

June 1979

Newsletter 13

Attention Software Consultants:

GBS/SVS/MVP TRAINING SEMINARS

GBS/SVS and GBS/MVP seminars will be presented to various districts in each area beginning in mid-July. Each training session is scheduled to last two days and will be geared heavily towards the practical application of the VS/MVP business systems. There will also be a general VS/MVP systems overview, touching on machine capabilities and available utilities.

Agenda arrangements are still being finalized; the schedule will appear in the next issue of the Newsletter (14).

This is an ideal time to answer those questions you've been saving for just the right occasion. Remember: seminar location will be determined partially on local interest, so consultants who wish to attend are urged to contact their local Wang offices.

Appointment of George Reynolds As Consultant Coordinator

I am pleased to announce the appointment of George Reynolds as Software Consultant Coordinator. George will report to me and will be responsible for the direction of Home Office/Software Consultant liaison programs.

George joined the Wang Home Office Staff 18 months ago to direct Quality Assurance efforts. During that time he more accurately defined the role of Quality Assurance, which remains an important part of our Software Development Process.

Prior to joining Wang, George was employed for two years at Optronics International. Optronics International is a computer-oriented company, manufacturing computerized image processing equipment. There he evaluated system performance and coordinated liaison activities between the home office and European subsidiaries.

I am sure you will join me in congratulating George on his appointment and wish him the best of luck in his new position.

Bob Soucy

Technical Notes

2280 DISK DRIVES

Several things make the 2280 Disk Drives different from previous 2200 disks:

1. More than 32,768 sectors.
2. More than 2 platters per drive.
3. Device type D.
4. Incompatibility with B, C, and T series' CPU's.

These points are interrelated, and it is important that they be understood.

1. The CPU and the Disk Controller.

The 2280 disk drive will work with the 2200VP Release 1.9 or later, and with the 2200MVP Release 1.7 or later. It will not work properly with earlier releases, nor with a 2200B, C, S, or T CPU.

In addition, the system bootstrap (which loads the operating system from disk) must be at least version R1 (ECN 9772) in order to load from the 2280. One easy way to tell if an older machine has this bootstrap is to watch the screen while loading a system file. The older bootstrap displays the function key number on the top line, while the newer bootstrap displays the file name and device address. The system bootstrap can only load the operating system from the removable or first fixed platter of a 2280.

The drive needs to be cabled to the CPU via a 22C11 dual printer/disk or a 22C03 single disk controller. The present triple controller (22C31) should not be used, and the 2230MXA is not supported at the present time. If an older 22C03 is used, be sure it has the ECN 8051 made for the MVP, even if the 2280 will be used with a VP.

II. The Platter Size.

Floppy and hard disk platters created on a B, C, S, or T may not, in general, be copied to the 2280 and used. The MOVE statement, or its software equivalent, should always be used for the initial transfer. The same precautions may apply when transferring data from a platter on which the index was created or modified by DATASAVE BA statements.

The potential problem occurs because on all previous drives, the "8000" bit of all sector addresses in the index was ignored. This gave a 15-bit sector address which sufficed until the 2280, which has a larger platter size. When a platter is moved to the 2280, the operating system will reconstruct the high-order bit to conform to the 16-bit structure of the 2280.

In addition to platter transfer, two other potential problems can arise from software that uses DATASAVE BA and DATALOAD BA. On the 2280, for the first time, the high-order bit of the two-byte alpha sector address is actually used as part of the 16-bit sector address. It is conceivable, but not likely, that some software may assume otherwise. A more likely problem concerns existing utilities (including Wang's ISS) that deal directly with index sectors; they will deliberately strip off the highest order bit of each sector address before using it. These utilities must be changed before being used on the 2280. ISS Release 5.0 is 2280 compatible.

