Wang Systems

July 1979

Newsletter 14

GBS/MVP/VS Training Seminars

As we mentioned in System Newsletter #13, GBS/VS and GBS/MVP seminars are being presented in various districts beginning in mid-July. These seminars are presented in two days and are geared heavily toward the practical application of the VS/MVP business systems. In addition, there is a general systems overview, touching on machine capabilities and available utilities. Consultants wishing to attend are urged to make arrangements through their local Wang office.

GBS/MVP/VS TRAINING SCHEDULE

The following is the GBS/MVP/VS Training Schedule:

GBS/MVP

July	10 — 11	New York City, NY
July	18 — 19	Seattle, WA
August	2 — 3	Chicago, IL
August	9 — 10	Newport News, VA
August	23 — 24	Houston, TX
August	29 — 30	Philadelphia, PA

GBS/VS

August	7 — 8	Newport News, VA
August	9 — 10	Raleigh, NC
August	21 — 22	New York City, NY

GBS/MVP

In November of 1978, Wang Laboratories, Inc., first released the GBS/MVP System. Since then, over 30 GBS/MVP licenses have been signed by software companies and end-users, accounting for over $1.5 million in MVP sales.

GBS/MVP is general accounting core software developed by Wang and designed to be sold to software consultants; they, in turn, customize it to fit the needs of the end-user. The four GBS/MVP modules include:

Accounts Receivable Sales Analysis, Invoicing	MOD I
Order Entry	MOD II
Accounts Payable, General Ledger	MOD III
Payroll	MOD IV

Each module is available to the software consultant through an unlimited, multi-use license at a price of $500/module. One set of manuals is provided with the software; additional manuals are available at $25.00 each. All modules are now available for installation.

Release 2 of GBS/MVP is scheduled to be available in August, 1979. This version will include the same general applications; however, it will no longer be sold as modules, but rather as a series of application "Systems":

Accounts Receivable/Order Entry
Accounts Payable/General Ledger
Payroll
Bill Of Materials
Inventory Management

Once released, Release 2 will become the standard version of GBS/MVP.

GBS/MVP Release 2 is also compatible with VP Systems. This means VP users can take advantage ofthe improved performance of GBS without a great deal of rewriting.

Included with the standard GBS/MVP software is a Convert Program, which converts the single-user version files to multi-user files. This has been done so that those customers who are upgrading from single-station VP's and T's can easily convert their current files.

Consultants who have already purchased GBS/MVP Release 1 must request the new version from software distribution, as there will be no automatic release of the new software. There will be a standard media and handling charge assessed to software companies and users who have already licensed the software. Nonlincensed consultants will be charged the standard $500/system licensing fee.

Release 2 enhancements include:

1. VP-compatibility.

2. Extended memory capabilities allowing for up to 256K.

3. Increased number of terminals from 3 in 64K to 8 in 192K.

4. Totally revised programs:

   a. Menus
   b. Maintenance program
   c. Data entry

   Result: The addition of fields to records is a simple two-step procedure. Documentation explaining the new programs will be provided.

5. Initialization procedures are easier to perform, particularly when additional systems are added.

6. Multiple independent companies on the same system (up to 200). One advantage of this is that it makes the system more service bureau sellable.

7. Use of Function Key 4 to end transaction processing instead of typing "END."

8. Credit limit displayed in Order Entry screen; enhanced credit limit checking.

9. Inventory records modified for Inventory Management System and Bill of Materials inclusion.

10. Up to 380 possible Ship-To addresses for each customer. Can also access Ship-To address by Ship-To number without scanning Ship-To file.

11. System fine-tuned for improved performance.

How to Obtain GBS/MVP

A qualified consultant may apply for a license by filling out a Program License Agreement available at all branch or district offices. All systems are available at $500/system, as previously stated. The vendor must specify which application(s) is requested. All licenses and requests for additional manuals should be sent to Software Distribution in Lowell.

For increased software sophistication, there is an *INVENTORY MANAGEMENT* package which can easily be installed along with the aforementioned systems. This package is now available and can be purchased through Software Distribution in Lowell.

GBS/VS Update

The GBS/VS Application Software has been licensed to over thirty vendors and users nationally, and more than ten licenses have been issued internationally. More and more vendors are finding out that GBS/VS is an effective software solution on the VS.

For newcomers in the field, GBS/VS is Wang's name for MCBA's (Mini-Computer Business Application, Inc.) general accounting software. GBS/VS includes Order Entry/Inventory Control, Accounts Receivable, Accounts Payable, Payroll, and General Ledger. Prices to qualified vendors are as follows:

	Single Use	Multiple Use (20 installations)
One Application	$1,500	$ 3,000
Two Applications	$2,850	$ 5,700
Three Applications	$4,050	$ 8,100
Four Applications	$5,100	$10,200
Five Applications	$6,000	$12,000

If a vendor wishes to convert a single-use license to multiple-use, MCBA will apply 75% of the original single-use price toward the multiple-use license.

