222925-001 Work Instructions

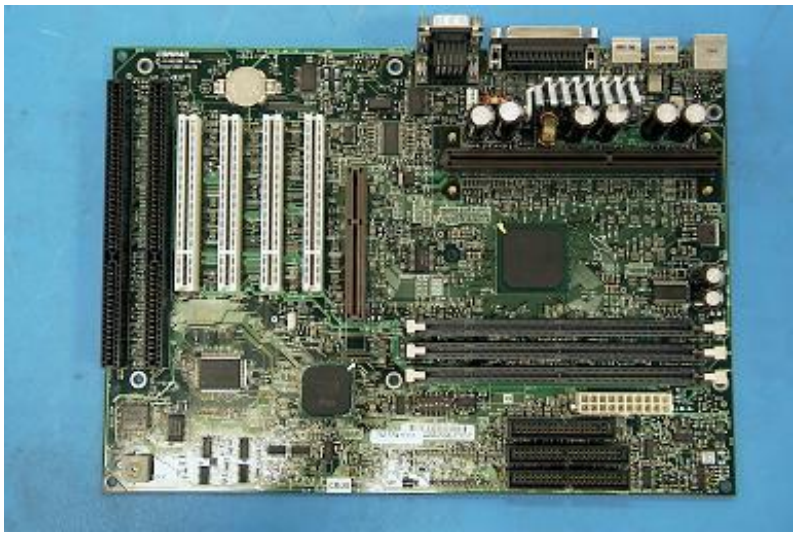
REV	REVISION HISTORY	DATE	ORIGINATOR	DEPT.
Orig.	Initial Revision	1/15/04	Frank Gates	OPS

Control Status:

DRAFT

For Document Control Use Only
Uncontrolled Unless Stamped In Red Ink
"CONTROLLED"

1. DESCRIPTION



SEE ILLUSTRATION: 222925-001 SPS-BD, PROC 586/133

SPARE KIT #	PRIMARY PCA#	ALTERNATE PCA#	DESC.	TEST FIXTURE
222925-001	004512-011		SPS-BD, PROC 586/133	4512 HMU

1.1. PURPOSE

To create a detailed work process for the 222925-001 SPS-BD, PROC 586/133 (Wolverine).

1.2. SCOPE

This document is intended for use at ExpressPoint Technology Services, Inc. for repair on the production line.

2. EQUIPMENT

QTY	DESCRIPTION	PART NUMBER
1	4512 CHMU FIXTURE	See Custom Hot Mock-Up List
1	LATEST FBT DIAGNOSTIC DISKETTE	See Software Verification Matrix
1	LATEST RUN-IN DIAGNOSTIC DISKETTE	See Software Verification Matrix
1	HI-DENSITY SYSTEM CONFIGURATION DISKETTE	See Software Verification Matrix
1	HIGH RESOLUTION MONITOR	210510-601 or equivalent
1	ENHANCED KEYBOARD II	160650-101 or equivalent
4	MEMORY SIMM, 8 MB	129041-001
1	PROCESSOR CHIP	172915-010
1	PCA, SYSTEM I/O, EB90/100	004341-001
1	PCA, 32-BIT INTELLIGENT DRIVE ARRAY	002388-001
1	PCA, PROCESSOR EXTENDER	TED-474
2	PCA, EISA SLAVE	166A2
1	PCA, PCI (E-NET) W/BNC	004165-001
1	PCA, SYSTEM ROM SWITCH	TED-1286
1	PCA, PROCESSOR, P54C66/133 (UUT)	004512-011

3. REFERENCE DOCUMENTATION

Custom Hot Mock-Up (CHMU) Parts List – See Section 4.4.1

Data Collection Procedure – 03-OP-00057

Software Verification Matrix – 03-OF-00047

ECO Binder – Located on the Production Line

EDB – Engineering Database

3.1. SAFETY AND HAZARD STATEMENT

All California operators shall comply with the ExpressPoint Technology Services, Inc., (IIPP) Injury Illness Prevention Program (03-AP-00010). All operators shall comply with the Hazard Communication System (00-AP-00002).

3.2. E.S.D. STATEMENT

All operators will comply with ExpressPoint Technology Services, Inc, Electrostatic Discharge Procedure (00-EP-00001) in the execution of this process.

