

April 19, 1982

SUBJECT: Modification of Female Keyboard Connector

REASON FOR CHANGE:

Modification insures proper placement and tracking of contacts within the connector, preventing a particular contact from egressing from its position.

ACTION: Section 1

1. Turn system off and unplug A.C. cord.
2. Following Level 1 Procedures, remove the P/S Sub-Assy. from the main-frame.
3. Reinstall keyboard in C.P.U. board.
4. Viewing female keyboard connector from the rear, with the keyboard male connector installed, note the position of the contacts as they protrude through the rear of the female connector (See Fig. 1). (Contacts should be near the bottom of the alignment channels, protruding approximately $3/64$ of an inch).
5. Using a spring hook, lift each contact individually and reform the contact to insure that in its home position with keyboard connected, the ends of the contacts appear as in Fig. 2.

Note: When lifting each contact, exercise caution not to deform the plastic channels of the female connector. At no time should the spring hook be inserted in these channels. (See Fig. 3 for proper method of lifting contacts with spring hook).

FIGURE 1

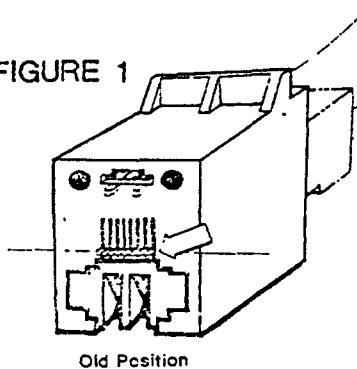


FIGURE 2

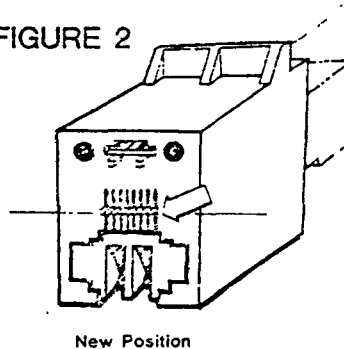
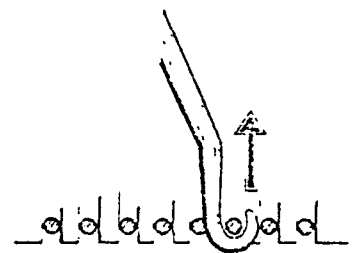


FIGURE 3



Section 2. Modification Document Update:

To identify that the above modification has been performed, it will become necessary to revise a modification sticker located on the C.P.U. board. This sticker has the letter "B" written on it. Cross off the letter "B" and write in the letter "C". On C.P.U. boards that do not have a modification sticker, disregard this paragraph. Modification is being controlled by Section 4.

(over)

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB1

Section 3.

1. Replace P/S Sub-Assy. and associated equipment and test unit.

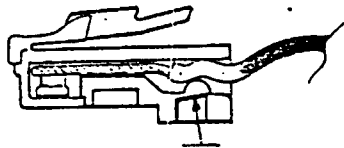
Note: This procedure includes modifying all spares kits presently in field locations.

Section 4.

Answer the following questions, photocopy this bulletin and return to:

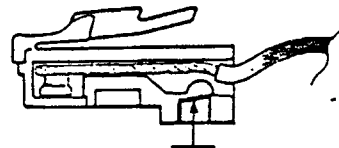
Victor Business Products
3900 North Rockwell
Chicago, IL. 60618
Attn: Computer Technical Support

1. Company Name or Branch Location _____.
2. Modification Performed On: (Date) _____.
3. Serial # of Mainframe _____.
4. The male section of the keyboard connector on the unit modified is best illustrated in Fig. 4 _____, Fig. 5 _____, Fig. 6 _____, Fig. 7 _____, Fig. 8 _____.



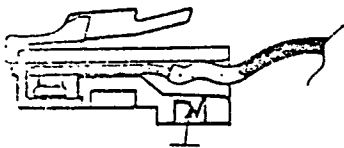
PROPERLY CRIMPED

FIGURE 4



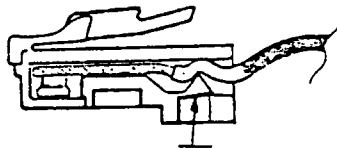
IMPROPERLY CRIMPED

FIGURE 5



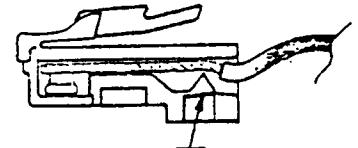
UNCRIMPED

FIGURE 6



PROPERLY CRIMPED

FIGURE 7



IMPROPERLY CRIMPED

FIGURE 8

Prepared by: G. Livingston
W. Sirp

FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISOR	
BRANCH ACTION CLASS	

581-228-SB2

MAY 17, 1982

SUBJECT: DISK DRIVE PROTECTOR CARDS.

THE DISK DRIVE PROTECTOR CARDS, (PART NUMBER E-172311-001) USED IN THE VICTOR 9000 HAVE BEEN PROVIDED FOR PROTECTING THE MAGNETIC HEAD FROM VIBRATIONS AND DAMAGE DURING SHIPMENT OR TRANSPORTATION. FIELD PERSONNEL MUST ENSURE THAT THESE PROTECTORS ARE INSTALLED AT ALL TIMES WHEN THE UNIT IS BEING SHIPPED OR TRANSPORTED.

SA JOB CHG	
CHANGE NO	FIELD B/M
ADV-303	
BRANCH ACTION CLASS	

581-228-SB3
(Revised)

June 1, 1982

SUBJECT: NEW DISK DRIVE BOARD (PART # X-100670) WITH TRACK ZERO SENSOR CIRCUIT.

WHEN REPLACING AN OLD STYLE DISK DRIVE BOARD (PART # X-100093) WITH THE NEW STYLE DISK DRIVE BOARD, (PART # X-100670) THE CONNECTORS MUST BE RECONFIGURED. THE NEW STYLE BOARD IS DISTINGUISHED BY THE ADDITION OF A 4 PIN CONNECTOR (J19). J19 IS LOCATED ON THE RIGHT SIDE OF THE BOARD AS VIEWED FROM THE FRONT OF THE UNIT. THE CONNECTOR CONFIGURATIONS ARE AS FOLLOWS:

OLD CONNECTOR CONFIGURATION: NEW CONNECTOR CONFIGURATION:

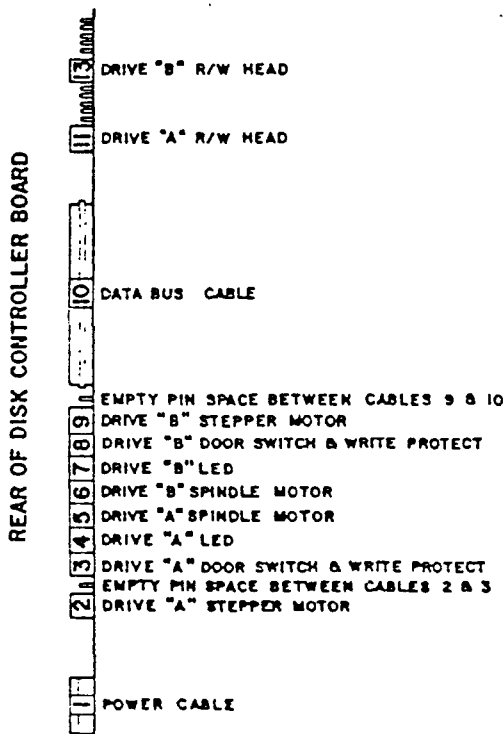


FIGURE 1
PART # X-100093

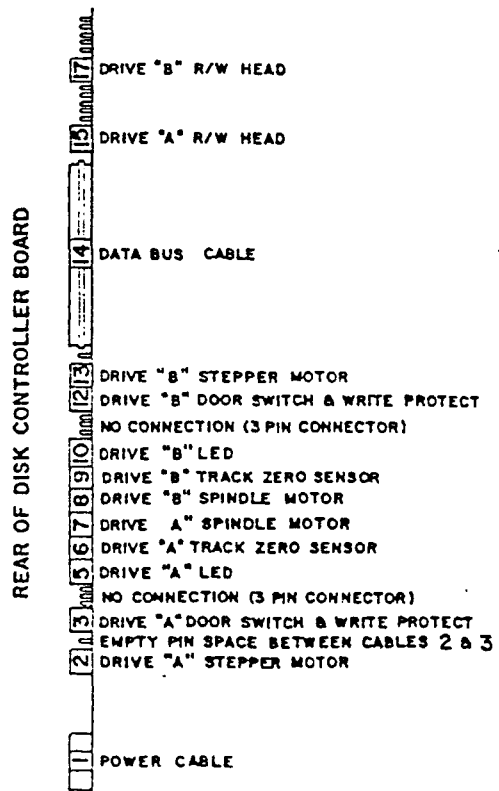


FIGURE 2
PART # X-100670

INSTALLATION PROCEDURE AND INSTRUCTIONS:

1- REMOVE CASE FOLLOWING LEVEL 1 MAINTENANCE PROCEDURES.
(CHAPTER 7)

2- REMOVE DISK DRIVE BOARD FOLLOWING LEVEL 1 MAINTENANCE
PROCEDURES. (CHAPTER 7)

3- INSTALL NEW DISK DRIVE BOARD FOLLOWING LEVEL 1
MAINTENANCE PROCEDURES AND FIGURE 2. INSTALLATION FOR
CONNECTORS J6 AND J9 ARE AS FOLLOWS:

J6:

- A. IF DRIVE (A) HAS THE TRACK ZERO SENSOR, INSTALL
CONNECTOR FROM SENSOR TO J6.
- B. IF DRIVE (A) DOES NOT HAVE THE TRACK ZERO SENSOR,
A SPECIAL CONNECTOR MUST BE INSTALLED TO J6. THIS
CONNECTOR SHORTS PINS 2&3.

J9:

- A. IF DRIVE (B) HAS THE TRACK ZERO SENSOR, INSTALL
THE SENSOR CONNECTOR TO J9.
- B. IF DRIVE (B) DOES NOT HAVE THE TRACK ZERO SENSOR,
A SPECIAL CONNECTOR MUST BE INSTALLED TO J9. THIS
CONNECTOR SHORTS PINS 2&3.

4- RE-ASSEMBLE CASE FOLLOWING LEVEL 1 MAINTENANCE
PROCEDURES. (CHAPTER 7)

5- PERFORM DIAGNOSTIC TEST ON DISK DRIVE A & B.

Prepared by: G.Livingston
S.Perry
W.Sirp

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

581-228-SB4

9 JUNE 1982

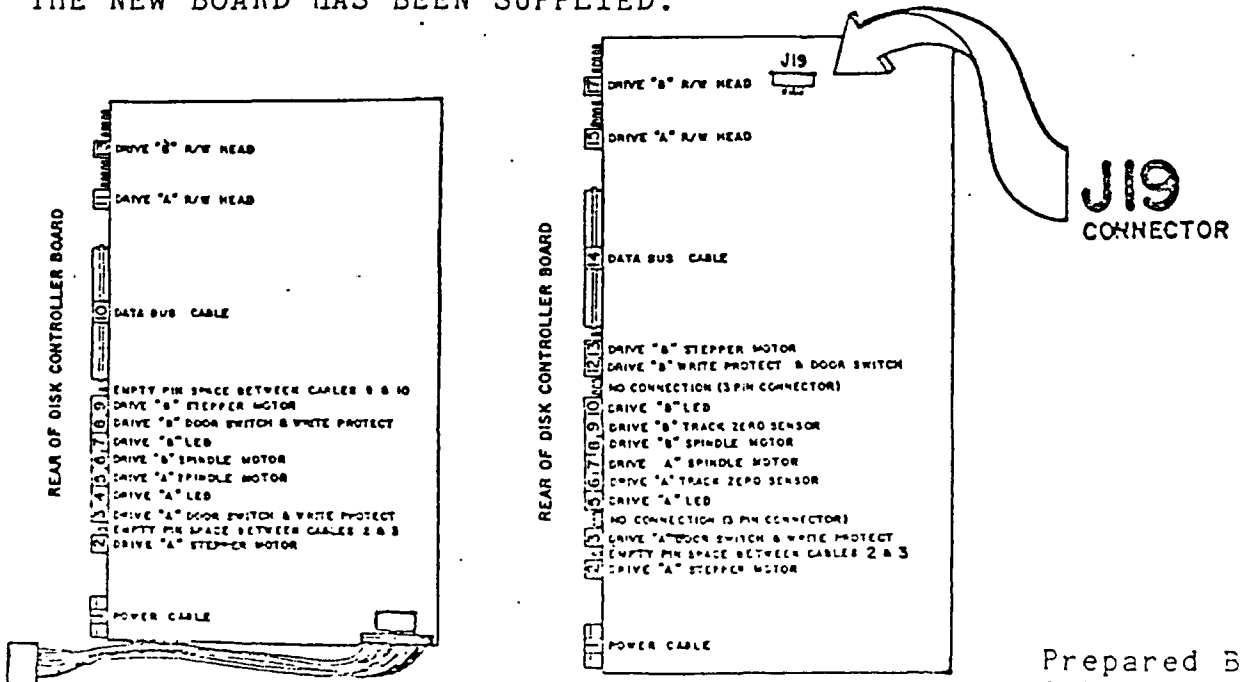
SUBJECT: REPLACEMENT OF DISK DRIVE BOARD FROM SPARES KIT.

THE DISK DRIVE BOARD (PART # X-100094-01 & X-100094-02) IS BEING REPLACED BY A NEW ENHANCED VERSION OF THE DISK DRIVE BOARD (PART # X-100670). THE -01 BOARD HAS NO CONNECTIONS FOR THE TRACK 0 SENSORS. THE -02 BOARD HAS AN 8 PIN CONNECTOR WIRED TO THE LEFT SIDE FOR THE TRACK 0 SENSORS.

THE NEW STYLE DISK DRIVE BOARD CONTAINS THE CIRCUITRY FOR A TRACK 0 SENSOR. THE NEW BOARD CAN BE IDENTIFIED BY THE ADDITION OF A 4 PIN CONNECTOR (J19) ON THE RIGHT SIDE OF THE BOARD.

IF THE DISK DRIVE BOARD IN THE SPARES KIT IS THE OLD STYLE BOARD (PART # X-100094-01 OR X-100094-02), IT SHOULD BE IMMEDIATELY RETURNED TO THE EL PAÑO DEPOT. THE NEW STYLE BOARD (PART # X-100670) SHOULD BE PLACED IN THE SPARES KIT TO SUPPORT COMPUTER REPAIRS.

SPARES KITS SHIPPED AFTER MAY 21, 1982 MAY INCLUDE THE NEW DRIVE BOARD (X-100670) HOWEVER, CHECK SPARES KITS TO INSURE THE NEW BOARD HAS BEEN SUPPLIED.



Prepared By:
G. Livingston
S. Bann

VICTOR COMPUTER SYSTEMS TECHNICAL BULLETIN

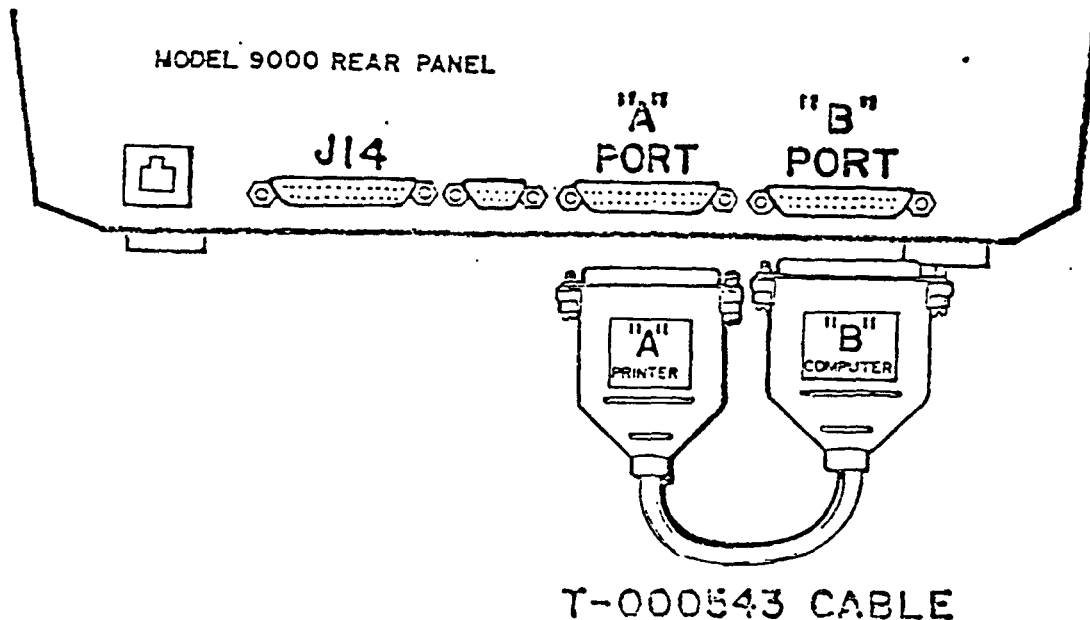
SA JOB CHO	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

JULY 6, 1982

581-228-SB5

SUBJECT: SERIAL PORT INTERCONNECT CABLE.

THE SERIAL PORT INTERCONNECT CABLE, PART # T-000543, IS NOW AVAILABLE FOR FIELD USE. THIS CABLE IS USED IN CONJUNCTION WITH THE SERIAL INTERFACE DIAGNOSTIC. THE CABLE CONNECTS THE A SERIAL PORT AND THE B SERIAL PORT TOGETHER. THE A CONNECTOR IS HOOKED TO THE A PORT. THE B CONNECTOR IS HOOKED TO THE B PORT. THE A PORT IS THE PORT NEXT TO THE CRT CONNECTOR. THE B PORT IS THE PORT AT THE OUTER EDGE OF THE UNIT. THE SERIAL INTERFACE DIAGNOSTIC WILL TRANSMIT DATA PATTERNS FROM THE A TO THE B PORT, THEN FROM THE B TO THE A PORT UTILIZING ALL AVAILABLE BAUD RATES. THE USE OF THE CABLE AND THE DIAGNOSTIC ALLOWS FOR ISOLATION OF SERIAL PORT PROBLEMS INDEPENDENT OF PERIPHERAL DEVICES (PRINTERS, MODEMS, ETC.). THE COST FOR THE CABLE IS * \$15.46 NET. THE CABLE CAN BE ORDERED WITH YOUR REGULAR PARTS ORDER FROM EL PASO, OR BY CALLING EL PASO PARTS DEPARTMENT AT 800/351-2371.



* PRICE SUBJECT TO CHANGE WITHOUT NOTICE.

Prepared by:
S. Perry

FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

581-228-SB6

128K MEMORY BOARD INSTALLATION

The following procedure is used to upgrade the basic Victor 9000 with 128K byte of memory to 256K of memory.

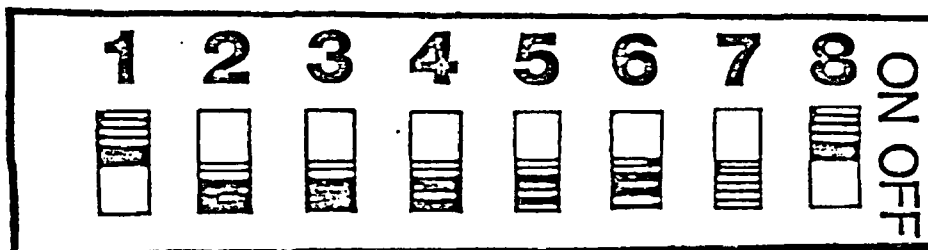
Step 1. Remove power from unit by disconnecting the AC line cord from the rear of the mainframe assembly.

Step 2. Remove all peripheral interface cables (i.e., line printers) and the CRT and keyboard connectors from the rear of the mainframe.

Step 3. Remove the CRT and swivel base from the mainframe by lifting vertically.

Step 4. To remove the mainframe cover, remove the 4 Phillips screws located on the rear cover. Disconnect Reset Switch Connector. The rear cover can now be removed and the mainframe cover can be lifted off of the assembly.

The dip switch setting for the 128K memory board is 4B-1* and 4B-8 set to on, all others off.



128K - 256K Dip Switch setting

Install the board into the second expansion slot on the CPU board. The first is the one nearest the disk drive assembly. The memory board is properly installed with components facing to the outside of the computer (away from the disk assembly).