There is an additional charge for the media on which the software is delivered. The charges are as follows:

1. 5-Meg Disk-Pack: $100/pack.

2. 75-Meg Disk-Pack: $600/pack.

3. Tapes (two per system + one for object code): $10/tape, minimum $50.

If media is supplied by the licensee as per the above outlined requirements, a handling charge of $50 will be assesed.

Each license agreement indicates the type of media required and should be filled in by the licensee.

Ongoing support for GBS/VS software comes from various sources, depending on the type of support

needed. It is important to understand that GBS/VS, while promoted by Wang, *is not* Wang software; hence, technical support to licensed vendors is provided directly from MCBA, *not* Wang. Wang does, however, provide marketing support through the Industry Marketing Group. Industry Marketing personnel will assist with presentations and demonstrations where necessary and does provide GBS/VS brochures and marketing information to the field. Technical support to sales representatives and district analysts is provided by the Application Development Support Group in Lowell. Technical support is provided to nonlicensed vendors by district analysts.

A few projects are now in progress that should be of interest to everyone:

1. GBS/VS Vendor Seminars for licensed and nonlicensed vendors.

   These seminars are currently being organized by George Reynolds in System Support. There will be two per area. Vendors who would like to attend should call their local Wang analyst for more information.

2. Logging of all GBS/VS users.

   A survey is currently being conducted of all GBS/VS vendors. When finished, this survey will provide industry and application information concerning the various GBS/VS customers. From this, Wang will be able to provide more information about GBS/VS for references, etc.

3. GBS/VS Demo Guide.

   Wang has just released a step-by-step Demo Guide for GBS-VS. This guide makes it easier to give demos and reduces the need for an analyst to perform demos.

4. For international users of GBS/VS, we have released a modified version of GBS/VS with European date formats; text and screen formats has been consolidated for easy translation.

   There will be a second release later this summer, which will include TVA and VAT routines for those countries requiring these calculations.

Shows and Exhibits

July

5- 8	1979 Oregon State Home Builders Convention	Salem, OR
17-20	Orange County Business Show	Anaheim, CA
18-20	1979 ASPA Conference (National)	Milwaukee, WI

August

28-30	TYPEX '79	New York, NY
29-31	Western Region Conference	Portland, OR

September

6- 8	Graphic Arts '79/ The Charlotte Show	Charlotte, NC
19-21	State Bar of Michigan Annual Meeting	Detroit, MI
25-26	Office Expo '79	Buffalo, NY
25-27	Trade Fair III	Albuquerque, NM
25-27	Word Processing and Business Trade Show	San Jose, CA
26-28	Missouri Bar Legal Expo	Kansas City, MO

October

7-10	National Radio Broadcasters Conference & Expo	Washington, DC
10-12	Financial Expo '79	Baltimore, MD
15-18	Info '78 (National)	New York, NY
16-18	IWP Fall Symposium	Houston, TX
16-18	Milwaukee Business Show	Milwaukee, WI
17-18	APIC's National Manufacturing Conference & Expo	St. Louis, MO
17-18	Office Equipment and Systems Expo	King of Prussia, PA
23-25	Military Electronic Expo '79 (Nat'l)	Anaheim, CA
24-25	Kansas Business Expo	Wichita, KS

November

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

13-15	Baltimore Industrial Show	Baltimore, MD
19-20	Word Processing Equipment Exposition	Washington, DC
28-30	Business and Personal Computer Sales Expo	Philadelphia, PA

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January, 1980

9-11	AFCEA Western Conference and Exposition	Anaheim, CA
18-21	National Home Builders Association	Las Vegas, NV

March, 1980

3- 5	NCC Office Automation Conference	Atlanta, GA
17-20	Interface '80 (National)	Miami Beach, FL
19-20	Federal Office Systems Expo	Washington, DC

April, 1980

12-19	Print '80	Chicago, IL
28-30	Federal DP Expo	Washington, DC

May, 1980

14-15	Industry & Business Expo '80	St. Louis, MO
19-22	National Computer Conference	Anaheim, CA

Recent Publications

The following items have been released from Lowell between June 1, 1979 and June 30, 1979:

DATA SHEETS

OIS/125 Data Sheet (700-5524)

OIS/145 Data Sheet (700-5523)

VS Processors Data Sheet (800-2105-01)

VS/WP Integrated Information System Data Sheet (800-2103-01)

VS Data Communications Data Sheet (800-2107-01)

VS DBMS Data Sheet (800-2106-01)

VS Mailway Data Sheet (800-2108-01)

OIS Forms Management Data Sheet (700-5285)

OIS BASIC Data Sheet (700-5528)

OIS 6550-1 WISE Data Sheet (700-5532)

Word Processor 2780/3780 Data Sheet (700-5531)

WP Teletype & 2741 Asynchronous Communications Data Sheet (700-5529)

OIS 3270 Data Sheet (700-5530)