4. WORK INSTRUCTIONS

4.1. DISASSEMBLY (REFERENCE ONLY)

4.1.1. SCRAP CRITERIA

Scrap all Assembly Revisions Prior to "A". Scrap all FAB Revisions Prior to "A".

4.1.2. DISASSEMBLY

4.1.2.1. No disassembly required.

4.1.2.2. Route PCA per current assembly flow.

4.2. UPGRADE

4.2.1. Reference ECO Binder for instructions.

4.3. TEST

4.3.1. SETUP

4.3.1.1. Perform a thorough visual inspection of the unit to be processed. Check for physical and component damage, solder problems, dirt and debris, corrosion (particularly if batteries are present), contamination, damaged connectors or gold fingers and bent pins.

4.3.1.2. If dirt or forms of contamination can be removed, continue the test process.

4.3.1.3. If the form of damage is deemed too severe, document it with the appropriate fail code and route the unit to the repair process.

4.3.2. PROCEDURE

4.3.2.1. Ensure all ON/OFF switches are in OFF positions.

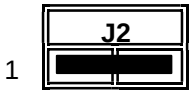
4.3.2.2. Verify switch settings on the 4341 System I/O Board,

4341 SYSTEM I/O BOARD						
	1	2	3	4	5	6
SW1	OFF	OFF	OFF	OFF	OFF	OFF

4.3.2.3. Verify switch settings on the EISA Memory Slave (Slave 1) Board,

EISA MEMORY SLAVE (SLAVE 1) BOARD								
	1	2	3	4	5	6	7	8
SW1	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
SW2	OFF	ON	ON	ON	OFF	ON	ON	ON
SW3	ON	ON	ON	ON	ON	OFF	ON	OFF

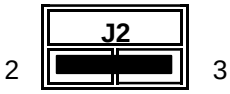
4.3.2.4. Location J2 has pins 1 and 2 shorted.



4.3.2.5. Verify switch settings on the EISA DMA Slave (Slave 2) Board,

EISA DMA SLAVE (SLAVE 2) BOARD								
	1	2	3	4	5	6	7	8
SW1	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
SW2	OFF	ON	ON	ON	ON	ON	ON	ON
SW3	ON	ON	ON	ON	OFF	OFF	ON	OFF

4.3.2.6. Location J2 has pins 2 and 3 shorted.



4.3.2.7. Verify switch settings on the 4506 Processor (UUT) Board,

4506 PROCESSOR (UUT) BOARD				
	1	2	3	4
SW1	ON	OFF	OFF	OFF

4.3.2.8. Verify switch settings on the TED-1286 System ROM Switch Board,

S1	ENABLE

(ROMS: J2 386070-001, J5 386069-001)

4.3.2.9. Install four (4) 8 MB SIMM memory modules (129041-003) into sockets J1 thru J4 and J6 thru J9 on the 4512 processor board.

4.3.2.10. Install the secondary processor chip (172915-010) into the U5 socket of the 4512 Processor (UUT) board. Verify the switch settings,

4512 PROCESSOR (UUT) BOARD				
	1	2	3	4
SW1	ON	OFF	OFF	OFF

4.3.2.11. Install the UUT on the processor extender board on J10 of System I/O board. Be sure the following connections are made:

4.3.3. CONNECTIONS TO THE 4341 SYSTEM I/O BOARD

CABLE/PLUG/DEVICE/PCA TYPE	BOARD LOCATION
VGA MONITOR CONNECTOR	J12 (BOTTOM)
KEYBOARD	J11 (TOP)
MOUSE	J11 (BOTTOM)
UUT (ON TED-474 BOARD)	J10
FAN	E12
HARD DRIVE CABLE	J22
FLOPPY DRIVE CABLE	P1
32-BIT IDA BOARD	J1
MEMORY SLAVE BOARD	J3
DMA SLAVE BOARD	J4
PCI (E-NET) BOARD W/BNC INSTALLED (Component side facing the 32-Bit IDA board)	J7
EXTERNAL BATTERY CONNECTOR	E5

4.3.3.1. A 4-Pin Molex power cable from the power supply is connected to both the floppy drive and the hard drive.

4.3.4. SYSTEM CONFIGURATION

4.3.4.1. Insert the System Configuration diskette into the floppy Drive A:.

Note: If the FBT test will be done on the HMU, and the WinBez test will be done on the run-in racks, it is only necessary to run system configuration on the first UUT.

