

VICTOR[®]

The Victor 9000

*The
Clear
Alternative*

**distributor:
Datamark Ltd.
9841 Broken Land Parkway
Suite 114
Columbia, Md. 21045-5058
301-964-0050**

Datamark, Ltd.

computer systems development _____

Datamark Dealer Guide

The guide has been designed to facilitate a simple update procedure. Any revisions will be mailed to you as soon as possible with accompanying instructions for insertion.

Contents of this guide include:

Victor Glossies - A complete set of glossies representing the hardware and software offered by Victor Technologies.

Targeted Management Systems - A set of glossies introducing the TMS software. As more modules are made available, additional glossies will be sent to you.

Victor Price Lists - A set of retail and dealer price lists are included for both hardware and software.

In addition, price lists for three spare part configurations have been included.

Field Service Bulletins - A complete set of all field service bulletins that have been issued is included.

Depot Repair Rates - Dealers may ship items directly to the Victor Atlanta Repair Depot for non-warranty repairs. This rate schedule should assist you.

Also included are recommended yearly maintenance fees for various components. These fees are to be used as a guideline and, of course, dealers must set their own fees. Datamark will not issue these fees to any end user.

Payment and Shipping Terms - To insure clear communication with regard to our policies, all terms and conditions have been defined.

Warranty - Both dealer and end-user warranties are defined.

DISCOVERY Disks - Product and price information for a line of Victor compatible external hard disks is provided.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB18
APRIL 1, 1986

EXPIRES: JULY 15, 1986

SUBJECT: VI PRODUCT UPGRADE KITS

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
	SEE NOTE

Four new VI upgrade kits have been released to allow easy field upgrade of VI mainframes. There are two kits for hard disk mainframes, one for 256K mainframes and one for 512K mainframes. Each kit includes the Hard Disk Controller PC Board and the CPU PC Board. Likewise there are two kits for dual floppy mainframes; Each kit includes the Floppy Disk Controller PC Board and the CPU PC Board. The boards within each kit have been fully updated, including the new version .012 BOOT+RIOS Eproms. The new version 3.04 Operating System diskette is also included in the kit.

Upgrade of a VI mainframe by simply installing new ROMS into a mainframe which does not have fully upgraded PC boards is not recommended. Victor will not be held responsible for the performance of a non-upgraded mainframe utilizing version .012 ROMS or the version 3.04 operating system.

Victor Dealers within the United States can obtain upgrade kits by contacting their Regional Repair Depot. An update kit will be provided on an exchange basis; in a manner much like a normal warranty repair.

Dealers wanting an upgrade kit should return the complete, VI mainframe, in good working order, along with the serialized VICTOR® OS diskette, to their Regional Depot. Dealers may also elect to send in only the old CPU and Disk Controller PC Boards, along with the serialized VICTOR® OS diskette, provided that the returned boards are properly packaged in suitable anti-static protection, have not been altered or modified by the dealer or the end user, and are in good working order when received at the Depot.

When the mainframe and diskette (or the old boards and diskette) are received at the Repair Depot, the Depot will expedite the installation of the update kit, and return the updated mainframe or board set, and the diskette within 24 hours.

After July 15, 1986 the exchange program will terminate and kits

will be sold at the scheduled dealer price. Down revision VI main-frames and PCB assemblies which are sent into the Depot after July 15th will be updated at scheduled dealer board exchange/repair price.

Part numbers for the kits are as follows:

	<u>DLR.PRICE</u>	<u>XCHNG.PRICE</u>
P/N 107686-01 PRODUCT UPGRADE KIT, 256K HARD DISK, VI	\$1183.18	\$375.00
P/N 107687-01 PRODUCT UPGRADE KIT, 512K HARD DISK, VI	\$1453.33	\$375.00
P/N 107688-01 PRODUCT UPGRADE KIT, 256K DUAL FLOPPY, VI	\$993.68	\$365.00
P/N 107689-01 PRODUCT UPGRADE KIT, 512K DUAL FLOPPY, VI	\$1263.83	\$365.00

NOTES

1. The following versions of the VI Operating System are all down level and should not be utilized: V 3.00, V 3.01, V 3.02, and V 3.03.
2. Current FCO levels for the VI PC boards are as follows:
 - VI FLOPPY CONTROLLER, P/N 106740-01.....FCO LEVEL D
 - VI HARD DISK CONTROLLER, P/N 106750-01.....FCO LEVEL E
 - VI 256K CPU BOARD, P/N 106520-01.....FCO LEVEL E
 - VI 512K CPU BOARD, P/N 106520-02.....FCO LEVEL E
3. The upgrade kit provides the following product enhancements:
 - A. An update of the FDISK and FDSETUP utilities handle more than one fixed disk drive, and fixed disk drives with capacities greater than 32 Mb.
 - B. An update to the video stretch circuitry fixes I mode video "snow".
 - C. An update to the video display circuitry to insure correct CPU instruction prefetch during echo cycles and to provide secret characters in I mode.
 - D. Correction to audio circuitry to prevent speaker noise when the power is first turned on.
 - E. Reduction of hard and soft errors when accessing the floppy disk drive(s).

- F. Circuit update to allow installation of VI 8087 option board.
- G. Correction of head select problem when a read sectors from head 0 operation is followed sequentially by a read sectors from head 1 operation on I format diskettes.
- H. Enabled installation and utilization of popular software packages which utilized the SOFTGUARD SUPERLOK copy protection scheme.
- I. A new translator enhances the keyboard operation in the I mode.



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 90XX
DESKTOP BUSINESS COMPUTERS

581-228-SB56
APRIL 1, 1986

EXPIRES: JUNE 30, 1986

SUBJECT: ROM UPGRADE KIT FOR THE +PC

An upgrade kit for the +PC has been released. This kit includes the updated Version .025 BOOT+RIOS Eproms for the +PC DMA PC Board, and the new Operating System, Version 3.04.

This kit is available within the U.S.A. through Victor Regional Repair Depots. An update kit will be provided on an exchange basis; dealers wanting an upgrade kit should send in the old version .020 BOOT+RIOS Eproms, along with the serialized VICTOR® OS Diskette, to their Regional Depot. When this material is received at the Repair Depot, it will be handled in the same manner as a warranty repair: The Depot will send out the upgrade kit at no charge, within a 24 hour period.

Dealers, distributors, and end users outside of the U.S.A. can obtain the kit through Field Engineering Spare Parts Distribution, Scotts Valley, California, 95066-4269, U.S.A. (TWX 910-598-4511, FAX 408-438-6262).

After June 30, 1986 the upgrade kit will be sold at its scheduled EXCHANGE price, shown below.

The part number for the kit is:

P/N 107744-01 ROM UPGRADE KIT, +PC.....\$27.50

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
C	C

NOTES

1. The following versions of the +PC Operating System are all down level and should not be utilized:

V 3.00, V 3.01, V 3.02, and V 3.03

2. The new Eproms are installed into the +PC DMA Board. This is the board which occupies an expansion slot. It is recommended that you replace only one Eprom at a time to avoid misplacement of the two Eproms.

VERSION .025, +PC ROM ASSY, ROM 0 LOCATION: IC U5C

VERSION .025, +PC ROM ASSY, ROM 1 LOCATION: IC U4C

3. The upgrade kit provides the following product enhancements:
 - A. Correction to the Mode utility for correct serial port operation.
 - B. Provides a batch file which automatically sets up a fixed disk drive.
 - C. Increases the system's allocated space for the stack. Previously the stack area was not adequate for all jobs and the stack would overflow, causing system lockup.
 - D. Corrects various sound problems such as no bell in Victor mode and noise in I mode.
 - E. Corrects the NUM LOCK function. NUM LOCK now only toggles the 10 keypad key functions. The cursor keys will now function correctly either with the NUM LOCK on or off.
 - F. If an attempt was made by the operator to change the default drive to a drive which is not ready, the system would make a DOS call to get the directory name, causing an error which could not be corrected unless the drive could be forced into a ready state. The DOS call for the directory name has been delayed until invoked by a command from the operator (such as DIR).
 - G. Corrects an error which would occur when re-direction was attempted while invoking COMMAND.COM. This facilitates nesting of batch files.



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-SB55
JANUARY 13, 1986

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
B	C

SUBJECT: NEW BOOT+RIOS PROMS; +PC DMA PCBA P/N 106250-01

BOOT+RIOS PROMS, version .25 have now been released. These new boot proms have been updated so that they are compatable with a wider spectrum of industry standard software.

- +PC ROM ASSY, ROM 0 P/N 107520-01 U5C
- +PC ROM ASSY, ROM 1 P/N 107521-01 U4C

The above roms are installed into the +PC DMA PCBA. This changes the DMA from Field Change Level B to Level C.

The operating system which must be used with these new proms has been updated. The new released O/S is MSDOS/VICTOR-VU FOR +PC, VER. 2.11K, BIOS 3.04.

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Computers. Calculators.
Cash registers. All quality
products you've come to
expect from Victor.
All very much available
from Victor dealers.
Everywhere.

And Victor
dealers help
keep your
systems produc-
tive, too. With an
expanding software
library. Expert service.
And user assistance
that's ready when
you need it.

In turn, our dealers
are supported by
nationwide
Victor sales offices
and a central service organization.
All to help you get the most from your Victor systems.

So talk to your nearest Victor dealer today. Check out the Victor 9000
Computer. Victor calculators. Victor ECR's. You'll see why Victor figures
into every business. Especially yours.

Victor. More than you'd figure.



VICTOR®

380 El Pueblo Road, Scotts Valley, California 95066

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As advertised in *The Wall Street Journal*



Targeted Management Systems





Targeted Management Systems

*A Family of Products
on the leading edge
of software technology . . .*

Concept . . .

Targeted Management Systems (TMS) is a new concept in business management software—a library of packages tailored specifically to solve the problems unique to each business or profession. These powerful applications can streamline the operation of businesses, ranging from legal offices to banking and from agriculture to manufactured housing.

With **TMS**, **VICTOR** is dedicated to providing solutions for the modern business manager. Join us in this commitment.

VICTOR

Challenge . . .

The Problem

In their attempts to address individual business areas, a large number of developers have provided dealers and other software suppliers with many different approaches for business management, each with its own mode of operation and new rules to learn. Dealers have

found that the amount of time required to learn, tailor, and install packages is prohibitive. Consequently, general solutions for business managers are typically offered. But you need more than a general application package to run your uniquely structured business.



The Solution

VICTOR meets the challenge with **TMS**, a family of products with easily readable manuals and concise accurate code. No longer do you have to worry about understanding the software and documentation of a General Business system which is designed to handle the collective needs of all businesses.

A **TMS** manual describes your business in your terms and a **Targeted Management System** solves your problems.



Development . . .

Targeted Management Systems (TMS) are created within the framework of a consistent business application philosophy by using a sophisticated Generator—**Zipcode™**.

Zipcode is the heart of all TMS development. **Zipcode** has been designed to combine a basic architectural framework with the unique processing requirements of a particular business application. Because of this, **Zipcode** minimizes system design time and generates the structure of the program for its intended **Targeted Management System**. Updates or new requirements can be easily accommodated without affecting the basic process. Business applications can be written in hours and days rather than

the weeks, months, and years required with conventional programming techniques.

The automatic creation of a User's Guide is a unique and useful feature of **Zipcode**. Not only does **Zipcode** generate the programs necessary for a given application, but it also writes the user instructions necessary to operate these programs.

To you, **Zipcode** means that the manual truly reflects the software with which it is intended to operate. And the software itself is well structured, easy to use, and less prone to bugs than with more traditional approaches to development.

Zipcode achieves the impossible.



Family . . .

The **TMS** Family of products is easy to master. Once you have learned one package you have learned them all!

Zipcode enables **TMS** to reach a level of consistency not previously achieved across such a wide spectrum of business applications. This consistency manifests itself in a number of important ways—ease of learning, simplicity of operation, and quality of documentation. It also affects the hidden areas within the program itself—file structures, user prompting, menus, and file maintenance. There are

no lengthy sorts needed; everything you need is right at your fingertips.

Because each **TMS** has been designed as a member of a family, the individual **TMS**'s can be used in conjunction with one another to perform further business-related functions. Thus your **TMS** can be extended with General Management functions such as **Appointments**, **Work in Process**, or comprehensive business accounting packages.

TMS provides you with a consistent family of products that can grow with you.

Targets . . .

Working in conjunction with Canned Knowledge Corporation, **VICTOR** has identified a number of targeted businesses that each have their own unique set of requirements. Professional business analysts and accountants have spent considerable time working with experienced people in these businesses to fully understand the nature of their problems and requirements.

A Targeted Management System is designed to streamline an entire business operation. Each one performs the tasks that a professional business manager must accomplish in the daily course of his or her business. These businesses range from the traditional ones such as **Medical, Dental, and Legal**, to the more neglected but equally important ones like **Video Tape Rental, Agriculture, and Hotel Management**.

VICTOR is committed to the development of a comprehensive library of business application software.



General Management Functions . . .



A powerful set of **General Management Functions** is also available. Part of the **TMS** family, you can use them either independently or in conjunction with other **TMS**'s to expand the scope of your business package. **General Ledger** can prepare your financials, and you can even handle your own **Payroll**. In a service organization, **Appointments** can enable you to schedule visits efficiently and effectively. In a manufacturing operation, **Bill of Materials**, **Work Orders**, and **Work in Process** can be easily handled.

For the general accounting solution, a comprehensive business system can be structured using **General Ledger**, **Accounts Receivable**, **Accounts Payable**, **Inventory Control**, and **Payroll**.

Your choice of **TMS** functions depends on both the nature of your business and your plans for expansion.

VICTOR has a **Targeted Management System** just for you.



Results . . .

A Targeted Management System increases the efficiency of your business. Time-consuming tasks performed by your employees will be significantly reduced and their individual productivity will correspondingly increase. Essential information is quickly stored and readily available. A **TMS** is easily learned and requires minimal conversion and training time. Reports that you need are easily and accurately produced.

TMS allows you to automate the way you operate. All **TMS** packages are designed with your business in mind. Business specific requirements are addressed while being flexible enough to conform to your individual needs. You don't have to change your business to accommodate **TMS**.

With a **Targeted Management System** your business is at your fingertips.





Future . . .

A TMS is flexible. It can expand with your business. As your needs grow you may add new functions to accommodate this growth. General Management functions can be added to upgrade your application. Additionally, some TMS packages can be used in tandem to complement one another. For example,

Hotel/Motel Manager can operate with **Restaurant and Bar Manager** to accommodate all aspects of the business.

With **VICTORLAN™**, you can move from a single computer to a network of interconnected machines sharing the same information, with each capable of generating the same reports or doing different tasks at the same time.

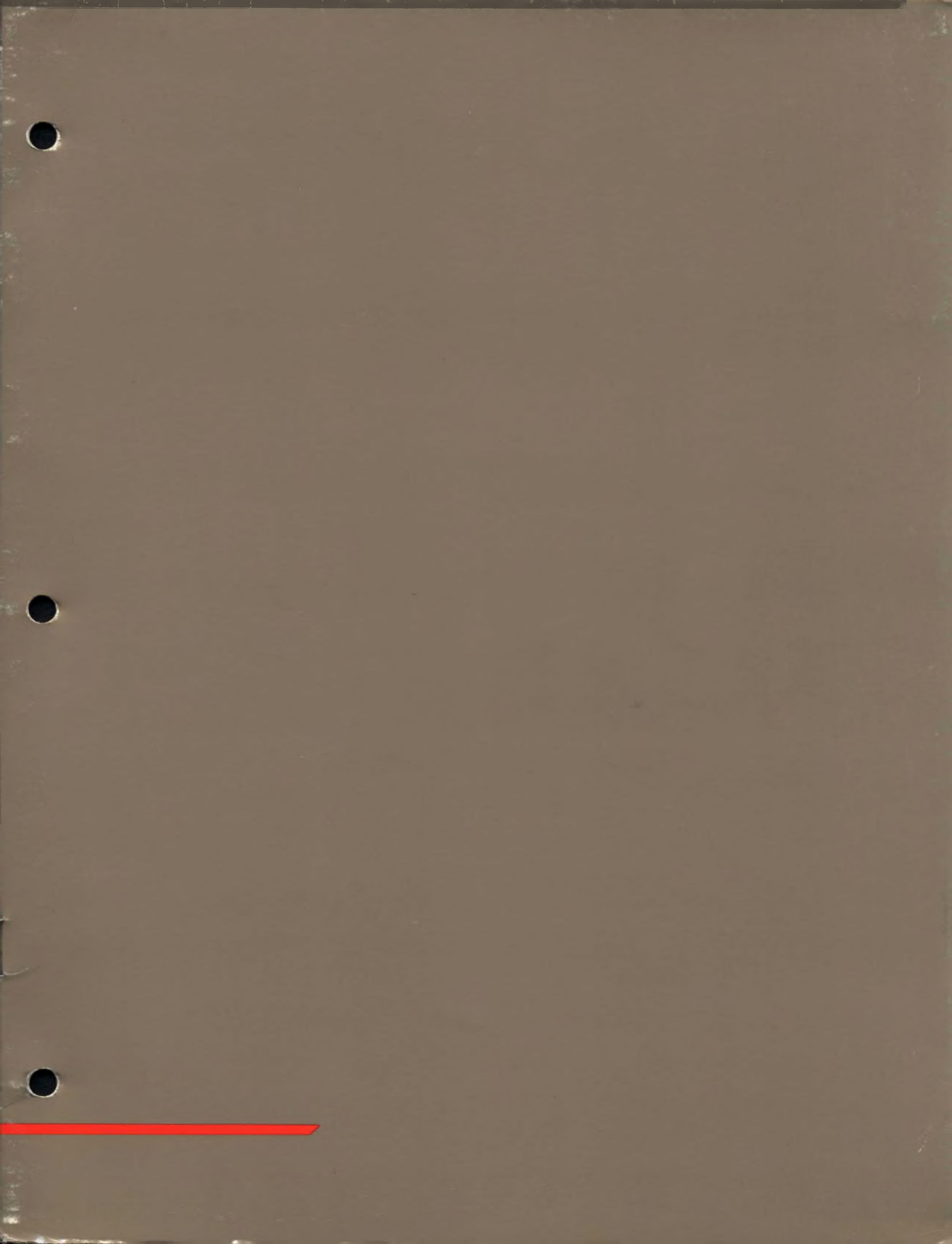
With the **TMS** family, your future is secure.

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VICTOR
Victor Technologies, Inc.
380 El Pueblo Road
Scotts Valley, CA 95066





VICTOR®



The **VICTOR 9000 Series** is a fully integrated, versatile, and powerful desktop workstation for business applications. The **9000** system combines the ease of use, size, and economy of a small personal computer with the power of a minicomputer. Designed with the user foremost in mind, the **VICTOR 9000** displays crisp, stable characters on a non-glare, flicker-free and adjustable 800×400 pixel, high-resolution screen. The **VICTOR** family of computer workstations features a low-profile, stand-alone keyboard created for operator comfort with sculptured typewriter, editing, numeric, and function keys.

The main system, based on the 16-bit Intel 8088 microprocessor, has 128K bytes of RAM (256K on double-sided and hard disk machines), expandable to 896K bytes. The following systems are available:

- ▶ **Model 9121 Computer**—two single-sided, 5¼-inch floppy disk drives storing more than 1.2 Mbytes of data, and with 128 KB of internal memory.
- ▶ **Model 9241 Computer**—two double-sided floppy drives providing 2.4 MB of local storage and 256 KB of internal memory.
- ▶ **Model 9231 Hard Disk**—provides the same features as the standard 9000, but with the increased performance of a built-in 10 MB Winchester drive, a 1.2 MB floppy disk drive, and 256 KB of internal memory.
- ▶ **Model 9261 File Server**—essentially a Model 9231 Hard Disk system without the display and keyboard but with Network capabilities.
- ▶ **Model 9201 Network Station**—basically a Model 9241 without floppy disk drives; contains 256 KB of internal memory and full Network capabilities.

Systems and Options

VICTOR 9000 Hardware Systems

- Floppy Disk Systems
- Hard Disk Systems
- Network Station
- File Server

Options

- Color Display Interface
- CP/M-80 System
- Numerical Data Processor (8087)
- Network Upgrade Package
- Experimenter Card
- Extender Card
- 3278 COAX Emulator 2 & 5
- Memory Expansions





Systems and Options



The **VICTOR 9000 Series** of computer workstations consist of a wide range of systems which offer varying degrees of storage space and internal memory. The **VICTOR 9000's** flexibility is unparalleled. With its four bus expansion slots, the **9000** can support such options as Local Area Network, Mass Memory, and the Color Board. The standard **VICTOR 9000** comes with 128K bytes of internal memory (256K on double-sided and hard disk machines), but its unique design allows for memory increase to 896K bytes.

The three-component packaging of the **VICTOR 9000** allows for positioning of the components for maximum efficiency and comfort. Sophisticated sound and voice capabilities are provided for audio communications. Multiple and flexible communication ports allow a variety of connections for the **VICTOR 9000** to other computers and peripheral devices. Advanced disk technology maximizes the disk storage capacity of the computer.

- ▶ **CPU**—a 5MHz INTEL 8088 with 16-bit internal architecture and 8-bit data bus interface, and direct addressing capability to 1 Mbyte. The 16-bit architecture includes a 14-register set with symmetrical operations; 24 operand addressing modes; byte, word, and block operations; and 8-bit and 16-bit signed and unsigned arithmetic.
- ▶ **MEMORY**—128K bytes standard (or 256K on double-sided and hard disk machines), of 333Ns cycle time 64K dynamic RAM's, expandable to 896K bytes using only two memory boards. Memory expansion boards in increments of 128K, 256K, and 384K bytes are available. There are 8K bytes of diagnostic and initial program load code in ROM and 4K bytes of screen RAM in the standard **VICTOR 9000**. The upper 128K bytes of the 8088's 1 Mbyte address space is reserved for I/O, static screen RAM, and boot ROM.
- ▶ **DISPLAY**—includes a non-glare mesh screen for improved contrast and flicker-free P39 (long persistence) phosphor. The display is physically separate from the main unit, tilts from 0-11 degrees, and swivels 42 degrees from right to left. Two formats are supported on the 800 x 400 pixel bit-mapped display, 80 characters x 25 lines, or 132

characters x 50 lines. Character cells are 10 x 16, allowing super-crisp characters. Character fonts are stored in RAM; the soft character sets (and character set editor) enable users to generate foreign languages or other special sets. Attributes available for each character are reverse video, half-intensity, underscore, and non-display. CRT brightness and contrast are under user control.

- ▶ **KEYBOARD**—a separate, low-profile module with a coiled 2-meter cable and sculptured keys. The integrated palm rest keyboard uses capacitive switches for tactile feedback. The keyboard is fully programmable and includes typewriter keys, edit keys, and function keys.
- ▶ **DISKS**—two 5 1/4" floppy disks are standard (one on the hard disk machine). These have 80 tracks, GCR recording using variable disk speed, and a formatted capacity of 610K bytes each for single-sided and 1.2M bytes for double-sided diskettes. Track-to-track step time is 3 msec and average access time is 235 msec.
- ▶ **SERIAL COMMUNICATIONS PORTS**—two completely independent, full-duplex RS-232C ports are on the back panel. Asynchronous or synchronous communications protocols are supported using an advanced serial I/O device, at rates up to 19.2 Kbps. Either internal or external clocking may be used.
- ▶ **PARALLEL PORTS**—one 36-pin Centronics port on the rear panel supports IEEE 488 (with optional software and cable), and another 50-pin user-programmable port is available on the main logic card.
- ▶ **CODEC**—enables recordings to be played back on any system; includes an amplifier and speaker for playback. A microphone and gain-controlled pre-amp are optionally available for recording.

VICTOR offers a family of **9000** computers, beginning with the **9121 VICTOR 9000**, which contains two single-sided floppy drives providing 1.2 MB of local storage and 128 KB of internal memory. The **9241 VICTOR 9000** contains two double-sided floppy drives providing 2.4 MB of local storage and 256 KB of internal memory.

The **9231 Hard Disk VICTOR 9000** provides the same features as the 9241, but with only one double-sided drive and the increased performance of a built-in 10.6 MB drive, a 1.2 MB floppy disk drive, and 256 KB of internal memory.

The **9261 File Server VICTOR 9000** is essentially a Model 9231 Hard Disk system without the display unit and keyboard but with Network capabilities. Its primary function is to act as a 10-MB file storage unit. A number of file servers per network may be used, each supporting a maximum of three printers. The **9201 Networkstation VICTOR 9000** is basically a Model 9241 without floppy disk drives. The Networkstation contains 256 KB of internal memory and Network capabilities. The unit "autoboots" from one of the file servers. Programs may then be loaded and executed in local memory.

VICTOR 9000 Options include:

- ▶ **Color Display**—users can plug a color monitor into their **VICTOR 9000**.
- ▶ **CP/M-80 Module**—opens up a vast library of programs; adds the capability of operating all standard CP/M programs.
- ▶ **Numerical Data Processor (8087)**—increases computational speed and precision.
- ▶ **Network Upgrade Package**—includes an Omninet interface card which plugs into an option slot in any of the **VICTOR 9000** workstations; it provides facilities for communications and file sharing among a network of **VICTOR 9000s**.
- ▶ **Experimenter Card**—allows for building prototype expansion boards.
- ▶ **Extender Card**—provides easy access for debugging expansion boards.
- ▶ **3278 COAX Emulator 2 & 5**—enables the **VICTOR 9000** to appear as a 3278 Model 2 or Model 5 display terminal.
- ▶ **Memory Expansions**—the **VICTOR 9000** accommodates Memory Expansion Modules of 128K, 256K, and 384K bytes to increase memory to 896K bytes.

MS-DOS is a trademark of Microsoft.
CP/M-86 is a trademark of Digital Research.

For further information, contact your local **VICTOR** Computer Representative.

Victor Technologies, Inc.
380 El Pueblo Road
Scotts Valley, California 95066



VICTOR®



vicki PORTABLE

The **Vicki** is the newest member of the **VICTOR** family of technologically advanced computer products. Like the **VICTOR 9000** series, **Vicki** is a fully integrated, versatile, and powerful microcomputer for business applications. With a 16-bit processor, 256K RAM, 2.4 Mb disk storage, and the unparalleled high-resolution screen, **Vicki** is adaptable to any business, industrial, or scientific environment.

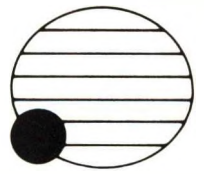
Yet **Vicki** is a lightweight, portable microcomputer; it weighs just over 11 kg (25 pounds) and closes like a briefcase. You can therefore take **Vicki** with you almost anywhere—your home or office, on a plane, or wherever decisions have to be made. The emphasis is on power and portability.

With **Vicki**, you will have access to the same remarkable software library that is available with the **VICTOR 9000**: over 2,000 programs, ranging from business packages such as Multiplan and Lotus to technical application packages like the Programmer's Tool Kits. And the standard operating system is MS-DOS 2.1, which features:

- ▶ Hierarchical File System
- ▶ I/O Redirection
- ▶ Print Spooling
- ▶ Sophisticated Batch Files
- ▶ History Command
- ▶ Environment Customization

One internal option slot is provided with the **Vicki** to add such special capabilities as additional RS-232C ports, a 212A compatible modem, a codec, and the **VICTOR** server network interface. And replacement of memory chips allows you to increase your usable memory from 256K RAM to 896K RAM.





Vicki's Technical Specifications

Dimensions

Height 8 3/8" (213 mm)
Width 18" (457 mm)
Depth 13" (330 mm)
Weight 25 lbs (11.34 kg)

Power

220-240 volts, 50 Hz
or 110-115 volts, 60 Hz

CPU

The processor is a 5 MHz Intel 8086 with direct addressing capability of 1 megabyte. Both the internal architecture and the data bus are 16 bits. As an aid to mathematical and scientific operations, there is an optional Intel 8087 numeric coprocessor.

Memory

The standard memory configuration is 256 kilobytes. 64K dynamic RAMs are used with a cycle time of 333 nanoseconds. Start-up diagnostics and initial program loading code are stored in 8 kilobytes of ROM.

Data Storage

Two half-height 5 1/4" floppy disk drives provide either 1.2 or 2.4 megabytes of on-line storage.

Display

The 9" (228 mm) display includes a non-glare optical filter for improved contrast and flicker-free phosphor. Display formats supported are 800 x 400 pixel bit-mapped graphics and 25 lines of 80 super-crisp characters. Character sets are stored on diskette, allowing selection of many standard character sets or the use of custom character sets. Attributes available for each character are reverse video, half-intensity, underscore, and nondisplay. A brightness control is located on the front of the display.

Keyboard

The low-profile (30 mm) keyboard is detachable. Keyboards for most languages are supported. The keyboard has 98 keys, including all standard typewriter keys, 16 special function keys, and a numeric pad.

Parallel Communications

A Centronics 36-pin port is provided on the rear panel for parallel communications.

Serial Communications

An RS-232C port supporting asynchronous and synchronous communications is on the back panel. Bisync and SDLC are supported at transfer rates up to 19,200 baud. External or internal clocking may be used.

Operating System

MS-DOS 2.1 is **Vicki's** standard operating system. This system offers many new enhancements to the earlier versions of MS-DOS. New features include:

- ▶ **HIERARCHICAL FILE SYSTEM**—allows each disk to be divided into subdirectories in a tree structure. Special UNIX-like utilities provided only by **VICTOR** are included to make it easier to manipulate these subdirectories.
- ▶ **I/O REDIRECTION**—allows the input and/or output of any program to be redirected from the console device to any other logical device, such as a file or printer.
- ▶ **PRINT SPOOLING**—allows printing to be put in the background while an application is running.
- ▶ **SOPHISTICATED BATCH FILES**—provides for conditional execution of batch file commands and iteration of a set of commands.
- ▶ **HISTORY COMMAND**—displays, for review and/or editing, previously entered commands.
- ▶ **ENVIRONMENT CUSTOMIZATION**—allows users to customize the system based on their own requirements (e.g., prompts, switch characters and path separators, communication characteristics, and device drivers).

Application Software

With the **Vicki**, over 2,000 application software packages are available. The wide range of business and technical programs includes word processors such as Select, Benchmark, PS, and WordStar; productivity tools such as Multiplan and Supercalc; data bases like dBASE II and DB-FABS; the Programmer's Tool Kits; and programming languages such as BASIC, Pascal, FORTRAN, and COBOL.

All of the "soft" features of the **VICTOR 9000** family are supported, including user definition of keyboards and character sets, and automatic booting.

Expansion Options

One internal expansion slot is provided to add special capabilities. Expansion boards to be available include:

- ▶ Additional RS-232C ports
- ▶ A 212A-compatible modem, providing 300 and 1200 baud phone line communications and auto-dial and auto-answer capabilities
- ▶ A codec, providing support for digital storage and playback of voice messages
- ▶ A **VICTOR** Server Network board, allowing **Vicki** to communicate with other computers

Additional Features

- ▶ An optional scratch-resistant carrying case is available.
- ▶ The reset switch, brightness control, and power switch are located on the front panel.
- ▶ Models are available for either 110 volt or 220 volt operation.

Vicki and Victor 9000 are trademarks of Victor Technologies, Inc.

Select is a trademark of Select.

Benchmark is a trademark of Metasoft.

PS is a trademark of Scroll Systems.

WordStar is a trademark of Micropro.

MS-DOS and Multiplan are trademarks of Microsoft.

Supercalc is a trademark of Sorcim.

dBASE II is a trademark of Ashton Tate.

UNIX is a trademark of Bell Laboratories.

Lotus 1-2-3 is a trademark of Lotus Development Corp.

Intel 8086 is a trademark of Intel Corporation.

DB-FABS is a trademark of Computer Control Systems.

For further information, contact your local **VICTOR** Computer Representative.

Victor Technologies, Inc.
380 El Pueblo Road
Scotts Valley, California 95066

VICTOR®



VICTOR PlusPC, the latest product in VICTOR's long tradition of innovation, quality, reliability, and outstanding value, brings the benefits of PC-compatibility to existing VICTOR 9000 computers.

► **Operating Mode Versatility:**

- **PlusPC Operating System:** PlusPC offers the best of both the VICTOR and PC-compatible worlds, including dual-format diskette use, easy switching of operating mode between VICTOR and PC, versatile hard disk configuration, and unequaled high-resolution graphics capabilities.
- **Dual Format Diskette Capability:** diskette drives are capable of reading and writing both VICTOR and PC format diskettes.
- **Run IBM Programs on High-Density VICTOR Diskettes:** PlusPC allows extensive use of VICTOR disk capacity for both VICTOR and IBM programs.
- **Compatibility with Other Operating Systems:** for the user who requires access to older system software, PlusPC hardware and ROM-based software also allow booting standard VICTOR and PC-compatible operating systems.
- **Enhanced Hard Disk Architecture:** The PlusPC fixed disk structure builds upon the versatility of VICTOR virtual drives to provide a PC-compatible partitioning for multiple operating systems.
- **High-Resolution Graphics:** Adding to the VICTOR 9000's sensational 800 × 400 pixel resolution graphics, PlusPC emulates the PC color graphics display in monochrome, using combinations of dot density and intensity. PC-compatible color is also available as an option.

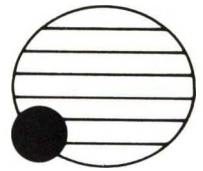
PlusPC

Operating Mode Versatility
Enhanced Hard Disk Architecture
Color Graphics Emulation
Extended Utility Programs





PlusPC



THE BEST OF BOTH WORLDS

Using MS-DOS version 2.1, **PlusPC** provides the user with the superior disk capacity and high-resolution graphics of the VICTOR 9000 series computers, plus the option of running programs written for the IBM PC.

- ▶ **Dual Format Diskette Capability**—allows the user to read from, and write to, both VICTOR and PC format diskettes, and to run both VICTOR and PC software. Correct diskette format is sensed and selected automatically by the system. Programs written for the PC can now take advantage of the VICTOR 9000's exceptional disk capacity.
- ▶ **Mode Switching**—the PlusPC operating system allows the user to shift between VICTOR mode and PC mode to provide the appropriate operating environment for program execution. If the user attempts to run a program that will not execute in the current mode, the PlusPC operating system detects this, and displays a message on the screen to point out the incompatibility. To switch modes, the user ensures that the PlusPC operating system is available in the diskette drive or on the fixed disk, and then enters the appropriate key sequence.

- ▶ **Boot Up as VICTOR, or Boot Up as PC-Compatible**—PlusPC allows the user to boot up using either a VICTOR or a PC operating system diskette. The VICTOR computer then functions purely either as a VICTOR, or as a PC-compatible. This feature allows programs to be run that require an older version of MS-DOS, or that are not based on PC-DOS but need to use the PC mode hardware and ROM-based software.
- ▶ **PC Keyboard Compatibility**—when operating in PC mode, some of the VICTOR keys change to emulate the functions of the PC keyboard. Labels are provided to attach to the front of the keys affected by the emulation.

ENHANCED HARD DISK ARCHITECTURE

PlusPC installation restructures the VICTOR fixed disk so that it is compatible with the PC fixed disk architecture. The drive is reorganized so that the user can take maximum advantage of the VICTOR multiple-volume configuration and the PC partitioning for different operating systems.

- ▶ The fixed drive can have up to eight volumes, or virtual disk drives.
- ▶ Each volume can have up to four partitions.

This arrangement allows the user to allocate space for a great variety of programs and utilities, while providing space for multiple operating systems.

UTILITY PROGRAMS

PlusPC provides utility programs for VICTOR mode and for PC mode to configure the hard disk, aid in data management, and modify system characteristics.

COLOR EMULATION

PlusPC uses the VICTOR high-resolution monochrome screen to emulate PC color graphics. With 800×400 pixel resolution, the VICTOR PlusPC represents PC program color screens using shading with dot densities rather than colors. The VICTOR color display option is also available for the user who wants PC-compatible color.

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MS-DOS is a trademark of Microsoft Corporation
IBM PC is a trademark of International Business Machines

VICTOR®



VICTOR offers a wide range of operating systems for both beginners and programmers. The standard systems are **MS-DOS 1.25** and **CP/M-86**, which are two of the most popular operating systems in the world for the 16-bit desktop computer. Both systems are compact, efficient, and powerful, and they can be learned quickly by the computer novice. **MS-DOS 2.1** is an option for **VICTOR 9000** users. It offers many new enhancements to 1.25, including the hierarchical file system, I/O redirection, print spooling, sophisticated batch files, the history command, and environment customization. Other **VICTOR** operating systems include:

CP/M-80—this optional system adds a new dimension to the capabilities of the **VICTOR 9000**. It allows all standard CP/M-80 software to run without modification on the **VICTOR**, in addition to the currently available 16-bit MS-DOS and CP/M-86 operating systems. The **CP/M-80** module bridges the gap between **VICTOR** and the previous generation of CP/M software.

Concurrent CP/M-86—a multi-tasking and multi-user operating system that will multiply the productivity and capabilities of the **VICTOR 9000**. Under this system, up to eight programs may be run concurrently on "virtual consoles." With a single keystroke, users can bring one of the programs to the screen while the others continue to run.

VICTORLAN—Server Network—a networking, or "resource sharing," system in which a group of **VICTOR 9000** users share common resources, such as printers and mass storage systems. Users can also share common information files on the mass storage facilities (hard disk based computers called file servers). Both programs and data files can be shared.

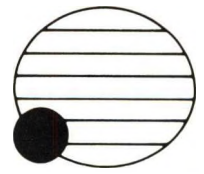
Operating Systems

MS-DOS 1.25
 MS-DOS 2.1
 CP/M-86
 CP/M-80 System
 Concurrent CP/M-86
 VICTORLAN—Server Network





Operating Systems



MS-DOS 1.25

MS-DOS 1.25 provides a comprehensive environment for the development and execution of a wide variety of application programs. I/O devices such as the console and printer are assigned reserved filenames and may be treated as files by applications programs. Disk files are stamped with the time and date. Major features include:

- ▶ No need to log in diskettes
- ▶ Advanced error recovery procedures
- ▶ Command editing template
- ▶ Easy conversion from 8080 to 8086
- ▶ CP/M Emulator

MS-DOS 2.1

The **MS-DOS 2.1** operating system offers many enhancements to the previous version. Among the new features are:

Hierarchical file system—allows each disk to be divided into subdirectories. Special UNIX-like utilities provided only by **VICTOR** make it easier to manipulate these subdirectories. Most can traverse the hierarchical directories while performing their operation:

- ▶ **CONCAT**—concatenates files
- ▶ **FGREP**—performs a string search
- ▶ **LS**—lists directory structures
- ▶ **MV**—moves or renames files
- ▶ **TAIL**—displays the last few lines of a file
- ▶ **WC**—counts the number of words in a file
- ▶ **SEARCH**—examines and manipulates files and directories; allows archive/restore, attribute manipulation, directory list, and file copy

I/O redirection—allows the input and/or output of any program to be redirected from the console device to any other logical device, such as a file or a printer. **FILTER** utilities provide sorting, pattern searching, pipelining, and more.

Print spooling—allows background printing while an application is running.

Sophisticated batch files—provides for conditional execution of batch file commands and iteration of a set of commands.

History command—displays, for review and/or editing, previously entered commands.

Environment customization—allows users to customize the system based on their own requirements (e.g., prompts, switch characters and path separators, communication characteristics, and device drivers).

CP/M-86

The **CP/M-86** operating system also provides an environment to develop and execute a wide variety of applications. Major features include:

- ▶ Gives application programs the full advantage of the 8086 address space.
- ▶ Allows up to 128 MByte of on-line disk storage.
- ▶ File structure compatible with CP/M for 8-bit systems.
- ▶ Files are completely compatible with other versions of CP/M.
- ▶ No noticeable difference between CP/M-86 and CP/M.
- ▶ **BASIC-86** (run time).

CP/M-80

The **CP/M-80** module allows all standard CP/M software to run without modification on the **VICTOR 9000**, in addition to the currently available 16-bit MS-DOS and CP/M-86 programs. In general, alternating between the two operating systems is simple. Typing "80" transfers control from CP/M-86 to CP/M. Typing "86" returns control to CP/M-86. CP/M and CP/M-86 can use common files; these files have identical structures.

CONCURRENT CP/M-86

Concurrent CP/M is a multi-user, multi-tasking operating system. Major features include:

- ▶ **Multi-tasking**—Under this system, up to eight programs may be run concurrently on "virtual consoles." With one keystroke users can bring one program to the screen while the others continue to run.
- ▶ **Windows**—allow users to watch several programs simultaneously on the screen.

▶ **Multi-user**—enhances capabilities of the **VICTOR 9000** by connecting one or two remote user terminals.

▶ **Interactive/high-level/XIOS**—the eXternal Input/Output System (XIOS) is written in fully disclosed FORTH, allowing users to interact directly with it from the keyboard or a program.

▶ **High performance**—supports up to 16 disk drives of up to 512 megabytes each and the full 896K memory capacity of the **VICTOR 9000**.

▶ **Status line**—the bottom line of the monitor displays data such as program running, current system printer, open disk drives, and time of day.

▶ **Customized consoles**—each virtual console may be tailored for a specific application.

▶ **Compatibility**—most **CP/M-86** software runs under **Concurrent CP/M** without difficulty.

VICTORLAN— SERVER NETWORK

The **SERVER NETWORK** system connects a number of desktop computer workstations, including low-cost diskless workstations, to printers and other resources such as hard disks. These are connected to a desktop unit without a keyboard or screen, called a network server. Each **VICTOR 9000** computer user can communicate to the server's devices so that expensive equipment can be shared instead of duplicated at each workstation. No additional knowledge beyond that required to operate a stand-alone computer is required. Files can be shared among network users or kept private to one user.

Based on Omninet, the local network can connect a maximum of 54 workstations to as many as 10 network servers using twisted-pair cable and a simple network transporter card. The result is a low-cost, easy-to-install network providing a powerful solution for office efficiency and automation.

Other operating systems available from various software vendors include **BOS**, the multi-user system, and the **UCSD P System**.

MS-DOS is a trademark of Microsoft. CP/M, CP/M-86, and CP/M-80 are trademarks of Digital Research. Concurrent CP/M is a trademark of Digital Research. BOS is a trademark of BOS National. UCSD P is a trademark of the Regents of the University of California. Omninet is a trademark of Corvus Systems, Inc.

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VICTOR offers a wide variety of word processing programs, ranging from **SELECT**, a novice-oriented system, to **PS**, which can be used by novices for letter-writing and by scientists for complex technical reports. **VICTOR**'s word processors include:

PS—a powerful, technically oriented word processor with extensive full-screen editing features, and with full mathematical capabilities such as generating complex equations over multiple lines.

MULTIMATE—a dedicated word processing program that makes extensive use of the **VICTOR** keyboard. Over 80 word processing functions are key driven for efficient and high-quality document creation and modification.

WORDSTAR—an extremely popular, screen-oriented word processing system designed for non-technical users. **WORDSTAR** allows you to quickly and easily generate such documents as letters, memos, status reports, forms, and newsletters.

SELECT—an easy-to-learn program designed for the user with little or no computer experience. **SELECT** is used to create documents such as letters and memos; and includes an on-screen, self-teaching program anyone can learn in 90 minutes or less.

BENCHMARK—this program is not only a complete word processor but a fully integrated business graphics, office calculator, mail list processor, and telecommunications package. **BENCHMARK** can be mastered quickly; it is completely self-prompting.

PEACHTEXT 5000—a comprehensive personal productivity system for word processing and related information-handling tasks; it includes a proofreader, a list manager, and an electronic spreadsheet.

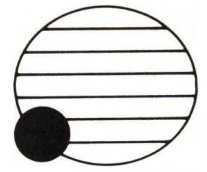
Word Processors

PS
Multimate
WordStar/MailMerge
Select
Benchmark
PeachText 5000





Word Processors



PS

PS is a technically oriented word processor that enables users to generate and print complicated mathematical equations with multiple fonts. **PS**'s major features include:

- ▶ **PMATE editing**—**PS** integrates the complete editing capabilities of this powerful text editor with high-quality output, helpful menus coordinated with the manual, and built-in demonstrations.
- ▶ **Simple commands**—consist of two or more mnemonic letters, possibly followed by a numeric or string argument.
- ▶ **Proportional spacing and hyphenation**—varies blank spaces to justify the right margin and adjusts the character width, to give a typeset appearance.
- ▶ **Multiple fonts**—provides up to seven type fonts.
- ▶ **Graphics**—enables drawing of boxes, horizontal and vertical lines, and joining of any two points with a dotted line.
- ▶ **Equations**—allows creation of diverse mathematical symbols.
- ▶ **Screen preview**—includes a general purpose non-graphics preview that shows line/page breaks.

MULTIMATE

MULTIMATE, a dedicated, stand-alone word processor, is immediately operable by experienced WANG system users.

MULTIMATE's major features include:

- ▶ **Memory capabilities**—this program takes full advantage of the 256Kb RAM memory capabilities offered in the **VICTOR** computer, giving users the fast full-screen response and performance found in much larger systems.
- ▶ **Underlining**—appears on screen and is automatically keyed.
- ▶ **Extensive cursor positioning capabilities**
- ▶ **Automatic text readjustment**
- ▶ **Printer queue controls**—accommodate multiple documents and provide many sophisticated print spooling utilities.

WORDSTAR

WORDSTAR, the extremely popular program from MicroPro, is a screen-oriented system designed for non-technical users.

WORDSTAR's major features include:

- ▶ **Editing menus**—**HELP** menu explains **WORDSTAR** commands. **BLOCK** menu contains commands for file and block operations. **ONSCREEN** menu provides commands and toggle switches that format text. **PRINT** menu commands insert print-control characters. **QUICK** menu commands move the cursor and perform search and replace functions.
- ▶ **HELP**—complete set of help screens available during editing.
- ▶ **Non-editing operations**—performs operations such as displaying the disk directory, changing the logged drive, setting the help level, and printing files.
- ▶ **Column alignment**—the decimal tab feature prepares columns of numbers.
- ▶ **Print controls**—single characters entered while editing permit print enhancements such as underscore, boldface, double strike, subscript, and superscript.
- ▶ **MailMerge option**—merges data from two or more files at print time, performs chained and nested printing, prints multiple copies automatically, and prints data in report formats.

SELECT

SELECT is a system that allows novices to teach themselves the basics of word processing; it acts as a tutorial. **SELECT**'s major features include:

- ▶ **Teach**—the on-screen, do-it-yourself program which can be learned quickly and easily.
- ▶ **Single-key commands**
- ▶ **Merge print**—provides flexibility in mailing—under management and direct mail control.

BENCHMARK

BENCHMARK is a multi-dimensional system that offers the professional answer to a variety of office needs, including mailing and telecommunications. **BENCHMARK**'s major features include:

- ▶ **Business graphics**
- ▶ **Office calculator mode**
- ▶ **Printing from edit modes**
- ▶ **Screen display of printed page**
- ▶ **Column manipulation**
- ▶ **Library for defining phrases**
- ▶ **Indexing of documents**
- ▶ **Variable form fill-in**
- ▶ **Telecommunications package**—files can be transmitted and received over the telephone line; complete error checking is performed on all transmissions to ensure data integrity.

PEACHTEXT 5000

This comprehensive personal productivity system includes:

- ▶ **PeachText** word processor, a sophisticated package for the creation, editing, and printing of a variety of documents.
- ▶ Random House Electronic **Thesaurus**, which provides an instant screen reference to more than 4,400 key words and 26,000 synonyms.
- ▶ Spelling **Proofreader**, an automated spell-checking system that works with **PeachText** to isolate misspelled words and typos in documents.
- ▶ **List Manager**—a personal list and label manager and report generator.
- ▶ **PeachCalc Electronic Spreadsheet**, a mathematical analysis system for all types of numerical and formula analysis.

PS is a trademark of Scroll Systems.
Multimate is a trademark of Softword Systems.
WordStar and MailMerge are trademarks of MicroPro.
Select is a trademark of Select.
Benchmark is a trademark of Metasoft.
PeachText 5000 is a trademark of Peachtree.

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VICTOR®


VICTOR offers an excellent array of powerful productivity tools, including spread sheet systems like **MULTIPLAN** and the extremely powerful and popular **LOTUS 1-2-3**, which includes a spread sheet, an electronic file cabinet, and a sophisticated graphics program. These tools allow users with a variety of computer experience to generate income statements, balance sheets, sales forecasts, and other business reports. **VICTOR**'s productivity tools include:

MULTIPLAN—this electronic worksheet gives users immediate access to critical information. **MULTIPLAN** allows users to enter worksheet designs in row and column format and then enter the data.

LOTUS 1-2-3—an integrated software application including three functions which are performed interchangeably and instantly at the touch of a key: spread sheet, information management, and graphics.

SUPERCALC—another popular electronic worksheet that lets users examine and alter numbers, formulas, and text within a grid containing up to 63 columns and 254 rows of data.

REPORT MANAGER—a complete "3D" electronic spread sheet system with an advanced "data cube" that provides a "third dimension" calculating ability.

PEACHTEXT 5000—a comprehensive personal productivity system for word processing and related information-handling tasks; it includes a proofreader, a list manager, and an electronic spreadsheet.

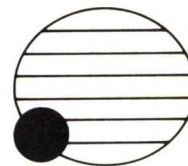
Productivity Tools

Multiplan
 Lotus 1-2-3
 SuperCalc
 Report Manager
 PeachText 5000





Productivity Tools



MULTIPLAN

MULTIPLAN, the popular electronic spread sheet system from MicroSoft, is a key ingredient in **VICTOR**'s financial modelling application software. Its major features include:

- ▶ **On-screen help**—each command and function is described at the touch of a key.
- ▶ **Names of entries**—users can assign a name, such as SALES or PROFIT, to an entry or an area of a worksheet, and then refer to that name when entering formulas.
- ▶ **Worksheet windows**—allows users to open as many as eight windows in different parts of the screen.
- ▶ **Linking worksheets**—allows users to instruct their computer to make adjustments automatically on related worksheets when changes are made to a primary sheet.
- ▶ **Sort facility**—sorts alphabetic or numeric entries.
- ▶ **Logical decisions**—users can present the results of a formula as numbers or letters.
- ▶ **Compatible with VisiCalc**—can read VisiCalc files directly.
- ▶ **Iteration option**—allows the definition of a "circular chain" of references within the worksheet.

LOTUS 1-2-3

LOTUS 1-2-3 is a very popular system that combines three important aids to decision making: it gives users information management, electronic spread sheets, and a business graphics program. **LOTUS** features include:

- ▶ **2048 rows and 256 columns**
- ▶ **Spread sheet** functions include data, financial, statistical, mathematical, logical, and special functions including inquiry.
- ▶ **File manager** functions include sorting on both a primary and secondary key, query, histogram, what-if table, data fill, and up to 32 sorting criteria.

- ▶ **Business graphics**—enables users to create graphs of up to six variables. Graphs include bar, stack bar, pie, line, scatter, and X-Y coordinate charts. Allows for manual and auto scaling, legends and data labels, and titles for both graph and X-Y axis.

SUPERCALC

SUPERCALC uses formulas that compute sums of columns and rows; thus, you can make planning decisions by altering one figure and seeing the results of that change immediately. **SUPERCALC**'s major features include:

- ▶ **Extensive formatting** of individual cells, rows, columns, or blocks; users can change the width of a column without affecting any other column.
- ▶ **No beep**—if users make mistakes, they aren't insulted by a "beep" and then left alone to figure out what went wrong. Instead, **SUPERCALC** tells you what the problem is so you can correct it immediately.
- ▶ **[?] The Answer Key**—simply press the question mark key whenever a question arises; explanatory text appears on the screen.
- ▶ **Miscellaneous functions**—ERROR, NA (Not Applicable), LOOKUP, and NPV (Net Present Value).

REPORT MANAGER

REPORT MANAGER adds a new "third dimension" to reporting; an axis of depth joins the horizontal and vertical axes so users can track a number of different profit centers over the same period of time, or follow actual performance against projections. **REPORT MANAGER**'s main features include:

- ▶ The advanced **Data Cube**—provides a "third dimension" calculating ability that allows for thousands of individual cells that can contain a number, a label, or a formula.

- ▶ **Electronic Book**—instead of a mere electronic page, **REPORT MANAGER** has the power and versatility of a "book." That is, users can copy portions of rows or columns, entire pages, or full sections from sets of pages. And users can view four independent sections on-screen, and define headings that are longer than nominal cell widths.

PEACHTEXT 5000

This comprehensive personal productivity system includes:

- ▶ **PeachText** word processor, a sophisticated package for the creation, editing, and printing of a variety of documents.
- ▶ Random House **Electronic Thesaurus**, which provides an instant screen reference to more than 4,400 key words and 26,000 synonyms.
- ▶ **Spelling Proofreader**, an automated spell-checking system that works with **PeachText** to isolate misspelled words and typos in documents.
- ▶ **List Manager**—a personal list and label manager and report generator.
- ▶ **PeachCalc Electronic Spreadsheet**, a mathematical analysis system for all types of numerical and formula analysis.

VENDOR PRODUCTS

A variety of Productivity Tools are available from such third-party vendors as DBI Software Products, which offers **Trajectories** and **Kaleidoscope**. Contact your **VICTOR** Dealer for information about these products.

Multiplan is a trademark of Microsoft.
Lotus 1-2-3 is a trademark of Lotus Development Corp.
SuperCalc is a trademark of Sorcim.
Report Manager is a trademark of Datamension Corp.
PeachText 5000 is a trademark of Peachtree.

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VICTOR offers powerful data base programs to provide users with the tools to create and manage small, medium, and large data bases. **dBASE II** is a relational data base management system which allows easy manipulation of small- and medium-sized data bases. **DB-FABS**, an exciting new product, is a data, screen, and report manager designed for both the novice and the programmer. **FILES AND FOLDERS**, another dynamic new product, features "touch key" software for the non-programmer; this program functions as an electronic file cabinet that gives visual representations of folders on the screen. **VICTOR's** data base products include:

dBASE II—a powerful data management system that comes with its own Applications Development Language. ADL allows you to use simple English-like statements to manipulate data, or built-in structured constructs to prepare applications packages. **dBFIXUP** allows **dBASE II** to run on the **VICTORLAN** network.

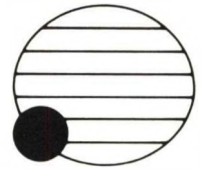
DB-FABS—a general-purpose data, screen, and report manager that provides users with powerful tools to store and retrieve information. **FABS**, the high-speed, keyed-access BTREE subroutine, and **AUTOSORT**, the flexible sort/merge/select program, are integral parts of **DB-FABS**. **DB-FABS** can be upgraded to run on the **VICTORLAN** network.

FILES AND FOLDERS—turns the **VICTOR** screen into a dynamic, free-form folder screen. Users can make folders resemble their own business forms, sales orders, checks, and invoices. Then the folders can be filed in an electronic file cabinet that locks with multi-level passwords and encryption.

Data Bases

dBASE II
DB-FABS
FILES AND FOLDERS





dBASE II

dBASE II is a powerful data management system that can vastly improve the efficiency of your operation. Since **dBASE II** is a relational data base management system, it allows easy manipulation of small- and medium-sized data bases using English-like commands.

dBASE II doesn't require an extra support language; it comes with its own Applications Development Language (ADL). ADL lets you use simple English-like statements to manipulate your data, or built-in structured constructs to prepare sophisticated applications packages. **dBASE II** can be used interactively or can store a sequence of commands to automate accounting, billing, mailing lists, or any other data you need to manage. Users can easily:

- ▶ Add, delete, edit, display, and print data from their data base, with a minimum of data duplication on file.
- ▶ Gain a large measure of program/data independence—when changing data, users do not have to change their programs, and vice versa.
- ▶ Generate reports from one or more data bases, and automatically do multiplication, division, subtotals, totals, and other data manipulation.
- ▶ Use the full-screen editing capability to set up a screen format, and enter data by simply "filling in the blanks."

DB-FABS

DB-FABS is a general-purpose data manager, screen manager, and report manager that provides the user with powerful tools to store and retrieve information. Less experienced users can use the stand-alone mode to create and manipulate data files, screen formats, and reports from the **DB-FABS** prompt. Programmers can use

DB-FABS in run-time mode to handle file I/O, indexing, sorting, screen management, and reports by calling **DB-FABS** from the application program. **DB-FABS** allows for:

- ▶ Complete relational data modeling with interfile relationships.
- ▶ Fast and flexible data management.
- ▶ Complete, full-screen editing of user-definable screen layouts and report generation for custom data presentation.

Major features include:

- ▶ Stand-alone and run-time modes
- ▶ External language interface
- ▶ Importing and exporting of data files to/from standard ASCII files
- ▶ Modification of file structure without data loss
- ▶ High-speed, keyed access using BTREE indexing (FABS)
- ▶ Full-screen editing of display and report formats
- ▶ Written in 8086 assembler for maximum speed
- ▶ Linking of fields between two or more data files
- ▶ Users can save deleted records
- ▶ Index files continuously updated for all indexed fields
- ▶ 46 stand-alone commands, 59 run-time commands; 33 are common to both
- ▶ Indexing on a SPECIAL key formed from as many as five separate field segments within the record
- ▶ Instant access to records using FIND, FIRST, NEXT, LAST, PREVIOUS commands

FILES AND FOLDERS

FILES AND FOLDERS is a powerful data base system that links with business applications, word processors, and spread sheets for total information management. Its major features include:

- ▶ Multi-level password
- ▶ Help key
- ▶ Touch key functions
- ▶ Multi-file relational data handling
- ▶ Interactive data entry and file updating
- ▶ Multi-index BTREE data file manager
- ▶ Touch key editing of each data field
- ▶ User controlled report formats with multiple key sorting
- ▶ Automatic screen generating
- ▶ Data revision without re-keying
- ▶ Mathematics capability, including averaging and standard deviation
- ▶ Single-key file backup
- ▶ Conditional reporting and viewing selections
- ▶ Conditional field edits
- ▶ Expand capability for multi-dimensional views
- ▶ Wide view video display scrolling
- ▶ Wide print formats scrolling

VENDOR DATA BASES

A number of data bases are available from such third-party vendors as Innovative Software Inc., which offers **TIM III**. Contact your **VICTOR** Dealer for information about these products.

dBASE II is a trademark of Ashton-Tate.
DB-FABS is a trademark of Computer Control Systems.
Files and Folders is a trademark of Starcom Computer Corp.
TIM III is a trademark of Innovative Systems.

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VICTOR[®]



VICTOR offers a variety of powerful graphics packages so users can take advantage of the **VICTOR 9000**'s excellent graphics capabilities. The high-resolution mode of the **VICTOR 9000** screen enables characters, drawings, charts, or complex graphs to look sharper, clearer, and more professional.

The **GRAPHICS TOOL KITS** have several distinct parts, allowing either high-resolution graphics (bit-mapping the display) or character graphics (where character icons may be used to form written graphics representations). These Kits provide applications programmers and developers with all the tools to take advantage of the **VICTOR 9000**'s high-quality graphics, including Microsoft's GW-BASIC.

EASEL GRAFIX—a distinct graphics program that turns the **VICTOR 9000** into a drawing table. This versatile program allows users to draw graphics directly on the screen. Users can create simple graphics or sophisticated artwork, including labels and varying degrees of shading.

VBASICA—**VICTOR**'s "Advanced BASIC"—is an IBM PC BASICA-compatible extension to Microsoft GW-BASIC. **VBASICA** can create high-resolution graphics on the **VICTOR 9000** screen.

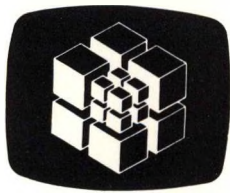
PS, a powerful, technically oriented word processor, has an attractive graphics component. Users can draw boxes, generate horizontal and vertical lines, and join two points with a dotted line. Up to seven type fonts are available. Users also can generate and print mathematical equations spanning several lines and containing multiple fonts, diverse brackets, and other symbols.

LOTUS 1-2-3 is an integrated software application that includes a sophisticated business graphics program. Users can create graphs of up to six variables.

Graphics

Graphics Tool Kit (MS-DOS 1.25)
 Graphics Tool Kit II (MS-DOS 2.1)
 EASEL GRAFIX
 VBASICA
 PS
 Lotus 1-2-3





Graphics Tool Kit and Tool Kit II

The **Graphics Tool Kits** allow either high-resolution graphics or character graphics. The Kit consists of the following programs:

- ▶ **GRAFIX**—a powerful, loadable, high-resolution graphics library, accessible by all programming languages and specifically written for the **VICTOR 9000**. Capabilities include: fill regions and bars, draw circles and arcs, move screens and windows, and high-resolution graphics printer output.
- ▶ **BUSIGRAF**—creates such common business graphics as pie charts, bar graphs, line plots, organization charts. Users can label charts, axes, and the key, and can create a slide show from these elements.
- ▶ **CHARGRAF**—a character graphics program utilizing the **VICTOR** "soft" keyboard and character set.
- ▶ **EFONT**—a character font editor that allows users to define a character set's style; users may also add character graphics icons to the set.
- ▶ **KEYGEN**—allows users to define the soft keyboard. Users can select which keys produce which characters, and can define the keys for special control functions.
- ▶ **GW-BASIC**—the standard Microsoft BASIC with these additional features: graphics display output, graphics screen dump to printer, musical notes produced on the CODEC, full-screen editor, and communications primitives.