VS 2246C Serial Workstation Data Sheet (800-2104-01)

Word Processor 5536-2 Work Station Data Sheet (700-5292)

OIS 5581WD Twin-Head Daisy Printer Data Sheet (700-5521)

2236DE Interactive Terminal Data Sheet (700-5544)

Word Processor 5536-1 Work Station Data Sheet (700-5291)

MANUALS

OIS/125 Configuration Guide (700-5296)

OIS/145 Configuration Guide (700-5264)

VS COBOL Conversion Guide (800-1204CC-01)

VS Procedure Language Pocket Guide (800-6201PP-01)

GBS/VS Demo Guide (800-1405DG-01)

PRODUCT BULLETINS

VS-100 Product Bulletin #185

2273 Band Printer Product Bulletin #184

REPRINTS

VS Languages Data Sheet (800-2201-04)

VS System Software Data Sheet (800-2101-03)

VS Peripherals Data Sheet (800-2102-04)

Word Processor 30 Configuration Guide (700-3914E)

Word Processor 5581 Daisy Wheel Printer Data Sheet (700-4179E)

WP OCR-1 Optical Character Recognition Option Data Sheet (700-4179E)

GBS/VS Accounts Payable Application (800-1402AP-02)

GBS/VS Order Entry/Inventory Control Application (800-1401OE-03)

2270 Diskette Drive Data Sheet (700-3677E)

Word Processor 5531-2 Line Printer User Manual (700-4368B)

GBS/VS General Ledger Application (800-1404GL-02)

Word Processor Photocomposition System Data Sheet (700-5018B)

Word Processor 5541WC Wide Carriage Printer User Manual (700-4789A)

Client Accounting System User Manual (700-4406B)

BASIC Language Pocket Guide (700-3030F)

2232B Digital Flatbed Plotter Data Sheet (700-3194H)

2230MXA-1/MXB-1 Data Sheet (700-3740D)

VS System Management Guide (800-1104SM-02)

GBS/VS Accounts Receivable Application (800-1400AR-03)

GBS/VS Payroll Application (800-1403PR-02)

2261W Line Printer Data Sheet (700-4144B)

Miscellaneous

OIS 6580 Disk Drive Operating Procedures Summary Card (700-5272)

OIS 6560 Disk Drive Operating Procedures Summary Card (700-5270)

OIS 6560D Disk Drive Operating Procedures Summary Card (700-5271)

WP Twin Sheet Feeder Installation Procedures Summary Card (700-5268)

Word Processor CDC Disk Operating Procedures Summary Card (700-5269)

Word Processor Diablo Disk Operating Procedures Summary Card (700-5267)

Word Processor Dual Diskette Drive Operating Procedures Summary Card (700-5266)

2200 Publications Guide

The following is a consolidated list of current 2200 publications.

2200 Promotional Literature

Sales Brochures and Flyers (Product)

1.	PCS-II Brochure	700-3959A
2.	2200VP Flyer	700-4510
3.	MVP Brochure	700-4587
4.	2200 System Brochure	700-3736A
5.	Wang Computer Systems — Taking Care of Business	700-4935
6.	Distributed Data Processing	700-3909A
7.	Computer Networks	700-3920A
8.	Hungry to Know More	700-4500
9.	Wang 2200 Beats Timesharing	700-4539

Sales Brochures and Flyers (Applications)

1.	New Resources for Small Business	700-4918
2.	Creative Control of Your Research Data	700-3921A
3.	Wang Interactive General Business Systems	700-4915

Case Histories

1.	University of Texas — Scientific — Computerworld Reprint	700-4926
2.	Thrift Trading, Inc. — Accounting — Computerworld Reprint	700-4923
3.	Carolina Industrial Systems Supply — Distribution — Masthead	700-5341

4. Lely Corp. — Manufacturing — Masthead 700-5342
5. E. F. Hutton, Inc. — Telecommunications — Datamation Reprint 700-5320
6. Dow & Ingalls, Inc. — Manufacturing — Masthead 700-5343
7. Cranston, R.I. Police Dept. — Municipal — Masthead 700-5337
8. Conklin-Cahill, Inc. — Financial — Masthead 700-4948
9. Massaro Bros. Fuel Oil — Distribution — Masthead 700-5336
10. Maimin Insurance — Insurance — Masthead 700-5327
11. Citizens Savings — Financial — Masthead 700-5325
12. Ohio Teamsters Credit Union — Membership — Masthead 700-5324
13. Data Basics, Inc. — Systems House — Masthead 700-5328
14. Pocketbook "Why my business depends on a Wang Computer" 700-5316

2200 TECHNICAL LITERATURE
Data Sheets

General Processing Units

1. 2200MVP 700-4656B
2. 2200VP 700-4051A
3. 2200T 700-3723
4. WCS/15 700-4296A
5. PCS-II 700-4153D
6. PCS-IIA 700-5014A

Interactive Terminals

1. 2236D Interactive Terminal and MXD Controller 700-4807A
2. 2226 Interactive Terminal 700-3528B
3. 2210 Interactive Terminal and Minidiskettes 700-4262
4. 2200 Work Station 700-3835A