4.3.4.2. Do not remove the 2388-001 board.

4.3.4.3. Make sure the HMU power is off and then turn SW1-4 of I/O board (004341-001) to ON (To boot from the floppy drive).

4.3.4.4. Remove the SCSI hard drive cable and install a jumper across Pins 21 & 22.

4.3.4.5. Turn on the VGA monitor and power to the HMU.

4.3.4.6. Allow time for the system to properly boot-up.

4.3.4.7. Press <ENTER> at all prompts including yellow CAUTION prompts

4.3.4.8. At 'Auto Config'

Select/<ENTER>……."Yes"

4.3.4.9. Replace Disk 1 with Disk 2 when prompted. Replace Disk 2 with disk 3 when prompted and back to Disk 2 again, when prompted.

4.3.4.10. At 'Primary Operating System:

Select/<ENTER>……."Windows NT 3.5"

4.3.4.11. At 'Caution' <Yellow>

Press <ENTER>

4.3.4.12. At 'Configuration Change'

Press <ENTER>

Press <ENTER> (To Save Configuration)

4.3.4.13. Turn off the system when Configuration is complete.

4.3.4.14. Replace system configuration diskette in the floppy drive with the latest diagnostic diskette used for FBT test.

4.3.4.15. Turn the power ON and allow time for proper boot-up.

4.3.4.16. Press <F1> if prompted.

Select/<ENTER>…….Auto Mode

Select/<ENTER>……. Functional Board test

Select/<ENTER>…….103: 4512 (Wolverine) 133 MHz.

4.3.4.17. Follow the directions on the display to fully test the UUT.

4.3.4.18. If the UUT failed the MANUFACTURING DIAGNOSTIC, turn off the power to HMU, remove the UUT, secondary processor, memory SIMMs and send the UUT to the next stage per flow.

4.3.4.19. If the UUT passed, turn off the power to the HMU.

4.3.4.20. If Run-In & WinBez will be run on same station then:

4.3.4.20.1. Move the four (4) 8 MB SIMM modules to the UPPER SOCKETS: J6-J9

4.3.4.20.2. Replace the FBT Diag. with RUN-IN Diag.

4.3.4.20.3. Remove shorting plug from J22, pins 21 and 22.

4.3.4.20.4. Connect the 330 MB SCSI Hard Drive cable to J22 of the I/O Board (4341-001)

4.3.4.20.5. Set SW1-4 on the I/O to the "off" position.

4.3.4.21. If Run-In & WinBez will be run on Run-In Racks then:

4.3.4.22. Remove UUT from HMU Station, remove the four (4) 8 MB SIMM modules.

4.3.4.23. Move to Run-in rack install four (4) 8 MB Simms into UPPER SOCKETS: J6-J9 (29041-003).

4.3.4.24. Check and be sure all SIMM modules are 129041-003.

4.3.4.25. Different part numbers cannot be mixed on same board.

4.3.4.26. Be sure the 330 MB SCSI Hard Drive cable is connected to J22 of the I/O Board (4341-001).

4.3.4.27. Set SW1-4 on the I/O to the "ON" position.

4.3.4.28. Note: If using the switch box on the Run-In racks; connect the Monitor, Keyboard & mouse according to the following table.

SWITCH NUMBER (ON FRONT OF BOX)	SYSTEM CONNECTION (FACING RACK)
SWITCH #1	UPPER LEFT
SWITCH #2	UPPER RIGHT
SWITCH #3	LOWER LEFT
SWITCH #4	LOWER RIGHT

4.3.4.29. Turn ON HMU. Allow time for a proper boot-up and loading of the RUN-IN diagnostics.

4.3.4.30. Press <F1> to continue if prompted.

4.3.4.31. After the main menu appears on the display, make the following choices from successive menus,

Select/<ENTER>……. Auto Mode

Select/<ENTER>……. Wolverine Processor Test

Select/<ENTER>……. 10: Configuration (Set-up)

4.3.4.32. Run Sequence 10 first, after Sequence 10 completes the test, the unit will re-boot and Sequence 101 will start.

4.3.4.33. Follow the directions on the display to fully test the UUTs.

4.3.4.34. When the display asks for model number, Turn SW 1-4 on I/O to "OFF" and type “OPT”. Turning switch OFF will allow the unit to automatically go to the Winbez Test.

