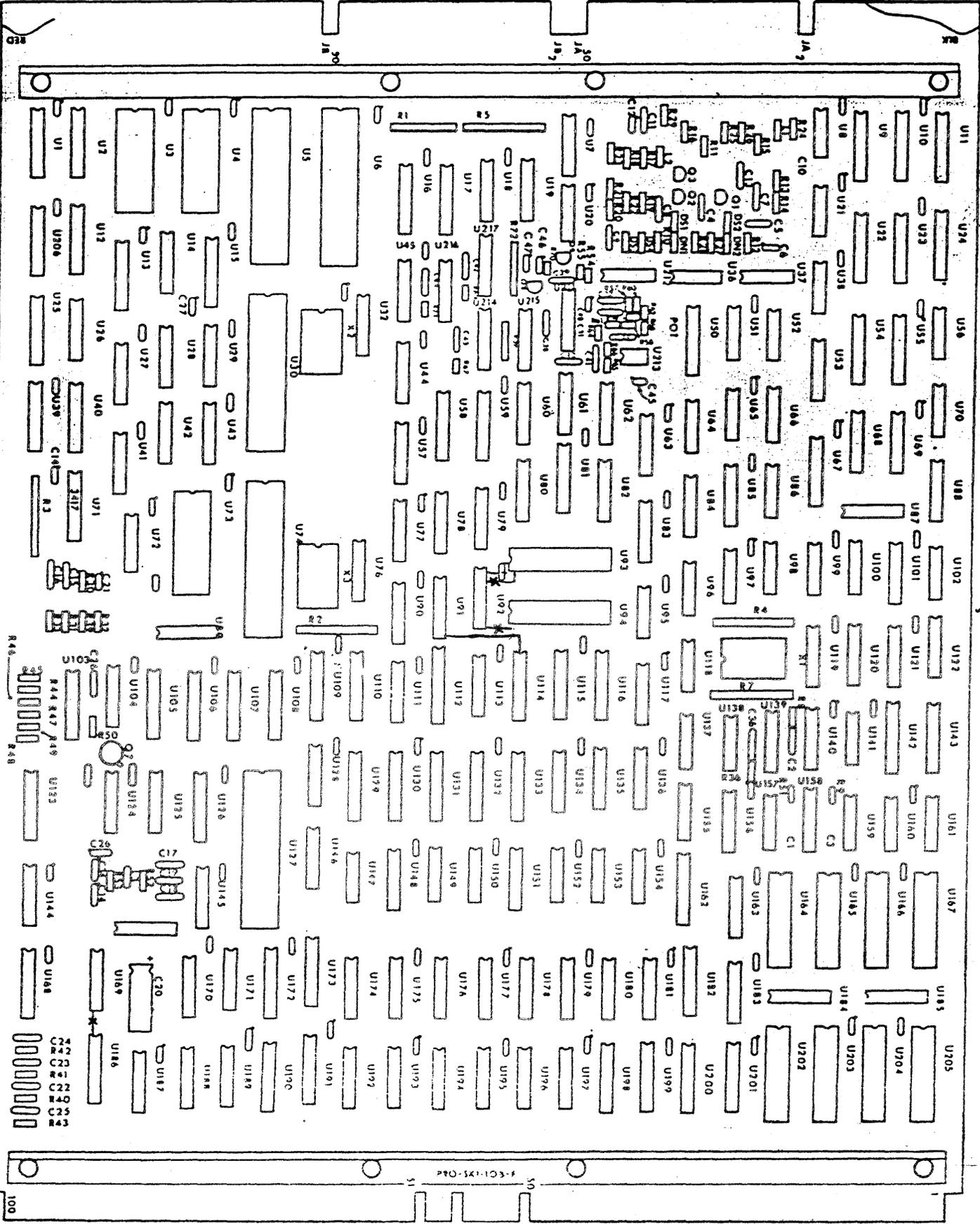
THIS DOCUMENT IS NOT TO BE REPRODUCED IN ANY FORM, OR TRANSMITTED IN WHOLE OR IN PART, WITHOUT PRIOR WRITTEN AUTHORIZATION OF Three Rivers Computer.

TITLE DETAILED ECO WORK OF ECO # 00066



Three Rivers Computer

DRAWN	ED	1/19/82	SIZE	CODE	IDENTIFICATION	VAR	REV
CHECKED	HMD	2/82	A	MDD	-0013-01-E		I
APPV'D			PROJ	10B-F/G BOARD	SHT	2 OF 2	



Three Rivers Computer



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>006</u>
SUB-ASSEMBLY <u>IO BOARD</u>	MAY, 1982
PART NO. <u>100043-00 (IOB-001)</u>	Z80 SOFTWARE UPGRADE
SERIAL NO. <u>ALL REVISIONS</u>	

Z80 SOFTWARE UPGRADE

PURPOSE:

Advise current PERQ users of Z80 Software upgrade.

DISCUSSION:

The Z80 Software has been re-coded to correct problems to provide the following:

1. Full utilization of the Double Density Floppy.
2. RS-232 Auto enables handshaking.
3. Elimination of the Tablet/Floppy Interaction problem.
4. Errors involving requests for RS-232 transmitter ready status.

The fix entails replacement of the 2532 E Prom located at positions U3 and U4 of the IO Board.

The fix can be identified by the labels on the E Proms.

If the 2532 E Proms installed on your IO Board are designated as follows, disregard this bulletin:

<u>PROM LOCATION</u>	<u>IDENTIFICATION</u>
U3	8.5L 3ed9
U4	8.5H 499a

INFORMATION BULLETIN

BULLETIN #006

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If the 2532 E Proms are not designated as above and you wish to up-grade to the new software, please contact the Field Service Department to arrange for an up-date or further information concerning this bulletin at 412-963-1911.

PERQPRODUCT PERQBULLETIN NO. 007SUB-ASSEMBLY IO BOARD

MAY, 1982

PART NO. 100043-00 (IOB-001)

DATA SET-UP/HOLD TIMING PROBLEM

SERIAL NO. ALL REVISION E, F, AND GDATA SET-UP/HOLD TIMING PROBLEM

PURPOSE:

To ensure proper operation of U71 concerning data set-up and holding timing.

DISCUSSION:

A problem has been discovered with the data set-up/hold timing of U71 causing it to function incorrectly.

To correct this problem, the following changes must be made to the IO Board.

1. Add a 74LS74 Integrated Circuit at location U206.
2. Cut trace between U71, pin 13 and U74, pin 26 on the non-component side of the board near U71.
3. Using 30 gauge, single strand wire-wrap wire, making the following adds to the component side of the board:
 - a. Add a wire from U71, pin 13 to U206, pin 5.
 - b. Add a wire from U71, pin 14 to U206, pin 3.
 - c. Add a wire from U206, pin 7 to U12, pin 8.
 - d. Add a wire from U206, pin 1 to U206, pin 4.
 - e. Add a wire from U206, pin 4 to R3, pin 9.
 - f. Add a wire from U206, pin 2 to U74, pin 26.
 - g. Add a wire from U206, pin 14 to U12, pin 16.