Disk Memory

1. 2270 Diskette 700-3677D
2. 2270A 3740 Compatible Diskette 700-3152A
3. 2260C 10-Meg Fixed/Removable Disk 700-4692
4. 2260BC 10-Meg Fixed/Removable Disk 700-4819A
5. 2280 80-Meg Fixed/Removable Disk 700-4843A
6. MXA/B Multiplex 700-3740B

Printers

1. 2221W Matrix (132 Col./200 cps, 12p) 700-3620A
2. 2231W-1 Matrix (112 Col./120 cps, 10p) 700-3821D
   W-2 Matrix (132 Col./120 cps, 12p)
3. 2231W-6 Hi-Density (132 Col./70 cps) Matrix 700-4677A
4. 2251 Line Printer (40 Col./110 cps) 700-4028C
5. 2261W Line Printer (220 lpm, 10p or 12p) 700-3297A
6. 2263-1, 2, 3 Line Printer 700-4149A
7. 2273-1, 2 Band Printer 700-5217
8. 2281P Plotting Daisy Wheel 700-4473B
9. IP41L Image Printer 700-5058B
10. 2211M Printer Multiplexor 700-5224

Special Position Peripherals

1. 2209A 1600 bpi 9-track 700-4261
2. 2272 Triple Pen Drum Plotter 700-3826E
3. 2232B Digital Flatbed Plotter 31" x 48" 700-3194G
4. 2282 Graphic CRT 700-4378B
5. 2231W-3 2282 Accessory Printer 700-4375B
6. 2244B Hopper Feed Card Reader 700-3524B

Interface Controllers — 2200T/VP/MVP

1. 2207A RS-232-C TTY Controller 700-3155C
2. 2227B Buffered Asynchronous Opt. 62 Communication Controller 700-3830D
3. 2228B Buffered Communications Opt. 62B Controller 700-4143B
4. 2250Interface Controller 8-bit Opt. 67 Parallel 700-3253D
5. 2252A Input Interface BCD 10-digit Parallel 700-3532C
6. 2254 IEEE-488 Interface 700-4008B

Communications Emulation

1. Teletype Software Utility 700-4704A
2. 2741 Software Utility 700-4706A
3. 3275 BSC Software Utility 700-4821
4. Burroughs Emulation Software Utility 700-4705A
5. Hasp Multi-leaving Software Utility 700-4707A
6. 3741 Software Utility 700-4708A
7. 2780/3780 Software Utility 700-4709A

2200 Manuals

Technical Manuals

1. 2200 BASIC Disk Memory Reference Manual 700-3159
2. 2200 BASIC-2 Disk Reference Manual 700-4081

3.	2200 BASIC Language Reference Manual	700-3038
4.	2200 Programming in BASIC	700-3231G
5.	2200VP BASIC-2 Language Reference Manual	700-4080C
6.	2200 PCS-II/IIA Introductory Manual	700-4255C
7.	2200T Introductory Manual	700-4613
8.	2200VP Introductory Manual	700-4082A
9.	2200MVP Introductory Manual	700-4693C

Utility, Software Manuals

1.	2200 TC Support Utilities User Manual	700-4086
2.	2200 Text Editing Utilities User Manual	700-4043C
3.	2200 PCS II Text Editing Utilities User Manual	700-4452A
4.	2200 Integrated Support System 4 User Manual	700-5010
5.	2200 EASYFORM III User Manual	700-4775
6.	2200 GBS for Wholesale Distribution Operator Manual	700-4609
7.	2200 GBS for Wholesale Distribution System Manual	700-4645
8.	2200 GBS Sample Reports Manual	700-4196A
9.	2200 GBS MOD I Disk Operator's Manual	700-4100A
10.	2200 GBS MOD I Disk System Manual	700-4102B
11.	2200 GBS MOD I Diskette Operator's Manual	700-4071B
12.	2200 GBS MOD I Diskette System Manual	700-4074A
13.	2200 GBS MOD II Disk System Manual	700-4277A
14.	2200 GBS MOD II Diskette System Manual	700-4174A
15.	2200 GBS MOD III Disk Operator's Manual	700-4363A
16.	2200 GBS MOD III Disk System Manual	700-4283A
17.	2200 GBS MOD III Diskette Operator's Manual	700-4392
18.	2200 GBS MOD III Diskette System Manual	700-4370
19.	2200 GBS MOD IV Disk Operator's Manual	700-4729
20.	2200 GBS MOD IV Diskette Operator's Manual	700-5011
21.	2200 GBS MOD IV Master File Input Forms	700-4745
22.	2200 GBS MOD IV System Manual	700-4710A
23.	2200 GBS MOD IV System Manual Update	700-4710.01
24.	2200 GBS MODs I and II Disk Operator's Manual	700-4204
25.	2200 GBS MODs I and II Diskette Operator's Manual	700-4163A
26.	2200 GBS MODs I — IV Disk Technical Guide	700-4101B
27.	2200 GBS MODs I — IV Diskette Technical Guide	700-4072C
28.	2200 GBS/MVP MOD III System Manual	700-5246
29.	2200 GBS/MVP MODs I and II System Manual	700-5024A
30.	2200 GBS/MVP MODs I and II User Manual	700-5023
31.	2200 GBS/MVP MODs I and II Technical Guide	700-5022
32.	2200 GBS/MVP MODs I-IV Technical Guide	700-5022A
33.	2200 Inventory Management System	700-5124