III. Device Type D

The 2280 is our first drive with more than 2 platters at a single address. (The triple floppy was accommodated by treating the third platter as a single platter of a secondary drive). For this reason, the concept of 3XX, BXX to address the two surfaces had to be extended. Device type D has been defined, and will normally be used for all 2280 operations. For all disk statements, if type D is specified, a new meaning is assigned to the other two digits. The controller for the 2280 should be set at 10, 20 or 30; D10, D20, or D30 is the address used to specify the removable platter of the drive. If the low-order digit of a type D device address is not zero, it refers to a specific platter, not the hardware (switch selectable) address. Thus, the six platters of a 2280 at address 10 are referred to as D10, D11, D12, D13, D14 and D15. Note that a separate device (normally a printer) may be at 215 with no conflict. For example, /D15 enables device 10, not 15. If two drives are daisy chained together, the second may be addressed by D50, D51, D52, D53, D54, or

D55. Note also that the F and R parameters may not be used when type D is selected; T must be used. For a more complete description of 2280 platter addressing, refer to the Model 2280 Disk Drive User Manual.

For any 2200 disk controller on a 2200VP/MVP set to address 10, 20, or 30 the following device addresses are equivalent:

/310	/D11	/320	/D21	/330	/D31
/B10	/D10	/B20	/D20	/B30	/D30

for any 2200 disk on a 2200VP or MVP.

The biggest impact this has on existing software is that the choice of possible platter addresses has been greatly expanded. It is primarily for this reason that a new variation of the SELECT statement has been introduced:

```
SELECT #n A$
```

This allows the device address to be specified as the value of an alpha variable.

For details see the New Products section describing VP Release 1.9 and MVP Release 1.7.

If \$GIO is used with an external address of type D, the same interpretation is made. Thus, SELECT TAPE/D12/1GIO (...) and SELECT #3/D14:\$GIO #3 (...) and \$GIO/D11 (...) will all enable the disk controller to address 10. When used with the 2280, the \$GIO address commands 71xx and 73x0, must use the physical address 10, 20, 30, 50, 60, or 70 since no device type is available to indicate that the low 4-bits specify a platter. The effects of any previously tried sequences can not be guaranteed at this time. Wang does not support any \$GIO sequences to the 2280 except \$GIO hog and unhog; these should be replaced by a \$OPEN whenever possible. If and when it becomes advisable to support other sequences, they will be published as specific to the 2280.

Shows and Exhibits

May

- | | | |
|---------|--|--------------------|
| 1 - 2 | NJ Amusement Assoc. Convention | N. Wildwood, NJ |
| 1 - 3 | Piedmont Industrial Show | Greensburg, NC |
| 1 - 3 | Data '79 | Toronto, ON |
| 1 - 3 | Rhode Island Business Equipment Show | Rhode Island |
| 1 - 3 | Southwestern Computer Conference | Oklahoma City, OK |
| 1 - 3 | Triad Information System Exhibit | Winston-Salem, NC |
| 2 - 4 | Independent Insurance Agents of Minnesota | St. Paul, MN |
| 2 - 5 | Association of Legal Administrators | Colorado Sprs., CO |
| 4 - 6 | Illinois Association of Legal Secretaries | Fairview Hts., IL |
| 4 - 6 | NC Assoc. of Legal Administrators | Charlotte, NC |
| 8 - 11 | Mid-America Telephone Convention | Kansas City, MO |
| 9 - 11 | Oregon Medical Group Mgmt. Assn. | Eugene, OR |
| 9 - 12 | Washington Academy of Family Physicians | Spokane, WA |
| 13 - 16 | Middle Atlantic States Accounting Conference | Williamsburg, VA |
| 14 - 16 | National Capital Computer Fair | Ottawa, Canada |
| 16 - 17 | Word Processing Symposium & Exhibit | Minneapolis, MN |
| 16 - 18 | Data Processing Management Association | Atlanta, GA |
| 18 - 20 | Washington State Dental Association | Seattle, WA |
| 20 - 22 | PIA of CA & Nevada | Reno, NV |
| 20 - 23 | Independent Ins. Agents Assoc. of New York | Niagara Falls, NY |
| 22 - 24 | Industry '79 Trade Show | Albany, NY |
| 22 - 24 | Gateway '79 | Long Island, NY |
| 22 - 25 | Canadian Institute of Surveying | Toronto, Canada |
| 23 - 24 | Hawaii Office Products Expo | Honolulu, HI |
| 23 - 24 | Word Processing Symposium '79 | Grand Rapids, MI |
| 23 - 25 | Business and Personal Computer Sales Expo | Philadelphia, PA |