INFORMATION BULLETIN

BULLETIN # 007

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4. Change R31 from a 39K ohm resistor to a 3.9K ohm resistor.
5. Lift the leg on U74, pin 29.

This change is considered mandatory on all Field installed units.

If you have any questions concerning this change or would like Three Rivers Computer Corporation to up-grade your IO Board, please contact our Field Service Department by calling 412-963-1911, EXT 53 for re-work scheduling.

PERQ

PRODUCT <u>PERQ</u>	BULLETIN NO. <u>008</u>
SUB-ASSEMBLY <u>IO BOARD</u>	MAY, 1982
PART NO. <u>100043-00 (IOB-001)</u>	CRC ERRORS
SERIAL NO. <u>ALL REVISION E, F, AND G BOARDS</u>	

CRC ERRORS

PURPOSE:
To correct random CRC errors from occurring on the 12mb/24mb Shugart Fixed Disk Drive.

DISCUSSION:
It has been discovered that CRC errors of a random nature can occur on the 12mb/24mb Shugart Fixed Disk Drive.

To correct this problem, the following change should be made to the IO Board:

1. Add a 74LS74 Integrated circuit at location U206.
(If IB #007 has been completed, this chip will already be installed).
2. Lift the leg on U91, pin 12.
3. Using 30 gauge, wire wrap wire, make the following adds:
 - *a. Add a wire from U206, pin 14 to U12, pin 16.
 - *b. Add a wire from U206, pin 7 to U12, pin 8.
 - c. Add a wire from U206, pin 12 to U206, pin 12.
 - d. Add a wire from U206, pin 13 to U206, pin 10.
 - e. Add a wire from U206, pin 10 to R3, pin 4.
 - f. Add a wire from U206, pin 9 to U90, pin 13.
 - g. Add a wire from U206, pin 3 to U206, pin 11.

INFORMATION BULLETIN

BULLETIN #008

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*If Information Bulletin #007 has been followed these wires will already be installed.

This change is considered mandatory on all systems currently installed in the Field.

If you have any questions concerning this change or would like Three Rivers Computer Corporation to install this change for you, please contact our Field Service Department by calling 412-963-1911, EXT 53 to schedule a re-work date.



PRODUCT	PERQ	BULLETIN NO.	009
SUB-ASSEMBLY	OIO BOARD	MAY, 1982	
PART NO.	100050-00 OIO-001 100051-00 OIO-002	NET PROM/SOFTWARE UPGRADE	
SERIAL NO.	ALL OPTION IO BOARDS		

NET PROM/SOFTWARE UPGRADE

PURPOSE:

To provide instructions for upgrading the Option IO Board and software to allow PERQ systems to communicate with other equipment on an Ethernet line.

DISCUSSION:

This bulletin is to verify that the PERQ system has the necessary changes to allow communications between the PERQ and other systems on an Ethernet line. Changes must be made to both the hardware and the software as follows:

I. HARDWARE CHANGES

1. The net proms at location U31, U41 and U51 must be changed as follows:

	<u>OLD</u>	<u>NEW</u>
a. U31	NET 12	NET 13
b. U41	NET 22	NET 23
c. U51	NET 32	NET 33

2. Lift the leg on U53, Pin 4.
3. Using 30 gauge wirewrap wire, add a wire from the lifted leg of U53, Pin 4 to U53, Pin 5.
4. Dispose of the old proms because they cannot be reused.

INFORMATION BULLETIN

BULLETIN #009

PAGE 2

II. SOFTWARE CHANGES

1. Load information contained on floppy #671514-00 into the system. This floppy disk contains the information necessary to convert the D.6 Operating System to the D.61 Operating System which contains the Ethernet software and a fix for Real Numbers Microcode. In order to use this floppy:
 - a. Path to the BOOT partition.
 - b. Insert floppy in drive.
 - c. Type "FLOPPY" to access floppy disk.
 - d. Type "GET UPDATE.COMD" to bring the command file from the floppy to the hard disk.
 - e. Follow the instructions in UPDATE.COMD to modify your system. It is suggested that you make a listing of the UPDATE.COMD file so that you may refer to it during the process of the update, if need be.

If you have any questions concerning this bulletin, please contact the Field Service Department by calling 412-963-1911.

PERQ



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>010</u>
SUB-ASSEMBLY <u>D.6 SOFTWARE</u>	MAY, 1982
PART NO. <u>671514-00</u>	REAL NUMBER MICROCODE FIX
SERIAL NO. <u>ALL D.6 SOFTWARE</u>	

REAL NUMBER MICROCODE FIX

PURPOSE:

To advise all current 3RCC PERQ customers of the availability of a floppy diskette to correct problems in the Real Number Microcode.

DISCUSSION:

This bulletin is to advise all current PERQ users of the availability of a fix to allow the Real Number Microcode to function correctly with D.6 Software.

If you would like to incorporate this fix in your current system, please complete the attached form and forward it to 3RCC for processing. The floppy diskette part number to order is 671514-00.

If you have any questions concerning this bulletin, please contact the Field Service Department at 412-963-1911.

THREE RIVERS COMPUTER CORPORATION
FLOPPY DISKETTE ORDER FORM

CUSTOMER NAME _____
CUSTOMER ADDRESS _____

CUSTOMER CONTACT _____
TELEPHONE NUMBER _____
FLOPPY PART NUMBER _____

RETURN THIS FORM AFTER COMPLETING THE ABOVE INFORMATION TO:

THREE RIVERS COMPUTER CORPORATION
595 ALPHA DRIVE
RIDC PARK
PITTSBURGH, PA 15238

ATTN: FRANK SOWINSKI
FIELD SERVICE



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>011</u>
SUB-ASSEMBLY <u>BULLETINS</u>	JUNE, 1982
PART NO. _____	CORRECTIONS TO BULLETINS 5, 6, 8
SERIAL NO. _____	

CORRECTIONS TO BULLETINS 5, 6, 8

PURPOSE:

To advise 3RCC users of errors in Bulletins 5, 6, and 8.

DISCUSSION:

Please make the following corrections to the bulletins as detailed below:

BULLETIN 5 - Under deletes, Paragraph 2, reads as follows: "Cut trace that goes from U93, Pin 1 to U150, Pin 10". Should read: "Cut trace that goes from U94, Pin 1 to U150, Pin 10".

BULLETIN 6 - Prom locations are reversed. Change "U3" to read "U4" and "U4" to read "U3".