NOTE

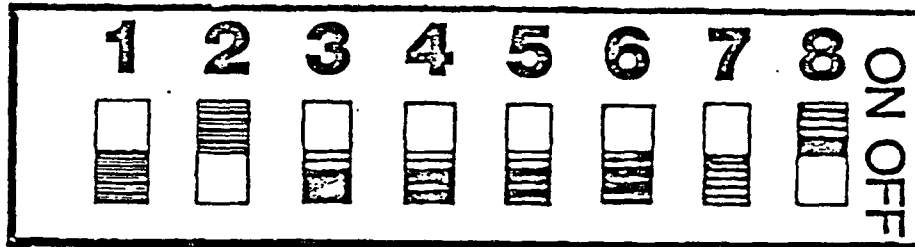
Insure that the speaker cable does not become disconnected during the installation process.

Install expansion board guide assembly (part no. E-10-168001) over the top of the board. Insure that the plastic fingers fit securely around the metal support of the disk drive subassembly. The expansion board guide assembly prevents movement of expansion boards installed in the unit.

*Switch 1 on 4B enables A17 address bit; taking the addressing from the 1st 128K byte of memory into the 2nd 128Kbyte of memory.

Following installation boot the system up under diagnostics and run the memory test. Enter "2" for number of 128K blocks of memory.

During the boot process the system will display "4000" for the memory size.



256 K - 384 K Dip Switch setting

The dip switch module at 4B selects the 128K block of memory in which the memory board will reside. Table 3.6A defines the memory blocks to switch settings.

MEMORY SPACE	SWITCH NUMBER
0-128K	
128K-256K	1
256K-384K	2
384K-512K	3
512K-640K	4
640K-768K	5
768K-896K	6

Dip switches 7 and 8 are used to establish the time base for the memory refresh cycle. Dip switch 7 is set to off and dip switch 8 is set to on.

VICTOR**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: SEPT. 27, 1982

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB9

SUBJECT: TRACK ZERO HARNESS UPDATE FOR THE X-100094 DISK
DRIVE CONTROLLER BOARD

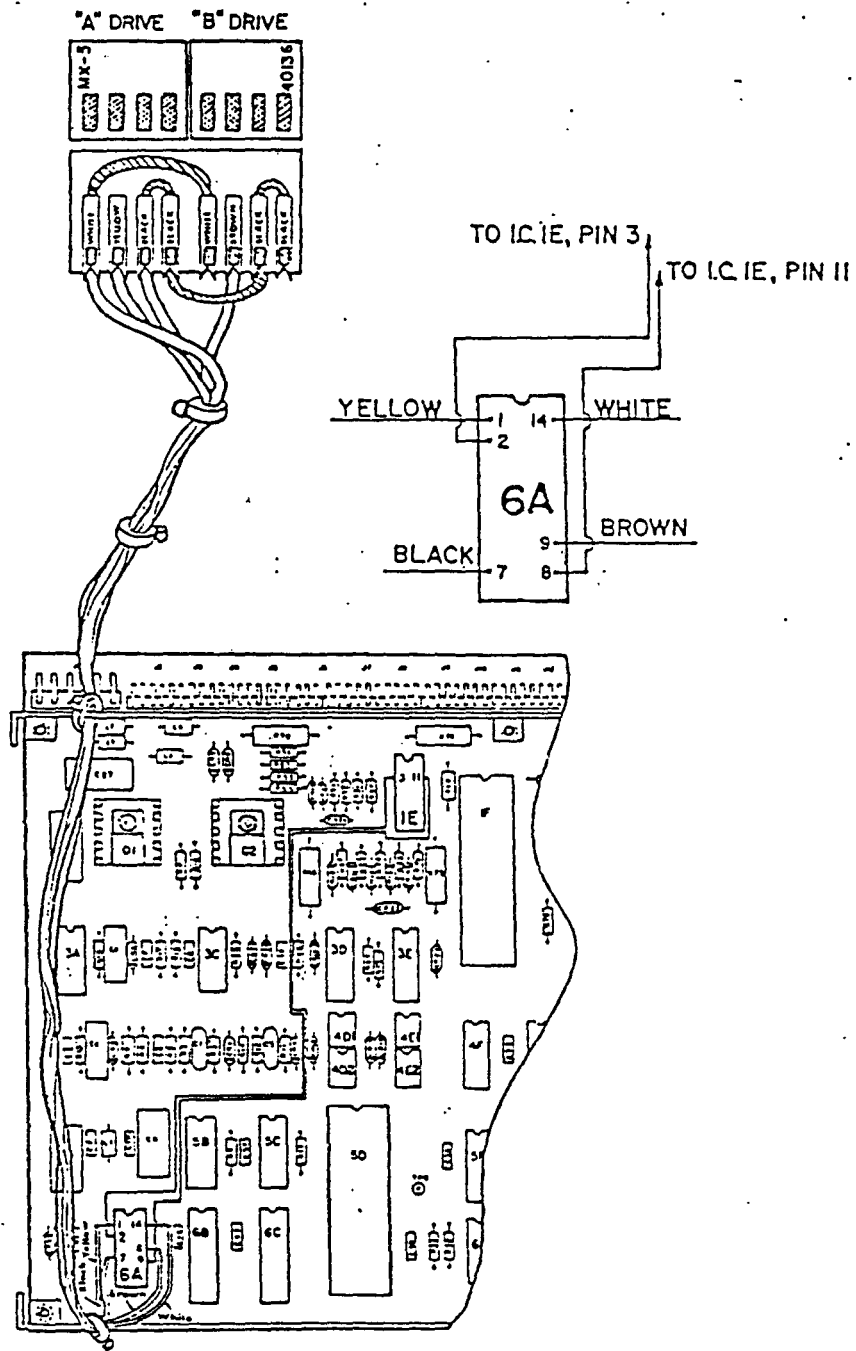
The X-100094 disk drive controller board should be updated with the Track Zero Harness (part # E-100979-01) any time maintenance is performed on the board. The harness update should be performed in the service center, not at the customer site.

PROCEDURE:

1. Install a jumper from pin 2 of the IC at 6A (74LS14) to pin 3 of the IC at 1E (7406).
2. Install a jumper from pin 8 of the IC at 6A to pin 11 of the IC at 1E. Once the jumpers are routed, they should be bonded to the board with epoxy cement.
3. Install the harness as follows:
 1. Install the yellow wire to pin 1 of the IC at 6A.
 2. Install the black wire to pin 7 of the IC at 6A.
 3. Install the brown wire to pin 9 of the IC at 6A.
 4. Install the white wire to pin 14 of the IC at 6A.
 5. Tie-wrap the harness to the board as per illustration.

When installing the track zero sensor connectors to the harness, the yellow wire side of the harness is the A drive. The brown wire side of the harness is the B drive.

(Illustration on reverse side)



Prepared by:
 S. Perry
 W. Sirp

VICTOR

COMPUTER SYSTEMS
TECHNICAL BULLETIN

DATE: SEPT 28, 1982.

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB7

SUBJECT: 384K MEMORY EXPANSION BOARD INSTALLATION AND SYSTEMS
CHECK

The 384K memory board is installed into any of the four expansion slots with the component side of the board facing toward the outside of the mainframe. (Away from the disk drive assembly)

Unlike the 128K memory board, the 384K board uses a jumper wire to select either lower memory or upper memory. The board is shipped from Victor strapped for lower memory. The jumpers are positioned from E2 to E3 and E4 to E6 on the memory board. To change the board to upper memory the jumper must be soldered as follows:

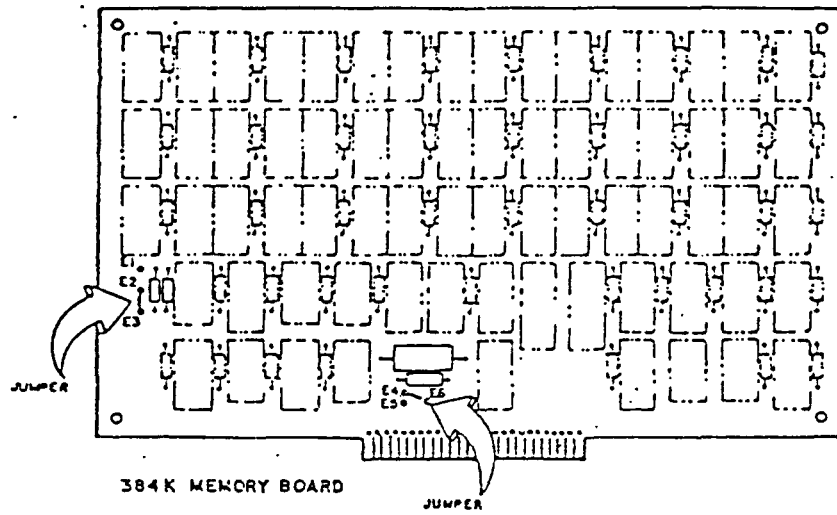
JUMPER CONFIGURATION	MEMORY	STATE
E2-E3 E4-E6	128K-512K	LOW
E1-E2 E5-E6	512K-896K	HIGH

To install a 384K memory board with a 128K memory board the 384K board is strapped for lower memory (128K-512K). The 128K board is switch selected for 512K-640K of memory. The switch setting for the 128K board is switch 4 and switch 8 on, all others off.

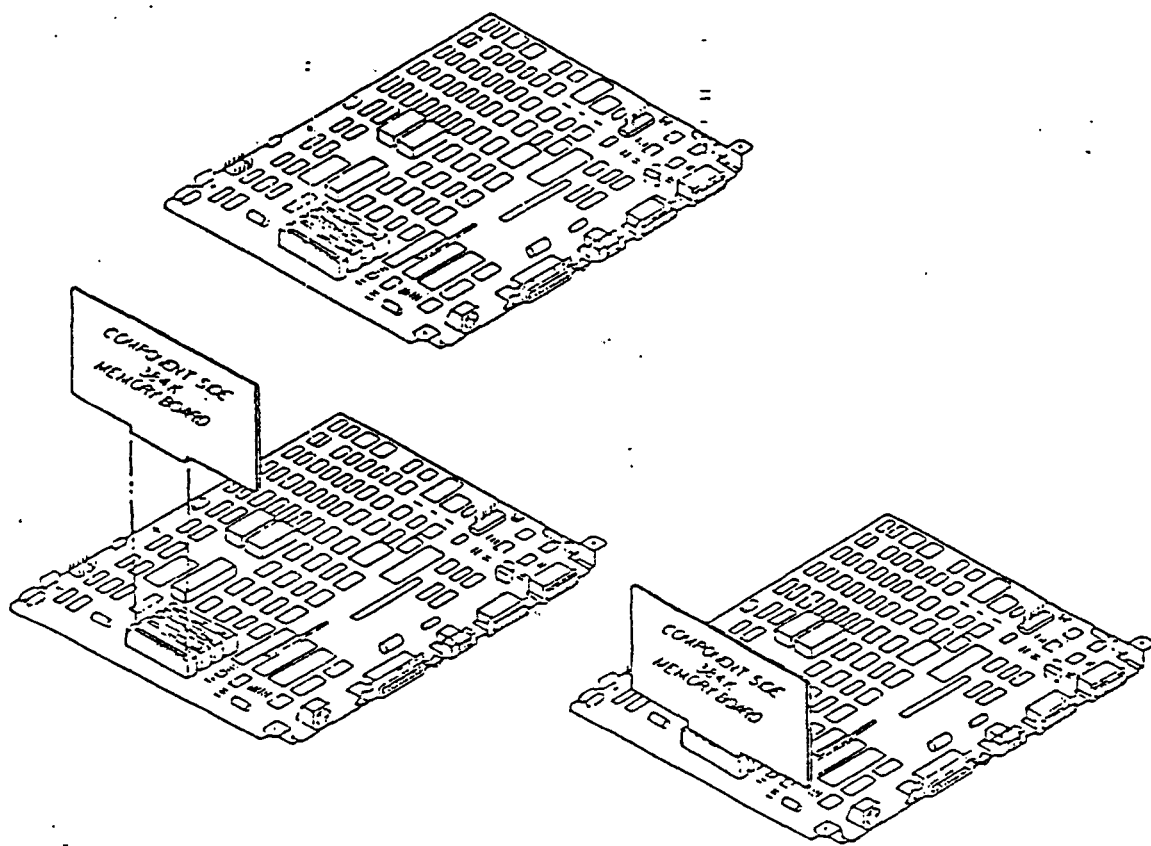
****NOTE**** It is only necessary to strap a 384K Memory board HIGH if more than 1 is to be installed.

Install the expansion board retainer clip (Part Number E-100891-01) over the expansion board and insure the plastic fingers fit snugly on the disk drive support strut. When the system enters the boot routine it will display "8000" for the memory page size, for a 512K system.

Run memory diagnostics using Diagnostic Version 1.1. If one 384K memory is installed enter 4 for number of 128K blocks, enter 7 if the system is upgraded with 2 384K memory boards.



LOW & HIGH MEMORY ACCESSING
(SHOWN LOW)



VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

DATE: SEPTEMBER 28, 1982
MODEL: VICTOR 9000
Reprint 3-10-83

581-228-SB8

SUBJECT: DISK DRIVE ALIGNMENT

The Victor V9000 or S1 Business Computer has been extensively tested by the Victor quality Assurance Department to provide high quality and solid reliability. In order to insure these high standards are maintained, certain procedures have been deemed factory authorized procedures only.

Factors that are beyond the control of the field warrant that disk drive head alignment and disk head related repairs be performed only in a controlled specified atmospheric environment. The double density recording format along with the sensitivity of the media to environmental conditions creates a criteria uncontrollable to specific conditions in the field.

The following procedures can only be performed accurately under specific controlled conditions only:

1. Disk Head Alignment
2. Disk Head Replacement
3. Stepper Motor Replacement

Each system passes through an alignment test before reaching the final inspection stage at the factory.

While alignment incompatibility problems are possible, it is likely that the problem will be an electronic failure in the drive or the controller rather than an alignment problem.

Conditions to consider before suspecting alignment conflict are:

- A) All Disk Diagnostics pass.
- B) Drive will not read a known good Victor approved diskette.
- C) Perform multiple drive test. Multiple drive test consists of writing a diskette on a drive then reading on three drives.

When an alignment conflict is suspected, first verify the conditions stated above, then contact:

Your District
Field Engineer
Office for Assistance

WARNING:

Any evidence of field head manipulation will void the warranty on the drive. All drives sent to Victor for repair that exhibit evidence of head manipulation will be billed at full replacement price or returned.

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE : NOV. 12, 1982

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB10

SUBJECT: SPEAKER REPLACEMENT

The following steps should be taken to replace a speaker that is riveted into the disk drive chassis.

1. Remove the disk drive chassis.
2. Remove bezel from chassis.
3. Using a 5/32 inch drill bit, drill out the rivets from the front of the chassis.
4. Install the new speaker, using -
 - a. 4 screws (6-32 x .37 flat head; p/n 100677-04)
 - b. 4 tinnerman clips (p/n 100714-01)

FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN

DATE : NOV. 12, 1982

MODEL: Victor 9000

SA JOB CHG	
CHANGE NO	FIELD B/M
74LS153	
BRANCH ACTION CLASS	

581-228-SB11

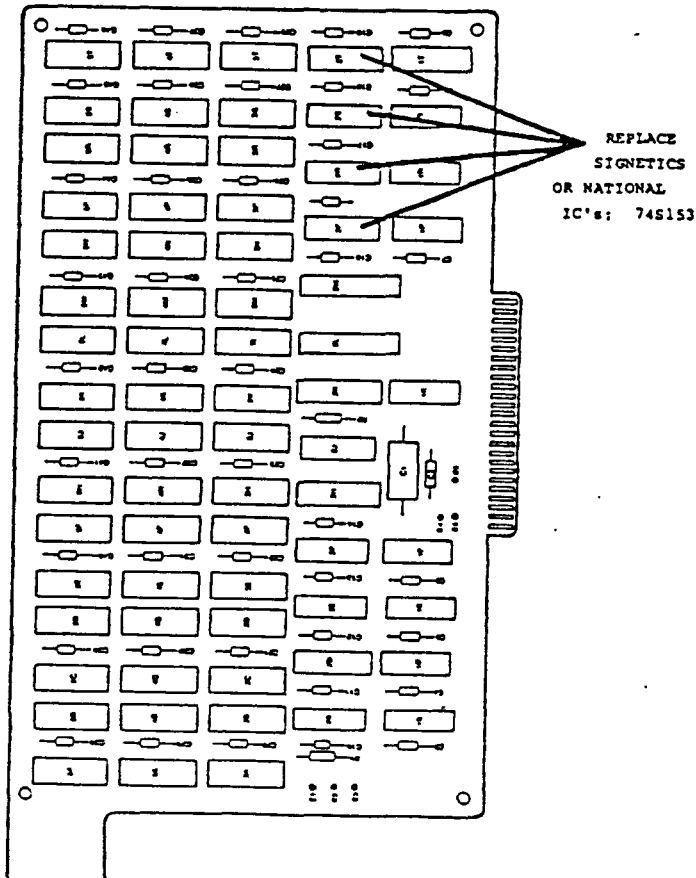
SUBJECT: 384K RAM MEMORY BOARD FAILURES

Ram memory board failure may be caused by Signetics or National ICs (74LS153). Replace the National or Signetics ICs in locations 2P, 2R, 2S, and 2T with:

TEXAS INSTRUMENTS 74LS153 (p/n 100858 .01)

The figure shows IC replacement locations on the PCB.

384K MEMORY BOARD



FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE : NOV. 15, 1982

MODEL: VICTOR 9000

SA JOB CHG	
CHANGE NO	FIELD B/M
581-228-SB12	
BRANCH ACTION CLASS	

581-228-SB12

SUBJECT: DISK DRIVE INSTALLATION (DOUBLE-SIDED)

This installation covers the procedures for both the old style disk drive controller (part # X-100094) and the new style disk drive controller (part # X-100670).

Old style board (X-100094)

When installing the Double-Sided Disk Drive Units in a 9000 with the X-100094 controller board, a jumper must be installed from pin 1 to pin 15 of the 6522 at 1H. This jumper will strap PB5 on the B Port to ground. The board must also have the Track Zero sensor harness installed. If the Track Zero harness is not installed, the Track Zero Harness update on the board must be performed (see 581-228-SB9).

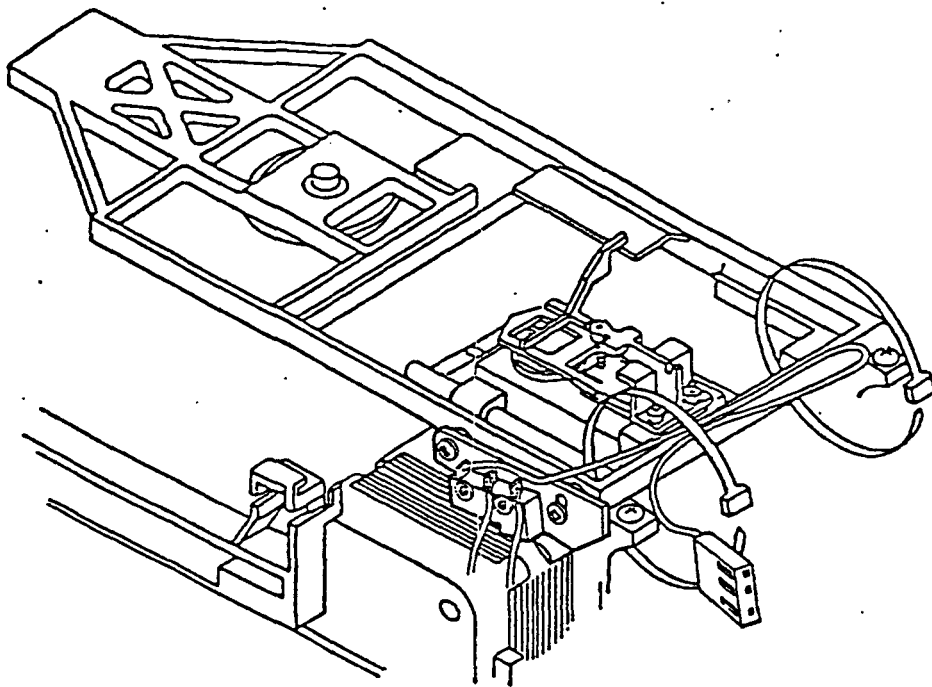
The connectors for the Door Switch must also be reconfigured. The Double-Sided Disk Drive Units have a 3-pin connector for the Door Switch. Two of the wires must be removed from the connector and installed into positions 3 and 4 of the Write Protect connectors (J3 for the A drive and J8 for the B drive). The connectors should be reconfigured as follows:

J3

1. While holding the drive as it would be installed in the unit, locate the Door Switch. The Door Switch is located at the right rear side of the drive. The switch will have 3 wires.