EASEL GRAFIX

EASEL GRAFIX, which runs on both MS-DOS 1.25 and 2.1, allows users to draw graphics directly on the screen with a cursor. Once a few simple procedures are learned, users can create figures, tables, graphs, and charts. And they can print out drawings on a dot-matrix printer.

Examples of what users can create with **EASEL GRAFIX** include: illustrated documents, shaded two-dimensional drawings, bar graphs, organization charts, computer games, flow charts, electronic diagrams, and logos. **EASEL GRAFIX** gives users these graphics capabilities and more, without requiring the use of a "mouse" or a computer language. An additional feature is a user interface to GRAFIX in the **Graphics Tool Kit II**.

VBASICA

VBASICA is **VICTOR**'s "BASIC Advanced" language; it functions as an IBM PC BASICA-compatible extension to Microsoft GW-BASIC. **VBASICA** can create high-resolution graphics on the standard **VICTOR 9000** screen. Programs written for the IBM PC can run without change on the **VICTOR 9000** except for direct memory access. IBM color is mapped to a **VICTOR 9000** gray scale for color emulation. In addition, when combined with the color display hardware interface and an IBM plug-compatible color monitor, full IBM color is supported. Major features include:

- ▶ Advanced graphics
- ▶ IBM color and graphics mapping
- ▶ Sound
- ▶ Telecommunications support
- ▶ Event trapping
- ▶ On-screen editor
- ▶ GW-BASIC superset

PS

PS, the technical word processor, has a powerful graphics capability. Its graphics features include:

- ▶ **Multiple fonts**—allows up to seven type fonts to be active, and streamlines daisy switching. **PS** also supports some dot-matrix printers, which print special characters without daisy changes. Greek characters, numeric sub/superscripts, and other mathematical symbols can be generated easily.

- ▶ **Drawing**—users can draw boxes, horizontal and vertical grid lines, and can also join any two arbitrary points with a dotted line.
- ▶ **Equations**—users can generate and print complicated mathematical equations, complete with multiple fonts. **PS** does all the measurement automatically; users enter equations in an easy-to-edit, linear format.
- ▶ **Screen preview**—for the **VICTOR 9000**, two graphics previews are available: one oriented toward non-graphics printers, and one optimized for graphics printers.

LOTUS 1-2-3

The **LOTUS 1-2-3** integrated software application includes a powerful business program that allows users to create graphs of up to six variables. With this program, users can create bar charts, stacked bar charts, line or simple graphs, X-Y graphs, or pie charts. And users can print these graphics out on a variety of dot-matrix printers. Other **LOTUS** graphic capabilities include scatter, manual and auto titling, and legends and data labels.

VENDOR PRODUCTS

A number of other programs, including a variety of games, are available from **VICTOR** and many third-party software vendors. See your **VICTOR** Dealer for more information.

GW-BASIC is a trademark of Microsoft.
Lotus 1-2-3 is a trademark of Lotus Development Corp.
PS is a trademark of Scroll Systems.
IBM PC is a trademark of International Business Machines.

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Scotts Valley, California 95066

VICTOR[®]



VICTOR offers a series of Tool Kits available with both MS-DOS 1.25 and MS-DOS 2.1. The II after the Kit's title refers to 2.1. The Tool Kits include:

Graphics Tool Kit (and Tool Kit II)—provide applications programmers and developers with the tools to take advantage of the **VICTOR 9000**'s high-quality graphics. These Kits include a high-resolution graphics library, business and character graphics, character font editor, keyboard generator, and Microsoft's GW-BASIC.

Programmer's Tool Kit—this Kit has been expanded for use under the MS-DOS 2.1 operating system. It now consists of two distinct volumes: one for applications programmers and one for systems programmers.

Applications Programmer's Tool Kit II—provides applications programmers with the tools to develop software for the **VICTOR 9000**. This Kit is divided into three areas: Data Base Support, System Configuration, and Programming Tools.

Systems Programmer's Tool Kit II—provides programmers with the tools to develop system software for the **VICTOR 9000**. Volume I includes the Microsoft macro assembler, linker, library manager, cross-referencer, and debugger. Volume II describes MS-DOS 2.1 system-level functions.

Hard Disk Tool Kit (and Tool Kit II)—allow users to create non-standard hard disk configurations, remap bad tracks, and perform hard disk diagnostics.

Audio Tool Kit (and Tool Kit II)—allows programmers and developers to use the audio capabilities of the **VICTOR 9000**.

CP/M-86 System Configuration—allows programmers to easily build systems (including specifying keyboard table, character set, and banner).

Tool Kits

MS-DOS

- Graphics
- Programmer's
- Hard Disk
- Audio

MS-DOS 2.1

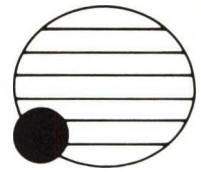
- Graphics II
- Applications Programmer's II
- Systems Programmer's II
- Hard Disk II
- Audio II

CP/M-86 System Configuration





Tool Kits



MS-DOS 2.1 is upward compatible with 1.25, allowing most programs to run without modification. The **VICTOR Tool Kits (II)**, however, have been rewritten and extended to: include new features, support the hierarchical file structure, and take advantage of the facilities provided by MS-DOS 2.1.

Graphics Tool Kits

The **Graphics Tool Kits** allow either high-resolution graphics or character graphics. These Kits consist of:

- ▶ **GRAFIX**—a powerful, loadable, high-resolution graphics library written for the **VICTOR 9000**. Capabilities: fill regions, draw circles and arcs, move screens and windows, and high-resolution graphics printer output.
- ▶ **BUSIGRAF**—creates business graphics such as pie charts, bar graphs, line plots, organization charts.
- ▶ **CHARGRAF**—a character graphics program utilizing the **VICTOR** "soft" keyboard and character set.
- ▶ **EFONT**—a character font editor that allows users to define a character set.
- ▶ **KEYGEN**—allows users to define the soft keyboard.
- ▶ **GW-BASIC**—Microsoft BASIC with additional features: graphics display output, graphics screen dump to printer, musical notes produced on the CODEC, full-screen editor, and communications primitives.

Applications Programmer's Tool Kit II

The **Applications Programmer's Tool Kit II** provides programmers with the tools to develop software for the **VICTOR 9000**. The Kit's three parts are:

- Data Base Support**—provides for data intensive software.
- ▶ **FABS/86**—organizes key files in BTREES for fast data retrieval.
- ▶ **AUTOSORT/86**—powerful sorting utility.
- System Configuration**—allows special keyboard tables, character sets, and system defaults to be edited.
- ▶ **EFONT**—enables you to create and modify custom character sets.

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Scotts Valley, California 95066

- ▶ **KEYGEN**—allows you to define and change the functions of individual keys.
- ▶ **SYSGEN**—allows you to configure operating system characteristics.

Programming Tools—geared toward higher-level languages.

- ▶ **PMATE**—a powerful, full-screen expandable editor.
- ▶ **PLINK**—a linker which handles large files and overlays quickly and efficiently.
- ▶ **PLIB**—creates and modifies library files used by **PLINK**.

Systems Programmer's Tool Kit II

The **System Programmer's Tool Kit II** provides programmers with the tools and information to develop system software for the **VICTOR 9000**. Volume I includes:

- ▶ **Macro Assembler**—provides macro assembly, conditional assembly, and a variety of assembler directives.
- ▶ **MS-CREF**—a cross-reference utility that helps programmers debug assembly language programs.
- ▶ **MS-LINK**—a relocatable linker that links together separately produced modules of 8086-88 object code.
- ▶ **MS-LIB**—creates and modifies library files used by **MS-LINK**.
- ▶ **DEBUG**—provides a controlled testing environment for binary and executable object files.

Volume II describes the system-level functions of MS-DOS 2.1.

Hard Disk Tool Kits

The **Hard Disk Tool Kits** allow users to create non-standard hard disk configurations, remap bad tracks, and perform hard disk diagnostics. This Kit consists of:

- ▶ **HDSETUP**—defines and initializes additional hard disk configurations.
- ▶ **HDFIXUP**—lets users identify, log, and replace defective media.
- ▶ **HDTEST**—hard disk confidence test, run when users first receive the hard disk or hardware errors are suspected.

- ▶ **HDFORMAT**—reformats the hard disk.
- ▶ **HDPARK**—protects the hard disk.

Audio Tool Kits

The **Audio Tool Kits** include a microphone and recording hardware, allowing developers to record, edit, and store sounds or voices. All **VICTOR 9000s** have a CODEC, enabling recordings to be played back on any system. Applications can thus be written to provide voice prompting, verbal error messages, and voice mail on the network. This Kit contains:

- ▶ **VOICE EDITOR**—allows users to create libraries of sounds to be used by application programs. Records and plays back sounds; stores sounds by name into a file; and edits sounds.
- ▶ **VOICE KERNEL**—a library of audio capabilities which provides interfaces to high-level languages.

CP/M-86 System Configuration Tool Kit

The **System Generation** process enables users to select and build systems. System options include:

- ▶ **Keyboard table**—defines the codes generated by a key entry. Several keyboard tables are designed for different national language requirements.
- ▶ **Character set**—defines the shapes of symbols displayed on the screen.
- ▶ **Default printer**—sets the name of the logical device LST.
- ▶ **Serial ports specification**—specifies the baud rate, stop bits, and parity of the two serial ports.
- ▶ **Startup program**—users can specify a string of up to 127 characters to be used by CP/M-86 as the initial command after system load.
- ▶ **Logo and Banner**—can be created and displayed.

Also included are **KEYGEN**, the keyboard table generator, and **EFONT**, the font editor.

MS-DOS and MS-BASIC are trademarks of Microsoft. CP/M-86 is a trademark of Digital Research.

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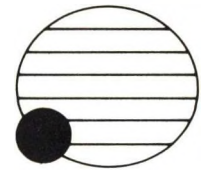
VICTOR offers a comprehensive range of programming languages to handle a wide variety of program development projects on the **VICTOR 9000**. These high-level languages include:

- ▶ **VBASICA**—this "Advanced BASIC" is an IBM PC BASICA-compatible extension to Microsoft GW-BASIC.
- ▶ **MS-Pascal**—the language most favored by systems software developers.
- ▶ **MS-FORTRAN**—the first 16-bit microcomputer version of FORTRAN 77.
- ▶ **MS-BASIC**—the popular, easy-to-learn, yet comprehensive version of BASIC. The Interpreter is included with every **VICTOR 9000**.
- ▶ **MS-COBOL**—an efficient implementation of the most widely used business language in the world.
- ▶ **CBASIC/86**—a commercial dialect of BASIC designed specifically for the 16-bit microcomputer.
- ▶ **LEVEL II COBOL**—a full ANSI-74 standard, level 2 implementation of this mainframe commercial language.
- ▶ **FORTH**—available with Concurrent CP/M.
- ▶ **Other languages** are available from various software vendors, including:
 - LATTICE C
 - RM-COBOL
 - Modula-2/86
 - Pascal M

Languages

VBASICA Interpreter
 MS-Pascal
 MS-FORTRAN
 MS-BASIC Interpreter
 MS-BASIC Compiler
 MS-COBOL
 CBASIC-86
 LEVEL II COBOL
 FORTH





VBASICA

VBASICA is **VICTOR**'s "BASIC Advanced" language; it functions as an IBM PC BASICA-compatible extension to Microsoft GW-BASIC. **VBASICA** can create high-resolution graphics on the standard **VICTOR 9000** screen. Programs written for the IBM PC can run without change on the **VICTOR 9000** except for direct memory access. IBM color is mapped to a **VICTOR 9000** gray scale for color emulation. In addition, when combined with the color display hardware interface and an IBM plug-compatible color monitor, full IBM color is supported. Major features include:

- ▶ Advanced graphics
- ▶ IBM color and graphics mapping
- ▶ Sound
- ▶ Telecommunications support
- ▶ Event trapping
- ▶ On-screen editor
- ▶ GW-BASIC superset

MS-Pascal

MS-Pascal is an ideal language for systems and applications development. Major features are:

- ▶ Fully portable, with machine-independent front end compiler.
- ▶ Native code Pascal compiler with language extensions designed for systems software development.
- ▶ Conforms to standard ISO Pascal, with many system-oriented extensions.
- ▶ Object modules linkable to others written in different languages.
- ▶ Global optimizer.
- ▶ 8087 Numeric Data Processor support.
- ▶ Block structure of language encourages modular program construction, and aids debugging and maintenance.
- ▶ Whole programs or single modules may be compiled separately.

MS-FORTRAN

The **MS-FORTRAN** programming language conforms ANSI 77 standard. Features include:

- ▶ Compiler directives provide the source text **INCLUDE** facility and FORTRAN 66 **DO** loops.
- ▶ Highly compatible with existing FORTRAN 66 programs.
- ▶ Handles multiple code segments of up to 64K bytes each, and uses a single 64K byte data segment for stack and static data.
- ▶ Named **COMMONs** reside in separate segments of up to 64K bytes each.
- ▶ 8087 Numeric Data Processor support.

MS-BASIC

MS-BASIC is one of the most popular programming languages in the world. Because it is available as both an interactive interpreter and as a "native-code" compiler, **MS-BASIC** provides a unique and powerful program development environment. Features include:

- ▶ Easy to learn, but powerful enough for business use.
- ▶ Extensive string manipulation.
- ▶ Programs created in the interactive interpreter can be compiled into object code modules; these modules run faster than interpreted programs and provide source code security.

MS-COBOL

Programs developed in **MS-COBOL** have a straightforward, logical organization that is highly compatible with the nature of commercial data. Data is arranged hierarchically and stored in a logical structure, physically separated from the procedural instructions. Major features include:

- ▶ Achieves low-intermediate level of ANSI-74 specification, combining the most useful level 1 and level 2 features.
- ▶ Approval for federal government installations means that **MS-COBOL** will perform to specification.
- ▶ Powerful screen formatting facilities provide menu-type processing and forms generation.

- ▶ Four types of file structures offer simplicity and speed in data retrieval.
- ▶ Relocatable code generated by the compiler can be linked to object modules written in other languages.

CBASIC/86

CBASIC/86 runs under CP/M-86. Major features include:

- ▶ Compiles into an intermediate pseudo-code interpreted by a run-time monitor.
- ▶ Processes extended precision decimal arithmetic and has a comprehensive string manipulation capability.
- ▶ Has an expanded file-handling repertoire and can process fixed record length and stream files.
- ▶ Reduces application development time by allowing blanks and comments in the source code without penalty and aids maintenance by supporting variable names of up to 31 characters.

LEVEL II COBOL

LEVEL II COBOL is the only ANSI-74 level 2 implementation of COBOL designed for microcomputer use. Features include:

- ▶ Powerful screen handling using **ACCEPT/DISPLAY** verbs.
- ▶ **FORMS-2**—a screen-oriented source code generator.
- ▶ Integral **SORT/MERGE** statements.
- ▶ All COBOL file structures, plus line sequential, are supported.
- ▶ Multiple keyed indexed sequential files are supported.
- ▶ **Animator**—an interactive debugging facility for source code; plus run-time trace facilities.
- ▶ Programs written in mainframe COBOL can be easily converted to run on the **VICTOR 9000**.

MS-BASIC, MS-COBOL, MS-FORTRAN, and MS-Pascal are trademarks of Microsoft, Inc. LEVEL II COBOL is a trademark of MicroFocus. CBASIC-86 is a trademark of Digital Research, Inc. LATTICE C is a trademark of Computer Innovations. RM-COBOL is a trademark of Ryan McFarland. Modula-2/86 is a trademark of Logitech. Pascal M is a trademark of Sorcim. IBM PC is a trademark of International Business Machines.

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VICTOR COMMUNICATIONS SOFTWARE

The following communications packages are sold and supported directly by Victor Technologies. For further information contact Victor Technologies, Inc., 380 El Pueblo Rd., Scotts Valley, CA 95066 (408) 438-6680.

ASYNCR

A software terminal emulation package which allows asynchronous communications between a VICTOR 9000 computer and another computer facility. Includes ASCII file transfer capabilities.

BISYNCR-86/3780

A software package which enables the VICTOR 9000 computer to emulate either an IBM 2770, 2780, 3780, or 3741 Remote Job Entry workstation.

3278 COAX

A software/hardware combination that allows the Victor 9000 to be used as an IBM 3278 terminal, attaching to a 3274 or 3276 cluster controller via a coaxial cable. Includes a screen copy print facility and file transfer software.

BISYNCR 3270

A software package which enables the VICTOR 9000 computer to emulate either an IBM 3271 cluster controller with an attached 3277 terminal, or an IBM 3275 integrated cluster controller/terminal. Includes a screen copy print facility.

3276 SNA

A software package which enables the VICTOR 9000 computer to emulate an IBM 3276 integrated cluster controller/terminal. Includes host addressable printer and file transfer support.

TD830

The VICTOR TD830 Emulator enables communication with mainframe computers using Burroughs TD830 communications protocol. Supports an auxiliary printer for local copy of screen information or for printing under control of the host system to either the printer or to a disk file.

IEEE 488

A software package which allows the parallel port to be used for communications with various instruments (such as data acquisition and control products, measurement devices, and plotters) that conform to the ANSI standard MC1.1 "Digital Interface for programmable instrumentation."

VICTOR Server Network

A local area network that enables attached workstations (Victor 9000s) to share files on file servers (Victor 9000 hard disk units). Also supports print spooling using printers attached to the servers. Based on Corvus' Omninet technology.

Third Party Communications Software Available on VICTOR 9000

The following companies have communications software available for the VICTOR 9000 computer. These packages are supported and warranted directly by the selling companies, and not by Victor Technologies.

CROSSTALK-16 — standard by which other async packages are measured

MicroStuf, Incorporated
1845 The Exchange
Atlanta, GA 30339
(404) 952-2067

MOVE-IT — a popular async package

Woolf Software Systems
23842 Archwood Street
Canoga Park, CA 91307
(213) 703-8112

BLAST — a popular async package

Communications Research Group, Inc.
8939 Jefferson Highway
Baton Rouge, LA 70809
(504) 923-0888

KERMIT — public domain async software

KERMIT Distribution
Columbia University Center for Computing Activities
7th Floor, Watson Laboratory
612 West 115th Street
New York, NY 10025

VICTMINI — public domain async software

VictorTalk
1850 Union Street #498
San Francisco, CA 94123
(Bulletin Board 415-864-1418)

ZENITHPLAN — VT100 terminal emulator with file transfer

Lodestar Systems, Inc.
678 S. Indian Hill Road
Claremont, CA 91711
(714) 625-7941

GRAM-A-SYST — software telex package supports Western Union Easylink interface

American Int'l Communications
4745 Walnut
Boulder, CO 80301
(303) 444-6675

TLX-A-SYST — software telex package that supports ITT Timetran interface

American Int'l Communications
4745 Walnut
Boulder, CO 80301
(303) 444-6675

BIComm-3700 — software package that emulates IBM 2780, 3780, 2770, or 3741 Remote Job Entry devices

Willmot Systems, Inc.
122 East 42nd Street, Suite 205
New York, NY 10168
(212) 661-3063

CLEO 3780 — software package that emulates IBM 2780, 3780, or 3741 Remote Job Entry devices

Phone 1 Inc.
416 North Mulford Road
Rockford, IL 61107
(805) 397-8110

UTS400 — software/hardware package emulates Univax Terminals

Performance Software
1009 Sycamore Square
Midlothian, VA 23113
(804) 794-1012

ShareNet — popular Local Area Network

Novell Data Systems, Inc.
1170 N. Industrial Park Drive
Orem, UT 84057
(800) 453-1267

COPYLINK — another popular async package

US Digital Corp.
5699-D S.E. International
Milwaukie, OR 97222
(503) 654-0668

Mite/MS and Mite/86 — another popular async package

Mycroft Labs
P.O. Box 6045
Tallahassee, FL 32314
(904) 385-1141

V-Graph Tektronix 4010 Graphic Emulator — as the name says

Compview Products, Inc.
1955 Pauline Blvd.
Ann Arbor, MI 48103
(313) 996-1299

EASYTERM — a popular async package

Sun Data, Inc.
95 West 100 South
Logan, UT 84321
(801) 752-7631

ASCOM — a popular async package

Dynamic Microprocessor Assoc.
545 Fifth Avenue
New York, NY 10017
(212) 687-7115

VT100 Emulator — as the name says

Diversified Computer Systems
P.O. Box 7575
Boulder, CO 80306
(303) 443-6255

TELEX, TWX, DDD — a hardware/software telex package

Micro/Macro
10 Columbus Circle
New York, NY 10019
(212) 246-4242

MICRO LINK II — a popular async package

Digital Marketing
2363 Boulevard Circle
Walnut Creek, CA 94596
(415) 938-2880

LYNC — another popular async package

International Software Alliance
1855 Mission Ridge Rd.
Santa Barbara, CA
(805) 966-3077

PC-2622 — Hewlett Packard 2622 Terminal Emulator with file transfer

Walker Richer & Quinn, Inc.
1914 N. 34th Street
Seattle, WA 98103
(206) 634-0503

MICRO LINKLINE — async package for Micro Modeller software

Intelligence
2630 Fountainview #222
Houston, TX 77057
(713) 780-7201

TERM — CP/M async package

Century Software
639 South 1350 East
Sandy, UT 84070
(801) 561-3035

T/GRAF 4010 — software Tektronix 4010 emulator

Transformation Software Systems
Box 48265 Bentall Center
Vancouver, B.C. V7X 1A1
(604) 687-0375

VICTOR Targeted Management Systems

A breakthrough for the dealer in small business software.

With Targeted Management Systems, Victor introduces a new concept in business management software—a family of packages tailored specifically to overcome the problems in each business or profession.

It's here now! With it Victor has simplified your life—you don't need to learn a new package each time. Learn one, you've learned them all.

You can provide the small business with exactly what it needs. Each TMS is created within the framework of a consistent business philosophy, using a sophisticated generator—ZIPCODE™. It is one of a family of products with identically structured, easily readable manuals and concise,

accurate code. No longer do you have to worry about adapting a general business system to each business.

The following Targeted Management Systems are now available, as well as the General Management Functions listed on the back of this page. Dealer packs are available for demonstration purposes. These consist of all 18 packages and a complete set of brochures, data sheets and manuals.

With TMS, Victor is committed to providing the dealer with solutions for small businesses—we invite you to join us in this commitment.

We've hit the Target!

Targeted Management Systems

Pharmacy Manager
Client Write-up Manager
Wholesale Loan Manager
Manufactured Housing Mgr.
Law Office Manager
Video Tape Manager
Cemetery Manager
Medical Office Manager

Accounts Rec.			Inventory				General	
Cust. Maint.	Billing	Sales Order	Inv. Control	B.O.M.	Work Orders	W.I.P.	Ledger	Payroll
Pharmacy Manager								
Client Write-up Manager								
Wholesale Loan Manager								
Manufactured Housing Mgr.								
Law Office Manager								
Video Tape Manager								
Cemetery Manager								
Medical Office Manager								

Other Features

Prints Rx labels.
After the fact payroll, prints formal statements including changes in financial positions.
Tracks each contract. Allows a wide variety of fees.
Tracks each unit from order to delivery.
Includes Appointment Scheduling. Tracks attorney's billable and nonbillable time.
Tracks return of rentals and provides rental history for each tape.
Tracks properties, perpetual care trusts, memorial services, and mapping.
Includes appointment scheduling, prints standard insurance claimforms. Maintains visit information.

Future Products

Bar Manager
Restaurant Manager
Home Products Manager
Hotel/Motel Manager
Building Supply Manager

Accounts Rec.			Inventory				General	
Cust. Maint.	Billing	Sales Order	Inv. Control	B.O.M.	Work Orders	W.I.P.	Ledger	Payroll
Bar Manager								
Restaurant Manager								
Home Products Manager								
Hotel/Motel Manager								
Building Supply Manager								

Payroll includes tips. Compatible with Restaurant and Hotel/Motel packages.
Tracks reservations and menu info. Payroll includes tips. Compatible with Bar and Hotel/Motel package.
Tracks room status and reservations. Compatible with Bar and Restaurant packages.



General Management Functions

Each General Management Function is a part of the Targeted Management System (TMS) family of products. TMS is a library of software designed by experienced people in targeted businesses, working in cooperation with accountants to develop a system that adheres to both business and accounting principles. General Management Functions can enhance your TMS package or they can be combined to provide your business with a complete accounting system.

'Free' Vertical Market Software!

Your customer can choose any one of the Targeted Management Systems or three points worth of the General Management Functions listed. They are free when a customer buys a Victor 9000 from you. He or she pays only a small handling charge.

Now—as a Victor dealer—you can offer your customers exactly the Targeted Management Systems they need to put their firms on the fast track to growth. And your dealership on the right track to added sales dollars.

ZIPCODE is a trademark of Canned Knowledge Corp.



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Scotts Valley, California 95066

	Points
General Ledger	2
Accounts Payable	1
Accounts Receivable	1
Inventory Control	1
Payroll	2
Appointments	2
Bill of Materials	2
Purchase Order	1
Fixed Assets	3
Work Order	1

VICTOR

General Ledger

General Ledger is a complete financial accounting package which allows users—ranging from the small business professional to accountants—to streamline the managerial analysis process. This extremely flexible and powerful package has been designed for easy setup, simple operation, and precise reporting. General Ledger enables not only department/divisional consolidations but multiple company consolidations. Essential accounting data—including worksheets, statements, and balance sheets—is provided in a concise and timely manner.

General Ledger's features include:

- ▶ User-defined chart of accounts
- ▶ Custom headings and account titles
- ▶ Consolidated statements
- ▶ Comparative statements
- ▶ Prints worksheet for working trial balance
- ▶ General ledger
- ▶ Trial balance
- ▶ Balance sheet
- ▶ Income statement
- ▶ Statement of changes in financial position
- ▶ Budget analysis
- ▶ User-friendly prompts and concise user's guide





General Ledger

General Ledger is a General Management function in the Targeted Management System (TMS) family of products. TMS is a library of software designed by experienced people in targeted businesses, working in cooperation with accountants to develop a system that adheres to accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Standard general ledger reports for formal and informal reporting.
- ▶ Customized formal statement headings and account titles to better suit the needs of individual companies.
- ▶ Budgeting data and statements of changes in financial position. Simplifies budgetary analysis process. The balance of each account can be compared to its budgeted amount along with its variance.
- ▶ Accounting data such as worksheets, statements, and balance sheets. Allows preparation and adjustment of journal entries.
- ▶ Generates a wide variety of reports and listings, including:
 - CLASSIFICATION CODES
 - UPDATE CLASSIFICATION BALANCES
 - CHANGES IN FINANCIAL POSITION (tables included)
 - DISPLAY GENERAL LEDGER ACCOUNT ACTIVITY
 - JOURNAL ENTRIES
 - GENERAL LEDGER
 - JOURNAL TITLES AND CODES
 - BALANCE SHEET
 - INCOME STATEMENT
 - CHART OF ACCOUNTS
 - WORKING TRIAL BALANCE
 - TRIAL BALANCE
 - GENERAL LEDGER ACCOUNTS
 - PRIOR YEAR G/L BY MONTH
 - COMPARATIVE G/L ANALYSIS
- COMPARATIVE G/L BY MONTH
- G/L BUDGET ANALYSIS
- SUB TO G/L LINKAGE
- SUB TO SUM X-REF WORKSHEET
- SUB TO SUM X-REF
- SUM TO SUB X-REF
- G/L ACCOUNT ANALYSIS
- CLOSE OUT MONTH
- CLOSE OUT YEAR
- RECURRING JOURNAL ENTRIES
- ▶ Consolidated financial statements resulting from:
 - the operations of different divisions within a company; or
 - different companies within a conglomerate. (**Note:** The General Ledger can accommodate up to 1,296 subsidiaries and divisions.)
- ▶ Supports a virtually unlimited number of accounts (7.92×10^{28}). Account numbers may consist of letters, numbers, and special characters; and they can be up to 12 characters in length.

General Ledger can be used in conjunction with other TMS's. Additionally General Ledger, Accounts Receivable, Accounts Payable, Inventory Control, and Payroll can be combined to form a general business system.

The TMS family runs on a single computer or in a multi-user/network environment using VICTORLAN™. This provides the individual manager with the ability to expand while not outgrowing the system that runs the business.

Note: We recommend that you use either a hard disk or double-sided computer so that you have at least 1.2 megabytes per diskette of data storage. Additionally a 132-column printer is required.

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Accounts Payable

Accounts Payable has been designed specifically for accounts payable personnel to simplify the control of payables. This package can be used as a stand-alone accounts payable package, or in conjunction with the General Ledger. Accounts Payable provides users with the programs necessary to:

- ▶ automatically write and print checks—individually or in groups.
- ▶ generate a wide variety of reports, including vendor/supplier balance, accounts payable ledger, open invoice list, and a vendor/supplier list.
- ▶ list current payables.
- ▶ post all activity automatically to the General Ledger.
- ▶ generate audit trail.
- ▶ easily and quickly view accounts payable information.

Accounts Payable also allows for easy input and updating of accounts payable information. As a result, records can be viewed easily, relevant data concerning balances and invoices is provided, and many functions become automatic.





Accounts Payable

Accounts Payable is a General Management function in the Targeted Management System (TMS) family of products. TMS is a library of software designed by experienced people in targeted businesses, working in cooperation with accountants to develop a system that adheres to accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Allows for easy input and updating of accounts payable data.
- ▶ Facilitates record keeping and payment of invoices.
- ▶ Once data is entered through this system, allows for it to be used by other compatible systems without re-entering it. As a result, the workload in terms of data entry is substantially reduced.
- ▶ Simplifies the task of paying suppliers.
- ▶ Generates the following reports:
 - vendor/supplier balance
 - accounts payable ledger
 - open invoice list
 - vendor/supplier list
- ▶ Automatic check printing function enables users to select:
 - a specific supplier to be paid.
 - a select group of suppliers to be paid.
 - all suppliers to be paid.
- ▶ Provides information regarding balances and totals for individual invoices.
- ▶ Provides information regarding account balances.
- ▶ Allows users to view accounts payable records to verify due dates, balances, etc., and to simplify the management of the accounts payable process.

- ▶ Accounts Payable System File—primary system file that includes the supplier code, an alternate reference to the supplier, the last name or some other easily remembered key reference, and the amount of business transacted with this supplier year to date.
- ▶ Purchases Invoice File—maintains the records required to keep an accurate account of purchase invoices received and supplier balances payable and/or credits due.
- ▶ User-friendly prompts and concise user's guide.

Accounts Payable can be used in conjunction with other TMS's. Additionally General Ledger, Accounts Receivable, Accounts Payable, Inventory Control, and Payroll can be combined to form a general business system.

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Payroll

Payroll is a powerful business application package which enables users to generate, maintain, modify, and update employee payroll records. The Payroll package also produces the standard reports that are required by the government, including W-2 and FICA forms. As a result, the Payroll system allows users to greatly simplify the entire payroll process.

The Payroll package features:

- ▶ General ledger account numbers and account descriptions which will establish the linkages to the General Ledger package if or when you decide to integrate the two systems.
- ▶ A variety of informative reports, including a payroll check register, post payroll to the General Ledger, employee data listing, employee FICA analysis, employee payroll summary, and W-2 form(s).
- ▶ An add-on Payroll Time Entry module which has been designed to convert the standard Payroll package to a payroll time entry program.





Payroll

Payroll is a General Management function in the Targeted Management System (TMS) family of products. TMS is a library of software designed by experienced people in targeted businesses, working in cooperation with accountants to develop a system that adheres to accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Provides current FICA tax rate and taxable pay limit data.
- ▶ Provides the general ledger account numbers and account descriptions which will establish the linkages to the General Ledger package.
- ▶ Provides information relating to the payment of salaries, wages, and associated deductions.
- ▶ Provides information relating to payments made to employees.
- ▶ Generates a wide variety of reports, including the following:
 - PAYROLL CHECK REGISTER provides payroll data for the pay period arranged by check number.
 - POST PAYROLL TO G/L permits you to post the payroll accounts to the General Ledger if or when the General Ledger program is an integral part of your software package.
 - EMPLOYEE DATA LISTING provides detailed employee data, including vital statistics.
 - EMPLOYEE FICA ANALYSIS provides employee gross pay, FICA due, FICA withheld, and the difference for each employee.
 - EMPLOYEE PAYROLL SUMMARY provides summary data for each employee, including quarter and year to date summaries of pay, taxes withheld, and miscellaneous deductions.
 - W-2 FORM(S) permits the user to print W-2 forms for one, a range, or for all employees.
- ▶ Offers a special, add-on PAYROLL TIME ENTRY module which has been designed to convert the standard Payroll package to a payroll time entry system. Features added include:
 - ability to track labor usage by department.
 - maintains employee voluntary deductions.
 - maintains standard deductions (i.e., those deductions which apply to all employees).
 - computes payroll.
 - prints payroll checks.
 - prints time cards.
 - maintains tax tables.
 - tracks payroll data relating to employees.
- ▶ Provides user-friendly prompts and concise user's guide.

Payroll can be used in conjunction with other TMS's. Additionally General Ledger, Accounts Receivable, Accounts Payable, Inventory Control, and Payroll can be combined to form a general business system.

The TMS family runs on a single computer or in a multi-user/network environment using **VICTORLAN™**. This provides the individual manager with the ability to expand while not outgrowing the system that runs the business.

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Inventory Control

Inventory Control is a general-purpose inventory accounting package which enables users to keep track of sales and control shortages by using a variety of informative reports. Inventory Control can be used as a stand-alone package, or it can be used in conjunction with the Accounts Receivable and other General Manager functions. With Inventory Control, individual users or businesses can easily maintain an accurate account of inventory transactions. Record-keeping and management of inventory becomes an efficient, simple process because programs are provided for:

- ▶ data entry
- ▶ quickly reviewing the status of any stock item
- ▶ generating a wide variety of useful reports, including:
 - inventory item master list
 - status reports
 - order recommendations
 - history of order transactions





Inventory Control

Inventory Control is a General Management function in the Targeted Management System (TMS) family of products. TMS is a library of software designed by experienced people in targeted businesses, working in cooperation with accountants to develop a system that adheres to accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Allows users to easily input and update both purchase receipts and issue voucher files.
- ▶ Reduces data entry time and increases productivity. Once data has been entered through this system, it can be used by other compatible accounting systems without re-entering it.
- ▶ Handles both Last In-First Out and Weighted Average inventory valuation.
- ▶ Provides for automatic posting to the General Ledger package.
- ▶ Generates these useful and informative reports:
 - MASTER INVENTORY LISTING
 - DISPLAY ITEM STATUS
 - STATUS REPORT BY SUPPLIER
 - STATUS REPORT BY PRODUCT GROUP
 - ORDER RECOMMENDATIONS BY SUPPLIER
 - PERIOD INVENTORY TRANSACTIONS
 - PHYSICAL INVENTORY ANALYSIS
 - PHYSICAL INVENTORY WORKSHEET
 - ANALYSIS BY PRODUCT GROUP
- ▶ Provides a physical inventory listing by stock item location to simplify the process of taking a physical inventory.

- ▶ Categorizes each inventory item by:

- product class
- product group
- store and/or warehouse location

Over 16,000 user-assigned codes are available for each category.

- ▶ Provides up to 4 decimal places for cost and price data.
- ▶ Enables easy accesses to stock status of any item or range of items, by part number(s).
- ▶ User-friendly prompts and user's guide.

Inventory Control can be used in conjunction with other TMS's. Additionally General Ledger, Accounts Receivable, Accounts Payable, Inventory Control, and Payroll can be combined to form a general business system.

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Purchase Order

Purchase Order provides users with the information necessary to complete purchase orders and to maintain an accurate account of them. This business application package is capable of entering purchase orders, printing them, and receiving the items. Purchase Order also maintains the current and year-to-date (YTD) balances on sales taxes paid and orders placed with a vendor. You can use this package in a stand-alone manner, but it can also be used in conjunction with the Accounts Payable and Inventory Control packages. As a result, you can streamline and simplify the entire purchase order process.

The main purpose of Purchase Order is to keep track of your purchase orders and receipts. The package automatically performs most of the bookkeeping functions for you. When you record the receipt of an item, Purchase Order goes into the Inventory Control function and decreases the on-order quantity by the number of units received and increases the on-hand quantity by the same number. The Purchase Order package also:

- ▶ debits your Inventory account
- ▶ credits your Purchase Order Receipts Holding account
- ▶ adjusts your Inventory Variance account (if you are using average costing)





Purchase Order

Purchase Order is a General Management function in the Targeted Management System (TMS) family of products. TMS is a library of software designed by experienced people in targeted businesses, working in cooperation with accountants to develop a system that adheres to accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Performs major bookkeeping functions.
- ▶ Keeps track of orders and receipts.
- ▶ Automatically sends information to Accounts Payable and Inventory Control.
- ▶ Generates complete reports on the status of your purchase orders, including:
 - vendor list
 - buyer list
 - inventory list
 - purchasing terms list
 - purchase orders by date
 - purchase orders by vendor
 - tax codes
 - items received
- ▶ Encourages adherence to generally accepted accounting principles.
- ▶ Keeps track of open orders.
- ▶ Allows you to enter up to 999 lines per purchase order.
- ▶ Allows partial receipt of ordered items.
- ▶ Reduces the possibility of error by validating the vendor, buyer, sales tax, and type of transaction. The purchase order will remain active until it is either filled or cancelled.
- ▶ Reduces data inputting and increases productivity. Once data is entered through the system, it can be used by other compatible accounting systems without re-entering it.

- ▶ Prints the purchase order on the standard form. You can receive reports on the purchase orders in the system by date, purchase order, or vendor.
- ▶ System file structure is the following:
 - Vendor Information (AP) contains information relating to the vendors/suppliers of the company.
 - Authorized Buyer (BF) contains buyer codes and descriptions for each of the company's buyers.
 - Inventory Control (IC) contains information relating to the products purchased by the company.
 - Order Terms (OT) contains information relating to the purchasing terms, payment of freight, and carrier specified in the sales contract.
 - Purchase Order file is the center of the Purchase Order package.
 - Tax Codes (TX) contains the sales tax codes used by the company.
- ▶ Includes user-friendly prompts and concise user's guide.

Purchase Order can be used in conjunction with other TMS's. In particular when combined with General Ledger, Accounts Receivable, Accounts Payable, Inventory Control, and Payroll it can form a full business system.

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Medical Office Manager

The Medical Office Manager provides the modern physician, medical clinic personnel, and other medical professionals with the ability to maintain accurate and thorough records. The purpose of this package is to streamline the entire process of maintaining patient records on an ongoing, daily basis. Information provided relates to patients, guarantors, insurance companies, accounts receivable, treatment/product pricing, facilities at which medical services are provided, and diagnostic descriptions and treatment.

Medical Office Manager features:

- ▶ Generates invoices, patient mailing lists, and mailing labels.
- ▶ Generates a wide variety of useful reports, including:
 - Guarantor by Name
 - Guarantor Insurance
 - Insurance Companies
 - Insurance by Description
 - Facility Codes
 - Accounts Receivable
 - Attending Doctor Register
 - Patient Register
 - Emergency Contact
 - Current Billing by Transaction, Guarantor, Doctor, and Treatment
 - Courtesy Estimate
 - Transaction Account
- ▶ Ages accounts receivable in increments of 30, 60, 120, 150, and over 180 days overdue.





Medical Office Manager

The Medical Office Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of modern medical office management. Medical Office Manager has been designed by experienced physicians, working in cooperation with accountants to develop a system that adheres to both medical and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with an easily readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Maintains thorough, ongoing, accurate records for the modern physician and medical office personnel.
- ▶ Generates invoices, patient mailing lists, and mailing labels.
- ▶ Generates a wide variety of reports, including:
 - GUARANTOR BY CODE provides such guarantor information as name, address, account number, and whether an active claim exists, listed by guarantor code.
 - GUARANTOR BY NAME provides a printout of guarantor information, listed by guarantor name.
 - GUARANTOR INSURANCE REPORT provides insurance information relating to the guarantor (e.g., insurance company, group code, policy code, coverage dates, and so on).
 - INSURANCE COMPANIES lists all insurance companies in the system by company code.
 - INSURANCE BY DESCRIPTION provides descriptions of the appropriate companies.
 - FACILITY CODES details all places where medical services are provided to the patient.
 - EMPLOYER COMPANY INSURANCE provides information concerning the employer's insurance by employer code.
 - EMPLOYER INSURANCE BY NAME provides information concerning the employer's insurance by employer name.
 - A/R BY GUARANTOR provides such accounts receivable information as balances, billing dates, and payment dates and amounts, listed by guarantor code.
 - ATTENDING DOCTOR REGISTER provides the attending doctor register listed by doctor code.
 - PRINT PATIENT REGISTER provides a profile of the patient.
- EMERGENCY CONTACT lists patients who have received emergency care.
- CURRENT BILLING BY TRANSACTION provides current billing information (e.g., patient code, time and date when services were provided, product/treatment code, and diagnostic code) listed by transaction code.
- CURRENT BILLING BY GUARANTOR provides current billing information by guarantor code.
- CURRENT BILLING BY DOCTOR provides current billing information by doctor code.
- CURRENT BILLING BY TREATMENT provides current billing information by treatment/product code.
- COURTESY ESTIMATE provides a cost estimate of the medical services required by the patient.
- TRANSACTION REPORT provides a daily log by transaction code.
- ▶ Ages accounts receivable in increments of 30, 60, 90, 120, 150, and over 180 days overdue.
- ▶ User-friendly prompts and concise user's guide.

Medical Office Manager can be used in conjunction with the General Management functions to handle the accounting needs of the business. Thus, the individual physician can use the Medical Office Manager with the General Ledger to handle specific accounts, and can even run the payroll.

The TMS family runs on a single computer or in a multi-user/network environment using **VICTORLAN™**. This provides the ability to expand while not outgrowing the system that runs the business.

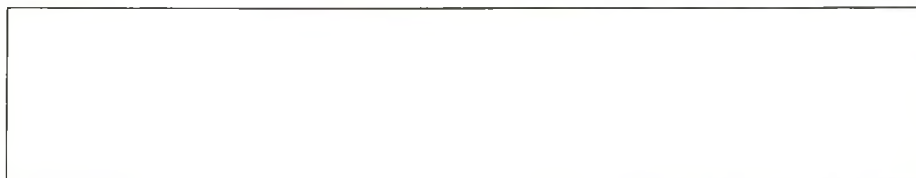
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Law Office Manager

The Law Office Manager has been designed specifically for the modern lawyer and law office professionals who must maintain accurate and complete records of client accounts on a regular basis. The purpose of this package is to streamline the lawyer's entire business. In addition to information on clients, Law Office Manager provides an efficient method of managing accounts receivable.

Law Office Manager features include:

- ▶ Provides information relating to the courts and associated judges.
- ▶ Provides a docket calendar.
- ▶ Lists services offered with the associated billing rate or fee.
- ▶ Ages accounts receivable in increments of 30, 60, 90, and over 120 days overdue.
- ▶ Generates a wide variety of useful reports, including:
 - Client Listing
 - Accounts Receivable Balance Register
 - Case/Client file
 - Attorney Listing—Personnel
 - Judge Listing
 - Daily Transaction Register
 - Court Codes and Listing
 - End of Month Ledgers





Law Office Manager

The Law Office Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of the modern lawyer and other professionals in law office management. Law Office Manager has been designed by experienced lawyers, working in cooperation with accountants to develop a system that adheres to both legal and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with an easily readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Maintains thorough, ongoing, accurate records for the modern lawyer and other law office professionals.
- ▶ Provides detailed client information.
- ▶ Provides information relating to the courts and associated judges.
- ▶ Generates a wide variety of reports:
 - CLIENT LISTING provides all the pertinent information stored in the Client Accounts Receivable file sorted by Last Name Alpha Code.
 - A/R BALANCE REGISTER BY CLIENT CODE provides detailed accounts receivable information for the law firm's clients by Client Code.
 - A/R BALANCE REGISTER BY NAME provides detailed accounts receivable information for the law firm's clients by Last Name Alpha Code.
 - A/R AGING REPORT BY NAME provides the firm's accounts receivable information for each client with a detailed listing of overdue balances by Last Name Alpha Code.
 - A/R AGING REPORT BY CLIENT CODE provides the firm's accounts receivable information for each client with a detailed listing of overdue balances by Client Code.
 - CASE/CLIENT FILE provides all information contained in the Case/Client file by Case ID.
 - CLIENT/CASE BY CLIENT CODE provides a list of each case for a specified client with the associated billing information.
 - ATTORNEY DOCKET BY ATTORNEY provides all the information contained in the Docket Calendar file by Attorney ID.
 - ATTORNEY DOCKET BY DATE provides all the information contained in the Docket Calendar file.
 - ATTORNEY LISTING-PERSONNEL provides all

the information contained in the Employee/Attorney file.

- ATTORNEY HOURLY BILLING provides the billings associated for each attorney.
- JUDGE LISTING BY JUDGE CODE provides all the pertinent information contained in the Judge file by Judge Code.
- JUDGE LISTING BY NAME provides all the pertinent information in the Judge file by name.
- DAILY PAYMENT/ADJUSTMENT REPORT provides a list of payments made for the current day.
- SERVICE CODE DESCRIPTION LISTING provides all the information in the Service Description file.
- CASE CODE/DESCRIPTION LISTING provides all the pertinent information contained in the Case Type Code file.
- COURT CODES AND LISTING provides all the information contained in the Court file.
- DAILY TRANSACTION REGISTER provides information relating to the transactions that have occurred during the day.
- END OF MONTH LEDGERS BY CLIENT, EMPLOYEE, AND CASE.

Law Office Manager can be used in conjunction with the General Management functions to handle the accounting needs of the business. Thus, the individual lawyer can use the Law Office Manager with the General Ledger to handle specific accounts, and can even run the payroll.

The TMS family runs on a single computer or in a multi-user/network environment using VICTORLAN™. This provides the ability to expand while not outgrowing the system that runs the business.

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Client Write-Up Manager

The Client Write-Up Manager has been designed specifically for the certified public accountant or any business professional who must prepare and maintain the financial records for multiple businesses. This powerful package combines the features of two programs: General Ledger and an "after-the-fact" Payroll. With the Client Write-Up Manager, records for multiple businesses can be constantly updated for completeness and accuracy.

Client Write-Up Manager features:

- ▶ Provides essential accounting data, including worksheets, statements, and balance sheets
- ▶ Enables not only department/divisional consolidations but multiple company consolidations
- ▶ User-defined chart of accounts
- ▶ General ledger showing entries to any or all accounts
- ▶ Complete journals for all entries
- ▶ Automatically reverses entries from one period to the next, and posts recurring entries
- ▶ Produces check registers in numbered order for bank reconciliations
- ▶ Income statement
- ▶ Statement of changes in financial position
- ▶ Budget analysis
- ▶ Enables users to generate and update payroll records
- ▶ Generates general ledger and payroll reports





Client Write-Up Manager

The Client Write-Up Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of the modern accounting professional. Client Write-Up Manager has been designed by experienced accountants, and strictly adheres to both business and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with an easily readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Streamlines the entire managerial analysis process, enabling the professional accountant to maintain and modify financial records.
- ▶ Standard general ledger reports for formal and informal reporting.
- ▶ Automatically reverses entries from one period to the next, and posts recurring entries.
- ▶ Makes period adjustments.
- ▶ Produces check registers in numbered order for bank reconciliations.
- ▶ Customized formal statement headings and account titles to better suit the needs of individual companies.
- ▶ Budgeting data and statements of changes in financial position. Simplifies budgetary analysis process. The balance of each account can be compared to its budgeted amount along with its variance.
- ▶ Provides a variety of essential accounting data such as worksheets, statements, and balance sheets. Allows preparation and adjustment of journal entries.
- ▶ Generates a wide variety of General Ledger reports:
 - CLASSIFICATION CODES
 - CHANGES IN FINANCIAL POSITION
 - JOURNAL TITLES AND CODES
 - INCOME STATEMENT
 - PRIOR YEAR G/L BY MONTH
 - COMPARATIVE G/L ANALYSIS
 - COMPARATIVE G/L BY MONTH
 - G/L ACCOUNT ANALYSIS
 - CLOSE OUT YEAR
 - CLOSE OUT MONTH
 - RECURRING JOURNAL ENTRIES
- ▶ Provides consolidated financial statements resulting from (1) the operations of different divisions within a company or (2) different companies within a conglomerate.
(Note: The General Ledger program can accommodate up to 1,296 subsidiaries and divisions.)
- ▶ Supports a virtually unlimited number of accounts (7.92×10^{28}). Account numbers may consist of up to 12 letters, numbers, and special characters.
- ▶ Provides current FICA tax rate and taxable pay limit data.
- ▶ Provides information relating to the payment of salaries, wages, and associated deductions.
- ▶ Generates a variety of Payroll reports, including:
 - PAYROLL CHECK REGISTER
 - POST PAYROLL TO G/L
 - EMPLOYEE DATA LISTING
 - EMPLOYEE FICA ANALYSIS
 - EMPLOYEE PAYROLL SUMMARY
 - W-2 FORM(S)
- ▶ User-friendly prompts and concise user's guide.

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Note: We recommend that you use either a hard disk or double-sided computer so that you have at least 1.2 megabytes per diskette of data storage. Additionally a 132-column printer is required.

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ZIPCODE is a trademark of Canned Knowledge, Corp.



For further information, contact your local
VICTOR Computer Representative.

Victor Technologies, Inc.
380 El Pueblo Road
Scotts Valley, California 95066

VICTOR

Video Tape Rental Manager

The Video Tape Rental Manager is designed to run the video store manager's entire business—from the tape rental process to check transactions. This complete application package is capable of accomplishing every function a video tape rental manager must perform. What was once time-consuming and costly is now automatic and economical.

The Video Tape Rental Manager is capable of generating:

- ▶ Comprehensive customer data reports.
- ▶ Line-by-line records of point-of-rental transactions.
- ▶ Rental maintenance reports enabling you to:
 - update transaction records
 - daily append old transaction accounts to a transaction history file
 - maintain tape usage records over any 3-month period
- ▶ Inventory reports which allow quick and easy inquiries and provide comprehensive rental data by title and due date.
- ▶ Tables of valid video tape manufacturers.





Video Tape Rental Manager

Video Tape Rental Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of modern video tape rental management. Video Tape Rental Manager has been designed by experienced people in the video tape business, working in cooperation with accountants to develop a system that adheres to both video tape rental management and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Generates detailed customer data reports, regardless of whether or not customer is a member of a store-rental program.
- ▶ Prints the data reports in alphabetical format. Customer data report includes:
 - personal identification number
 - machine format numbers
 - expiration date
- ▶ Provides line-by-line transaction reports which include:
 - Sales ticket
 - Rental date
 - Customer code
 - Transaction method
 - Salesperson's identification number
 - Stock number
 - Date due
 - Rental days
 - Rental price
 - Category and rental codes
 - Tax rates
- ▶ Provides these Rental Maintenance reports:
 - RETURN INVENTORY updates the transaction records with "RR" (return rental) and resets rental inventory records to be available for rental again.
 - CLOSE END OF DAY is a customized program that compresses the transaction file and appends the old transaction records into the transaction history file.

- CLOSE END OF MONTH is a customized program that tracks an individual tape's usage through any given three-month period.
- ▶ Maintains detailed inventory reports to enable quick inquiries. Stock-on-hand listings are provided by title and due date.
- ▶ Provides detailed tape manufacturer information in table format.
- ▶ User-friendly prompts and concise user's guide.

Video Tape Rental Manager can be used in conjunction with the General Management functions to handle the accounting needs of the business. Thus, the individual video tape rental manager can use the Video Tape Rental package with the General Ledger to handle financials, and can even run the payroll.

The TMS family runs on a single computer or in a multi-user/network environment using VICTORLAN™. This provides the individual manager with the ability to expand while not outgrowing the system that runs the business.

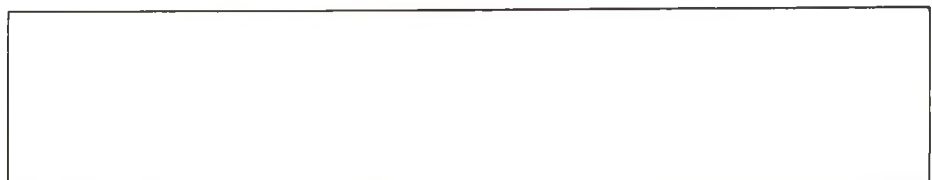
Note: We recommend that you use either a hard disk or double-sided computer so that you have at least 1.2 megabytes per diskette of data storage. Additionally a 132-column printer is required.

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Scotts Valley, California 95066





Wholesale Loan Manager

Wholesale Loan Manager is designed specifically for the bank manager who must maintain an account of capital goods sold on the wholesale market and the associated loans (and insurance, when applicable). This powerful and flexible system can handle automobile and other simple-interest loans. With this package, you can simplify and streamline the entire wholesale loan process.

Wholesale Loan Manager performs such functions as:

- ▶ A variety of daily interest calculations, including floating prime plus a fixed percentage, a fixed interest amount, and a floating prime times a factor.
- ▶ Billing procedures to account for interest, insurance, flat fees, curtailments, credit lines, and balances due.
- ▶ Posting procedures that allow for float time between receipt of payment and actual posting.





Wholesale Loan Manager

Wholesale Loan Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of the modern banker. Wholesale Loan Manager has been designed by experienced bankers, working in cooperation with accountants to develop a system that adheres to both wholesale loan management and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Performs daily interest calculations based on:
 - 1) a floating prime plus a fixed percentage
 - 2) a fixed interest amount
 - 3) a floating prime times a factorAll rates may be subjected to a ceiling and a floor.
- ▶ Performs billing procedures to account for:
 - 1) interest
 - 2) insurance
 - 3) flat fees
 - 4) curtailments
 - 5) credit lines
 - 6) balances due
- ▶ Performs posting procedures that allow for float time between actual receipt of payment and actual posting. Program also reverses accrued interest on amounts already paid. Note: Posting procedures have the ability to create an audit/ history file.
- ▶ Includes option to bill on either a percentage or a dollar amount for flat fees or insurance.

- ▶ Four classes of loans are available to the dealers.
- ▶ Loans are accessed by last 6 digits of the serial number.
- ▶ Insurance, flat fees, and interest are applied against the dealer, while the curtailments are applied against the individual loan.
- ▶ All interest calculations are simple interest.
- ▶ User-friendly prompts and concise user's guide.

The TMS family runs on a single computer or in a multi-user/network environment using **VICTORLAN™**. This provides the individual manager with the ability to expand while not outgrowing the system that runs the business.

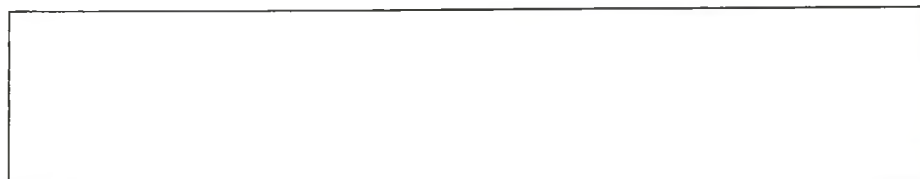
Note: We recommend that you use either a hard disk or double-sided computer so that you have at least 1.2 megabytes per diskette of data storage. Additionally a 132-column printer is required.

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380 El Pueblo Road
Scotts Valley, California 95066



VICTOR

Cemetery Manager

The Cemetery Manager has been designed specifically for the modern cemetery director. This all-inclusive application package can handle most of the standard tasks a cemetery director must accomplish—from generating the appropriate contracts and registers to maintaining inventories. The Cemetery Manager can process sales, admissions, memorial services, and support organizations.

Cemetery Manager enables you to generate, modify, and print:

- ▶ Complete information on the deceased.
- ▶ Property owners reports, by contract and by owner.
- ▶ A detailed and updated list of funeral homes.
- ▶ Memorial member reports with detailed personal data.
- ▶ Memorial services reports, including special services on behalf of the client.
- ▶ Inventory reports, by location and by contract number.
- ▶ Cemetery registers, by name and location.
- ▶ Funeral home and clergy registers.
- ▶ Invoices for services to be performed.
- ▶ All information regarding fees.
- ▶ Records of garden plots, mausoleums, crypts, or niches.





Cemetery Manager

Cemetery Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of modern cemetery management. Cemetery Manager is designed by experienced cemetery directors, working in cooperation with accountants to develop a system that adheres to both cemetery management and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Processes and organizes all aspects of:
 - Sales
 - Admissions
 - Memorial Services
 - Support Organizations
 - ▶ Generates a Clergy file to maintain current and detailed information on the clergy.
 - ▶ Generates a Funeral Home program which is used to maintain current information on funeral homes.
 - ▶ Provides Process Admissions programs which are used to admit interment and cremation candidates to garden plots, mausoleums, crypts, or niches. Includes valuable information for guest identification and initial genealogical research.
 - ▶ Provides detailed Inventory files which keeps records of:
 - Garden Locations
 - Mausoleums/Niches
 - Deeds
 - ▶ Maintains a Property Owner file which contains all necessary information related to the property owner.
 - ▶ Generates a Memorial Services program which allows input of special services performed on behalf of the client. This program helps keep track of details concerning what services are to be performed.
- ▶ Generates a Service Member program which allows input of new clients to the special services (e.g., memorial placement of flowers, flags, etc. on special occasions).
 - ▶ User-friendly prompts and concise user's guide.

Cemetery Manager can be used in conjunction with the General Management functions to handle the accounting needs of the business. Thus, the individual cemetery director can use the Cemetery Manager with the General Ledger to handle financials, and can even run the payroll.

The TMS family runs on a single computer or in a multi-user/network environment using **VICTORLAN™**. This provides the individual manager with the ability to expand while not outgrowing the system that runs the business.

Note: We recommend that you use either a hard disk or double-sided computer so that you have at least 1.2 megabytes per diskette of data storage. Additionally a 132-column printer is required.

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VICTOR[®]

Manufactured Housing Manager

The Manufactured Housing Manager system is designed for the manager who needs to streamline and simplify the process of manufacturing mobile/modular homes. This all-inclusive, versatile package can accomplish most of the tasks the manager needs to perform.

The Manufactured Housing Manager contains four systems:

1. **Work Orders**—an efficient system for the control of manufacturing processes through the issuance and monitoring of work orders. Provides detailed information concerning the product.
2. **Bill of Materials**—allows the manager to track all items manufactured, as well as materials and components used.
3. **Work in Process**—merges bill of materials data with the corresponding work order. Generates scheduling procedures and a finished goods inventory.
4. **Manufacturer's Inventory**—generates location codes for work-in-process inventories. Keeps track of inventory location and accounts for transportation, environmental, and time/motion factors.

A Purchase Order package is available which provides all the information necessary to complete and maintain an account of purchase orders.





Manufactured Housing Manager

Manufactured Housing Manager is a Targeted Management System (TMS) that has been tailored specifically to solve the unique problems of modern manufactured housing management. Manufactured Housing Manager has been designed by experienced personnel, working in cooperation with accountants to develop a system that adheres to both manufactured housing and accounting principles. Created within the framework of a consistent Business Application philosophy and using a sophisticated Generator—ZIPCODE™—each Targeted Management System is one of a family of products with a readable manual and concise accurate code. All TMS's are easy to learn, similarly structured for ease of operation, and have a consistent user interface.

Capabilities and features

- ▶ Provides information necessary to streamline the entire manufacturing process, from generating initial work orders to maintaining manufacturing inventory lists.
- ▶ Work Order program that allows the user to generate:
 - Personal data on all customers.
 - All work order information, including contractual and shipping data. Customized subroutines will move customer address, etc. into work order address if response to "Drop Shipped" prompt is "No."
 - Simple alpha characters which explain any exceptions to the standard bill of materials process.
- ▶ Bill of Materials (BOM) program allows user to:
 - Change labor times and rates without physically modifying labor files.
 - Assign codes to isolate manufacturing functions such as plumbing and roofing categorically, which enables isolation of like variable costs. Note: An option is available for PERT/CPM network analysis.
 - Enter ASCII text for standard bill of materials processing.
 - Generate simple descriptions of each bill of materials entry to be entered. File is used for verification.
 - Enter Bill of Materials after standard labor, activity codes, BOM descriptions, and work in process have been entered.
- ▶ Work in Process (WIP) is a custom program that:
 1. Simply copies the BOM data that corresponds to a given work order into the WIP file. Transfer of data is a simple read/write batch process that is prefaced by first matching the operator-entered

data to: (a) an existing BOM number in the BOM description file; and (b) a matching and existing contract number in the work order file.

