



LABORATORIES, INC.

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m 3118

TO: 2200 Series User

From: Wang Laboratories 2200 Development

Subject: New releases of the 2200 MVP and 2200 VP Operating Systems

Date: June 15, 1981

Dear 2200 User:

Wang is pleased to supply you with the latest release of the 2200 Series Operating System. Along with the System Diskette should be enclosed a Marketing Release. This describes the changes and features of this release of the Operating System. We are also enclosing an updated System Utilities User Manual that describes the operation and use of all of the utilities that reside on the the System Disk.

If you have questions or problems with this new release of the Operating System, please call your local Wang Analyst.

2460E

Computers

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| TO DISTRIBUTION | PUBLICATION # |
| FROM 2200 PRODUCT DEVELOPMENT | DATE JUNE 1981 |
| SUBJECT VP SINGLE-USER OPERATING SYSTEM RELEASE 2.4 | REORDER FROM: |
| THIS RELEASE SUPERSEDES: | DESTROY SUPERSEDED INFORMATION <input type="checkbox"/> YES <input type="checkbox"/> NO |

Wang Laboratories is pleased to announce release 2.4 of the VP Single-user Operating System. This release includes several new features and enhancements to earlier versions of the VP Single-user Operating System.

SUMMARY OF FEATURES

- . The Operating System Loading Sequence has been modified to allow for easier use of the system diagnostics.
- . Many of the System Utilites have been improved to run faster, and to be more user oriented. Among these utilities are @BACKUP, @RECOVER, and @MOVEFIL.
- . A new BASIC-2 Statements have been added to the operating system. This statement is #ID.

REQUIREMENTS

- . All 2200VP and 2200SVP sytems should be upgraded to Release 2.4 of the VP Single-user Operating Systems.

ORDERING INFORMATION

Order through Software Distribution.

| | <u>2200 VP</u> | <u>2200 SVP</u> | <u>Minidiskette</u> |
|-----------------|----------------|-----------------|-------------------------------------|
| Package Number | 195-0033-3 | 195-2163-5 | 195-0033-8 |
| Diskette Number | 701-2118N | 704-0001B | 701-8068F 701-8069E 701-8129A |

AVAILABILITY

In Stock, allow one week for delivery.

PRICE

No charge to 2200VP, 2200SVP users.

SUPPORT

This is a Category 1, Wang-Supported product. Any suspected errors or anomalies found in this package should be documented and forwarded to Wang Laboratories via the local district analyst.

VP (Single-User) BASIC-2 RELEASE 2.4

Note: The mini diskette release does not support the '@INSTALL' utility. Release 2.4 of VP BASIC-2 replaces all previous VP BASIC-2 releases. This release provides all 2200 VP and 2200 SVP systems with several new features and corrects all known system anomalies. The system platter includes the VP (single-user) Operating System and BASIC-2 language processor, system diagnostics, and several utilities.

I. System Utilities

Significant changes have been made to several of the system utilities. The 2200 BASIC Utilities Manual (preliminary copy attached) should be consulted for an up-to-date description.

The utilities described below can be accessed by entering LOAD RJN (RETURN). A menu will be loaded providing access to the utilities. Certain utilities are for particular devices and do not have a function in all 2200 configurations.

@INSTALL:

This utility moves the system files from the release diskette onto a destination disk of the user's choice.

@MENU: Program Menu

@MENU provides a menu structure for program selection. Multiple levels of menu can be set up with each successive screen displaying the next menu mode. (See program REMarks for customization). The system platter contains a START program that merely overlays in @MENU.

@FORMAT: Format Disk Platter

This program formats software formattable disk platters, such as 2260C, 2260BC, 2280 platters, dual sided double density diskettes and LVP fixed platters. (Refer to the appropriate disk reference manual for detailed formatting information).

@DAVFU: Vertical Format Control

This utility defines printer vertical format control sequences. (See the appropriate printer reference manuals). This utility was previously named @2273VFU.

@BACKUP: Platter Backup

This program provides a multi volume platter backup capability. It is particularly useful for systems, such as 2200 LVP's or 2200 SVP's, which have different size fixed and removable platters.

@RECOVER: Backup Recovery

This is the companion recovery program for @BACKUP. The entire platter, active files only, or selected files can be recovered from the backup platter(s).