2. Locate the 2 wires on the connector which connect to the 2 rear terminals of the switch. Remove these wires from the 3-pin Door Switch connector. Leave the front terminal wire attached to the 3-pin connector. This connector should be tie-wrapped to the rear of the Cone Lever assembly. This will retain the 3-pin connector to facilitate the installation of a X-100670 controller board at a later date.

3. Install the two wires to position 3 and 4 of the Write Protect connector for the A drive (J3). Since these wires are for the door switch, they may be connected to either pin.



J8

1. While holding the drive as it would be installed in the unit, locate the Door Switch. The Door Switch is located at the right rear side of the drive. The switch will have 3 wires.

2. Locate the 2 wires on the connector which connect to the 2 rear terminals of the switch. Remove these wires from the 3-pin Door Switch connector. Leave the front terminal wire attached to the 3-pin connector. This connector should be tie-wrapped to the rear of the Cone Lever assembly. This will retain the 3-pin connector to facilitate the installation of a X-100670 controller board at a later date.

3. Install the two wires to position 3 and 4 of the Write Protect connector for the B drive (J8). Since these wires are for the door switch, they may be connected to either pin.

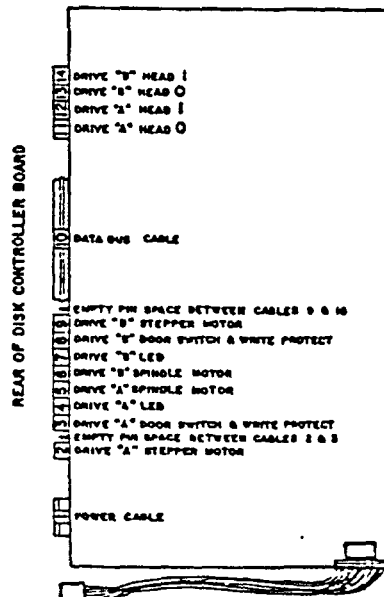
After installing the wires in J3 and J8, the connectors are the same as for Single-Sided Disk Drive Units with the exception of the R/W heads. The R/W heads should be installed as follows:

1. Install drive A, head 0 to J11. Head 0 is the lower head, and the connector will be marked with a 0.

2. Install drive A, head 1 to J12. Head 1 is the upper head, and the connector will be marked with a 1. This connector must be installed up-side-down for the pins to line up correctly.

3. Install drive B, head 0 to J13. Head 0 is the lower head, and the connector will be marked with a 0.

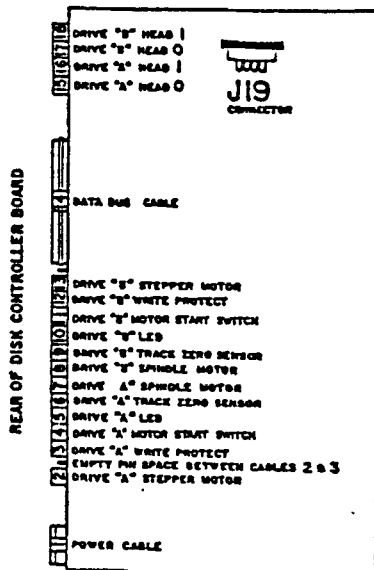
4. Install drive B, head 1 to J14. Head 1 is the upper head, and the connector will be marked with a 1. This connector must be installed up-side-down for the pins to line up correctly.



New style board (X-100670)

When installing the Double-Sided Disk Drive Units in a 9000 with the X-100670 controller board, a jumper must be installed from E3 to E4. This jumper will strap PB5 on the B Port of the 6522 at 1H to ground. All the connections remain the same as for Single-Sided Disk Drive Units with the exception of the R/W heads and the addition of a 3-pin connector for Door Switch. The 3-pin connector for the Door Switch is labeled the Motor Start Switch. The connectors are J4 for the A drive and J11 for the B drive. The R/W heads should be installed as follows:

1. Install drive A, head 0 to J15. Head 0 is the lower head, and the connector will be marked with a 0.
2. Install drive A, head 1 to J16. Head 1 is the upper head, and the connector will be marked with a 1.
3. Install drive B, head 0 to J17. Head 0 is the lower head, and the connector will be marked with a 0.
4. Install drive B, head 1 to J18. Head 1 is the upper head, and the connector will be marked with a 1.



The new connector configuration is as follows:

- J1 Power cable
- J2 Stepper motor A
- J3 Write protect A
- J4 Motor start sw A
- J5 Activity led A
- J6 Track zero sensor A
- J7 Motor A
- J8 Motor B
- J9 Track zero sensor B
- J10 Activity led B
- J11 Motor start sw B
- J12 Write protect B
- J13 Stepper motor B
- J14 Data bus
- J15 R/W head 0 drive A
- J16 R/W head 1 drive A
- J17 R/W head 0 drive B
- J18 R/W head 1 drive B
- J19 No connection

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE : NOV. 17, 1982

MODEL: VICTOR 9000

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB13

**SUBJECT: FAILURE OF DISK DRIVE DOOR SWITCH AND/OR
WRITE PROTECT SWITCH**

Failure of the door or write protect switch may occur due to oxide formation on the contacts.

Symptoms: DOOR SWITCH FAILURE: System will not boot when door is closed. Possible "FA" error (DOOR OPEN).

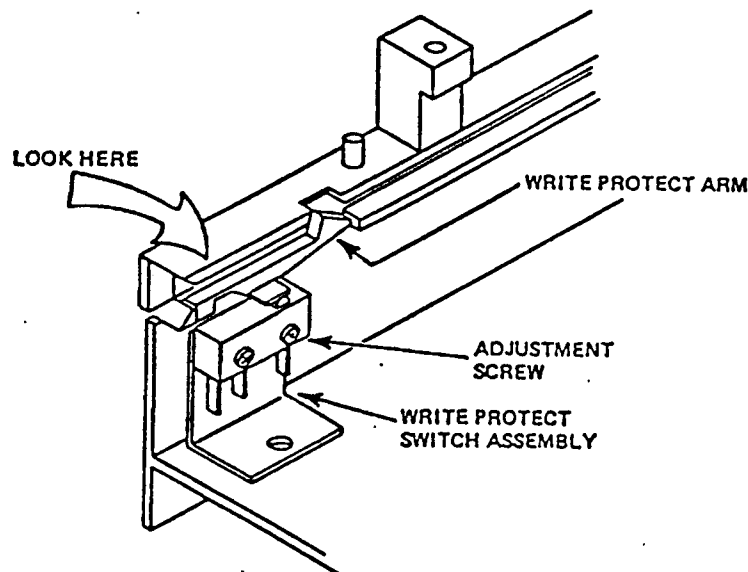
WRITE PROTECT SWITCH FAILURE: System prompts with "DISK WRITE PROTECTED", when there is no write protect tab on diskette. Possible "FC" error.

Failed switches should be removed and replaced using the procedures on the following pages.

NOTE: DISK DRIVE PCB BOARD UPGRADE PROCEDURES SHOULD BE PERFORMED ONLY ON DISK DRIVE BOARDS PART NO. 100092-01 AND 100094-01 REVISION LEVEL 17 OR LESS.

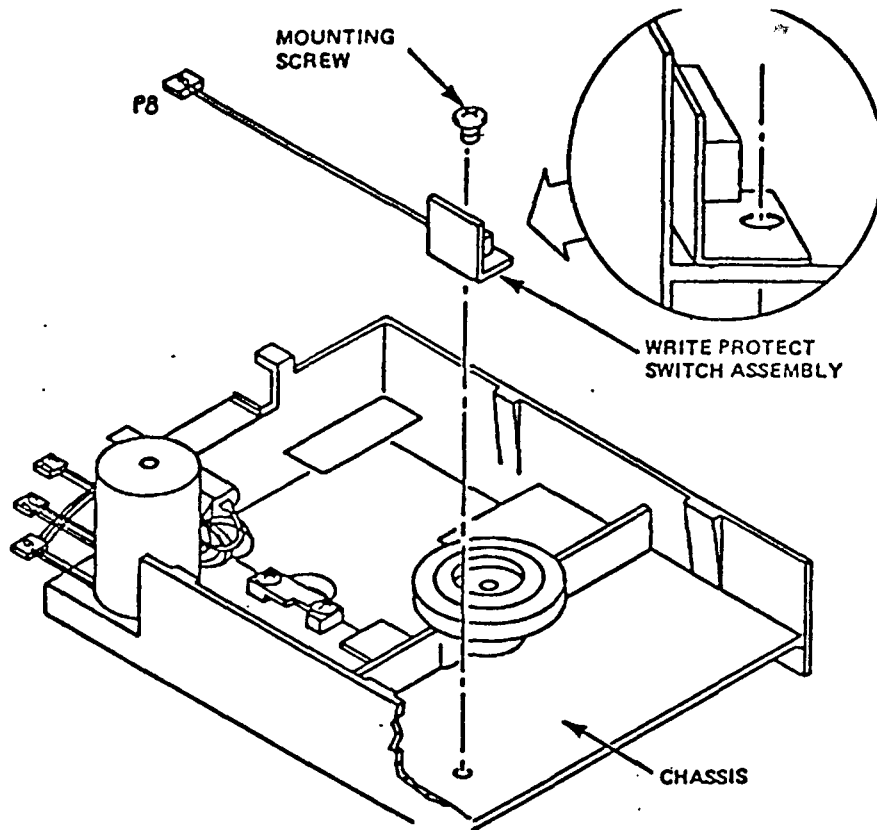
WRITE PROTECT SWITCH (p/n 102285-01)

- 1) Visually ensure that the arm on the Write Protect Switch assembly moves the switch and makes a clicking noise when the arm is pushed down.



Write Protect Switch Assembly Arm and Adjustment Screw

- 2) Remove the defective drive.
- 3) With a Phillips screwdriver, remove the mounting screw that attaches the write protect switch assembly to the side of the chassis.
- 4) Cut the harness that attaches the write protect switch assembly and the Activity LED assembly cables to the bottom of the chassis.
- 5) Cut the harness that attaches the write protect switch and Activity LED assembly cables to the bundle of wires that go to the Logic Board.
- 6) Remove the write protect switch assembly from the disk drive. De-solder wires from switch assembly. *Note: Wires should be connected to same terminals they were removed from.
- 7) Place the new write protect switch assembly in position on the left-hand side of the chassis near the front.

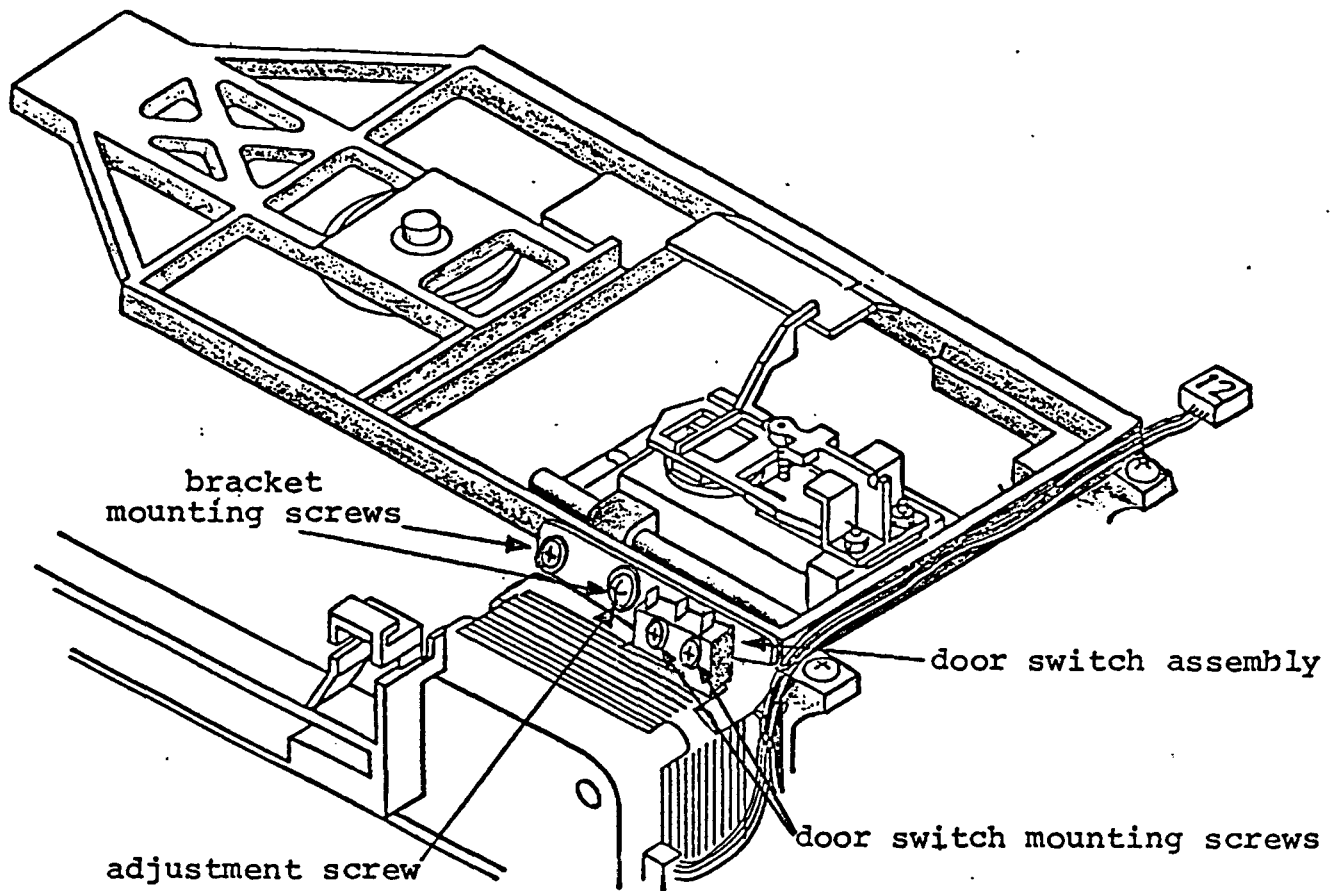


Write Protect Switch Assembly Mounting Screw and Connector P8

- 8) Using a Phillips screwdriver, mount the new write protect switch assembly with its mounting screw.
- 9) After smoothing out the write protect switch assembly cables and the Activity LED assembly cables, harness them to the bottom of the chassis, routing the wires between the Drive Motor Assembly and the Track 00 switch assembly.
- 10) Harness the bundle of wires at the back of the disk drive, including the new write protect switch assembly cables in the bundle.
- 11) Re-install the drive.
- 12) Verify the output of the write protect switch assembly by inserting a diskette. Test Point 9 on disk pcb should be High for a write protected diskette and Low for a non-write protected diskette.
- 13) Adjust the write protect switch if necessary by loosening the hex screw holding the switch to the bracket on the side farthest from the front of the disk drive. Move the switch up or down as required.
- 14) Re-install the drive.

DOOR SWITCH (p/n 102286-01)

- 1) Remove the defective drive.
- 2) De-solder the two wires which go to the door switch. *Note: Wires should be connected to same terminals they were removed from.
- 3) With a Phillips screwdriver, remove the two mounting screws which hold the door switch to the door switch mounting bracket and detach the switch.



- 4) Install new switch and adjust, if necessary, by loosening the bracket screw farthest to the back of the drive and pivoting the switch up or down. The switch should engage when door is half-way closed. Listen for a slight "click" which signifies switch is engaged. Tighten adjust screw.

DISK DRIVE PCB

Refer to Figure on page 6 and rework the disk pcb as follows:

- 1) Remove the 3 resistors (p/n 100203-55; 1/4W 5% 4.7K Ohm) in locations R56, R77, and R78.
- 2) Replace with -
 - a. 2 resistors (p/n 100203-45; 1/4W 5% 330 Ohm) in locations R77 and R78.
 - b. 1 resistor (p/n 100203-65; 1/4W 5% 150 Ohm) in location R56.
- 3) Indicate this change by applying sticker to the pcb, showing Part No. 100094-01, EC 10511, Rev. 18.

VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

SA JOB CHG	
CHANGE NO	FIELD S/M
BRANCH ACTION CLASS	

DATE: February 4, 1983

MODEL: VICTOR 9000

581-228-SB17

SUBJECT: POWER SUPPLY AUDIBLE NOISE

Power supplies that emit a high pitch noise are symptomatic of a weakness in the feedback control loop of the power supply.

Any supply exhibiting this symptom is to be replaced by the field and returned to your Victor Field Engineering Depot for repair. The repair action requires a depot level recalibration procedure currently being accomplished only at Scotts Valley.

VICTOR

FIELD ENGINEERING COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: FEBRUARY 7, 1983
MODEL: VICTOR 9000
SUBJECT: POWER SUPPLY UPGRADE

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

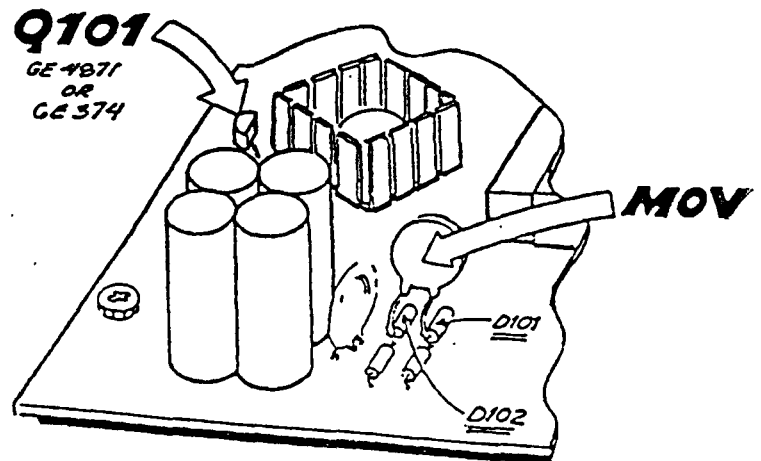
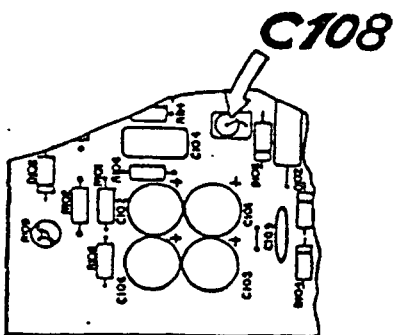
581-228-SB18

Inspect the power supply for the presence of a GE SV374 or GE 4871 unijunction transistor at Q101. If the unijunction is not the above or if the markings are illegible return the power supply to your Victor Field Engineering Depot.

If the unijunction at Q101 is a GE374 or GE 4871 upgrade the power supply with the following procedure.

1. Add an MOV (P/N E-102091-01) across the anodes of D101 & D102.
2. Replace C108 with capacitor (P/N E-101855-01) .0033 10% 1KV
3. Place power supply in a computer and run computer under system test diagnostics for 24 hours.

Note: To expedite customer upgrade
The spares kit power supply should be updated and replaced in the spares kit for future on site replacement.



VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: MARCH 7, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB19

SUBJECT: FLOPPY DISK DRIVE REPAIR

This bulletin establishes the guidelines and procedures for field repair of floppy disk drive units.

The repairs covered by this bulletin are non head related. Head related repairs will be covered in the accompanying reprint (581-228-SB8).

All part numbers for field replaceable disk drive components are contained in the Field Engineering Update to the Victor parts catalog accompanying this bulletin.

The following field floppy disk drive repairs are authorized:

1. WRITE PROTECT SWITCH ASSEMBLY
2. GUIDE RAIL
3. CONE LEVER ASSEMBLY
4. LATCH PLATE ASSEMBLY
5. DRIVE BELT
6. DRIVE MOTOR ASSEMBLY
7. TRACK 00 SENSOR ASSEMBLY

VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

DATE: MARCH 7, 1983

MODEL: VICTOR V9000/S1

581-228-SB20

SUBJECT: RAM CHIP FAILURES

RAM chip failures are being tracked by the Victor field engineering group in an effort to provide better error reporting. All RAM chip failures should be handled using the following procedure.