BULLETIN 8 - Under the discussion section, Paragraph 3, Subsection C reads: "Add a wire from U206, Pin 12 to U206, Pin 12". Should read: "Add a wire from U206, Pin 12 to U91, Pin 12".

If you have any questions concerning these documentation changes, please contact Field Service at 412-963-1911.



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>012-A</u>
SUB-ASSEMBLY <u>MEMORY BOARDS</u>	JUNE, 1982
PART NO. <u>MEM-001 (100040-00), MEG-001 (100049-00), HALFMEG-001 (100048-00)</u>	PROM UPGRADE (ECO 170)
SERIAL NO. <u>ALL</u>	

NOTE: THIS BULLETIN OBSOLETES BULLETIN 12 PREVIOUSLY SENT. PLEASE DISREGARD BULLETIN 12.

PROM UPGRADE

PURPOSE:

To advise PERQ users of a modification to the fetch 2 command when dealing with odd addresses.

DISCUSSION:

Presently when doing a fetch 2 on an odd word boundary, you might not get what you expected. For example, if you did a fetch 2 on the odd word boundary of 3, you would get word 3 first and then word 1 of the same quad word address.

Now, with a simple prom change, when doing a fetch 2, the least significant bit of the address is ignored. The first word is always an even address and the next word is the sequential odd address. The prom code revision you need is MST01. It is identified on the board as follows:

<u>BOARD TYPE</u>	<u>PROM LOCATION</u>	<u>OLD NUMBER</u>	<u>NEW NUMBER</u>
MEM-001 (100049-00)	U218	MST00	MST01
HALFMEG-001 (100040-00)	U222	MST00	MST01
MEG-001 (100048-00)	U222	MST00	MST01

If you would like to upgrade your memory board to add this enhancement, contact Three Rivers Computer Corporation, Field Service Department, by calling 412-963-1911.

PERQ

PRODUCT PERQ
 SUB-ASSEMBLY MEMORY BOARDS
 PART NO. 100040-00, 100048-00, 100049-00
 SERIAL NO. ALL

BULLETIN NO. 013
 JUNE, 1982
 PARITY TIMING IMPROVEMENT (ECO 169)

PARITY TIMING

PURPOSE:

To advise PERQ users of a timing improvement for parity error calculations.

DISCUSSION:

On fetch 2 and fetch 4 commands, the first parity error checking occurs earlier than parity checks on subsequent cycles. Consequently, the parity tree may not have time to settle giving you erroneous parity errors.

To correct this situation, the following changes must be made to your memory boards:

1. HALFMEG-001 (100040-00) AND MEG-001 (100048-00) BOARDS
 - A. Lift the leg of U242, Pin 3.
 - B. Using 30 gauge, single strand wire-wrap wire, add a wire from U242, Pin 3 to U246, Pin 6 on the component side of the board.
1. MEM-001 (100049-00) BOARD
 - A. Lift the leg of U210, Pin 3.
 - B. Using 30 gauge, single strand wire-wrap wire, add a wire from U210, Pin 3 to U240, Pin 6.

If you have any questions concerning this change, please contact the Field Service Department of Three Rivers Computer Corporation at 412-963-1911.



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>014</u>
SUB-ASSEMBLY <u>BULLETINS</u>	JULY, 1982
PART NO. _____	CORRECTION TO BULLETIN 8
SERIAL NO. _____	

CORRECTION TO BULLETIN 8

PURPOSE:

To advise PERQ users of an error in Bulletin 8.

DISCUSSION:

Please make the following correction to Bulletin 8 as described below:

BULLETIN 8 - Under the discussion section, Paragraph 3, Subsection g reads: "Add a wire from U206, Pin 3 to U206, Pin 11." It should read: "Add a wire from U92, Pin 3 to U206, Pin 11."

If you have any questions concerning this documentation change, please contact Field Service at 412-963-1911.

PERQ



PRODUCT <u>PERQ</u>	BULLETIN NO. <u>015</u>
SUB-ASSEMBLY <u>OIO Board (001, 002)</u>	NOVEMBER, 1982
PART NO. <u>100225-00, 100226-00</u>	NETWORK OPTION UPGRADE ECO PRNET5
SERIAL NO. <u>ALL</u>	

NETWORK OPTION UPGRADE

PURPOSE:

To provide modification instructions to ensure that the network option functions correctly.

DISCUSSION:

This bulletin corrects the following problems:

- a. bug in the prom code causing bad packets to be transmitted.
- b. bug in the prom code ignored attempts to put the network in an idle mode.
- c. timing problem causing bad CRC's to be generated.
- d. correct bug in PAL code for network reset.

To correct this situation, the following changes must be made to your Option I/O boards:

1. Verify that IB #9 (ECO 140) was previously installed. This can be determined by the revision level letter on the identification strip along the edge of the board. If IB #9 (ECO 140) was installed, a "C" designation or greater will be marked on the identification strip. An alternate method of determining if IB #9 is installed is as follows:
 - a. Verify that the proms at U31, U41 and U51 are Net 13, Net 23, Net 33; and
 - b. The leg on U53, Pin 4 is lifted and a wire is added between U53, Pin 4 and U53, Pin 5.

2. Replace the following proms:

<u>LOCATION</u>	<u>OLD DESIGNATION</u>	<u>NEW DESIGNATION</u>
U31	Net 13 (do not duplicate)	Net 15
U41	Net 23	Net 25
U51	Net 33	Net 35

3. Replace PAL CNT00 at location U63 with PAL CNT01.
4. Add a 74S112 IC in space location U25.
5. Rewire the OIO board as specified on the attached drawing.
6. Change the identification strip revision letter to "E".
7. Re-install OIO board in system and verify correct network operation.
8. Dispose of Net 13, 23 and 33 proms as they are not reprogrammable.
9. Return the CNT00 PAL to Three Rivers Computer for credit.

NOTE: This change must be coordinated with new software releases very carefully. Both modified and unmodified boards will work only with current Ethernet Software (D.6 or F.0). However, unmodified boards WILL NOT work with the new Ethernet Software (F.1).

If you have any questions concerning this change or would like Three Rivers Computer Corporation to install this change, contact our Field Service Department at 412-963-1911, ext. 53.



PRODUCT <u>PERQ 2 SYSTEM</u> SUB-ASSEMBLY <u>Disk Interface Board, EIO Board, CPU Board</u> PART NO. <u>110580-00, 110006-00, 100004-00, 100023-00</u> SERIAL NO. <u>A11</u>	BULLETIN NO. <u>016</u> October 1983 MANDATORY ETHERNET/DISK MODIFICATIONS
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MANDATORY PERQ 2 ETHERNET/DISK MODIFICATIONS

PURPOSE:

To advise PERQ 2 users of hardware/software changes required to correct Ethernet and Disk Operation and G.2/G.3 Scavenger Operation on PERQ 2 Systems shipped prior to September 1, 1983.