2. Allows the user to check output from the custom program and change the WIP file.
 3. Provides a routine—Setup Scheduling—which can be used to enter information about mobile/modular home scheduling (i.e., inventory/work order/time evaluation).
 4. Allows the setup of a Finished Goods Inventory conditionally based on a code that designated the entry as finished or not finished.
- ▶ The Manufacturer's Inventory program that allows:
 - A table of locations code to be established for WIP inventory. Helps manager to keep track of where inventories are located and manage transportation, environmental shrinkage, and time/motion elements.
 - WIP inventory data entry after location codes and vendor codes have been set up.
 - ▶ User-friendly prompts and concise user's guide.

Manufactured Housing Manager can be used in conjunction with the General Management functions to handle the accounting needs of the business. Thus, the individuals can use the Manufactured Housing Manager package with the General Ledger to handle financials, and can even run the payroll.

The TMS family runs on a single computer or in a multi-user/network environment using **VICTORLAN™**. This provides the individual manager with the ability to expand while not outgrowing the system that runs the business.

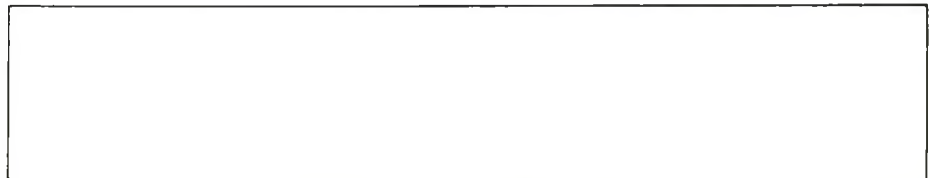
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VICTOR 9000 HARDWARE

Prices effective November 14, 1984

MODEL NO.	TITLE	PRICE
SYSTEMS		
	<u>SIZE</u> <u>DRIVES</u> <u>RAM</u>	
9120-1-11	FLOPPY DISK SYSTEM 1.2MB (2SS) 128K	\$3295.
9200-1-11	NETWORKSTATION N/A DISKLESS 256K	2795.
9230-1-XX	HARD DISK SYSTEM 11.2MB (HD & 1DS) 256K	5695.
9230-1-11	HARD DISK SYSTEM 11.2MB (HD & 1DS) 256K	5495.
9270-1-XX	HARD DISK SYSTEM 31.2MB (HD & 1DS) 256K	12/84 6695.
9270-1-11	HARD DISK SYSTEM 31.2MB (HD & 1DS) 256K	12/84 6495.
9240-1-XX	FLOPPY DISK SYSTEM 2.4MB (2DS) 256K	4495.
9240-1-11	FLOPPY DISK SYSTEM 2.4MB (2DS) 256K	4295.
9232-1-00	FILE SERVER SYSTEM 11.2MB (HD & 1DS) 256K	4995.
9272-1-00	FILE SERVER SYSTEM 31.2MB (HD & 1DS) 256K	12/84 5995.
9252-1-01	PORTABLE SYSTEM 2.4MB (2DS) 256K	12/84 3495.
1-XX = INTERNATIONAL SYSTEM LEGEND: 1-02 BRITISH. 1-03 GERMAN. 1-04 FRENCH		
SYSTEM MANUAL		
710620	HARDWARE REFERENCE MANUAL (v9000)	75.
741220	VICKI TECHNICAL REFERENCE MANUAL (Portable)	75.
KEYBOARDS		
0721	KEYBOARD MODULE WITH INTEGRATED PALMREST	500.
0773	BRITISH KEYBOARD MODULE	500.
0774	GERMAN KEYBOARD MODULE	500.
0775	FRENCH KEYBOARD MODULE	500.
MEMORY EXPANSION		
6402	128K RAM MEMORY EXPANSION CARD	395.
6404	256K RAM MEMORY EXPANSION CARD	595.
6406	384K RAM MEMORY EXPANSION CARD	795.
OPTIONS		
6430	COLOR DISPLAY INTERFACE	395.
6450	PLUSPC	1/85 995.
6500	AUDIO TOOL KIT (Includes S/W)	345.
6501	AUDIO TOOL KIT II (Includes S/W)	345.
6580	CP/M-80 SYSTEM (Includes S/W)	595.
6587	NUMERICAL DATA PROCESSOR (8087)	845.
6600	NETWORK UPGRADE PACKAGE (Includes MANUAL)	595.
6610	NETWORK CONNECTOR MODULE	195.
6620	UNIVERSAL ROM KIT (NETWORK AUTO BOOT)	**NEW** 100.
6901	EXPERIMENTER CARD	195.
6902	EXTENDER CARD	195.
747600	3278 COAX EMULATOR MODEL 2 & 5 (Includes S/W)	1195.

VICTOR 9000 SOFTWARE

effective November 14, 1984

MODEL NO.	TITLE	O/S	RAM MEM. REQ'D	PRICE
OPERATING SYSTEMS				
711000	MS-DOS 2.1 HARD DISK	(M2)	256K	\$ 80.
711100	MS-DOS 2.1 FLOPPY	(M2)	128K	80.
717800	MS-DOS/MS-BASIC HARD DISK (Included w/System)	(M)	256K	195.
717802	MS-DOS/MS-BASIC HARD DISK - BRITISH	(M)	256K	195.
717803	MS-DOS/MS-BASIC HARD DISK - GERMAN	(M)	256K	195.
717804	MS-DOS/MS-BASIC HARD DISK - FRENCH	(M)	256K	195.
717900	MS-DOS/MS-BASIC FLOPPY (Included w/System)	(M)	128K	195.
	INCLUDES CP/M-86	(C)	128K	Incl.
717902	MS-DOS/MS-BASIC FLOPPY - BRITISH	(M)	128K	195.
717903	MS-DOS/MS-BASIC FLOPPY - GERMAN	(M)	128K	195.
717904	MS-DOS/MS-BASIC FLOPPY - FRENCH	(M)	128K	195.
731200	VICTORLAN - SERVER NETWORK	(M2)	256K	195.
	INCLUDES WORKSTATION SOFTWARE	(M)	256K	Incl.
6580	CP/M-80 SYSTEM (Includes HARDWARE)	(C)	128K	595.
740400	CONCURRENT CP/M-86	(CC)	256K	695.
				12/84
741300	CONCURRENT DOS	(CC)	512K	695.
				1/85
LANGUAGES				
711200	MS-COBOL	(M)	256K	795.
711500	LEVEL-II COBOL	(C)	128K	995.
712200	MS-FORTRAN	(M)	256K	495.
712500	MS-PASCAL	(M)	256K	595.
712800	CBASIC-86	(C)	128K	325.
719200	MS-BASIC COMPILER	(M)	128K	445.
740900	VBASICA INTERPRETER	(M)	256K	295.
				12/84
6435	VBASICA WITH COLOR DISPLAY HARDWARE	(M)	256K	595.
				12/84
WORD PROCESSORS				
715000	SELECT	(C)	128K	495.
715005	SELECT	(M)	128K	495.
714700	WORDSTAR	(C)	128K	495.
714705	WORDSTAR	(M)	128K	495.
717200	MAILMERGE	(C)	128K	225.
717205	MAILMERGE	(M)	128K	225.
717100	WORDSTAR/MAILMERGE	(C)	128K	695.
717105	WORDSTAR/MAILMERGE	(M)	128K	695.
718100	BENCHMARK	(M)	128K	495.
740300	MULTIMATE	(M)	128K	495.
740800	PS TECHNICAL WORD PROCESSOR	(M)	256K	695.
				1/85
SYSTEM MANUAL				
710620	HARDWARE REFERENCE MANUAL (v9000)			75.
741220	VICKI TECHNICAL REFERENCE MANUAL (Portable)			75.
				1/85

MODEL NO.	TITLE	O/S	RAM MEM. REQ'D	PRICE
PRODUCTIVITY TOOLS				
715500	MULTIPLAN	(M)	128K	\$295.
715500	SUPERCALC	(C)	128K	195.
718505	SUPERCALC	(M)	128K	195.
747100	EASEL GRAFIX	(M)	256K	195.
800100	LOTUS 1-2-3 (LOTUS DEV. CORP.)	(M)	256K	495.
800200	MICRO MODELLER (INTELLIGENCE UK)	(M)	256K	985.
801600	REPORT MANAGER (DATAMENSION CORP.)	(M)	128K	495.
803000	PEACHTEXT 5000 (PEACHTREE)	(M)	128K	395.
TOOL KITS				
730100	GRAPHICS	(M)	256K	295.
730200	PROGRAMMER'S	(M)	128K	295.
731800	HARD DISK	(M)	128K	195.
6500	AUDIO TOOL KIT (Includes HARDWARE)	(M)	256K	345.
730101	GRAPHICS II	(M2)	256K	295.
730201	SYSTEMS PROGRAMMERS II	(M2)	128K	295.
730202	APPLICATIONS PROGRAMMERS II	(M2)	128K	295.
731801	HARD DISK II	(M2)	128K	195.
6501	AUDIO TOOL KIT II (Includes HARDWARE)	(M2)	256K	345.
730400	CP/M-86 SYSTEM CONFIGURATION	(C)	128K	195.
COMMUNICATIONS				
719300	PC COMM (Includes INTERFACE CABLE)	(M)	128K	175.
719600	3270 BISYNC	(M)	128K	595.
719700	BISYNC-86/3780	(C)	128K	495.
719705	BISYNC-86/3780	(M)	128K	495.
719800	IEEE 488 (Includes INTERFACE CABLE)	(M)	128K	195.
747400	ASYNC	(C)	128K	195.
747500	3276 SNA/SDLC EMULATOR	(M)	128K	695.
747600	3278 COAX EMULATOR MODEL 2 & 5 (Includes H/W)	(M)	128K	1195.
747700	TD830 EMULATOR	(M)	128K	495.
DATA BASES				
718000	dBASE II	(C)	128K	595.
718005	dBASE II	(M)	128K	595.
800400	TIM III (INNOVATIVE SOFTWARE, INC.)	(M)	128K	495.
740500	FILES & FOLDERS	(M)	128K	495.
740100	DB-FABS	(M)	128K	295.

***OPERATING SYSTEM:**

(M) = MS-DOS, (M2) = MS-DOS 2.1, (C) = CP/M-86, (CC) = Concurrent CP/M-86

MS-DOS, MS-BASIC, MS-COBOL, MS-FORTRAN, MS-PASCAL, GW-BASIC and MULTIPLAN are trademarks of Microsoft.

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CP/M-80, CBASIC-86 and Concurrent CP/M are trademarks of Digital Research.

Select is a trademark of Select.

WORDSTAR and MAILMERGE are trademarks of Micropro.

BENCHMARK is a trademark of Metasoft.

MULTIMATE is a trademark of Softword Systems.

dBASE II is a trademark of Ashton Tate.

SUPERCALC is a trademark of Sorcom.

DB-FABS is a trademark of Computer Control Systems.

Targeted Management Systems

Prices effective November 14, 1984

MODEL NO.	TITLE	O/S	RAM MEM. REQ'D.	MIN. CONFIG. REQ'D.	PRICE
Targeted Management Systems					
753300	Bar Manager	2/85	(M)	128K	1495.
753600	Building Supply Manager	2/85	(M)	128K	1995.
752200	Cemetery Manager		(M)	128K	SS 1995.
752300	Client Write-Up Manager		(M)	128K	HD 1495.
752800	Dental Office Manager		(M)	128K	HD 4995.
752900	Grain Elevator Manager	3/85	(M)	128K	HD 1495.
753400	Hotel/Motel Manager	2/85	(M)	128K	1495.
752600	Law Office Manager		(M)	128K	DS 2495.
752400	Manufactured Housing Manager		(M)	128K	HD 2995.
752500	Medical Office Manager		(M)	128K	HD 4995.
753500	Office Products Manager	2/85	(M)	128K	2495.
752000	Pharmacy Manager		(M)	128K	HD 2495.
753100	Produce Packing Manager	3/85	(M)	128K	1995.
753200	Restaurant Manager	2/85	(M)	128K	1495.
753000	Seed Processor Manager	3/85	(M)	128K	2495.
752100	Video Tape Rental Manager		(M)	128K	SS 1495.
752700	Wholesale Loan Manager		(M)	128K	HD 3995.
General Management Functions					
750200	Accounts Payable		(M)	128K	SS 495.
750300	Accounts Receivable		(M)	128K	SS 495.
750400	Appointments		(M)	128K	SS 995.
750700	Bill of Materials		(M)	128K	HD 695.
750900	Fixed Assets		(M)	128K	HD 1995.
750100	General Ledger		(M)	128K	DS 695.
750500	Inventory Control		(M)	128K	SS 495.
751300	Order Entry	2/85	(M)	128K	595.
750600	Payroll		(M)	128K	SS 695.
750800	Purchase Order		(M)	128K	SS 495.
751200	Retail Point of Sale	2/85	(M)	128K	795.
751000	Work Order		(M)	128K	DS 495.
751100	Work in Process		(M)	128K	DS 695.

VICTOR 9000 HARDWARE

Prices effective November 14, 1984

MODEL NO.	TITLE	PRICE				
		DEALER	LIST			
SYSTEMS						
		<u>SIZE</u>	<u>DRIVES</u>	<u>RAM</u>		
9120-1-11	FLOPPY DISK SYSTEM	1.2MB	(2SS)	128K		\$2140. \$3295.
9200-1-11	NETWORKSTATION	N/A	DISKLESS	256K		1820. 2795.
9230-1-XX	HARD DISK SYSTEM	11.2MB	(HD & 1DS)	256K		3700. 5695.
9230-1-11	HARD DISK SYSTEM	11.2MB	(HD & 1DS)	256K		3570. 5495.
9270-1-XX	HARD DISK SYSTEM	31.2MB	(HD & 1DS)	256K	12/84	4350. 6695.
9270-1-11	HARD DISK SYSTEM	31.2MB	(HD & 1DS)	256K	12/84	4220. 6495.
9240-1-XX	FLOPPY DISK SYSTEM	2.4MB	(2DS)	256K		2920. 4495.
9240-1-11	FLOPPY DISK SYSTEM	2.4MB	(2DS)	256K		2790. 4295.
9232-1-00	FILE SERVER SYSTEM	11.2MB	(HD & 1DS)	256K		3245. 4995.
9272-1-00	FILE SERVER SYSTEM	31.2MB	(HD & 1DS)	256K	12/84	3895. 5995.
9252-1-01	PORTABLE SYSTEM	2.4MB	(2DS)	256K	12/84	2270. 3495.
1-XX - INTERNATIONAL SYSTEM LEGEND: 1-02 BRITISH, 1-03 GERMAN, 1-04 FRENCH						
SYSTEM MANUAL						
710620	HARDWARE REFERENCE MANUAL (v9000)					50. 75.
741220	VICKI TECHNICAL REFERENCE MANUAL (Portable)					50. 75.
KEYBOARDS						
0721	KEYBOARD MODULE WITH INTEGRATED PALMREST					325. 500.
0773	BRITISH KEYBOARD MODULE					325. 500.
0774	GERMAN KEYBOARD MODULE					325. 500.
0775	FRENCH KEYBOARD MODULE					325. 500.
MEMORY EXPANSION						
6402	128K RAM MEMORY EXPANSION CARD					255. 395.
6404	256K RAM MEMORY EXPANSION CARD					385. 595.
6406	384K RAM MEMORY EXPANSION CARD					515. 795.
OPTIONS						
6430	COLOR DISPLAY INTERFACE					255. 395.
6450	PLUSPC				1/85	650. 995.
6500	AUDIO TOOL KIT (Includes S/W)					225. 345.
6501	AUDIO TOOL KIT II (Includes S/W)					225. 345.
6580	CP/M-80 SYSTEM (Includes S/W)					385. 595.
6587	NUMERICAL DATA PROCESSOR (8087)					550. 845.
6600	NETWORK UPGRADE PACKAGE (Includes MANUAL)					385. 595.
6610	NETWORK CONNECTOR MODULE					130. 195.
6620	UNIVERSAL ROM KIT (NETWORK AUTO BOOT)				**NEW**	65. 100.
6901	EXPERIMENTER CARD					150. 195.
6902	EXTENDER CARD					150. 195.
747600	3278 COAX EMULATOR MODEL 2 & 5 (Includes S/W)					695. 1195.

VICTOR 9000 SOFTWARE

Prices effective November 14, 1984

MODEL NO.	TITLE	O/S	RAM MEM. REQ'D	PRICE	
				DEALER	LIST
OPERATING SYSTEMS					
711000	MS-DOS 2.1 HARD DISK	(M2)	256K	\$ 50.	\$ 80.
711100	MS-DOS 2.1 FLOPPY	(M2)	128K	50.	80.
717800	MS-DOS/MS-BASIC HARD DISK (Included w/System)	(M)	256K	115.	195.
717802	MS-DOS/MS-BASIC HARD DISK - BRITISH	(M)	256K	115.	195.
717803	MS-DOS/MS-BASIC HARD DISK - GERMAN	(M)	256K	115.	195.
717804	MS-DOS/MS-BASIC HARD DISK - FRENCH	(M)	256K	115.	195.
717900	MS-DOS/MS-BASIC FLOPPY (Included w/System)	(M)	128K	115.	195.
	INCLUDES CP/M-86	(C)	128K		
717902	MS-DOS/MS-BASIC FLOPPY - BRITISH	(M)	128K	115.	195.
717903	MS-DOS/MS-BASIC FLOPPY - GERMAN	(M)	128K	115.	195.
717904	MS-DOS/MS-BASIC FLOPPY - FRENCH	(M)	128K	115.	195.
731200	VICTORLAN - SERVER NETWORK	(M2)	256K	115.	195.
	INCLUDES WORKSTATION SOFTWARE	(M)	256K	Incl.	Incl.
6580	CP/M-80 SYSTEM (Includes HARDWARE)	(C)	128K	385.	595.
740400	CONCURRENT CP/M-86	(CC)	256K	415.	695.
					12/84
741300	CONCURRENT DOS	(CC)	512K	415.	695.
					1/85
LANGUAGES					
711200	MS-COBOL	(M)	256K	400.	795.
711500	LEVEL-II COBOL	(C)	128K	400.	995.
712200	MS-FORTRAN	(M)	256K	250.	495.
712500	MS-PASCAL	(M)	256K	275.	595.
712800	CBASIC-86	(C)	128K	195.	325.
719200	MS-BASIC COMPILER	(M)	128K	225.	445.
740900	VBASICA INTERPRETER	(M)	256K	175.	295.
					12/84
6435	VBASICA WITH COLOR DISPLAY HARDWARE	(M)	256K	385.	595.
					12/84
WORD PROCESSORS					
715000	SELECT	(C)	128K	225.	495.
715005	SELECT	(M)	128K	225.	495.
714700	WORDSTAR	(C)	128K	205.	495.
714705	WORDSTAR	(M)	128K	205.	495.
717200	MAILMERGE	(C)	128K	100.	225.
717205	MAILMERGE	(M)	128K	100.	225.
717100	WORDSTAR/MAILMERGE	(C)	128K	275.	695.
717105	WORDSTAR/MAILMERGE	(M)	128K	275.	695.
718100	BENCHMARK	(M)	128K	250.	495.
740300	MULTIMATE	(M)	128K	200.	495.
740800	PS TECHNICAL WORD PROCESSOR	(M)	256K	395.	695.
					1/85
SYSTEM MANUAL					
710620	HARDWARE REFERENCE MANUAL (v9000)			50.	75.
741220	VICKI TECHNICAL REFERENCE MANUAL (Portable)			50.	75.
					1/85

MODEL NO.	TITLE	O/S	RAM MEM. REQ'D	PRICE	
				DEALER	LIST
PRODUCTIVITY TOOLS					
715500	MULTIPLAN	(M)	128K	\$125.	\$295.
718500	SUPERCALC	(C)	128K	125.	195.
718505	SUPERCALC	(M)	128K	125.	195.
747100	EASEL GRAFIX	(M)	256K	110.	195.
800100	LOTUS 1-2-3 (LOTUS DEV. CORP.)	(M)	256K	325.	495.
800200	MICRO MODELLER (INTELLIGENCE UK)	(M)	256K	590.	985.
801600	REPORT MANAGER (DATAMENSION CORP.)	(M)	128K	250.	495.
803000	PEACHTEXT 5000 (PEACHTREE)	(M)	128K	215.	395.
TOOL KITS					
730100	GRAPHICS	(M)	256K	175.	295.
730200	PROGRAMMER'S	(M)	128K	175.	295.
731800	HARD DISK	(M)	128K	115.	195.
6500	AUDIO TOOL KIT (Includes HARDWARE)	(M)	256K	225.	345.
730101	GRAPHICS II	(M2)	256K	175.	295.
730201	SYSTEMS PROGRAMMERS II	(M2)	128K	175.	295.
730202	APPLICATIONS PROGRAMMERS II	(M2)	128K	175.	295.
731801	HARD DISK II	(M2)	128K	115.	195.
6501	AUDIO TOOL KIT II (Includes HARDWARE)	(M2)	256K	225.	345.
730400	CP/M-86 SYSTEM CONFIGURATION	(C)	128K	115.	195.
COMMUNICATIONS					
719300	PC COMM (Includes INTERFACE CABLE)	(M)	128K	105.	175.
719600	3270 BISYNC	(M)	128K	300.	595.
719700	BISYNC-86/3780	(C)	128K	250.	495.
719705	BISYNC-86/3780	(M)	128K	250.	495.
719800	IEEE 488 (Includes INTERFACE CABLE)	(M)	128K	125.	195.
747400	ASYNC	(C)	128K	80.	195.
747500	3276 SNA/SDLC EMULATOR	(M)	128K	325.	695.
747600	3278 COAX EMULATOR MODEL 2 & 5 (Includes H/W)	(M)	128K	695.	1195.
747700	TD830 EMULATOR	(M)	128K	275.	495.
DATA BASES					
718000	dBASE II	(C)	128K	275.	595.
718005	dBASE II	(M)	128K	275.	595.
800400	TIM III (INNOVATIVE SOFTWARE. INC.)	(M)	128K	275.	495.
740500	FILES & FOLDERS	(M)	128K	275.	495.
740100	DB-FABS	(M)	128K	175.	295.

***OPERATING SYSTEM:**

(M) = MS-DOS, (M2) = MS-DOS 2.1, (C) = CP/M-86, (CC) = Concurrent CP/M-86

MS-DOS MS-BASIC MS-COBOL MS-FORTRAN MS-PASCAL GW-BASIC and MULTIPLAN are trademarks of Microsoft.
 LEVEL II COBOL is a trademark of Microfocus.
 CP/M-86 CP/M-80 CBASIC-86 and Concurrent CP/M are trademarks of Digital Research.
 SELECT is a trademark of Select.
 WORDSTAR and MAILMERGE are trademarks of Micropro.
 BENCHMARK is a trademark of Metasoft.
 MULTIMATE is a trademark of Softword Systems.
 dBASE II is a trademark of Ashton Tate.
 SUPERCALC is a trademark of Sorcim.
 DB-FABS is a trademark of Computer Control Systems.

**VICTOR****Targeted Management Systems**

Prices effective November 14, 1984

MODEL NO.	TITLE	O/S	RAM MEM. REQ'D.	MIN. CONFIG. REQ'D.	PRICE	
					DEALER	LIST
Targeted Management Systems						
753300	Bar Manager	2/85	(M)	128K		897. 1495.
753600	Building Supply Manager	2/85	(M)	128K		1197. 1995.
752200	Cemetery Manager		(M)	128K	SS	1197. 1995.
752300	Client Write-Up Manager		(M)	128K	HD	897. 1495.
752800	Dental Office Manager		(M)	128K	HD	2997. 4995.
752900	Grain Elevator Manager	3/85	(M)	128K	HD	897. 1495.
753400	Hotel/Motel Manager	2/85	(M)	128K		897. 1495.
752600	Law Office Manager		(M)	128K	DS	1497. 2495.
752400	Manufactured Housing Manager		(M)	128K	HD	1797. 2995.
752500	Medical Office Manager		(M)	128K	HD	2997. 4995.
753500	Office Products Manager	2/85	(M)	128K		1497. 2495.
752000	Pharmacy Manager		(M)	128K	HD	1497. 2495.
753100	Produce Packing Manager	3/85	(M)	128K		1197. 1995.
753200	Restaurant Manager	2/85	(M)	128K		897. 1495.
753000	Seed Processor Manager	3/85	(M)	128K		1497. 2495.
752100	Video Tape Rental Manager		(M)	128K	SS	897. 1495.
752700	Wholesale Loan Manager		(M)	128K	HD	2397. 3995.
General Management Functions						
750200	Accounts Payable		(M)	128K	SS	297. 495.
750300	Accounts Receivable		(M)	128K	SS	297. 495.
750400	Appointments		(M)	128K	SS	597. 995.
750700	Bill of Materials		(M)	128K	HD	417. 695.
750900	Fixed Assets		(M)	128K	HD	1197. 1995.
750100	General Ledger		(M)	128K	DS	417. 695.
750500	Inventory Control		(M)	128K	SS	297. 495.
751300	Order Entry	2/85	(M)	128K		357. 595.
750600	Payroll		(M)	128K	SS	417. 695.
750800	Purchase Order		(M)	128K	SS	297. 495.
751200	Retail Point of Sale	2/85	(M)	128K		477. 795.
751000	Work Order		(M)	128K	DS	297. 495.
751100	Work in Process		(M)	128K	DS	417. 695.

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DEALER SPARES KIT

SINGLE SIDED

1.2MB SYSTEM

DOMESTIC

PART NUMBER: K009000-C

ITEM#	PART NUMBER	DESCRIPTION	UM	QTY.	LIST PRICE	DEALER NET	EXTENSION
1.	X101301-01	PCB ASSY. VIDEO	EA	1	172.80	103.68	103.68
2.	X100750-01	PCB POWER ASSY. AZTEC	EA	1	227.14	136.28	136.28
3.	E100085-01	FUSE 2A	EA	5	4.88	2.93	14.65
4.	X100092-02	D/DR, FLOPPY W/TIE	EA	2	431.09	258.65	517.30
5.	X100670-01	PCB ASSY, DISK DR.	EA	1	408.62	245.17	245.17
6.	E100889-01	FAN AASY, 115V. 16" LEADS	EA	1	59.27	35.56	35.56
7.	E100470-02	PCB ASSY, CPU, W/EPROM, 128K	EA	1	1,170.92	702.55	702.55
8.	E100480-01	ROCKER SWITCH	EA	2	14.94	8.97	17.94
9.	E100516-01	SWITCH ASSY, RESET	EA	2	17.42	10.45	20.90
10.	E100792-01	SWITCH, KEYBOARD	EA	6	1.82	1.09	6.54
11.	X100007-07	KEYBOARD, PROGRAMMING, DOM	EA	1	326.40	195.84	195.84
12.	E100036-01	CABLE ASSY, KEYBOARD	EA	1	45.78	27.47	27.47
13.	E100704-01	CABLE, CRT	EA	1	56.57	33.94	33.94
14.	E100817-01	YOKE, CRT	EA	1	26.97	16.18	16.18
15.	E100317-01	CABLE ASSY, DC POWER	EA	1	16.69	10.02	10.02
16.	E100069-01	CABLE ASSY, DISK DR. I/O	EA	1	21.14	12.68	12.68
17.	E100766-02	FILTER A/C	EA	1	28.80	17.28	17.28
18.	E100820-01	SUITCASE,	EA	1	326.40	195.84	195.84

TOTAL AMOUNT OF MERCHANDISE: \$2,309.82

DISTRIBUTOR/DEALER PRICE: \$1,700.00

NOTE: This Kit does not include:
Manuals or Diagnostic Diskette



DEALER SPARES KIT

DOUBLE SIDED

2.4 MB SYSTEM

DOMESTIC

KIT NUMBER: K009000D

ITEM NO.	PART NUMBER	DESCRIPTION	UM	QTY.	LIST PRICE	DEALER NET	EXTENSION
1.	X101301-01	PCB ASSY, VIDEO	EA	1	\$172.80	\$103.68	\$103.68
2.	X100750-01	PCB POWER SUPPLY, AZTEC	EA	1	227.14	136.28	136.28
3.	E100085-01	FUSE, 2A	EA	5	4.88	2.93	14.65
4.	X100773-02	DISK DRIVE DOUBLE W/TIE	EA	2	677.54	406.52	813.04
5.	X100670-02	PCB ASY, DISK DRIVE	EA	1	408.62	245.17	245.17
6.	E100889-01	FAN ASSY, 115V. 16" LEAD	EA	1	59.52	35.56	35.56
7.	X102010-02	PCB ASSY, CPU W/EPROM 256K	EA	1	1,395.74	837.45	837.45
8.	E100480-01	ROCKER SWITCH	EA	2	14.94	8.97	17.94
9.	E100792-01	SWITCH, KEYBOARD	EA	6	1.82	1.09	6.54
10.	X100007-07	KEYBOARD, PROGRAMMING, DOM	EA	1	326.40	195.84	195.84
11.	E100036-01	CABLE ASSY., KEYBOARD	EA	1	45.78	27.47	27.47
12.	E100704-01	CABLE, CRT	EA	1	56.57	33.94	33.94
13.	E100817-01	YOKE, CRT	EA	1	26.97	16.18	16.18
14.	E100347-01	CABLE ASSY., DC POWER	EA	1	16.69	10.02	10.02
15.	E100069-01	CABLE ASSY, DISK DRIVE I/O	EA	1	21.14	12.68	12.68
16.	E100766-02	FILTER, AC	EA	1	28.80	17.28	17.28
17.	E100820-01	SUITCASE, SPARES KIT, VIC	EA	1	326.40	195.84	195.84

TOTAL AMOUNT OF MERCHANDISE \$ 2,719.56



DEALER SPARES KITS
HARD DISK
DOMESTIC

KIT PART NUMBER: K000408A

ITEM NO	PART NUMBER	DESCRIPTION	UM	QTY.	LIST PRICE	DEALER NET	EXTENSION
1.	X101301-01	PCB ASSY, VIDEO	EA	1	\$172.80	\$103.68	\$103.68
2.	X100750-01	PCB POWER SUPPLY,	EA	1	227.14	136.28	136.28
3.	E100085-01	FUSE 2A	EA	5	4.88	2.93	14.65
4.	X100773-02	DISK DRIVE,DOUBLE W/TIE	EA	1	677.54	406.52	406.52
5.	X100670-02	PCB ASSY.DISK DR.	EA	1	408.62	245.17	245.17
6.	E100889-01	FAN ASSY, 115V. 16" LEADS	EA	1	59.27	35.56	35.56
7.	X102010-02	PCB ASSY, CPU W/EPROM	EA	1	1,395.74	837.45	837.45
8.	E100480-01	ROCKER SWITCH	EA	2	14.94	8.97	17.94
9.	E100792-01	SWITCH, KEYBOARD	EA	6	1.84	1.09	6.54
10.	X100007-07	KEYBOARD, PROGRAMMING DOM	EA	1	326.40	195.84	195.84
11.	E100036-01	CABLE ASSY.K.B.	EA	1	45.78	27.47	27.47
12.	E100704-01	CABLE, CRT	EA	1	56.57	33.94	33.94
13.	E100817-01	YOKE, CRT	EA	1	26.97	16.18	16.18
14.	E101995-01	CABLE ASSY, DC POWER, HD	EA	1	28.43	17.06	17.06
15.	E101865-01	CABLE ASSY, PWR HARD DISK	EA	1	29.16	17.50	17.50
16.	E101862-01	CABLE ASY, STATUS CONTROL	EA	1	27.70	16.62	16.62
17.	E101863-01	CABLE ASSY, DISK RADIAL	EA	1	18.23	10.93	10.93
18.	E101864-01	CABLE ASSY, DMA	EA	1	51.76	31.06	31.06
19.	E100069-01	CABLE ASSY, DISK DRIVE I/O	EA	1	21.14	12.68	12.68
20.	E100766-02	FILTER, AC	EA	1	28.80	17.28	17.28
21.	E100820-02	SUITCASE, SPARES KIT, VIC	EA	1	326.40	195.84	195.84
22.	X101160-02	PCB ASSY, DISK DMA I/F	EA	1	263.28	157.97	157.97
23.	X101787-01	PC BOARD, CONTR., HD	EA	1	735.38	441.23	441.23
24.	X104172-01	10MB HARD DISK DR.	EA	1	1,629.75	977.85	977.85
25.	E106168-01	BOOT PROM,UNIV.FE	EA	1	30.62	18.37	18.37
26.	E106170-01	BOOT PROM,UNIV.FF	EA	1	30.62	18.37	18.37

\$ 4,009.17

DISTRIBUTOR/DEALER PRICE:

\$2,500.00

VICKI TECHNICAL BULLETINS

DATE: JULY, 1984

581-251-SB1

SUBJECT: NEW UNIVERSAL BOOT PROMS

DATE: FEBRUARY 12,1985

581-251-SB2

SUBJECT: INSTRUCTIONS FOR UPGRADING RAM CAPACITY

DATE: APRIL 16, 1985

581-251-SB2R

SUBJECT: INSTRUCTIONS FOR UPGRADING RAM CAPACITY

DATE: MARCH 1,1985

581-251-SB3

SUBJECT: FLOPPY DISK DRIVE MAGNETIC HEAD PROTECTIVE INSERTS

DATE: MARCH 1,1985

581-251-SB4

SUBJECT: RMA PROCEDURES FOR WELTEC FLOPPY DISK DRIVES

DATE: APRIL 16,1985

581-251-SB4R

SUBJECT: RMA PROCEDURES FOR WELTEC FLOPPY DISK DRIVES

DATE: MAY 6, 1985

581-251-SB5

SUBJECT: OVERHEATING OF WELTEC DRIVE STEPPER MOTORS



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

MODEL 925X
PORTABLE COMPUTERS

581-251-SB2
FEBRUARY 12, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: INSTRUCTIONS FOR UPGRADING RAM CAPACITY

The RAM capacity of the Vicki can be increased to 640 Kilo-bytes.

RAM IC's on the Vicki CPU PCBA have been mounted on sockets beginning with CPU PCBA S/N VB4430052. PCBA's with a serial number lower than this have soldered in RAM's, and therefore cannot be modified in the field. These PCBA's should be returned to a Victor Repair Depot or Victor Technologies Subsidiary for modification, and normal service charges for time and material will be charged.

PARTS REQUIRED:

Itm.	Part Number	Description	Qty. Req Per Unit
1.	106557-01	IC, DRAM, 256K X 1, Hitachi HM 50256-15	16
2.	106601-01	IC, 74S157, QUAD 1 OF 2 DATA SELECTOR	1

The following is the procedure for the modification.

1. Cut the trace as illustrated below in Figure 1. Trace is adjacent to IC U7M on the solder side of the PCBA.

IC U7M SOLDER SIDE

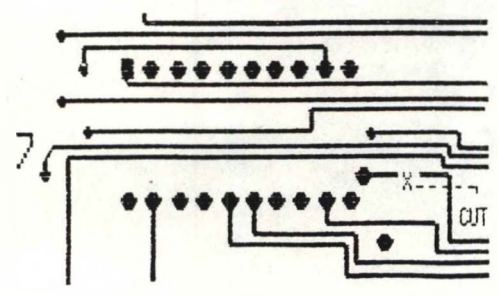


FIGURE 1

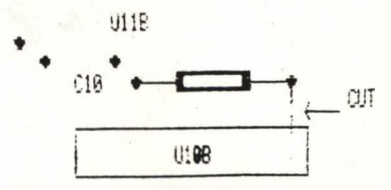


FIGURE 2

2. On the component side cut the trace between capacitor C10 and IC U10B pin 1. This trace is illustrated in figure 2.

3. Install the 74S157 IC into the U1A position. Insert pin 1 of the IC into pin 1 of U1A; This is the square solder pad. Install the following jumpers:
 - A. U1A pin 8 to GND. GND is present at the empty hole in the same row as pin 8, two pins down.
 - B. U1A pin 15 to U8H pin 15.
 - C. U1A pin 1 to U8H pin 1.
 - D. U1A pin 2 to U6J pin 29.
 - E. U1A pin 3 to U6J pin 28.
 - F. U1A pin 4 to U3B pin 1.
- 4.* Solder a short jumper between U6J pins 25 and 26.
- 5.* Remove the 16 64K X 1 RAM IC's in columns B and D. (U3B-U11B and U3D-U11D respectively)
- 6.* Install the 16 256K X1 RAM IC's into columns B and D.
7. Install the CPU PCBA and turn on the system. The memory size ICON should now indicate ~~640K~~ on line 25 of the screen, until the boot sequence loads the operating system.
- * The Vicki can also be upgraded to 512 Kilo-bytes by deviating the procedure slightly. Perform steps 1 through 3 as before.
 4. Unsolder and remove the end of Resistor R14 that is closest to IC U6J. Solder a jumper from the loose end of R14 to U6J pin 26. Solder a jumper from U6J pin 25 to U4J pin 12.
 5. Remove the 32 64K X 1 RAM IC's.
 6. Install the 16 256K X1 RAM IC's into columns A and C.
 7. Install the CPU PCBA and turn on the system. The memory size ICON should now indicate 512K on line 25 of the screen, until the boot sequence loads the operating system.

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

MODEL 925X
PORTABLE COMPUTERS

581-228-SB3
MARCH 1, 1985

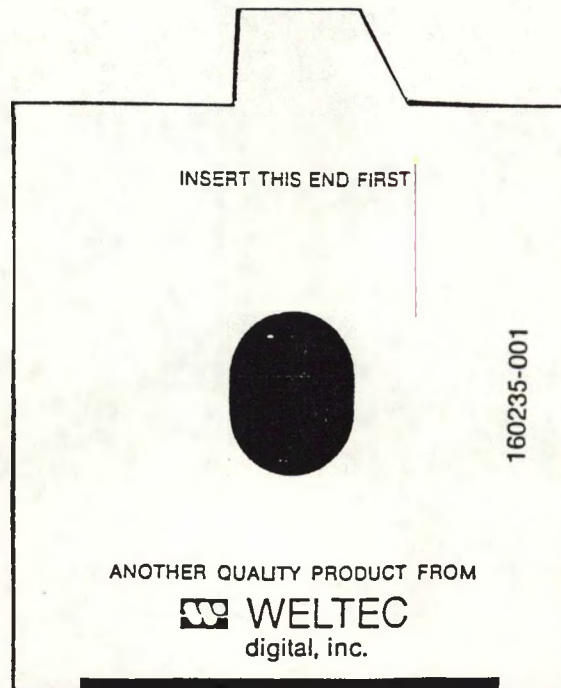
ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: FLOPPY DISK DRIVE MAGNETIC HEAD PROTECTOR INSERTS

In order to prevent damage to the magnetic heads in the floppy disk drives, the cardboard head protector insert MUST installed whenever the unit is being transported.

All new units are shipped with these cards installed. All dealers and distributors are hereby advised to have their customers retain these protector cards, and utilize them.

Should the card(s) become bent or damaged they should be discarded and replaced. Replacement cards are available from Field Engineering Parts Distribution. The part number for the replacement card is 1602456-02.





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

MODEL 925X
PORTABLE COMPUTERS

581-251-SB4 REVISED
APRIL 16, 1985

DISCARD BULLETIN #581-228-SB4 MARCH 1, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: FLOPPY DISK DRIVE RMA PROCEDURES

Effective immediately, all Weltec 1/2 Ht. 96TPI Floppy Disk Drives are eligible for exchange through the RMA program. All subsidiaries and distributors must follow the procedures outlined below when returning defective drives for exchange.

1. Drives are to be packed in individual boxes and are to have a magnetic head protector insert inserted into the diskette channel.
2. Boxed drives may then be overpacked into a larger container which is not to exceed 70 pounds. (31 Kgms.)
3. A written request for an RMA number must be obtained from the Manager of Field Engineering Support, Scotts Valley, Ca. USA. Request must indicate the quantity of drives that are being returned. RMA's FOR WELTEC FLOPPY DRIVES MUST NOT CONTAIN ANY OTHER MATERIAL!
4. Domestic distributors are to return material to their regional Field Engineering Repair Depot for exchange or repair. These returns do not require an RMA number from Scotts Valley.
5. International RMA's MUST be sent to us at the following address:

VICTOR TECHNOLOGIES
C/O KSI, San Francisco
400 Trimble Rd.
San Jose, Ca. 95131

Bill of Lading accompanying RMA must also indicate the value of the returned goods. Weltec drives have a distributor price of \$220.45, U.S. A duplicate packing slip should also be included in the shipment, as one copy may be retained by customs.



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

MODEL 925X
PORTABLE COMPUTERS

581-228-SB4
MARCH 1, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: FLOPPY DISK DRIVE RMA PROCEDURES

Effective immediately, all Weltec 1/2 Ht. 96TPI Floppy Disk Drives are eligible for exchange through the RMA program. All subsidiaries and distributors must follow the procedures outlined below when returning defective drives for exchange.

1. Drives are to be packed in individual boxes and are to have a magnetic head protector insert inserted into the diskette channel.
2. Boxed drives may then be overpacked into a larger container which is not to exceed 70 pounds. (31 Kgms.)
3. A written request for an RMA number must be obtained from the Manager of Field Engineering Support, Scotts Valley, Ca. USA. Request must indicate the quantity of drives that are being returned. RMA's FOR WELTEC FLOPPY DRIVES MUST NOT CONTAIN ANY OTHER MATERIAL!
4. Domestic RMA's are to be shipped to:

VICTOR TECHNOLOGIES
380 EL PUEBLO RD.
SCOTTS VALLEY, CA. 95066

5. International RMA's MUST be sent to us at the following address:

VICTOR TECHNOLOGIES
C/O KSI, San Francisco
400 Trimble Rd.
San Jose, Ca. 95131

Bill of Lading accompanying RMA must also indicate the value of the returned goods. Weltec drives have a distributor price of \$220.45, U.S.

Bulletin

MODEL 925X
PORTABLE COMPUTERS

581-251-SE5
MAY 6, 1985

ACTION CLASS REQUIRED	
FIELD CHANGE LEVEL	
OLD	NEW
B	C

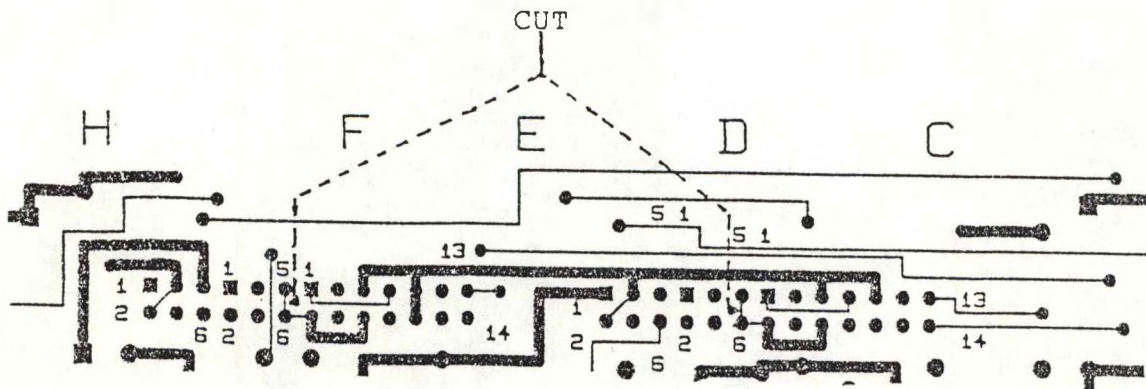
SUBJECT: OVERHEATING OF WELTEC FLOPPY DISK DRIVE STEPPER MOTORS

Weltec drive stepper motors have been running at an unacceptably high temperature. This problem has been traced to the Rev. A PCB FAB of the Disk Drive/I/O board, P/N 105110-01. Pin 5 of connectors J2B and J3B have been connected to ground, resulting in the coils of the stepper motors always conducting current, even during idle times. On Weltec drives which do not have a door switch, there is a black wire connected to pin 5 which is the center tap for the stepper motor.

Printed circuit boards with a FAB below Rev. A do not have ground connected to pin 5. Also, Weltec drives are now coming through which have a door switch, and these drives have the door switch connected to pin 5. Vicki's which contain either a Disk Drive/I/O board below Rev. A or contain Weltec Drives with a door switch will not exhibit this problem.

Rework all Rev. A FAB boards to correct this condition. Cut two traces on the solder side of the board:

1. Cut the trace between pins 5 and 6 of Connector J2B.
2. Cut the trace between pins 5 and 6 of Connector J3B.



VI TECHNICAL BULLETINS

DATE: JULY 11, 1985

581-253-SB1

SUBJECT: CHANGE TO VIDEO STRETCH CIRCUITRY

DATE: SEPT. 6, 1985

581-253-SB1 REVISED

SUBJECT: CHANGE TO VIDEO STRETCH SIRCUITRY
2 PINS WERE JUMPERED WRONG

DATE: AUGUST 6, 1985

581-253-SB2

SUBJECT: EXTERNAL HARD DISK FOR VI

DATE: AUGUST , 1985

581-253-SB3

SUBJECT: RAM EXPANSION IN THE VI

DATE: AUGUST , 1985

581-253-SB4

SUBJECT: ECHO DATA - PREFETCH PROBLEM

DATE: AUGUST 12, 1985

581-253-SB5

SUBJECT: ANALOG TO CHASSIS GROUND

DATE: AUGUST 13, 1985

581-253-SB6

SUBJECT: SERIAL INTERFACE CHIPS ON VI CPU BOARD

DATE: SEPT. 3, 1985

581-253-SB7

SUBJECT: FANOUT PROBLEM ON THE AD BUS

DATE: SEPT. 6, 1985

581-253-SB8

SUBJECT: MODIFICATION TO CPU FOR 8087 OPTION

DATE: OCTOBER 1, 1985

581-253-SB9

SUBJECT: BOOT PROMS FOR MICROSCIENCE HD DRIVE

DATE: OCTOBER 22, 1985

581-253-SB9 REVISED

SUBJECT: BOOT PROMS FOR MICROSCIENCE HD DRIVE

DATE: OCTOBER 10, 1985

581-253-SB10

SUBJECT: CHANGE TO HD CONTROLLER PCB: DRIVES WITH
PULSES AT MINIMUM SIGNAL LEVEL AND PULSE
WIDTH

DATE: OCTOBER 31, 1985

581-253-SB11

SUBJECT: REWORK TO HD CONTROLLER PCBA; HEAD
DESELECT REWORK

DATE: OCTOBER 31, 1985

581-253-SB12

SUBJECT: REWORK TO FLOPPY CONTROLLER PCBA; HEAD
DESELECT REWORK

DATE: DECEMBER 14, 1985

581-253-SB13

SUBJECT: REWORK TO CPU PCBA; SUPERLOK™

DATE: DECEMBER 14, 1985

581-253-SB14

SUBJECT: REWORK TO HARD DISK CONTROOLER PCBA;
SUPERLOK™

DATE: DECEMBER 14, 1985

581-253-SB15

SUBJECT: REWORK TO "AT" FLOPPY CONTROLLER PCBA;
SUPERLOK™

DATE: DECEMBER 14, 1985

581-253-SB16

SUBJECT: VI PORT SELECTION USING MODE.COM

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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB1
JULY 11, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
A	B

SUBJECT: CHANGE TO VIDEO STRETCH CIRCUITRY, VI CPU PCBA, 106520-01

REASON FOR CHANGE

Some VI CPU boards have exhibited an anomaly of the video display. When a static screen is being displayed, extra dots may be illuminated, ("snow"). This anomaly has been traced to a timing problem where the VIDEO signal is clocked into the 74LS164 shift register, (IC U13A). The 5ns minimum hold time was not being met.

ACTION

1. Cut the trace leading from IC U13A (74LS164) pins 1 and 2.
2. Solder a jumper from IC U15C (74S74A) pin 8 and IC U13A pins 1 and 2. This signal is now designated SFVIDEO.
3. Solder a jumper from IC U17D, (74LS04) pin 1 to IC U15C, (74S74A) pin 12. This signal is XVIDEO.
4. Solder a jumper between IC U15C pins 13 and 10.
5. Solder a jumper between IC U15C pins 13 and 14. This pulls pins 10 and 13 up to +5V, through a 2.2K resistor at R501.
6. Solder a jumper from IC U15C pin 11 and IC U12E, (74S04C) pin 5. This signal is XCLK15.

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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB1
JULY 11, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
A	B

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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

MODEL 30XX
VI BUSINESS COMPUTERS

581-253-SB2
AUGUST 6, 1985

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: EXTERNAL HARD DRIVE FOR THE VI

Some customers have asked if it is possible to connect an external hard drive to a VI. The purpose of this bulletin is to clarify that it is not possible to connect the existing Victor external hard drive to the VI since the VI is not compatible with the xebec hard disk controller board.

The dual floppy drive controller board on the VI system does not have a hard disk interface at all, and it is not possible to use the V9000 dma board. However, there are plans to make a DMA board in the future that will work either in the VI or in the V9000.

The hard disk controller board has an unused ST-506 interface (a 50 pin connector) which could be used for an external hard disk without the xebec board, but there is no cable for that arrangement at this time.

Bulletin

SERIES 30XX
VI BUSINESS COMPUTERS

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

581-253-SB3
AUGUST 7, 1985

SUBJECT: RAM UPGRADES FOR THE VI

There are several ways of upgrading RAM in the VI. There are two banks of 16 bit wide dynamic RAM on the CPU board. These banks can either be filled with 64K RAM chips or 256K RAM chips. The mapper circuitry will configure the system so that the software sees RAM in a contiguous block. No switch settings or jumpers are needed. The existing V9000 expansion RAM cards can also be used in the VI.

There are four ways to configure on board RAM.

1. Both banks can be filled with 64K RAM chips (basic 256K configuration).
2. The first bank can be filled with 256K RAM chips, and no chips in the second bank (512K configuration).
3. The first bank can be filled with 256K RAM chips and the second bank is filled with 64K RAM chips (640K configuration).
4. Both banks can be filled with 256K RAM chips (1024K configuration).

The physical address of the RAM will be changed with the different configurations.

1. With 64K in the first & second banks, the first 128K is the first bank and the second 128K is the second bank. The first row of each bank is the even bytes, and the second row is the odd bytes.
2. With 256K RAMS in the first bank, the first bank contains all 512K of memory. The first row of RAMS is the even

bytes, and the second row is the odd bytes.

3. With 256K RAMS in the first bank and 64K RAMS in the second bank, the first 128K is the first bank, the second 128K is the second bank, and the third 128K is the second quarter of the chips in the first bank.
4. With 256K RAMS in both banks, the first, third, fifth, and seventh 128K blocks are the first bank. The second, fourth, sixth, and eighth 128K are the second bank.

The 128K, 256K, and 384K expansion cards can also be used to expand memory. The dip switch settings for these boards are the same for the VI as they are for the V9000. Again, the mapper will find the memory, whatever the switch setting, and configure the memory to look contiguous to the software. The only precautionary note is that the switch settings on these ram cards must not overlap. (ie. When using two 128K RAM cards, they cannot have the same switch settings.)

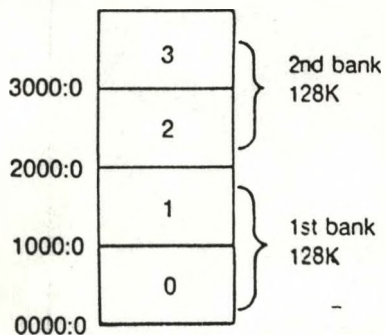
A further complication in the way memory is mapped is that in the Victor mode, certain blocks of memory will be mapped to one address, and in the IBM mode it will be mapped to another. For diagnostics purposes, it is probably only useful to know how it is mapped in the Victor mode.

If no expansion cards are used, the memory is configured as stated above. If the expansion cards are used, all external expansion memory is sandwiched in between the first and second 128K of the on board memory blocks. An example would be that if you had a 256K machine with two 128K expansion cards, the mapper would map the first 128K of on board RAM to 0000:0. It would then sandwich in the off board RAM starting at 2000:0. Then it would map the rest of on board RAM starting at 6000:0. The diagrams on the next pages will help to clarify how memory is mapped.

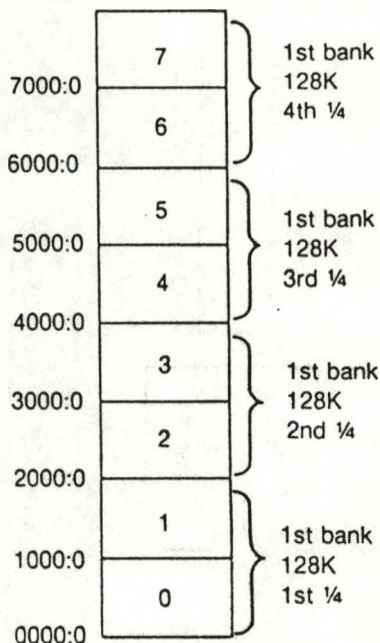
Any RAMS that are installed, should have a maximum access time of 200 nanoseconds or less.

Memory Map in Victor Mode

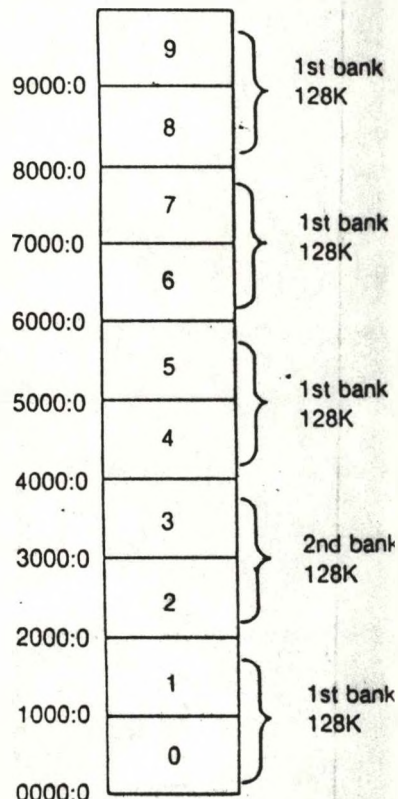
256K of on board memory
64K RAMS



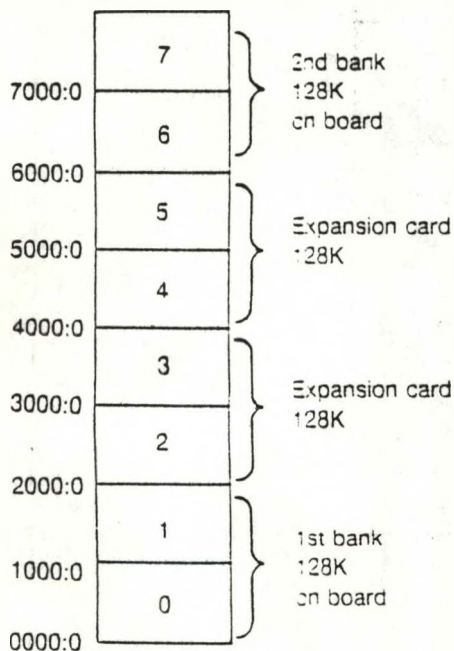
512K of on board memory
256K RAMS



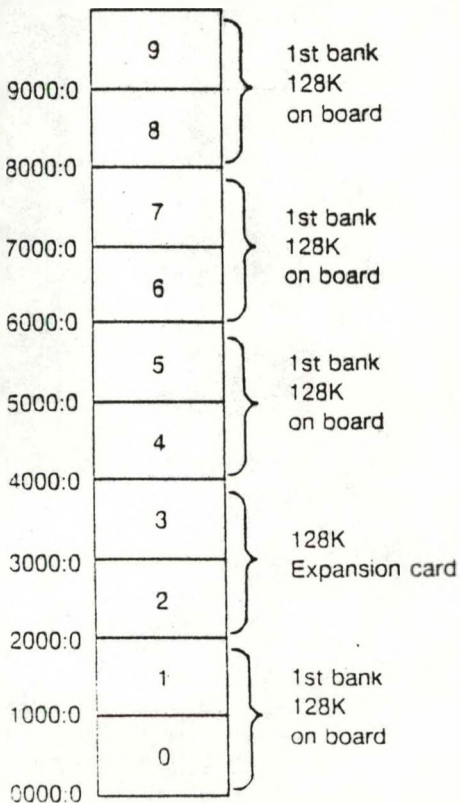
640K of on board memory
256K RAMS in 1st bank
64K RAMS in 2nd bank



256K of on board RAM 64K chips
256K of off board RAM (memory card)

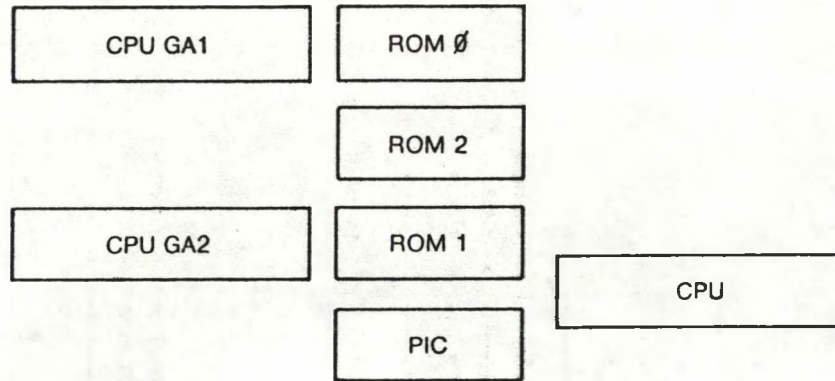


512K of on board memory
128K expansion card



Off board memory always starts at 2000:0

CPU BOARD



	U5CA	U5DA	U5EA	U5FA	U5HA	U5JA	U5KA	U5LA
1st Bank	1st Row 7	6	5	4	3	2	1	∅
	2nd Row 7	6	5	4	3	2	1	∅
2nd Bank	2nd Row 7	6	5	4	3	2	1	∅
	1st Row 7	6	5	4	3	2	1	∅
	U2CA	U2DA	U2EA	U2FA	U2HA	U2JA	U2KA	U2LA



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

MODEL 30XX
VI BUSINESS COMPUTERS

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

581-253-SB2
AUGUST 6, 1985

SUBJECT: EXTERNAL HARD DRIVE FOR THE VI

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The hard disk controller board has an unused ST-506 interface (a 50 pin connector) which could be used for an external hard disk without the xebec board, but there is no cable for that arrangement at this time.

Bulletin

SERIES 30XX
VI BUSINESS COMPUTERS

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

581-253-SB3
AUGUST 7, 1985

SUBJECT: RAM UPGRADES FOR THE VI

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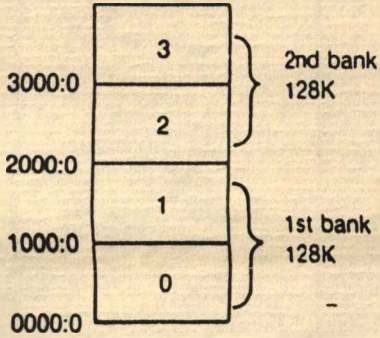
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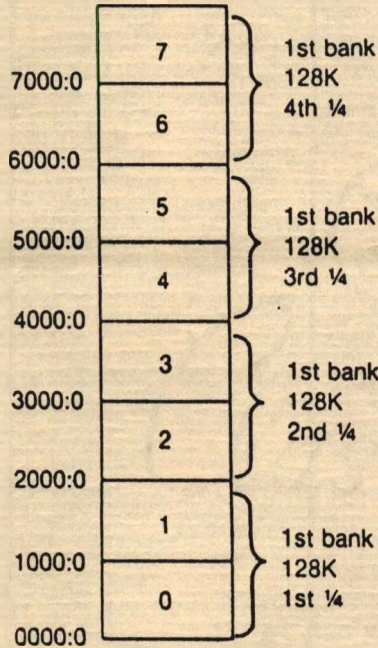
Any RAMS that are installed, should have a maximum access time of 200 nanoseconds or less.