1. Remove and replace bad RAM chip.
2. Send bad RAM chip part and description of failure to:

Victor Technologies
380 El Pueblo Drive
Scotts Valley, California 95066

ATTENTION: FIELD ENGINEERING

VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: 3-16-83

MODEL: Victor V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB21

SUBJECT: APPROVED DOUBLE SIDED MEDIA

The Victor Quality control staff recommends that all users use Maxell 96 TPI double density media in the Victor V9000/S1 double sided computer system. Maxell double sided diskettes are the ONLY approved double sided media.

FIELD ENGINEERING
**VICTOR COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: 3-16-83

MODEL: Victor V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

501-220-3522

SUBJECT: INTEL 8274 MPSC

The Multi Protocol Serial Controller (NEC 7201) on some CPU boards has been replaced with an INTEL 8274 MPSC. The INTEL 8274 may exhibit a parity problem when used in the monosync, and external sync models.

Should the V9000/S1 computer installed with a 8274 MPSC exhibit parity problems in the monosync, bisync, or external sync modes, the 8274 MPSC should be replaced with a NEC 7201 MPSC, Victor Part Number E-100194-01.

FIELD ENGINEERING
**VICTOR COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: 3-17-83

MODEL: Victor V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB23

SUBJECT: CP/M 80 CARD

The FCO blue dot level "A" CP/M 80 cards must be upgraded to insure proper PROM memory access times are met. This bulletin will change the CP/M 80 card circuitry to add a wait state to the memory access cycle and change the PROM to a faster version.

The 2716 boot prom (part # 102240-01) must be replaced with a faster 2716 prom (part # 102240-02).
(PROM LOCATED AT POSITION 1N)

CP/M 80 CARD REWORK INSTRUCTIONS

PAGE 2 COMPONENT SIDE REWORK

PAGE 3 CIRCUIT SIDE REWORK

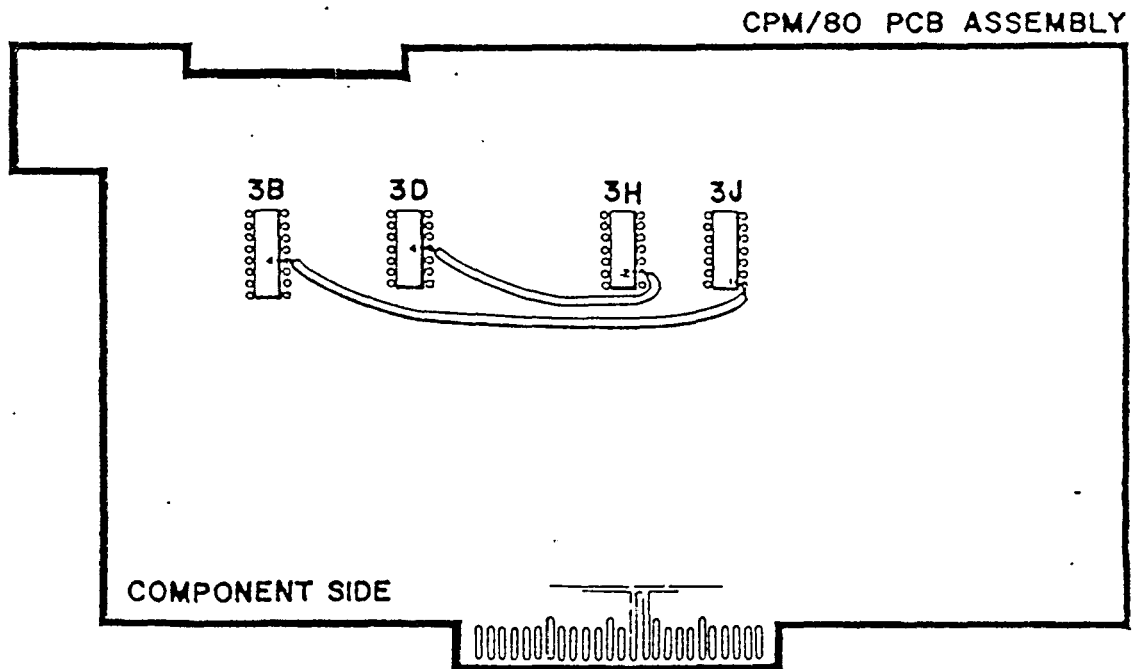
Upgrade board to FCO blue dot level "B"

CP/M 80 CARD REWORK INSTRUCTIONS

(COMPONENT SIDE)

1. At IC 3D. Cut pin 4 and lift it away from board
2. At IC 3J. Cut pin 1 and lift it away from board
3. Using 30 guage KYNAR wire part #100865-10.
 - A. Add a jumper from IC 3D pin 4 to 3H pin 2.
 - B. Add a jumper from IC 3J pin 1 to 3B pin 4.

(SEE DIAGRAM BELOW)

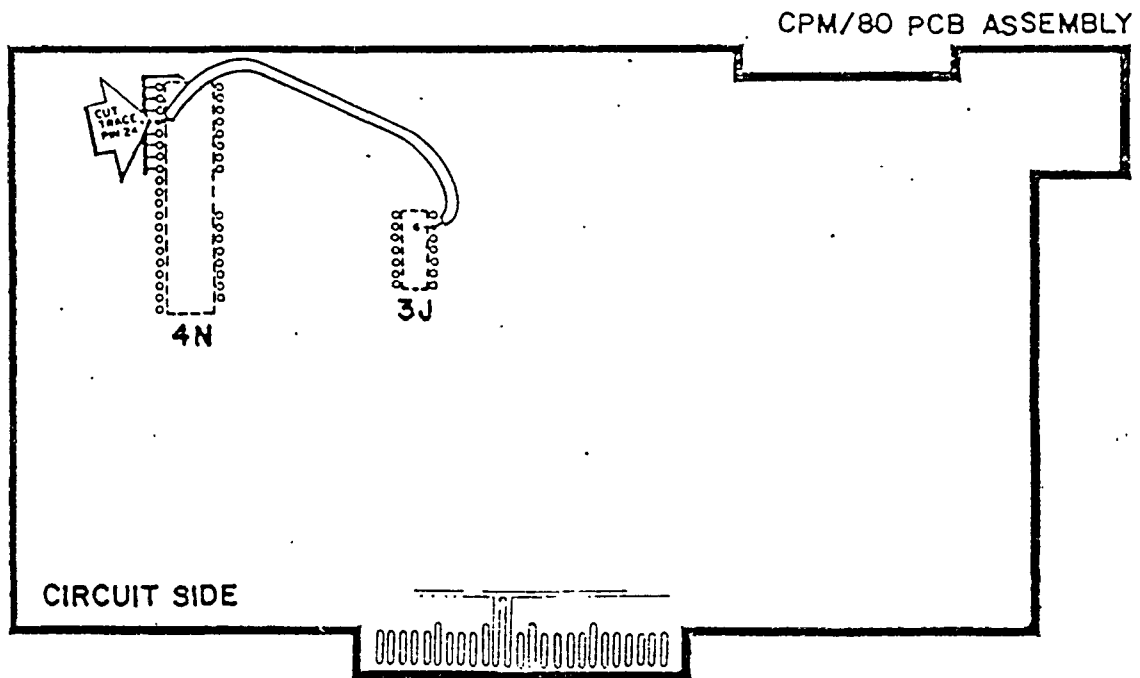


(CIRCUIT SIDE)

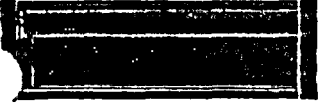
1. CUT TRACE AT IC 4N

2. USING 30 guage KYNAR WIRE (PART # 100865-10), add jumper from IC 4N pin 24 to 3J pin 3.

(SEE DIAGRAM BELOW)



VICTOR



FIELD ENGINEERING

COMPUTER SYSTEMS TECHNICAL BULLETIN

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

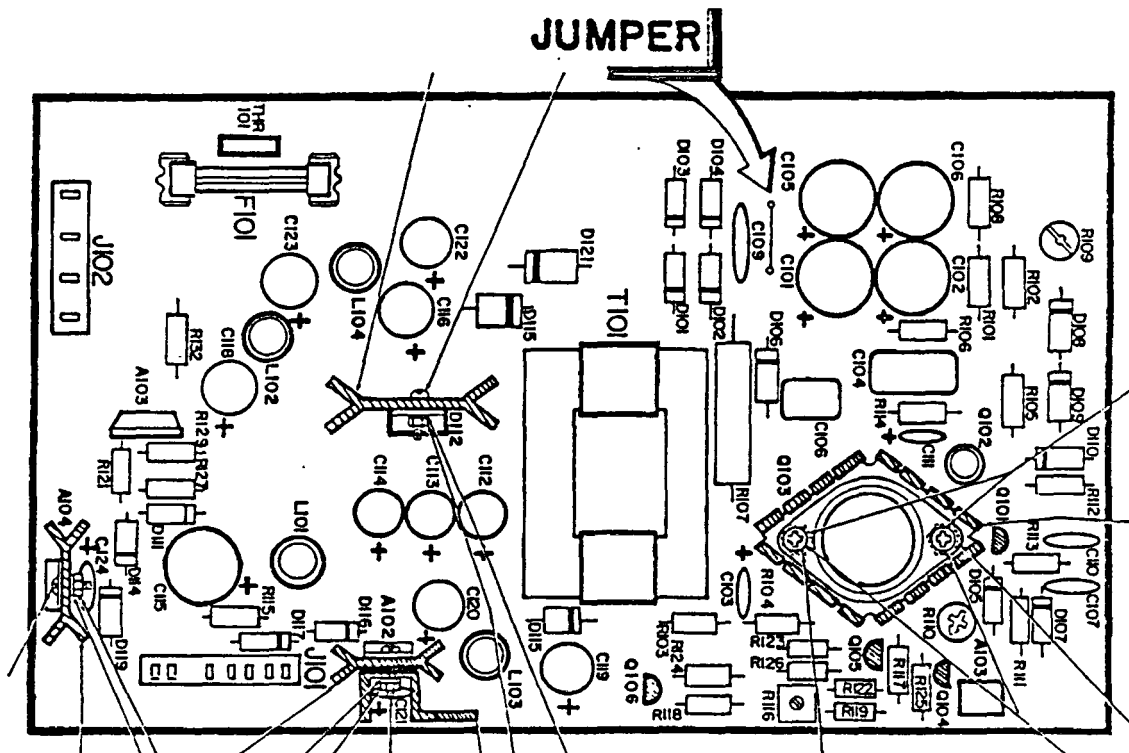
DATE: 3/16/83

MODEL: Victor V9000/S1

581-228-SB24

SUBJECT: CONVERSION FROM 230V TO 115V

To convert the VICTOR 9000 from 230 VAC to 115 VAC, a jumper must be installed on the power supply. The jumper should be installed in parallel to capacitor C109. See drawing for jumper location.



VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: April 27, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB25

SUBJECT: HARD DISK SYSTEM LOCKUP DURING SERIAL PORT USE
UNDER THE CPM/86 OPERATING SYSTEM

During the use of the A and B serial ports, a hard disk system may appear to lock up. This problem will arise only under the CPM/86 operating system.

The reason for the lockup, is that under CPM/86, the HD boot proms do not set the Data Direction Register A (DDRA) in the 6522 located at 12L. 12L pins 2 and 3 are the signals INT EXT A and INT EXT B outputs. These signals are to the serial interface circuitry and select either internal or external clocks for the A & B serial ports.

These problems do not arise in a hard disk system under MS DOS. They also are not present in a system which does not contain the HD boot proms.

The following Basic program will alleviate the serial port problem:

```
10 DEF SEG=&HE804
```

```
20 Poke &H3, &H3
```

```
30 system
```

VICTOR**FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: April 20, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB14
(Revised)

SUBJECT: 64K BOOT PROMS (REV E)

Remove and discard #581-228-SB14, replace with #581-228-SB14 Revised.

This bulletin updates the X-100670-01 CPU board to an E Rev. level. There are no field changes required to bring the CPU board from a Rev. B to a Rev. C. There are also no field changes to bring the Rev. C aboard to a Rev. D. A Rev. B or C CPU board will be brought to E Rev. level with the installation of the 64K Boot ROM.

The BOOT PROMS are being changed to a 64K ROM. The new ROM is installed at location 7H, and replaces both of the old PROMS at locations 5H and 7H.

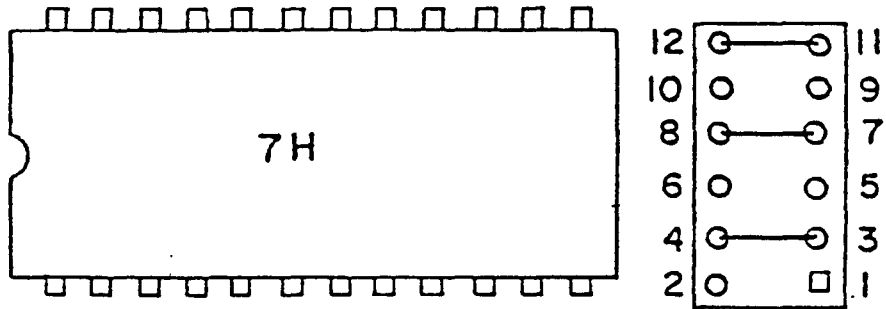
This update only pertains to the X-100670-01 CPU board, not the X-100670-02 CPU board. The X-100670-02 board will still have the two PROMS.

Procedure:

1. Remove BOOT PROM (Part #E-100716-01 or E101135-01) at location 7H and BOOT PROM (Part #E-100715-01 or #E-101134-01) at location 5H.
2. Install 64K BOOT PROM (Part #E-101171-01) at location 7H.
3. Install a jumper at locations:
E3-E4
E7-E8
E11-E12
4. Remove jumper at locations:
E1-E2
E5-E6
E9-E10

* Return BOOT PROMS to Scotts Valley, CA. *

** DRAWING ON REVERSE SIDE **



VICTOR®

F I E L D E N G I N E E R I N G T E C H N I C A L

Bulletin

SERIES 9XXX
DESKTOP BUSINESS COMPUTERS

581-228-SB43
FEBRUARY 12, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: UNIVERSAL BOOT PROMS
[P/N 106168-01, FE (5H) and P/N 106170-01, FF (7H)]

New eproms have been developed which allow the mainframe to load a bootstrap from either the floppy or the 10 MB hard disk, or the network, if so equipped. Universal Boot Proms also provide a diagnostic routine which loops the 8088 if a hardware error is encountered during the boot.

A system equipped with Universal Boot Proms will display different icons during the boot. The memory test symbol M will appear, followed by the memory size in Kilo-bytes. The device (and device number) that is being polled for the bootstrap is displayed, and a new icon for the network will appear if a network board is installed on the mainframe. (See Figure 1)

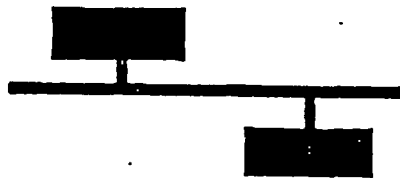


Figure 1

When the CPU is powered on, the Universal Boot Proms will execute diagnostic tests on the screen (static) ram, boot rom checksum, system (dynamic) ram, programmable interrupt controller (PIC), and some of the I/O devices. If the CPU encounters an error during the tests, it will report the error via an output instruction to I/O port 0FFF Hex.

In the case where there is enough functional circuitry to the error to the screen, the error code will be reported on line 25 to the right of the device icon.

The method for more catastrophic errors is to report, via the output instruction, the type of error in the UPPER NIBBLE of the data byte, and if possible the failing device in the LOWER NIBBLE of the data byte. This is done by doing a write to IO port 0FFF Hex. The boot code then loops on this instruction allowing the operator to use an oscilloscope to examine D0 thru D7 and analyze the failure. One technique is to sync on the rising edge of the 8088's IO/M signal (pin 28) and then trace the upper and lower nibbles of the data lines D0 - D7 (available on the PIC pins 11 thru 4). The data is valid on the rising edge of WR/ (pin 29 of CPU), and when IO/M is high. See figure 2.

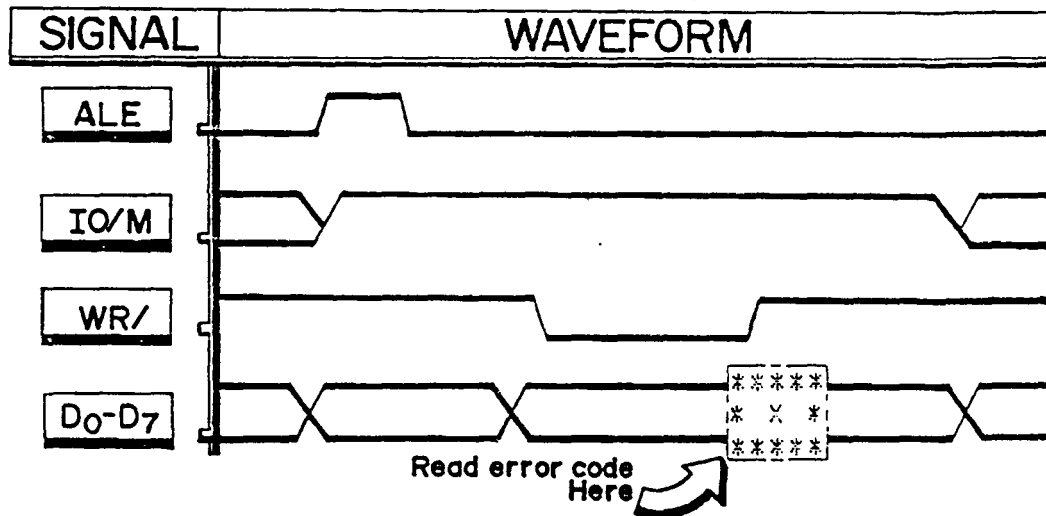


Figure 2

A description of the error codes is presented in Table 1.

ERROR CODE		TYPE OF ERROR	BAD DEVICE
UPPER	LOWER		
0	1	Screen Ram, not reproduced	Undetermined
0	2	Rom Checksum Error	Boot Rom
0	3	DRAM, not reproduced	Undetermined
0	4	Internal CPU Error	8088 Failure
1	X	Screen Ram, Single Bit	X = failing bit
2	X	Screen Ram, Multiple Bits	X = 1st fail bit
3	X	DRAM, Single Bit	X = failing bit
4	X	DRAM, Multiple Bits	X = 1st fail bit

Table 1

Two examples of CPU error detection where there is sufficient circuitry available to report failure to the screen, is listed below in Figures 3 and 4.

M 16K 3X

Figure 3

In this example, the CPU has found the first 16K bytes of dynamic ram to be functional, but an area of ram above 16K is bad. In the 3X code the "3" indicates that the error is in dynamic ram and the "X" would be a hex number in the range of 0-F, indicating the failing bit, (0-7 = even and 8-f = odd).

M 16K 4X

Figure 4

The error code "4" here indicates a multiple bit dynamic ram failure. The "X" indicates the number of the first failing bit. Replace this bad device and repeat the boot test. Repeat this process with all remaining bit errors.

As stated previously the Universal Boot Proms also test the PIC and the 6522's. The CPU will write to some of the registers within these devices and then attempt to read back these registers. If the CPU cannot read back the correct value from that register, then the faulty I/O device is reported to the 25th line of the screen, (assuming that enough working circuitry exists to accomplish this). See Figure 5, below.

M 256K

X 1234

where

1	=	PIC
2	=	Parallel Port Interface 6522
3	=	Keyboard Interface 6522
4	=	User Port Interface 6522

Figure 5

An example of this error condition is presented below:

M 256K

X 0030

Figure 6

This example would indicate a diagnostic fault while trying to access the Keyboard Interface 6522.

When replacing old boot proms with Universal Boot Proms, verify that straps are installed at positions E1-E2, E5-E6 and E9-E10. Also verify with an ohm meter that the following straps are cut: E3-E4, E7-E8, and E11-E12.