DISCUSSION:

The changes referenced above affect the following items:

1. EIO Ethernet DMA improvements
2. Improves Ethernet data recovery
3. Clock synchronization for the disk
4. Removes incorrect prevention of DMA's
5. Enhances performance of the disk state machine
6. Prevents bad formatting by synching sector pulse clock
7. Improve G.2/G.3 Scavenger performance

Hardware affected:

1. EIO Board - Part number 110006-00
2. 4K and 16K CPU Boards - Part numbers 100004-00 and 100023-00
3. Disk Interface Board - Part number 110580-00

Software affected:

1. G.2 Operating System
2. G.3 Operating System



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Perq Systems Corporation has established a rework program aimed at upgrading all units currently in the field and will schedule rework as calls are received from customer locations.

To schedule your system into the rework program, please contact our Customer Service Department by calling 412-963-1911 Ext. 52. If you have any questions concerning this bulletin, please contact our Customer Service Department.

FLS/1p



PRODUCT <u>PERQ 1, PERQ 2</u>	BULLETIN NO. <u>017</u>
SUB-ASSEMBLY <u>16K CPU</u>	REFERENCE ECO #650
PART NO. <u>100023-00, 110196-00</u>	
SERIAL NO. <u>All</u>	

PURPOSE:
 Fix to extended special functions on 16K CPU

DISCUSSION:
 This fixes an interaction problem between memory references and the 16K extended special functions. This affects users of lisp and some people who write their own microcode. This bug occurs when an extended special function is executed during the three micro instructions that immediately follow a STORE2, STORE4, STORE4R or during the two micro instructions that immediately follow a rasterop STORE4 or STORE4R.

This bulletin shouldn't cause any hardship. A simply delay in the use of extended special functions after a store function is a quick fix. If any assistance is needed, call the Customer Service Department at 412-355-0900.

MODIFICATION:
 Lift leg of U234 Pin 11
 Add wire from lifted leg of U234 Pin 11 to U149 Pin 7
 Replace Prom:

<u>OLD PROM</u>	<u>NEW PROM</u>
SFA 16B	SFA 16.3



PERQ Systems Corporation

PRODUCT <u>PERQ 2</u>	BULLETIN NO. <u>018</u>
SUB-ASSEMBLY <u>EIO BOARD</u>	MARCH 1984
PART NO. <u>110006-00</u>	Z80 MISMATCH
SERIAL NO. <u>ALL</u>	

PURPOSE:

To verify that the correct Z80 IC's were sent to the field.

DISCUSSION:

Although our boards go through strenuous tests and our Q/A Department checks them thoroughly to keep errors at a minimum, some nevertheless do occur.

In an effort to be positive of correcting all the errors we are asking our Perq 2 customers to check the type of Z80 IC that is in use on their EIO boards. Customers of Perq 1's are not affected.

If you have received a Perq 2 in the last 8 months, please take a moment to check the IC in location U114 of the EIO board. It should be a Z80-CPU type 3880N-4. If the last digit is anything other than a -4 it is incorrect. Perq Systems Corporation will be happy to replace it at no charge.

If you have any questions or need any assistance, feel free to call our Customer Service Group at 800-222-4486 Monday through Friday 8:00 AM to 5:00 PM East Coast Time.

Thank you



PRODUCT <u>PERQ 2</u>	BULLETIN NO. <u>19</u>
SUB-ASSEMBLY <u>EIO BOARD</u>	
PART NO. <u>110006-00</u>	RS232 FACTS
SERIAL NO. <u>ALL BOARDS, Bases before SN 336</u>	ECO 744, 706

PURPOSE: There are a number of interesting facts to know about the RS232 ports on a PERQ 2. Two things will be discussed below. First general rules as to what pins are recognised. Second, an interesting fact about PERQ 2's and port B.

DISCUSSION: RS232

The present configuration of the RS232 on the PERQ enables you to run full duplex capabilities of standard RS232 links. This is sufficient for the running of any peripheral that you may choose. The lines that the PERQ uses on the standard RS232 are listed below.

TD	pin 2	transmitted data
RD	pin 3	received data
RTS	pin 4	request to send
CTS	pin 5	clear to send - low or open prevents transmit
	pin 7	ground
DCD	pin 8	data carrier detect - low or open prevents transmit
TCI	pin 15	transmitter clock input
RCI	pin 17	receiver clock input
DTR	pin 20	data terminal ready
TCO	pin 24	transmitter clock output (PERQ 2 only)

Only these signals are out going from the PERQ. They are pin 2, pin 4 and pin 20. Pin 24 is an out going signal only available on PERQ 2. All others are in coming signals. Status signals measured on the external line are active high. When measured on the external line, transmitter clock will transmit data on the raising edge and receiver clock will receive data on the falling edge. The input signals receiver clock and transmitter clock are pulled high when not connected. The CTS, DCD and RD signals must be pulled high (by tying to DTR) if not used. An indepth knowledge of your peripheral's requirements are needed to know how to configure the pins above into a working arrangement.



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example

Full duplex asynchronous RS232 connection between PERQS.

PERQ A		PERQ B
pin 2	to	pin 3
pin 3	to	pin 2
pin 4	to	pin 5
pin 5	to	pin 4
pin 7	to	pin 7
pin 8]	pin 8
pin 20]	pin 20

The second thing to know about a PERQ 2 is that the B port of the RS232 ports has two pins reversed. RTS B (pin 4) is reversed with DTR B (pin 20). You should find that this is true for PERQ 2's made before SN 336.

PERQ



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PRODUCT <u>PERQ OPERATING SYSTEM G.5</u>	BULLETIN NO. <u>020</u>
SUB-ASSEMBLY _____	March 1, 1984
PART NO. _____	Page 1 of 5
SERIAL NO. _____	

PURPOSE: POS Version G.5 Release Notes

DISCUSSION:

The Operating System Version G.5 being released by PERQ Systems Corporation incorporates the following changes:

a) 5.25" Disks

This release supports the use of 5.25" disks. PERQ Systems supplies Micropolis Model 1303, but the hardware supplied will support any 5.25" disk. If you switch from using 8" disks to using 5.25" disks, a new set of CPU boot proms is required. When you buy a system with the capability of handling 5.25" disks or update your system, the new proms will be on the board.

b) Operating System Modules

A new module, DiskParams, has been added, and changes have been made to the export sections of DiskDef, DiskIO, DiskUtility, and IODisk.

c) Landscape Tablet

Support for the landscape tablet is included in this release. Problems that existed in G.4 and earlier versions have been corrected.