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|---------|---------------------------------------|---------------|
| 24 | Greater San Diego Insurance Day | San Diego, CA |
| 24 - 26 | DPMA Region 8 Conference | Norfolk, VA |
| 29 - 31 | Manitoba Industrial and Business Show | Don Mills, ON |
| 31 - 1 | Administrative Management Society | Portland, OR |

June

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|---------|---|-------------------|
| 3 - 5 | KN Society of CPA's | Louisville, KY |
| 4 - 7 | 1979 National Computer Conference (National) | New York, NY |
| 7 - 9 | Print Pacific | San Francisco, CA |
| 10 - 13 | Independent Insurance Agents of Massachusetts | Danvers, MA |
| 11 - 12 | Minnesota Bankers Association | St. Paul, MN |
| 11 - 14 | Medical Record Association | Rochester, NY |
| 17 - 20 | Medical Group Management Association | Vancouver, BC |
| 18 - 19 | Ohio Society of CPA's | Columbus, OH |
| 19 - 21 | '79 AFCEA | Washington, DC |
| 20 - 22 | Alabama Institute of Federal Taxation | Birmingham, AL |
| 26 - 28 | IWP Syntopian VII | Chicago, IL |

August

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|---------|-----------|--------------|
| 28 - 30 | TYPEX '79 | New York, NY |
|---------|-----------|--------------|

September

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|---------|---|---------------|
| 6 - 8 | Graphic Arts '79/The Charlotte Show | Charlotte, NC |
| 25 - 26 | Office Expo '79 | Buffalo, NY |
| 25 - 27 | Word Processing and Business Trade Show | San Jose, CA |

October

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|---------|---|---------------------|
| 15 - 18 | Info '78 (National) | New York, NY |
| 16 - 18 | IWP Fall Symposium | Houston, TX |
| 17 - 18 | Office Equipment and Systems Expo | King of Prussia, PA |
| 23 - 25 | Military Electronic Expo '79 (National) | Anaheim, CA |
| 24 - 25 | Kansas Business Expo | Wichita, KS |

November

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|-------|--|----------------|
| 6 - 8 | Federal Computer Conference (National) | Washington, DC |
|-------|--|----------------|

28 - 30 Business and Personal
Computer Sales Expo Philadelphia, PA

March 1980

3 - 5 NCC Office Automation
Conference Atlanta, GA
19 - 20 Federal Office Systems Expo Washington, DC

April 1980

12 - 19 Print '80 Chicago, IL

Recent Publications

The following items have been released from Lowell between February 1, 1979 and March 31, 1979.

DATA SHEETS

Word Processor Twin Sheet Feeder System 5 Data Sheet (700-5147)
Word Processor 6560D Fixed/Removable Disk Data Sheet (700-5194)
Word Processor Digital Audio Delay Model 150 Data Sheet (700-5142)
Word Processor Typesetter 44 & 48 Data Sheet (700-5117)
Word Processor 6581W Daisy Printer Data Sheet (700-5127)
2200 Optional Furniture Data Sheet (700-5134)

ERRATA SHEETS

PCS II Text Editing Utilities User Manual Errata Sheet (700-4452A.01)
2200 Text Editing Utilities User Manual Errata Sheet (700-4043C.01)

MANUALS

Word Processor 6581W Daisy Printer User Manual (700-5176)
VS COBOL Pocket Guide (800-6200)
GBS/MVP Mods I & II User Manual (700-5023)
Manufacturing Management System Marketing Guide (700-5206)
Inventory Management System User Manual (Interim) (700-5124)
2260BC/2260C Disk Drive User Manual (700-5102)
Word Processor Photocomposition Glossary of Terms (700-5098)
Depreciation System User Manual (700-5119)

Manufacturing Management Installation Forms (700-5110)
2270 Series Diskette Drive User Manual (700-5107)
Word Processor Typesetter 44/48 Command Structures Card (700-5133)
Word Processor Photocomposition System Operators Reference Manual (Interim) (700-5113)