VICTOR**FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: April 20, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD S/M
BRANCH ACTION CLASS	

581-228-SB15
(Revised)

SUBJECT: ADDITION OF 4.7K RESISTOR TO INTA SIGNAL (REV F)
INCREASING IEEE 488 INTERFACE SPEED (REV G)

Remove and discard #581-228-SB15, replace with #581-228-SB15 Revised.

The following procedure should be used to upgrade the CPU board to a F Rev. level.

Add a 4.7K ohm resistor from IC 5K pin 26 to +5v (figure 1). Attach one lead of the resistor to the top of C89. Attach the other lead of the resistor (with sleeve) to the trace feed thru which connects to pin 26 of IC 5K.

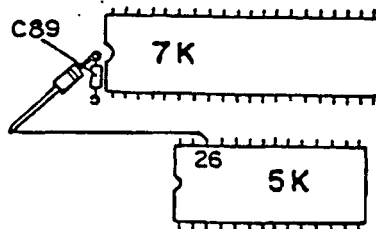


FIG. 1

The following procedure should be used to upgrade the CPU board to a G Rev. level.

Add a jumper wire from IC 15L pin 10 to IC 12L pin 40 (figure 2).

* FIGURE 2 ON REVERSE SIDE *

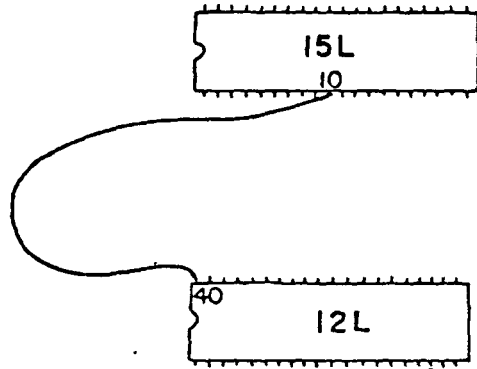


FIG. 2

VICTOR**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: April 21, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB16
(Revised)

SUBJECT: CORRECTION OF CPU BOARD TIMING PROBLEM (REV H)

Remove and discard #581-228-SB16, replace with #581-228-SB16 Revised.

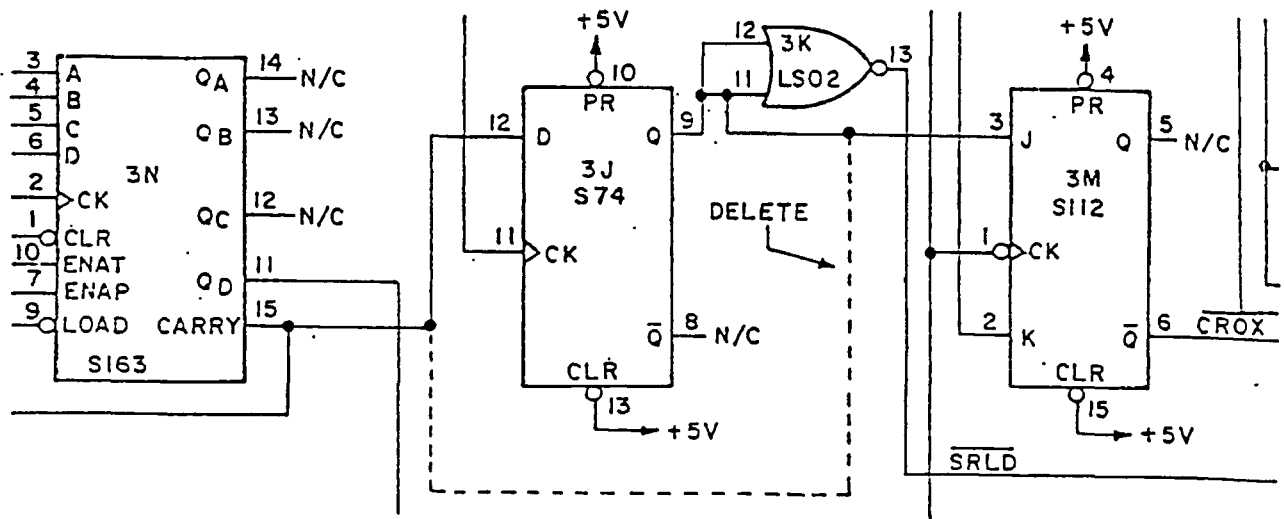
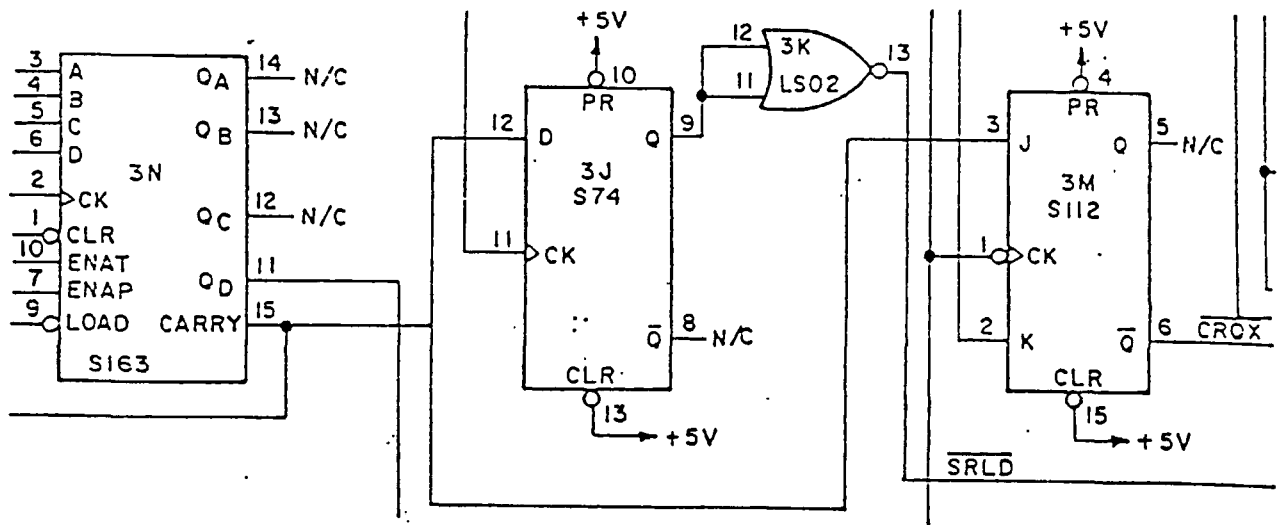
When loading the CPU board with more than two memory expansion cards, the display system may exhibit video jitter.

The CPU board should be removed and upgraded using the following procedure.

NOTE: CPU MUST BE AT REVISION LEVEL G

1. At 3M pin 3, cut IC lead as close as possible to where it enters the board.
2. Bend remainder of pin still attached to IC 3M slightly out and away from board.
3. Using approximately 3 inches of 30 AWG kynar wire attach a jumper from 3K 11 to 3M pin 3.
4. Upgrade CPU board to revision level H.

* DRAWING ON REVERSE SIDE *



DATE: May 12, 1983
MODEL: VICTOR 9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
561-226-5520	
BRANCH ACTION CLASS	

SUBJECT: HARD DMA INTERFACE DISK CONFIGURATION

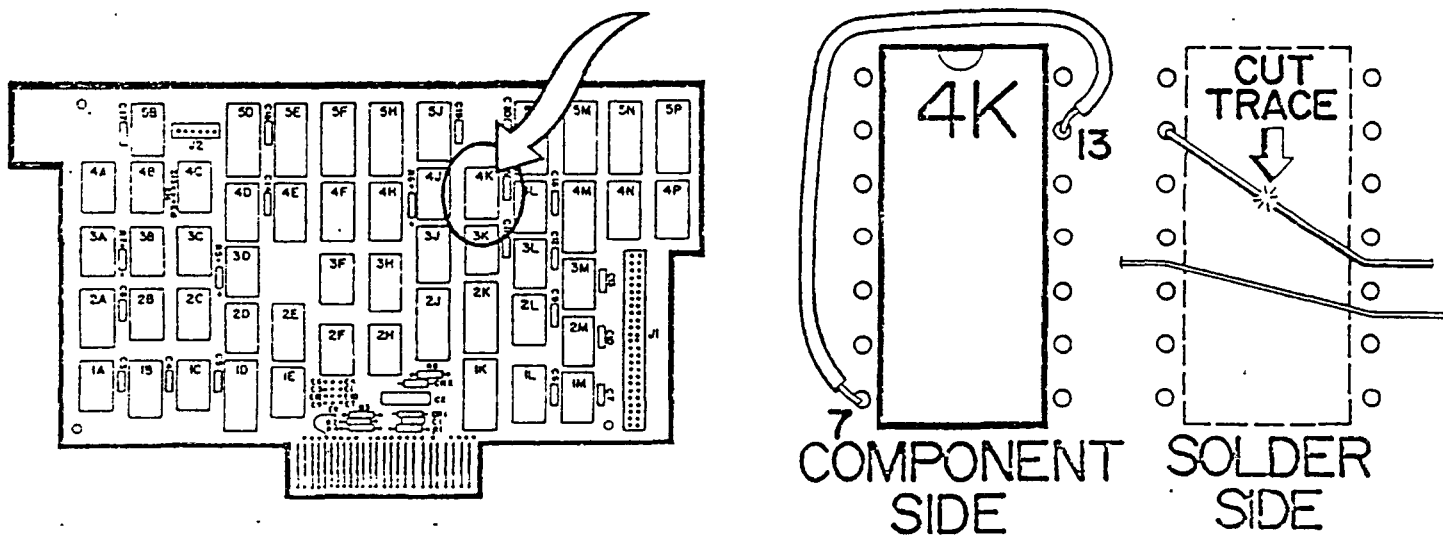
On hard disk units, check to insure the following configurations are adhered to:

- 256K CPU board with DMA Interface 101160-02
- 128K CPU board with DMA Interface 101160-01

The standard DMA Interface board 101160-01 is modified with a cut and jumper to become a 101160-02 DMA interface.

To convert a 101160-01 to 101160-02 jumper 4K pin 13 to 4K pin 7 and cut trace on rear of board leading to 4K pin 13.

Hard disk units may fail to properly boot from the hard disk or may hang up under the operating system if the above configuration is incorrect.





COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: May 13, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB27

SUBJECT: DISK CONTROLLER PCB NOISE REDUCTION

This bulletin affects the X-100094, the X-100670-01, and the X-100670-02 disk drive controller boards.

When a disk drive control board is repaired, it is advisable that a .1 uf capacitor (Part # E-100140-01) be added to the motor drive transistors at locations Q1 and Q2. The addition of these caps will reduce the noise generated by the transistors at turn on. The capacitors should be installed on the component side of the board from the base to the collector of both the transistors. See figure 1 for the installation of the capacitors.

Change the drive board FCO blue dot on # E-100670-01 and # E 100670-02 to F. Change the FCO blue dot on # E-100094-01 boards to D.

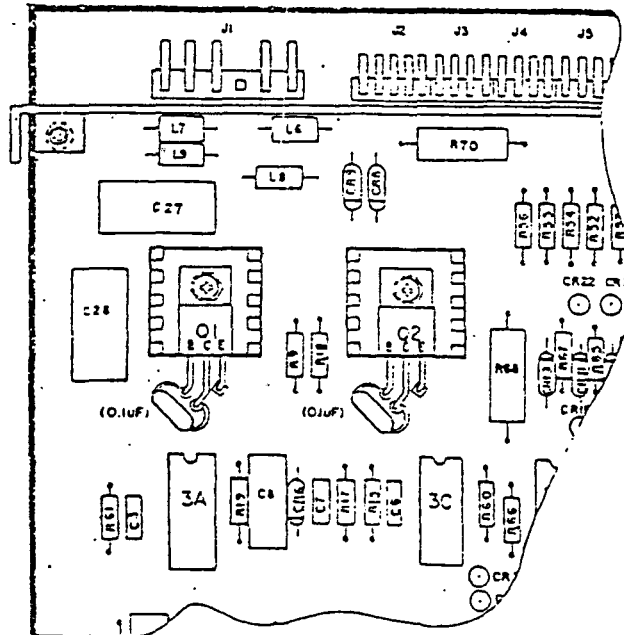


Figure 1 .

VICTOR COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: May 25, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
581-228-SB28	
BRANCH ACTION CLASS	

581-228-SB28

SUBJECT: ADDITION OF PULL UP RESISTOR TO TRACK ZERO SENSOR CIRCUIT

This bulletin affects the X-100094-01 disk drive controller board.

When an X-100094-01 controller board is repaired, add a pull up resistor to the track zero sensor circuit.

Two 10K 1/4 watt resistors (Part #0-052223-103) should be added on the solder side of the PCB. The resistors should be installed from Pin 1 to Pin 14 and from Pin 9 to Pin 14 on the IC located at 6A. Refer to figure 1 for the installation of the resistors.

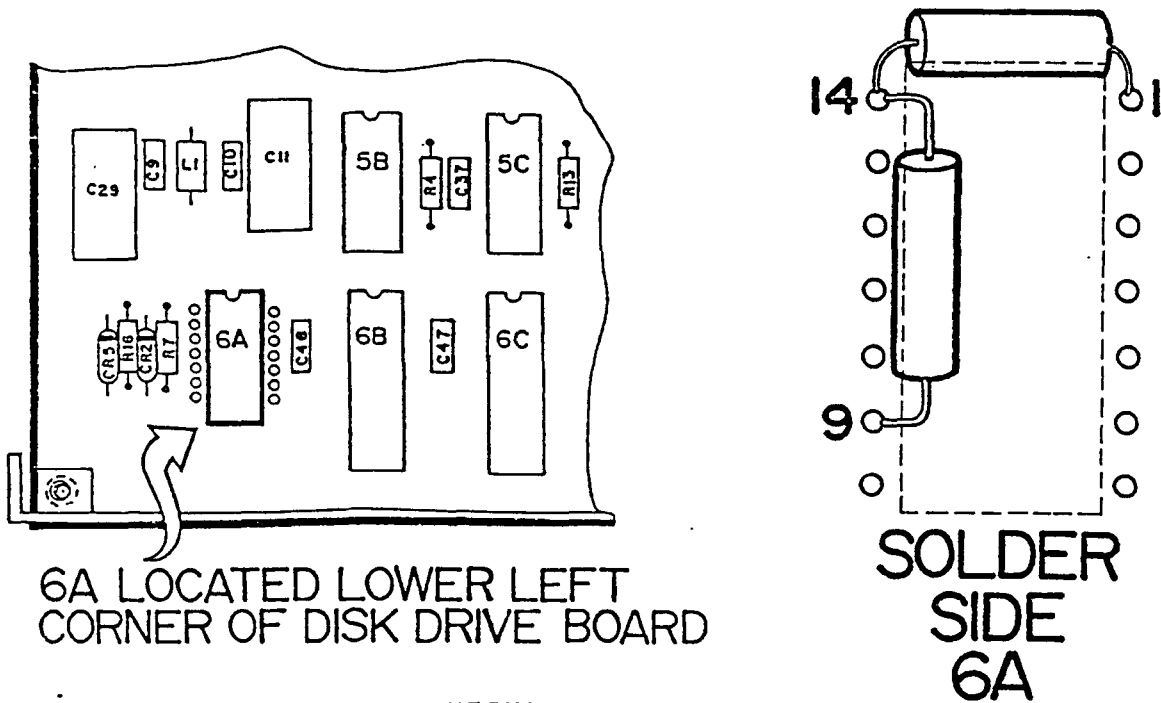


FIGURE 1

FIELD ENGINEERING

VICTOR

COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: JUNE 1, 1983

MODEL: VICTOR V9000/S1

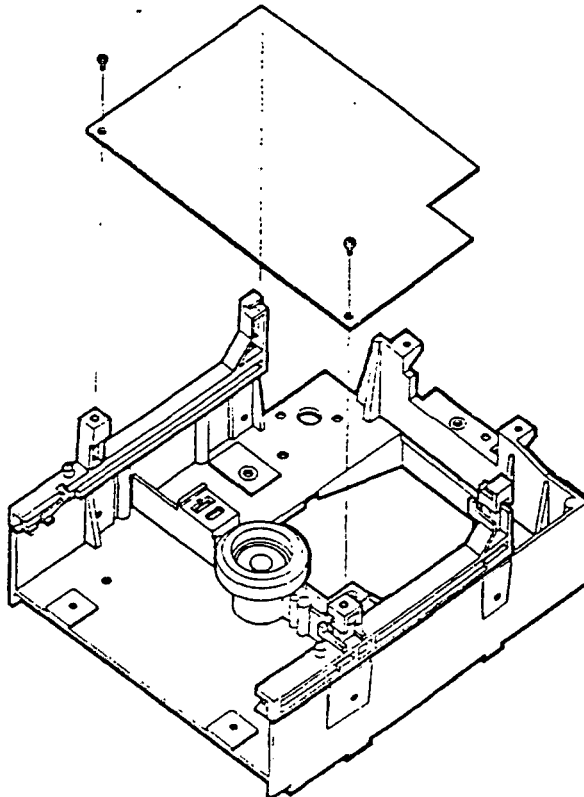
SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB29

SUBJECT: FLOPPY DRIVE SHIELD INSTALLATION

A floppy disk drive shield can be added to the floppy drive assembly to reduce noise.

To install the floppy shield (P/N 103929-01) to either a single-sided or double-sided assembly, slip the shield through the slotted bracket on the side rails with the notch recessing the side where the head cable(s) is tie wrapped. The shield is secured with 2 screws (P/N 100629-03)



VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: July 1, 1983
MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB30

SUBJECT: REINFORCEMENT RINGS ON FLOPPY DISKETTES

It has been determined that the use of floppy diskettes with reinforcement rings will not void the warranty on the system.

Victor Quality Assurance performs extensive tests on floppy media and recommends Maxell double-sided diskette for use with the V9000/S1 computers.

VICTOR

COMPUTER SYSTEMS
TECHNICAL BULLETIN

DATE: July 8, 1983
 MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

581-228-SE32

SUBJECT: TM502 HARD DISK

Recent failure studies indicate the possibility of bad crimps on P4 (+12V to spindle) and/or P5 (index signal) connectors on the Tandon TM600 Main up Board.

SYMPTOM:

Using Diagnostics

Typical error report when running hard disk diagnostics (besides DMA Test) would be; DRIVE NOT READY AFTER IT WAS SELECTED.

System Power-Up

Initial power-up of a system equipped with hard disk would normally exhibit an X Error Code and "Cylinder" icon on the screen. Hard Drives with a crimp problem would prevent signal "DRIVE READY" from ever being true, thus the normal X Error Code and "Cylinder" display would be omitted and only the Floppy Diskette/Arrow icon would be displayed.

The purpose of the following procedure is to insure dependable continuity between these connections:

Required Equipment - Volt Ohmmeter (VOM)
 Response time to intermittent connections can be seen much easier using a VOM rather than a DVM.

NOTE: The Tandon hard disk must be removed from its chassis and placed on a foam pad (TM600 Board up) to perform the following checks. No power is required. USE EXTREME CAUTION WHEN HANDLING THE WINCHESTER DRIVE!

P5 Connector Continuity Check

1. With the P5 connector removed from J5 on the TM600 Main uP Board, connect the VOM test probes to pins 1 and 2 of the connector. Pins 1 and 2 of the P5 connector coincide with pins 3 and 2 of the J5 terminal on the TM600 board. Proper contact of the VOM test probes and connector P5 may necessitate inserting pins or wire of comparable size as terminal J5 on the TM600 board into pins 1 and 2 of P5.

2. Set the VOM to "Ohms X 100" and observe the reading between pins 1 and 2 of P5. Resistance should read anywhere between 105 and 118 Ohms. There should be no movement of the meter reading when the wires are stressed.

NOTE: Any variation from step 2 warrants examination of P5 connector for improper crimps as outlined in step 3. Proceed to P4 connector if no variations exist.

Correction

3. Remove the red wire from the connector by placing a pointed instrument into the slot on the underside of the connector and remove the wire. Insure the insulation has been stripped enough to expose the wire to the crimp connector. Apply a small amount of solder to guarantee a good connection between the wire and crimp connector, then re-insert in P5. Repeat this procedure for the black wire.

***NOTE: Configurations may exist where the wires to P5 are not red and black. Particular attention must be given this situation when wires are removed and re-inserted so as not to swap the wires!!!