Memory Map in Victor Mode

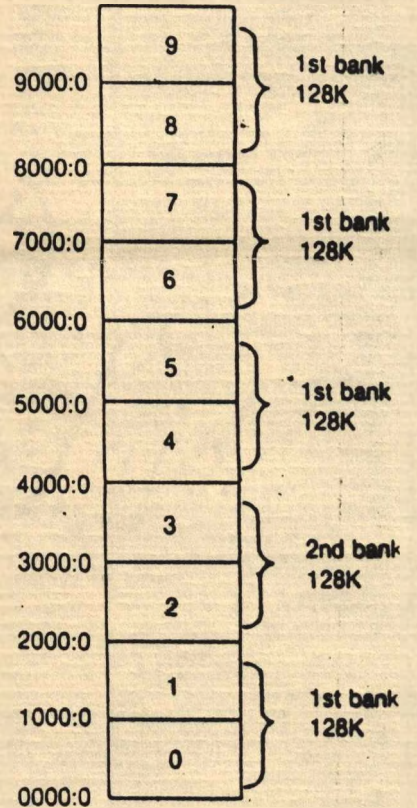
256K of on board memory
64K RAMS



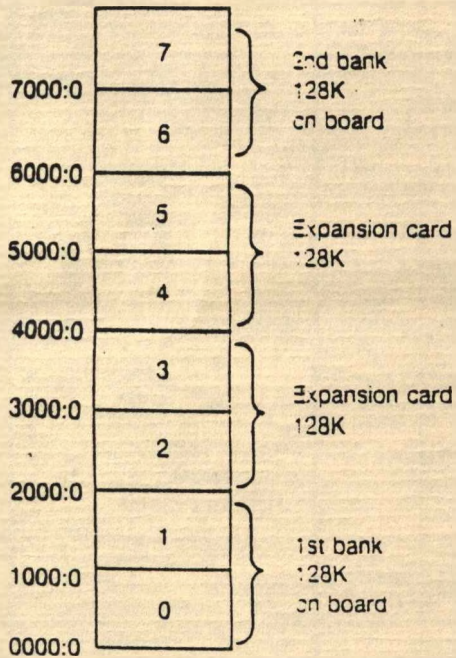
512K of on board memory
256K RAMS



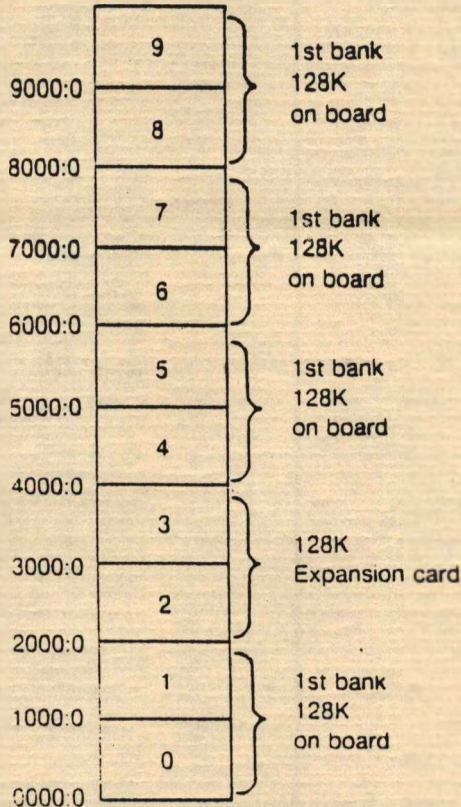
640K of on board memory
256K RAMS in 1st bank
64K RAMS in 2nd bank



256K of on board RAM 64K chips
256K of off board RAM (memory card)

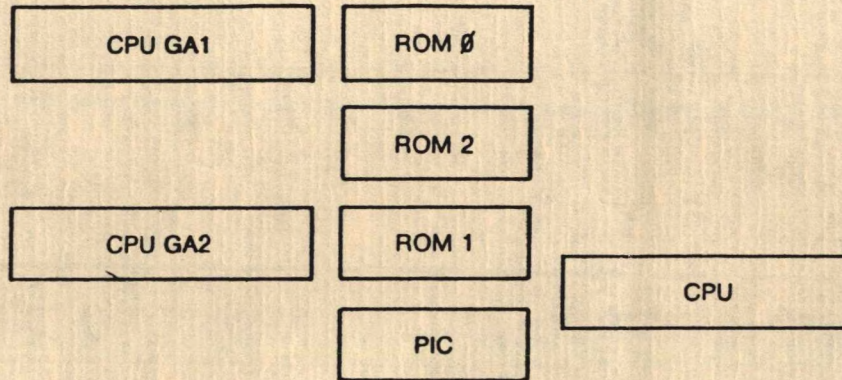


512K of on board memory
128K expansion card



Off board memory always
starts at 2000:0

CPU BOARD



	U5CA	U5DA	U5EA	U5FA	U5HA	U5JA	U5KA	U5LA
1st Bank	1st Row 7	6	5	4	3	2	1	\emptyset
	2nd Row 7	6	5	4	3	2	1	\emptyset
2nd Bank	2nd Row 7	6	5	4	3	2	1	\emptyset
	1st Row 7	6	5	4	3	2	1	\emptyset
	U2CA	U2DA	U2EA	U2FA	U2HA	U2JA	U2KA	U2LA

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 30XX
VI BUSINESS COMPUTERS

581-253-SB4
AUGUST 8, 1985

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

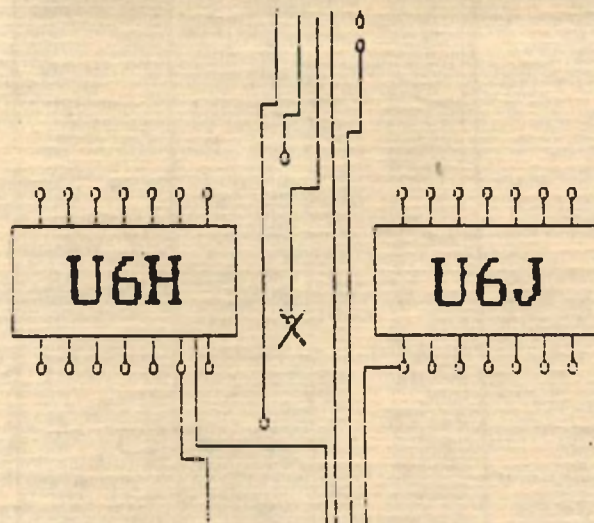
SUBJECT: ECHO DATA - PREFETCH PROBLEM

On some VI machines, a timing problem has been discovered that causes bus contention on the data bus. The CPU tries to do a prefetch of an instruction during an echo cycle, when data is being written to the screen. The 8088 thinks it is fetching an instruction, when actually it is picking up data from the screen.

To correct this problem, the EPRQLR signal is triggered off of MB instead of MA.

Rework to the Rev. A and P5 fabs are as follows:

1. Cut trace to U15D pin 4.
2. Jumper a wire from the feed through hole between U6H and U6J (MB) to U15 pin 4 (triggers EPRQLR).



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 30XX
VI BUSINESS COMPUTERS

581-253-SB4
AUGUST 8, 1985

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

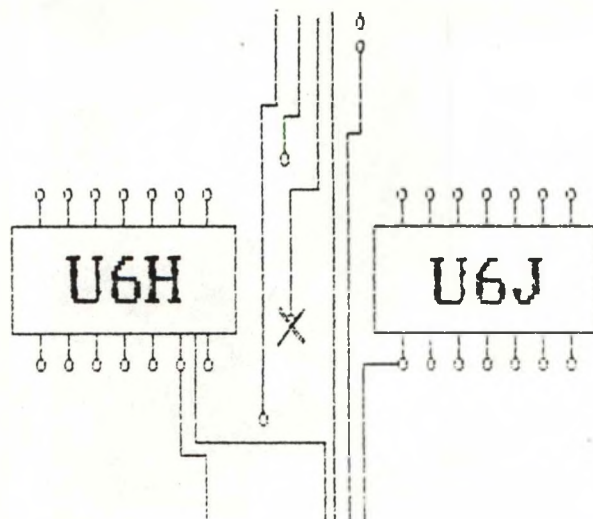
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Bulletin

SERIES 30XX
VI DESKTOP BUSINESS COMPUTERS

581-253-SB5
AUGUST 12, 1985

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
A	B

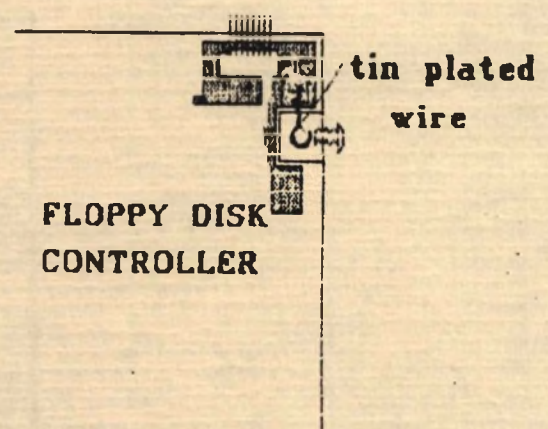
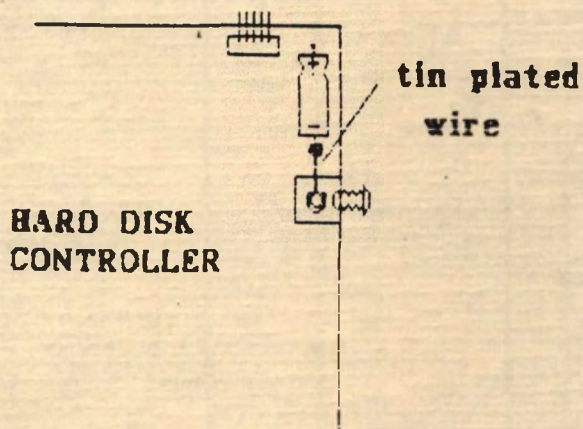
SUBJECT: ANALOG TO CHASSIS GROUND

To reduce noise on analog ground, a change has been made to all VI hard drive and floppy controller boards. This change helps reduce the number of hard and soft errors on the floppy drives resulting from this noise.

On the hard drive board, connect a piece of 22 AWG. tinned, solid copper, bus wire from the (-) side of Cap. C023 to the mounting bracket directly below it. Take the bracket off, and screw the wire in underneath the bracket.

On the floppy drive board, solder the tinned copper wire to the ground plane directly above the mounting bracket on the right side. Scratch off the solder mask on the ground plane so the solder will stick. Then loop the wire underneath the bracket and screw it down tight.

Change the FCO level from A to B.



VICTOR

FIELD ENGINEERING TECHNICAL

Bulletin

SERIES 30XX VI DESKTOP BUSINESS COMPUTERS

581-253-SB5
AUGUST 12, 1985

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
A	B

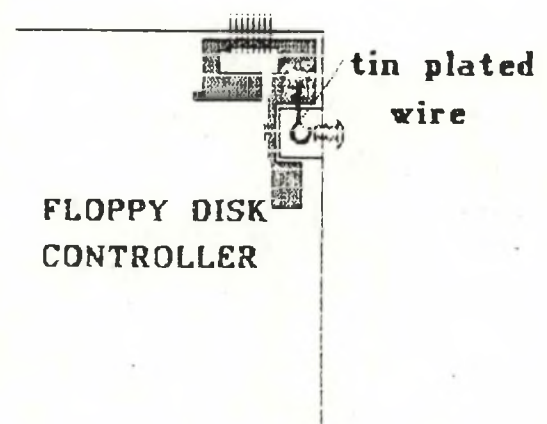
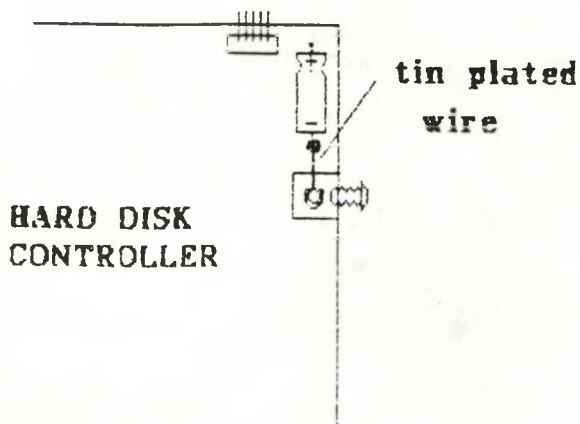
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Change the FCO level from A to B.



Bulletin

SERIES 9XXX
VI DESKTOP BUSINESS COMPUTERS

581-253-SB6
AUGUST 13, 1985

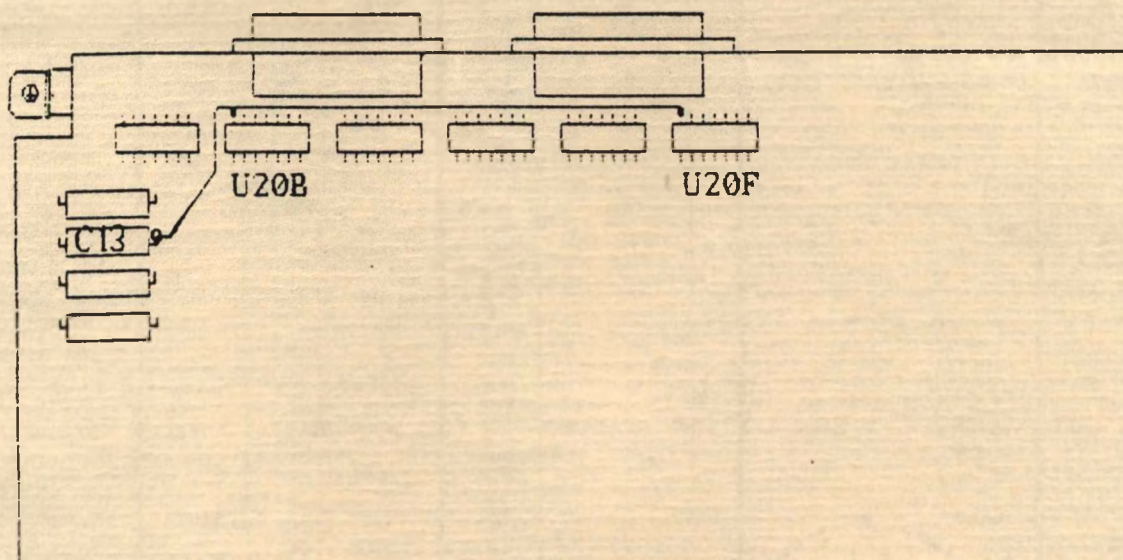
ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: SERIAL INTERFACE CHIPS ON VI CPU BOARD

It was found that all VI CPU boards up to and including rev. level A have VCC on the serial interface chips connected to 5 volts instead of the required 12 volts.

To correct this problem, all CPU boards through rev. level A should be reworked.

1. Cut pin 14 of IC U20C and pin 14 of IC U20F.
2. Solder a piece of kynar wire from the + side of Cap. C013 to pin 14 of IC U20C and pin 14 of IC U20F.



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
VI DESKTOP BUSINESS COMPUTERS

581-253-SB6
AUGUST 13, 1985

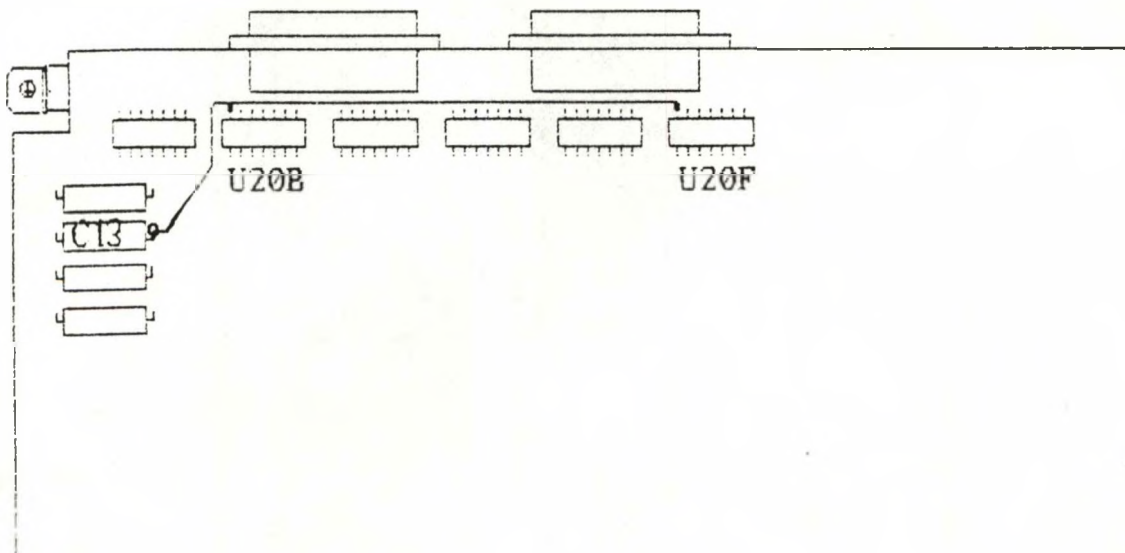
ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: SERIAL INTERFACE CHIPS ON VI CPU BOARD

It was found that all VI CPU boards up to and including rev. level A have VCC on the serial interface chips connected to 5 volts instead of the required 12 volts.

To correct this problem, all CPU boards through rev. level A should be reworked.

1. Cut pin 14 of IC U20C and pin 14 of IC U20F.
2. Solder a piece of kynar wire from the + side of Cap. C013 to pin 14 of IC U20C and pin 14 of IC U20F.





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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB9 REVISED
OCTOBER 22, 1985

DISCARD BULLETIN #581-253-SB9 DATED OCTOBER 1, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: NEW BOOT PROMS

Part numbers for the VI boot proms have now been released. These new boot proms have been updated so that they are compatible with Microscience Hard Disk Drives.

VI ROM 0, FD6E,	P/N 107326-01	U11K
VI ROM 1, E5B2,	P/N 107327-01	U8K
VI ROM 2, 4193,	P/N 107328-01	U10K

In the event that the hard disk drive is replaced by a Microscience Drive in order to repair a VI mainframe, the CPU board must be checked to verify that it does contain the boot proms listed above.

Old style VI PROMS can be returned and exchanged for the above new style proms, until December 31, 1985. Distributors and Dealers wishing to return Old Style PROMS must obtain an RMA number from the Spare Parts Order Entry Dept. at 1-800-628-2420, (or 1-800-628-2421 if calling from within California). For your reference, the part numbers for the Old Style VI PROMS are:

Old Style VI ROM 0, P/N 107144-01
Old Style VI ROM 1, P/N 107146-01
Old Style VI ROM 2, P/N 107148-01

New Style VI PROMS will shipped out as soon as the Old Style PROMS are received. Old Style PROMS must be returned freight, duty and handling charges prepaid to our dock. Items not sent prepaid will not be replaced or returned.

After December 31, 1985, VI PROMS will no longer be available on a no-charge basis, but will be available at the current selling price.

Current Dealer Net Price for each PROM is \$6.00.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB10
OCTOBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
B	C

SUBJECT: CHANGE TO HD CONTROLLER PCB: DRIVES WITH PULSES AT MINIMUM SIGNAL LEVEL AND PULSE WIDTH

The data separator circuit on VI hard disk controller PCBA's has been modified by the addition of a one-shot IC, 74LS123. This modification allows the controller to accept data pulses at minimum acceptable level and pulse width. Controller's without this modification will exhibit errors if the hard disk's MFM read data pulses is near minimum level or pulse width's. Under tests done in house the most common symptom found is "Address Mark Not Found". Another symptom reported is "Excessive Defective Media".

HD controllers exhibiting the above symptoms are to be reworked as follows:

1. Piggy back 74LS123 P/N 100364-01 on U2F, connect pin 8 and 16 to U2F. The 74LS123 will now be designated U2FX.
2. Cut and lift U2E-3. Cut this pin as close to the PC board as possible, and lift this pin up away from the board.
3. Connect U2E-3 to U2FX-2.
4. Connect U2FX-1, 6, 8, 9, 14.
5. Connect U2FX-3, 11, 16.
6. Cut and lift U2E-5. Cut this pin as close to the PC board as possible, and lift this pin up away from the board.
7. Connect U2FX-5 to U6D-10.
8. Connect U2FX-7 to left side of capacitor C077 thru a 10K resistor P/N/ 100203-12.
9. Connect U2FX-10 to U2E-5.
10. Connect U2FX-13 to U6D-13.
11. Connect U2FX-15 to left side of capacitor C039 thru a 10K resistor P/N 100203-12.
12. Remove the VR at R07.
13. Install a 7.5K, $\frac{1}{4}$ W resistor, P/N 100203-16 at R07.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB11
OCTOBER 31, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
C	D

SUBJECT: FLOPPY DRIVE HEAD SELECT REWORK, VI HD CONTROLLER PCBA
PART NUMBER 106750-01

In rare instances, when copying a file in I mode, the floppy drive read/write head is deselected prematurely. This causes the file on the destination drive to be invalid.

To correct this problem, the following rework should be performed on the HD Controller Board. The only part required for this rework is Insulated Kynar Wire, 30 AWG.

1. Cut pin 14 of IC U6F, 74LS157, as close to the board as possible, and bend the pin up away from the board.
2. Solder a jumper wire from U6F pin 14 to pin 9 of IC U7M, 74LS74.
3. Solder a jumper from pin 27 of IC U4J, NEC 765, to pin 9 of U7M.
4. Solder a jumper from pin 10 of U7M to pin 4 of U7M.
5. Solder a jumper from pin 13 of U7M to pin 1 of U7M.
6. Solder a jumper from pin 3 of IC U3N, 74LS393, to pin 13 of IC U2L, 74LS08.
7. Solder a jumper from pin 11 of U2L to pin 11 of U7M.
8. Solder a jumper from pin 8 of IC U5E, 74LS11, to pin 12 of U2L.
9. Cut the traces leading to pins 12 and 13 of U2L. These traces are found on the solder side of the board.

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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB12
OCTOBER 31, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
B	C

**SUBJECT: FLOPPY DRIVE HEAD SELECT REWORK, VI FLOPPY DISK CONTROLLER
PCBA - PART NUMBER 106740-01**

In rare instances, when copying a file in I mode, the floppy drive read/write head is deselected prematurely. This causes the file on the destination drive to be invalid.

To correct this problem, the following rework should be performed on the HD Controller Board. The only part required for this rework is Insulated Kynar Wire, 30 AWG.

1. Cut pin 14 of IC U5K, 74LS157, as close to the board as possible, and bend the pin up away from the board.
2. Solder a jumper wire from U5K pin 14 to pin 9 of IC U5H, 74LS74.
3. Solder a jumper from pin 27 of IC U5D, NEC 765, to pin 12 of U5H.
4. Solder a jumper from pin 10 of U5H to pin 4 of U5H.
5. Solder a jumper from pin 13 of U5H to pin 1 of U5H.
6. Solder a jumper from pin 3 of IC U8D, 74LS393, to pin 1 of IC U3E, 74LS11.
7. Solder a jumper from pin 12 of U3E to pin 11 of U5H.
8. Solder a jumper from pin 6 of IC U3E, to pin 2 of U3E.
9. Solder a jumper from pin 13 of IC U3E, to pin 3 of IC 2E, 74LS123.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB13
DECEMBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
C	D

SUBJECT: REWORK TO VI CPU PCBA; SUPERLOK™ COPY PROTECTED SOFTWARE

Rework must be performed on the VI CPU PCBA P/N 106520-0X in order to allow the VI to utilize copy protected software which is protected with Software Systems, Inc. SUPERLOK™ copy protection system.

Rework must also be performed to the disk controller board. Refer to Technical Bulletin #581-253-SB14 for rework to the VI Hard Disk Controller, and to Technical Bulletin #581-253-SB15 for rework to the VI "AT" Floppy Disk Controller.

The only part required for this rework is Insulated Kynar Wire, 30 AWG.

To perform this rework:

1. Cut pin 10 of IC U10A, 74LS27, as close to the board as possible, and bend this pin up away from the board.
2. Ground the lifted pin by soldering a jumper between U10A pin 10 and U10A pin 7.

CPU boards that have been modified with this change can only be used with Floppy "AT" Controller boards at Field Change Level D or higher. CPU boards that have been modified with this change can only be used with Hard Disk Controller boards at Field Change Level E or higher.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB14
DECEMBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
D	E

SUBJECT: REWORK TO VI HD CONTROLLER PCBA; SUPERLOK™ COPY PROTECTED SOFTWARE

Rework must be performed on the VI HD CONTROLLER PCBA P/N 106750-01 in order to allow the VI to utilize copy protected software which is protected with Software Systems, Inc. SUPERLOK™ copy protection system.

Rework must also be performed to the CPU. Refer to Technical Bulletin #581-253-SB13. Modified HD CONTROLLER PCBA's may be used with any VI CPU PCBA's. However, CPU boards below FC Level D cannot run SUPERLOK™ protected software.

The parts required for this rework are:

1. IC, 74LS74
2. IC, 74LS32
3. Insulated Kynar Wire, 30 AWG.

To perform this rework:

1. Solder a jumper from the resistor pack at U2C pin 10 to IC U11J, 74LS30, pin 1.
2. Piggyback the 74LS74 onto U1J, (U1J is also 74LS74), attaching pins 14, 13 and 7 of both the 74LS74's. This piggybacked IC will now be designated U1JA. Bend up all remaining pins of U1JA.
3. Piggyback the 74LS32 onto U3K, (U3K is a 74LS02), attaching pins 14 and 7 from the 74LS32 to pins 14 and 7 of U3K. This piggybacked IC will now be designated U3KA. Bend up all remaining pins of U3KA.
4. Cut pin 10 of IC U3J, 74LS157, as close to the board as possible, and bend this pin up away from the board.

5. Cut pin 1 of IC U4J, NEC 765A, as close to the board as possible, and bend this pin up away from the board.
6. Solder a jumper from U3KA pin 8 to U4J pin 1.
7. Solder a jumper from U3KA pin 10 to U7J, 6522, pin 13.
8. Solder a jumper from U3KA pin 9 to U1JA pin 8.
9. Solder a jumper from U1JA pin 10 to U7J pin 34.
10. Solder a jumper from U1JA pin 12 to U4J pin 8.
11. Solder a jumper from U1JA pin 11 to U3KA pin 6.
12. Solder a jumper from U3KA pin 5 to U3J pin 6.
13. Solder a jumper from U3KA pin 4 to U3KA pin 3.
14. Solder a jumper from U3KA pin 1 to U5F, 74LS244, pin 4.
15. Solder a jumper from U3KA pin 11 to lifted pin 10 of U3J.
16. Solder a jumper from U3KA pin 12 to U5F pin 6.
17. Solder a jumper from U3KA pin 13 to U3KA pin 2.
18. Solder a jumper from U3KA pin 2 to U11J pin 2.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB15
DECEMBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
C	D

SUBJECT: REWORK TO VI "AT" FLOPPY DISK CONTROLLER PCBA; SUPERLOK™ COPY PROTECTED SOFTWARE

Rework must be performed on the VI "AT" FLOPPY DISK CONTROLLER PCBA P/N 106740-01 in order to allow the VI to utilize copy protected software which is protected with Software Systems, Inc. SUPERLOK™ copy protection system.

Rework must also be performed to the CPU. Refer to Technical Bulletin #581-253-SB13. Modified "AT" FLOPPY CONTROLLER PCBA's may be used with any VI CPU PCBA's. However, CPU boards below FC Level D cannot run SUPERLOK™ protected software.

The parts required for this rework are:

1. IC, 74LS74
2. IC, 74LS32
3. Resistor, 220 ohm, 1/4W. 5%.
4. Resistor, 330 ohm, 1/4W. 5%.
5. Insulated Kynar Wire, 30 AWG.

To perform this rework:

1. Piggyback the 220 ohm resistor to the top of IC U10H, 74LS30. Solder the resistor to pins 1 and 14.
2. Piggyback the 330 ohm resistor to the top of U10H. Solder this resistor to pins 1 and 7.
3. Piggyback the 74LS74 onto U7E, (U7E is also 74LS74), attaching pins 14, 13 and 7 of both the 74LS74's. This piggybacked IC will now be designated U7EA. Bend up all remaining pins of U7EA.
4. Piggyback the 74LS32 onto U8F, (U8F is a 74LS02), attaching pins 14 and 7 from the 74LS32 to pins 14 and 7 of U8F. This piggybacked IC will now be designated U8FA. Bend up all remaining pins of U8FA.

5. Cut pin 10 of IC U6F, 74LS157, as close to the board as possible, and bend this pin up away from the board.
6. Cut pin 1 of IC U5D, NEC 765A, as close to the board as possible, and bend this pin up away from the board.
7. Solder a jumper from U8FA pin 8 to U5D pin 1.
8. Solder a jumper from U8FA pin 10 to U2J, 6522, pin 13.
9. Solder a jumper from U8FA pin 9 to U7EA pin 8.
10. Solder a jumper from U7EA pin 10 to U3J pin 34.
11. Solder a jumper from U7EA pin 12 to U5D pin 8.
12. Solder a jumper from U7EA pin 11 to U8FA pin 6.
13. Solder a jumper from U8FA pin 5 to U6F pin 6.
14. Solder a jumper from U8FA pin 4 to U8FA pin 3.
15. Solder a jumper from U8FA pin 1 to U4B, 74LS244, pin 15.
16. Solder a jumper from U8FA pin 11 to lifted pin 10 of U6F.
17. Solder a jumper from U8FA pin 12 to U4B pin 13.
18. Solder a jumper from U8FA pin 13 to U8FA pin 2.
19. Solder a jumper from U8FA pin 2 to U10H pin 2.



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 30XX
DESKTOP BUSINESS COMPUTERS

581-253-SB16
DECEMBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
@	@

SUBJECT: VICTOR VI PORT SELECTION USING MODE.COM

The VI uses the external command MODE.COM to set up parameters or redirect output to the serial and parallel ports. This document will describe the usage of the external command MODE.COM.

The MODE.COM utility has 3 unique functions for the printer ports. These functions are : set parameters for the Parallel port, set parameters for the Serial ports, and re-directing parallel port output to one of the serial ports.

The Parallel port is the default port which is enabled after a power on or push button reset. The parameters which can be programmed through MODE.COM are 80 or 132 characters per line (Normal or Condensed characters), 6 or 8 vertical lines per inch, and enabling retries on timeout errors. The syntax for setting up the Parallel port is :

MODE LPT 1:n,m,P

- n number of characters per line (80 or 132)
- m number of characters per vertical inch (6 or 8)
- P enable continuous retry on timeout errors

The n and P parameters are optional, but 6 characters per vertical line is more legible print and retries enabled on timeout errors will keep the system from hanging if the printer is not attached to the port. For most cases, the following example will suffice for normal printer output :

MODE LPT 1:80,6,P

For condensed character mode on the parallel port printer output, this example will work :

MODE LPT 1:132,6,P

The Serial port's parameters which can be programmed by MODE.COM are : baud rate, parity type, number of data bits, number of stop bits, and enabling retries on timeout errors. The syntax for programming the Serial ports is :

```
MODE COMn:baud,parity,databits,stopbits,P
```

n	which serial port, either 1 or 2 (1 = TTY and 2 = UL1)
baud	which baud rate (110,150,300,600,1200,2400,4800,9600)
parity	what parity type (n = none, o = odd, e = even) default is even
databits	number of bits in a serial byte (7 or 8)
stopbits	number of bits signaling end of serial byte (1 or 2)
P	enable continuous retry on timeout errors

The following example will set up the TTY serial port for a Diablo printer will a baud rate of 1200, odd parity, 7 data bits, 2 stop bits, and retries enabled on timeout errors.

```
MODE COM1:1200,o,7,2,P
```

The above example will only initialize the serial port for the Diablo printer parameters, the output will still be to the parallel port. You must use the MODE.COM utility to now re-direct the output from the parallel port to the serial port. This command line will have MODE.COM re-direct the printer output to the TTY serial port.

```
MODE LPT1:=COM1
```

If we want the same parameters for a Diablo printer, but have the printer connected to the UL1 serial port; the following 2 command lines will allow the printer to be operated from the UL1 port.

```
MODE COM2:1200,o,7,2,P  
MODE LPT1:=COM2
```

HELPFUL HINTS

The utility MODE.COM resides within the sub-directory COMNLIB. Be sure that you path is set to look in this sub-directory when you need to execute this utility.

Do not attempt to set up the parameters for the parallel port if there is no printer attached to this port. The software will attempt to send the control characters to the parallel port, and expects a printer to be attached. If no printer is attached, the system WILL hang.

If you are going to frequently change which port is your printer port, create a batch file(s) in the sub-directory COMNLIB to do the work for you. This example will create a batch file named PRINTP.BAT which will setup and enable your parallel printer port for 80 char. per line and 6 char. per vertical inch with retries enabled for timeout errors.

```
A>copy con printp.bat <CR>  
mode lpt 1:80,6,p <CR>  
mode lpt1: <CR>  
^Z <CR>  
A>
```

This example will create a batch file named PRINTA.BAT to setup and enable the serial port TTY for a Diablo printer at 1200 baud.

```
A>copy con printa.bat <CR>  
mode com1:1200,o,7,2,p <CR>  
mode lpt1:=com1 <CR>  
^Z <CR>  
A>
```

This last example will create a batch file named PRINTB.BAT to setup and enable the serial port UL1 for a Diablo printer at 1200 baud.

```
A>copy con printb.bat <CR>  
mode com2:1200,o,7,2,p <CR>  
mode lpt1:=com2 <CR>  
^Z <CR>  
A>
```

VPC TECHNICAL BULLETINS

DATE: AUGUST, 1985

581-254-SB1

SUBJECT: INSTALLATION OF 8087

DATE: AUGUST, 1985

581-254-SB2

SUBJECT: VPC PARALLEL PORT

DATE: AUGUST, 1985

581-254-SB3

SUBJECT: 15MB HARD DISK DRIVES FORMATTING AS ONLY
10MB



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 20XX
DESKTOP BUSINESS COMPUTERS

581-254-SB1
AUGUST, 1985

ACTION CLASS RECOMMENDED	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: INSTALLATION OF 8087 CO-PROCESSOR

The VPC Main Processor Board has an empty socket at location U3 which is provided so that the user can install an 8087 Numerical Co-Processor. Some units have exhibited a system lock up after the 8087 has been installed.

On all boards Rev. E or below, U3 pins 33 and 34 are tied together and are tied to a pull up resistor. Although pin 33 is an input pin (RQ /GT1), some 8087's have been found to produce a momentary pulse on pin 33. If such a pulse occurs, it is asserted onto pin 34, (S7 /BHE), causing the system lock up.

To correct this condition, the 8087 should be installed with pin 33 bent up, thus "floating" pin 33. When plugging the 8087 into U3, exercise care that pin 33 of the 8087 does not make contact with any pin of socket U33, or with any other circuit traces present on the board.



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 20XX
DESKTOP BUSINESS COMPUTERS

581-254-SB1
AUGUST, 1985

ACTION CLASS RECOMMENDED	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

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Bulletin

SERIES 20XX
DESKTOP BUSINESS COMPUTERS

581-254-SB2
AUGUST, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: VPC PARALLEL PORT

The DB25 socket (labelled "PRINTER") on the rear of the VPC is a Centronics Standard TTL Level Parallel Interface. Damage to the VPC electronics will occur if devices using anything other than a TTL level interface are plugged into this port. Most serial printers utilize an RS232 interface, which uses a -12V for a "Mark" or "On" state. Since TTL can never be below a -1V, connection of an RS232 device to this port can cause immediate damage.

Some option boards available on the market contain a parallel port. When installed, the VPC may be addressing both its own and the optional parallel port simultaneously. In such a configuration, the VPC parallel port may be disabled, preventing this address contention.

To disable the internal parallel port, cut and lift pin 10 of IC U11, (74LS138). Exercise care that the cut pin does not make contact with adjacent pins or other traces on the main processor board.

An anomaly has been observed where certain parallel printers have not worked properly when connected to the VPC. It has been determined that the /STROBE signal from the VPC (pin 1 of the DB25 parallel port) will not sink enough current from all printers to insure that the low TTL level is achieved. This results in characters being dropped by the interface, causing erratic printout.

To correct this dropping of characters, check to see that the /STROBE line is not tied to a pull up resistor on the printer end. This condition will occur if for instance the /STROBE is pulled up at the printer end by a 470 ohm resistor tied to +5V. The VPC parallel interface has internal pull up on the /STROBE line, and the additional 470 ohm pull up at the printer end acts as a parallel resistance, thus decreasing the overall resistance of the circuit. This may cause the /STROBE line to sink current in excess of 14ma, which is above the Centronics standard.



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 20XX
DESKTOP BUSINESS COMPUTERS

581-254-SB2
AUGUST, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

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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 201X
DESKTOP BUSINESS COMPUTERS

581-254-SB3
AUGUST, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: 15MB HARD DISK DRIVES FORMATTING AS ONLY 10MB

A number of reports from the field indicate that some VPC model 2015, 15MB Fixed Disk units have failed to format as 15MB.

The problem has been found to be a missing or loose jumper plug location WP13 on the hard disk logic board. This jumper plug is located adjacent to the ST506 Status Control Cable.

The hard disk logic board is used on both the Tandon 502 10MB Drive and the 503 15MB Drive. On the 10MB Drive WP13 is open, but on the 15MB Drive WP13 is closed. Thus if WP13 jumper plug is loose or missing from a 15MB Drive, the drive will report its status as being 10MB.

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 20XX
DESKTOP BUSINESS COMPUTERS

581-254-SB3
AUGUST, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: 15MB HARD DISK DRIVES FORMATTING AS ONLY 10MB

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VICTOR 9000/SIRIUS 1 TECHNICAL BULLETINS

DATE: APRIL 17,1982

581-228-SB1

SUBJECT: MODIFICATION OF FEMALE KEYBOARD CONNECTOR

DATE: MAY 17,1982

581-228-SB2

SUBJECT: DISK DRIVE PROTECTOR CARDS

DATE: JUNE 1, 1982

581-228-SB3

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

DATE: JUNE 9, 1982

581-228-SB4

SUBJECT: REPLACEMENT OF DISK DRIVE BOARD FROM SPARES KIT

DATE: JULY 6, 1982

581-228-SB5

SUBJECT: SERIAL PORT INTERCONNECT CABLE

DATE: SEPTEMBER 27, 1982

581-228-SB6

SUBJECT: 128K MEMORY BOARD INSTALLATION

DATE: SEPT 28, 1982

581-228-SB7

SUBJECT: 384K MEMORY EXPANSION BOARD INSTALLATION AND
SYSTEMS CHECK

DATE: SEPT 28, 1982

581-228-SB8

SUBJECT: DISK DRIVE ALIGNMENT

DATE: Sept. 27, 1982

581-228-SB9

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

DATE: NOV. 12, 1982

581-228-SB10

SUBJECT: SPEAKER REPLACEMENT

DATE: NOV. 12, 1982

581-228-SB11

SUBJECT: 384K RAM MEMORY BOARD FAILURES

581-228-SB12

SUBJECT: DISK DRIVE INSTALLATION (DOUBLE-SIDED)

DATE: NOV. 17, 1982

581-228-SB13

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

DATE: DEC. 22, 1982
581-228-SB14
SUBJECT: 64K BOOT PROMS (REV E)

DATE: DEC. 22, 1982
581-228-SB15
SUBJECT: ADDITION OF 4.7K RESISTOR TO INTA SIGNAL (REV F)
INCREASING IEEE 488 INTERFACE SPEED (REV G)

DATE: DEC. 22, 1982
581-228-SB16
SUBJECT: CORRECTION OF CPU BOARD TIMING PROBLEM (REV H)

DATE: FEBRUARY 4, 1983
581-228-SB17
SUBJECT: POWER SUPPLY AUDIBLE NOISE

DATE: FEBRUARY 7, 1983
581-228-SB18
SUBJECT: POWER SUPPLY UPGRADE

DATE: MARCH 7, 1983
581-228-SB19
SUBJECT: FLOPPY DISC DRIVE REPAIR

DATE: MARCH 7, 1983
581-228-SB20
SUBJECT: RAM CHIP FAILURES

DATE: MARCH 28, 1983

581-228-SB21

SUBJECT: APPROVED DOUBLE SIDED MEDIA

DATE: MARCH 28, 1983

581-228-SB22

SUBJECT: INTEL 8274 MPSC

DATE: MARCH 16, 1983

581-228-SB23

SUBJECT: CP/M 80 CARD

DATE: MARCH 16, 1983

581-228-SB24

SUBJECT: CONVERSION FROM 220V TO 115V

DATE: APRIL 27, 1983

581-228-SB25

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

DATE: MAY 12, 1983

581-228-SB26

SUBJECT: HARD DISK DMA INTERFACE CONFIGURATION

DATE: MAY 13, 1983

581-228-SB27

SUBJECT: DISK CONTROLLER PCB NOISE REDUCTION

DATE: MAY 25, 1983

581-228-SB28

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

DATE: JUNE 10, 1983

581-228-SB29

SUBJECT: FLOPPY DRIVE SHIELD INSTALLATION

DATE: JULY 1, 1983

581-228-SB30

SUBJECT: REINFORCEMENT RINGS ON FLOPPY DISKETTES

DATE: JULY 7, 1983

581-228-SB31

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

DATE: JULY 8, 1983

581-228-SB32

SUBJECT: TM502 HARD DISK FAILURE

DATE: JULY 11, 1983

581-228-SB33

SUBJECT: NETWORK INSTALLATION GUIDELINES

DATE: AUGUST 4, 1983

581-228-SB34

SUBJECT: DMA BOARD HANDSHAKE TIMING IMPROVEMENTS

DATE: AUGUST 14, 1983

581-228-SB35

SUBJECT: INSTALLATION OF HARD DISK BOOT PROMS

DATE: AUGUST 16, 1983

581-228-SB36

SUBJECT: FLOPPY DISK HEAD CLEANING KIT

DATE: NOVEMBER 17, 1983

581-228-SB37

SUBJECT: NON-APPROVED COMPUTER CABLES

DATE: SEPTEMBER 26, 1984

581-228-SB38

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

DATE: SEPTEMBER 26, 1984

581-228-SB39

SUBJECT: FLOPPY DISK DRIVE ERROR CRITERIA

DATE: OCTOBER 1, 1984

581-228-SB40

SUBJECT: CONVERSION OF 384K RAM EXPANSION BOARDS
FOR ADDRESSES 4000:0-9FFF:F

DATE: OCTOBER 1, 1984

581-228-SB41

SUBJECT: MINISCRIBE MODEL 3012 HARD DISK FIELD
INSTALLATION

DATE: JANUARY, 1985

581-228-SB42

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

DATE: JANUARY, 1985

581-228-SB43

SUBJECT: UNIVERSAL BOOT PROMS

DATE: MAY, 1985

581-228-SB44

SUBJECT: VICTOR 9000 FIELD DIAGNOSTIC SOFTWARE

DATE: MAY, 1985

581-228-SB45

SUBJECT: FAILURES OF NETWORK PCB ASSEMBLIES
CAUSED BY LIGHTENING

DATE: MAY, 1985

581-228-SB46

SUBJECT: HARDWARE DIFFERENCES FOR 30MB HARD DISK
MAINFRAMES

DATE: SEPT. 6, 1985

581-228-SB46 REVISED

SUBJECT: HARDWARE DIFFERENCES FOR 30MB HARD DISK
MAINFRAMES AND RELEASE OF BOOT PROMS

DATE: JULY, 1985

581-228-SB47

SUBJECT: RETROFIT FOR +PC (FATWRITE AND DC ERASE)

DATE: AUGUST, 1985

581-228-SB48

SUBJECT: ANALOG TO CHASSIS GROUND ON THE +PC

DATE: SEPTEMBER, 1985

581-228-SB49

SUBJECT: CHANGE TO +PC NMI POWER ON LOGIC

DATE: SEPTEMBER 16, 1985

581-228-SB50

SUBJECT: INSTALLATION INSTRUCTIONS FOR TANDON
HALF-HEIGHT AND MICROSCIENCE HALF-HEIGHT
HARD DISK DRIVES

DATE: OCTOBER, 1985

581-228-SB51

SUBJECT: CORRECTION TO +PC INSTALLATION
INSTRUCTIONS; HARD DISK DMA INTERFACE
JUMPER.

DATE: OCTOBER 31, 1985

581-228-SB52

SUBJECT: RELEASE OF DIGITAL DIAGNOSTIC CARD FOR
FLOPPY DISK DRIVE ALIGNMENT

DATE: DECEMBER 14, 1985

581-228-SB53

SUBJECT: RELEASE OF HDDEPOT DIAGNOSTIC DISKETTE

DATE: DECEMBER 14, 1985

581-228-SB54

SUBJECT: PLUS PC PORT SELECTION USING MODE.COM

FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN

April 19, 1982

SUBJECT: Modification of Female Keyboard Connector

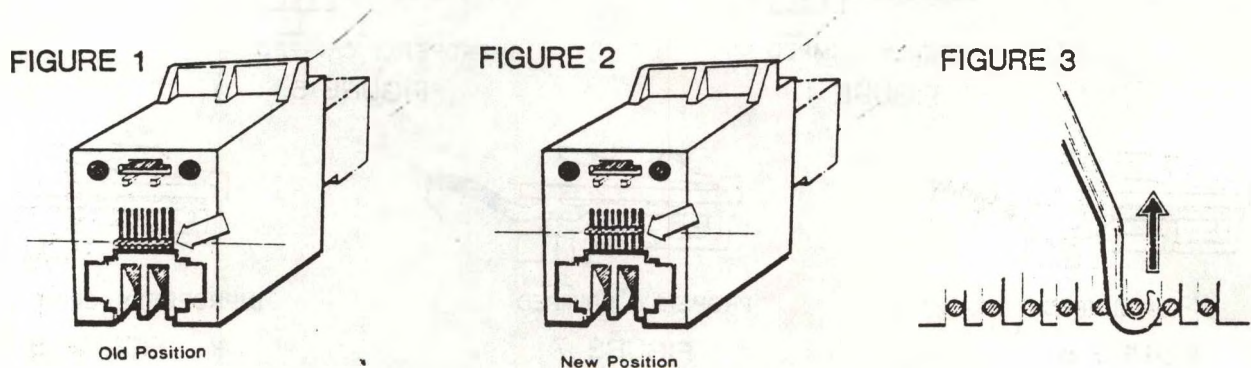
REASON FOR CHANGE:

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).



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
REQUIRED	
BRANCH ACTION CLASS	

581-228-SB1

Section 3.

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

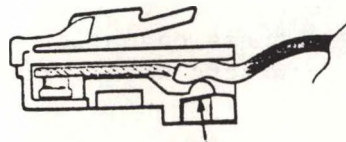
Note: This procedure includes modifying all spares kits presently in field locations.

Section 4.

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

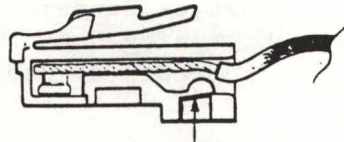
Victor Business Products
3900 North Rockwell
Chicago, IL. 60618
Attn: Computer Technical Support

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 _____.



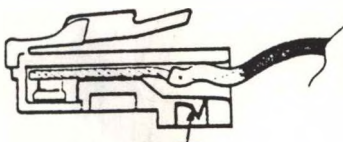
PROPERLY CRIMPED

FIGURE 4



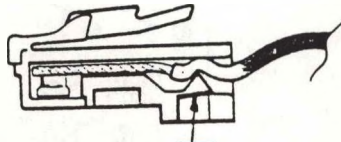
IMPROPERLY CRIMPED

FIGURE 5



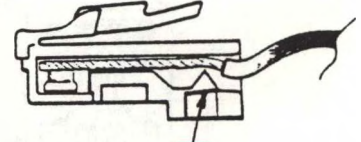
UNCRIMPED

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
ADVISORY	
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.

FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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:

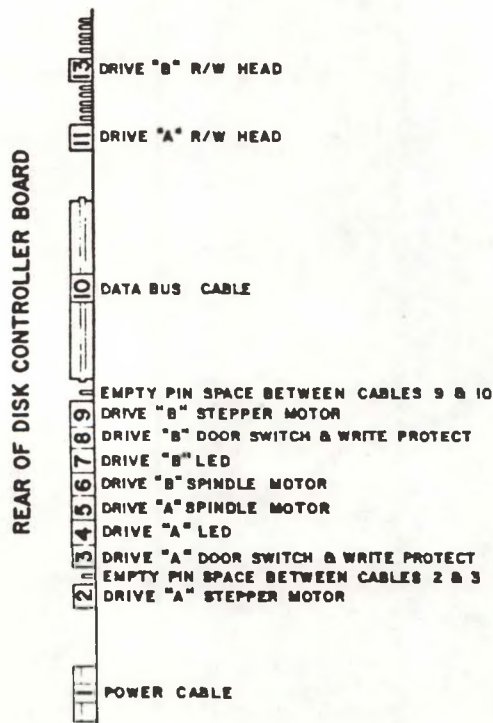


FIGURE 1
PART # X-100093

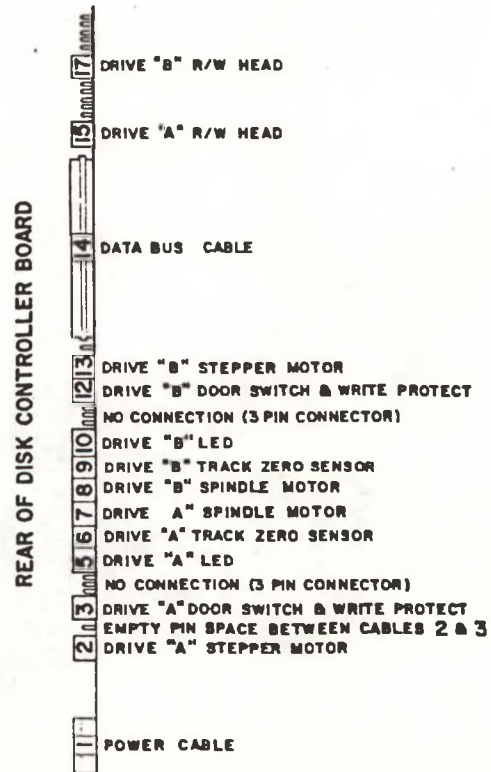


FIGURE 2
PART # X-100670

9 JUNE 1982

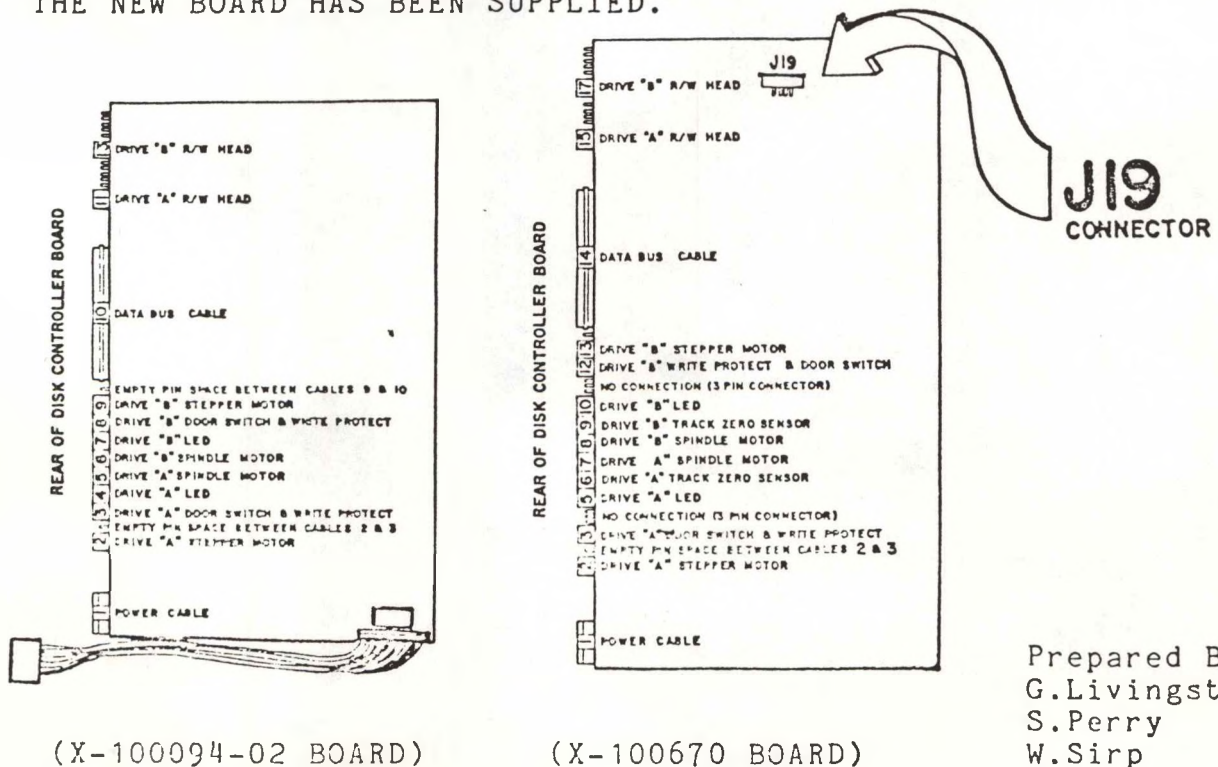
SUBJECT: REPLACEMENT OF DISK DRIVE BOARD FROM SPARES KIT.

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 PASO 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.Perry
W.Sirp

FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

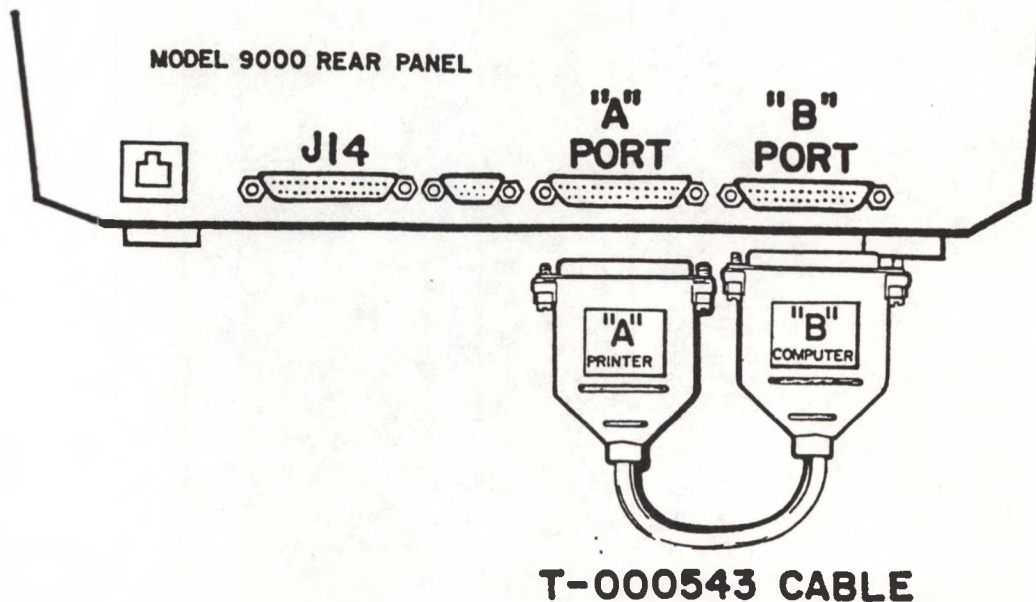
SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

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
W.Sirp

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.

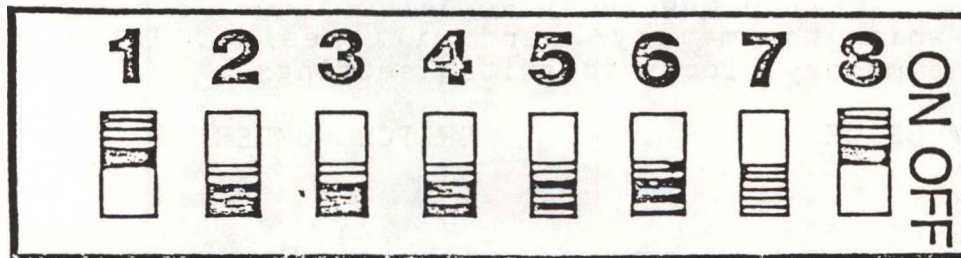
Step 1. Remove power from unit by disconnecting the AC line cord from the rear of the mainframe assembly.

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

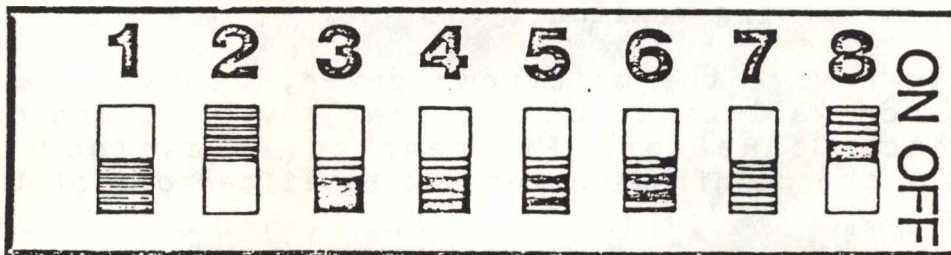
Insure that the speaker cable does not become disconnected during the installation process.

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.

FIELD ENGINEERING
COMPUTER SYSTEMS
TECHNICAL BULLETIN

DATE: SEPTEMBER 28, 1982
 MODEL: VICTOR 9000

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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

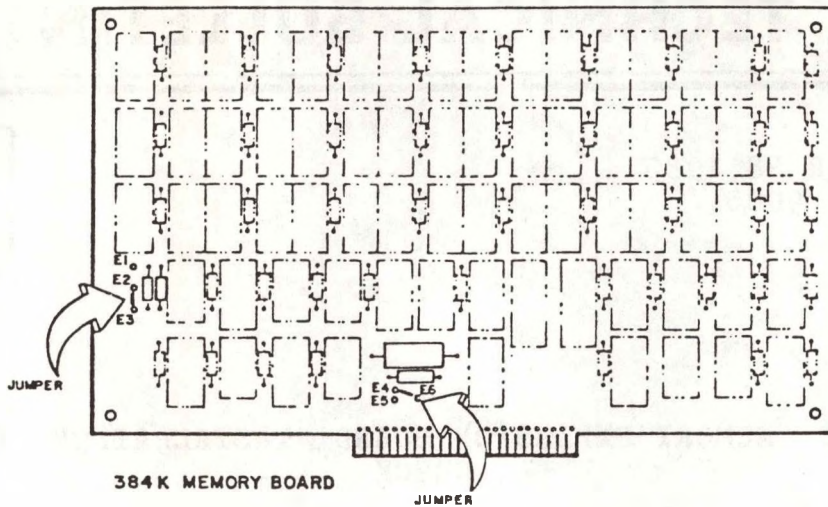
To install a 384K memory board with a 128K memory board the 384K board is strapped for lower memory (128K-512K). The 128K board is switch selected for 512K-640K of memory. The switch setting for the 128K board is switch 4 and switch 8 on, all others off.

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

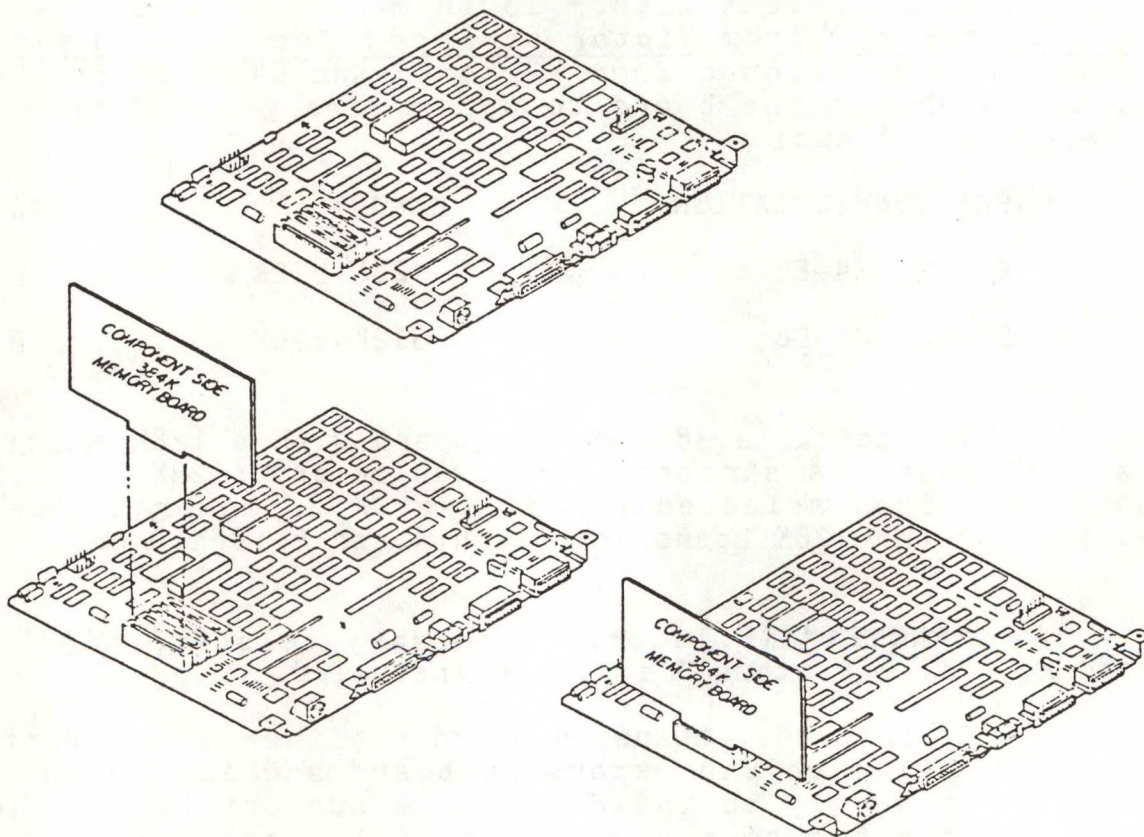
Install the expansion board retainer clip (Part Number E-100891-01) over the expansion board and insure the plastic fingers fit snugly on the disk drive support strut. When the system enters the boot routine it will display "8000" for the memory page size, for a 512K system.