Miscellaneous Publications

Programming Aids

1.	2200 BASIC Coding Form Pad	700-3180A
2.	2200 CRT Form Pad	700-3187A
3.	2200 Flowchart Workstation Pad	700-3186A
4.	2200 Screen Layout Forms	700-3576

Wang Software Packages

The following is a list of Wang supported, unsupported and obsolete software packages with their corresponding package numbers. Note that hard disk packages may be distributed on diskette.

Format:
Package Number 195-XXXX-Y Y = 1 Cassette Version
3 Shugart Diskette
4 Hard Disk
8 Minidiskette

WANG SUPPORTED PACKAGES

PART #	SYSTEM NAME
195-1006-1 (3)(8)	ANALYSIS OF VARIANCE (ANOVA) 2200S
195-1007-1	ANALYSIS OF VARIANCE (ANOVA) 2200A
195-1031-1 (3)(8)	ANALYSIS OF COVARIANCE
195-1033-1-(3)(8)	BIOASSAY AND PROBIT

195-0016-1 (3)	CARD READER UTILITIES (AUTO ENCLOSURE)
195-2013-1	UTIL. C.A.I.
195-3016-3	DEMO DISKETTES FOR WCS
195-2037-3 (8)	EASYFORM
195-2058-3	EASYFORM III (REL. 2)
195-3034-8	EASYFORM DEMO
195-2064-3	FORMAT UTILITIES FOR THE 2260C (REL. 1.1)
195-0001-1	GENERAL UTILITIES (II AND III COMBINED)
195-0002-1	GENERAL UTILITIES II
195-0003-1	GENERAL UTILITIES III
195-0005-1	GENERAL PROGRAM LIBRARY (MATH GLBR 22)
195-0006-1	GENERAL PROGRAM LIB. (STAT/ ENG GLBR 22A)
195-0007-1	GEN. PROG. LIB. (FIN/UTIL/GAMES GLBR22B)
195-0008-3 (8)	GEN. PROG. LIB. (GLBR 22/22A/ 22B)
195-2025-3	GBS MOD I — DISKETTE SYSTEM
195-2028-3	GBS MOD I — HARD DISK SYSTEM
195-2029-3	GBS MOD II — DISKETTE SYSTEM
195-2030-3	GBS MOD II — HARD DISK SYSTEM
195-2031-3	GBS MOD III — DISKETTE SYSTEM
195-2032-3	GBS MOD III — HARD DISK SYSTEM
195-2033-3	GBS — 2231W-2 CHANGES — HARD DISK
195-2041-3	GBS STARTER KIT
195-2042-3	GBS 2231W-2 FORM CHANGES — DISKETTE
195-2055-3	GBS FOR WHOLESALE DISTRIBUTION
195-2061-3 (8)	GRAPHIC UTILITY SYSTEM (GUS) REL 4.1 (AUTOMATIC ENCLOSURE)
195-2062-3	GBS MOD IV — HARD DISK
195-2063-3	GBS MOD IV — DISKETTE VERSION
195-2066-3	GBS/MVP MODS I & II HARD DISK
195-2076-3	GBS/MVP MOD III
195-3018-3	GENERAL ACCOUNTING DEMO 2
195-3032-3	GBS DEMO
195-3041-3	GBS/MVP DEMO
195-0051-3	HFAM (REL. 3)
195-0004-3	I.S.S. GENERAL UTILITIES (REL. 2.1
195-0037-3 (8)	I.S.S. RELEASE 3.2
195-0052-3	I.S.S. RELEASE 4.1
195-2071-3	INVENTORY MANAGEMENT SYSTEM
195-0014-1	KFAM (REL. 2)
195-0015-3	KFAM (REL. 3)
195-0025-3	KFAM (REL. 4)
195-0036-3 (8)	KFAM (REL. 5)
195-0036-3 (8)	(KFAM) Release 5
195-1026-1 (3)	LIQUID SCINTILLATION (LSDS)
195-1032-1 (3)(8)	MULTIPLE COMPARISONS
195-2065-3	MCBA DEMO
195-2065-3	MCBA
195-0017-1 (3)	9-TRACK UTILITIES (AUTOMATIC ENCLOSURE)
195-0031-3	2209A 9-TRACK UTILITIES (AUTO ENCLOSURE)
195-1011-1 (3)(8)	NONPARAMETRIC (2200S)
195-1012-1	NONPARAMETRIC (2200A)
195-0021-1 (3)(8)	PLOTTER UTILITIES (AUTOMATIC ENCLOSURE)
195-2070-3	PROSPECT MANAGEMENT SYSTEM (PMS) (NEW ENGLAND DISTRICT *ONLY*)
195-3020-3	GENERAL PLOTTER DEMO
195-3027-1	Q.C. DEMO
195-3042-3	RETAIL BUSINESS SYSTEM DEMO
195-0019-3	REPORT PROGRAM LANGUAGE (RPL)
195-1010-1 (3)(8)	REGRESSION ANALYSIS
195-1028-1 (3)(8)	RIADS-22 (REL. 1.1)
195-1008-1	SEQUENTIAL ANALYSIS (2200S)
195-1009-1	SEQUENTIAL ANALYSIS (2200B PLOTTING)
195-1016-3 (8)	SEQUENTIAL ANALYSIS — DISKETTE
195-2067-3	RETURN ON INVESTMENT (SALESMENS' AIDS)
195-2069-3	SALES REPORTING SYSTEM
195-3015-1 (3)	STATISTICAL DEMO (2200B and 2200B)
195-0018-3 (8)	TEXT EDITING UTILITIES (REL. 3.1)
195-0033-3 (8)	2200VP BASIC SOFTWARE RELEASE 1.8 (AUTOMATIC ENCLOSURE)
195-0049-3	2200MVP BASIC 2 (REL 1.6) (AUTOMATIC ENCLOSURE)
195-0022-3	2780 EMULATION UTILITIES (REL. 2.8) (AUTOMATIC ENCLOSURE-w/ 2228 CONTROLLER
195-0026-3 (8)	T/C SUPPORT UTILITIES (REL. 2) (AUTOMATIC ENCLOSURE)
195-0041-3	3740 DISKETTE COMPATIBILITY SOFTWARE (REL. 2) AUTOMATIC ENCLOSURE w/2270A
195-0047-3 (8)	BURROUGHS EMULATOR
195-0048-3	3275 BSC EMULATION SOFTWARE UTILITY (REL. 1.4)
195-2056-3 (8)	ASYNCH-PACKAGE I (AUTO ENCL w/27B BOARD)
195-2057-3 (8)	BISYNCHRONOUS-PACKAGE I (REL. 4.4) (AUTOMATIC ENCLOSURE w/2228B BOARD)