REPRINTS

Disk Reference Manual Addendum (700-3159.03)
3741 Emulation Software Utility Data Sheet (700-4708A)
2471 Emulation Software Utility Data Sheet (700-4706A)
Teletype Emulation Software Utility Data Sheet (700-4704A)
2200T Central Processor Unit Data Sheet (700-3723D)
VS Peripherals Data Sheet (800-2102-03)
2260C Fixed/Removable Disk Drive Data Sheet (700-4692)
PCS II/IIA Introductory Manual (700-4255C)
Word Processor System Security Option Users Manual (700-4673C)
Workstation Introductory Manual (700-3887B)
Hasp Multi-Leaving Emulation Software Utility Data Sheet (700-4707A)
Word Processor 5521 200CPS Line Printer Data Sheet (700-4103D)
Word Processor MCR-1 Mag Card Reader Data Sheet (700-5109A)
VS Problem Report Form (800-5104-01)
IP41L Image Printer Data Sheet (700-5058B)
Word Processor 5581 Daisy Wheel Printer (700-4179D)
Word Processor Telecommunications User Manual (700-4686B)
2209A Nine Track Tape Utilities Manual (700-4325A)
2281P Printer Plotter User Manual (700-4716A)
Word Processor 5508 Photocomposition Option Data Sheet (700-4420B)
VS System Operation Guide (800-1102SO-03)
Word Processor 5541W Daisy Printer User Manual (700-4790A)
VS RPG II Language Reference Manual (800-1203RP-02)
VP Memory Disk Reference Manual (700-4081.03)
MVP Technical Information Data Sheet (700-4656B)
Word Processor Mathematics Support Package Applications Operating Instructions (700-4732B)
Word Processor 5531-2 Line Printer User Manual (700-4368A)

2780/3780 Emulation Software Utility Data Sheet (700-4709A)
2227B/Opt. 62 Buffered Asynchronous Communications Controller Data Sheet (700-3830D)
TC-B2 Bisynchronous Communications Option Data Sheet (700-4657B)
TC-A1 Asynchronous Communications Option Data Sheet (700-4733B)
2200VP Basic-2 Language Reference Manual (700-4080C)
3740 Diskette Compatibility Software Release 2 User Manual (700-4369C)
2231W Line Printer User Manual (700-3877C)
2280 Fixed/Removable Disk Drive Data Sheet (700-4843A)
Word Processor IP41F Intelligent Image Printer Data Sheet (700-5060A)
General I/O Instruction Set Reference Manual (700-3514F)
Word Processor 5521 Printer User Manual (700-4495A)
Word Processor Twin Sheet Feeder Data Sheet (700-4495A)
Integrated Support System (ISS) Release 4 User Manual (700-5010)

QUESTIONS, CORRECTIONS, AND AMPLIFICATIONS

The following is a list of statements which clarify many of the questions most frequently submitted to the various technical support groups in Lowell.

- It is not possible to read a 2230 disk cartridge on a 2260BC disk drive by using a 350 address.
- The 2244A Card Reader is not supported on the MVP because it is an unbuffered time dependent device. The only possible way to support this unit on the MVP is to load the VP operating system during input from the card reader.
- The 2254 IEEE-488 Interface Controller is not supported on the MVP.
- The maximum distance between a 2236D interactive terminal and a printer directly attached to the terminal, is twelve feet.
- The 2232A Digital Flatbed Plotter can be connected to the MVP by using a 2201 controller board (part #210-6561).
- Manufacturing Management is not available for the MVP at this time.

- The 2224 Multiplexer is no longer an available product.
- The 2203 Optical Paper Tape Reader does not function properly on the MVP. This is because the partition running this job will not be serviced enough to operate the 2203. If no other jobs are running on the MVP, the Tape Reader may appear to function correctly. Once another job is added, however, frames of information are lost.
- The 2280 Disk Processing Unit is called the 22C14. Two 2280 disk drives can be connected to the 22C14, providing up to 160 megabytes. The 2280/22C14 can only be used on the 2200VP and MVP systems, and only one 22C14 can be used with the CPU. See the "Technical Notes" section for more information.
- More about the MVP Extended Memory ...
The 2200MVP extended (more than 64KB) memory is divided into four banks: 61KB, 56KB, 56KB, and 56KB. As the memory is extended, banks are filled in order. Part of each bank is required by the operating system. The following table gives the actual memory available to the user for each size MVP:

NOMINAL MEMORY MEMORY AVAILABLE TO USER ...