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d) OldFloppy Program

A disk containing the old floppy program is enclosed. This version of the floppy program is not supported and will be withdrawn at some point in the future. It is being included for your convenience in reading floppies made under the G.2 (or earlier) operating system.

Most existing software will run on the new system without any effect after it has been relinked. However, if the software involves low level interface (especially with the modules that have been changed), the software should be recompiled and relinked.

The changes listed below have been made to the PERQ Software Reference Manual. (These changes became effective with G.4, and there were no further changes to the manuals for G.5.)

Cover Page and Table of Contents

The revised cover page reflects the recent change in the company's name, address, and telephone number. The revised Table of Contents shows the addition of a new section, ODTPRQ.

PERQ System Overview

A revised cover page is enclosed.

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PERQ Utility Programs Manual

- a) A revised cover page is enclosed.
- b) Revised page 3-57 of the manual shows changes to the Mount utility to accommodate 5.25" disks. There is no change to the Dismount utility.
- c) Revised page 3-58 of the manual includes a reference to the new ODTPRQ manual enclosed.

Editor User's Guide

A revised cover page is enclosed.

PERQ Operating System

- a) A revised cover page is enclosed.
- b) Revised pages iii-iv, 41-72, and 125-126 reflect the addition of a new module, DiskParams, and changes or additions to the export sections of DiskDef, DiskIO, DiskUtility, and IODisk.
- c) Revised pages 133-134 and 243-244 correct errors in page headings.

Programming Examples

A revised cover page is enclosed.

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PERQ File System

- a) A revised cover page is enclosed.
- b) A revised Preface and Table of Contents (pages iii-vi) reflect the changes below.
- c) Revised pages 1-1 through 1-4, 2-3, and 2-4 reflect the addition of support for 5.25" disks.
- d) Revised pages 3-1 through 3-10 update Section 3.1 (Segment files).
- e) Revised pages 5-1 through 5-29 reflect changes or additions to the following utilities in order to accommodate 5.25" disks:
 - 1) Partition
 - 2) Scavenger
 - 3) Makeboot
 - 4) Fixpart

PERQ Microprogrammer's Reference Manual

- a) A revised cover page is enclosed.
- b) Revised pages v and vi from the Table of Contents reflect the addition below.
- c) Appendix B (pages B-1 and B-2) has been added. This appendix provides the Writable Control Store (WCS) Map for G4.

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PERQ QCode Reference Manual

A revised cover page is enclosed.

On-line Debugging Technique for the PERQ (ODTPRQ Program)

This is a new section, to be inserted after the QCode Reference Manual section.

PERQ Fault Dictionary

A revised cover page is enclosed.

PERQ



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<p>PRODUCT <u>AMENDMENT 1 TO POS G.5</u></p> <p>SUB-ASSEMBLY _____</p> <p>PART NO. _____</p> <p>SERIAL NO. _____</p>	<p>BULLETIN NO. <u>021</u></p> <p>May 22, 1984</p> <p>Page 1 of 2</p>
<p>PURPOSE: POS Version G.5 Amendment 1 - Release Notes</p>	
<p>DISCUSSION:</p> <p>The PERQ Operating System Version G.5 is being amended to correct problems that have occurred with the Partition and Scavenger programs when large partitions are used.</p> <p>Enclosed with this amendment is a new Run floppy which contains the usual files plus a command file to upgrade the system. If you have Version G.5 on your machine, you should do the following:</p> <ol style="list-style-type: none"> 1. Path to the Sys:Boot partition on your machine. 2. Insert the new Run floppy into the floppy disk drive and mount it by typing mount f. 3. Copy the upgrade command file from the floppy to the hard disk (type copy g.5:boot>upgrade.cmd ~ upgrade.cmd). 4. Run the upgrade command file by typing <code>upgrade</code>. This will replace the Scavenger and Partition programs and the DiskParams module and relink all affected programs. 5. Dismount the floppy by typing <code>dismount f</code> and then remove it from the floppy disk drive. 	

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May 22, 1984
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If in the future you need to reload Version G.5 of the operating system from floppy, follow the normal Load Disk procedure and then do the above procedure.

This amendment does not involve any changes to the software reference manual for the system.



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PRODUCT <u>PERQ OPERATING SYSTEM G.6</u> SUB-ASSEMBLY _____ PART NO. _____ SERIAL NO. _____	BULLETIN NO. <u>022</u> July 1, 1984 Page 1 of 2
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PURPOSE: POS Version G.6 Release Notes

DISCUSSION: The Operating System Version G.6 being released by PERQ Systems Corporation incorporates the following changes:

a) 5.25" Disks

This release fixes problems with 5.25" disks. This includes new versions of the Scavenger and Partition utilities. Also, this release supports additional models of 5.25" disks.

b) Details Utility

The Details utility has been fixed to correctly report the serial number on a PERQ2 workstation.

c) Accent Support

This release includes changes that allow both the POS and the Accent operating systems to run on the same large disk.

WARNING: If you also have the Accent operating system on your workstation, do not attempt to use the POS Fixpart utility.

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July 1, 1984

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Most existing software will run on the new system without any effect after it has been relinked.

There are no changes to the PERQ Software Reference Manual.



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PRODUCT <u>ACCENT S5</u>	BULLETIN NO. <u>023</u>
SUB-ASSEMBLY _____	August 27, 1984
PART NO. _____	Page 1 of 5
SERIAL NO _____	

PURPOSE: ACCENT Version S5 - Release Notes

DISCUSSION: Accent S5 is the first official release of the Accent operating system.

Instructions for installing the system are given in Chapter 3 of the Accent System Administration Manual.

GUIDELINES

In order to obtain optimal performance of the system, we recommend that you do the following:

- a) Place the paging partition in the center of the disk, with the Accent operating system next to it.
- b) Before turning off your workstation or rebooting it, give the command BYE to the shell. This ensures a graceful shutdown of the system, as various maintenance functions are carried out when the BYE command is given. The command may take a few minutes to complete.
- c) When organizing the screen layout, windows that are not being used currently should be sent offscreen, rather than put on the bottom of the stack. Sending them offscreen will improve system performance.

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CONSTRAINTS

Please note the following constraints imposed by the system:

- a) To be able to perform remote file access, the Authentication Server must be running and the user wishing to access the file must be logged in. If the Authentication Server goes down while a remote machine is being accessed, subsequent accesses will fail. To resume remote file access, the Authentication Server must be restarted and the user who is trying to access a remote file must login again. In addition, before or after re-login the old connection to the remote machine should be deleted with the command `Delete /<RemoteSysName>`.
- b) After initializing pages using the Partition program, the new partition cannot be used until the workstation is rebooted.
- c) To run the various programs that use RS232, GPIB, Floppy, Speech, and Remote, the appropriate server (RS232AServer for the A port, RS232B for the B port, GPIBServer, FloppyServer, SpeechServer, or Remote) must be running concurrently with the program. The servers are started by giving the command `<server&>` and then creating a window for the server.
- d) Files created under Accent cannot be backed up using STUT (the streamer utility) under POS.