195-3033-3	TELECOMMUNICATIONS DEMO
195-2068-3	VS USER AIDS (VS) (REV. 1)
195-2075-3	VS BOILERPLATE PROPOSAL ARCHIVE
195-2079-3	VS SYSTEM GENERATION PACK (REL. 3.00.10)

WANG UNSUPPORTED PACKAGES

PART #	SYSTEM NAME
195-3040-3	EASY ACCOUNTING DEMO (INTER-OFFICE USE ONLY)
195-1005-1 (3)	HUNTINGTON I EDUCATION
195-0050-3	I.S.S. RELEASE 3.7
195-1024-3 (4)(8)	MANAGEMENT PLANNING SYSTEM (MPS)
195-3019-3 (8)	MANAGEMENT PLANNING SYSTEM (MPS) DEMO
195-2060-4	SARS ATTENDANCE
195-2060-4	SARS GRADES
195-2026-3 (4)	MORTGAGE MANAGEMENT
195-3021-3	MORTGAGE MANAGEMENT SYSTEM DEMO
195-2034-3 (8)	TIME/CHECK SYSTEM
195-2035-3 (8)	TIME/CHECK LETTER WRITING/ EDITING SYSTEM
195-2036-3 (8)	TIME/CHECK LETTER WRITING/ CLIENT DATA BASE
195-2074-3	TIME/CHECK — HARD DISK VERSION
195-3031-3 (8)	TIME/CHECK DEMO

WANG OBSOLETED PACKAGES

PART #	SYSTEM NAME
195-2011-1	AUTO BILLING I (AUBL22)
195-3017-3	DIGITIZER DEMO
195-2016-4	SPARK AUTO PARTS WHOLESALE PACKAGE
195-2027-4	SPARK — ACCOUNTS RECEIVABLE
195-2053-3 (8)	SMALL ACCOUNTING SYSTEM
195-0012-1 (3)	DIGITIZER UTILITIES (AUTO ENCLOSURE)
195-3030-3	KRUP — 2 DEMO
195-3025-3 (8)	LIFE INSURANCE ILLUSTRATION SYSTEM (LIIS) DEMO
195-0009-1	2202 PLOTTER UTILITIES
195-0010-1	2212 PLOTTER UTILITIES
195-0011-1	2232 PLOTTER UTILITIES
195-0013-1	SORT ROM DISK SORT
195-3023-3	SPARK DEMO
195-3004-1	VISUAL PRESENTATION OF 2209, 2244A, 2262 and CAI DEMO
195-3024-1 (3)	MEDICAL DEMO
195-1027-3 (8)	PATIENT BILLING SYSTEM
195-3028-3 (8)	PATIENT BILLING SYSTEM DEMO