Size	Bank 1	Bank 2	Bank 3	Bank 4
16KB	13KB	0	0	0
32KB	29KB	0	0	0
48KB	45KB	0	0	0
64KB	61KB	0	0	0
96KB	61KB	24KB	0	0
128KB	61KB	56KB	0	0
192KB	61KB	56KB	56KB	0
256KB	61KB	56KB	56KB	56KB

The remainder of the installed memory is required by the system. The systems analysis required to fit programs into the extended memory must take the bank boundaries into account.

No partition can extend across a bank boundary; any partition must reside completely within its bank. For example, even though 5 times 16KB is only 80KB, 5 copies of a 16KB program will not fit

into a 96KB MVP -- a 128KB version would be required. Two fully packed and incompressible 32KB programs, in order to be installed without any software changes whatsoever, would require a 128KB memory.

Also, partitions in one bank cannot communicate with partitions in any other bank. The exception is when a partition fits entirely within the first 5KB of bank one. Then, any partition in any bank can refer to it as "global". For example, suppose two 18KB application partitions both refer to a 20KB global for utility subroutines. If another bank is added to the MVP, only two more application partitions can be added, because another copy of the 20KB global must reside in the new bank.

In the "Recent Publications" Section of System Newsletter #12, the part number for the 2260BC/2260C Disk Drive Users Manual was incorrectly stated as 700-5100. The correct number is 700-5102.

New Products

NEW PRINTERS ANNOUNCED

Wang Laboratories, Inc. recently announced three new printers: the Model 2263-3, a new impact printer; and Model 2273-1 and 2273-2, two band printers.

2263-3

The Model 2263-3 provides users with a new high-performance printer. Capable of print speeds of 430 lines per minute, the 2263-3 utilizes a 96-character set. This printer is ideal where a solid character font is required with upper/lowercase characters. This printer extends the 2263 family of heavy duty printers. For more information, see the new 2263 Data Sheet.

2273

Wang's 2273 Bank Printer is a medium-duty, solid character impact printer. It will be available in two models: the 2273-1, which provides a throughput of 250 LPM; and the 2273-2, which provides a throughput of 600 LPM.

Microprocessor controlled, these Band Printers offer systems designers a unique tool. Special length forms printing can be programmatically controlled through the Vertical Format Unit (VFU). The VFU is controlled through BASIC

software or, optionally, from a 12-channel paper tape; it can also be controlled manually through the use of the Forms Selection Switch.

Rotating steel Print Bands are available in 48-, 64-, and 96-character sets. The characters are sequenced on the bands to allow maximum speed. Frequently used characters are replicated on the band and the printer automatically compensates for the sequence variations of different bands.

A variety of diagnostics are automatically performed and errors are reported through a digital status display. Off-line tests will print test patterns for forms alignment and print densities. For more information concerning this product, see the 2273 Data Sheet and the Bank Data Sheet.

CARD READER FOR 2200 MVP

The Model 2244B Hopper Feed Punched/Marked Sense Card Reader can be used with all 2200T, VP, and MVP systems.

No change has been made to the Card Reader itself; the difference between the 2244A and 2244B lies only in the controller boards that interface with the 2200 computer. A new controller has been designed which now provides CPU compatibility for the Card Reader. This new microprocessor-based controller has the ability to distinguish between the 2200T, 2200VP, and 2200MVP. It automatically compensates for differences in communications logic depending upon CPU model. Therefore, this controller can be used with any CPU and does not require that special control codes in the BASIC programs be used.

When used as a replacement for the 2244A on a 2200T or VP, existing BASIC programs will work with no modification. However, to obtain maximum efficiency from the 2244B, we strongly recommend that Look Ahead mode be used in all circumstances to read cards of any format. Without Look Ahead, the 2244B will be somewhat slower than the 2244A; with Look Ahead, it will be faster in some cases, and as fast in others.

On a 2200MVP, the speed with or without Look Ahead is nearly identical. However, adding users to the MVP may cause a slight decrease in the Card Reader input rate.

2200MVP RESTRICTIONS

Three restrictions exist when using the new controller with a 2200MVP.

1. No Console Input Mode

The 2200MVP does not allow the selection of

Console Input to any device other than the primary 2236D terminal.

2. Reset Card Not Recognized

The new controller does not transmit data to the MVP if a reset command is sent by the Card Reader (i.e.; rows 2, 3, 4 multipunched in Column 1) The Card Reader automatically reads the next card in place of the reset.