KNOWN PROBLEMS IN THE SYSTEM

The following problems are known to exist in the system currently:

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- a) The paging space fills up at a faster rate than the tasks being performed would suggest. Therefore, before running an application make sure that the paging partition contains a large amount of space. To find out how much space is in the paging partition, type details -free.
- b) Selection of the "Eradicate Window" command from the window manager menu or issuance of the command from the keyboard causes the system to hang and therefore should not be used. Instead, to kill a process select "Kill Process" on the window manager menu and issue the Quit command to the shell.
- c) The shell creates pipe files every time the shell is started and these files are not deleted unless you explicitly quit the shell. Therefore the pipe files build up over a period of time and should be deleted occasionally. The names of these files are of the form Pipe<nn>.1|2.
- d) The Scavenger program will not delete bad boots, that is, boot letters that do not point to valid boot files. In order to write a new boot file, you must run Bindboot.

KNOWN PROBLEMS IN THE PASCAL COMPILER

The Release 1 Pascal compiler is Version Number V12.6d. The known bugs in this release of the compiler are as follows:

- a) The directory separator (/) cannot be used to specify Imported and/or Included filenames. To overcome this, the searchlist mechanism must be used to put the required file on the search list. In addition, the ">" character is incorrectly accepted in the filenames.

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- b) Using an integer constant as an index into an array with a LONG index type crashes the compiler. To avoid crashing the compiler, STRETCH the constant index.
- c) Use of a CASE statement with a large range (approximately >17K) of selection constants causes the compiler to crash. To avoid crashing the compiler, you will need to combine the case statement with one or more IF-THEN-ELSE statements to reduce the size of individual CASE statements.
- d) Use of \$INCLUDE files in EXPORTS will cause invalid debugging information to be generated for any module that IMPORTS the exported include file and may cause the compiler to crash. Avoid the use of the \$INCLUDE construct in the exports.
- e) Incorrect code is generated for use of -32768 as a LONG constant. To avoid this problem, define a constant to be the statement

```
CONST MAXINTEGER = -32768;
```

and use MAXINTEGER rather than the digit string. Alternatively, surrounding all occurrences of -32768 with parentheses, i.e., (-32768), will cause correct code to be generated.

- f) Declaration of lexically nested HANDLERS causes the error message "Identifier not of appropriate class" during compilation.
- g) The compiler will occasionally die while trying to write out a .SEG file to the disk. This is caused by having a \$version string that is too long (greater than 80 characters).

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REPORTING OF PROBLEMS

If you experience any problems not discussed above or if you need assistance in any way, please call the PQS Customer Service Department at (412)355-0900. If you are calling from outside Pennsylvania, use the toll-free number (800)222-4486.

PERQ



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PRODUCT <u>PERQ2 - T2</u> SUB-ASSEMBLY <u>5.25" Harddisk(43,50,105,144)</u> PART NO. _____ SERIAL NO. _____	BULLETIN NO. <u>024</u> October 23, 1984 Page 1 of 2 Perq2 - T2
--	--

PURPOSE: Resolve PERQ2-T2/Disk Interface Board Formatting Errors.

DISCUSSION: A reliability deficiency has been detected with the 5.25" Harddisks (43, 50, 105, 144 Meg) used in the PERQ2-T2 systems. It has been determined that possible problems could arise if the disk was not formatted with the Disk Interface Board it was shipped with.

The majority of difficulties encountered involve data corruption on cylinder 0, during system initialization time (booting). While running the machine random disk errors could also be present. Common symptoms include DDS displays of 014 and 900 (corruption of bootstrap and device information blocks, respectively).

To eliminate this issue, a program has been written that will reformat the disk while the is machine running. Although this program is destructive to the format of the disk it will not destroy the present customer data on the disk if the machine is running with no errors. Tests have shown that by running this program, disk reliabilty will be improved.

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******* CAUTION *******

It is recommended that all sensitive data be backed up prior to running this floppy. It is required that your disk interface board be at revision level J or K.

******* NOTE *******

A write enable tab must be on the Fixboot Floppy.

This program will first make a copy of the bad block map found on the harddisk, then reformat the harddisk. Do not exceed writing 20 bad block maps to the Fixboot floppy.

The following procedure should be used to reformat the 5.25" Harddisk:

- Boot from floppy(Fixboot floppy)
- Enter time, date
- You will be prompted for responses as the program runs

On a 43 meg byte disk this program will take approximately 25 minutes to run.

NOTE: Although disk errors may be displayed while running this program, these errors may be invalid since this program ignores the disk manufacturers bad block map.

If there are any questions regarding this information bulletin, contact Customer Service.



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PRODUCT <u>MICROPOLIS/VERTEX DISKS</u>	BULLETIN NO. <u>025</u>
SUB-ASSEMBLY _____	December, 1984
PART NO. _____	Page 1 of 2
SERIAL NO. _____	DISKS

PURPOSE: This Information Bulletin is to inform all customers of a change in the Return Policy of Perq Systems Corporation, for the replacement of a 43meg hard disk drives.

DISCUSSION: Previously, when a 43meg hard disk drive was returned to Perq Systems Corporation for repair or replacement an identical type disk drive was returned to the customer. Due to circumstances beyond the control of Perq Systems Corporation, if the customer returns a Micropolis hard disk drive (type : M1303/43meg) a different manufacturers hard disk drive such as a Vertex hard disk drive (type : V150/51meg) may be sent to the customer as a replacement.

The Micropolis M1303 and Vertex V150 disk drives are totally compatible with one another and appear to be totally transparent to the user. It will be the sole descretion of Perq Systems Corporation to determine what hard disk drive to return as a replacement, customer requests for either Micropolis or Vertex hard disk drives will not be considered.



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DISKS

The following chart outlines the parameters of both hard disk drives:

	MICROPOLIS	VERTEX
DISK TYPE	M1303	V150
HEADS	5	5
CYLINDERS	830	987
SECTORS	16	16
PRECOMP	401	988
BOOTSIZE	32	32

PERQ



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PRODUCT <u>ACCENT VERSION S6</u>	BULLETIN NO. <u>026</u>
SUB-ASSEMBLY _____	February 1, 1985
PART NO. _____	Page 1 of 9
SERIAL NO. _____	ACCENT S6

PURPOSE: ACCENT Version S6 Release Notes

DISCUSSION: Accent S6 is the second official release of the Accent operating system. This release incorporates a number of major and minor changes to the operating system. The major changes are listed below, along with guidelines for converting application programs to run on this release. The M2 release of Lisp does not run under S6.