Note: If you experience LOCKUP during loading of SCSI.TM, turn the power off and reset the 2388-001 board, turn power back on and start from 4.3.4.29.

Press <ENTER> for successive prompts.

Press <ESC> if configuration information is displayed.

4.3.4.35. After the UUTs have successfully completed testing,

Press <F1> (if prompted) to continue.

"WINDOWS NT 3.5" application will start to run.

Press <CNTL+ALT+DEL>.

Press <ENTER>.

Click Left Mouse Button (LMB) twice (2) on MS-DOS Test_Opt Icon.

Click LMB on square close button “performance group” at the upper left corner.

Select "Switch to....Ctlr+ESC" .

Select 'Tile".

4.3.4.36. Visual Check for following message: “TESTING" Blinking. Also, check for the timer.

4.3.4.37. Run Winbez according to the following table:

NEW PRODUCT	FIELD RETURNS
2.0 HOURS	1.0 HOUR

4.3.4.38. Once the timer indicates test time equal to or greater than time in the above table, or if timer indicates, “COMPLETE” (“COMPLETE” will be indicated after 2.0 Hours).

4.3.4.39. Then shut down the system.

4.3.5. SHUT DOWN

4.3.5.1. Click on square close button on "Program Manager's Group" on the lower right corner.

4.3.5.2. Select "SHUTDOWN."

4.3.5.3. At 'Shutdown Highlight.' Select "OK."

4.3.5.4. Select "END TASK."

4.3.5.5. Wait until the following message is displayed: "IT IS NOW SAFE TO TURNOFF YOUR COMPUTER." Turn power off.

4.3.5.6. Remove the UUT from the test station. Remove the secondary processor and Memory SIMMs from the UUT.

4.3.5.7. Send the UUT board to the next stage per assembly flow.

4.4. HMU INFORMATION

SEE ILLUSTRATION: 4512 HMU (HOT MOCK UP)

4.4.1. CUSTOM HOT MOCK-UP (CHMU) PARTS LIST

QTY	DESCRIPTION	PART NUMBER
1	POWER SUPPLY	190749-001 OR 169037-001
1	DRIVE, HARD, 330 MB W/WINDOWS NT 3.5 INSTALLED	142001-002
1	DRIVE, FLOPPY, HI-DENSITY, 3.5 "	141350-001
1	CABLE, 34-PIN FLOPPY DRIVE	148144-001
4	MEMORY SIMM, 8 MB	129041-001
1	PROCESSOR CHIP	172915-010
1	PCA, SYSTEM I/O, EB90/100	004341-001
1	PCA, 32-BIT INTELLIGENT DRIVE ARRAY	002388-001
1	PCA, PROCESSOR EXTENDER	TED-474
2	PCA, EISA SLAVE	166A2
1	PCA, PCI (E-NET) W/BNC	004165-001
1	PCA, SYSTEM ROM SWITCH	TED-1286
1	PCA, PROCESSOR, P54C66/133 (UUT)	004512-011
1	AC POWER STRIP WITH ON/OFF SWITCH	

4.5. ASSEMBLY

SEE ILLUSTRATION: (PHOTO NOT AVAILABLE)

4.5.1. ASSEMBLY WORK INSTRUCTIONS

4.5.1.1. Install the bracket on the top side of the PCA. Secure with two (2) screws installed from the bottom side of the PCA.

4.5.1.2. Install agency HOT SURFACE label to the inside of bracket.

4.6. PACK-OUT

SEE ILLUSTRATION: (PHOTO NOT AVAILABLE)

4.6.1. PACK-OUT WORK INSTRUCTIONS

4.6.1.1. Package per current Bill of Materials (BOM).

4.6.1.2. Place assembly into static bag only if static bag is required per Bill of Materials.

4.6.1.3. Place labels and seal box in accordance with Customer Service Operations Packaging Specification 111146-000 #EDB.

4.7. BILL OF MATERIALS (BOM) FOR 222925-001

PART NUMBER	DESCRIPTION	REV	QTY
004512-011	PCA, SP-P54CS133/66, W/PCR-WV	Y	1
101401-003	BAG, CNDCTV, 12 x 18	AH	1
184465-001	ASSY, BOX SHPG, PCB-EISA-NB	C	1
219718-001	GDE, 2ND PROC INST. MULTI BD-W	A	1