@MOVEFIL: Move File

This program moves selected files or all active files from one platter to another. If files are too large, multiple platters will be used. File data can be recorded in 3741 format for software transport between VP/MVP and SVP/LVP systems.

@MRTIAN: System Game

This program allows a user to play one of the latest space war games.

II System Changes for VP

Listed below are the system changes since Release 2.3. The following files on the system platter differ from Release 2.3.

| | | |
|----------|---|---|
| @SYSVPB | - | Menu Mode Data (name changed from .SYSVPB) |
| @@ | - | Microcoded Menu Program (new) |
| @MRTIAN | - | System Game (new) |
| @MOVE | - | Move System Files (removed) |
| @INSTALL | - | Move System Files (new) |
| @DAVFU | - | Vertical Format Control (replaces @2273VFU) |
| @BACKUP | - | Platter Backup (improved) |
| @BOOT | - | Menu Node Bootstrap (new) |
| @MOVEFIL | - | Move File |
| @VP | - | VP OS and BASIC-2 Language Processor (new) |
| @MENU | - | Menu Utility |
| @DG | - | System Diagnostics Menu |
| @HELP | - | System Help Documentation (removed) |

Wang Single-User BASIC-2 for 2200 VP or 2200 SVP
Release 2.4

A. Corrected Anomalies

1. The work buffer used during the execution of an INPUT statement was not properly freed when an error X73 or X75 was fielded with :ERROR. Over a long period of time, this could lead to a memory full error, A01.
2. The 2200 T BASIC form of the COPY statement (COPY FR) has been corrected to work properly with the 2200 SVP diskette controller and to use the optimal copying strategy when used with the 2280 disk drive.
3. The sector address of the sector in error returned during the execution of a VERIFY statement was incorrect if a disk hardware error (I90 or I91) was encountered.
4. Under some circumstances, it was possible to type off the right end of a field being entered via a LINPUT statement. This resulted in unpredictable modification to variables other than the variable being LINPUT.
5. Global variables may now be used to dynamically dimension arrays (i.e., DIM A\$(@X)). As with all dynamic dimensions in BASIC-2, the global variable used to dimension an array or give the length of an alpha variable must be scalar and must be common.

B. Re-definition of Existing Features

1. The INPUT statement can no longer generate the unrecoverable error, S23, during program execution. The only errors INPUT can now generate during execution are X73 and X75, both of which are recoverable with :ERROR.
2. The \$MSG function now returns all spaces. Previously it returned a HEX(00). This makes the default value of \$MSG consistent between the VP and the MVP operating systems. \$MSG cannot be set to a user defined value under the VP operating system.
3. \$BREAK and \$BREAK! may now be interrupted by the occurrence of a programmable (SELECT ON) interrupt. When an interrupt occurs, execution proceeds to the interrupt handling subroutine. Upon return from the interrupt handling subroutine, execution continues with the statement following the \$BREAK statement. \$BREAK is the only statement that is either interrupted or terminated by the occurrence of a user defined interrupt. In all other cases, interrupts may occur only after the completion of the currently executing statement and before beginning the next.

C. New Features

1. A new numeric function, #ID, returns the CPU identification number. Each 2200 CPU is assigned a number (a random integer between 1 and 65535) at the time of manufacture. Machines produced prior to the implementation of this feature return a value of 0, but such machines can be field upgraded to have non-zero # ID's. CPU ID's are not guaranteed to be unique, but it is highly unlikely two given machines will have the same number.

This function allows software to tell one CPU from another. The ability to distinguish one CPU from another is useful in restricting software to specific installations and in telling one CPU from another when disk multiplexers are used.

An application program can inhibit program execution if an unknown or unacceptable identification number is read.

In one or more critical sections of the application software (e.g., menu, key routine) a check can be performed to ascertain that the software is executing on the prescribed machine. The check would be of the type:

```
IF #ID          machine-id# THEN STOP "!:@$"
```

Of course, the section(s) of code performing this check must be scramble protected (i.e., SAVE!) in order to maintain security. Scramble protect inhibits program examination on disk and after loading.

2. Support has been added for the new \$ALERT inter-partition signal construct introduced in Release 2.2 of the MVP operating system. ALERT and SELECT ON ALERT are not functional under the VP operating system, but will not generate errors if included in VP BASIC-2 programs.
3. The editor has been enhanced to accept the cursor positioning keys on the 2236DW terminal during program editing, INPUT, and LINPUT.