NO LONGER AVAILABLE FROM WANG

PART #	SYSTEM NAME
195-2014-3 (4)(8)	CASH-ACCOUNTANTS CLIENT WRITE-UP
195-2015-1 (3)	PRE-CASH ACCOUNTANT CLIENT WRITE-UP
195-2017-3 (8)	LIFE INSURANCE ILLUSTRATION SYSTEM
195-2019-3 (4)(8)	CASH-COMPARATIVE ANALYSIS (PHASE IV.2)
195-2020-3 (4)(8)	CASH-FLOW OF FUNDS (PHASE IV.1) or "CHANGE IN FINANCIAL POSITION"
195-2021-3 (4)(8)	CASH-FLOW ANALYSIS (PHASE IV.3)
195-2022-3 (4)(8)	CASH — AMORTIZATION (PHASE IV.4)
195-2023-3 (4)(8)	CASH — CONSOLIDATED BALANCE SHEET
195-2024-3	CASH — ACCUMULATIVE GENERAL LEDGER
195-2072-3	CASH — DEPRECIATION (REL. 1)
195-2073-3 (4)(8)	CASH — MISCELLANEOUS PROGRAMS
195-3022-3 (8)	CASH DEMO
195-2045-4	MANUFACTURING MANAGEMENT SYSTEM A
195-2046-4	MANUFACTURING MANAGEMENT SYSTEM B
195-2047-4	MANUFACTURING MANAGEMENT SYSTEM C
195-2048-4	MANUFACTURING MANAGEMENT SYSTEM D
195-2049-4	MANUFACTURING MANAGEMENT SYSTEM E
195-3036-3 (4)	MANUFACTURING MANAGEMENT DEMO

QUESTIONS, CORRECTIONS AND AMPLIFICATIONS

VS SYSTEM POWER-UP AND POWER-DOWN PROCEDURE

The VS system must be powered up and down using the correct procedure. Failure to do so may result in the destruction of disk VTOCs; a VTOC is resident on cylinders 0 and 1 of each Disk Pack. If Read/Write heads are loaded over cylinder 0 (such is the case during system power-up and down), power-up/down noise in the IOP cable terminates at the heads, causing an undesirable magnetic field and destroying disk VTOC integrity. The problem may be compounded on 2260V drives, since the VTOC on both the fixed and the removable platters may be destroyed simultaneously.

Two symptoms of a damaged VTOC are I/O errors upon Initial Program Load (IPL) and a continually-blank screen after IPL. Although many of the original files may remain intact, there is no Volume Table of Contents; therefore, there will be no way of identifying which extents contain files and which are free. The only alternative is to reinitialize the pack. This very alternative stresses the importance of having duplicate (backup) disk files in storage.

VTOC damage may be prevented by adhering to the following procedures, which detail the correct methods for powering up and powering down the VS System:

POWER-UP PROCEDURE

1. Power up all 2246 Workstations.
2. Power up the VS CPU.
3. Power up all tape drives.
4. Power up all disk drives.
5. Load heads on all disk drives.
6. IPL from Workstation 0.

POWER-DOWN PROCEDURE

1. Close all workstation files and logoff all workstations.
2. First press the Control Mode button on the CPU, and then the Load button.
3. Unload Heads from all Disk Drives.
4. Unload all Tape Drives.
5. Power down all Disk Drives.
6. Power down the VS CPU.
7. Power down all Workstations.

ISS

The following chart has been designed to provide you with a quick cross-reference to the respective features of each of the ISS releases.

CPU TYPE	2200T		2200VP		2200MVP
ISS Release	ISS-2 (not disk multiplexed)	ISS-3.2 (disk multiplexed)	ISS-3.2	ISS-5	ISS-5
Software:					
Start-up	X	X	X	X	X
ISS Utilities	X	X	X	X	X
Screen/Disk Subroutines	X	X	X	X	X
Disk Sort Utility	X				
SORT-3	X				
SORT-4		X	X	X	X
KFAM-3	X				
KFAM-4	X				
KFAM-5 (Multiplexed)		X	X		
KFAM-7 (Multiplexed)				X	X
KFAM-7, Single Bank				X	X
KFAM-7, Multiple Bank				X	X
Available Media:					
Model 2240 Flex Disk	X	X	X		
Model 2270 Diskette	X	X	X	X	X
Mini-diskette		X	X		
Disk Addresses:					
Regular	X	X	X	X	X
Model 2280				X	X

New Products

VP BASIC-2 RELEASE 2.1
(Diskette Platter 701-2118K)
(Mini-diskette Platter 701-8127A)

Release 2.1 of 2200VP BASIC-2 replaces all previous VP BASIC-2 releases. This release provides all VP systems with several new features and corrects all known system anomalies. Listed below are the system changes since Release 2. The following file on the system platter differs from Release 1.8:

"@@" — VP OS & BASIC-2 interpreter

A. SYSTEM ENHANCEMENTS

1. PRINT BOX FUNCTION

   A new function, box (X, Y), has been added to the PRINT statement for drawing or erasing lines and boxes on terminals having box graphics capability (such as the 2236DE). The BOX function has also been added to 2200MVP BASIC-2 Release 1.8.