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.

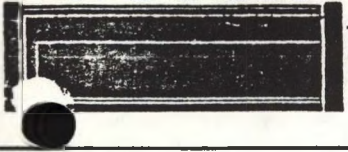
(ILLUSTRATION OF INSTALLATION ON REVERSE)



**LOW & HIGH MEMORY ACCESSING
(SHOWN LOW)**



VICTOR



FIELD ENGINEERING

COMPUTER SYSTEMS TECHNICAL BULLETIN

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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.



FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: SEPT. 27, 1982

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD E/M
REQUIRED	
BRANCH ACTION CLASS	

581-228-SB9

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

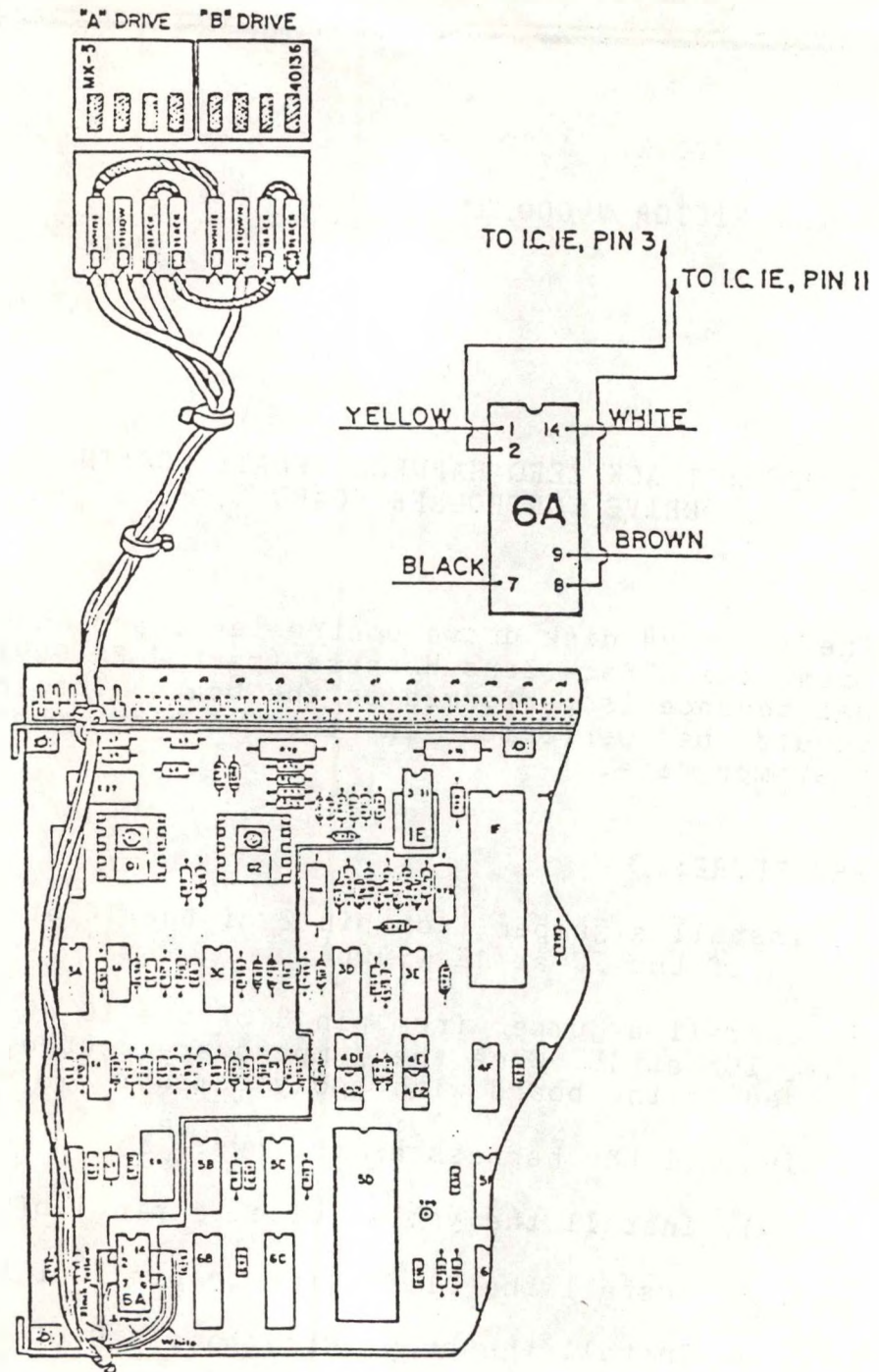
The X-100094 disk drive controller board should be updated with the Track Zero Harness (part # E-100979-01) any time maintenance is performed on the board. The harness update should be performed in the service center, not at the customer site.

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

FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE : NOV. 12, 1982

MODEL: VICTOR V9000/S1

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

581-228-SB11

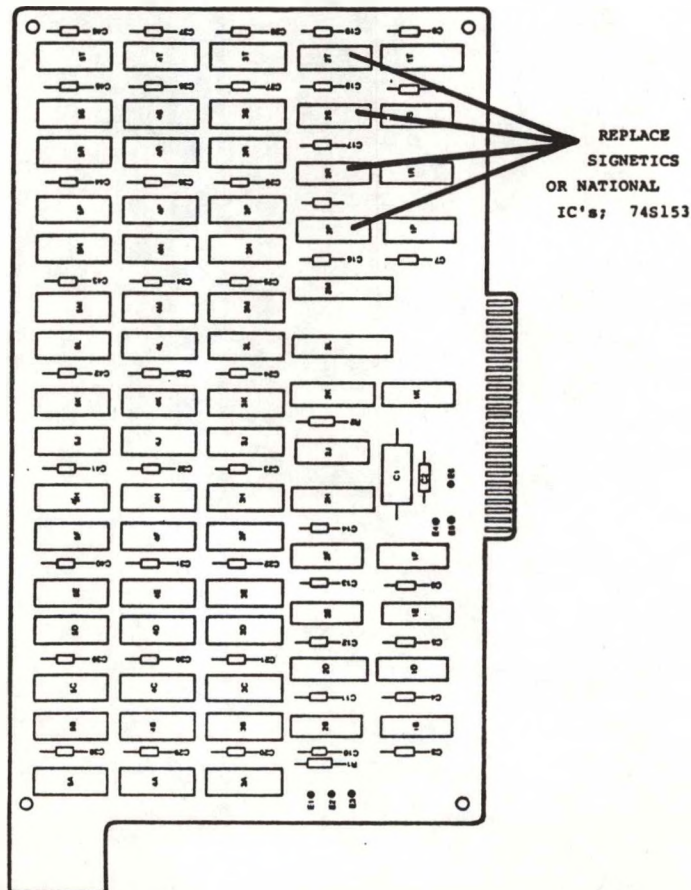
SUBJECT: 384K RAM MEMORY BOARD FAILURES

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**

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

DATE : NOV. 15, 1982

MODEL: VICTOR 9000

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).

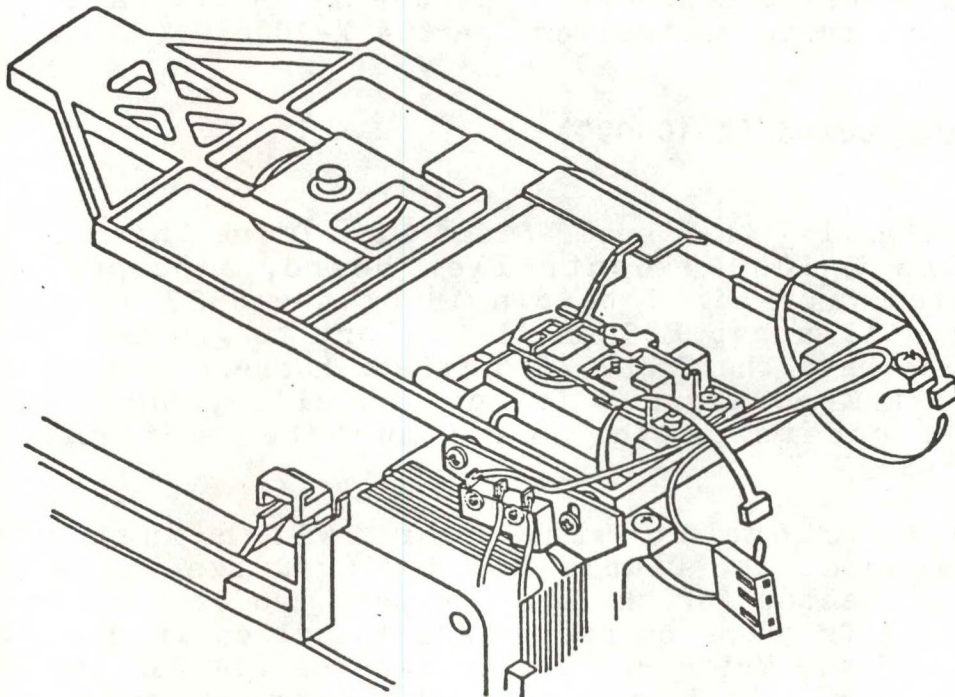
The connectors for the Door Switch must also be reconfigured. The Double-Sided Disk Drive Units have a 3-pin connector for the Door Switch. Two of the wires must be removed from the connector and installed into positions 3 and 4 of the Write Protect connectors (J3 for the A drive and J8 for the B drive).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

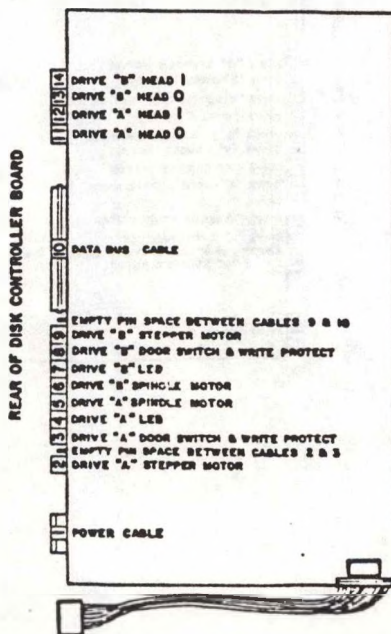
After installing the wires in J3 and J8, the connectors are the same as for Single-Sided Disk Drive Units with the exception of the R/W heads. The R/W heads should be installed as follows:

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.

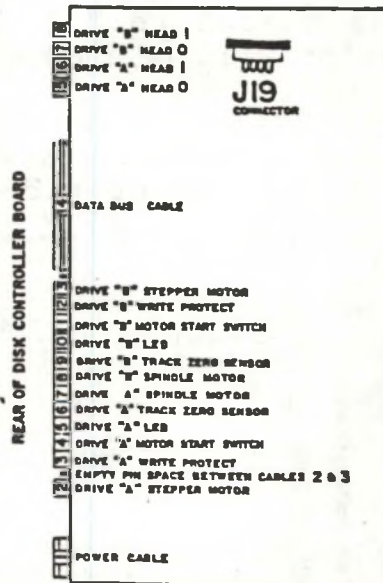
4. Install drive B, head 1 to J14. Head 1 is the upper head, and the connector will be marked with a 1. This connector must be installed up-side-down for the pins to line up correctly.



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 the 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

DATE : NOV. 17, 1982

MODEL: VICTOR 9000

SA JOB CHG	
CHANGE NO	FIELD B/M
RECOMMENDED	
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).

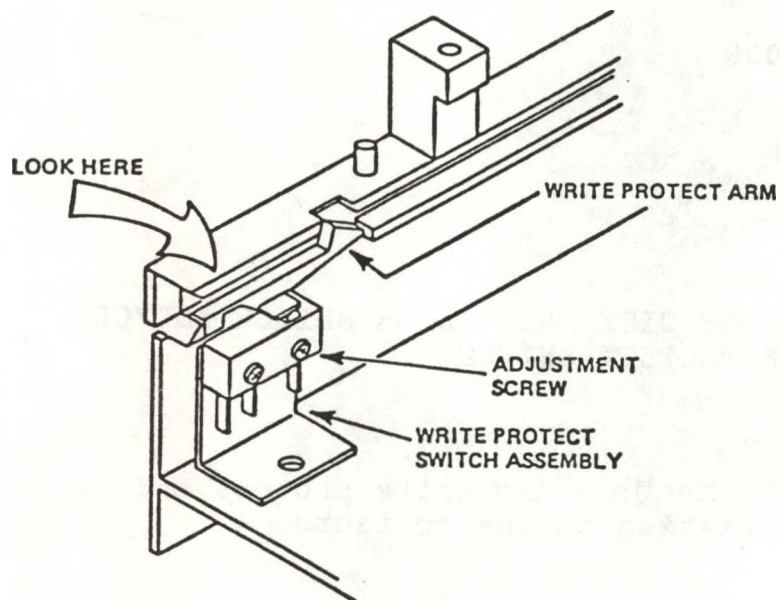
WRITE PROTECT SWITCH FAILURE: System prompts with "DISK WRITE PROTECTED", when there is no write protect tab on diskette. Possible "FC" error.

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.

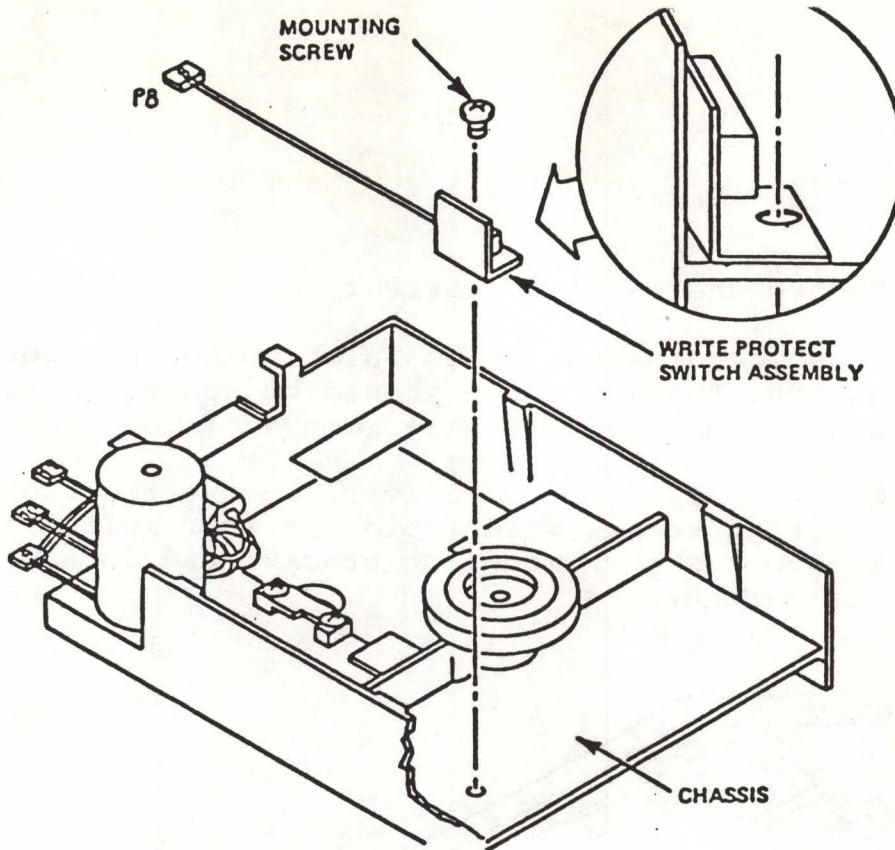
WRITE PROTECT SWITCH (p/n 102285-01)

- 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.

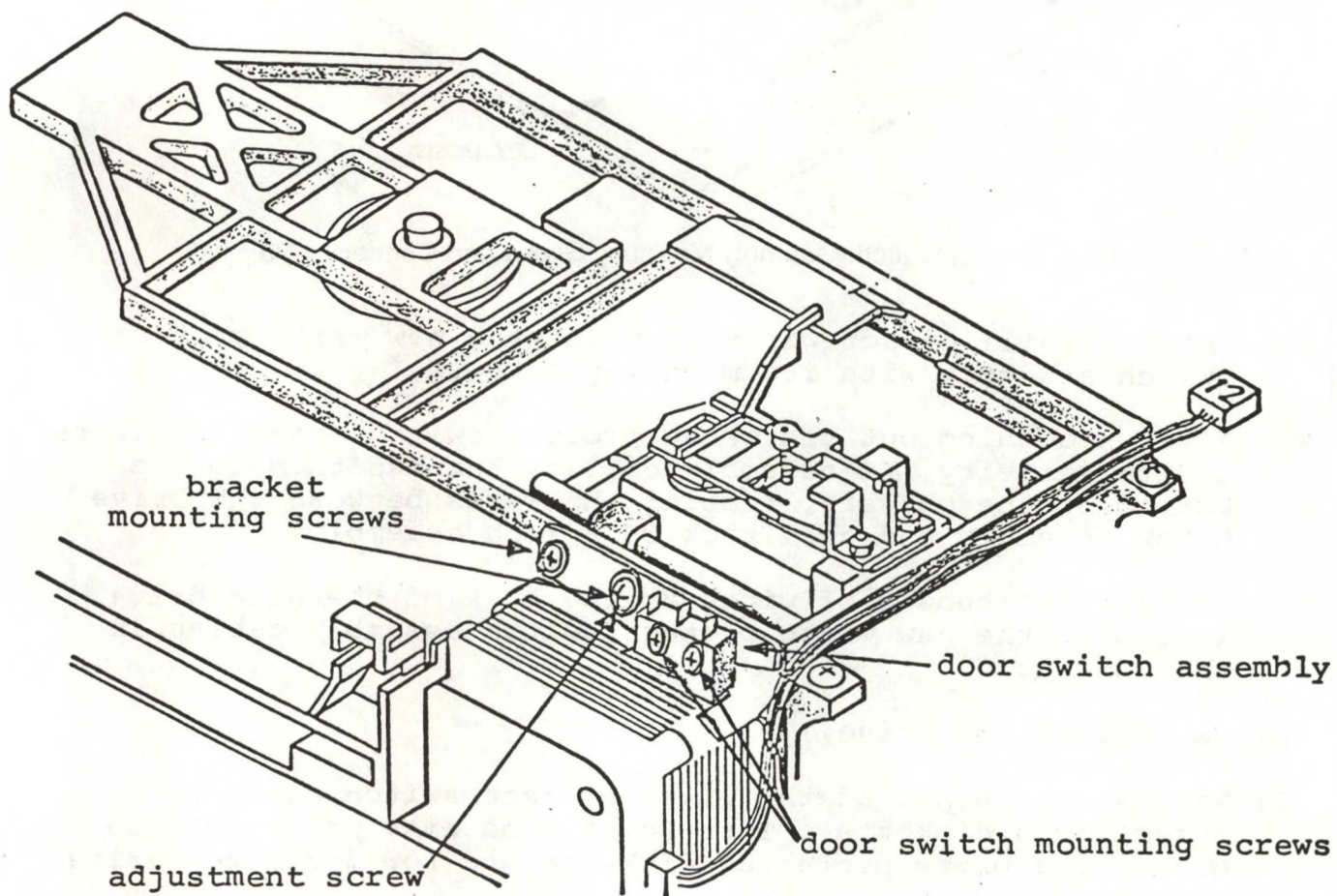


Write Protect Switch Assembly Mounting Screw and Connector P8

- 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.

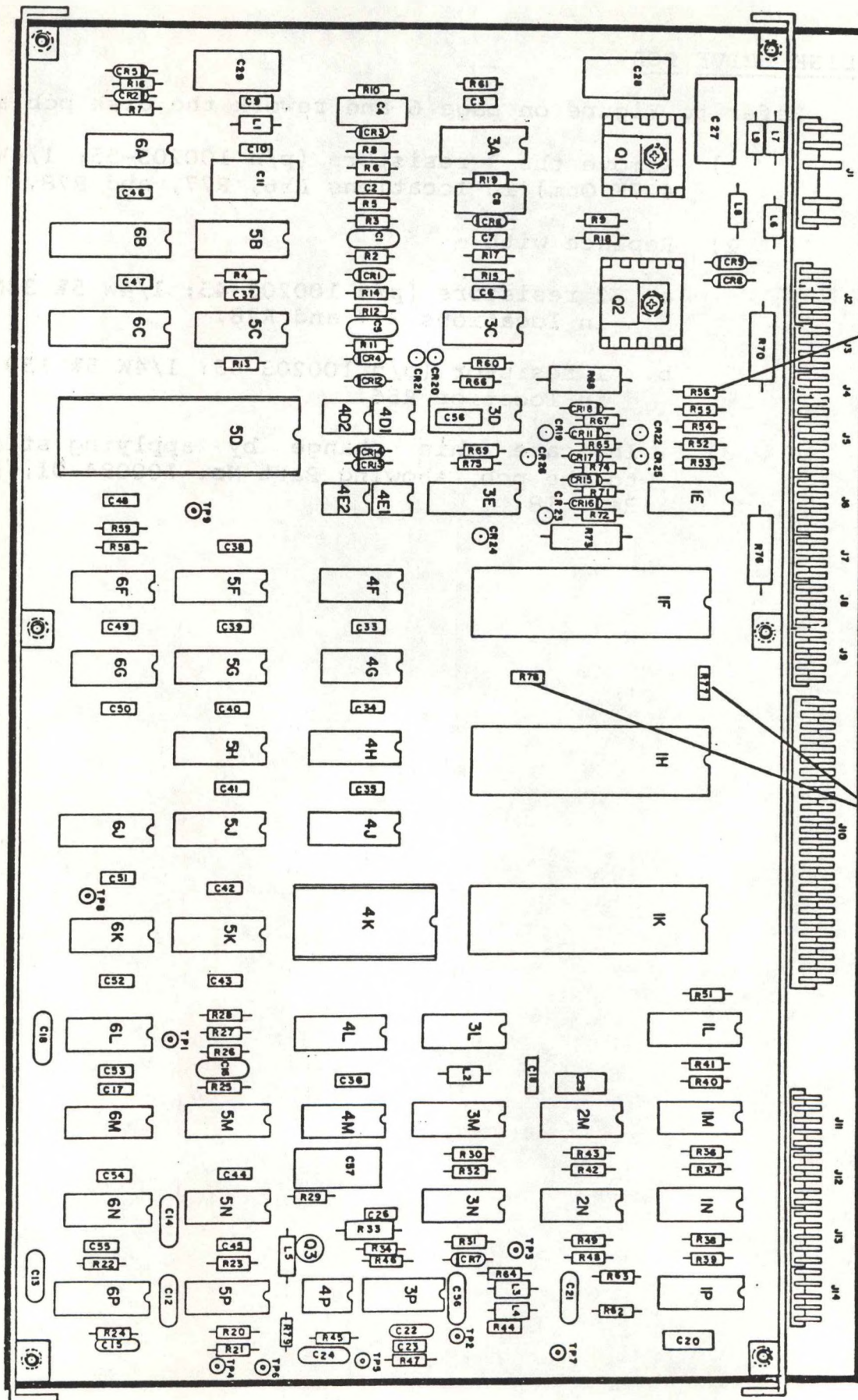


- 4) Install new switch and adjust, if necessary, by loosening the bracket screw farthest to the back of the drive and pivoting the switch up or down. The switch should engage when door is half-way closed. Listen for a slight "click" which signifies switch is engaged. Tighten adjust screw.

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.



150 OHM

330 OHM



FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: April 20, 1983

MODEL:VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
REQUIRED	
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 **

TECHNICAL BULLETIN
COMPUTER SYSTEMS

NOTED
1967



VICTOR

FIELD ENGINEERING

COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: April 20, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
REQUIRED	
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.

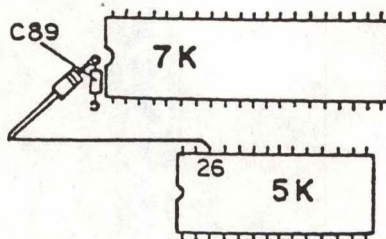


FIG. 1

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 *

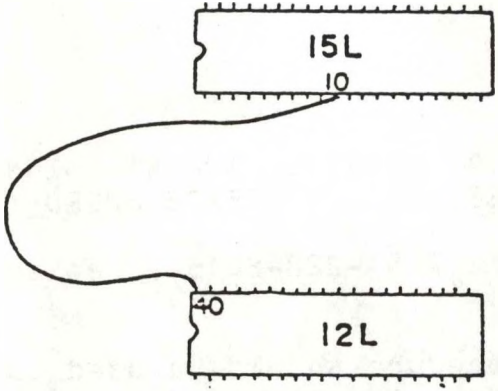


FIG. 2



COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: April 21, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
REQUIRED	
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.

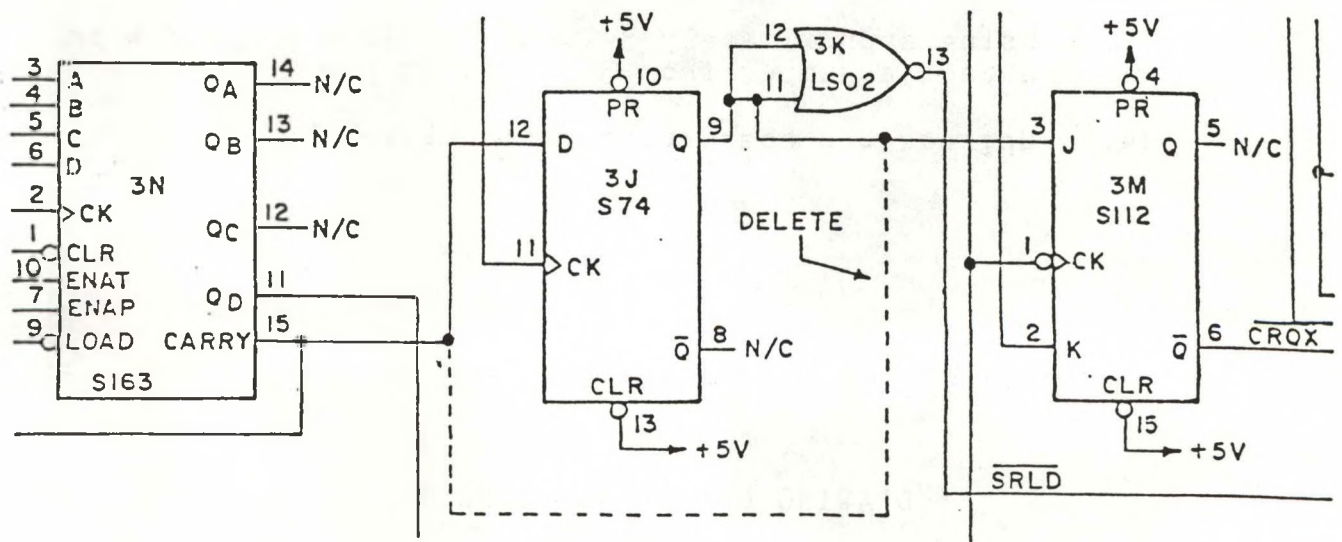
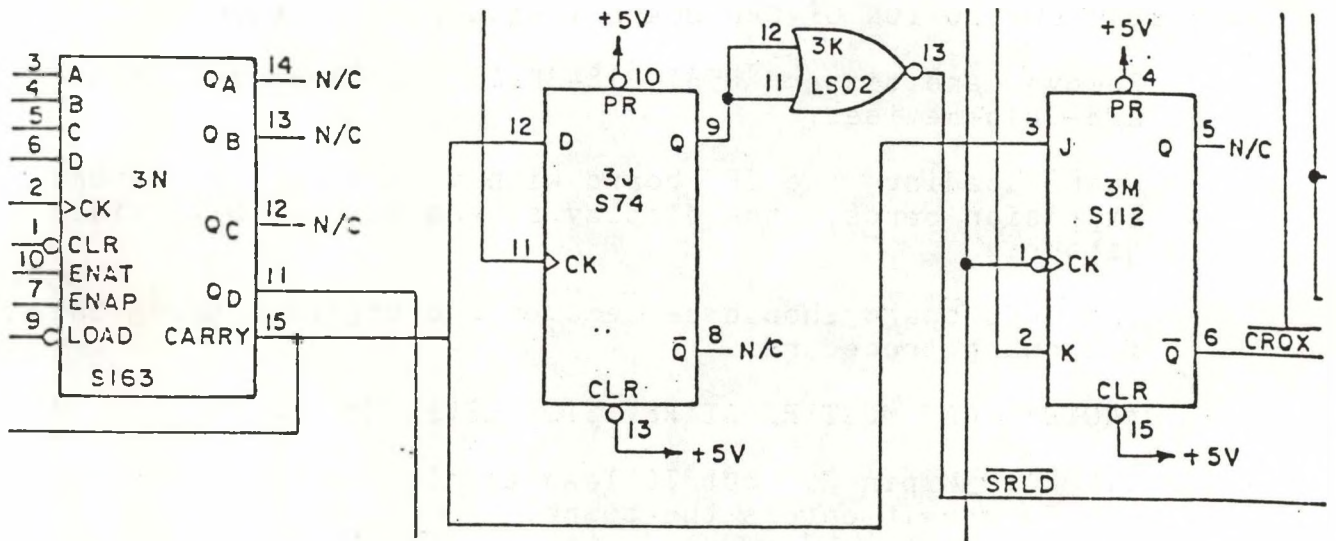
When loading the CPU board with more than two memory expansion cards, the display system may exhibit video jitter.

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 ***





FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: February 4, 1983

MODEL: VICTOR 9000

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

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.



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
RECOMMENDED	
BRANCH ACTION CLASS	

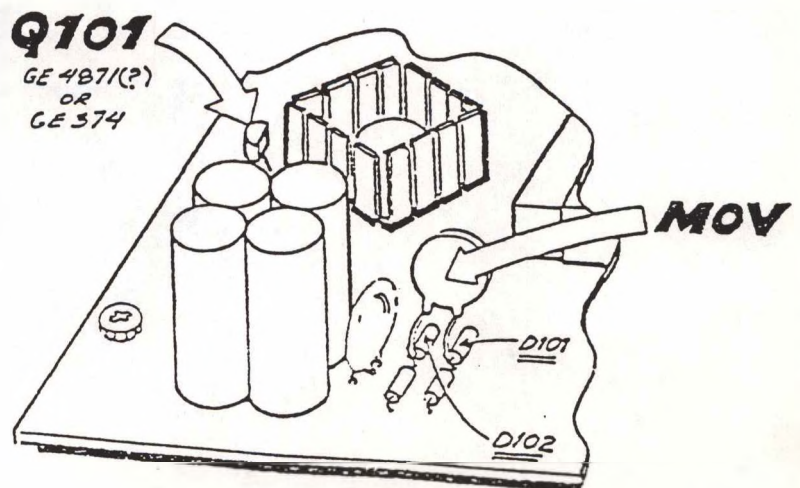
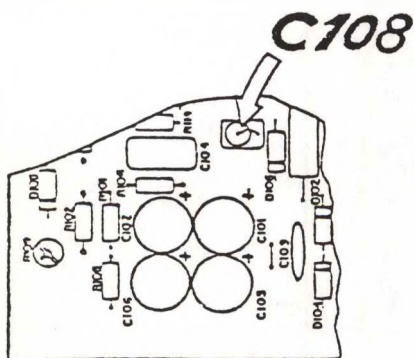
581-228-SB18

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
ADVISORY	
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

5.1 DISK DRIVE ASSEMBLY REPAIR

POWER REQUIREMENTS

D.C. POWER SEQUENCING

One second maximum from the time power is applied to the time in which the unit will accept commands.

PRIMARY POWER

+12 VDC + or - 0.6 VDC @ 900 MA. (Average Max.)
+5 VDC + or - 0.25 VDC @ 600 MA. (Average Max. with
100 MV P/P Ripple.)

Connector J1

PERFORMANCE CHARACTERS

HEAD

Wear guaranteed 20,000 hours in media contact.

TRACKS

80 Tracks Side 0.
.264 mm (10.4 milli inch) Spacing
36.25 mm Track Radius (inside) Side 0.

MEDIA

133.4 mm (5.25 Inch) Industry Standard Diskette
3.6 X 10(6) Passes per track Minimum wear guarantee

ACCESS TIME

3.0 Millisec - Track to Track
15 Millisec - Head Settle Time

SCOPE

The Tandon Magnetics Corporation Flexible Disk Drive is a compact Data Storage device utilizing an industry Standard 5.25 inch Diskette (133.4 mm)

WRITE PROTECT (STANDARD)

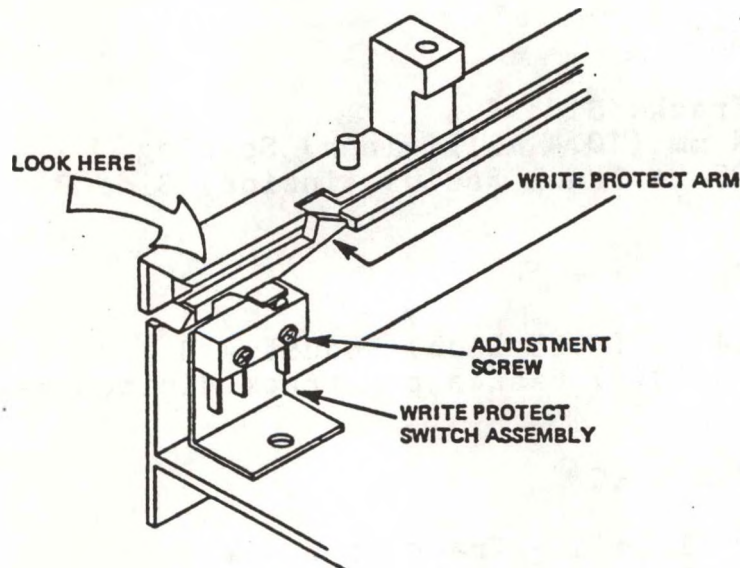
When a Write Protected Diskette is inserted in the Flexible Disk Drive, the Write Electronics are disabled.

LED INDICATOR (STANDARD)

A Busy Indicator located on the Front Panel will become illuminated when the Flexible Disk Drive is selected.

WRITE PROTECT SWITCH ASSEMBLY

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.

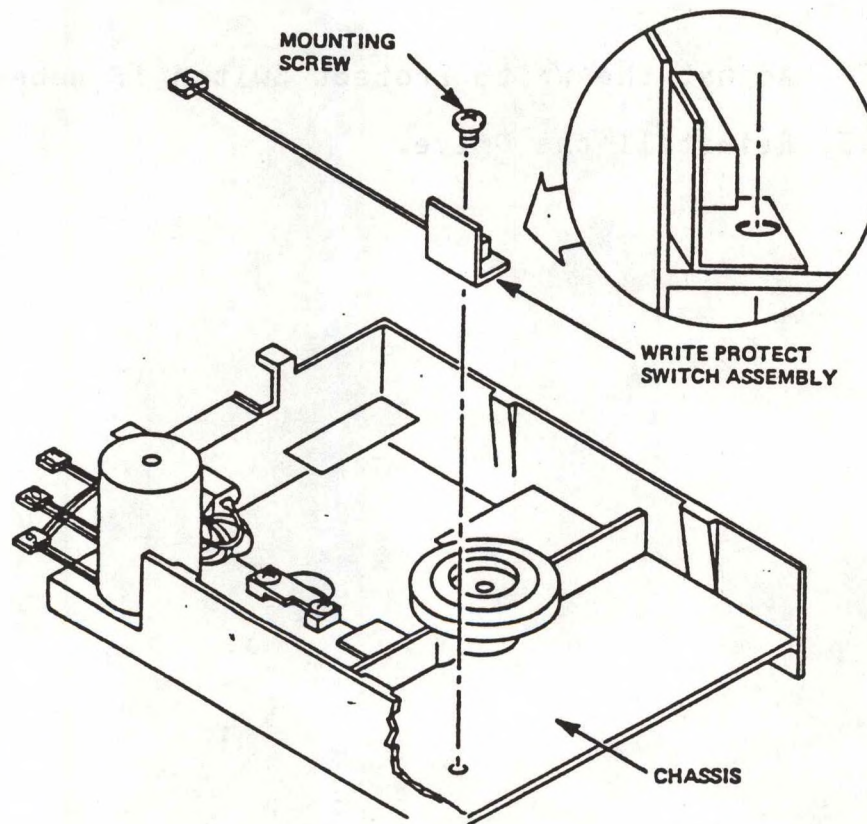
3. With a Phillips screwdriver, remove the mounting screw that attaches the Write Protect Switch Assembly to the side of the chassis.

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 Assembly and the 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.

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. Reinstall the Drive.

12. Verify the output of the Write Protect Switch Assembly by inserting a diskette.

13. Reverify the output of the Write Protect Switch Assembly.

14. Adjust the Write Protect Switch if necessary.

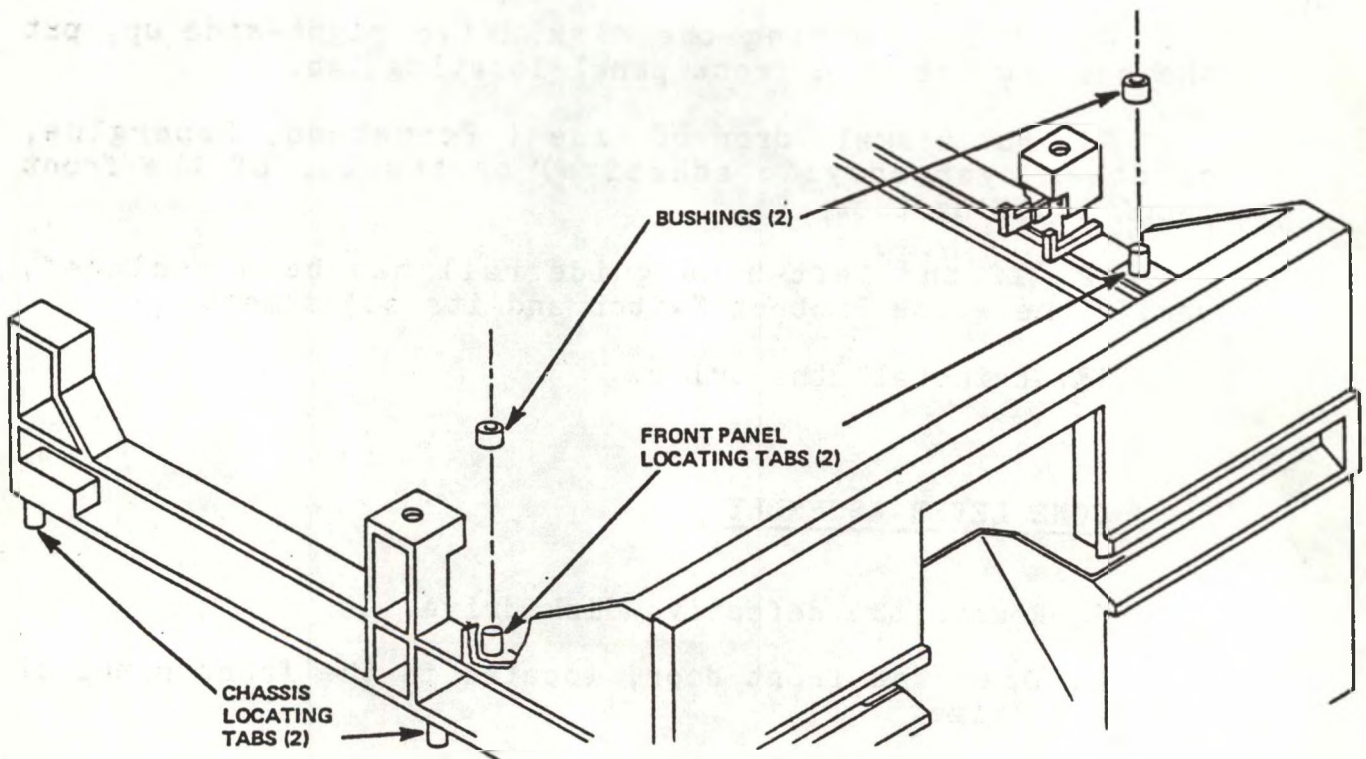
15. Reinstall the Drive.

GUIDE RAIL

1. Remove the defective drive.
2. With needlenose pliers, remove the bushing from the front panel locating tab on the guide rail that is to be replaced.
3. With a Phillips screwdriver, remove the two (2) mounting screws located near the front of the disk drive, underneath the chassis. These two screws attach the front panel to the chassis.
4. Pull up the front panel slightly from the guide rail that is to be replaced.

** NOTE **

If the right-hand guide rail is to be replaced, detach the head cables from the two (2) posts.



Front Panel Bushings, and Locating Tabs

Figure 35

5. With a flat blade screwdriver inserted between the guide rail and the chassis, pry up, from both of its ends, the guide rail that is to be replaced, and remove it.

6. If one of the two (2) chassis locating tabs, located underneath the guide rail that has been removed, has broken off inside the chassis, clean out the hole completely, using a one-eighth (1/8) inch drill or soldering iron to melt the plastic, then remove the debris.

**** NOTE ****

Take care not to enlarge the hole in the chassis.

7. Press in the new guide rail evenly.

8. Push down on the front panel until it is back in place.

9. After turning the disk drive upside down, reinstall the two (2) mounting screws located near the front of the chassis with a Phillips screwdriver.

10. After turning the disk drive right-side up, put the bushing over the front panel locating tab.

11. Put a small drop of glue (PermaBond, Superglue, or other cyanoacrylic adhesive) on the top of the front panel locating tab.

12. If the left-hand guide rail has been replaced, verify the Write Protect Switch and its adjustment.

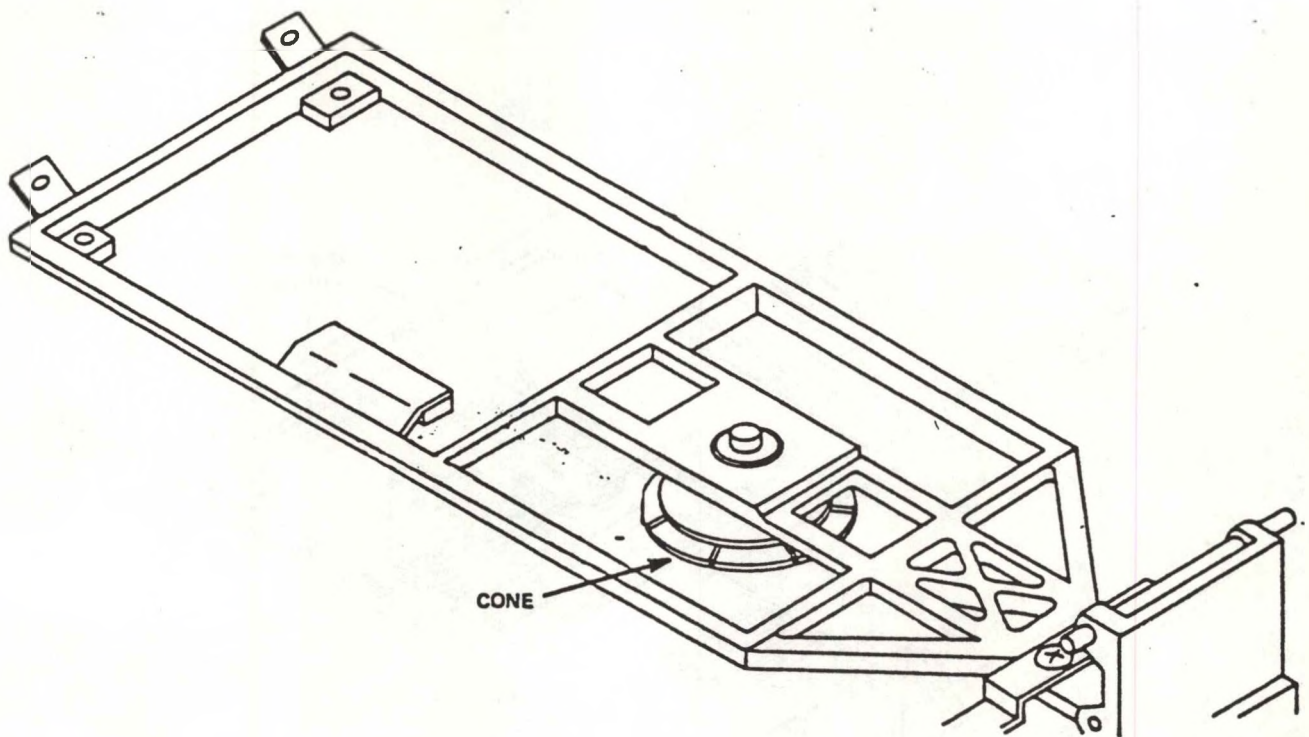
13. Reinstall the drive.

CONE LEVER ASSEMBLY

1. Remove the defective disk drive.

2. Open the front door, located in the front panel of the disk drive.

3. Cut the tie wrap from the Head Assembly.



Cone Lever Assembly Harnessing and Mounting

Figure 36

4. With a Phillips screwdriver, remove the (2) mounting screws that attach the Cone Lever Assembly to the chassis.

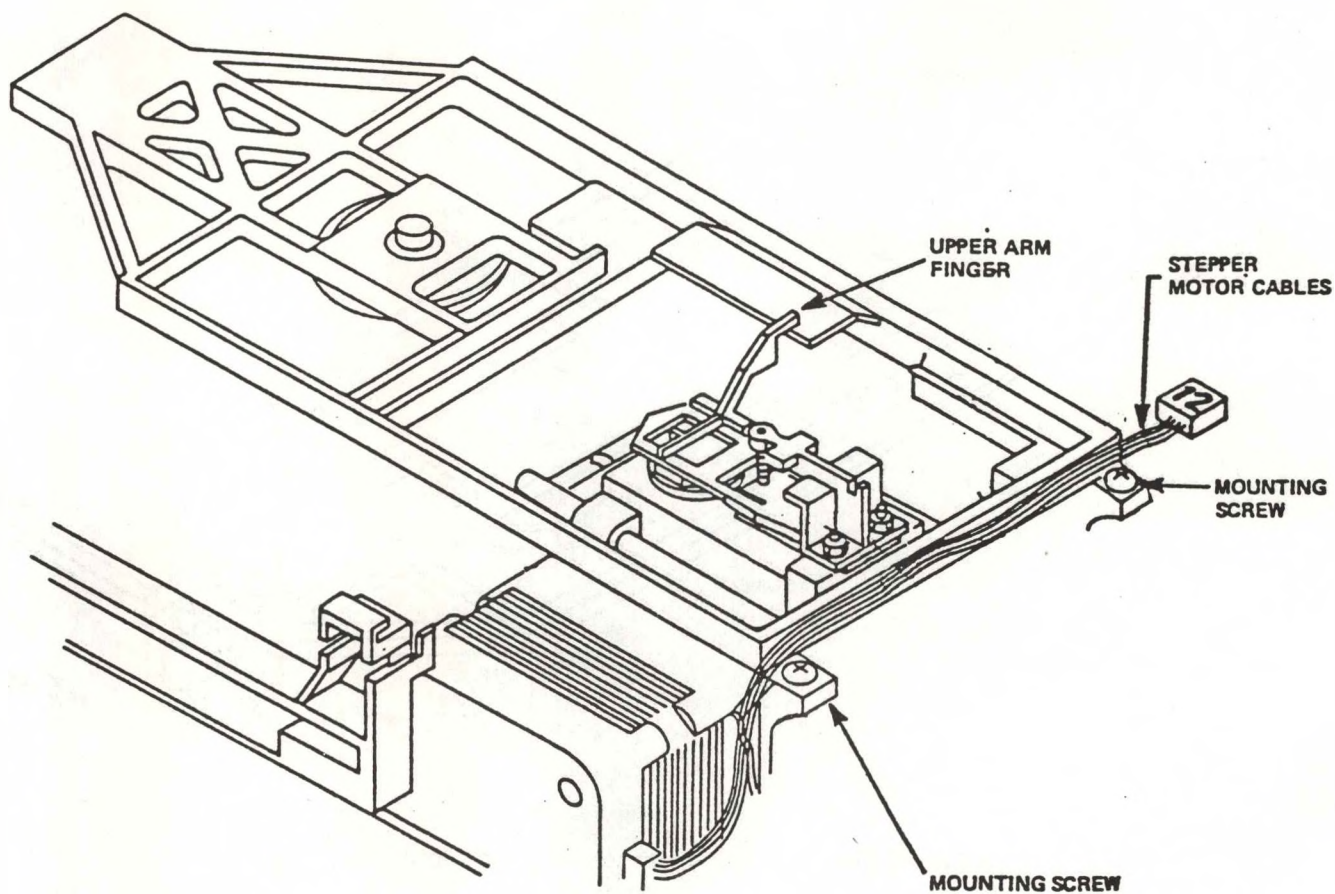
5. Gently slide the head carriage to the front of the disk drive.

6. Slide the Cone Lever Assembly rearward to release the upper arm finger.

7. Remove the Cone Lever Assembly by lifting it up and toward the rear of the disk drive, and sliding the front door out of its tracks.

8. Holding the new Cone Lever Assembly, put the front door into its tracks, and move it as far as it will go toward the front of the disk drive. Then, carefully lower the cone lever, lifting the upper arm finger over the cone lever.

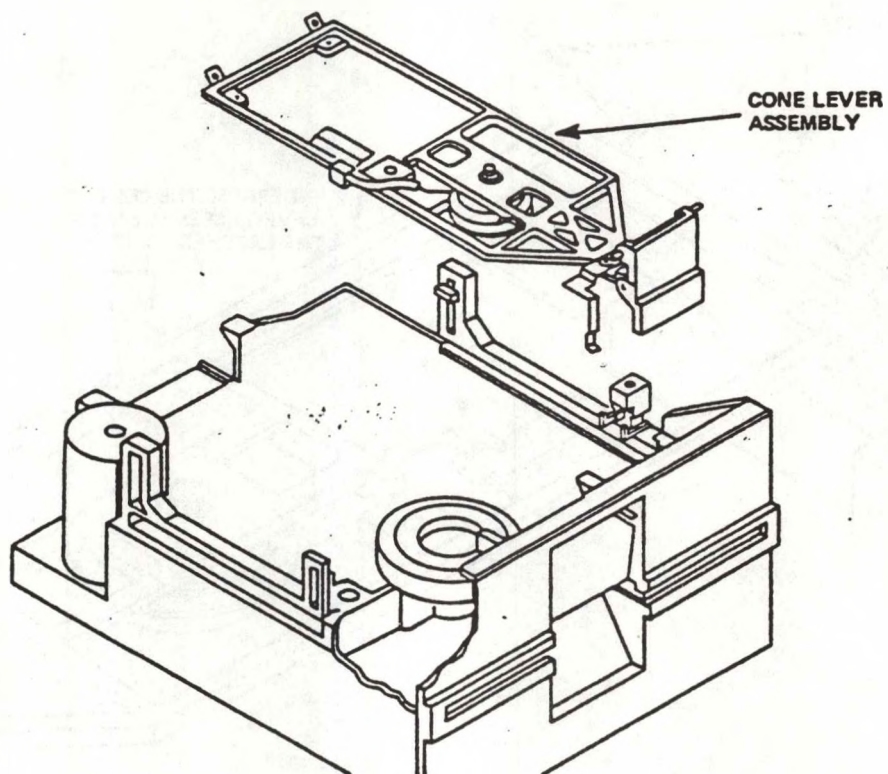
9. With a Phillips screwdriver, install but do not tighten the two (2) mounting screws that attach the rear of the Cone Lever Assembly to the chassis.



Cone Lever Assembly Harnessing, Mounting, and Stepper Motor Cables

Figure 37

10. Rewrap the Head Cable.
11. Close the front door of the disk drive to engage the cone and the hub.
12. Ensure that the cone is centered in the lever (shaft) hole.
13. With a Phillips screwdriver, tighten the two (2) mounting screws that attach the Cone Lever Assembly to the chassis.



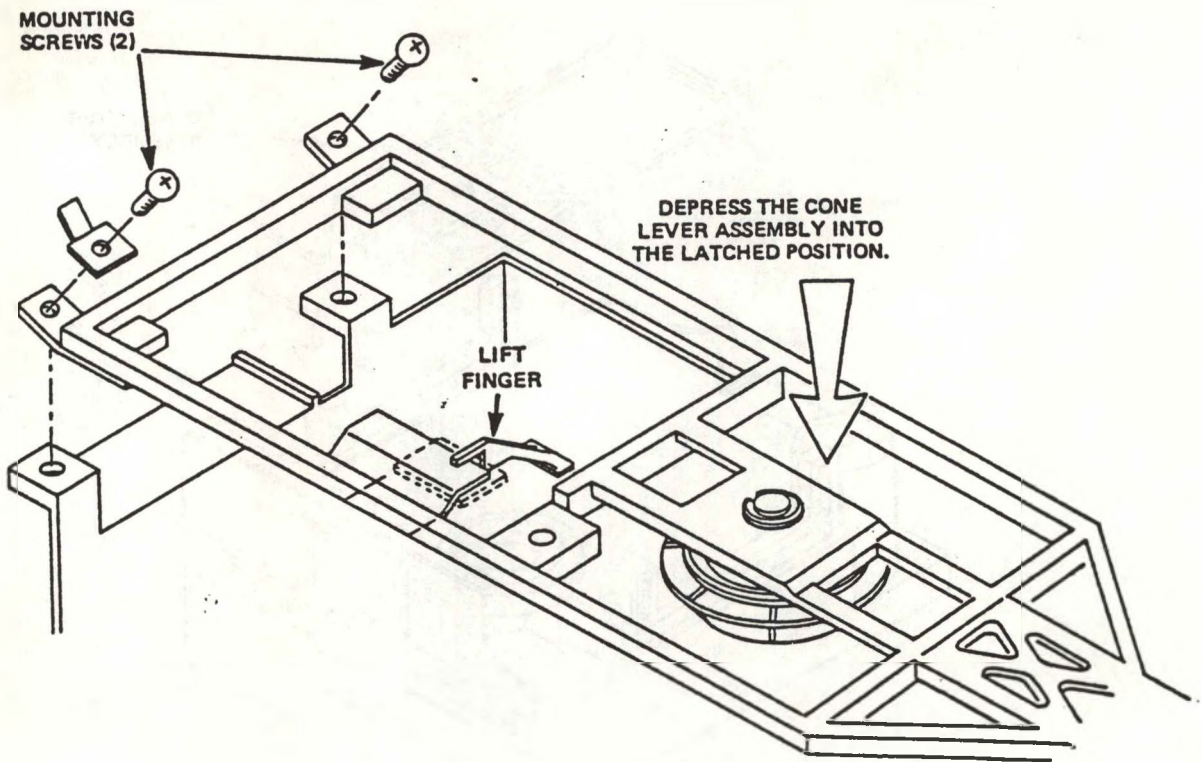
Cone Lever Assembly Cable Harness

Figure 38

14. Check to ensure there is a $0.010'' \pm 0.001''$ clearance between the E-ring and the washer when the cone is clamped; the result of the front door being closed.

15. If necessary, adjust the clearance by adding or deleting a washer located under the E-ring.

16. Reinstall the Drive.

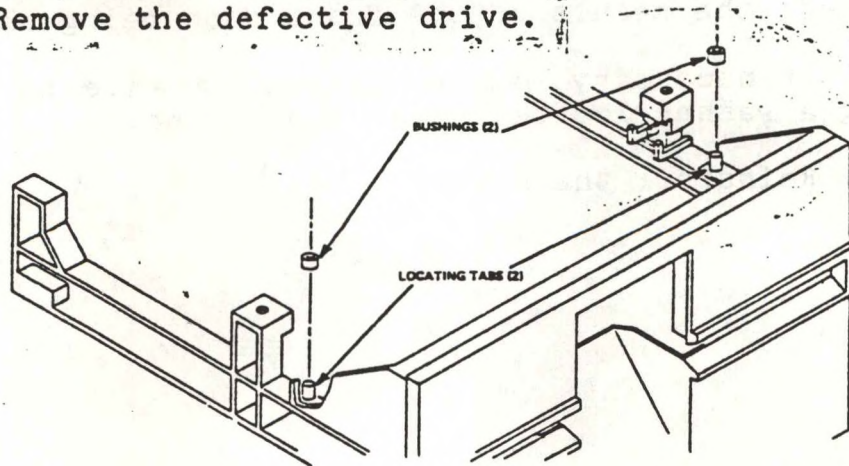


Cone Shaft and E-Ring

Figure 39

FRONT PANEL

1. Remove the defective drive.



Front Panel Bushings

Figure 40

2. Using a pair of needle nose pliers, remove the two(2) bushings located on the right hand and the left hand top sides of the front panel by pulling up on them while using a twisting motion.

3. Remove the retaining collar that attaches the Activity LED Assembly to the front panel by taking a pair of needle nose pliers and gently pulling the retaining collar away from the front panel.

**** NOTE ****

Slide the retaining collar over the Activity LED assembly.

4. Snap out the Activity LED Assembly from its grommet.

5. With a Phillips screwdriver, remove the two (2) mounting screws that attach the front panel to the chassis.

**** NOTE ****

These two mounting screws are located underneath the front end of the disk drive.

6. Lift up the front panel, and remove it from the chassis.

Activity LED Assembly Retaining Collar and Grommet
Front Panel Mounting Screws

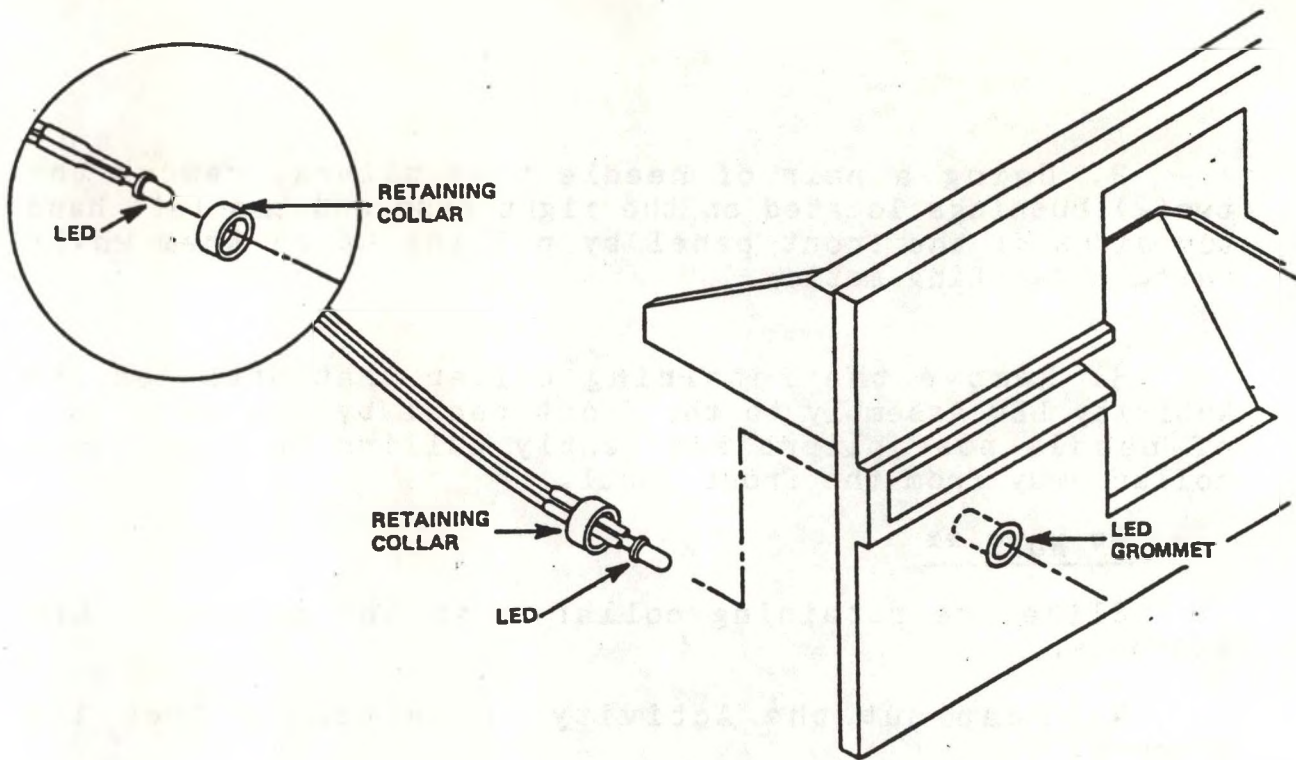
7. Taking the new front panel, place the front door in its tracks on the front panel, and place the new front panel on the rail pins.