3. Immediate Mode Statements

Cards containing any Immediate mode statement will cause unpredictable results and should not be used with the 2200MVP. Therefore, the 2244B could not be used for batch program processing on the 2200MVP.

Field upgrades of existing 2234A's and 2244A's will be allowed. Contact your nearest Wang sales representative for prices and availability.

NEW TRIPLE CONTROLLER - - 22C32

The 22C32 Triple Controller supports one printer, disk/diskette, and one 2236D terminal. This controller was designed to allow low cost, single user system configurations around the 2236D. It also allows an easy upward growth from the 2200VP to the 2200MVP.

The 22C32 will function on the 2200VP and the 2200MVP. The printer portion of the controller is equivalent to the 22C02, while the disk portion will support any disk except the 2260C and 2280. The 2236D Controller is functionally equivalent to the 2236MXD, except only one terminal is supported and communications is restricted to 19200-bps. Therefore, the 2236D must be connected directly to the controller and cannot be used as a remote terminal.

This new controller can be used either to support a single terminal on the 2200MVP, or in conjunction with an MXD to support a 5th terminal. We have further extended its use by allowing it to control a 9th terminal when used with two 2236MXDs.

ELECTRONIC PRINTER MULTIPLEXER - - 2211M

The 2211M Printer Multiplexer uses electronic switching to allow all four processors to use the same printer. Similar in operation to the 2211M, the channels can be selected by means of a single switch located on the front of the multiplexer. Lights on the multiplexer indicate which channel has been selected.

MVP BASIC-2 RELEASE 1.7 (Diskette 701-2294H)

Release 1.7 of 2200MVP BASIC-2 replaces all previous MVP BASIC-2 releases. Release 1.7 is required of any MVP with 2280 disk drives. This release also provides all MVP systems with several new features and corrects all known system anomalies. Listed below are the system changes since Release 1.6. The following files on the system platter differ from Release 1.6:

- "@@@" - MVP OS & BASIC-2 interpreter.
- "@MOVE" - Move system file utility.
- "@FORMAT" - Format disk utility.

A. System Enhancements

The System Enhancements are noted in the following article describing Release 1.9 of the VP operating system. See items 1, 2, and 3 in the VP BASIC-2 Release System Enhancements Section.

VP BASIC-2 RELEASE 1.9 (Diskette 701-2118H)

Release 1.9 of 2200VP BASIC-2 replaces all previous VP basic-2 releases. Release 1.9 is required of any VP with 2280 disk drives. This release also provides all VP systems with several new features, and corrects all known system anomalies. Listed below are the system changes since Release 1.8. The following files on the system platter differ from Release 1.8:

- "@@@" - VP OS & BASIC-2 interpreter.
- "@MOVE" - Move system file utility.
- "@FORMAT" - Format disk utility.
- "@A", "@B", "@C" - System diagnostics

A. System Enhancements

1. 2280 Disk Drives

Release 1.9 supports the 2280 disk drives; previous releases should not be used. For details concerning 2280 operations, see the 2280 Disk Drive User Manual.

2. Disk Platter Formatting

A format disk platter utility, "@FORMAT",

for formatting 2260C, 2260BC, and 2280 disk platters resides on the system diskette. To format a disk platter, LOAD RUN "@FORMAT" and respond to the prompts as requested. The format utility makes use of the new \$FORMAT DISK statement to format the specified disk platter (see description of \$FORMAT DISK).

3. Variable Device Address Specification

Device addresses used in SELECT statements can now be specified by the value of an alpha variable, as well as by 3 hexdigits. Device addresses in SELECT statements have the following format:

```
device address =      hexdigit hexdigit hexdigit
                    alpha-variable
```

where the value of the alpha variable must be 3 ASCII hexdigits representing the device type and address.

Examples:

A\$ = "320": SELECT #3 A\$ Selects #3 to disk 320

A\$ = "215": SELECT PRINT A\$ (132) selects print to device 215 with a line width of 132 characters.

4. System Diagnostics

The system diagnostics, accessible immediately after power-on, have been rewritten to support the larger memory configurations and provide better memory diagnosing. Error messages will be more consistent and displays improved.

5. MOVE/COPY

The MOVE and COPY disk operations now make more efficient use of memory for buffering; these operations are now up to 15% faster.

