WANG LABORATORIES, INC.

836 NORTH STREET, TEWKSBURY, MASSACHUSETTS 01876, TEL.(617) 851-4111, TWX 710 343-6769, TELEX 94-7421

DATA SHEET

Option 24 for Wang's System 2200S Central Processing Unit (CPU) extends the BASIC language instruction set of the system and supports I/O operations for Wang's complete line of peripheral devices. The following BASIC language statements are included in Option 24.

DISK STATEMENTS

With the following statements, the System 2200S can control Wang's complete line of disk drives: the fixed/removable disk drive Models 2230-1, -2, -3, and 2260; the flexible disk drive Models 2240, 2242, and 2243; and the removable diskette drive Models 2270-1, -2, -3.

Automatic File Cataloging Mode Statements

DATALOAD DC	DBACKSPACE	MOVE END
DATALOAD DC OPEN	DSKIP	SAVE DC
DATASAVE DC	LIST DC	SCRATCH
DATASAVE DC CLOSE	LOAD DC	SCRATCH DISK
DATASAVE DC OPEN	MOVE	VERIFY

Absolute Sector Addressing Mode Statements

DATALOAD BA	LOAD DA	LIMITS
DATASAVE BA	SAVE DA	COPY
DATASAVE DA		

SORT STATEMENTS

A set of statements which extend data byte manipulation and statistical processing capabilities of the System 2200S and, also, provide the capability to execute disk-based sorting operations faster (approximately two to five times faster).

MAT CONVERT	MAT MERGE	MAT SEARCH
MAT COPY	MAT MOVE	MAT SORT

PROGRAM CONTROL STATEMENTS

COM CLEAR	DEFFN' HEX	ON ERROR

OPTION 24 DISK ROM

DATA SHEET

GENERAL I/O STATEMENTS

The $GIO statement allows the Model 2209 Nine Track Tape Drive to be used with the System 2200S and permits the design of customized input and output operations to support non-Wang devices interfaced to the System 2200S via such interface controllers as the Models 2207A, 2227, 2250, 2252, and 2252A. Other statements provide high-speed code conversion operations for the system and further increase data processing capabilities.

$GIO	$PACK
$IF ON	$UNPACK
$TRAN	

ADVANCED PROGRAMMING STATEMENTS

Bit/Byte Manipulation Statements

A set of statements which greatly increase the data processing capabilities of the System 2200S by reducing the programming requirements for such applications.

ADD	XOR	INIT	ROTATE
AND	BIN	PACK	UNPACK
OR	BOOL	POS	

I/O Statements

A set of statements which support such peripherals as the Model 2203 Punched Tape Reader, Models 2234A and 2244A Card Readers, Model 2207A teletype controller, Model 2262 Digitizer, and the Model 2202, 2212, and 2232A plotters. Also, reading and writing of blocked records on tape cassettes are supported.

DATALOAD BT	LOAD
DATASAVE BT	SAVE
DATALOAD	PLOT
DATASAVE	

MATRIX STATEMENTS

A set of fourteen matrix instructions designed to reduce execution time and use less memory than would be required using the standard System 2200S statements to program matrix operations.

MAT addition	MAT PRINT
MAT CON	MAT READ
MAT equality	MAT REDIM
MAT IDN	MAT scalar multiplicaiton
MAT INPUT	MAT subtraction
MAT INV,d	MAT TRN
MAT multiplication	MAT ZER

PERFORMANCE PACKAGE

- Improved program loading speeds.
- Memory expandable to 32K.

NOTE:

1. Option 23 for the System 2200S CPU includes the General I/O Statements, the Advanced Programming Statements, and the Matrix Statements.
2. Option 22 includes the Advanced Programming Statements and the Matrix Statements.
3. Option 21 includes the Matrix Statements only.

ORDERING SPECIFICATIONS

A set of hardwired BASIC language instructions compatible with Wang's System 2200S Central Processing Unit. Included in the instruction set must be instructions providing the capability to maintain files in one (or both) of two modes—Automatic File Cataloging Mode and Absolute Sector Addressing Mode—on Wang's complete line of disks.

Some instructions must perform such matrix operations as convert, copy, merge, move, search, and sort using arrays accessible by the HEXPRINT statement in the standard CPU.

Other instructions must perform matrix input/output and arithmetic operations including addition, subtraction, multiplication, inversion and transposition. Array default dimensions must be 10 x 10 with an alphanumeric element default size of 16 bytes. Redimensioning of arrays must be automatic for arithmetic matrix operations.

A generalized input/output instruction must be able to perform data input/output/control operations with a programmable signal sequence. Another instruction must be able to test the device-ready condition of a specified output device or test the data-ready condition of a specified input device and initiate a branch to a specified program line if a ready condition is sensed. An instruction using a table-lookup procedure must provide a high-speed character code translation capability. Instructions for data packing and unpacking operations, by fields or delimiters, between a specified alphanumeric array buffer and specified arguments in an argument list must treat the buffer as a contiguous set of bytes without regard to array element boundaries.

A set of bit/byte manipulation instructions must include a generalized logical operation instruction capable of performing any one of 16 logical operations (including AND, OR, XOR, EQUIVALENCE, etc.) on two specified arguments. A set of input/output instructions must extend the tape cassette operations included in the standard CPU and also support additional peripheral devices such as the Model 2234A and 2244A card readers, the Model 2262 Digitizer, the Model 2203 Punched Tape Reader, the Model 2207A teletype controller, and Wang's complete line of plotters.

Wang Laboratories reserves the right to change specifications without prior notice.