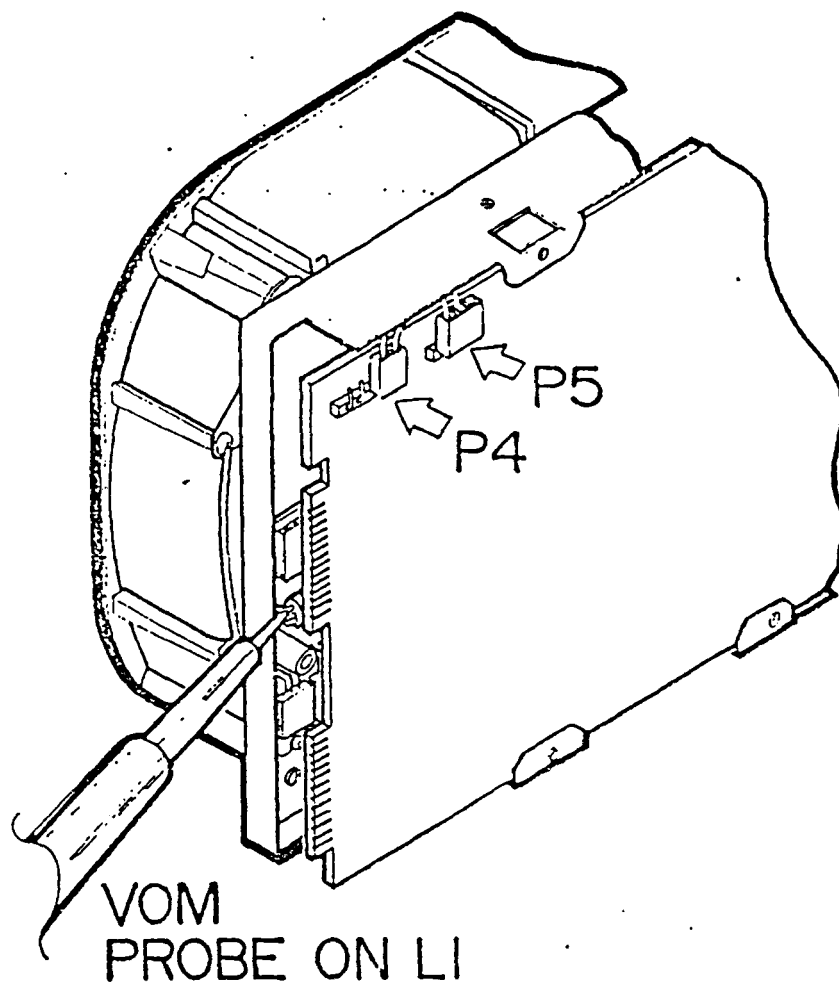


FIGURE 1

P4 Connector Continuity Check

1. With the P4 connector in place on the TM600 Board connect one probe of the VOM to pin 1 of J4. Connect the second probe to L1 on the Spindle Control Board as shown in Figure 1.

2. Set the VOM to Ohms X 10. Resistance should measure from 0 to 2 Ohms and not fluctuate when the wires are stressed.

3. With the probe still on L1 check pin 2 of J4. The reading should be approximately 50-60 Ohms with no fluctuation when the wires are stressed.

Any variation warrants examination of the connector as outlined in Step 3 of the P5 connector.

VICTOR

COMPUTER SYSTEMS
TECHNICAL BULLETIN

DATE: August 4, 1983
 MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BY/SO/M	
BRANCH ACTION CLASS	

581-228-SP31

SUBJECT: REQUIREMENTS FOR SHIPMENT OF RMA'S TO SCOTTS VALLEY

In the past, we have been quite lenient in regards to the condition of RMA repair items. However we have received numerous PCB's, Floppy Disk Drives, and Hard Disk Drives which have been stripped of parts or broken due to improper packaging.

As of August 15, 1983, any item shipped to us not meeting the following requirements will be returned to the sender unrepaired. Return shipment will be C.O.D.

Shipping Requirements for PCB's and Floppy Disk Drives

1. If shipment contains numerous items limit total weight/box to no more than 60 lbs.
2. All PCB's should be in antistatic bags (part #T-000417-small and part #T-000416-large) and then wrapped with bubble pack. Single CPU's should be sent in special CPU containers (part #T-000515)
3. 5 1/4" Floppy Disk Drives should be packed with a shipping disk installed in the Drive (part #E-172311-001) and in a taped-up styrofoam box that is supplied with the replacement drive.
4. Keyboards should be packed in anti-static bag (part #T-000417) and further wrapped with bubble pack.
5. CRT's should be shipped in the special CRT shipping cartons (part #T-000490).

Shipping Requirements for Winchester Drives

1. Single and four pack shipping containers are available from Victor and should be used when possible. (single pack part # 187125-01)(four pack part #187125-02)

2. When single and four pack containers are not readily available for shipping, the following guidelines must be adhered to:
 - a. Single drives must be protected by at least 4 inches of polyurathane foam on all sides (2072 foam), and placed in a cardboard box whose dimensions assure no movement of the drive (cardboard box specifications: 175 lb test RSC Double Wall #3W, 2P/1C).
 - b. When more than one drive is to be returned no more than four drives are permitted per container. The drives may be placed next to each other but separated by a 200 lb test RSC single wall cardboard divider. The four drives must be tightly packed in no less than 6 inches of polyurathane foam (2072) on all sides and placed in a cardboard box whose dimensions assure no movement of the drives (cardboard box specifications: 200 lb test RSC double wall #3W, 2P/1C).
 - c. Single and four pack boxes must have "WARNING, FRAGILE" label placed on the shipping container.
3. Hard Disk Drives returned for warranty repair or replacement must have all associated hardware intact, i.e. no drive may be returned without a read/write control board (TM600 main uP board on Tandon Drives), spindle control board, index sensor, brake mechanism, screws, etc.
4. When returning Hard Disk Drives it is not necessary to send the Xebec Controller mounting bracket with the drive. This should be retained for use when a replacement drive is received. Before removal of the Controller mounting bracket from the bad drive observe that the Victor serial number (W3050147 for example) is on the drive itself. If the Victor number resides on the Controller bracket and not on the drive make sure the serial number is written on the drive. Also, the old serial number should be stripped from the bracket.
5. Make sure the grounding strap is retained for use on the replacement drive.

ALL DISTRICT SHIPMENTS MUST HAVE AN RMA NUMBER ISSUED BY PARTS AND LOGISTICS DEPT., VICTOR TECHNOLOGIES, SCOTTS VALLEY, CA

ALL RETURNED ITEMS WILL BE TAGGED WITH THE FOLLOWING INFORMATION:

- a) Date when failure first occurred, diagnostic failed and condition of failure, temperature, time, error code (if possible), etc.
- b) Parts replaced or removed, traces lifted, work done and any observations that would be helpful in repair of the item, so as to expedite turn around time.

VICTOR**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: August 4, 1983
 MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB34

SUBJECT: DMA BOARD HANDSHAKE TIMING IMPROVEMENT

The possibility exists that some hard disk controller errors are not reported properly to the operating system. In an applications environment the result of this shortcoming could be that some disk errors, such as failure to write data to the disk, might go undetected until the user or application program attempted to access the information.

When running hard disk diagnostics this problem might appear as "Controller Error, Drive Selected = 04 - should be = 00". Be aware that this situation does not "cause" disk errors, rather it allows some errors to go un-reported.

Rework the DMA Interface Board, correct the schematic, and change FCO Blue Dot character to "B", once rework is complete, as outlined on the following pages.

1. Cut trace from IC 2C Pin 8 to IC 3C Pin 11.
2. Add jumper from IC 2C Pin 10 to IC 3C Pin 11.

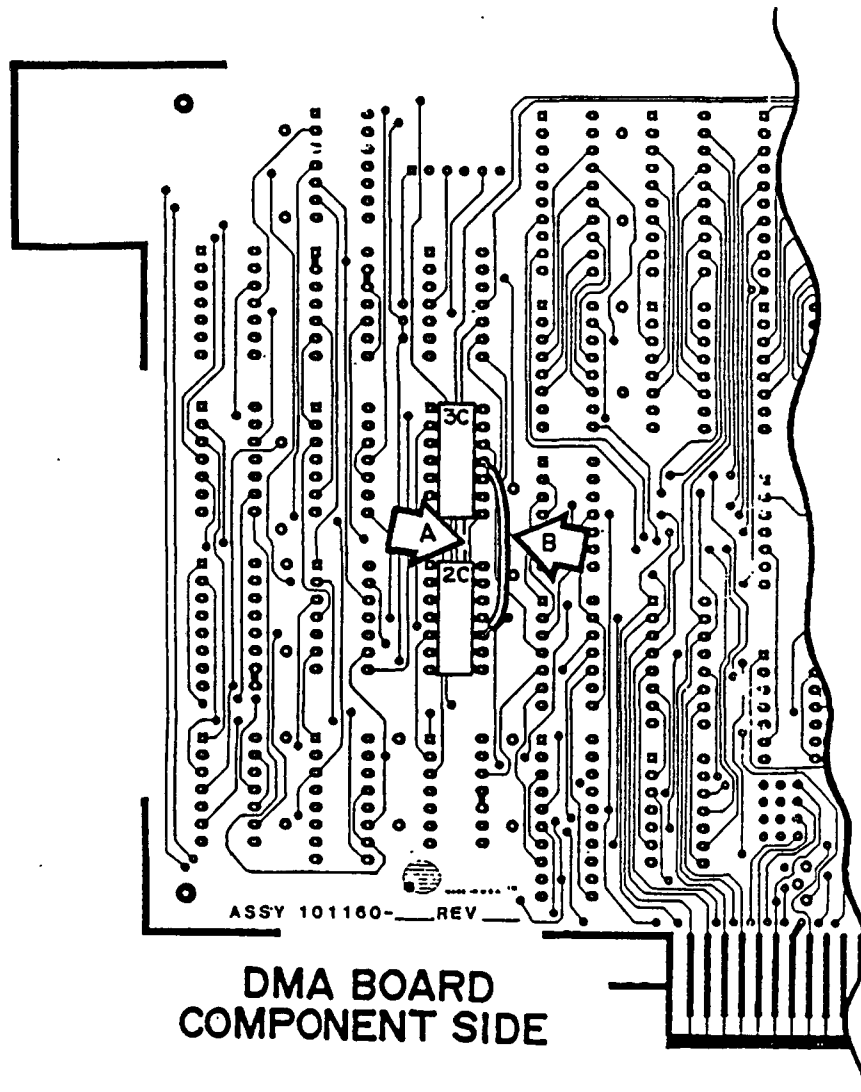


Figure 1

On Schematic 101161, Sheet 4, Area B7 delete Gates 2C (pins 4,5, and 6) and 2C (pins 8,9, and 10) as shown below.

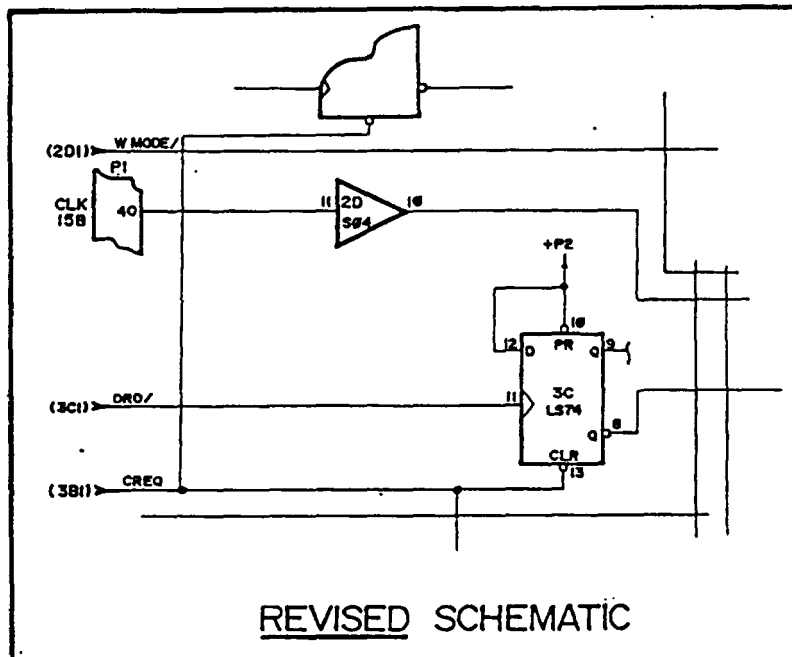
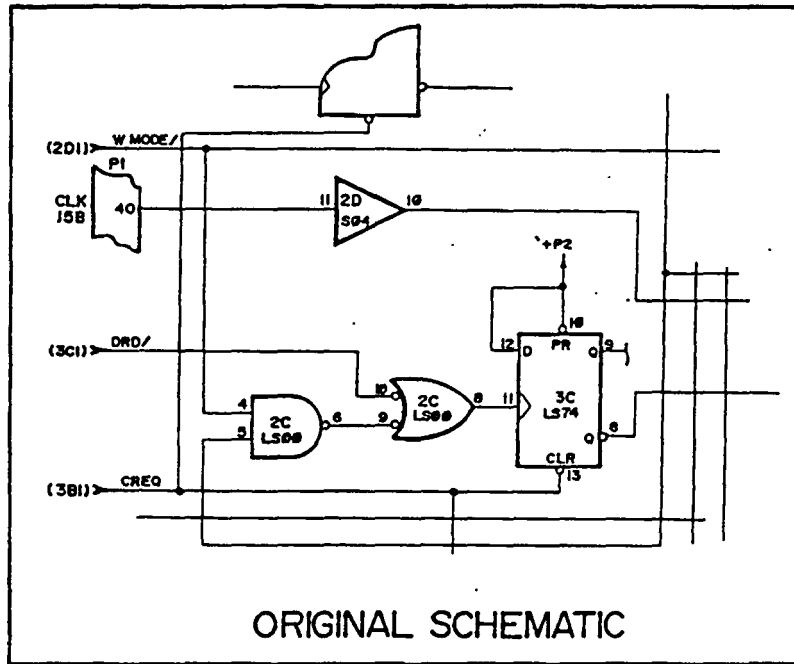


Figure 2

VICTOR

FIELD ENGINEERING

COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: August 10, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
581-228-SB33	
BRANCH ACTION CLASS	
581-228-SB33	

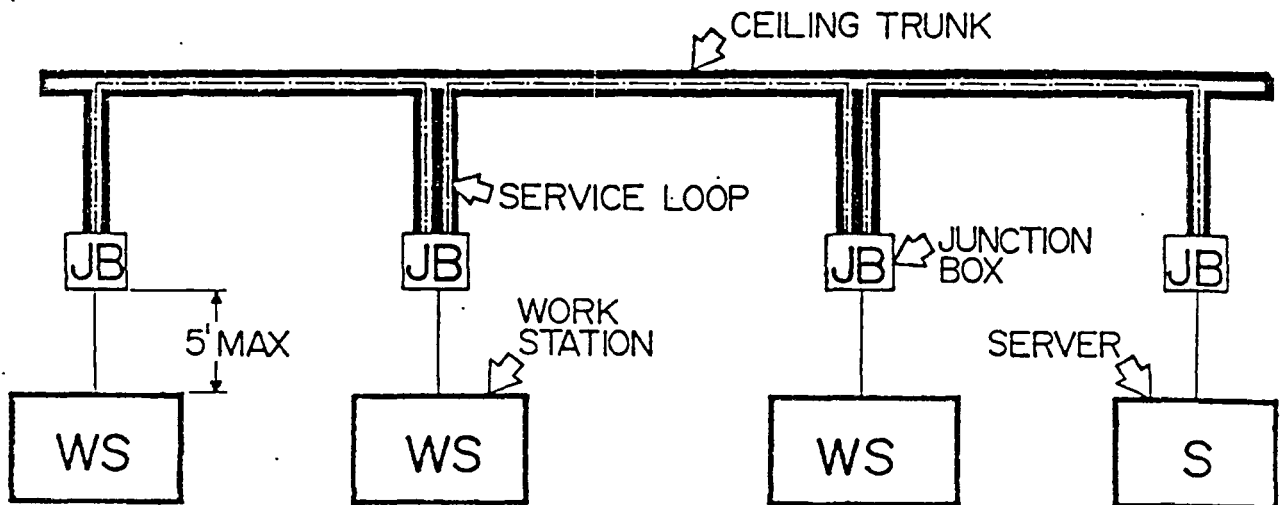
SUBJECT: NETWORK INSTALLATION GUIDELINES

The Victor File Server Network should be installed by following the guidelines established in this text.

1. The customer must decide how many stations/servers are needed and the network topology (i.e. station locations, server locations, cable routing). *Use installation worksheet supplied.*
2. The trunk cable routing and length must be developed.

* The Service Loop should be positioned so that the bottom of the loop is within 5 feet of the station or server unit.*

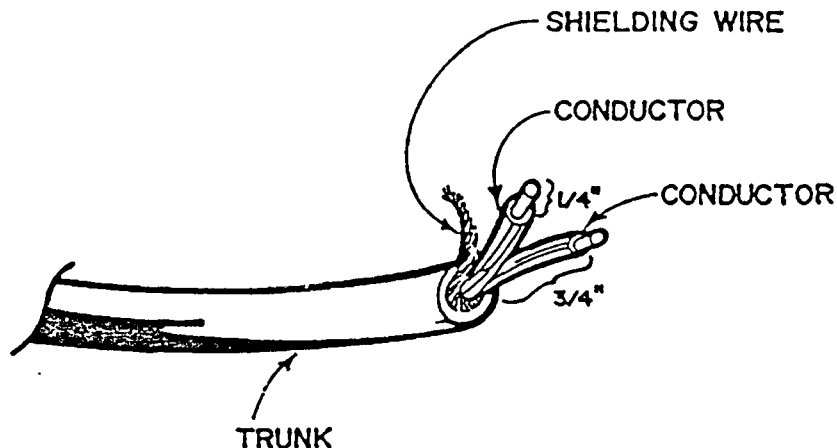
SEE EXAMPLE DIAGRAM BELOW



* The end station/server junction boxes will leave the 100 ohm resistor in the B1-B2 position, these resistors are used to terminate the trunk cable *

Cut the trunk wire and install the junction boxes as follows:

- A. Strip approx. 3/4 inch of insulation from the trunk cable, then strip approx. 1/4 inch of wire from the conductors (see diagram below).



- B. Unravel the shielding wire and twist it into a single multi-stranded wire, tin the end of the shield wire.
- C. Take one side of the trunk cable and insert the conductors into A1 and A2 on the terminal strip. Insert the shield wire into AG. Tighten the terminal screws for AG, A1 and A2.
- D. Remove the resistor across B1-B2 junction. Take the other side of the cable and insert the conductor into B1-B2 on the terminal strip. Insert the shield wire into BG. Tighten the terminal screws for B1, B2 and BG.
- E. If the junction box is connected to the end station or server, then a 100 ohm resistor will be inserted across B1-B2 junction.

HARDWARE CHECK PROCEDURE

The field engineer should check the network system hardware before installing the network software.

- A. Workstation/Server Units.
The WS/Server unit should be checked out by using the Victor Diagnostic Diskette HDFIELD #104030 (for hard disk, single, and double sided units)
- B. The printer(s) should be checked by using the printer's selftest mode.
- C. The Transporter board- Computer interface can be checked out by booting up the workstation software #104764-01 (NETUP.EXE). If the software "sees" the board it will return the node address. ** Network diagnostic software will be released in the near future. **

Trunk cable inside wall and ceiling installations MUST be done by the customer. The trunk cable should be Columbia Part #C1642-21-10 or Belden Part #ST9272. Victor will stock cable for customers who do not have access to cable.