6. \$RELEASE PART

The syntax for the MVP \$RELEASE PART statement is supported; however, the statement is ignored if executed.

7. Reloading System Software

Executing \$INIT "SYSTEM" in Immediate

mode allows the system to be reloaded with BASIC-2 or a system diagnostic without powering the system off and then back on. When \$INIT "SYSTEM" is executed, control is passed to the system bootstrap. The bootstrap message:

```
MOUNT SYSTEM PLATTER
PRESS RESET
```

is displayed, and the system can be loaded as if it had just been turned on. Note that the program and data in memory are cleared when \$INIT "SYSTEM" is executed.

B. Correct Anomalies

1. If the ERROR statement is used to recover from an error within a subroutine called from a Special Function Key, the system lost the subroutine return information. This would result in ERR P41 when RETURN was expected.
2. The system did not always detect the illegal occurrence of alpha array elements where numeric variables were expected.
3. If variables were used to specify array dimensions (e.g.; DIM X(R, C)) during program overlaying, erroneous memory overflow errors (ERR A02) might be reported by the system. This could only happen if the program text being overlayed was larger than that of the overlay loaded, more variables were defined in the overlay than existed in the original program, and most of memory was used.
4. A PACK statement with an exponential image could modify the values of the variables containing the data to be packed. If an exponential image in a PACK statement did not have exactly 1 integer digit specified and the data to be packed was specified by a numeric array designator (e.g.;N()), the result of the pack would be correct but the exponents of the values in the numeric array would be changed.
5. MVP global variables (e.g.;@X\$) were listed by LIST V as local variables (e.g.; X).
6. SELECT P timing was approximately 10% fast.

7. \$CLOSE disk did not release (unhog) the specified disk unit. \$CLOSE/xyy should have been equivalent to \$GIO/xyy (4400) disk unhog.

Examples of valid syntax:

10 \$FORMAT DISK T/310

20 \$FORMAT DISK T/D11

30 \$FORMAT DISK R#2

VP BASIC-2 RELEASE 2.0 (Diskette 701-2118J)

(Minifloppy Platters 701-8127 BASIC-2 AND
701-8128 Diagnostics)

Release 2.0 of BASIC-2 replaces all previous VP BASIC-2 releases. This release fixes one problem introduced in Release 1.9. Since Release 1.9 was not widely distributed, the documentation for Release 1.9 is included here. All descriptions of Release 1.9 also apply to Release 2.0.

The following files on the system platter(s) differ from Release 1.9:

- "@@@" - VP OS & BASIC-2 interpreter
- "@MOVE" Move system file utility.

A. Corrected Anomaly

1. LIST T did not work in Release 1.9. This has been corrected in Release 2.0.

\$FORMAT DISK

! General Form:

!

! \$FORMAT DISK platter file#

! disk-address

Purpose:

The \$FORMAT DISK statement commands the disk processing unit to format the specified disk platter. This statement can only be used with disks that support formatting under software control (e.g.; 2260C, 2260BC, and 2280). Formatting on certain 2200 disks (e.g.; 2270) is initiated by pressing the format button located on the disk unit.