8. After upending the disk drive, using a Phillips screwdriver, reinstall the two (2) mounting screws that attach the front panel to the chassis.

9. Push the Activity LED Assembly into its grommet.

**** NOTE ****

The Activity LED Assembly usually makes a clicking noise when it is firmly pushed into the LED grommet.



Activity LED Assembly Retaining Collar and Grommet
Figure 41

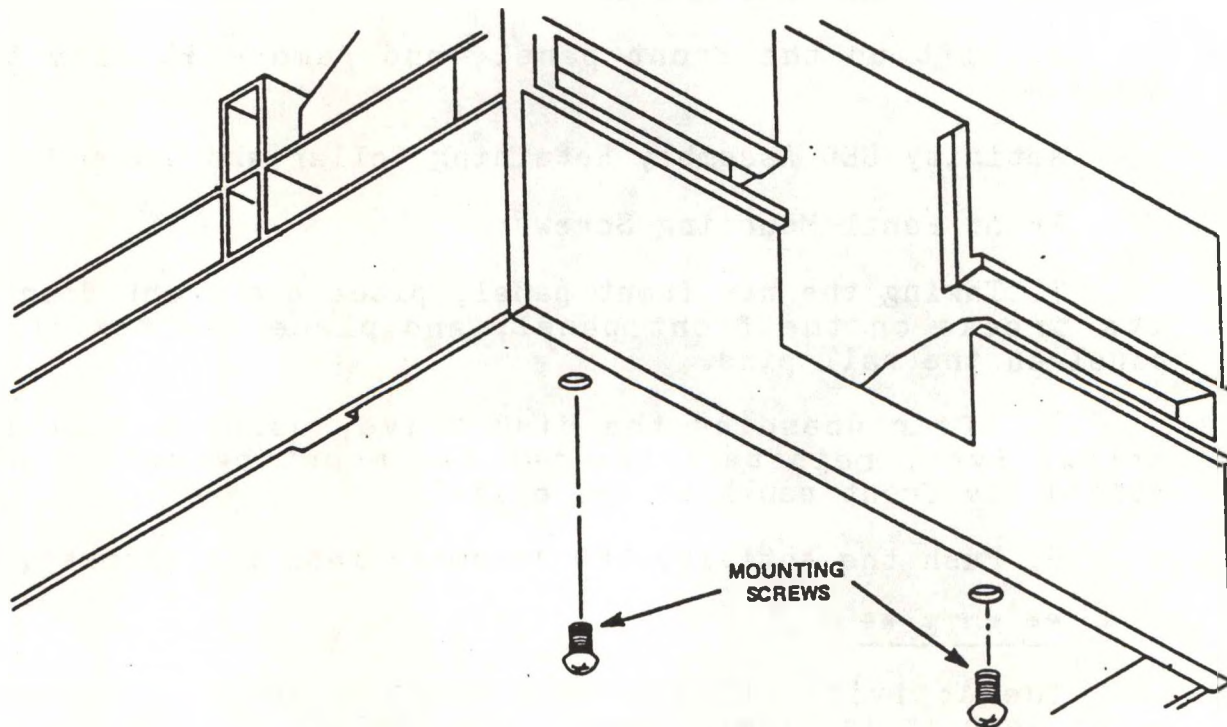


Figure 42
Front Panel Mounting Screws

10. Push the Activity LED Assembly retaining collar over the back of the LED grommet.

11. Install two (2) new bushings on the right hand and left hand sides of the front panel.

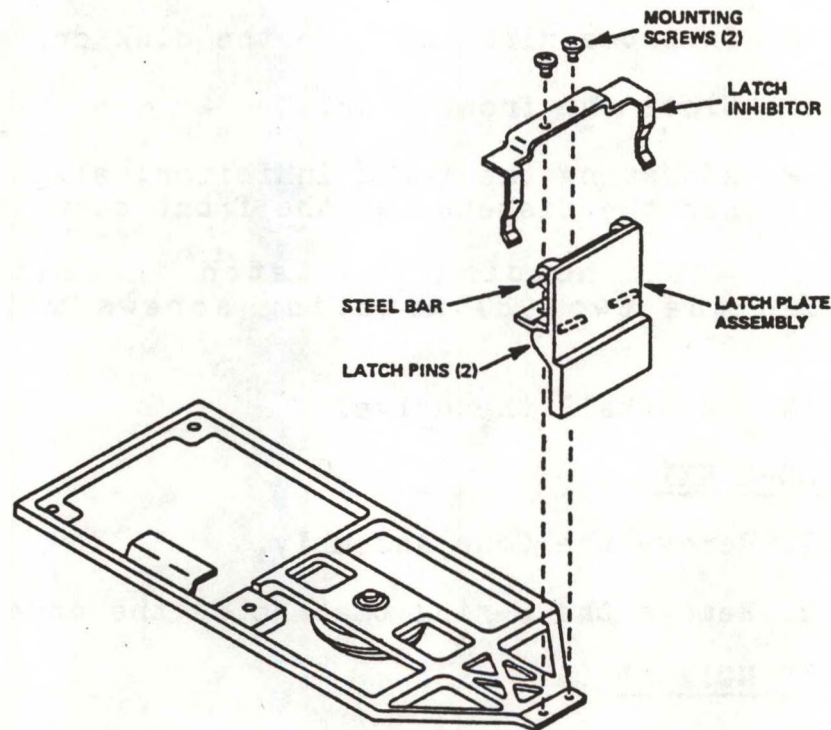
12. Put a small drop of glue (Permabond, Superglue, or other cyanoacrylic adhesive) on the top of each bushing.

13. Reinstall the drive.

LATCH PLATE ASSEMBLY

1. Remove the defective drive.

2. With a Phillips screwdriver, loosen the two (2) mounting screws that attach the Latch Plate Assembly to the cone Lever Assembly.



Latch Plate Assembly Mounting Screws and Latch Inhibitor

Figure 43

3. Remove the two (2) mounting screws from the Latch Plate Assembly.

4. Remove the latch inhibitor and the Latch Plate Assembly from the disk drive.

5. While holding the Cone Lever Assembly down, insert the new Latch Plate Assembly into its tracks.

6. Close the front door of the disk drive.

7. Still holding the Cone Lever Assembly down, place the latch inhibitor on the top of the Latch Plate Assembly.

8. With a Phillips screwdriver, install but do not tighten the two(2) mounting screws that attach the latch inhibitor and the Latch Plate assembly to the Cone Lever Assembly .

9. Open the front door located in the front panel.

10. Insert a diskette into the disk drive.

11. Close the front door.

12. Adjusting the latch inhibitor, align it so that it just touches the diskette as the front door is closed.

13. While holding the latch inhibitor in place, tighten the two (2) mounting screws with a Phillips screwdriver.

14. Reinstall the drive.

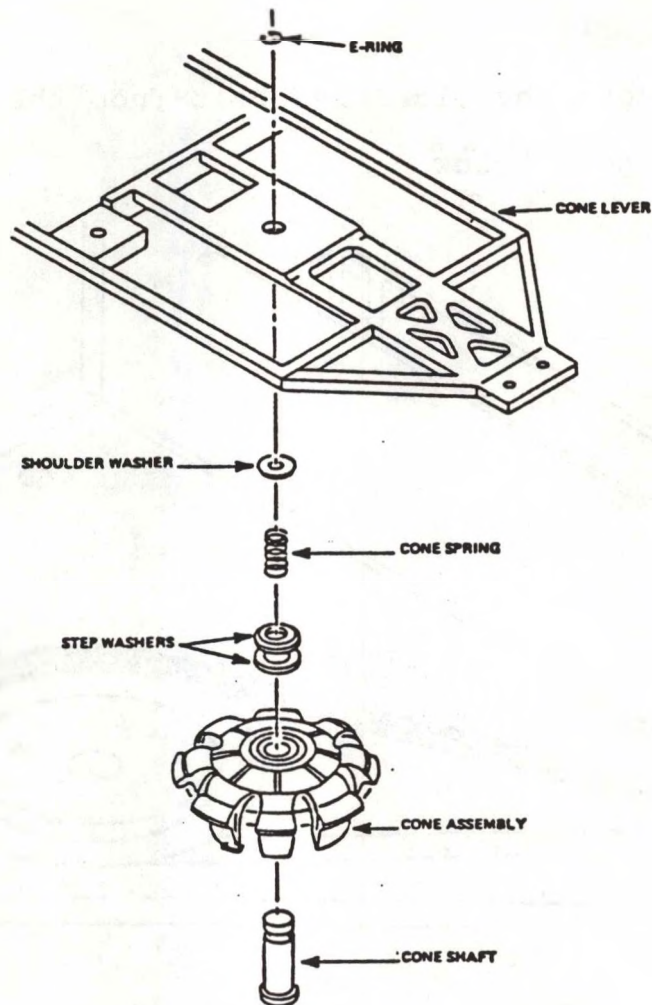
CONE KIT

1. Remove the Cone Assembly.

2. Remove the E-ring that holds the cone shaft on.

** NOTE **

The cone's Parts are now loose from the Cone Lever.



Cone's Component Parts

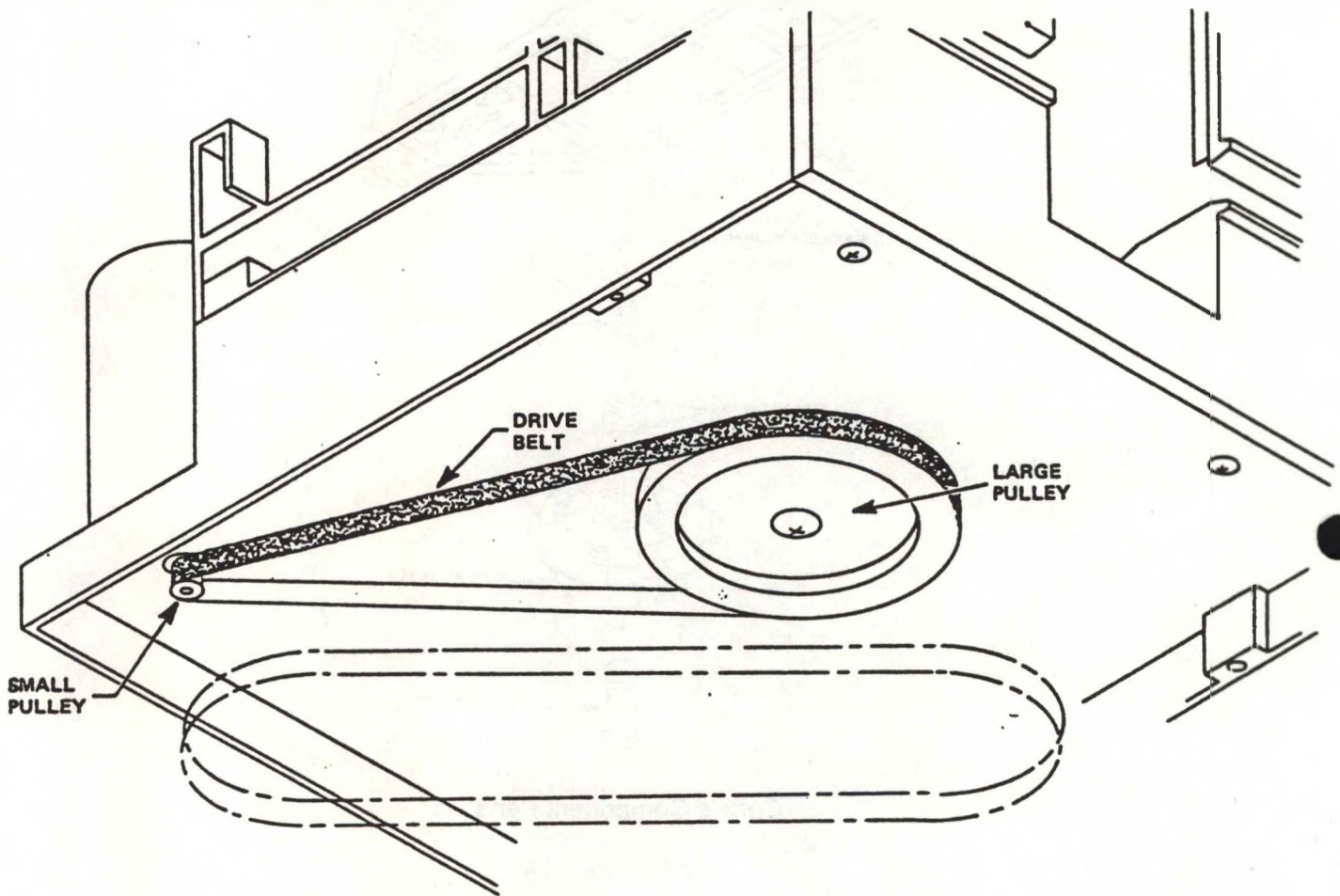
Figure 44

3. Put the Cone Shaft through the cone.
4. Slip on the step washer, the cone spring, and the shoulder washer.
5. Compress the spring, and put the cone shaft through the hole in the Cone Lever Assembly.
6. Install the E-ring in order to retain the Cone Lever Assembly.
7. Reinstall the Cone Lever Assembly.

DRIVE BELT

1. Remove the old drive belt from the pulleys.

See figure below



Drive Belt and Pulleys

Figure 45

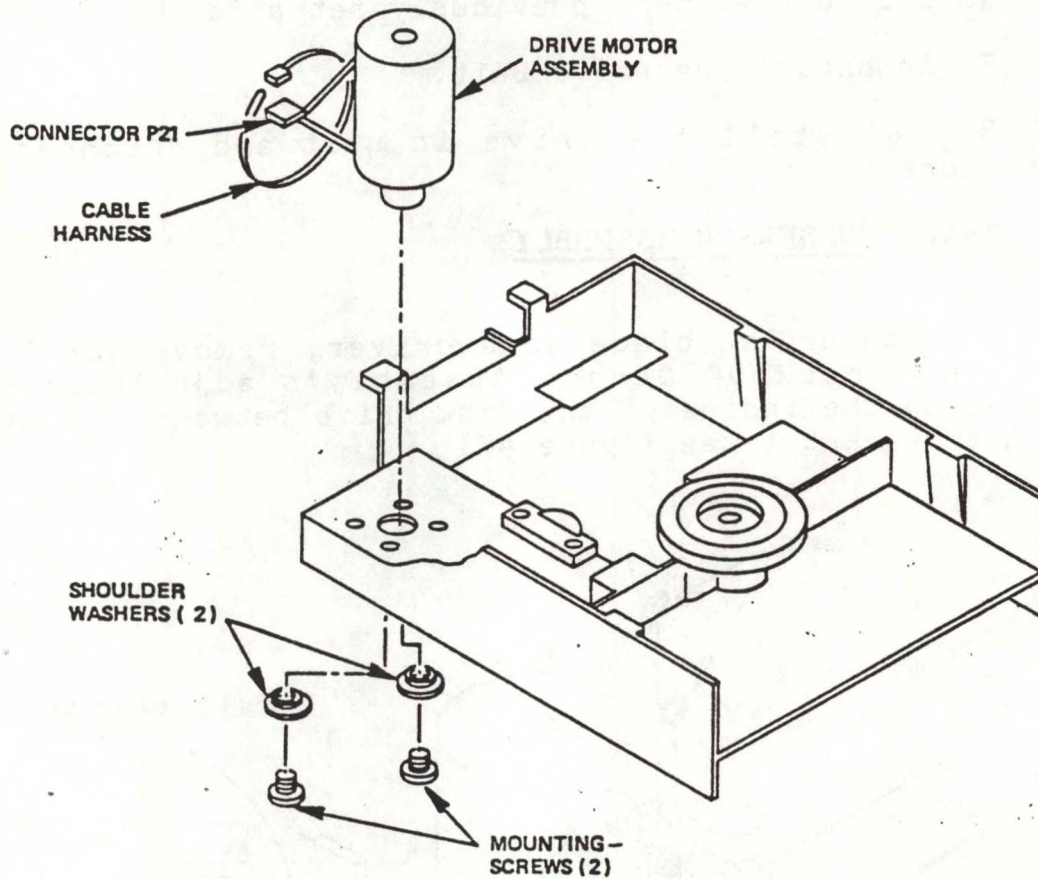
2. Taking care not to stretch the new drive belt, install it with the dark, shiny side facing the pulleys.

** NOTE **

Put the drive belt on the small pulley first, then on the large one.

DRIVE MOTOR ASSEMBLY

1. After turning the disk drive upside down, remove the drive belt.
2. With a Phillips screwdriver, remove the two (2)



Drive Motor Assembly Harnessing and Mounting

Figure 46

mounting screws and the two (2) Shoulder washers that attach the drive motor assembly to the chassis.

**** NOTE ****

Save the mounting screws and the shoulder washers.

3. Remove the Drive Motor Assembly from the chassis.

4. Insert the pulley of the new drive motor assembly through the bottom of the chassis.

5. Rotate the Drive Motor Assembly until its two tapped holes are aligned with the two holes in the chassis.

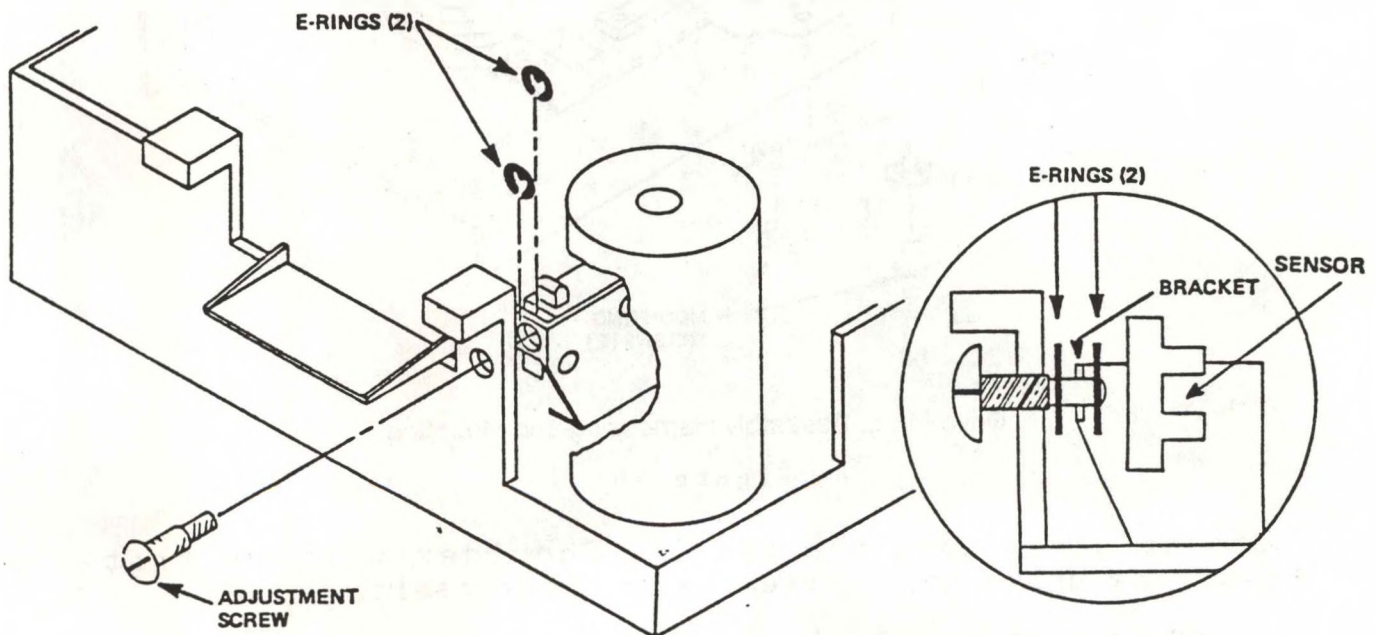
6. With a Phillips screwdriver, mount the drive motor assembly to the chassis, using the two mounting screws and the two shoulder washers previously set aside.

7. Reinstall the Drive Belt.

8. Reinstall the drive in unit and reconnect all connectors.

TRACK 00 SENSOR ASSEMBLY

1. With a flat blade screwdriver, remove the E-ring from the Track 00 Sensor Assembly's adjustment screw located on the inside of the disk drive between the switch and its bracket (see figure 47)



Track 00 Sensor Assembly E-Rings and Adjustment Screw

Figure 47

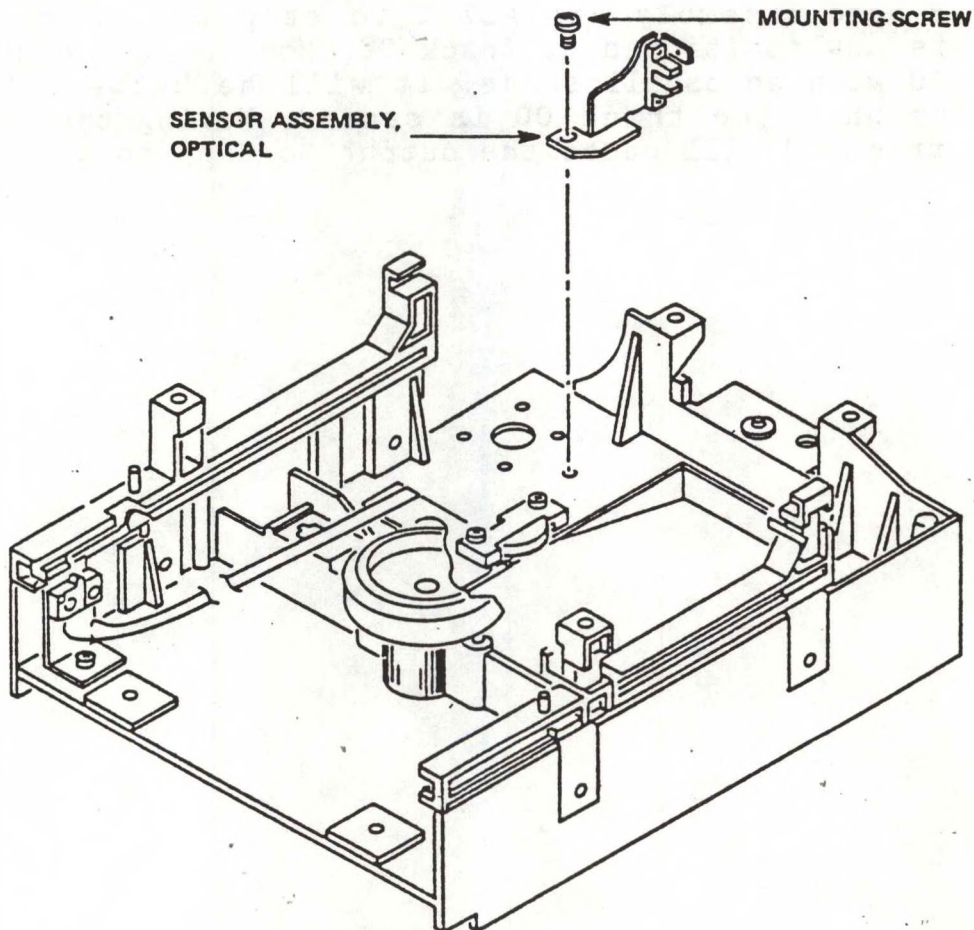
2. Move the head carriage toward the front of the disk drive, i.e. away from the Track 00 Sensor assembly.

3. With a Phillips screwdriver, remove the mounting screw that attaches the Track 00 Sensor Assembly to the chassis. (see figure 48).

4. Remove the Track 00 sensor assembly by pulling it toward the front of the disk drive.

5. Put the new Track 00 Sensor assembly into the disk drive near the left hand rear of the chassis.

6. Push the new Track 00 Sensor Assembly toward the rear of the disk drive until its mounting hole is aligned with the mounting hole in the chassis.



Track 00 Sensor Assembly and Mounting Screw

7. Make sure there are no cables underneath the Track 00 Sensor Assembly.

8. With a Phillips screwdriver, install and tighten the mounting screw that attaches the Track 00 Sensor assembly to the bottom of the chassis (see figure 48).

9. Reinstall the E-ring with an E-ring insertion tool.

10. To adjust the Track 00 Sensor Assembly, loosen the mounting screw, and move the switch in or out by turning the adjustment screw.

11. The drive can be adjusted for track 00 by inserting the drive in the B position. Enter the Format program, select B and hit the space bar. When the drive homes the B head assembly hit ALT C to stop the program. The head is now positioned at track 00. Monitor the output of 1E PIN 10 with an oscilloscope. It will be between 2.5 and 5 volts when the track 00 is sensed. Moving the head away from track 00 will cause the output to drop to 0.

VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

SA JOB CHG	
CHANGE NO	FIELD #/M
ADVISORY	
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
ADVISORY	
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.

VICTOR

FIELD ENGINEERING

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: 3-16-83

MODEL: Victor V9000/S1

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

581-228-SB22

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, bisync, and external sync modes.

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

FIELD ENGINEERING COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: 3-17-83

MODEL: Victor V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
RECOMMENDED	
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

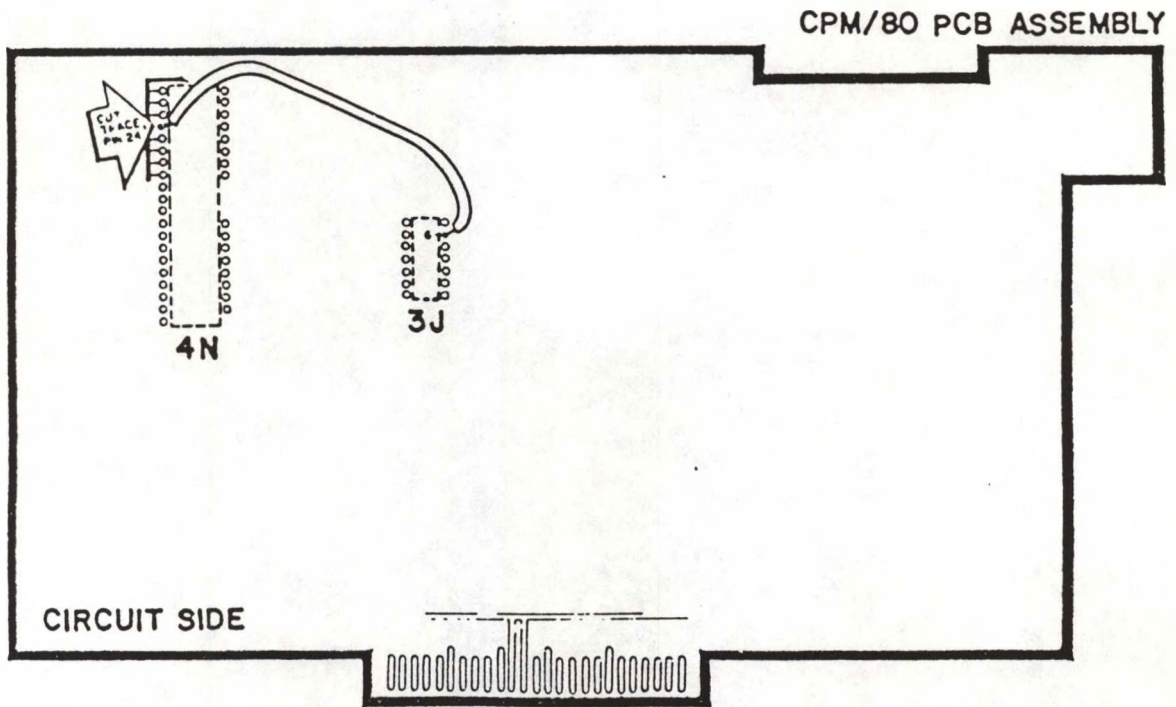
Upgrade board to FCO blue dot level "B"

(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)





FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: April 27, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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
```



FIELD ENGINEERING

COMPUTER SYSTEMS TECHNICAL BULLETIN

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

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

581-228-SB26

SUBJECT: HARD DMA INTERFACE DISK CONFIGURATION

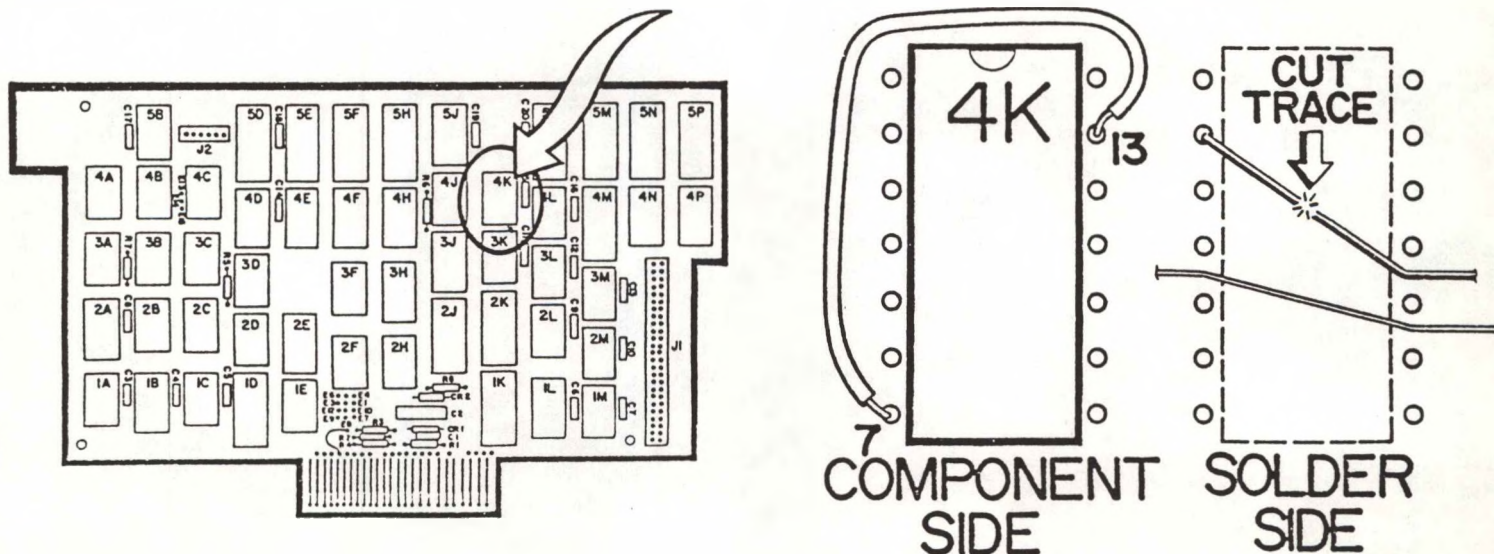
On hard disk units, check to insure the following configurations are adhered to:

- 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.





FIELD ENGINEERING

COMPUTER SYSTEMS

TECHNICAL BULLETIN

DATE: May 13, 1983
MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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.

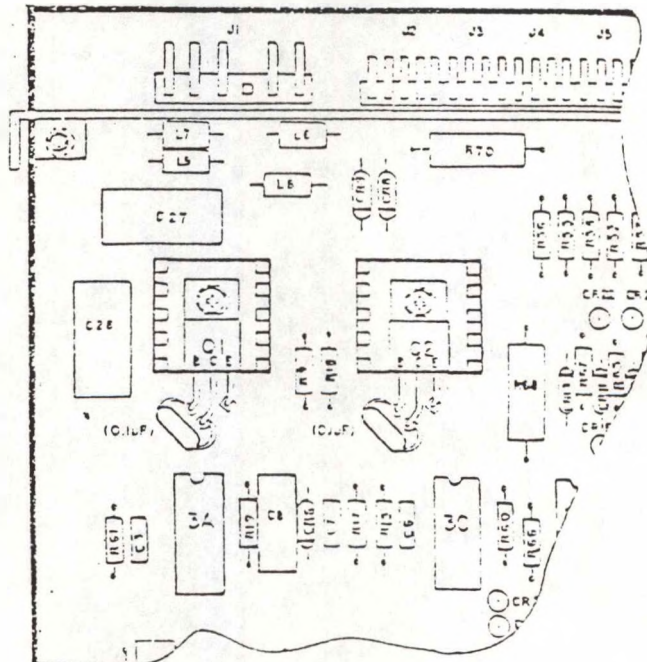


Figure 1

COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: May 25, 1983

MODEL: VICTOR V9000/S1

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

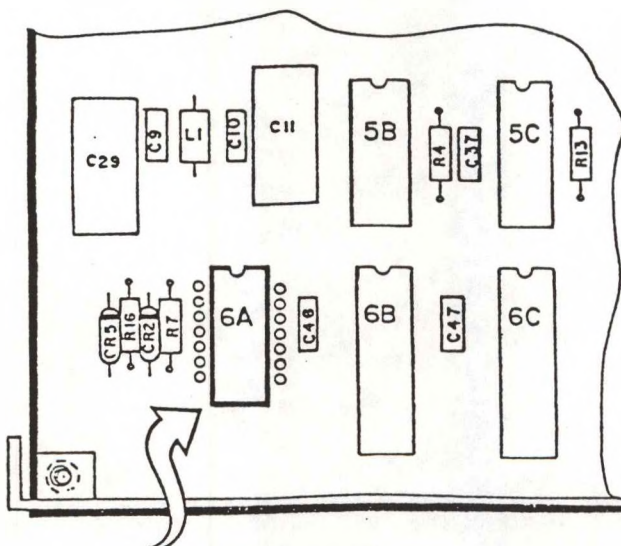
581-228-SB28

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.



6A LOCATED LOWER LEFT
CORNER OF DISK DRIVE BOARD

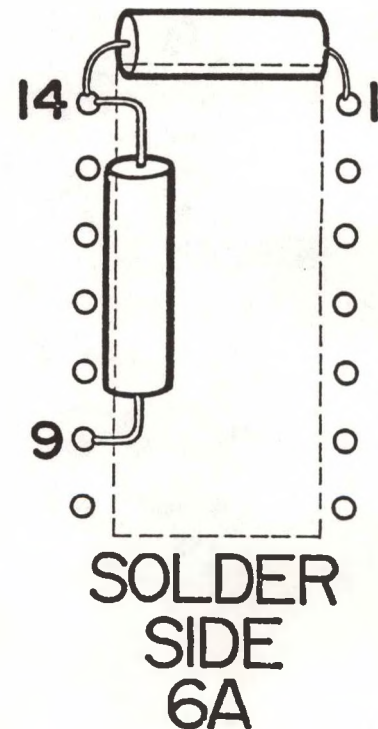


FIGURE 1

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: JUNE 1, 1983

MODEL: VICTOR V9000/S1

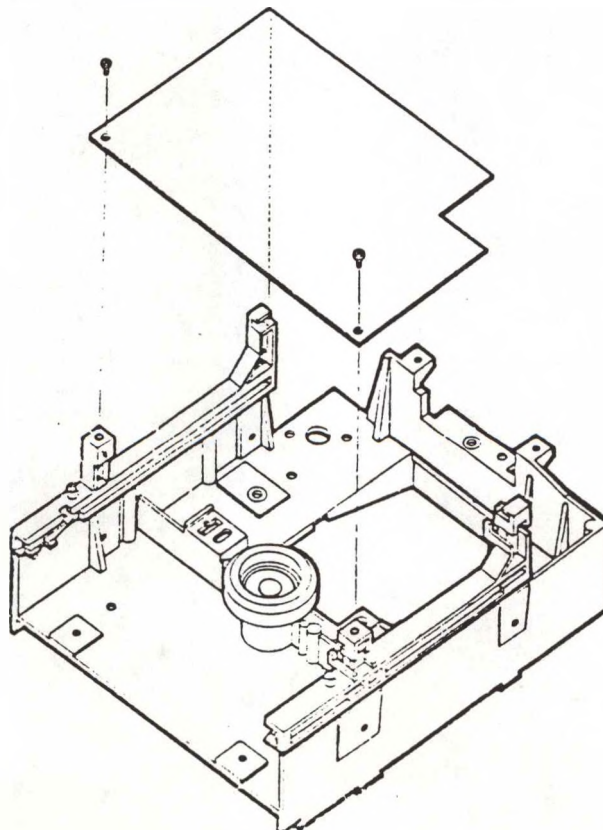
SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
BRANCH ACTION CLASS	

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)



FIELD ENGINEERING

VICTOR

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: July 1, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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.



FIELD ENGINEERING
**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

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

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

581-228-SB31

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: July 8, 1983
MODEL: VICTOR V9000/S1

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

581-228-SB32

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 it's 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!!!

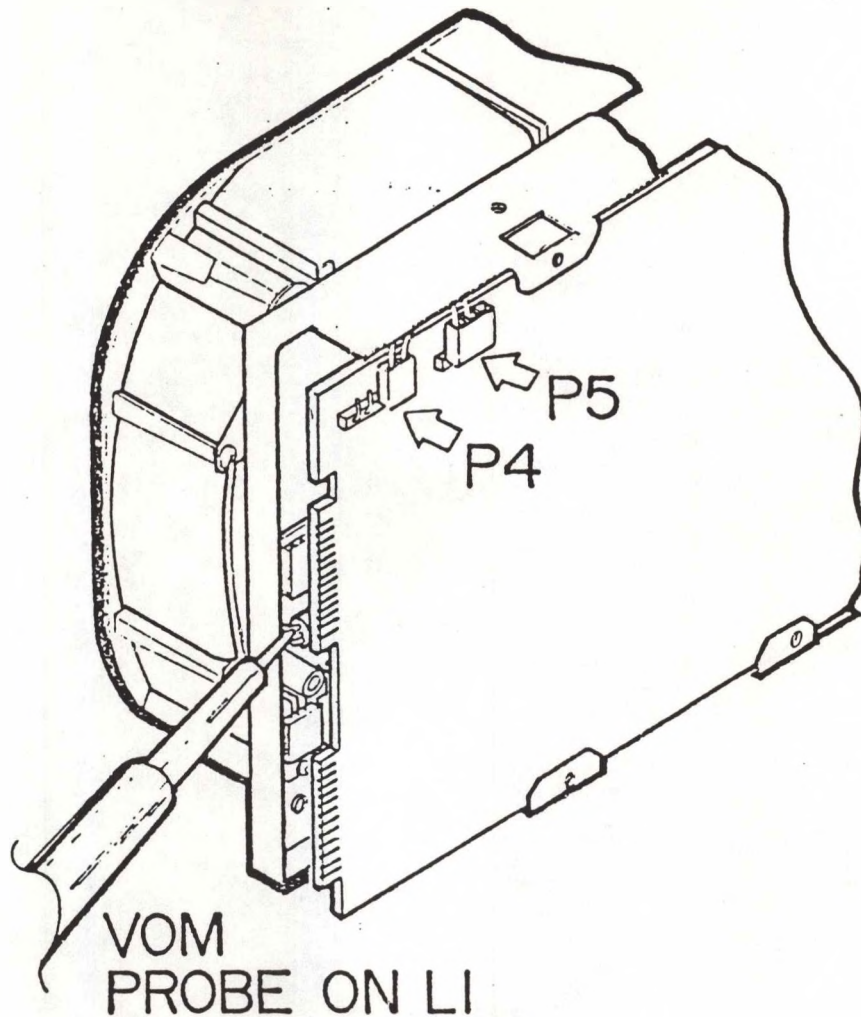


FIGURE 1

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.



COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: August 10, 1983

MODEL: VICTOR V9000/S1

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

581-228-SB33

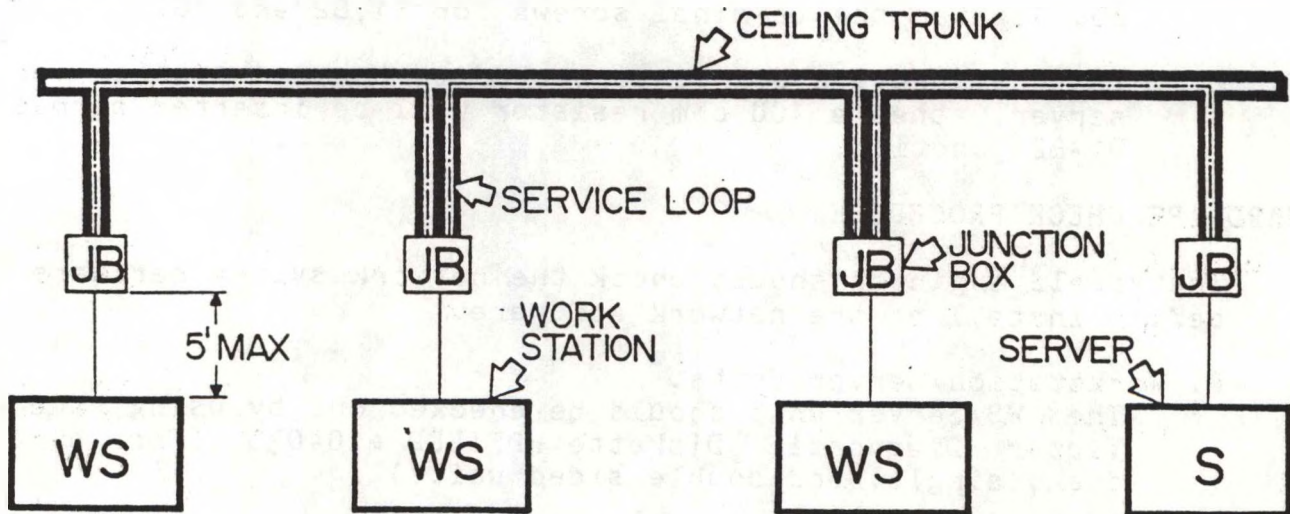
SUBJECT: NETWORK INSTALLATION GUIDELINES

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, servicer 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.*

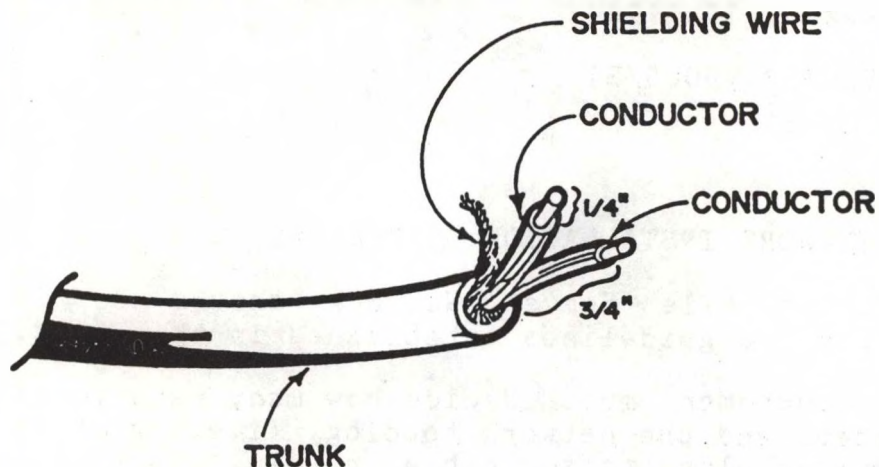
SEE EXAMPLE DIAGRAM BELOW



* 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

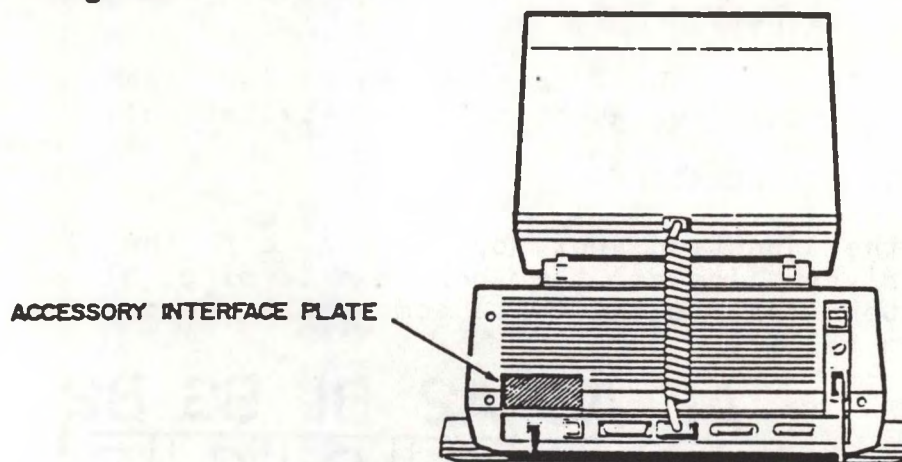
The network hardware procedure can be broken down into two areas:

- 1. Transporter Installation
- 2. Trunk Cable Installation

TRANSPORTER INSTALLATION

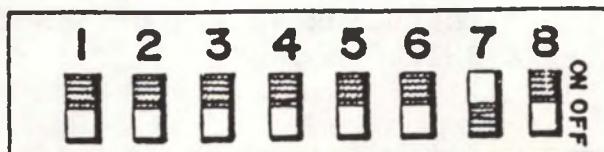
Step 1. Remove back panel from V9000/S1 by removing the four back screws.

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

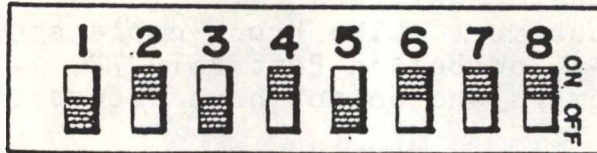


Step 3. Remove top cover by sliding cover back.

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.

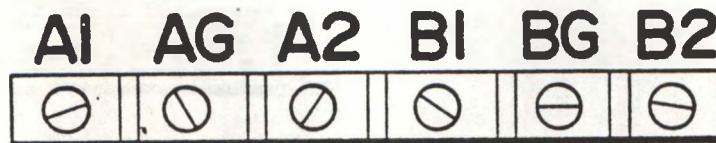
Step 1. Place all work stations and servers in their assigned locations.

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

FIELD ENGINEERING

VICTOR

**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

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

SA JOB CHG	
CHANGE NO	FIELD B/M
RECOMMENDED	
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.

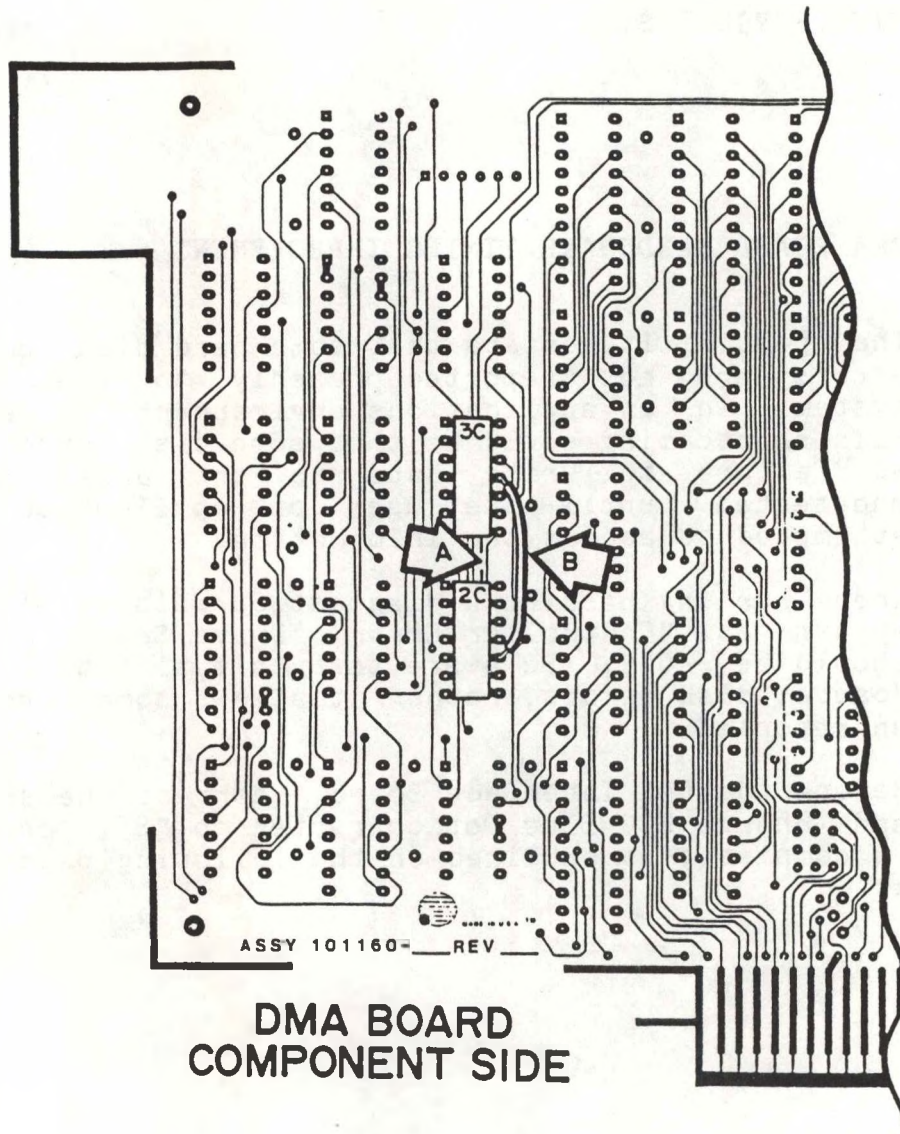


Figure 1

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.

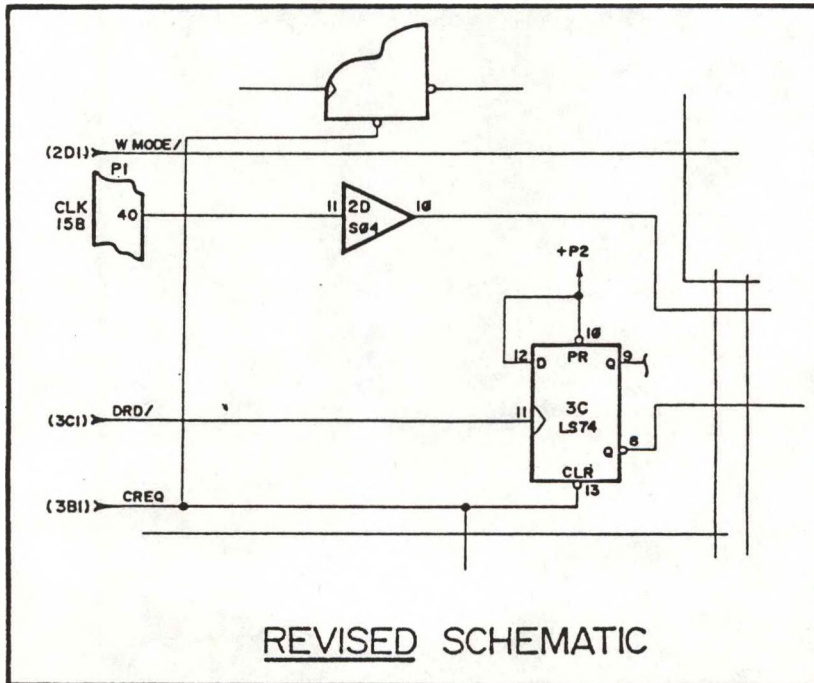
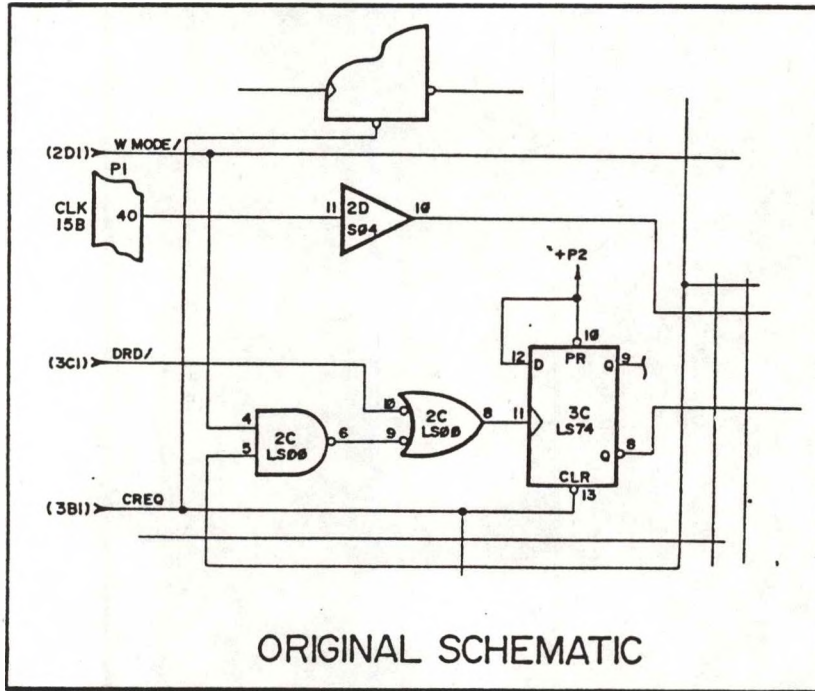


Figure 2



COMPUTER SYSTEMS TECHNICAL BULLETIN

DATE: September 13, 1983

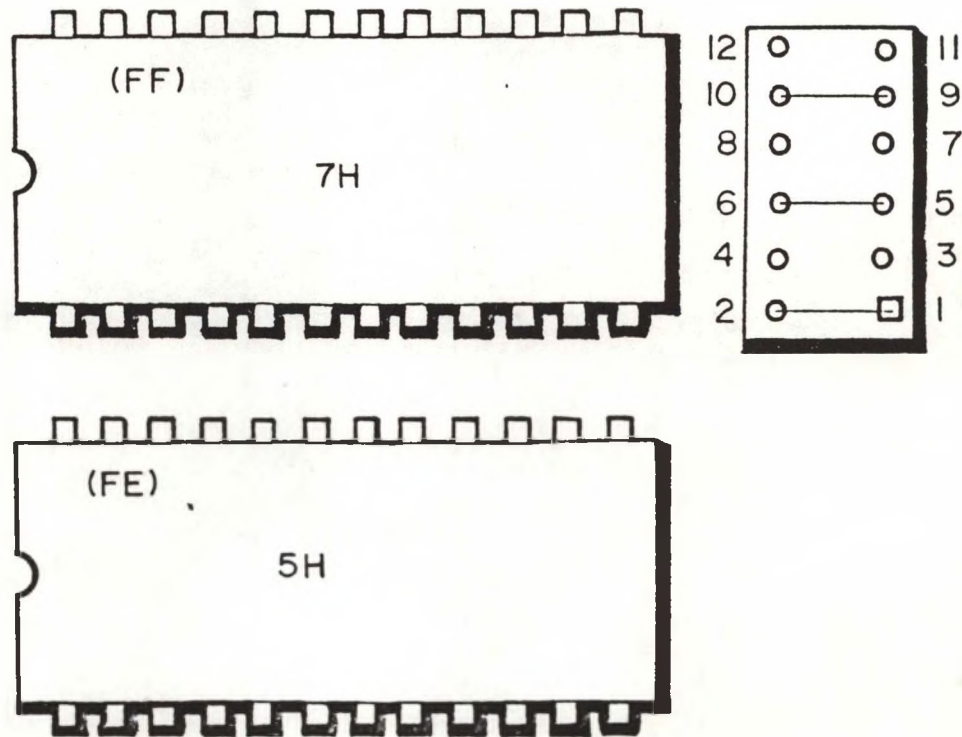
MODEL: VICTOR V9000/S1

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

581-228-SB35

SUBJECT: INSTALLATION OF HARD DISK BOOT PROMS

When a CPU board is to be used in a hard disk system, the board must contain hard disk boot PROMS. If the board contains a 64K Boot ROM at location 7H, the ROM must be replaced with hard disk boot PROMS part numbers 102320 and 102322. The jumper configuration must also be changed. If the CPU board contains two boot PROMS at 5H and 7H, the PROMS must be replaced with the hard disk PROMS. If the CPU has the two boot PROMS, no jumper reconfiguration is required. Hard disk PROMS will have the part number on the part.



VICTOR**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: September 16, 1983

MODEL: VICTOR V9000/S1

SA JOB CHG	
CHANGE NO	FIELD B/M
ADVISORY	
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 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

FILE IN TECHNICAL BULLETIN SECTION OF TECHNICAL MANUAL



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**COMPUTER SYSTEMS
TECHNICAL BULLETIN**

DATE: JAN 18, 1984
 MODEL: VICTOR V9000/S1

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

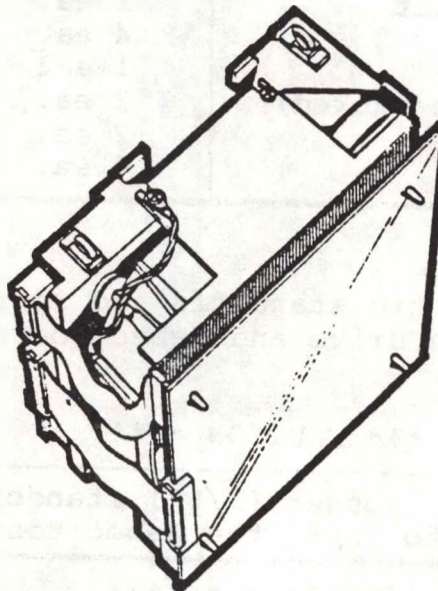
581-228-SB41

SUBJECT: MINISCRIBE MODEL 3012 HARD DISK FIELD INSTALLATION
 (Internal Hard Disk Systems Only)

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

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

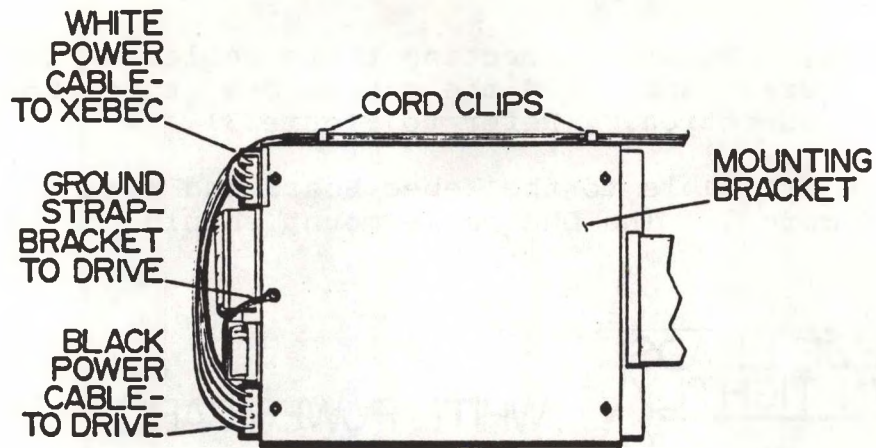
ITEMS SUPPLIED WITH MINISCRIBE HARD DISK

<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

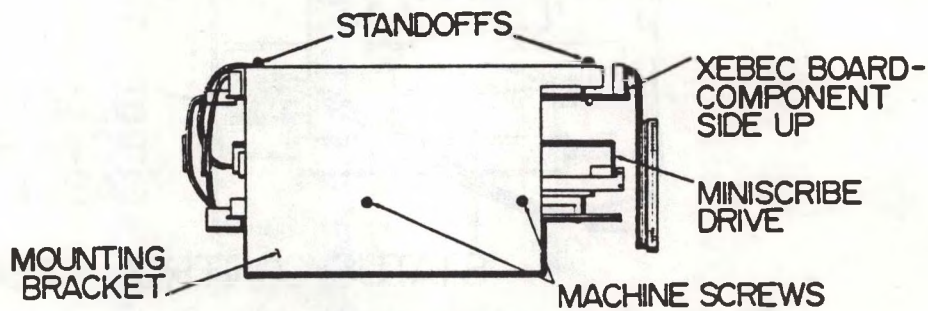
4. Using the four plastic standoffs and four machine screws, mount the Miniscribe Drive and Xebec Board in the bracket as shown in Figure 2.

*** CAUTION ***

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



TOP VIEW



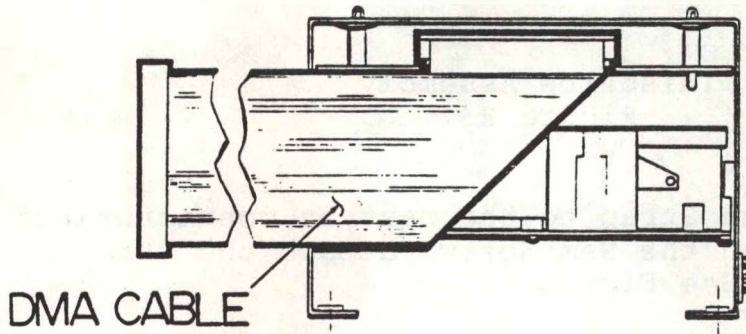
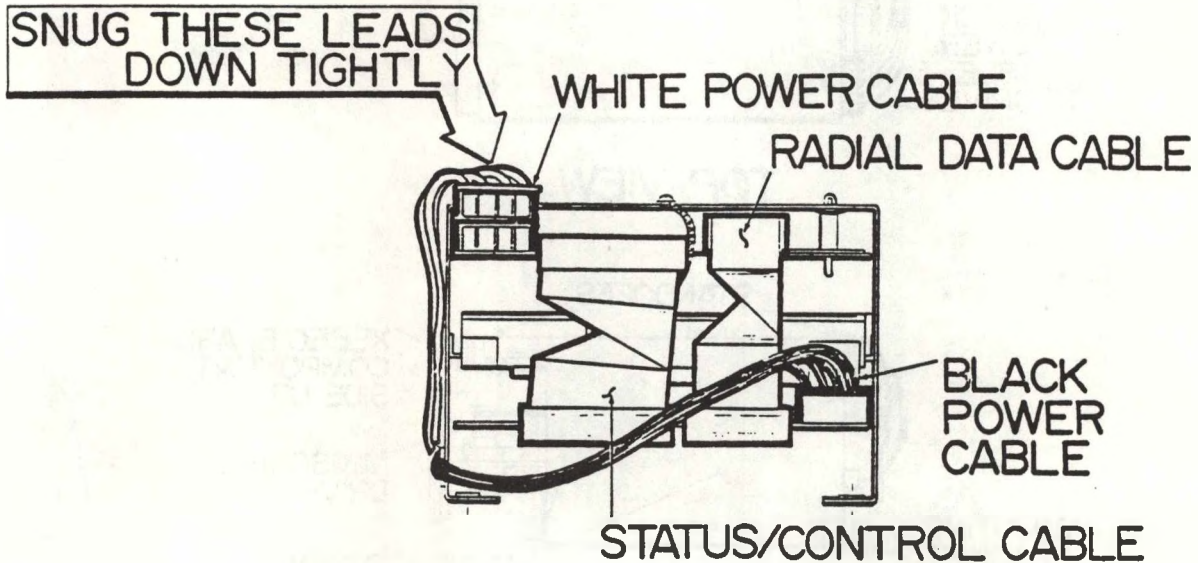
SIDE VIEW

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.

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.

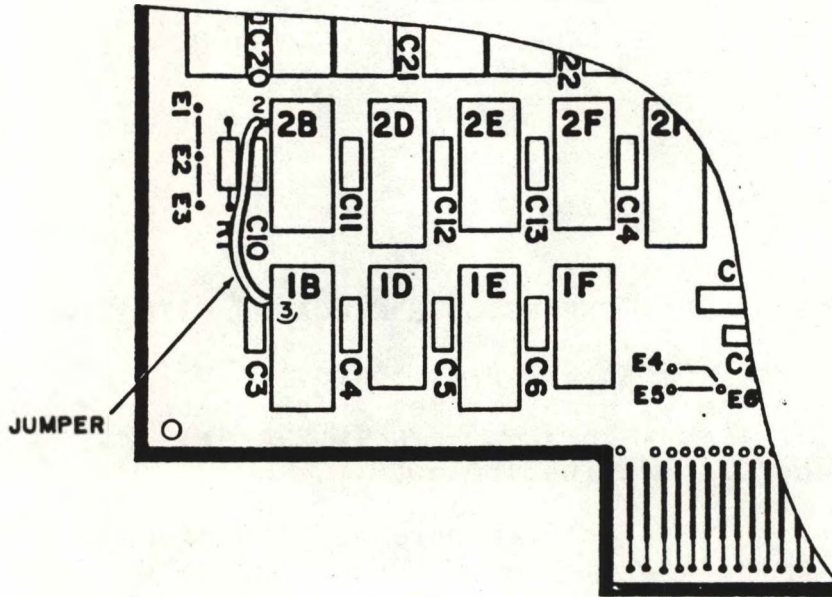
OLD STYLE BOARD: (Refer to figures 1 and 2.)

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.

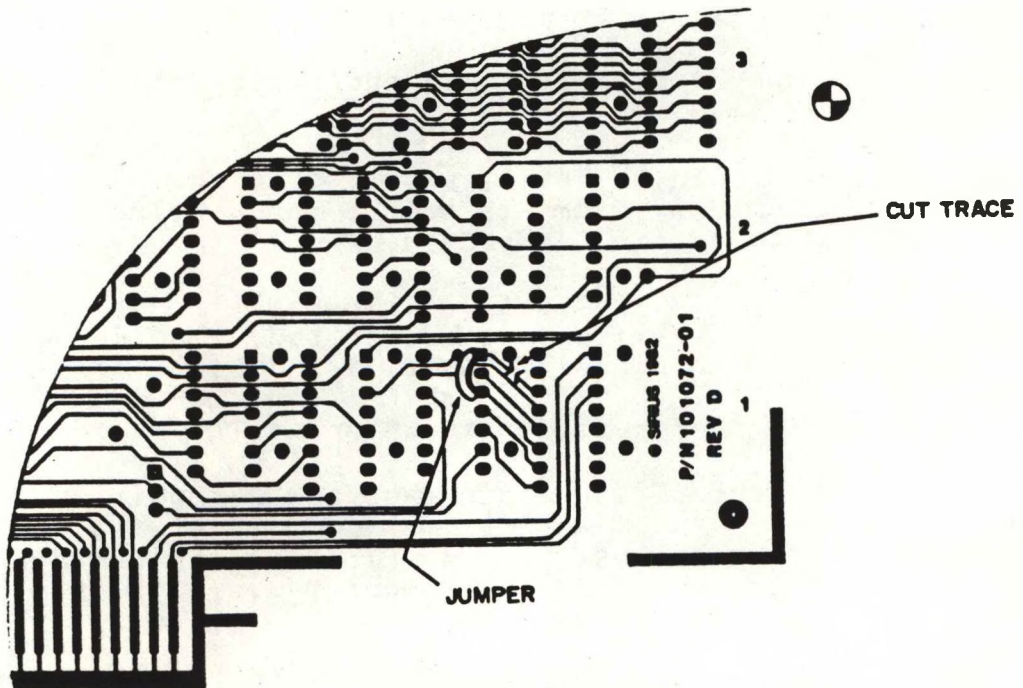
NEW STYLE BOARD: (Refer to figures 3 and 4.)

1. Install the jumper plug J1 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

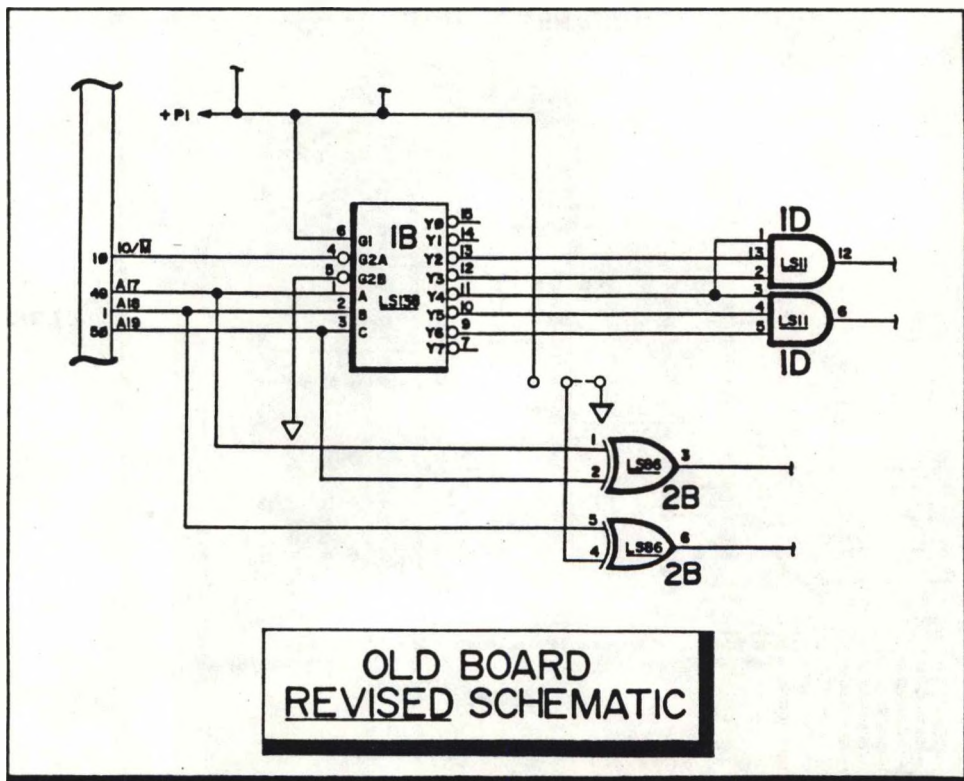
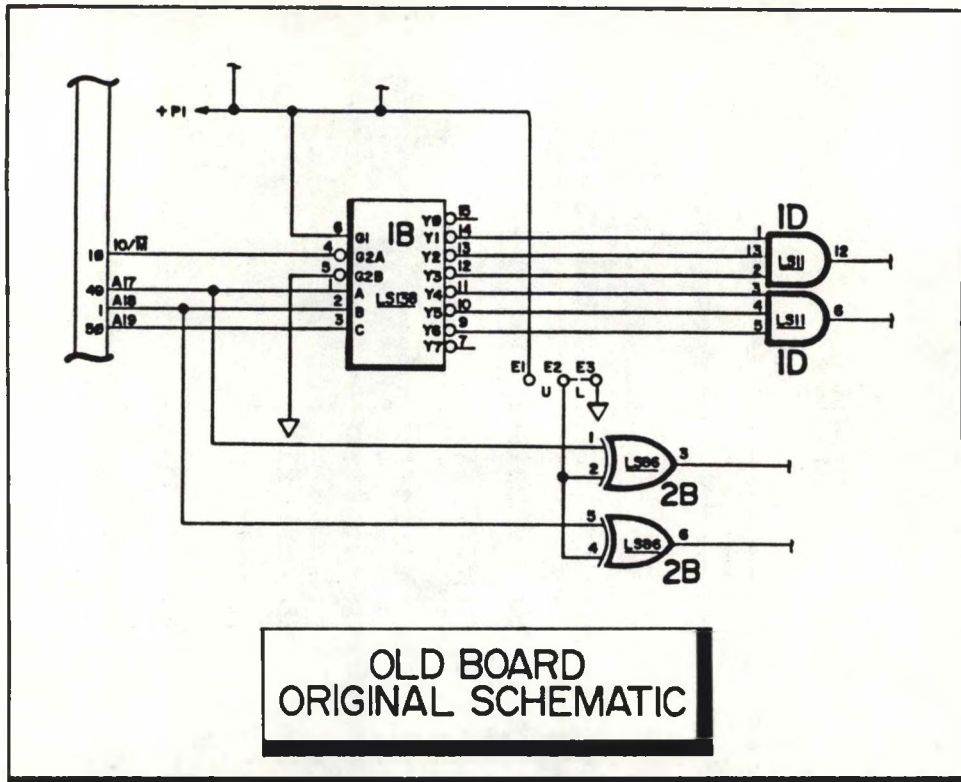
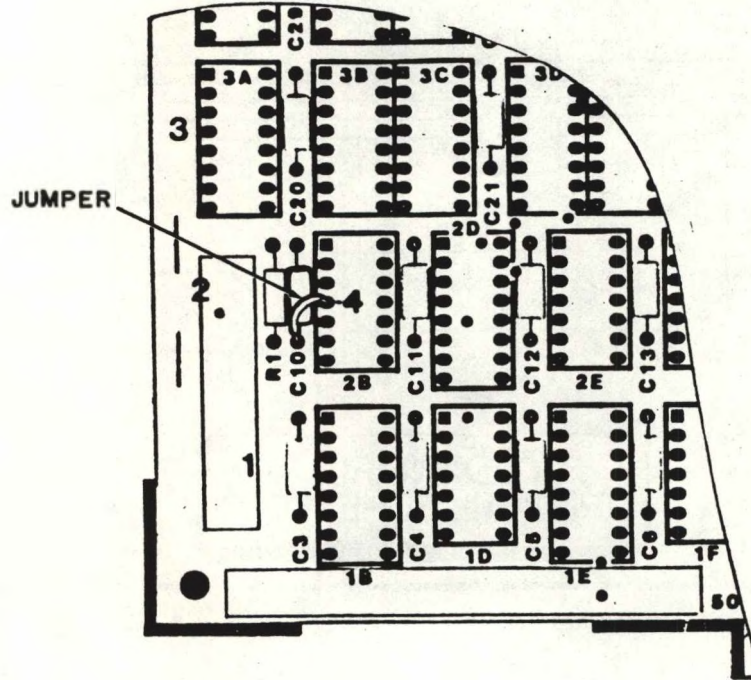
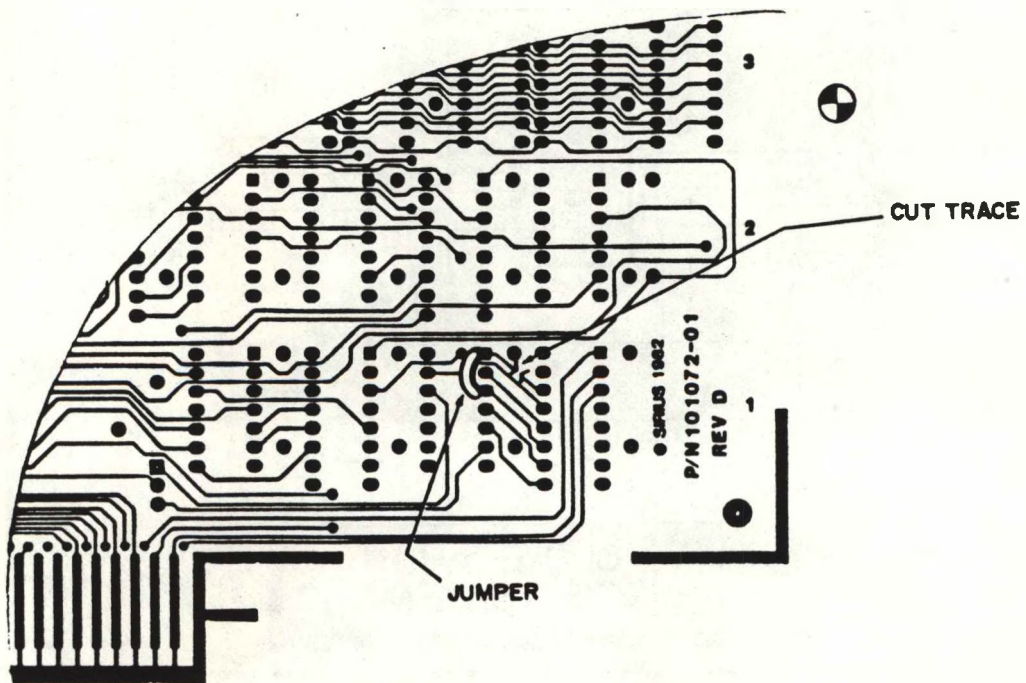


Figure 2

New Style Board

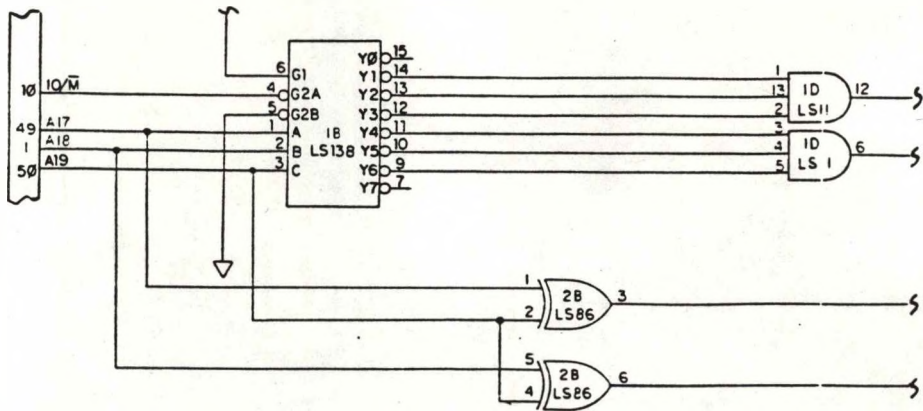


Component Side

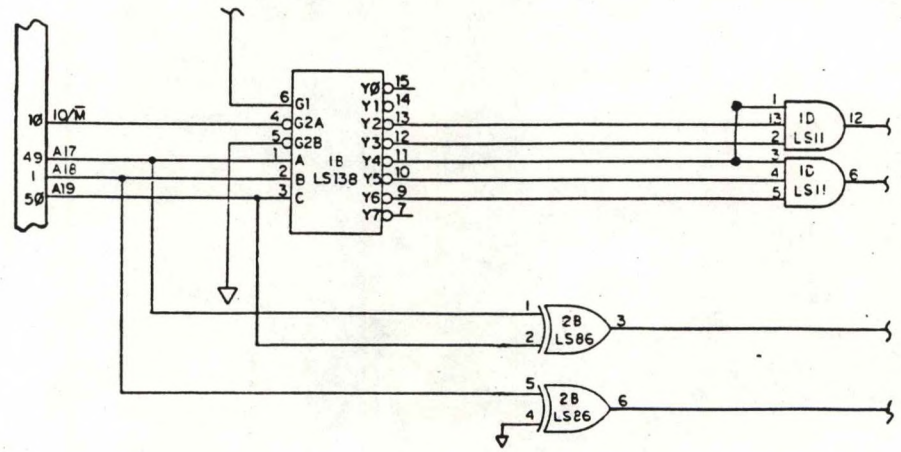


Solder Side

Figure 3



**NEW BOARD
ORIGINAL SCHEMATIC**



**NEW BOARD
REVISED SCHEMATIC**

Bulletin

SERIES 9XXX
DESKTOP BUSINESS COMPUTERS

581-228-SB43
FEBRUARY 12, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
@	@

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)

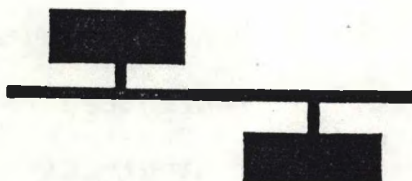


Figure 1

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 0FFFF 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.

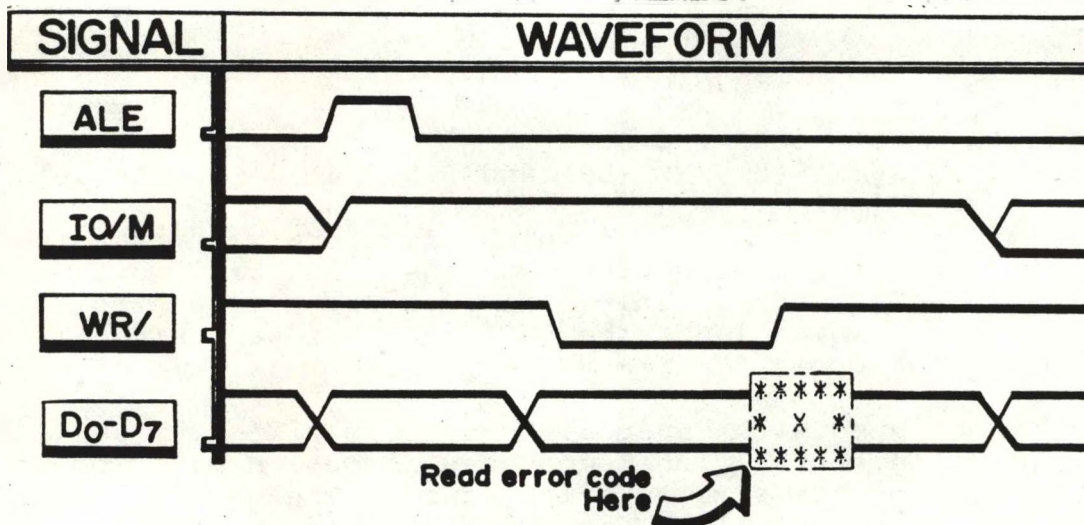


Figure 2

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 the 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.



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-SB44
MAY, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
@	@

SUBJECT: V9000 FIELD DIAGNOSTIC SOFTWARE

The diagnostic aids listed below are available through Field Engineering Spare Parts Distribution.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>PRICE *</u>
104028-01	HDFIELD S/S This diskette will test any Victor 9000 with the exception of the 30MB Hard Disk model.	\$ 60.00
106907-01	HDFIELD D/S This diskette will test any Victor 9000 including the 30MB Hard Disk. Since this is a double sided diskette, it will not read on a single sided floppy disk system.	\$ 80.00
106909-01	DIAGNOSTIC LOOPBACK CABLE ASSEMBLY This cable is necessary when running the diagnostics contained on either of the above diskettes.	\$ 35.00
106910-01	HDFIELD KIT This kit contains all of the above.	\$130.00

Note: P/N 104028-01 is similar to P/N T-580. T-580 is no longer a valid part number.

* All prices listed are in U.S. dollars. Prices quoted are Domestic Dealer Net Price (list price -40%). Dealers and distributors outside the United States or Canada must contact the nearest Victor Subsidiary for prices. Prices quoted were in effect at time of this printing and are subject to change.



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-SB45
MAY, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
B	C

SUBJECT: FAILURE OF NETWORK PCB ASSEMBLIES CAUSED BY LIGHTNING

Several network installation sites have reported failures which occurred after an electrical storm. These failures have been traced to a damaged 74175 line receiver IC, located at 2N on the 102990-0X Network PCBA. Transient spikes induced into the network trunk cable during the electrical storm have blown this IC.

To correct this problem, install two (2) 75 joule Metal Oxide Varistors, P/N 102091-01, on the Network PCBA as follows:

1. Remove the ceramic disc capacitors at locations C26 and C27.
2. Install an MOV into the C26 location.
3. Install the other MOV into the C27 location.
4. Change the FCO label from "B" to "C".

Bulletin

SERIES 9XXX
DESKTOP BUSINESS COMPUTERS

581-228-SB46
MAY, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: DIFFERENCES FOR 30MB HARD DISK MAINFRAMES

The V9000 series now has two new model mainframes which utilize the Tandon Model 703 30 MB hard disk drive; The Model 413, 115V Mainframe or the Model 463, 230V Mainframe. The complete system including the Mainframe, the CRT and the Keyboard is designated as the Model 9270.

The Universal Boot Proms which are utilized in the 9270 have been updated. Updated version proms have not as yet been documented, but will have the same part numbers as the current universal boot proms, (FE 106168-01 and FF 106170-01). Updated proms are labelled with a suffix "F3F7" after the part number. These proms will display the message "F3F7" in line 25 of the CRT after depression of the boot switch. Without having these proms installed, it is impossible to boot from the 30MB hard disk drive, and the error "99" will be displayed. The system can be booted from the floppy disk drive, even if the new style proms are not present.

The operating system for the 30MB system is MSDOS 2.11 I/O Subsystem 2.92 (BIOS). The utility AUTOSET.EXE is updated to version 2.3, and the .CFG files which should be used are all labelled 3I____.CFG. The Hard Disk Toolkit II has also been updated to Version 2.2. HDSETUP.EXE has been upgraded to version 2.34. Further information is contained in the manuals and DISKID's contained in these software packages.

Diagnostic software HDFIELD D/S version 4.4 should always be used when testing the 30MB drive. Older versions will display the message "DRIVE LABEL IS INVALID" if they are used with these drives.

A parts list for the 30MB Hard Disk Controller Assembly is on the reverse side.

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
	106497-01	HARD DISK/CONTROL ASSY, 30MB	
1	106597-01	DISK DRIVE, 30MB, HARD DISK	1
2	101787-01	PC BOARD, CONTROLLER, HARD DISK	1
3	101820-01	BRACKET, MOUNTING, HRD DISK	1
4	101862-01	CABLE ASSY, STATUS CONTROL	1
5	101863-01	CABLE ASSY, DISK RADIAL	1
6	101864-01	CABLE ASSY, D.M.A.	1
7	101865-01	CABLE ASSY, POWER, INT. HRD DSK	1
8	100674-02	SCREW, SEMS PN HD 6-32X.25	4
9	101012-02	STANDOFF, 1/2" PLASTIC W/TAB	4
10	101992-02	GROUND STRAP, SHIELD, W/TUBING	1
11	102056-01	CORD CLIP. 310" NOM CORD DIA.	2

VICTOR

FIELD ENGINEERING TECHNICAL

Bulletin

SERIES 9XXX
DESKTOP BUSINESS COMPUTERS

581-228-SB48
AUGUST 12, 1985

ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

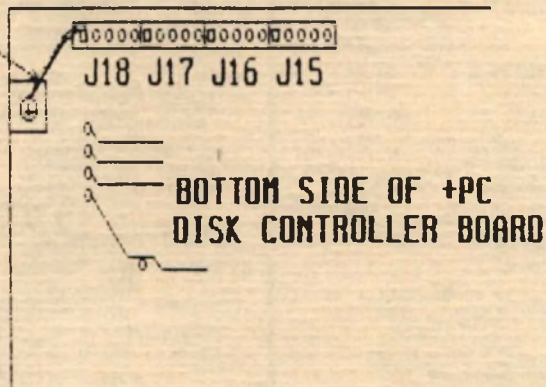
SUBJECT: ANALOG TO CHASSIS GROUND FOR THE +PC

It has been determined that there is a problem with noise on the analog ground. This problem can be improved by connecting the analog ground to chassis ground closer to the read/write head connectors on the disk controller board.

Connect a piece of 22 AWG. tinned, solid copper, bus wire from pin 1 of connector J18 to the mounting bracket directly below it. This jumper should be connected to the solder side of the board. Loop the wire underneath the bracket screw when connecting it to the mounting bracket.

This change should be made to all board fabs up to and including Rev. P3.

tinned copper
wire



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-SB48
AUGUST 12, 1985

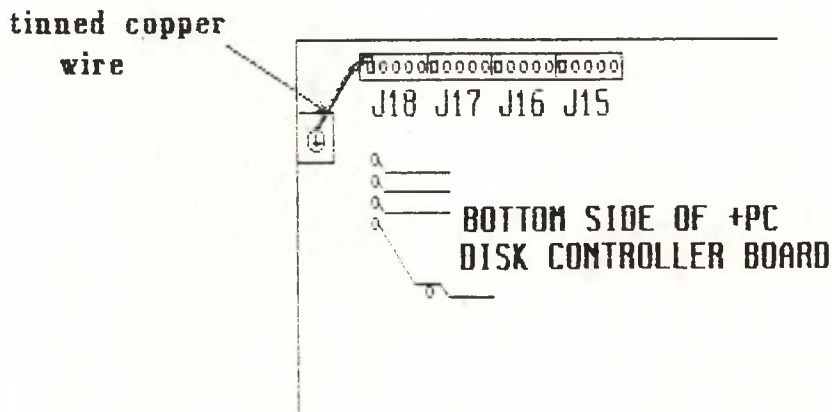
ACTION CLASS	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

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This change should be made to all board fabs up to and including Rev. P3.



VICTOR

FIELD ENGINEERING TECHNICAL

Bulletin

SERIES 9XXX DESKTOP BUSINESS COMPUTERS

581-228-SB49
SEPT. 26, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
A	B

SUBJECT: CHANGE TO PLUSPC NMI POWER ON LOGIC

A problem has been encountered with some PlusPCs during **power-on**. The typical symptom is that when the PlusPC is first turned on, both drive LEDs turn on and stay on and then the system locks up. If the reset button is pushed, it will then boot correctly.

The problem is with the DMA/NMI circuitry. During a **power-on** there is no Reset Control Line to keep the NMI logic cleared. At **power-on**, the NMI interrupt logic can be in either state. This generates an interrupt about 50% of the time. Because the NMI address is not initialized, the system will lock up. To correct this problem, the NMI CLEAR signal and the RESET/ signal should be Ored together.

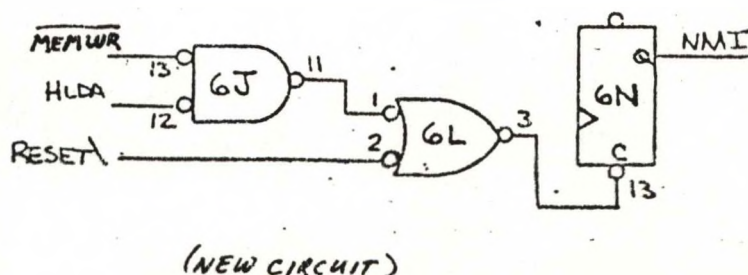
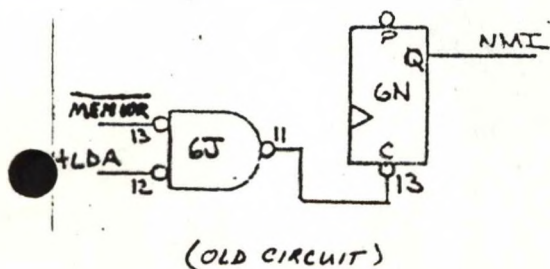
The rework instructions to the DMA board differ slightly for the different board fabs.

Rev. P2 fab:

- 1) Disconnect the jumper from U6J-11 to U6N-13 at U6N-13.
- 2) Reconnect the jumper from U6J-11 to U6L-1.
- 3) Jumper U4K-2 to U6L-2.
- 4) Jumper U6L-3 to U6N-13.

Rev. A fab:

- 1) Cut trace from U6J-11 on solder side.
- 2) Jumper U6J-11 to U6L-1.
- 3) Jumper U4K-2 to U6L-2.
- 4) Jumper U6L-3 to U6N-13.



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-SB50
SEPTEMBER 16, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: TANDON AND MICROSCIENCE 10MB HALF HEIGHTS RELEASED FOR USE IN THE V9000
(Internal Hard Disk System Only)

Recently, the Tandon Model 252 10MB "Half Height" (P/N 104172-02) has been approved for use in the V9000. The mounting bracket is the same one used to mount the Miniscribe "Half Height". All the cables are interchangeable between the different drives.

The Xebec board is mounted upside down (solder side up) inside the bracket. The Tandon "Half Height" is mounted in exactly the same way as the Miniscribe, with the PC board on the bottom. There is a difference however, in the way the cables are connected to the Tandon. When connecting the Data Radial Cable and the Status Control Cable to the Miniscribe, the cables are both twisted. When connecting them to the Tandon "Half Height" they are not twisted. Also, the ground strap must not be connected when installing the Tandon "Half Height".

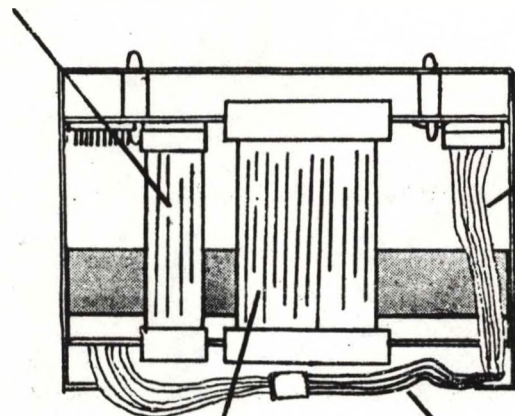
When mounting the Tandon and Xebec in the bracket, it is possible to mount them backwards, so caution should be taken to mount them correctly. Referring to Figure 2, notice that the mounting bracket has a one-inch protrusion at one end. This should be mounted at the back of the computer and at the top. The Xebec is mounted upside down (solder side up), with 4 standoffs. The DMA connector which is the 50 pin stake connector is also mounted at the back of the computer. Figure 2 (the side view) shows the DMA connector on the right side and at the top of the picture. The Tandon drive is mounted at the bottom of the bracket with 4 flat head machine screws. All of the connectors on the Tandon drive are mounted toward the front of the computer. In figure 2 (side view) this is shown on the left hand side. When the bracket is mounted in the computer, the Radial Data Cable and the Status Control Cable should be toward the front of the machine and the DMA cable should be toward the back.

The Microscience Model HH 612 10MB hard drive (P/N 104172-03) was also released. It is installed exactly the same way as the Miniscribe. Instructions for mounting the Miniscribe in the V9000 are described in Bulletin # 581-228-SB41.

The Xebec board should be mounted component side up using the 7/8 inch standoffs (P/N 101012-04) provided with the Microscience drive. It is not possible to mount the Xebec board component side up with the 1/2 inch standoffs used for the Tandon drives. Both the Radial Data Cable and the Status Control Cable are twisted 1/2 turn when connecting them from the drive to the Xebec board. This is shown in Figure 3 of this Bulletin. The ground strap is connected from the tab between the two connectors on the back of the drive to the screw hole on the top of the bracket.

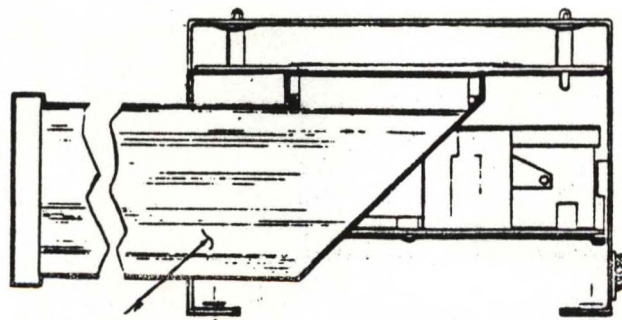
RADIAL DATA CABLE

WHITE POWER CABLE



STATUS/CONTROL CABLE

BLACK POWER CABLE

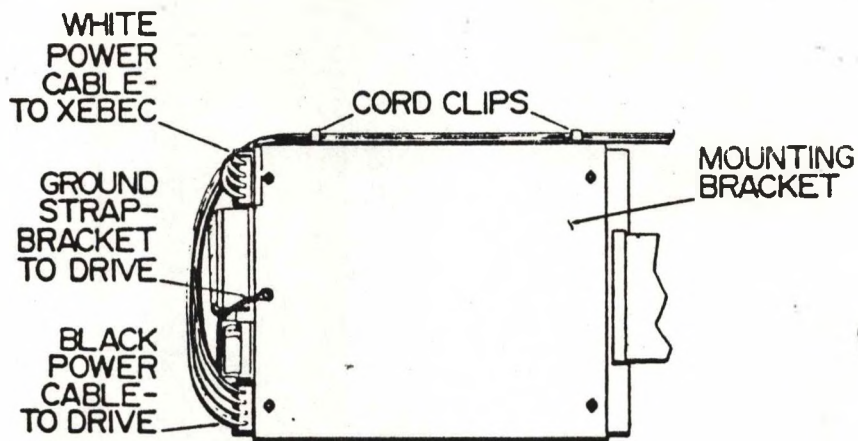


DMA CABLE

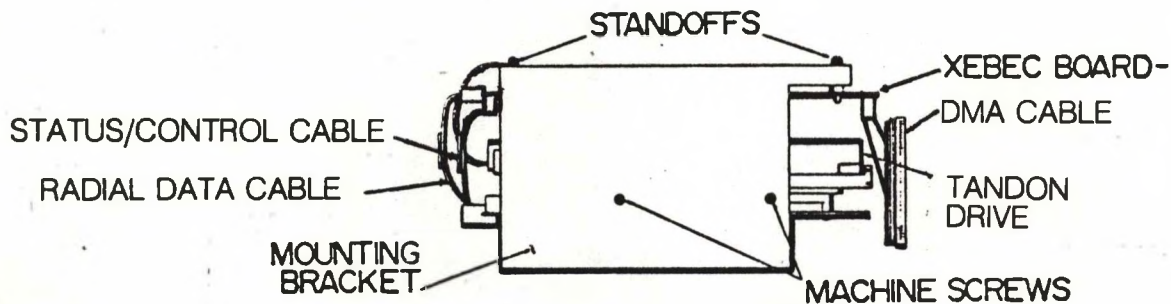
END VIEWS

figure 1

W



TOP VIEW



SIDE VIEW

figure 2

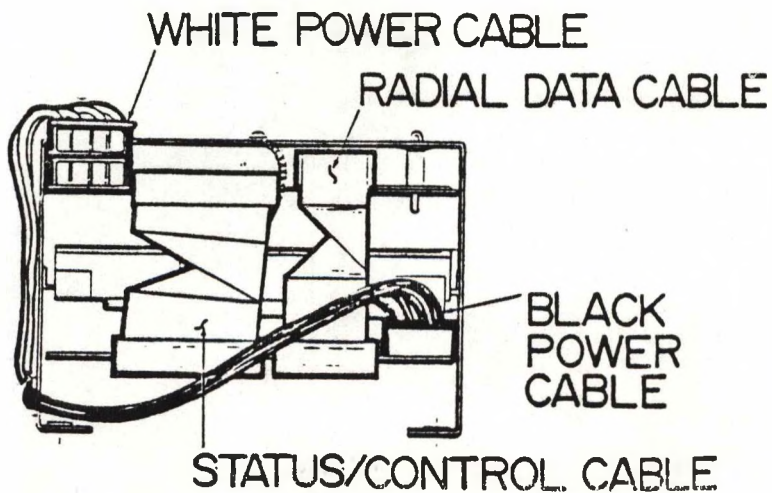


Figure 3



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-SB51
OCTOBER 16, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: INSTALLATION INSTRUCTIONS FOR +PC IN HARD DISK SYSTEMS

An addendum to the +PC Installation Instructions has been written regarding the DMA arbitration strap.

When the +PC is installed into a hard disk system, that system's Hard Disk DMA Board is restrapped; the foil strap between E14 and E15 is cut, and a jumper is soldered between E14 and E13. If the +PC is later removed from the system, then the above strap must be restored to its original configuration, where E14-E15 is connected and E14-E13 is open.

The original installation instructions stated that the E14-E13 strap can remain connected. In this state, the DMA will never receive the HLDA signal being asserted by the host 8088, and no DMA cycles will occur.

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 9000
DESKTOP BUSINESS COMPUTERS

581-228-SB52
OCTOBER 31, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
e	e

SUBJECT: V9000 FLOPPY DISK DRIVE ALIGNMENT KIT

Victor Technologies has developed a kit which tests floppy disk drive alignment and head amplitude on Victor 9000 computers.

The kit (107334--01) includes a Disk Diagnostic Card (DDC), which is installed into one of the expansion slots in a standard single or double sided V9000 mainframe, a software diskette known as ANALOG ver. 2.1, which runs the DDC, two Certified Double-Sided Alignment Diskettes, and a DDC Cable, which connects the DDC to the V9000 floppy disk controller board. Operating instructions for utilizing the DDC and to correct the alignment of the floppy disk drive are contained in the DISKID file found on the ANALOG diskette.

Part numbers and prices for this new kit are listed below. Prices are quoted at Dealer Net.

<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE</u>
ALIGNMENT KIT, V9000 FLOPPY DISK	107334-01	\$595.00
ALIGNMENT/ANALOG DISKETTE SET	107330-01	\$154.00
CERTIFIED ALIGNMENT DISKETTE, V9000	107292-01	\$ 88.25



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-SB53
DECEMBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
@	@

SUBJECT: V9000 HDDEPOT DIAGNOSTIC SOFTWARE

The HDDEPOT Diagnostic Diskette has been released for distribution to servicing distributors and dealers. HDDEPOT will be available through Field Engineering Spare Parts Distribution. Anticipated lead time as of the date of this writing is approximately five (5) weeks.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>PRICE *</u>
107117-01	HDDEPOT D/S	\$ 80.00

This diskette will test any Victor 9000 including the 30MB Hard Disk. Diskette features FACTORYF.EXE version 4.4, which installs the Victor label and formats all hard disk drive models which are utilized on Victor 9000 Hard Disk Mainframes. This release of FACTORYF will also format many other common brands of hard disk drives so that they can be utilized in Victor mainframes.

* All prices listed are in U.S. dollars. Prices quoted are Domestic Dealer Net Price (list price -40%). Dealers and distributors outside the United States or Canada must contact the nearest Victor Subsidiary for prices. Prices quoted were in effect at time of this printing and are subject to change.



Bulletin

SERIES 9XXX
DESKTOP BUSINESS COMPUTERS

581-228-SB54
DECEMBER 14, 1985

ACTION CLASS ADVISORY	
FIELD CHANGE LEVEL	
OLD	NEW
@	@

SUBJECT: VICTOR PLUS PC PORT SELECTION USING MODE.COM

The PLUS PC uses the external command MODE.COM to set up parameters or redirect output to the serial and parallel ports. This document will describe the usage of the external command MODE.COM.

The MODE.COM utility has 3 unique functions for the printer ports. These functions are : set parameters for the Parallel port, set parameters for the Serial ports, and re-directing parallel port output to one of the serial ports.

The Parallel port is the default port which is enabled after a power on or push button reset. The parameters which can be programmed through MODE.COM are 80 or 132 characters per line (Normal or Condensed characters), 6 or 8 vertical lines per inch, and enabling retries on timeout errors. The syntax for setting up the Parallel port is :

MODE LPT 1:n,m,P

- n number of characters per line (80 or 132)
- m number of characters per vertical inch (6 or 8)
- P enable continuous retry on timeout errors

The n and P parameters are optional, but 6 characters per vertical line is more legible print and retries enabled on timeout errors will keep the system from hanging if the printer is not attached to the port. For most cases, the following example will suffice for normal printer output :

MODE LPT 1:80,6,P

For condensed character mode on the parallel port printer output, this example will work :

MODE LPT 1:132,6,P

The Serial port's parameters which can be programmed by MODE.COM are : baud rate, parity type, number of data bits, number of stop bits, and enabling retries on timeout errors. The syntax for programming the Serial ports is :

```
MODE COMn:baud,parity,databits,stopbits,P
```

n	which serial port, either 1 or 2 (1 = TTY and 2 = UL1)
baud	which baud rate (110,150,300,600,1200,2400,4800,9600)
parity	what parity type (n = none, o = odd, e = even) default is even
databits	number of bits in a serial byte (7 or 8)
stopbits	number of bits signaling end of serial byte (1 or 2)
P	enable continuous retry on timeout errors

The following example will set up the TTY serial port for a Diablo printer will a baud rate of 1200, odd parity, 7 data bits, 2 stop bits, and retries enabled on timeout errors.

```
MODE COM1:1200,o,7,2,P
```

The above example will only initialize the serial port for the Diablo printer parameters, the output will still be to the parallel port. You must use the MODE.COM utility to now re-direct the output from the parallel port to the serial port. This command line will have MODE.COM re-direct the printer output to the TTY serial port.

```
MODE LPT1:=COM1
```

If we want the same parameters for a Diablo printer, but have the printer connected to the UL1 serial port; the following 2 command lines will allow the printer to be operated from the UL1 port.

```
MODE COM2:1200,o,7,2,P  
MODE LPT1:=COM2
```

HELPFUL HINTS

The utility MODE.COM resides within the sub-directory COMNLIB. Be sure that you path is set to look in this sub-directory when you need to execute this utility.

Do not attempt to set up the parameters for the parallel port if there is no printer attached to this port. The software will attempt to send the control characters to the parallel port, and expects a printer to be attached. If no printer is attached, the system WILL hang.

If you are going to frequently change which port is your printer port, create a batch file(s) in the sub-directory COMNLIB to do the work for you. This example will create a batch file named PRINTP.BAT which will setup and enable your parallel printer port for 80 char. per line and 6 char. per vertical inch with retries enabled for timeout errors.

```
A>>copy con printp.bat <CR>  
mode lpt 1:80,6,p <CR>  
mode lpt1: <CR>  
^Z <CR>  
A>
```

This example will create a batch file named PRINTA.BAT to setup and enable the serial port TTY for a Diablo printer at 1200 baud.

```
A>>copy con printa.bat <CR>  
mode com1:1200,o,7,2,p <CR>  
mode lpt1:=com1 <CR>  
^Z <CR>  
A>
```

This last example will create a batch file named PRINTB.BAT to setup and enable the serial port UL1 for a Diablo printer at 1200 baud.