Instructions for installing the system are given in Chapter 3 of the Accent System Administration Manual. In order to load Accent, you must have two partitions available, named Accent and Paging, each at least 10080 blocks. If you intend to load the C compiler, the Accent partition should be at least 15080 blocks. In addition, if you intend to load Matchmaker, you must have a partition named MatchM, at least 4500 blocks.

If Release S5 was installed at your site, run the ChangeUser program on the new system as soon as it is brought up, changing your default shell to Boot:shell.s6.run. Immediately after this change has been made, login again. This is necessary in order to have the Make program and the window manager command <Prefix>-s work correctly. (If the Authentication Server is not running when you first bring up the new version, you will not experience any problems. However, as soon as the Authentication Server is available, make this change to avoid problems the next time you login.)

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ACCENT S6

Guidelines

In order to obtain optimal performance of the system, we recommend that you do the following:

- Place the Paging partition in the center of the disk, with the Accent operating system next to it.
- Before turning off your workstation or rebooting it, always give the command Bye to the shell. This ensures a graceful shutdown of the system, as various maintenance functions are carried out when the Bye command is given. This is especially important because of a new feature called "lazydisk," explained below under Changes. The Bye command takes a few seconds to complete.
- When organizing the screen layout, windows that are not being used currently should be sent offscreen, rather than put on the bottom of the stack. Sending them offscreen will improve system performance.

Major Changes

The major changes to the system in general are listed below, followed by the changes that affect existing application programs.

The general changes are:

1. The system incorporates a feature known as "lazydisk." This feature delays writing of the files to the disk until the machine has free cycles to actually do the write. Lazydisk can be controlled with the Sync command. Please be sure to read and understand Sections 3.2 and 3.2.2 of the document "Basic Operations" in the Accent User's Manual, which

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describe this feature and the relationship between the Bye and Sync commands. Any time you are copying large files to disk (with Copy, Floppy, FTP, etc.), be sure to turn off lazydisk.

When the system is delivered to you, the InitialShell.Cmd file will include the command "Sync off" which turns off lazydisk. If you wish to run the system with lazydisk on, remove this command.

2. The system has a new typescript manager. The programmer interface to it is upward compatible with the Release S5 programmer interface. There are a number of new procedures added to the interface, including procedures for building terminal emulators. Also, it will always wrap lines now, whereas previously it was possible to specify that lines not wrap. Please refer to the document "The Typescript Manager" in the Accent Programming Manual.
3. The IO servers have been enhanced by the addition of the Async IO call. This allows clients to queue a number of requests to the server without waiting for any of them to complete. The document "The IO System" in the Accent Programming Manual contains details about this call.
4. The Release S6 Pascal compiler is Version Number V12.8f. There are no known bugs. Previously, the compiler created .Seg files even if it encountered errors during compilation. In the new version it will not generate .Seg files if it encounters an error.
5. A number of user interfaces were also changed in this release.

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ACCENT S6

- a. The Sync command was added to go with the lazydisk feature (see above).
- b. It is now possible to read remote files without logging into the system. However, in order to write remote files one must be logged in.
- c. Login now takes a switch Principal which reads the file Principal.User for the login name and password. The purpose of this switch is to enable a person who is the sole user of a workstation to login without interactively supplying a UserName and password each time. This switch is documented in Section 3.1 of the document "Basic Operations" in the Accent User's Manual.
- d. Bye runs much faster than it used to. There is also a new switch called OnlyLogout that logs the user off but does not trap to the kernel debugger. See Section 3.2.1 of the document "Basic Operations" in the Accent User's Manual.
- e. The command <Prefix>-k now clears type-ahead, as well as killing the process. <Prefix> is CTRL-DEL on the PERQ and CTRL-DEL or SETUP on the PERQ2.
- f. The NoScroll feature now stops the process that is running each time the screen is full of output. Previously, the process completed without pausing even though the display of output paused when the screen was full.
- g. The utilities On and Remote were removed from the release.

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- h. The editor cursors were modified. Also, the transcript file created by the editor is now placed in the directory you are editing from, not the directory from which the file came. This change was made to facilitate remote file editing.
- i. The default window manager cursors were modified. Also the icon layout was changed to include a title area and a picture area. The progress bar was removed from the title line of the window, and progress will be displayed only in the icon. The title line text is now displayed in a bold font. The Help menu for the window manager now shows the cursors that are displayed when performing a window manager operation.
- j. Stut, the streamer utility, runs much faster than it did in Release S5. New buffers have been added that can be adjusted to obtain better performance on 2 megabyte workstations. (The default buffers are set for optimal performance on 1 megabyte workstations. See Appendix C of the Accent System Administration Manual.

As noted in the S5 release, files created under Accent cannot be backed up using Stut under POS.

Please note that in order to copy a directory to tape, you must specify its name when you put it on tape but not when you get it back. For example, to copy Dir1 to tape, you would type `put /sys/accent/dir1`. To retrieve it, you would path to `/sys/accent` and type `get /sys/accent`. The system would create Dir1.



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The following changes affect existing application programs:

1. The relationship between windows, viewports, and events has been changed. Essentially events are now associated with the listener window. Viewports are pure output abstractions and cannot be made into listeners, as was possible in the earlier system. This change was made so that each process can have its own keytranslation. This is an incompatible change and will require some re-programming of applications that wait for events.

Changes to the window manager are as follows:

- a. The following routines that were in ViewptUser have been deleted:
 EnableInput and SetListener
- b. The following routines that were in ViewptUser have been moved:
 GetEvent, FlushEvents, and ReserveCursor moved to SapphUser;
 LoadVPCursors, LoadFont, and LoadVPPicture moved to SapphLoadFile;
 LoadFont is now called LoadFontFile.
- c. Procedure EnableWinListener now takes only two arguments: Win (of type Window) and AbortPort (of type Port). The parameters KeytranTab and Timeout have been deleted.
- d. Function GetEvent has changed from type KeyEvent to EventRec.

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- e. Function FlushEvent, Procedure ReserveCursor, and Function GetEvent now take a value of type Window instead of type Viewport.
 - f. Routines have been added, as listed in the document "The Window Manager" in the Accent Programming Manual.
2. Previously, the window manager was responsible for converting the raw events generated by button or key presses into events using the keytranslation tables. In the present system the window manager will return a raw event, and it is the programmer's responsibility to translate the raw event from the keytranslation tables. The library contains the modules Keytran and KeytranDefs which should be used to manipulate keytranslation tables and to translate the events. Keytranslation and the changes that must be made to existing programs are described in the document "The Window Manager" in the Accent Programming Manual.
 3. The netserver interface has been changed as follows:
 - a. EtherIODefs.pas has been replaced by NetIOBDefs.pas;
 - b. NetIOBRecvServer.pas has been merged with NetIOBUser.pas;
 - c. Calls to function NetIORecvServer should be replaced with calls to function NetIOBASynch in NetIOBUser.pas.

