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CS

**Multiuser BASIC-2
Operating System
Release 3.0
Customer Software Release Notice**

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Operating System
Release 3.0**

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WANG

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PREFACE

This customer software release notice describes the changes and features of the Wang Multiuser BASIC-2 Operating System. This notice highlights changes made to the operating system. A full discussion of each enhancement can be found in the updated *Multiuser BASIC-2 Language Reference Manual* (700-4080) and the *BASIC-2 Utilities Reference Manual* (700-6855).



OVERVIEW

The Wang Multiuser BASIC-2 Operating System is a high-level programming language designed for interactive programming and ease of use. Multiuser BASIC-2 features many extensions and enhancements to facilitate the tasks of writing, documenting, and debugging programs and to provide flexible language capabilities for a wide range of applications.

Release 3.0 of the Multiuser BASIC-2 Operating System is a general release. This release provides added user functionality as well as corrections to previously reported problems.

RELEASE INFORMATION

Release 3.0 is available on the following media:

<u>Part Number</u>	<u>Type</u>		<u>Comment</u>
195-0049-3 (two diskettes)	8 inch	SSSD	2270A diskette
195-0049-5 (one diskette)	8 inch	DSDD	2200LVP, 2200SVP diskette
195-0049-9 (two diskettes)	5 1/4 inch	DSDD	2275, DS diskette

REQUIREMENTS

Release 3.0 requires at least 28K of control memory.

CHANGES TO THE SYSTEM PLATTERS

The system platters include the operating system and the BASIC-2 language processor, the system diagnostics, and the system utilities.

With Release 3.0, the following system files are revised:

<u>File</u>	<u>Description</u>
@MVP	Operating System and BASIC-2 Language Processor
@MXE0	MXE Terminal Multiplexer Firmware
@GENPART	Partition Generation Utility
@BOOT	System Menu
@INSTALL	BASIC-2 Installation Utility
@MOVEFIL	Move File Utility
@MOVE1	Overlay of @MOVEFIL and @INSTALL
@BACKUP	Backup Disk Utility
@RECOVER	Recover From Backup Utility
@PM010V2	PM010 Printer Driver Table
@PM016V2	PM016 Printer Driver Table
@PM017V2	PM017 Printer Driver Table
@PM018V2	PM018 Printer Driver Table
@LCS15V0	LCS-15 Printer Driver Table

The following are brief summaries of each modification:

- The operating system and BASIC-2 Language Processor file (@MVP) now includes added user functionality.
- The MXE Terminal Multiplexer Firmware file (@MXE0) has been updated to correct reported problems.
- The Partition Generator Utility (@GENPART) has been modified to work with new printer driver tables and display the functions in use.
- The System Menu (@BOOT) has been modified to be more generic for use by both the MicroVP and CS product lines.
- The BASIC-2 Installation Utility (@INSTALL) has been modified to install the most recent version of the printer driver tables.
- In @MOVEFIL the default response to move all files has been changed to "N".
- The overlay of @MOVEFIL and @INSTALL (@MOVE1) has improved disk address callout.
- The BACKUP utility (@BACKUP) and the RECOVER utility (@RECOVER) have been modified to support the full range of disk addresses.
- The printer driver table @PM010V1 has been replaced by @PM010V2.
- The printer driver table @PM016V1 has been replaced by @PM016V2.

- The printer driver table @PM017V1 has been replaced by @PM017V2.
- The printer driver table @PM018V1 has been replaced by @PM018V2.
- The printer driver table @LCS15V0 has been added to the system files.

ENHANCEMENTS

The following summary highlights added user functionality provided in Release 3.0. More detailed information may be found in the *Multiuser BASIC-2 Language Reference Manual*.

Program Entry and Debugging

- Programs can be entered using either uppercase or lowercase characters. BASIC-2 words are automatically translated to uppercase when the line is entered.
- Descriptive error messages appear whenever the system detects a program error.
- Immediate mode STOP sets a program breakpoint so that execution stops just before the specified line is to be executed.
- TRACE output has been enhanced to show line numbers and statement separators for statements traced. Alphanumeric values are now displayed in hex as well as in ASCII.
- The information displayed by LIST DT is now in a readable format.
- The listing of hex literals has been improved by separating pairs of hex digits by spaces.
- LIST COM/DIM statement lists the currently defined variables and their current values.
- The LIST S option is assumed for list output to the CRT.

Program Statements and Functions

- The BIN and VAL functions have been enhanced to handle larger binary values. These functions can now deal with 3- and 4-byte binary values.
- A group of statements can be specified for conditional execution in IF, ELSE, or ERROR statements using DO and ENDDO.

- The SELECT function allows the current device selections to be assigned to alpha variables.
- The ERR\$ function returns the descriptive error message for a specified error code.