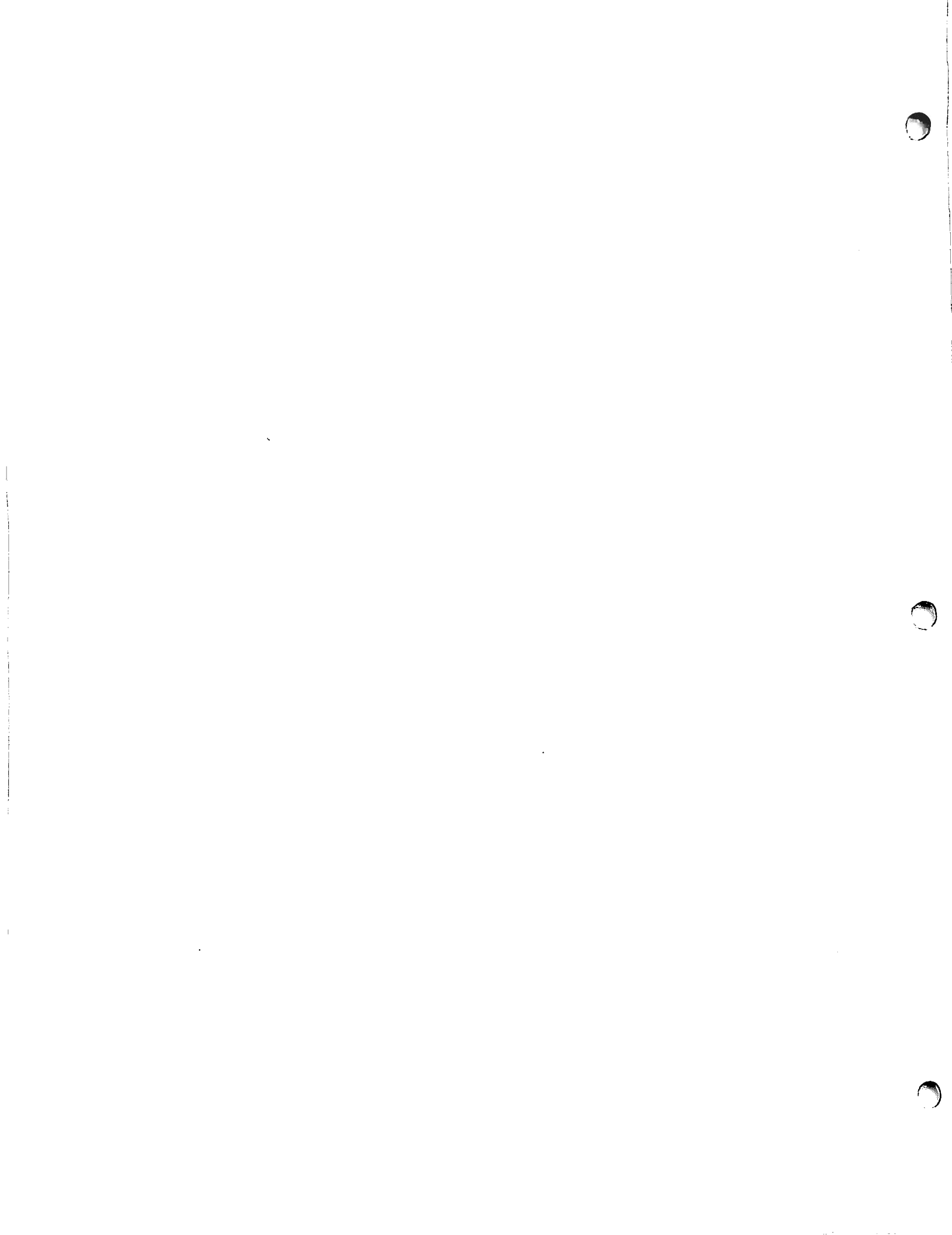
Before a platter can be used for the storage and retrieval of data by the user, the platter must be formatted. Formatting involves recording a unique address for each sector on the disk platter, along with other control information used by the disk processing unit when accessing a sector. All data within the sector is zeroed.

CAUTION

!Formatting a disk platter overwrites!
!all data that may previously have!
!been stored on the platter. It is!
!recommended that the Wang sup-
!plied format utility be used, to!
!prevent the accidental formatting of!
!the wrong disk platter. !

CLASSIFIED AD SECTION

The Classified Ad section of the System Newsletter is an effective vehicle for publicizing Software Vendor products and services. At no charge, we will run your ad in three consecutive issues of the Newsletter. After three issues, the ad must be resubmitted for future inclusion. Each ad will note the number of the last issue in which it will appear before being deleted.



SOFTWARE PACKAGE LISTING

DATE: _____

VENDOR: _____

CONTACT: _____ TELEPHONE: _____

INDUSTRY: _____

APPLICATION: _____

DESCRIPTION: _____

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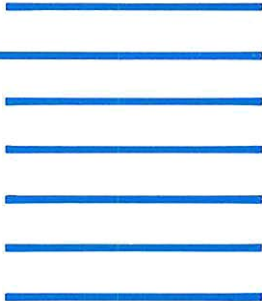


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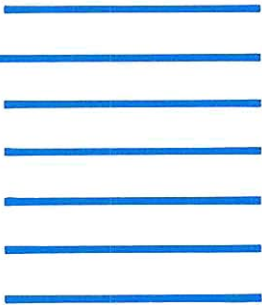


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