3. Once the trunk cable has been routed the Victor Service Engineer will install and check the following items:

- A. Junction Boxes
- B. File Server Units
- C. Trunk Terminators
- D. Work Stations
- E. Printers

HARDWARE INSTALLATION PROCEDURES

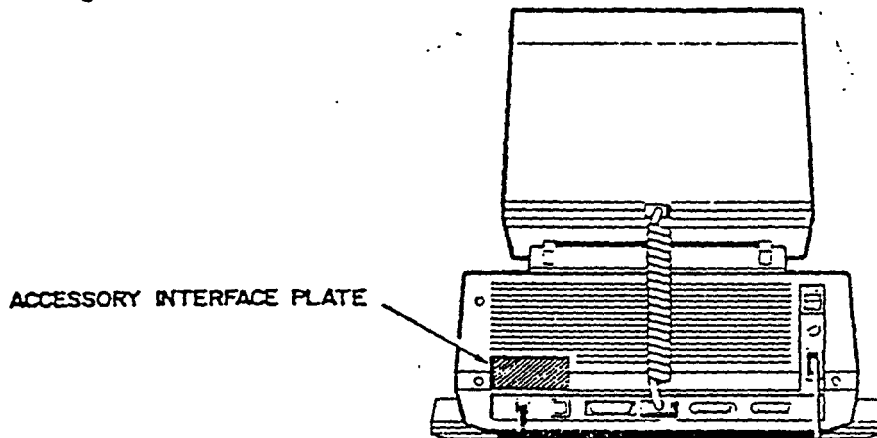
The network hardware procedure can be broken down into two areas:

- 1. Transporter Installation
- 2. Trunk Cable Installation

TRANSPORTER INSTALLATION

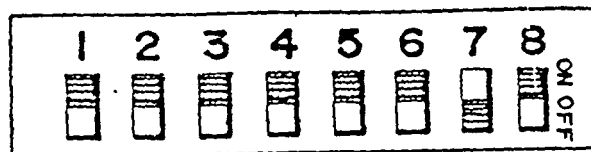
Step 1. Remove back panel from V9000/S1 by removing the four back screws.

Step 2. Remove the accessory interface plate and install the network interface plate #104168-01 (see diagram).

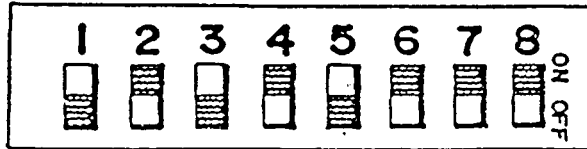


Step 3. Remove top cover by sliding cover back.

Step 4. Set transporter board DIP switch 1A (sw.# 1-6) to the ON position (Address Space E810H). Set interrupt level on SW. 7 or 8, level 4 (non hard disk) 8 ON, 7 OFF; level 5 (hard disk) 8 OFF ,7 ON.



Step 5. Set transporter station address 0-9 Servers, 10-63 stations. (SW.#1=LSB,SW.#6=MSB)



Example: switch setting for node 21

Step 6. Install interface wire from accessory interface plate to connector J4 (upper right side of board)

Step 7. Install transporter board in V9000/S1 expansion slot. (* component side facing away from disk assembly*)

Step 8. Replace top cover and rear bezel (* be sure to plug reset switch cable into CPU board connector J11, if applicable *)

TRUNK CABLE INSTALLATION

The trunk cable is a braid shielded twisted pair cable, (Columbia #C1642-21-10 or Belden # ST9272). The trunk cable is terminated at each end by 100 ohm resistors inside the two end junction boxes. The distance between junction boxes should not exceed 1000 feet.

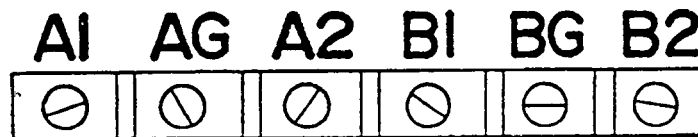
Step 1. Place all work stations and servers in their assigned locations.

Step 2. Lay the trunk cable so that it passes within 5 feet of each server or station. (see service loop diagram)

Step 3. Install the junction boxes for each station and server (see junction box installation).

JUNCTION BOX INSTALLATION

Open the junction box by prying off the lid with a screwdriver. Inside the box is a terminal block (T1) and connector (J1) along with some passive components (see diagram below).



Terminal Strip Description

A1-INCOMING TRUNK CONDUCTOR HOOKUP

A2-INCOMING TRUNK CONDUCTOR HOOKUP

AG-INCOMING TRUNK SHIELD HOOKUP

B1-OUTGOING TRUNK CONDUCTOR HOOKUP OR TERMINATOR

B2-OUTGOING TRUNK CONDUCTOR HOOKUP OR TERMINATOR

BG-OUTGOING TRUNK SHIELD HOOKUP

SOFTWARE INSTALLATION OVERVIEW

Before any Server Network Installation is attempted the Victor FE MUST carefully read the Server Network Users Guide.

1. The FE must make copies of the Master Server Software Diskette (1 for each Server + 1 extra).
2. The server system hard disk must be configured using the NETSETUP.EXE program. ** When diskless workstations become available their boot programs must be stored on the servers hard disk **
3. The FE must create a network station diskette for each workstation by using the MAKESTN.bat program. The distribution of the INSTALL program should be controlled by the systems operator to control the installation/deletion of system users.
4. Each workstation must be installed on the network system by running the INSTALL program on each workstation.
5. The users on the system that have been installed can be checked by using the NETUSERS program which will display all users installed on the system.

VICTOR

FIELD ENGINEERING

NETWORK INSTALLATION WORKSHEET

CUSTOMER NAME

TYPE OF TRUNK INSTALLATION

INSTALLER NAME

NO. OF PRINTERS

NO. OF SERVERS

APPROX. CABLE LENGTH

NO. OF STATIONS

ATTACH FLOOR PLAN SHOWING STATION LOCATIONS, SERVER LOCATIONS, AND TRUNK CABLE TOPOLOGY OR USE THIS SPACE TO DIAGRAM NETWORK TOPOLOGY

VICTOR

COMPUTER SYSTEMS
TECHNICAL BULLETIN

DATE: September 16, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
BRANCH ACTION CLASS	

581-228-SB36

SUBJECT: FLOPPY DISK HEAD CLEANING KIT

A Floppy Head Cleaning Kit is currently available through Victor. The part number for ordering is T-000586.

It is recommended that floppy drive heads be cleaned every other month, to remove any film or deposits that may have accumulated through use.

In environments of heavy cigarette smoke, or other contaminants or when drives are subjected to heavy and frequent use, head cleaning should be performed monthly.

Best results will be achieved when the head cleaning is performed in accordance with instructions contained in the head cleaning kit.

VICTOR**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: NOV 17, 1983
 MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

581-228-SB37

SUBJECT: NON-APPROVED COMPUTER CABLES

The use of non-approved cables supplied by outside vendors for the Victor computer is prohibited. Cables which are supplied by outside vendors to be used on the Victor computer must meet FCC, UL, and CSA safety and RF requirements. The purpose of this restriction is for the reasons listed below.

- 1- To prevent electrical shock and fire hazards.
- 2- To reduce the possibility of electrostatic discharge.
- 3- To meet the US Government requirement for electromagnetic radiation.
- 4- To maintain the performance of the computer, i.e. maintain the proper voltage drop, maintain the proper impedance matching, etc.

The use of non-approved cables may result in poor performance of the computer. They may also be hazardous to the user and illegal under federal laws.

VICTOR®

F I E L D E N G I N E E R I N G T E C H N I C A L

Bulletin

SERIES 923X
DESKTOP BUSINESS COMPUTERS

581-228-SP41
JANUARY 18, 1984

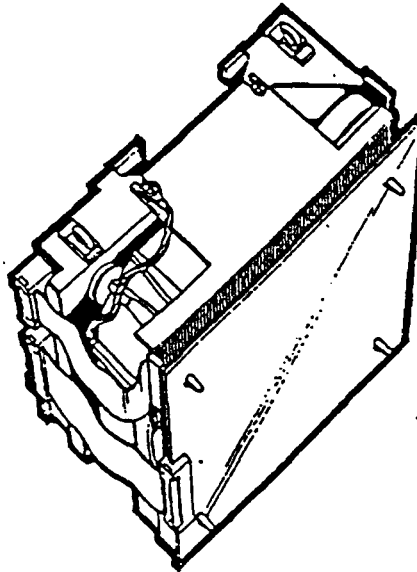
ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
ε	@

SUBJECT: MINISCRIBE MODEL 3012 HARD DISK FIELD INSTALLATION

Recently approved for use in the V9000/S1 the Miniscribe "Half-Height" 10MB Winchester Drive (Part Number X-104172-01) requires a different mounting bracket from the type used with Tandon and Seagate Winchester Drives. All cables are interchangeable between drives with only a slight difference in routing and connection.

When replacing a Tandon or Seagate Hard Disk with a Miniscribe, the following procedure would apply:

Remove the Winchester Drive / Xebec Board Assembly from the Disk Chassis Assembly (Figure 1). Retain the bracket mounting screws so they may be used to install the Miniscribe Winchester Drive Assembly.



Winchester Drive / Xebec Board Assembly
Figure 1

FILE IN TECHNICAL BULLETIN SECTION OF TECHNICAL MANUAL

2. Disconnect the Power Cables (Black and White), Ground Strap, and the ST506 Interface Cables. Retain these for use on the Miniscribe Assembly.
3. Remove the Xebec S1410 Controller Board from the mounting bracket. The four plastic Standoffs are not adaptable for use with the Miniscribe Bracket.

NOTE

At this point the following list of items should be available for installation of the Miniscribe Hard Disk:

ITEMS SALVAGED FROM OLD DRIVE

<u>Description</u>	<u>Qty.</u>	<u>Part Number</u>
Status/Control Cable	1 ea.	E-101862-01
Disk Radial Data Cable	1 ea.	E-101863-01
Xebec Controller board	1 ea.	X-101787-01
DMA Cable	1 ea.	E-101864-01
Ground Strap	1 ea.	E-101992-01
Power Cable (Black & White)	1 ea.	E-101865-01

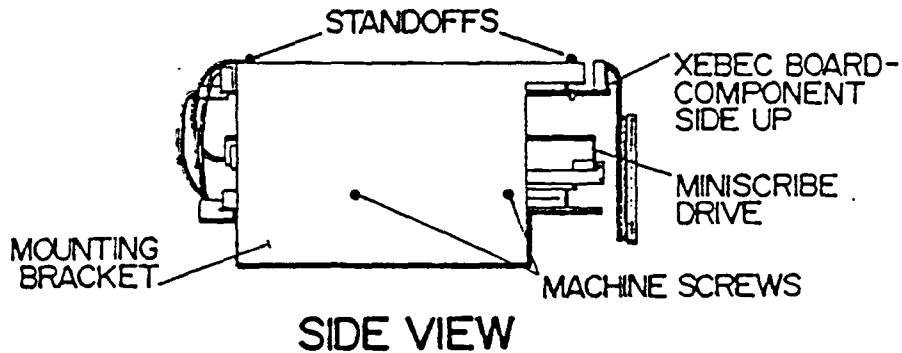
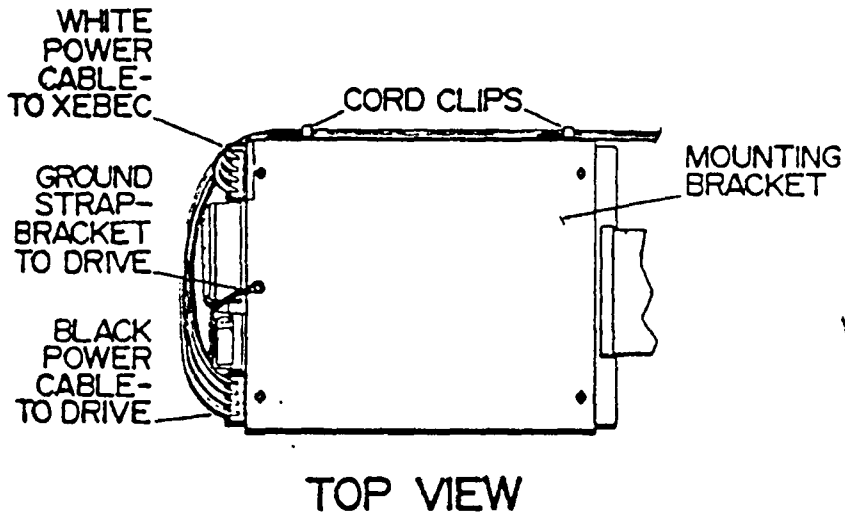
ITEMS SUPPLIED WITH MINISCRIBE HARD DISK

<u>Description</u>	<u>Qty.</u>	<u>Part Number</u>
Miniscribe Mounting Bracket	1 ea.	E-103966-01
Machine Screws, 6-32X	4 ea.	E-100677-01
Sems Screw, 6-20X	1 ea.	E-100668-01
Cable Tie Mount (adhesive backed)	2 ea.	E-102058-01
Cable Tie (self-lock)	2 ea.	E-100517-01
Standoff, 7/8" Plastic	4 ea.	E-101012-01

4. Using the four plastic standoffs and four machine screws, mount the Miniscribe Drive and Xebec Board in the bracket as shown in Figure 2.

*** CAUTION ***

It is important that the longer (7/8") standoffs, supplied with the Miniscribe, be used to mount the Xebec Board.

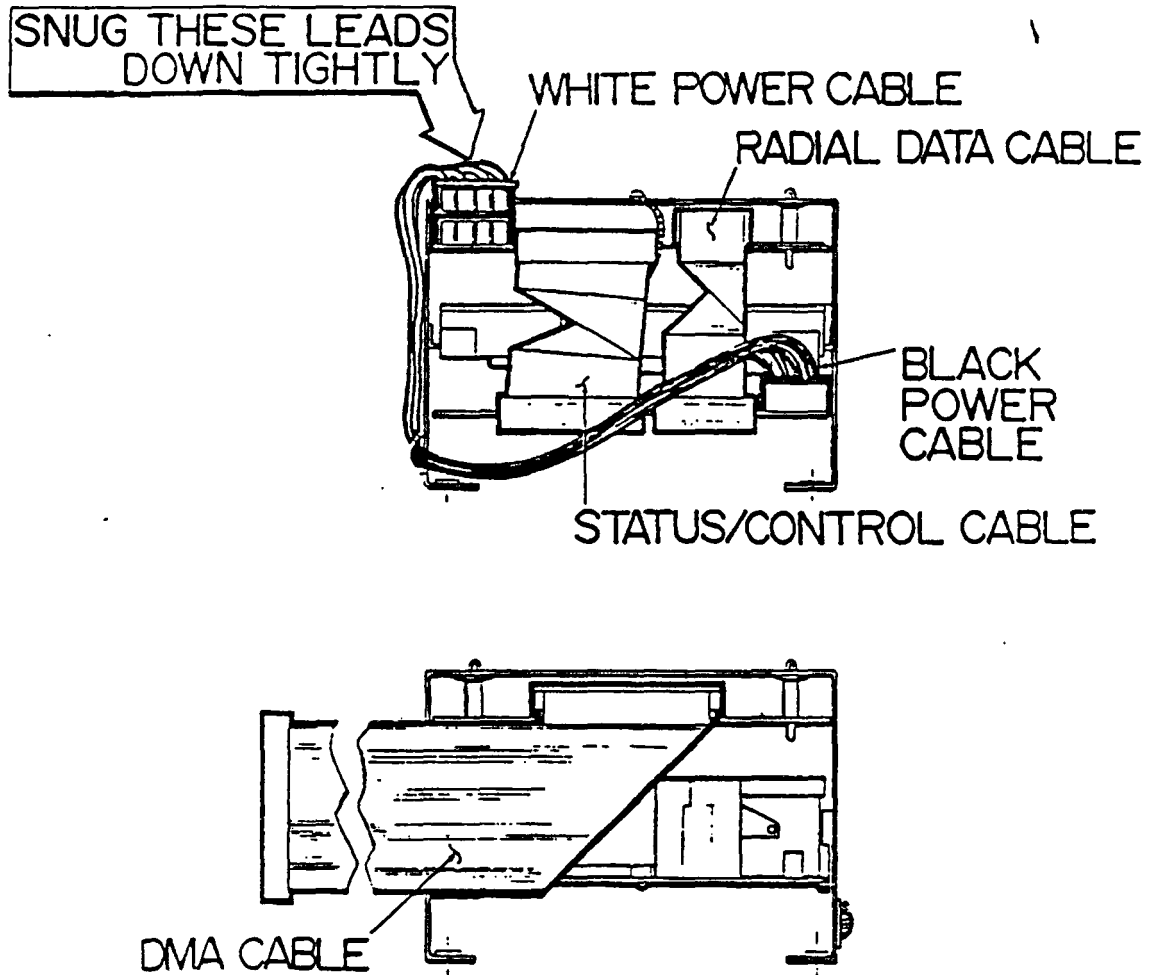


Miniscribe Assembly
Figure 2

5. Connect the Ground Strap to the fast-on connector of the Miniscribe and using the Sem Screw attach the strap to the mounting bracket. (See Figure 2)
6. Connect and route the power cable (black to drive and white to Xebec Board) as shown in Figure 2. Connection and routing of the white power cable to the Xebec board requires special attention; Assure that the four wires from the connector (once connected to the Xebec Board) are routed tightly along it's side so that the wires protrude as little as possible above the connector. This prevents possible abrasion of the cable when the assembly is mounted in the Disk Chassis. Attach the two cable tie mounts along the lower edge of the bracket for proper routing of the power cables. The cables must be securely tie wrapped to these mounts.
7. Connect the Status/Control Cable and Radial Data Cable to the

Xebec Board. Before connecting these cables to the drive; carefully twist and fold the cables one turn for proper electrical connection. (Refer to Figure 3)

8. Connect the DMA Cable to the Xebec Board and make the fold as shown in Figure 3. The DMA cable mount should not be used.



END VIEWS

Miniscribe Assembly Cables
Figure 3

9. The Miniscribe / Xebec Board Assembly may now be installed in the Disk Chassis Assembly for use in the system.

VICTOR COMPUTER SYSTEMS

TECHNICAL BULLETIN

MODEL 9XXX

DESK TOP COMPUTER

ACTION CLASS:
ADVISORY

SEPTEMBER 26, 1984

581-228-SB38

SUBJECT: CHANGE TO ONE SHOT B CIRCUIT ON FLOPPY CONTROLLER BOARDS
P/N E-100670-0X

REASON FOR CHANGE:

A number of floppy disk read errors have been traced to the One Shot B circuit, which provides the input to the PLL. The output of one shot B, (pin 13 of I.C. 6P) is set by the RC circuit connected to pins 14 and 15. This RC circuit has been changed to insure that the pulse width of the output of 6P is correct.

ACTION:

Check the output of 6P pin 13 with an oscilloscope. This check should be done during a floppy disk read operation, using a freshly formatted diskette. Ideally, perform this check while running DRVST.EXE in a read test only mode. The pulse width of this output should be between 1025 and 1125 nanoseconds (optimum 1075).

If the output is not within the above specification then modify the RC circuit as follows:

1. Change resistor R24 to 22K, (P/N E-100203-34).
2. Change resistor R82 to a 200K pot, (P/N E-105468-03).

Again, check the output from pin 13 as before. Adjust the 200K pot to set the output to within the specified pulse width. Seal the pot with glypt after completing the adjustment.

Prepared by M. Bolin



VICTOR COMPUTER SYSTEMS

TECHNICAL BULLETIN

MODEL 9XXX

DESK TOP COMPUTER

ACTION CLASS:
ADVISORY

SEPTEMBER 26, 1984

581-228-SB39

SUBJECT: FLOPPY DISK DRIVE ERROR CRITERIA

The criteria for determining acceptability of the floppy disk drives used in the Victor 9000 or S1 computer has been established. The acceptable rate of soft errors for floppy drives in the field is 1 bit in 1,000,000 bits.

Suspect disk drives are to be tested by running DRVTST.EXE (or the CPM version, DRVTST.COM) and noting the amount of soft errors per side per pass.

The acceptable limits for soft errors during a pass are:

SS Floppy Drives - 10 Soft Errors per pass

DS Floppy Drives - 20 Soft Errors per pass

Prior to testing drives should be stored at room temperature (70° F) for 24 hours, to allow the drive's temperature to stabilize.

In the field environment, the drive should be operated within an ambient temperature of between 60° and 112° F. Relative humidity of between 20% and 80%.

Prepared by M. Bolin

FILE IN TECHNICAL BULLETIN SECTION OF TECHNICAL MANUAL

VICTOR COMPUTER SYSTEMS

TECHNICAL BULLETIN

MODEL 912X

DESK TOP COMPUTER

**ACTION CLASS:
REQUIRED**

OCTOBER 1, 1984

581-228-SB40

SUBJECT: ELIMINATION OF GROUND CURRENT LOOP ON 128K CPU BOARDS

REASON FOR CHANGE:

During execution of a floppy disk operation, systems which utilize the 128K CPU boards are more prone to exhibit errors than are the systems which utilize 256K CPU boards. This problem has been traced to the lack of a connection between chassis ground and analog ground on the 128K CPU. This problem is aggravated by the fact that chassis ground and analog ground are tied together on the floppy disk controller board. Thus when the 128K CPU is connected to the floppy controller, a ground current loop condition exists.