Disk Operations

- With RAMDISK, the unused portion of data memory can be allocated for use as a high-speed logical disk device.
- LIST of a protected program now lists REM! statements. REM! statements can be used for essential program documentation such as titles, instructions, and copyright messages.
- LIST DC has been enhanced to optionally list only a specified subset of files. The subset to be listed is specified by file type or file name mask.
- Programs saved with SAVE <W> are saved more efficiently and typically occupy less disk space than those presently saved. When the protect option is invoked along with the <W> option, programs are saved using the new scramble algorithm.
- RESAVE facilitates updating program files by combining the SCRATCH and SAVE statements.
- RENAME changes the name of a file.
- DATALOAD BM and DATASAVE BM allow for reading or writing more than one sector in Absolute Sector Address mode.
- The MOVE statement has been enhanced to allow you to specify the size of the index and catalog area to be created on the destination platter.

Printer Drivers

- The printer driver now uses less CPU time and is enhanced to support additional print options.
- The error codes used to indicate problems with the installation of the GPD during the execution of \$INIT statements have been changed to be more meaningful. If there is not enough control memory available to load all of the requested printer driver tables, then an A03 MEMORY OVERFLOW error is returned. Error code D88 indicates that the specified file is not a printer driver table. The only other error code returned at boot time by the GPD is X78.

The X78 error code indicates that one of three possible problems has occurred:

- a printer address has been assigned more than one printer driver table
 - more than 16 printer addresses have been specified
 - more than seven different printer driver tables have been specified
- Before this release, the Generalized Printer Driver would detect an illegal escape sequence and throw away all input until an 'end-of-escape-sequence' marker (OEh or OFh) was received. For Release 3.0, the GPD has been modified to generate a P46 ILLEGAL MICROCOMMAND error message when it detects illegal escape sequences. After generating the error code, the GPD reverts to its normal mode of operation.
 - The maximum possible throughput rate of the Generalized Printer Driver is now approximately eight times faster than previous releases.
 - The Select Paper Tray escape sequence has been modified to support three trays. The hex sequence is 02 06 dd 0F, where dd equals 01 for the front tray, 02 for the back tray, and 03 for the middle tray.
 - A new escape sequence (02 09 02 dd 0F) has been added to support color printers. This sequence selects which color the printer will use; dd is a 1-byte hex value that is used to indicate which of the 256 possible colors is being selected. The mapping between hex values and colors is printer dependent. Most color printers support only seven or eight different colors.
 - The hex sequence 02 03 0E has been added as the escape sequence for Reverse Line Feed. This sequence causes the printer to roll the platen backwards one line. The sequence will not be executed if the platen movement would cross a page boundary.
 - The Select Printer escape sequence has been added for those printers that support remote selection. This sequence has the effect of putting the printer "on-line." The hex code for the sequence is 02 07 0E.

ANOMALIES

Corrected Anomalies

- Partitions that had been suspended by the \$BREAK! statement would inadvertently be resumed if the \$BREAK! statement was executed soon after a KEYIN statement with two line numbers, or was executed at the beginning of a program.
- If an error occurred during the execution of a MOVE platter statement between two different disk units, one of the disk units would remain hogged.
- Download of the MXE code during master initialization would fail if the MXE file contained data beyond the trailer record in the @MXE0 file.
- The underlines in a LINPUT field wrapping from one screen line to the next would sometimes not be erased when the LINPUT was complete.
- \$OPEN with the line number option now branches to the specified line if the multiplexed disk to be opened is in use by another CPU or not available for some other reason. Previously, the \$OPEN statement would wait until the disk became available, even though the line number option had been specified.

Known Anomalies

The following functions of the 2200 Generalized Printer Driver (GPD) are not supported by the LCS-15 Laser printer:

- 5 pitch
- Select paper tray
- Deselect printer
- 1/4, 1/2, and 3/4 line feed
- Clear buffer
- Margin -- The left margin cannot be reset to the left of the previous margin setting.
- Proportional spacing

Note: *This Generalized Printer Driver works only with 2200 Word Processing Release 2.5, available after July, 1987.*

The GPD drops the last line of each page in DP mode unless the following program (where XXX is the printer address) is run before each job:

```
10 SELECT DRIVER XXX OFF
   SELECT PRINT XXX
20 PRINT HEX (0A 1B 54)
30 FOR A = 1 TO 62
40 PRINT HEX (0A): NEXT A
50 PRINT HEX (1B 4C 0C)
60 SELECT DRIVER XXX
   SELECT PRINT 005
```





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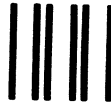
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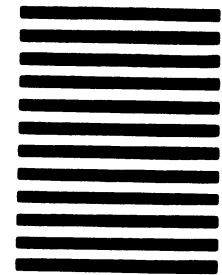
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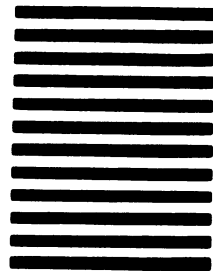


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