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4. The QCodes for Pascal have been revamped to improve the performance of the system. All user programs (Pascal, C, and microcode) **MUST** be re-compiled and relinked so that they can run on the S6 system. A number of QCodes have been added to implement working registers; the compiler generates code to use these codes only when the Peepopt switch is used. The document "Pascal/C Machine Reference" in the Accent Microprogramming Manual contains the definitions of the new QCodes, and the document "PERQ/Accent Pascal Extensions" in the Accent Languages Manual contains a description of the Peepopt switch.

Any use of InLineByte, InLineWord, or InLineAWord should be carefully re-examined to ensure that it is consistent with the new QCodes.

5. The address area for user microcode has changed. See the document "Microstore Allocation" which is Appendix B of the Accent Microprogramming Manual.

Constraints

Please note the following constraints imposed by the system:

- If the Authentication Server goes down while a remote machine is being accessed, subsequent accesses will fail. To resume remote file access, the Authentication Server must be restarted and the user who is trying to access a remote file must login again. In addition, before or after re-login the old connection to the remote machine should be deleted with the command Delete /<RemoteSysName>.
- After initializing pages using the Partition program, the new partition cannot be used until the workstation is rebooted.

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- To run the various programs that use RS232, GPIB, Floppy, and Speech, the appropriate server (RS232AServer for the A port, RS232B for the B port, GPIBServer, FloppyServer, or SpeechServer) must be running concurrently with the program. The servers are started by giving the command <server>& and then creating a window for the server. The Launch.Cmd file provided with the system starts the floppy server but without an icon.
- Files created under Accent cannot be backed up using Stut (the streamer utility) under POS.

Known Problems in the System

The following problems are known to exist in the system:

- The paging space fills up at a faster rate than the tasks being performed would suggest. Therefore, before running an application make sure that the Paging partition contains a large amount of space. To find out how much space is in the Paging partition, type details -free.
- The system has trouble copying large files across the network.
- There are two problems with button presses in the window manager. When using the middle button with the title line to shrink a window, you may have to hold the button for a second or so. Using the left button in the icon to bring a window to the top doesn't always work; a second try may succeed.

Reporting of Problems

If you experience any problems not discussed above or if you need assistance in any way, please call the PQS Customer Service Department at (412)355-0900. If you are calling from outside Pennsylvania, use the toll-free number (800)222-4486.

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<p>PRODUCT <u>AMENDMENT 2 - ACCENT S5</u></p> <p>SUB-ASSEMBLY _____</p> <p>PART NO. _____</p> <p>SERIAL NO. _____</p>	<p>BULLETIN NO. <u>027</u></p> <p>March 1985</p> <p>Page 1 of 1</p> <p>Accent S5</p>
<p>PURPOSE: ACCENT S5 amendment 2 update</p>	
<p>DISCUSSION: A situation has been recognized by our Engineering Department that under ACCENT S5, in rare circumstances (when a great deal of virtual memory is being used) files could be written which Scavenger would identify as bad segments, causing corruption within the file system. In order to prevent any file system corruption occurring to our users a fix has been prepared and is now available on floppy to our Accent users.</p> <p>If you desire a copy of the Accent S5 - Amendment 2 floppy, contact:</p> <p>PERQ SYSTEMS CORPORATION</p> <p>Philip Wiykovics - Tech Support Specialist</p> <p>1-800-222-4486</p>	



PERQ Systems Corporation

PRODUCT PERQ T2
 SUB-ASSEMBLY EIO, 16K CPU & 2 MB BDS.
 PART NO. _____
 SERIAL NO. _____

BULLETIN NO. 028
 BOARD INSTALLATION
 July 2, 1985
 PERQ T2

PURPOSE: To make board swapping easy and efficient when necessary.

PROCEDURE:

1. Power the entire system down by actuating the power switch located on the upper right portion of the front panel.
2. Using a phillips head screwdriver remove the two screws holding the front panel to the chassis. These screws are located at the bottom of the front panel, approximately 2 inches in from each side.
3. With the screws removed, lift the panel slightly to disengage the locking arms from the chassis. The panel should then lift clear of the base unit.
4. Looking at the front of the system with the panel removed, the card cage is located on the lower right and contains color-coded slots for each of the 3 circuit boards. The boards are inserted in the color-coded slot which corresponds with the color-code of each board. There are 2 ejector handles per board, the lower handle of the board will match the color of the corresponding slot and the upper handle will always be black.

<u>BOARD</u>	-	<u>COLOR OF STRIPE AND EJECTOR HANDLE</u>
EIO	-	RED
16K CPU	-	WHITE
2 MEGABYTE	-	GREEN

5. The EIO Board has two ribbon cables connected to the board, the upper cable is labeled "JA", the lower "JB". If required, remove these cables carefully by gently pulling on the connector. DO NOT pull the cable.
6. Gently pull both the lower color-coded ejector handle and the upper black ejector handle toward you and away from the board. This will free the board from the card cage allowing it to slide freely toward you.
7. Slide the board completely free of the card cage and set it aside.



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BOARD INSTALLATION
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8. Remove the new board from the packing material, taking care to save the black anti-static bag and shipping container for return shipment of the original board to PERQ Systems Corporation.
9. Insert the new board into the corresponding color-coded slot, being careful to insure that the edges of the board are riding in the upper and lower nylon guide tracks and the color-coded ejector handle is on the bottom. You must lift both the upper and lower ejector handles so that they clear the upper and lower retaining bars to allow full insertion of the board.
10. Engaging the upper and lower ejector handles with their respective retaining bar, firmly push both handles to meet the front edge of the board. This will seat the board in the card slot, engaging the rear edge of the board in the connector at the rear of the card cage.
11. If replacing the EIO Board, carefully reconnect the flat ribbon cables to the front edge connectors. It is imperative that the "JA" cable be attached to the top connector and the "JB" cable to the lower connector for proper operation of the system. The colored striped edge of the cable should be at the top after the cable is connected.
12. Lift the front panel to the face of the system, inserting the locking arms of the panel into the front of the chassis. Once completely positioned re-insert the screws at the base of the panel and tighten.
13. Place the old board in the black anti-static bag and place it in the shipping container for return shipment to PERQ Systems Corporation.
14. Power the system up by actuating the power switch located on the upper right portion of the front panel and test the system for proper operation.

** Contact PERQ Systems Corporation Customer Service if further assistance is required.