```
A>>copy con printb.bat <CR>  
mode com2:1200,o,7,2,p <CR>  
mode lpt1:=com2 <CR>  
^Z <CR>  
A>
```

COMPUTER REPAIR FLAT RATES

A complete unit or module may be sent to the repair depot. Complete units, out of warranty, will incur an additional \$50.00 diagnostic charge plus the module repair flat rate amount.

	<u>PART NUMBER</u>	<u>FLAT RATE</u>
<u>CPU</u>		
CPU Board 256K Memory		\$185.00
CPU Board 128K Memory	100470-01	170.00
Disk Controller Board	100094-01 or 100670	115.00
Power Supply	100749-01	105.00
Disk Drive/Single Sided	100092-01	140.00
Disk Drive/Double Sided	100773-01	160.00
Hard Disk Drive	101788-01	250.00
<u>KEYBOARD</u>		
Keyboard Assembly	100007	92.00
<u>CRT</u>		
Video Board	101301-01	110.00
Video Board w/Interface		85.00
Video Board	100044-01	75.00
Video Interface Board	1000450-01	30.00
<u>UPGRADES</u>		
128K Memory Board		75.00
256K Memory Board		80.00
384K Memory Board		92.00
DMA Interface		85.00
Xebec Controller		158.00
Networking		150.00
8087 Numerical Processor		230.00
Z80 CP/M System Board		58.00
Color Board		75.00
Audio Tool Kit		35.00

DOMESTIC FIELD PROCEDURE - DISTRIBUTOR

IX. RECOMMENDED MAINTENANCE AGREEMENT PRICES

Following are the recommended Maintenance Agreement Prices by Victor for Computer Products:

<u>MODEL</u>	<u>ZONE 1</u>	<u>ZONE 2</u>	<u>LIMITED</u>
9120-1-11	\$590	\$657	\$426
9200-1-11	360	403	255
9230-1-11	865	962	626
9240-1-11	755	840	546
9232-1	705	785	500
9251-101	538	599	383

ZONE DEFINITIONS:

ZONE 1 - Within a fifteen (15) mile radius of the Servicing Office and is also to include all of the area within the principle city limits where any portion of a city falls beyond fifteen (15) miles.

ZONE 2 - Beyond Zone 1, but within a thirty-five mile radius of the Servicing Office.

NOTE: Zone 1 and 2 Maintenance does NOT include regular inspections but has unlimited "on customer site" service, and the customer is required to notify Servicing Office of repairs needed.

LIMITED - Customer "Carry In/Ship In" service; no on site service performed.

DOMESTIC FIELD PROCEDURE - DISTRIBUTOR

II AREA DEPOT REPAIR RATES

A. PURPOSE

To establish the Flat Rate Repair pricing to be used by all Victor Area Repair Depots and identify areas of responsibility.

B. SCOPE

The Area Repair Depots are responsible for the Hardware Technical and Repair Support of the Distributors in their assigned geographic territories.

C. AREA OF RESPONSIBILITY

WESTERN	CENTRAL	EASTERN
Victor United 7541 Santa Rita Circle Stanton, Ca. 90680 (714) 891-6638 C. Adams, Manager	Victor United 565 Busse Road Elk Grove Village, Il. 60007 (312) 364-8950 D. Seeman, Manager	Victor United 5952 Peachtree Industrial Blvd. Suite 10 Norcross, Ga. 30071 (404) 449-7950 B. Hartman, Manager
Alaska Arizona California Colorado Hawaii Idaho Montana Nevada New Mexico Oregon Utah Washington Wyoming	Arkansas Canada Illinois Indiana Iowa Kansas Louisiana Michigan Minnesota Mississippi Missouri Nebraska North Dakota Ohio Oklahoma South Dakota Texas Wisconsin	Alabama Connecticut Delaware District of Columbia Florida Georgia Kentucky Maine Maryland Massachusetts New Hampshire New Jersey New York North Carolina Pennsylvania Rhode Island South Carolina Tennessee Vermont Virginia West Virginia

Datamark, Ltd.

computer systems development _____

Payment and Shipping Terms

Please acquaint yourself with our terms and conditions. It is our aim to lay the foundation for a long-lasting and mutually satisfying relationship. We believe that clear communication is the key to our objective. We are always open to your suggestions and comments.

Until such time as Victor is able to extend credit terms to its distributors, we are unable to consider extending terms to our dealers. Hopefully, this restriction will change sometime in February or March 1985. Until that time, the following policies will be in effect.

(1) All software and small hardware items will be shipped UPS COD. A small handling charge will be added to the invoice to cover shipping costs. This charge will be, as closely as possible, equal to our actual shipping costs.

(2) Computer sales must be paid for in advance. Payment may be made either by company check or by wire transfer of funds to Datamark's bank account.

(a) For payment by company check, please send payment to

Datamark, Ltd.
9841 Broken Land Parkway
Suite 114
Columbia, MD 21045.

(b) Wire transfers of funds may be made to:

Maryland National Bank
Baltimore, Maryland 21203
Routing Number: 055003272
Bank Number: 65-327/550
Datamark, Ltd. Account Number: 564015550

Hardware will be shipped to the dealer within one day of receipt of payment.

Freight Charges:

All Victor 9000 and Vicki computers will be shipped to dealers freight collect. A \$25.00 per CPU freight and handling charge will be added to your invoice from Datamark. This fee is to offset shipping costs from Scotts Valley.

DATAMARK, LTD.

Ordering Address

Datamark, Ltd.
9841 Broken Land Parkway
Suite 114
Columbia, MD 21045-5058
(301) 964-0138

CONTACTS:

Orders	Joanne Davies, Tony Pompa
Product Information	Tony Pompa
Technical Support	Tony Pompa, Tony Mark, Metro Sauper
Training Schedules	Tony Pompa, Tony Mark

Datamark, Ltd.

computer systems development _____

WARRANTY POLICY

Warranty to Dealer:

Datamark warrants Victor 9000 and Vicki computers, memory expansion boards, networking hardware, and other auxiliary Victor hardware components to the dealer for ninety days after date of invoice. All defective items are to be returned to Datamark for repair or replacement.

Warranty to End-User:

Victor provides a ninety day warranty to the end-user provided that the warranty card has been returned to Victor and proof-of-purchase is available. It is at the dealer's discretion whether the end-user warranty problems are sent to the service depot directly from the end-user or via the dealer. We recommend that the dealer assist the end-user with any warranty-covered problems.

Datamark, Ltd.

computer systems development _____

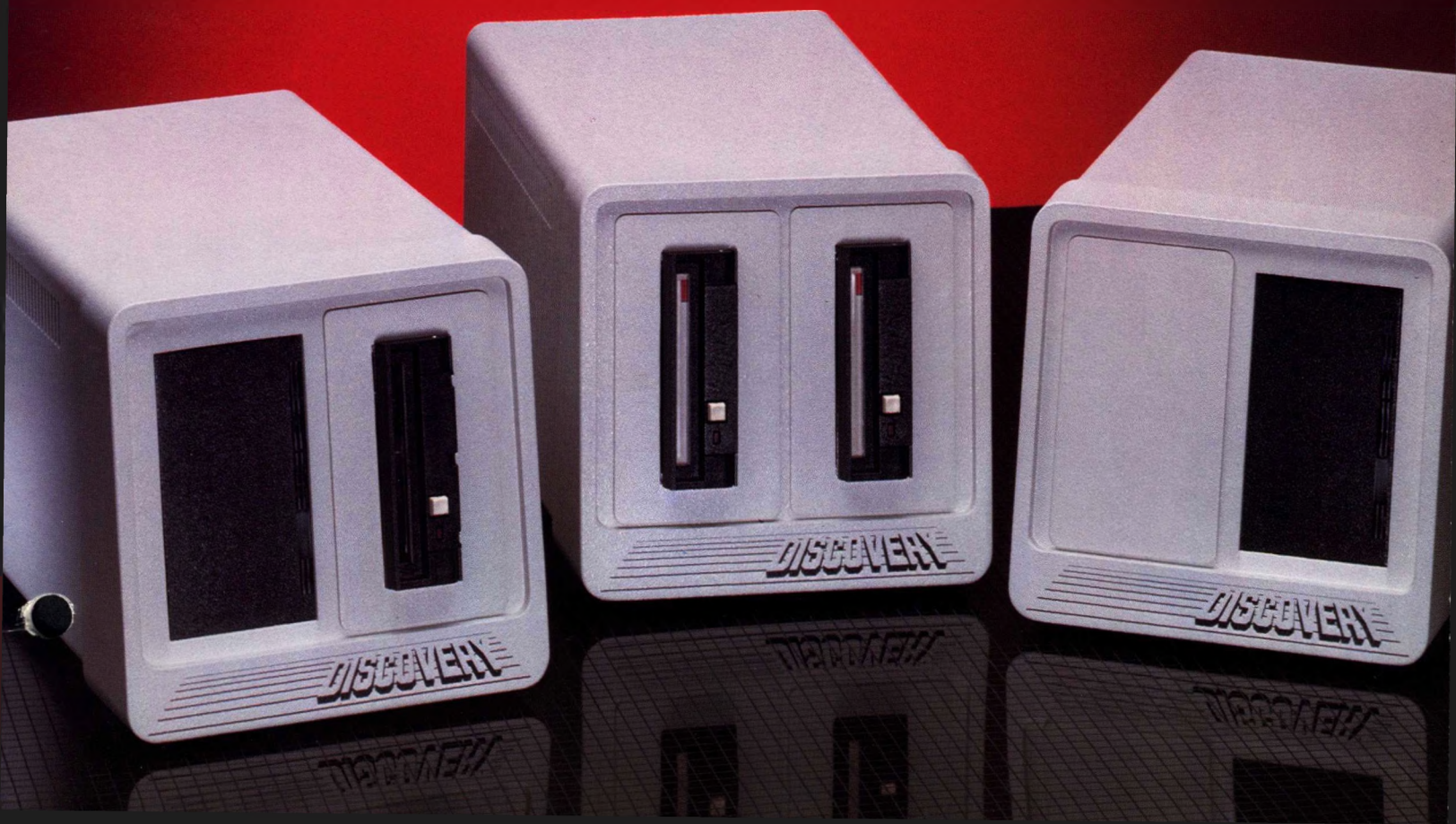
DIScovery Hard Disks

The prices listed for various disk configurations are retail prices. Dealers will receive a 30% discount off these prices.

These prices include the Victor interface card and cable. The disks are compatible with MS-DOS 1.25 and MS-DOS 2.1 and will coexist with the Victor internal hard disk. DIScovery hard disks may also be used as additional file server storage on the Victor LAN.

In addition to the Victor interface, interfaces are available for numerous other computer systems. Call for information on these systems.

**If Every Hard Disk Subsystem
Were Made This Well
There Would Be No Reason
For This Brochure.**



One Name Sets The

As in all products in this world, there will be good products and there will be better products. And then there will be the best.

The DISCOVERY™ family of hard disks are the best there is. Not because of any lucky accidents; but because of the clear engineering decision to make the DISCOVERY subsystem as perfect as possible in every detail.

WISCONSIN



Standard For The World.



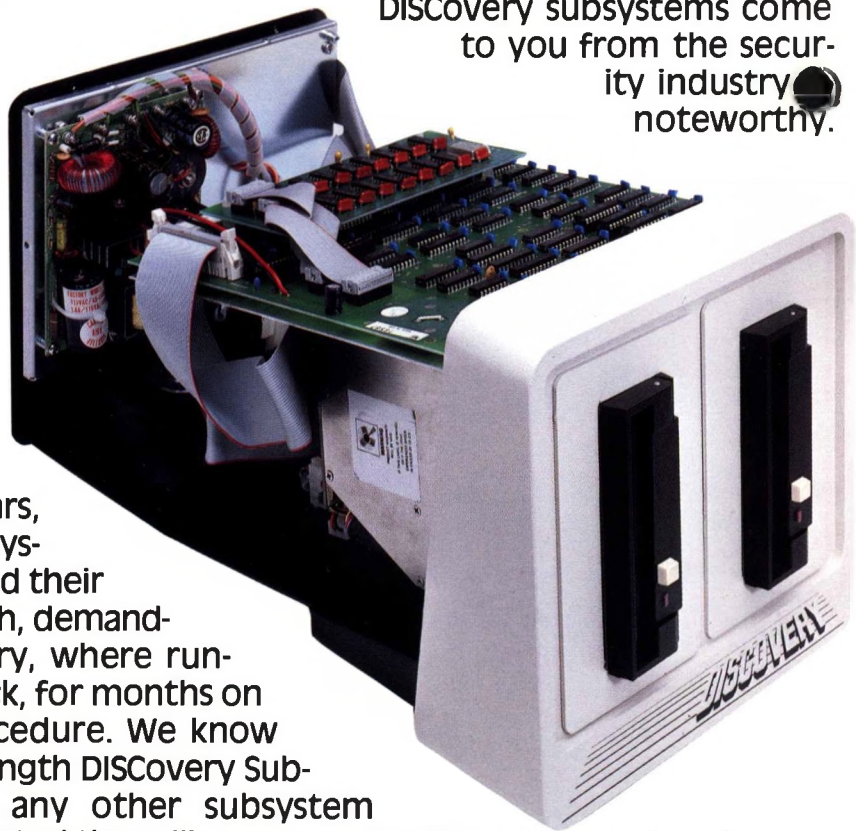
One Name Sets The

If You Had To Family Of Business Your Personal

RELIABILITY A prime business priority.

Reliability and DISCOVERY. You can use the words interchangeably because the DISCOVERY family of hard disk subsystems have built their reputation on working long after other systems give up.

The reason behind the DISCOVERY reliability is years of development and testing. The fact that the DISCOVERY subsystems come to you from the security industry is noteworthy.



For over two years, DISCOVERY subsystems have proved their worth in the tough, demanding security industry, where running around-the-clock, for months on end, is standard procedure. We know that the industrial-strength DISCOVERY Subsystems will out run any other subsystem because we have field tested them like no one else. This is why we were the first to offer an honest-to-goodness two year warranty. Can any other subsystem offer you this kind of factual, field proven experience?

We understand that if you are searching for hard disk subsystems for your business applications, one of your highest priorities will be the reliability to consistently store and retrieve important information. Week after week, month after month, for years on end. Based on this premise, there is really only one choice: DISCOVERY Subsystems.

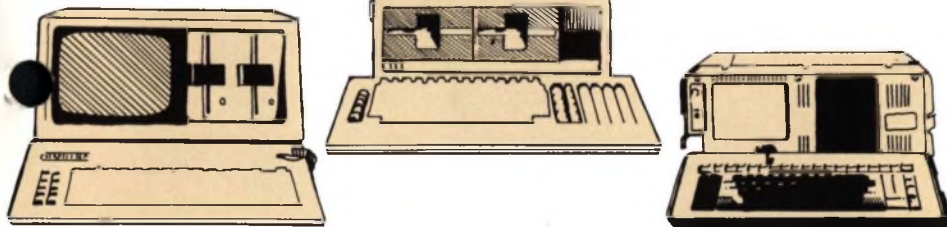
Standard For The World.

Choose Just One Peripherals For Computer.

Performance: A DISCOVERY Strongsuit.

One of the main reasons Winchester-type hard disks are chosen to work with business-oriented personal computers is because of performance. Hard disks can store and retrieve data faster than

floppies ever



will. This means greater productivity for personal computer users specifically and for one's business in general terms.

We feel that the DISCOVERY's performance is one of its best features.

Compatibility: Mix and Match Flexibility

The DISCOVERY family of subsystems are compatible with a widening range of microcomputers.

This means that no matter what kind of micro or personal computer your business may be using, the chances are that DISCOVERY Subsystems are compatible.

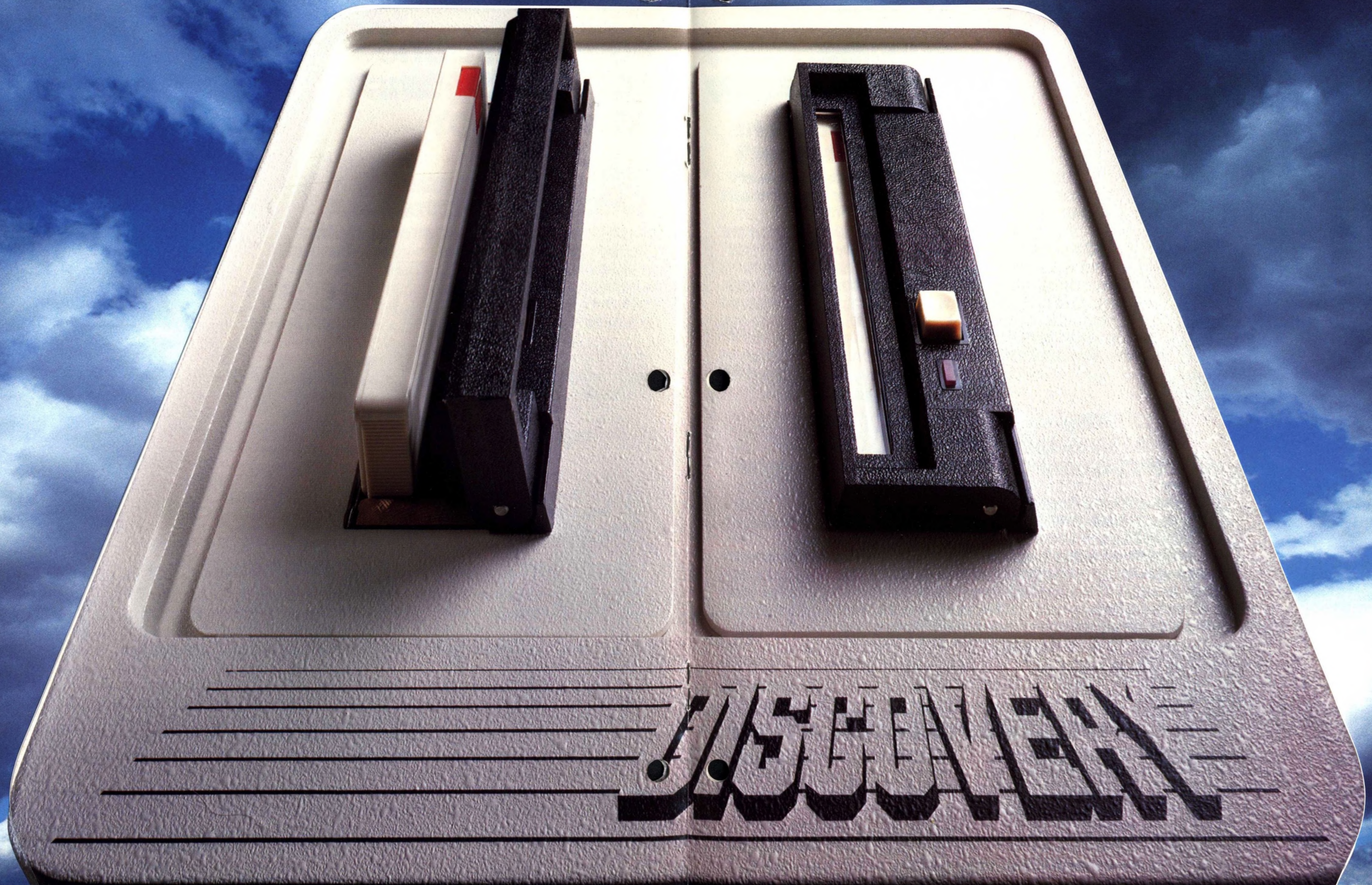
All it takes is one plug-in interface card and cable set and software to make the DISCOVERY Subsystem work with another type of microcomputer.

Ten minutes out of the box, a DISCOVERY Subsystem can be running with everything from IBM PC's to COMPAQ's, to KAYPRO, and many more.

Plus you get everything you need to mix and match. Including the kind of in-depth documentation that is easy enough for a novice to understand—yet comprehensive enough to take a pro right down to source code modifications levels.

Take a closer-than-ordinary look at the DISCOVERY Family of Subsystems, you will find a reliable, high-performance, quality-designed, piece of equipment that is anything-but-ordinary. You'll find the one brand by which every other hard disk subsystem must be judged: DISCOVERY.

One Name Sets The Standard For The World.



One Name Sets The Standard For The World.

Introducing Thirty DISCOVERY Family

One DISCOVERY is Right For Your Business

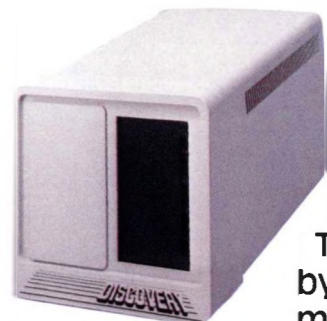
DISCOVERY hard disk subsystems cover every conceivable storage and retrieval application within your business environment.

DISCOVERY hard disk subsystems are offered in configurations not only to match your needs but also your pocketbook. See the chart below and you will discover everything from single drive DISCOVERY's to DISCOVERY's with removable hard disks.

The Affordable HVS-Model C.



The Model C hard disk subsystems offer economical mass storage capabilities well suited for small scale general accounting, job costing, programming, and data base management, the HVS Model C will get you up and running with great economy. The HVS-Model C is available in formatted sizes of 5, 10 and 15 megabytes, and comes complete with host computer interface card, cables, implemented BIOS and software. Plus the utilities and user directions for quick, easy installation.



DISCOVERY Single and Magnum Drives: Hard Disk Heavy Artillery

The DISCOVERY Single Drive Subsystems: 5-to-112.5 megabytes and the magnum dual drive subsystems: 20-to-225 megabytes represent the ultimate in high performance

business peripherals. Just connect any of these DISCOVERY's to your micro computer and suddenly you have a system that's so fast and reliable that you'll wonder how you ever did without one. Your system will work so much better with high-storage and rapid access which today's sophisticated programming techniques demand.

Members of the of Subsystems.

Automatics: Removable Hard Disks

The automatic removable hard disks come in four versions, the 5 megabyte and the 10 megabyte models. These removable hard disks serve a special function in the business environment. They allow back-up capabilities of large masses of information at hard disk data transfer speeds of 5 megabits per second. Additional 5 or 10 megabyte cartridges can be purchased, upgrading your storage capabilities literally "with the push of a button!"

Thus, if all you need is to quickly store large amounts of data on a removable media, the automatics will serve your purpose efficiently and economically.

DISCOVERY Single Plus Automatic: Storage Plus Back-Up

The DISCOVERY Single plus Automatic offers the best of both worlds. You get an advanced fixed mass storage hard disk available in 10, 15, 20, 30, 41, or 112.5 megabyte versions, plus a 5 or 10 megabyte removable hard disk, on line at all times!

The DISCOVERY Single plus Automatic is the definitive answer to the most serious data base management problems and applications. You not only get an exceptionally large capacity for mass storage application; but you also get a back-up capability at fast, 5 megabit per second data transfer speed.

Regardless of which DISCOVERY you choose, you'll be getting reliability, performance and quality. It's a fair analogy to think of DISCOVERY business strength subsystems quality as Mercedes Benz in a world full of Subarus. DISCOVERY Hard Disk Subsystems: Industrial Tools — Not Hobbyist Toys.

DISCOVERY's Thirty Models

DISCOVERY "Single Drive" Formatted
5Mbyte, 10Mbyte, 15Mbyte, 20Mbyte, 30Mbyte, 40 Mbyte, 112.5Mbyte

DISCOVERY "Dual Drive" Formatted
20 Mbyte, 30, 40, 60, 80, 152, 225

DISCOVERY "Automatic Removable Cartridge" Hard Disks
5M Single; 10M Dual; 10M Single; 20M Dual

DISCOVERY "Single Plus Automatic"
10M Fixed/5 Removable
15M Fixed/5 Removable
20M Fixed/5 Removable
30M Fixed/5 Removable
40M Fixed/5 Removable
112.5M Fixed/5 Removable

10 Mbyte Fixed/ 10 Removable
15 Mbyte Fixed/ 10 Removable
20 Mbyte Fixed/ 10 Removable
30 Mbyte Fixed/ 10 Removable
40 Mbyte Fixed/ 10 Removable
112.5 Mbyte Fixed/ 10 Removable

One Name Sets The Standard For The World.

We've Got You Covered

Two Year Warranty



Buying a DISCOVERY Subsystem for its two year warranty is easy to understand; what's hard to understand is why most competitive manufacturers will only warranty their products for 60 to 90 days. Maybe it has to do with their level of confidence in the products they are selling. With a DISCOVERY Hard Disk Subsystem, you get a simple "if it breaks—we'll fix it" warranty for two full years. We offer the warranty because we've field-tested DISCOVERY's for more than two years and we know what it'll do. We're that confident. And, if by chance you do encounter a defect in workmanship or materials under normal use—we will support you like no other manufacturer.

Our Documentation Covers Your Business Needs and More.

One of the ways you can tell how serious a company is about its product is to look at the documentation that comes with it. The document that comes with the DISCOVERY Family of Subsystems is exceptional. It is written in such a way so as to satisfy both the beginner's need for a general understanding and the professional's need for extensive information.

In the general overview section the beginner learns how to connect the DISCOVERY to his personal computer. For the professional adept with hardware development tools, our documentation can bring him right down to the system command level, allowing him to do his own BIOS changes and development work.

And because DISCOVERY Subsystems come complete with software on diskettes, the documentation can provide the software source code. This means the professional can understand, and even modify the software's basic I/O structure, routines, utilities and diagnostics. We're serious about DISCOVERY Subsystems, our extensive documentation proves this at a glance.



Service To Get You Going Again

We provide three basic types of service, depending on where you bring your unit for servicing.

Should you need quick service, bring your unit to an *authorized service center*. You will find factory-trained professionals who can diagnose a DISCOVERY's problem



down to the component level, and possibly fix it without delay.

If you should bring your DISCOVERY to one of our *authorized dealers*, he will be able to assign one of our RMA numbers to it and send it back to the factory for servicing.

One sure way of determining if you are in a *service center* or a *dealer*, is to check for the ACT Marketing Corporation Certificates on the showroom walls. (Also *independent 3rd party depot or on-site service* is available by service contract at competitive rates.)

Deciding to Go DISCOVERY.

In today's ever changing business world, specialization is becoming more the rule than the exception.

ACT Marketing Corporation specialized in business-oriented hard disk subsystems. And because of this, we make better hard disk subsystems than you could get if you merely bought a name brand "package".

If you are in business and depend heavily on your computer equipment, then make the decision to buy the best there is. DISCOVERY.



ACT MARKETING CORPORATION
104 LAKEFRONT DRIVE
HUNT VALLEY, MD 21031
301-628-0280

Specifications

Minimum Configuration
(Single 5MByte)

"Automatic"
Configuration
(Dual 10MByte)

Maximum**
Configuration
(Dual 113MByte)

DISCOVERY™ FUNCTIONAL SPECIFICATIONS* (Typical)

Capacity (unformatted):

per DISCOVERY (Mbytes)	6.67	25.5	286.86
per drive (Mbytes)	6.67	12.75	143.43
per surface (Mbytes)	3.33	6.38	9.56
per track (bytes)	10,417	10,417	10,417

Capacity (formatted):

per DISCOVERY	5.24	20.0	225.6
per drive (Mbytes)	5.24	10.0	112.8
per surface (Mbytes)	2.62	5.0	7.52
per track (bytes)	8,192	8,192	8,192
format: sectors/track	32	32	32
bytes/sector	256	256	256

Recording surfaces per drive

Recording surfaces per drive	2	2	15
------------------------------	---	---	----

Recording density (bits/inch max)

Recording density (bits/inch max)	9,000	12,400	9,875
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Track density (tracks/inch)

Track density (tracks/inch)	360	740	980
-----------------------------	-----	-----	-----

Number of cylinders

Number of cylinders	320	612	918
---------------------	-----	-----	-----

Media type

Media type	oxide	plated	plated
------------	-------	--------	--------

PERFORMANCE SPECIFICATIONS (Typical)

Rotational speed (RPM + / - 1%)	3600	3547	3600(+0% / -0.2%)
---------------------------------	------	------	-------------------

Data transfer rate(bytes/sec)	625K	625K	625K
-------------------------------	------	------	------

Average latency (msec)	8.33	8.46	8.33
------------------------	------	------	------

Buffered seek time including

head settling:			
track to track (msec)	18	25	5

average (msec)	90	90	30
----------------	----	----	----

maximum (msec)	215	205	48
----------------	-----	-----	----

DRIVE RELIABILITY SPECIFICATIONS (Typical)

MTBF (power on hours)	12,000	11,000	11,000
-----------------------	--------	--------	--------

MTRR (minutes)	30	30	30
----------------	----	----	----

Periodic maintenance	none	none	none
----------------------	------	------	------

Error rates:

soft (bit/bits read)	1/10 ¹⁰	1/10 ⁹	1/10 ¹⁰
----------------------	--------------------	-------------------	--------------------

hard (bit/bits read)	1/10 ¹²	1/10 ¹²	1/10 ¹²
----------------------	--------------------	--------------------	--------------------

seek (seeks/seeks performed)	1/10 ⁶	1/10 ⁶	1/10 ⁶
------------------------------	-------------------	-------------------	-------------------

Operating shock limits:

maximum shock	3G/10sec	10G	10G
---------------	----------	-----	-----

maximum vibration	1G	N/A	N/A
-------------------	----	-----	-----

PHYSICAL SPECIFICATIONS (Typical)

Finish	-----	Textured enamel	-----
--------	-------	-----------------	-------

Color	-----	Driftwood Beige	-----
-------	-------	-----------------	-------

Height (in.)	8.5	8.5	8.5
--------------	-----	-----	-----

Width (in.)	7.75	7.75	7.75
-------------	------	------	------

Depth (in.)	15.0	15.0	15.0
-------------	------	------	------

Weight (lbs.)	21.5	19.5	29.6
---------------	------	------	------

Power (Watts @ 115 Vac)	98	63	164
-------------------------	----	----	-----

* All specifications subject to change without notice.

** True "Maximum" size (MBytes per subsystem) is operating system dependent.

LIST OF COMPATIBLE MICROCOMPUTERS

IBM PC/XT

COMPAQ

Osborne I and II

Otrona Attache

Kaypro I and II Portable

Seequa Chameleon

AT & T 6300

Telcom Zorba

Intertec Superbrain I and II

Tandy TRS-80 Model II

Tandy TRS-Model III

Tandy TRS-80 Model 16

Zenith Z-89

Zenith Z-90

Zenith Z-100

Televideo TS-800

Columbia Data MPC

XEROX 820

S-100 (any Z-80)

DISCOVERY INTERFACE LIST

MANUFACTURER	MODEL	LIST PRICE
IBM	PC, XT, & AT	\$ 85.00
ALL IBM COMPATIBLES		\$ 85.00
ZENITH	Z150, 160	\$ 85.00
ZENITH	Z100	\$ 99.95
ZENITH/HEATH	Z90/H90	\$ 82.00
AT&T	PC6300	\$ 85.00
RADIO SHACK	TRS80 MODEL II, 12 & 16	\$ 85.00
ZORBA		\$ 62.50
VICTOR	9000	\$185.00
OTRONA	ATTACHE Z80	\$ 59.95
OTRONA	ATTACHE 8/16 BIT	\$225.00
SEEQUA	CHAMELEON	\$137.50
VISUAL	1050	\$ 69.50
VISUAL	COMMUTER	\$137.50
KAYPRO	I & II	\$ 49.95
OSBORNE	I & II	\$ 49.95
MORROW	II	\$ 49.95
XEROX	820	\$312.00
S100 BUS		\$ 82.75
TELEVIDEO	TS-802 & 803	\$ 49.95

Additional Interfacing available upon request.

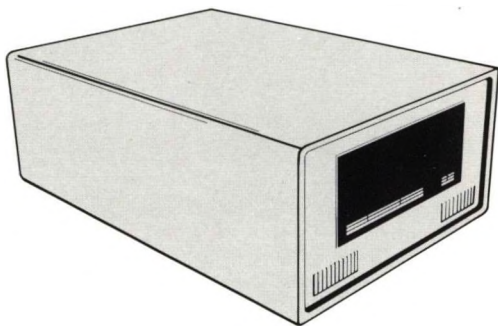
DISCOVER

Retail Price List

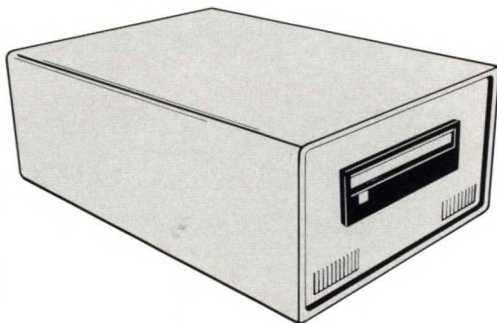


**ACT TECHNOLOGIES CORPORATION
104 LAKEFRONT DRIVE
HUNT VALLEY, MD 21031
301-628-0260**

LOW BOY **FIXED AND REMOVABLE HARD DISK**

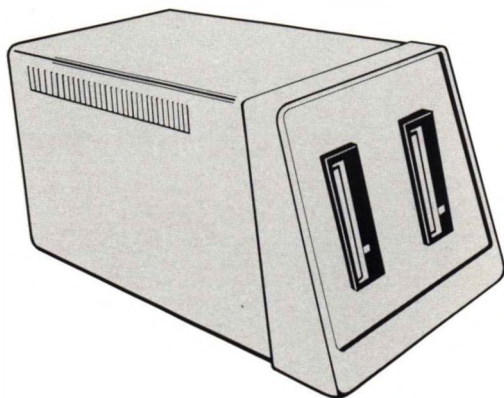


FIXED STORAGE	PRICE
10 M BYTE	\$1,450.00
20 M BYTE	\$1,995.00
30 M BYTE	\$2,495.00
40 M BYTE	\$2,895.00



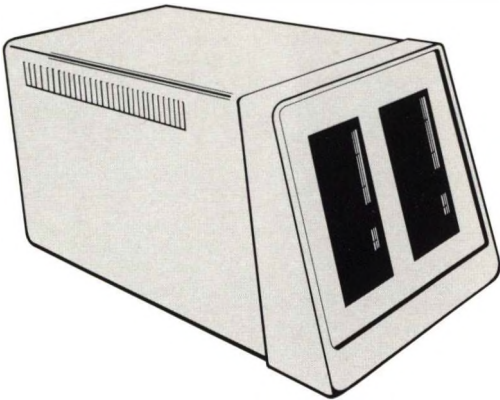
REMOVABLE STORAGE	PRICE
5 M BYTE*	\$2,195.00
10 M BYTE*	\$2,695.00

AUTOMATIC REMOVABLE HARD DISK



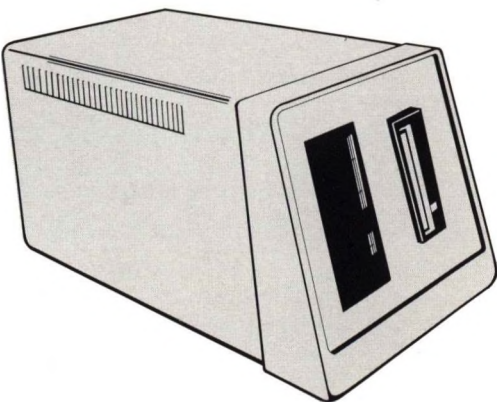
STORAGE	PRICE
10 M BYTE DUAL 5 MEG DRIVES*	\$3,795.00
20M BYTE DUAL 10 MEG DRIVES*	\$4,695.00

MAGNUM DUAL DRIVES



STORAGE	PRICE
60 M BYTE	\$ 4,595.00
80 M BYTE	\$ 5,395.00
112.5 M BYTE	\$ 8,895.00
225 M BYTE	\$15,895.00

SINGLE PLUS AUTOMATIC



STORAGE	PRICE
10/5R*	\$ 3,395.00
15/5R*	\$ 3,595.00
20/5R*	\$ 3,895.00
30/5R*	\$ 4,395.00
40/5R*	\$ 4,895.00
112/5R*	\$ 9,895.00
10/10R*	\$ 3,895.00
20/10R*	\$ 4,395.00
30/10R*	\$ 4,895.00
40/10R*	\$ 5,395.00
67/10R*	\$ 7,895.00
112/10R*	\$10,495.00

INDEX TO INFORMATION BULLETINS
Victor National Computer
Support Center

VERSION OF: 3/6/85

<u>Number</u>	<u>Date</u>	<u>Subject/(brief description)</u>
85001	2/6/85	Vicki Memory Upgrade (from 256K to 512K or 640K w/prices).
85002	3/4/85	Discontinued Software Products
85003	3/6/85	384K RAM Memory Expansion Card for Systems Having a 256K Mother Board

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Victor National Computer
Support Center

Version of 10/2/85

Number	Date	Subject (brief description)
85001	2/6/85	Vicki Memory upgrade (from 256K to 512K or 640K w/prices
85001	3/4/85	Discontinued Software Products
85002	3/6/85	384K RAM Memory Expansion Card for Systems with 256K Mother board
I85004	10/2/85	Accounting Plus & CBS conversion
I85005	10/2/85	V9000 Field Diagnostic Software
I85006	9/24/85	Staffing Changes In Spare Parts Dept.

No: 85001

Date: 2/6/85

SUBJECT: VICKI MEMORY UPGRADE**RELEASE AUTHORIZATION:** JIM HARDWICK
VICTOR SERVICE DIRECTOR**DISTRIBUTION:** VICTOR INTERNAL
VICTOR DISTRIBUTORS

BACKGROUND: At present, the Vicki is expandable to two configurations only. These are from 256K (standard) to (1) 512K expanded and (2) 640K expanded. These are the only configurations available at this time. Delivered units with serial numbers lower than V0004791 do not have socketed RAM on the CPU and require de-soldering techniques for expansion. Units with higher serial numbers do contain socketed RAM. This Information Bulletin is to advise you of Victor's policy regarding memory upgrade of the Vicki portable computer and pricing for having the expansion done by a Victor Service Depot.

Distributors and their dealers having proper facilities, equipment and trained personnel can perform the memory upgrade locally. A Field Engineering Technical Bulletin is in preparation which describes the procedure and lists the parts needed to upgrade the Vicki to either 512K or 640K. This bulletin will be sent to each Victor Distributor, with additional copies for their dealers, just as soon as it is available.

Distributors who wish to have Vicki's upgraded for their Dealers/Customers can do so by sending the units to their regional Victor Service Depot. The following pricing, with suggested dealer and user prices, will apply to all Distributor submitted machines:

	DEALER*	END USER*
256K to 512K	350.00	402.50
256K to 640K	450.00	517.00

All upgrades performed by a Victor Service Depot carry the standard Depot Warranty.

No: 85002

Date: 3/4/85

SUBJECT: DISCONTINUED SOFTWARE PRODUCTS**RELEASE AUTHORIZATION:** PHIL NELSON
DIRECTOR OF SOFTWARE MARKETING
VICTOR TECHNOLOGIES**DISTRIBUTION:** VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: Pursuant to the plan of reorganization, Victor Technologies will be assuming a limited number of agreements with our software vendors. Accordingly, the products licensed by agreements not so assumed will no longer be distributed by Victor as the reorganization proceeds. Most of the software products affected by this announcement will continue to be available in Victor format directly from the vendor. These products are:

ASync* -----	- I.E. Systems, Inc.	(603) 659-5891
3780 BISync* -		
BenchMark	MetaSoft Corp.	(800) 621-1908
Concurrent DOS	Gray Research	(204) 943-9000
DB FABS	Computer Control Systems	(813) 586-1886
FilePak	DATA BASic, Inc.	(517) 772-5055
Files & Folders	StarCom Computer Corp.	(206) 881-2828
Micro Modeller	Intelligence U.K.	(713) 780-7201
Peachtext 5000	Peachtree Software, Inc.	(800) 554-8900
PS Technical	Scroll Systems	(602) 885-1633
Word Processor		
Report Manager	Datamension Corp.	(312) 564-5063
Select	Select Information Systems, Inc.	(415) 459-4003
SuperCalc	Sorcim Corp.	(408) 727-7634
TIM III	Innovative Software, Inc.	(913) 383-1089
3276 SNA/SDLC*	Phoenix Software Associates, Ltd.	(617) 769-7020

*Subject to review at a later date.

There are two companies which have indicated that they will NOT continue to provide their products in Victor 9000 format. These companies and products are:

WordStar	---	- MicroPro International	(415) 499-4022
MailMerge	---		
WordStar w/	---		
MailMerge	---		
dBASE II		Ashton-Tate	(213) 204-5570

BE ADVISED THAT SUPPORT AND SALES PERSONNEL WITH THE COMPANIES LISTED ABOVE MAY NOT YET KNOW OF VICTOR'S INTENTIONS WITH REGARD TO THESE PRODUCTS. KEEP THIS IN MIND IF/WHEN YOU CALL THEM DIRECTLY.



No: 85003

Date: 3/6/85

SUBJECT: 384K RAM MEMORY EXPANSION CARD FOR SYSTEMS HAVING A 256K RAM MOTHER BOARD

RELEASE AUTHORIZATION: ED ROBY NATIONAL COMPUTER SUPPORT MANAGER

DISTRIBUTION: VICTOR INTERNAL VICTOR DISTRIBUTORS END USERS

BACKGROUND: Victor manufactures RAM memory expansion cards for the Victor 9000 in denominations of 128K, 256K and 384K. The 384K RAM card, formerly available only as Model No. 6406, was designed to be inserted into systems having 128K of RAM on the mother board. When inserted into systems having 256K RAM on the mother board (double sided and hard disk systems), the Model 6406 RAM expansion card effectively adds only 256K of RAM. The 128K and 256K RAM cards do not perform differently in systems having differing amounts of built-in RAM memory. The purpose of this bulletin is to announce the availability of a second 384K RAM memory expansion card which is designed to yield a full additional 384K when placed in Victor 9000's having 256K RAM mother boards.

Buyers and/or owners of Victor 9000 systems having 256K RAM built-in who wish to also purchase a 384K RAM memory expansion card, should order the following product:

<u>Model #</u>	<u>Description</u>	<u>Price</u>
6416	384K RAM Memory Expansion Card for 256K Systems	*

*Same as for Model No. 6406



National Computer
Support Center

Information Bulletin

No: I85004

Date: 10/2/85

Subject: ACCOUNTING PLUS & CBS

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors

Any end users who would like to convert from CBS to Accounting Plus must contact:

Microplus Software Inc.
P.O. box 7325
899 Boyd St.
Santa Rosa, Calif.
95407
(707) 526-3763

Microplus will provide a program to convert from CBS to Accounting Plus version 4.x; After which they can upgrade to Accounting Plus version 5.1x.

VICTOR National Computer Support Center Information Bulletin

No: I85005

Date: 10/2/85

Subject: V9000 Field Diagnostic Software

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors

The diagnostic aids listed below are available through Field Engineering Spare Parts Distribution.

<u>Part Number</u>	<u>Description</u>	<u>Price</u>
104028-01	HDFIELD S/S This diskette will test any Victor 9000 with the exception of the 30 meg Hard Disk model.	\$ 60.00
106907-01	HDFIELD D/S This diskette will test any Victor 9000 including the 30 meg.	\$ 80.00
106909-01	DIAGNOSTIC LOOPBACK CABLE ASSEMBLY This cable is necessary when running the above diagnostic software.	\$ 35.00
106910-01	HDFIELD KIT This kit contains all of the above.	\$130.00

Note: Part Number 104028-01 is similar to Part Number T-580; however T-580 is no longer a valid part number.



National Computer
Support Center

Information Bulletin

No: I85006

Date: 9/24/85

SUBJECT: STAFFING CHANGES IN SPARE PARTS ORDER DEPT.

RELEASE AUTHORIZATION: RICHARD BEAL
DIRECTOR OF M. I. S.

DISTRIBUTION: VICTOR INTERNAL
VICTOR COMPUTER DISTRIBUTORS
VICTOR COMPUTER DEALERS

BACKGROUND: Victor computer Distributors and Dealers order spare parts directly from Victor's Parts Department. Parts orders should be sent to:

Victor Technologies, Inc.
380 El Pueblo Road
Scott's Valley, CA 95066

ATTN: PARTS DEPARTMENT

On an emergency basis, Distributors and Dealers can order spare parts via a toll-free number:

Outside Calif.: 800/628-2420

In California: 800/628-2421

NEW OR CHANGED INFORMATION: Effective immediately there are several staffing changes within the M. I. S. group for the handling of spare parts orders. The spare parts order processing staff (Jerry Hill and Vicki Snyder) are now reporting to Rosanne Lovejoy. Rosanne will have responsibility for taking and processing all domestic spare parts orders--including the 800 number(s).

Leotta Belleville (former domestic spare parts order supervisor) is now reporting to Bill Johnston and is now responsible for taking and processing all international spare parts orders plus orders from U. S. repair depots.

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Victor National Computer
Support Center

VERSION OF: 3/4/85

<u>Number</u>	<u>Date</u>	<u>Subject/(brief description)</u>
85001	2/7/85	Patching dBASE II for MS-DOS 2.11 (change Ver 2.4 to 2.4a)
85002	2/7/85	Documentation Error - MS-DOS 2.11 User's Guide (/FNAME)
85003	2/11/85	Boot Prom Upgrade for MS-DOS 2.11 (to new universal PROMs)
85004	2/14/85	Easel Grafix Printer Parameter (documentation enhancement)
85005	2/14/85	Grafix Printer Parameter Documentation Error
85006	2/28/85	Interfacing the HP LaserJet Printer (pin and port specs)
85007	3/1/85	Interfacing an Epson Printer w/8148 Serial Card (pin outs)
85008	3/1/85	Increasing Available Memory Under MS-DOS 2.11 by Changing the Number of Buffers
85009	3/4/85	Installing Wordstar 3.3 on a 128K System Under MS-DOS 2.11

Index To Technical Bulletins
Victor National Computer
Support Center-----
Version of: 10/2/85

Number	Date	Subject (Brief Description)
85001	2/7/85	Patching dBase II for MS-Dos 2.11 (change Ver 2.4 to 2.4e)
85002	2/7/85	Documentation Error - MS-Dos 2.11 User's Guide (\FNAME)
85003	2/11/85	Boot Prom Upgrade for MS-Dos 2.11 (to new universal PROMS)
85004	2/14/85	Easel Grafix Printer Parameter (documentation enhancement)
85005	2/14/85	Grafix Printer Parameter Documentation Error
85006	2/28/85	Interfacing the HP laser jet Printer (pin and port specs)
85007	3/1/85	Interfacing an Epson Printer w/8148 Serial Card (pin outs)
85008	3/1/85	Increasing available memory under MS-Dos 2.11 by changing the numbers of buffers.
85009	3/4/85	Installing Wordstar on a 128K System under MS-Dos 2.11
85010	10/2/85	VPC Monochrome Screen Resolution
85011	10/2/85	Plus PC Hard Disk Head Parking (What works what doesn't)
85012	10/2/85	256K Ram Chips for the Victor VI
85013	10/2/85	VPC Boot Switch Settings
85014	10/2/85	Audio Tool Kit Installation
85015	10/2/85	VPC Bugs
85016	10/3/85	Using the SEARCH Command To Backup and Restore
85017	10/3/85	Serial Printer Cables for Plus and VI
85018	10/4/85	Plus PC Option Removal From Victor 9000 Hard Disk

No: 85001

Date: 2/7/85

SUBJECT: PATCHING dBASE II FOR MS-DOS 2.11**RELEASE AUTHORIZATION:** ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER**DISTRIBUTION:** VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: dBASE II, Version 2.4 from Ashton-Tate appears to work under MS-DOS 2.11 but it does not update data bases correctly. Version 2.3d works fine and so does version 2.4a. The purpose of this bulletin is to provide instructions on patching dBASE II, Version 2.4, to produce Version 2.4a. To accomplish the patch described below, you will need a copy of the DEBUG program from Victor's Programmers Tool Kit or Systems Programmer's Tool Kit II.

First, make a backup copy of the DBASE.COM file from the Version 2.4 distribution disk. Perform the patching described below only on the backup copy of DBASE.COM. Using DEBUG, change DBASE.COM as follows:

1. Change address 53F8 from 0A to 90
2. Change the next address from C5 to 90
3. Change address 7C16 from 20 to 41

Exit from DEBUG and save the changes. Use the patched version to prepare a working dBASE II system disk and label it "Version 2.4a." Retain your original dBASE II, Version 2.4, distribution diskette unaltered.

No: 85002

Date: 2/7/85

SUBJECT: DOCUMENTATION ERROR - MS-DOS 2.11 USER'S GUIDE**RELEASE AUTHORIZATION:** ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER**DISTRIBUTION:** VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS**BACKGROUND:** This bulletin documents an error in the MS-DOS 2.11 User's Guide concerning the operation of the SEARCH command.

The error in question is found on page 7-93, in Table 7-1, and concerns the use of the /FNAME switch for the SEARCH command. The description printed there reads as follows (missing or incorrect information is denoted by bold brackets []):

/FNAME pathname	Selects files whose full pathnames [] including subdirectories and filenames) [do not] match [any of] the names following /FNAME. See the examples following this table for a description of what the pathnames can be.
-----------------	---

The description should read:

/FNAME pathname	Selects files whose full pathnames (including subdirectories and filenames) match the names following /FNAME. See the examples following this table for a description of what the pathnames can be.
-----------------	---

Victor Publications has been notified of the error and future editions of the MS-DOS 2.1 User's Guide will exhibit the correct description.

No: 85003

Date: 2/11/85

SUBJECT: BOOT PROM UPGRADE FOR MS-DOS 2.11**RELEASE AUTHORIZATION:** JIM HARDWICK
VICTOR SERVICE DIRECTOR**DISTRIBUTION:** VICTOR INTERNAL
VICTOR DISTRIBUTORS

BACKGROUND: When changing from MS-DOS 1.25 to MS-DOS 2.11, the increased size of the operating system can pose boot-up problems for owners of Victor 9000's still having the P1 or 1.1 boot PROMs. The presence of these PROMs is indicated, at power-up or reset, by a memory icon displaying available memory in segments (M2000, M4000, etc.) rather than kilobytes. The purpose of this bulletin is to provide information on upgrading customers using MS-DOS 2.11 to the new, "universal" boot PROMs. These boot PROMs have been developed to allow the Victor 9000 to boot from any available device, i.e., floppy drive, hard disk, or network. The procedure for accomplishing the upgrade is described in Field Engineering Technical Bulletin No. 581-228-SB35 which has been issued to all Victor Distributors for re-issue to their dealers.

When upgrading an operating system from MS-DOS 1.25 to 2.11 the boot PROM level must be checked. If the CPU board contains a set of PROMs labeled "P1" or "1.1," these must be replaced with universal boot PROMs. A system having universal boot PROMs can be easily identified by the memory icon displayed following a power-up or reset operation; available memory will be indicated in kilobytes, i.e., 128K, 256K, etc.

Two universal boot PROMs are required to upgrade each Victor 9000. These are installed in the 7H and 5H location on a 128K mother board, or at the 8J and 7J locations on a 256K mother board. If the mother board being upgraded presently contains only one (1) boot ROM at 7H or 8J, this ROM must be replaced by two (2) universal boot PROMs AND the jumper configuration changed. If the motherboard being upgraded presently has two (2) boot PROMs, they must be replaced with two (2) universal boot PROMs. No jumper configuration change is required with mother boards presently having two (2) P1 or 1.1 boot PROMs.

The part numbers and Distributor/Dealer prices for the universal boot PROMs are:

<u>Location</u>	<u>Part Number</u>	<u>Dist./Dealer Price</u>
7H or 8J	FF E-106170-01	\$12.68
5H or 7J	FE E-106168-01	12.68

Universal boot PROMs are available from Victor's National Parts Distribution Center in Sparks, Nevada.

(Dealers order direct from Sparks)

Field Engineering
COMPUTER SYSTEMS TECHNICAL BULLETIN



DATE: February 8, 1985
MODEL: VICTOR V9000
SUBJECT: UPGRADING MSDOS OPERATING SYSTEM FROM 1.25 TO 2.11

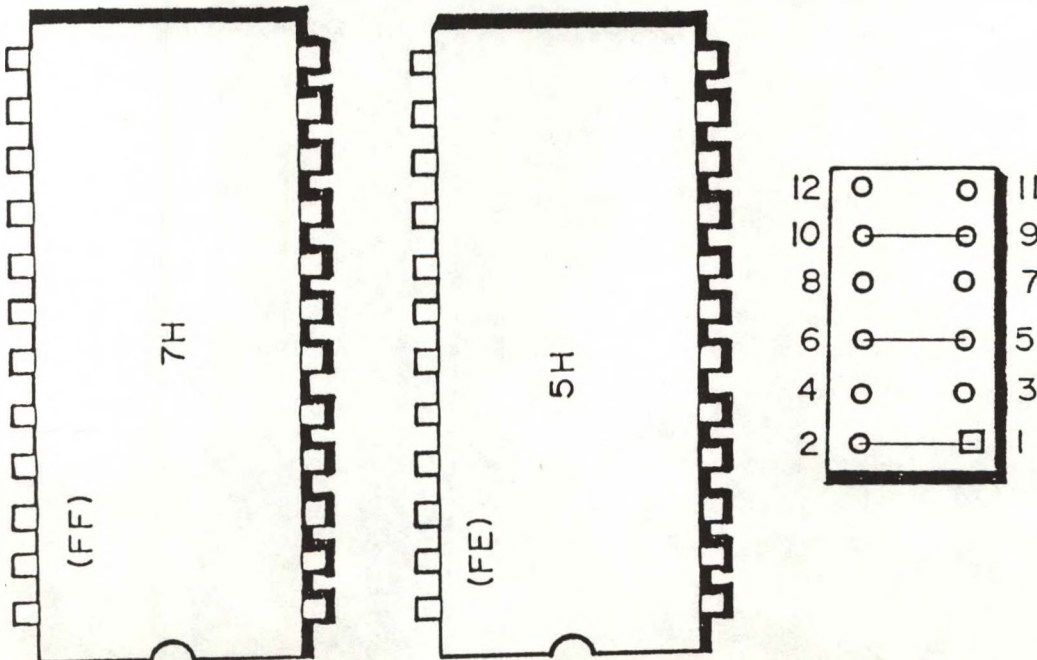
When upgrading an operating system from MSDOS 1.25 to 2.11 the boot PROM level must be checked. If the CPU board contains a set of PROMS labeled "P1" or "1.1" these must be replaced with universal boot PROMS. The part numbers for these PROMS are "FE" E-106168-01 and "FF" E-106170-01. These boot PROMS will have the part number on the part.

The boot PROMS have been developed to allow the V9000 to boot off any available device; i.e. floppy, hard disk, network, etc.

A system having universal boot PROMS can be easily identified by the different ICON symbols following a power up or reset operation. The memory will be displayed in kilo-bytes rather than segments ("M 128K" instead of "M2000").

When upgrading the MSDOS operating system it will be necessary to insure that the CPU board is upgraded as follows. If the board contains a 64K Boot ROM at location 7H, the ROM must be replaced with the universal boot PROMS. The jumper configuration must also be changed. If the CPU board contains two boot PROMS at 5H and 7H, the PROMS must be replaced with the universal PROMS. If the CPU has the two boot PROMS, no jumper reconfiguration is required.

These PROMS are available from our National Parts Distribution Center in Sparks, Nevada at a Dealer/Distributor cost of \$12.68.



No: 85004

Date: 2/14/85

SUBJECT: EASEL GRAFIX PRINTER PARAMETER**RELEASE AUTHORIZATION:** ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER**DISTRIBUTION:** VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: The command for loading Easel Grafix, EASEL Px, allows the user to specify at run time the brand of attached printer on which drawings created using the program will be printed. This capability is provided by the "printer parameter," Px, which is passed to a call to the Grafix kernal contained in the EASEL.BAT command file. In the printer parameter, the "x" indicated above is replaced with a single alpha character denoting the brand of printer to be used. However, the Grafix kernal (and Easel Grafix) for MS-DOS 1.25 does not support as large a variety of printers as does the Grafix kernal for MS-DOS 2.11. The Easel Grafix manual, Section 1.4 and Table 1.1 does not note this difference and presents only those printer parameter values which are valid for the MS-DOS 2.11 implementation of the Grafix kernal and Easel Grafix. The purpose of this bulletin is to clarify the differences between the printer parameters values which are valid for the two different versions of MS-DOS. This will be done by noting changes which should be made to the present documentation of the printer parameter in the Easel Grafix manual.

Under Section 1.4 of the Easel Grafix manual, at the top of page 1-5, step three of the procedure for loading Easel Grafix under MS-DOS 1.25 incorrectly reads (missing or incorrect information is indicated by bold brackets []):

3. Execute the batch file EASEL.BAT. To use EASEL GRAFIX with a printer, include the P (Printer) parameter required by GRAFIX (see Table [1.1]). For example, load EASEL GRAFIX for use with the Epson FX printer option by typing:

```
easel p[f](cr)
```

The description should read:

3. Execute the batch file EASEL.BAT. To use EASEL GRAFIX with a printer, include the P (Printer) parameter required by GRAFIX (see Table 1.1a). For example, load EASEL GRAFIX for use with the Epson FX printer option by typing:

```
easel pe(cr)
```


No: 85004

Date: 2/14/85

The heading for Table 1.1 on page 1-6 incorrectly reads:

Table 1.1: Printer Parameter Options []

The heading for Table 1.1 should read:

Table 1.1: Printer Parameter Options for MS-DOS 2.11

There should be a second table, indicated above as Table 1.1a, which describes the correct printer parameter values under MS-DOS 1.25. This table should read:

Table 1.1a: Printer Parameter Options for MS-DOS 1.25

<u>PARAMETER</u>	<u>PRINTER</u>
E	Epson Printer
C	C. Itoh Printer
S	Mannesmann Tally Printer
O	Okidata Printer
N	No Printer (optional with Easel Grafic)

No: 85005

Date: 2/14/85

SUBJECT: GRAFIX PRINTER PARAMETER DOCUMENTATION ERROR

RELEASE AUTHORIZATION: ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER

DISTRIBUTION: VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: The command for installing the Grafix kernal, GRAFIX \$\$xCxPx, includes a "printer parameter," Px, which allows the user to specify the brand of attached printer to which output will be directed. In the printer parameter, the "x" is replaced with a character denoting the brand of printer. However, one of the printer parameter values listed on page 3-1 of the Grafix manual in the Grafix Tool Kit II (MS-DOS 2.11) is not correct. The purpose of this bulletin is to correct this information.

Chapter 3 of the Grafix manual, page 3-1, beginning at line 7, incorrectly reads (missing or incorrect information is indicated by bold brackets []):

To specify a printer, enter a third parameter, P, and one of the following:

[F] or M	Epson
T	Tally
C or S	C. Itoh
O	Okidata
N	No printer

For example, to install GRAFIX with one character set, three screens, and the printer driver for an Epson printer, type the following command:

```
grafix $$3C1P[F]
```

The description should read:

To specify a printer, enter a third parameter, P, and one of the following:

E or M	Epson
T	Tally
C or S	C. Itoh
O	Okidata
N	No printer

For example, to install GRAFIX with one character set, three screens, and the printer driver for an Epson printer, type the following command:

```
grafix $$3C1PE or grafix $$3C1PM
```

No: 85006

Date: 2/28/85

SUBJECT: INTERFACING THE HP LASERJET PRINTER

RELEASE AUTHORIZATION: ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER

DISTRIBUTION: VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: The Hewlett-Packard LaserJet (Model 2686A) printer is a high-resolution printer capable of both letter-quality and graphics output. Since its introduction a few months ago, this printer has become popular with Victor 9000 owners. The purpose of this document is to describe the pin-outs and serial COMM port configuration to drive the HP LaserJet printer from the Victor 9000.

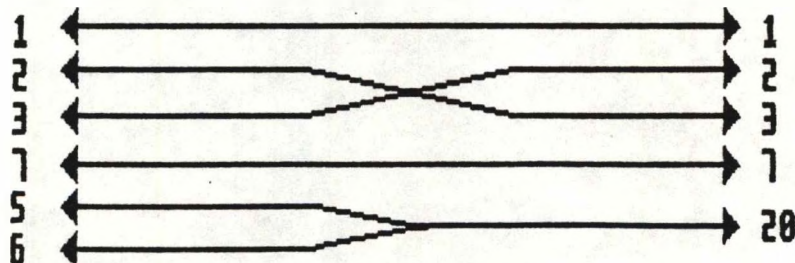
The diagram below shows how to configure a serial interface cable to drive the HP LaserJet printer. Serial COMM port specifications are given below the pin diagram.

VICTOR/PRINTER INTERFACE

HP LaserJet Model 2628A

VICTOR 9000

HP LASERJET



SPEED: 9600 bps PARITY: NONE DATA BITS: 8 STOP BITS: 1

No: 85007

Date: 3/1/85

SUBJECT: INTERFACING AN EPSON PRINTER W/8148 SERIAL CARD

RELEASE AUTHORIZATION: ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER

DISTRIBUTION: VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: Epson printers (formerly Victor 6010, 6015, 6020, and 6025) are most commonly driven off the Victor 9000 parallel (LPT) port. However, it is possible to drive an Epson printer from either serial port (TTY or UL1) provided that a serial interface card (Epson model #8148) is installed in the printer. The purpose of this bulletin is to describe the pin configuration required for constructing a serial printer cable to drive an Epson printer from a Victor 9000 serial port.

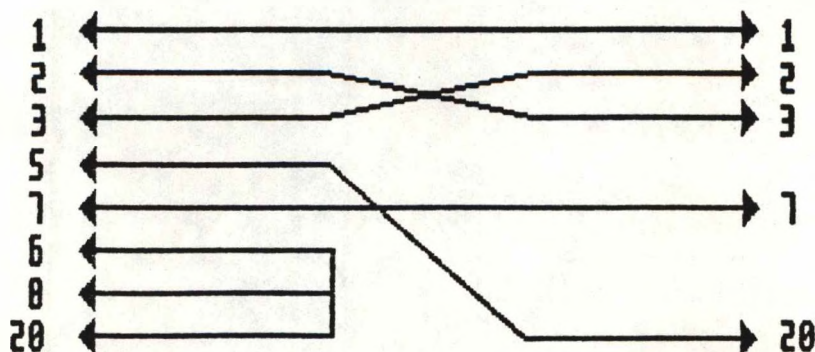
The diagram below shows how to configure a serial interface cable to drive an Epson dot matrix printer having an 8148 serial card installed. To accomplish printing using this configuration, the Victor serial port must be set to the proper baud rate, parity, and stop bits. Refer to documentation accompanying the Epson 8148 serial interface card for the required values.

VICTOR/PRINTER INTERFACE

Epson w/8148 Serial Card

VICTOR 9000

EPSON w/8148



No: 85008

Date: 3/1/85

SUBJECT: INCREASING AVAILABLE MEMORY UNDER MS-DOS 2.11 BY
CHANGING THE NUMBER OF BUFFERS

CONTRIBUTOR: BOB COSTELLO

RELEASE AUTHORIZATION: ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER

DISTRIBUTION: VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: MS-DOS 2.11 offers a number of features and options not available under MS-DOS 1.25. However, the user pays a price for these features in terms of reduced user memory. The result is that on a 128K system, some programs that run under MS-DOS 1.25 can run out of memory under MS-DOS 2.11. More memory can be made available by changing certain MS-DOS 2.11 parameters or by eliminating some memory-resident features which the user does not need. The purpose of this bulletin is to describe how to alter the number of buffers set by MS-DOS 2.11 and the impact of changing the number of buffers on available memory.

Under a disk operating system, a portion of memory called a "buffer" is set aside to accommodate disk input and output. Buffers function to make disk access more efficient, but can drain both memory and overall performance if set to higher values than necessary. Under MS-DOS 2.11 the number of buffers in memory is controlled dynamically by the `BUFFERS = nn` statement, where `nn` is a number from 1 to 99. On the MS-DOS 2.11 distribution disk, the `CONFIG.SYS` file, which is referenced during boot-up, contains a `BUFFERS = 30` statement. By editing the `CONFIG.SYS` file to change the number of buffers specified, the user can free-up memory for use by application programs.

The table below shows the effect on the memory available on a 128K system of specifying different values for the `BUFFERS` parameter. For systems having greater memory, simply add the extra memory (128K, 256K, etc.) to the value shown for "Kilobytes Free" (remember that 1 kilobyte = 1024 bytes).

Buffers	1	2	10	20	30	DOS 1.25
Bytes Total Memory	75456	74928	70704	65424	60144	98112
Bytes Free*	63984	63456	59232	53952	48672	86720
Kilobytes Free*	62.48	61.96	57.84	52.68	47.53	84.68

* Executing a program via a batch file will affect the total bytes free. Batch files reside in memory until their execution is completed.

No: 85009

Date: 3/4/85

SUBJECT: INSTALLING WORDSTAR 3.3 ON A 128K SYSTEM
UNDER MS-DOS 2.11

RELEASE AUTHORIZATION: ED ROBY
NATIONAL COMPUTER SUPPORT MANAGER

DISTRIBUTION: VICTOR INTERNAL
VICTOR DISTRIBUTORS
END USERS

BACKGROUND: The Wordstar INSTALL program, when executed under the distribution version of MS-DOS 2.11 on a 128K system, will display a "NO CORE" error message when it attempts to copy the WSU.COM file to WS.\$\$\$\$. The purpose of this bulletin is to describe how solve this problem by making more memory available under MS-DOS 2.11.

The best solution to this problem is to edit the MS-DOS 2.11 CONFIG.SYS file and reduce the number of "buffers" set aside by the BUFFERS = nn statement (refer to VNCSC Technical Bulletin 85008 for more information on buffers and the impact on available memory of various values). Wordstar will run with BUFFERS = 1 but this is not recommended. Instead, BUFFERS = 10 seems to free-up adequate memory for both INSTALL and Wordstar to execute properly and yet provide efficient disk I/O management.

Before editing CONFIG.SYS, the user may create a back-up of the original file. This can be accomplished by COPYING CONFIG.SYS to another file, for example CONFSYS.BAK. The CONFIG.SYS file can be edited with EDLIN, with Wordstar (nondocument mode), or with any text editor capable of outputting an ASCII text file. Alternatively, the user can simply re-enter the CONFIG.SYS file using the COPY CON facility of MS-DOS (see pages 2-8 through 2-12 of the MS-DOS 2.1 User's Guide). If COPY CON is used, first dump a copy of CONFIG.SYS to the attached printer by entering TYPE CONFIG.SYS, pressing <ALT> <P> to enable printing, then pressing <RETURN>. Be sure to press <ALT> <N> to disable printing when the listing is finished. Then, using COPY CON CONFIG.SYS, re-enter CONFIG.SYS exactly as shown on the listing except for the number of buffers shown in the BUFFERS = nn statement.



National Computer
Support Center

Technical Bulletin

No: 85010

Date: 10/2/85

Subject: VPC Monochrome Screen Resolution

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors
End Users

Background: Many people have asked what is the screen resolution of the VPC in monochrome. The answer is 720 X 350 which is the same as an IBM in monochrome; this resolution results in a 14 X 9 character cell. We must also remember not to confuse this resolution with color resolution which is different and varies with the color equipment being used. Color resolution is usually 640 X 400.

No: 85012

Date: 10/2/85

Subject: 256K RAM chips for Victor VI

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor, Internal
Victor Distributors
End Users

For those who would like the correct 256K chips for the VI enabling the on board RAM to be raised to one meg, the chips can be ordered from Victor's parts department and the part number is;

106 557-01

To order by phone call in Calif. (800) 628-2421
outside Calif. (800) 628-2420

No: 85013

Date: 10/2/85

Subject: VPC BOOT SWITCH SETTINGS

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors
End Users

On page F-2 of the VPC Installation Guide there is a switch setting table "Table F-1 : Display Adapter Installation". One entry in this table reads,

"System start-up from C #1-on".

Switch #1 must always be OFF. The "Start-up from C option" is only used for doing certain diagnostics and IS NOT A USER OPTION as this table entry would imply.

No: 85014

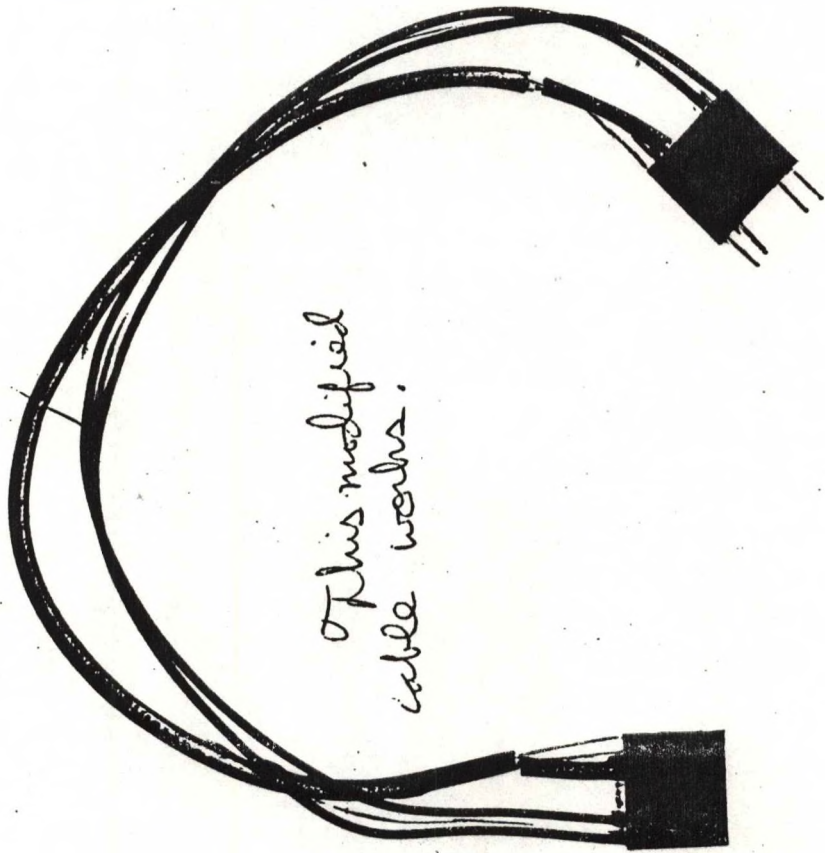
Date: 10/2/85

Subject: AUDIO TOOL KIT

Release Authorization: Ed Roby
National Computer Support Manager

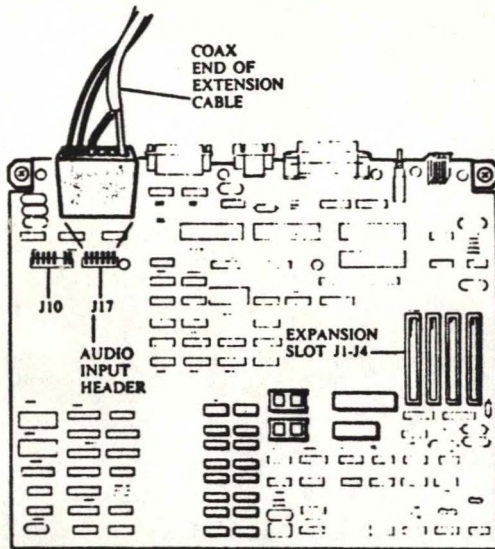
Distribution: Victor Internal
Victor Distributors
End Users

Background: Some users have had a very difficult time getting their audio Tool Kits to work. It seems that the problem is the cable which is sometimes used to connect the audio tool kit pre amp to the motherboard. If the pre amp is plugged directly into the motherboard the cable is not used and the tool kit works properly. However in an installation where the cable is needed, it must be modified as per the accompanying illustrations. If you have any question about this please call Victor Technical Support.



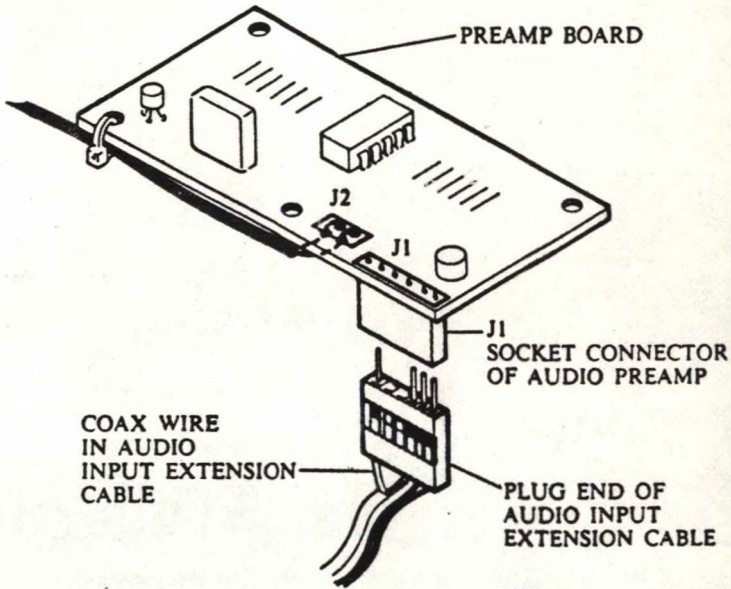
This modified
cable works.

Figure 7: Extension Cable Installation — CPU Board



128K BYTE CPU BOARD (100470)

Figure 8: Extension Cable Installation — Preamp Board



AUDIO PREAMP BOARD INSTALLATION

When used with an internal hard disk, the preamp board is plugged into the underside of the disk drive assembly. Refer to Figure 9 and the steps below to install the preamp board.

1. Plug the pointed ends of the three plastic standoffs into the holes on the component side of the preamp board.
2. Plug the opposite ends of the standoffs through the holes under the disk drive assembly. The component side of the preamp board should be toward the drive chassis.

No:85015

Date:10/2/85

Subject: VPC Bugs

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors

Here are some known problems with the VPC which are currently being worked on:

(1) IBM APL for the PC will not work properly on the VPC. It appears that the ROM code to service int 10 func 8 (return ASCII value of a character) always returns a seven-bit value denying APL continuing access to the graphics characters.

(2) IBM PC-NET on the VPC using PC-DOS 3.1 failed. It appears that BOOT ROM does not see the network card.

(3) We have received reports that SUPERKEY from Borland does not work; details later.

(4) We are having problems running SUPERLOK protected software (dBase III, Framework, Handic S/W) on double sided VPC's.

(5) FORMAT does not do an INT 13 disk reset. This causes problems if it is run when located on the second side of a double sided diskette.

(6) P-System Pascal will not boot on the VPC.

No: 85016

Date: 10/3/85

Subject: Using the SEARCH command**Release Authorization: Ed Roby**
National Computer Support Manager**Distribution: Victor Internal**
Victor Distributors

A number of people have been experiencing trouble when archiving and restoring files on their hard disk machines using SEARCH.COM. The problem basically comes down to making sure you are using the correct syntax. The following is a specific example for backing up a hard disk machine and then restoring the same machine. Lets assume we want to back up drive C and we are putting the archived files on drive B; Also let's assume we are logged on drive C.

To archive type: SEARCH C:\ /TARC B:BACKUP <CR>

Then to restore type: SEARCH /TARX B:BACKUP /CP \ /T <CR>

Note that you MUST specify the DRIVE in the backup file's name in order to backup or restore. Also there are many other ways to use SEARCH this example is just one example. ALSO NOTE when a file has been split between more than one disk using the archive feature of SEARCH.COM, upon restoring you will be asked to change disk and give the backup file's name. You MUST remember again to specify the DRIVE in the backup file's name.

No: 85017

Date: 10/3/85

Subject: Cables for PLUS PC and VI to Diablo 630

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors

Serial printing on the VI and Plus PC requires modifying your existing cables here are the pin connections for two different Diablo cables.

The following is for DB 25 to DB 25:

Victor	Diablo
1-----	1
2-----	3
3-----	2
4-----	6
5----	
6----	----11
8---- -----	----8
7-----	7

The following is a cable for DB 25 to Amphenol Micro Ribbon Conector # 57-33500-1 or # 57-91505-11 as used on some Diablo Printers.

1-----	22
2-----	48
3-----	24
4-----	23
5----	
6----	
8---- -----	25
7-----	47
20-----	49

Note: The important change in both these cables is that pin 5 and 6 have been connected together. This need to be done on any serial cable. Also remember to use VI O/S BIOS 3.03 for best results in serial printing. ALSO to use a SERIAL printer in the first place you must redirect printing using the MODE command.

No: 85018

Date: 10/4/85

Subject: Removal of Plus PC from a V9000 Hard Disk

Release Authorization: Ed Roby
National Computer Support Manager

Distribution: Victor Internal
Victor Distributors
End Users

. When converting a PLUS PC HARD DISK machine back into a standard Victor here are a couple of steps that must be performed. First the label on the hard disk of the Victor 9000 that you want to convert back into a regular Victor must have its label changed back to a Victor label before the PC PLUS HARDWARE is REMOVED. During the PC Plus initialisation the Victor label was changed to an IBM style format. To change the label back run the utility program VHDLABEL.EXE; this utility is found on your Plus PC operating system diskette. If you remove the Plus PC hardware prior to running this utility you will not be able to restore your label unless you reinstall ALL the PC Plus Hardware.

Also there is an error in the installation procedure of the Plus PC. On the page entitled "Hardware Considerations" of the "PLUS PC Installation Guide"; the text states:

"Once the cut and jumper is done, you can remove the Plus PC option and use the VICTOR computer without remodification."

This statement which is referring to the cut and jumper on the hard disk controller card is FALSE. You MUST restore the controller card to its original state to operate your Victor if the PLUS PC option is REMOVED.