ACTION:

All 128K CPU boards, (P/N E-100470-0X) which come in for repair are to be modified to correct this problem. Remove the CPU board from the mainframe. Locate the wide trace on the component side of the board that is immediately in front of the parallel connector. Scratch the lamination off of a small area of this trace and solder a 1" (25.4 mm) length of #24AWG insulated wire to the trace. Attach the other end of the wire to the negative lead of capacitor C135. Verify the connection by testing for continuity between the GND test pad (on the right edge of the board) and the PCB Stiffener.

Note: Never operate the CPU with the Stiffener removed as this will create a similar ground current loop condition.

Prepared by M. Bolin

FILE IN TECHNICAL BULLETIN SECTION OF TECHNICAL MANUAL

VICTOR®

F I E L D E N G I N E E R I N G T E C H N I C A L

Bulletin

SERIES 9XXX
DESKTOP BUSINESS COMPUTERS

581-228-SB42
FEBRUARY 12, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
C	M

SUBJECT: USE OF 384K EXPANSION RAM BOARDS WITH 256K CPU BOARDS

A new 384K XRAM (expansion RAM) board, P/N 101070-02, has been developed for use with mainframes which contain a 256K CPU board. The original 384K XRAM board, P/N 101070-01, may be modified to using the procedure outlined below.

Memory selection jumper styles were revised after initial production for ease of installation. New style boards have a jumper plug. Old style boards which have 2 soldered jumpers. Normal starting addresses for the 384K board are 2000:0 for lower strapping and 8000:0 for upper strapping. This modification changes the starting address to 4000:0. All modified boards must be strapped lower.

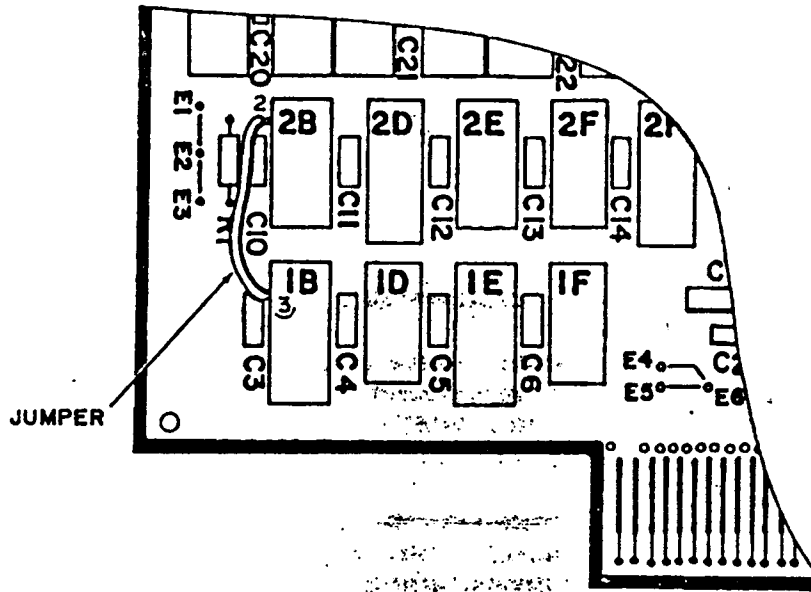
OLD STYLE BOARD: (Refer to figures 1 and 2.)

1. Install a jumper from E2 to E3 and one from E4 to E6, if not already installed.
2. Cut pin 1 of IC 1D, 74LS11, as close to the board as possible. Bend pin 1 up away from its solder pad. Solder a jumper from pin 1 of IC 1D to pin 3 of IC 1D.
3. Cut pin 2 of IC 2B, 74LS86, as close to the board as possible. Bend pin 2 up away from its solder pad. Solder a jumper from pin 2 of IC 2B to pin 3 of IC 1B, 74LS138.

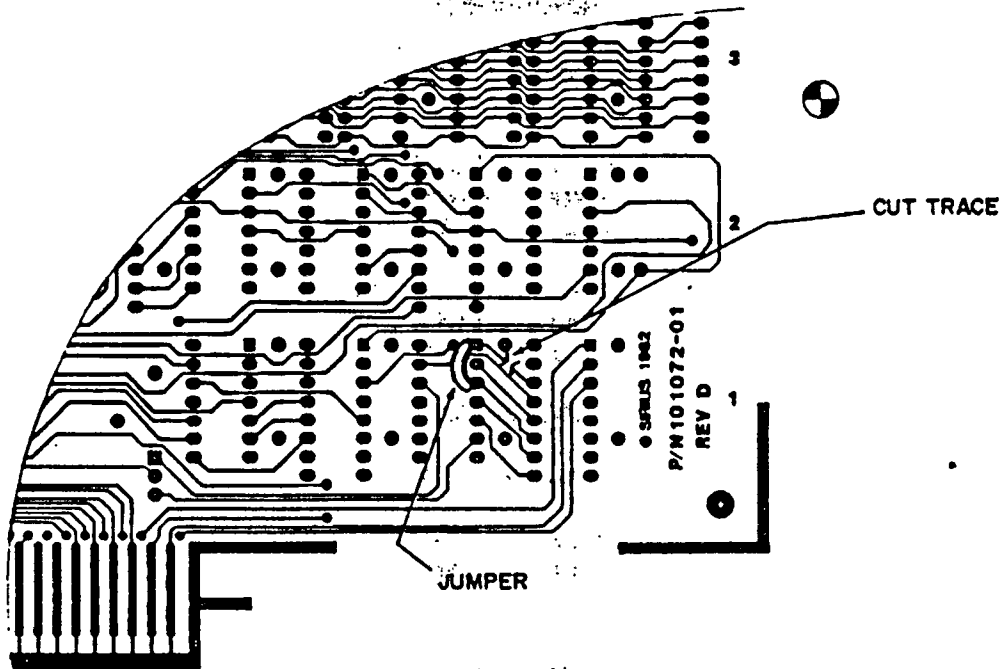
NEW STYLE BOARD: (Refer to figures 3 and 4.)

1. Install the jumper plug JL in the "LOWER" position.
2. Cut pin 1 of IC 1D, 74LS11, as close to the board as possible. Bend pin 1 up away from its solder pad. Solder a jumper from pin 1 of IC 1D to pin 3 of IC 1D.
3. Cut pin 4 of IC 2B, 74LS86, as close to the board as possible. Bend pin 4 up away from its solder pad. Solder a jumper from pin 4 of IC 2B to GND at the bottom lead of capacitor C10.

Old Style Board



Component Side



Solder Side

Figure 1

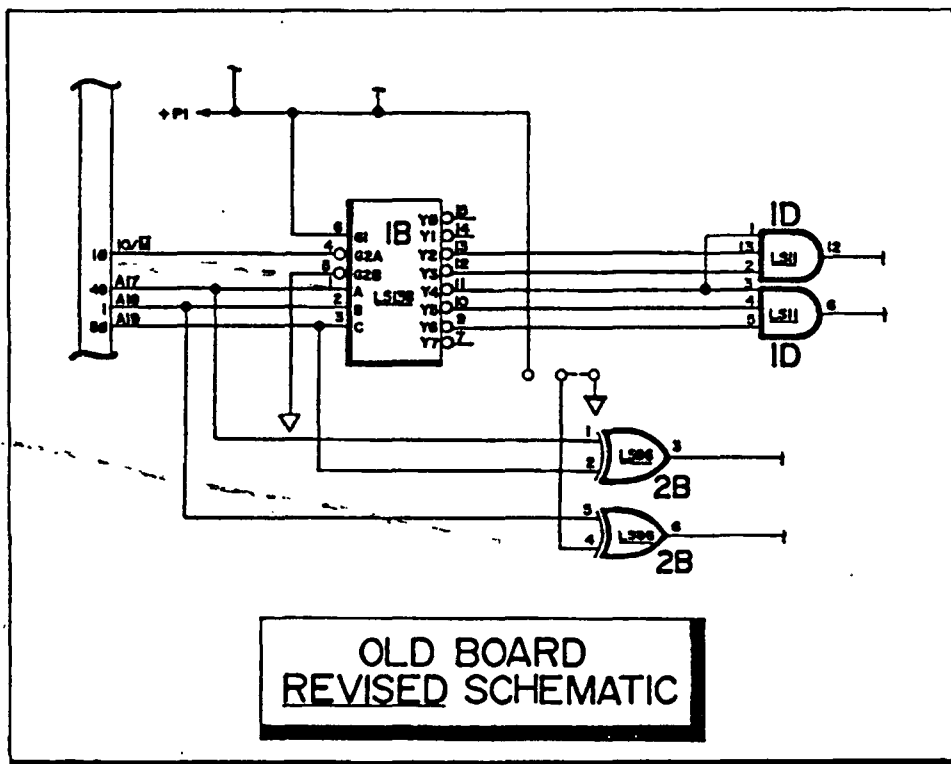
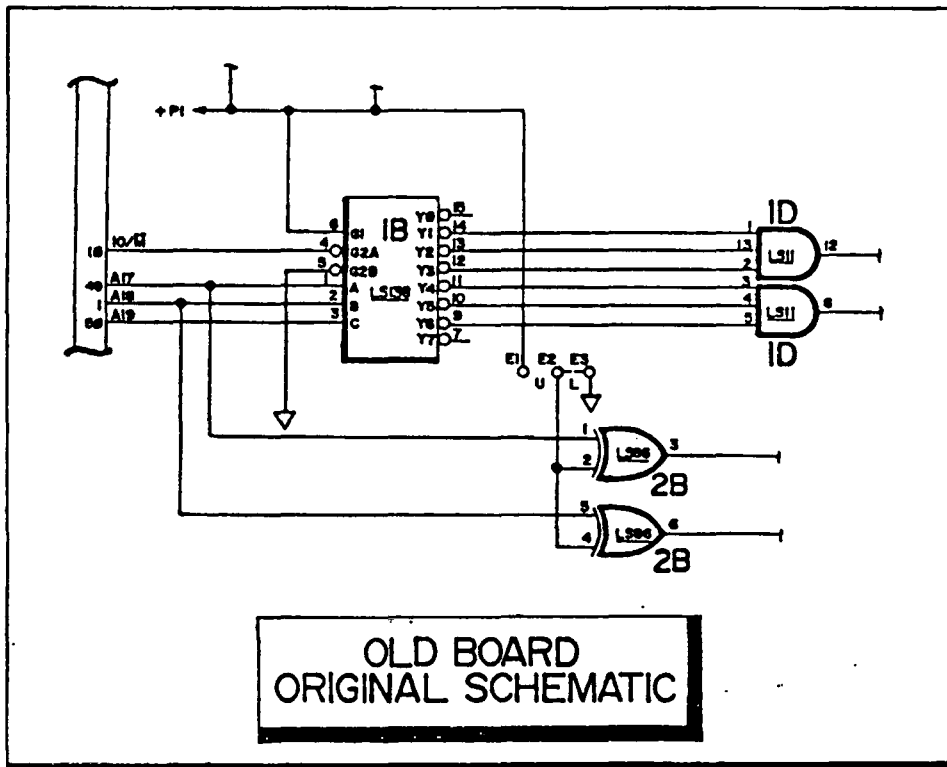
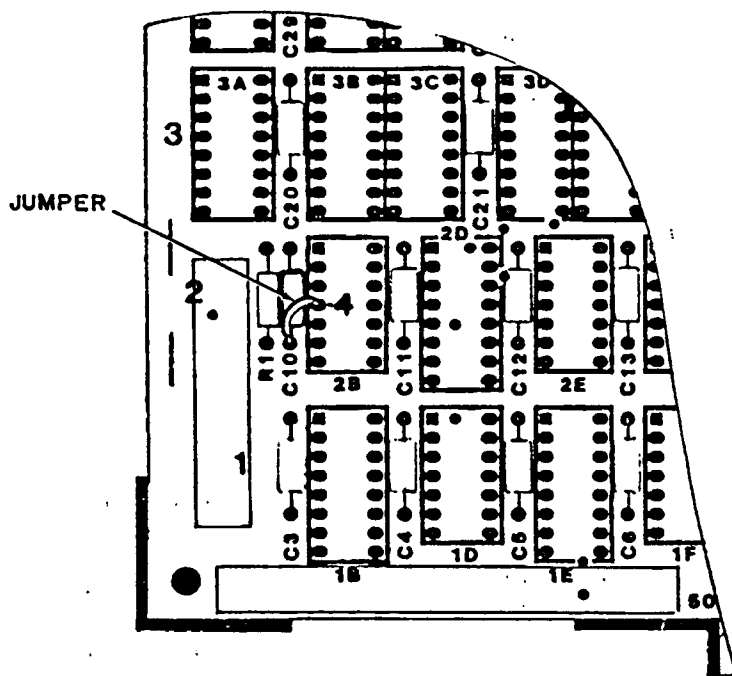
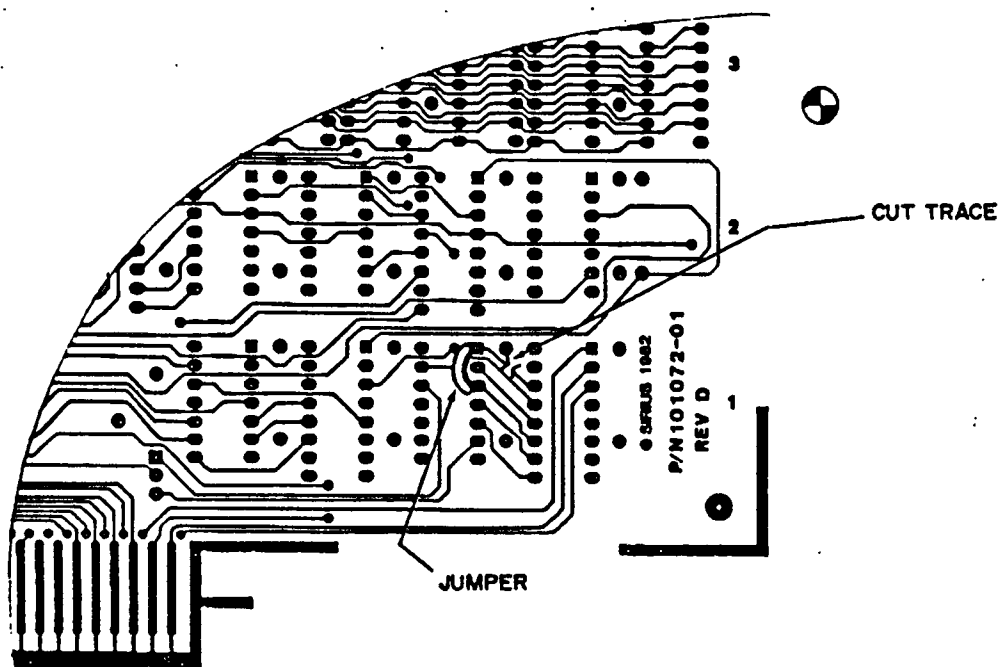


Figure 2

New Style Board

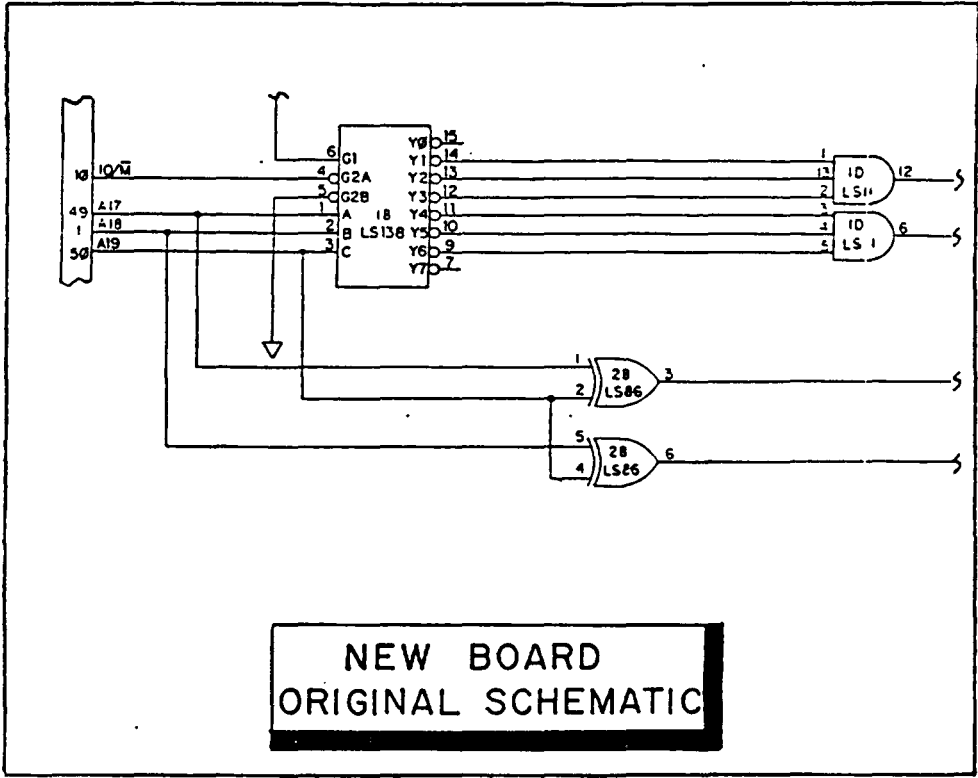


Component Side

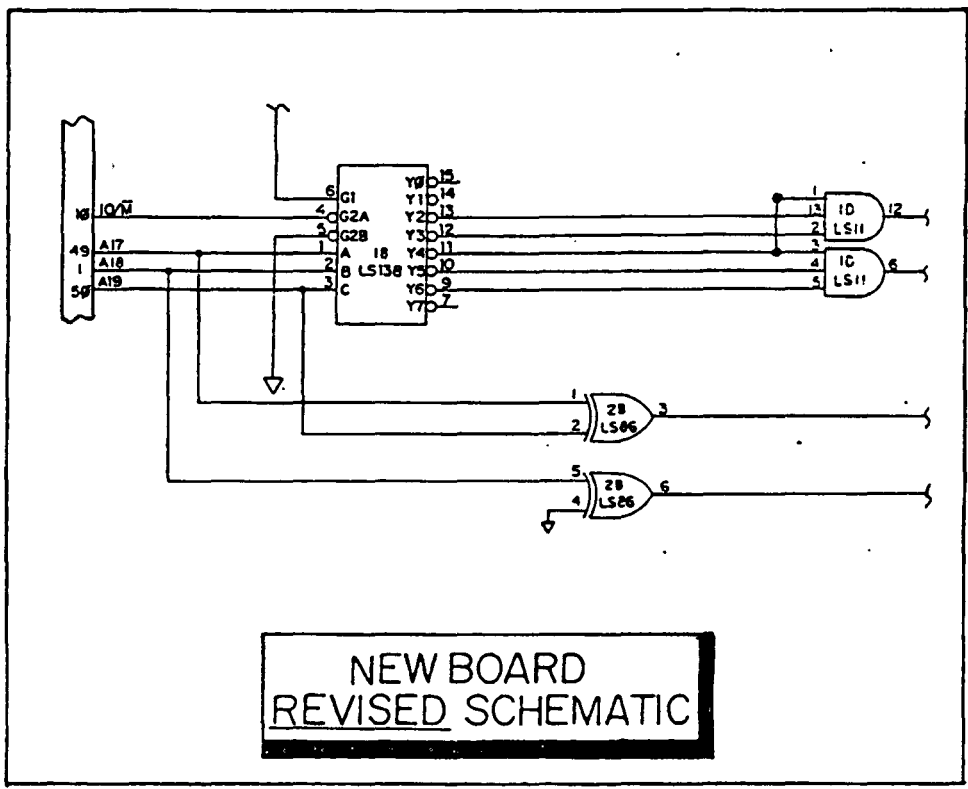


Solder Side

Figure 3



NEW BOARD ORIGINAL SCHEMATIC



NEW BOARD REVISED SCHEMATIC