B. CORRECTED ANOMALIES

1. Immediate Mode load no longer allows the BEG parameter in its syntax since it has no function.

2. ON ERROR GOTO can now be used to trap D82 (file not found) errors occuring because of an attempt to overlay in a non-existent file.

3. Accessing a disk using a device type other than 3, B, or D now results in ERR P48.

MVP BASIC-2 RELEASE 1.8
(Platter 701-2294J)

Release 1.8 of 2200MVP BASIC-2 replaces all previous MVP BASIC-2 releases. This release provides all MVP systems with several new features and corrects all known system anomalies. Listed below are the system changes since Release 1.7. The following files on the system platter differ from Release 1.7:

"@@" —MVP OS & BASIC-2 interpreter.
"@GENPART"
—System configuration utility.
"@PSTAT"
—Partition status utility.

A. SYSTEM ENHANCEMENTS

1. NUMBER OF TERMINALS

   The number of terminals allowed on the MVP has been increased from 8 to 9. This allows a 22C32 triple controller (single port MXD) to be used in conjunction with two 4-port 2236MXDs.

2. PRINT BOX FUNCTION

   A new function, box (X, Y), has been added to the PRINT statement for drawing or erasing lines and boxes on terminals having box graphics capability (such as the 2236DE). The BOX function has also been added to 2200VP BASIC-2 Release 2.1.

3. AUTOMATIC PROGRAM BOOTSTRAPPING

   Before automatic program bootstrapping, the terminal (if attached to this partition) is initialized and the ready message displayed. Note that the colon on the next line does not appear. Previously, the screen remained blank while a program was automatically loaded.

4. RANDOM NUMBERS

   Random number generation has been improved to ensure less predictability for programs that automatically load in and generate random numbers.

5. @GENPART

   The system configuration utility has been updated to support 9 terminals.

6. @PSTAT

   Capability for releasing a terminal or partition has been added to the partition status utility.

B. CORRECTED ANOMALIES

1. Immediate Mode load no longer allows the BEG parameter in its syntax since it has no function.

2. ON ERROR GOTO can now be used to trap D82 (file not found) errors occuring because of an attempt to overlay in a non-existent file.

2236DE INTERACTIVE TERMINAL

Wang Laboratories, Inc., recently announced the availability of a new interactive terminal. Designed to replace the 2236D, the Model 2236DE offers the following new features:

- Advanced screen formatting through the use of the character display attributes — dual intensity, blinking characters, reverse video, and underscore.
- Graphics Character Set.
- Line and Box Graphics capabilities.
- Screen Dump feature.
- Repeating keys.
- Programmable Blinking Cursor.

Below, each of the new features is briefly discussed. For more detailed information, please see the attached Product Bulletin #186.

The character display attributes allow the programmer to highlight information on the screen in several modes. *Dual intensity* allows some characters to be displayed in high intensity, while others are displayed via normal intensity.

Blinking characters can be displayed to emphasize operator error or to signal situations which require immediate operator intervention. Underlines can be implemented more easily than previously through use of the *underscore* attribute. *Reverse Video* causes the character background to appear white while the character is displayed in black.

These display attributes can be selected character by character, line by line, or in any combination though program control. This gives programmers the flexibility to design screen displays in any manner they desire.

The 2236DE Terminal also supports an *alternate character* set for displaying graphic characters making an additional 64 graphics characters available. These extra characters can be used for displaying bar graphs for business or technical applications.

The standard character graphics set consits of characters representing all combinations of sixths of a character space.

Box Graphics are also provided to display continuous horizontal and vertical lines. This allows programmers to draw special forms or separate information by lines or boxes. A new BASIC-2 command, PRINT BOX (height, width), allows easy implementation.

The Screen Dump feature is an off-line operation controlled by the terminal user. A dump of the screen to a local printer (directly connected to the terminal) is initiated by depressing the edit key for approximately two seconds. The screen dump can be used even when a system error has occured. This means that users may easily record information from the screen to hard copy.

Repeat will be available for all character keys on the 2236DE. Users simply depress the key and hold it for the repeat function to initiate. This is particularly useful for moving the cursor when editing a line.

The cursor can be made to either blink or display constantly under program control. This proves useful for special screen displays, and aids in locating the cursor during data entry when the edit feature is not invoked (as when using KEYIN).

Both the programmer and the user benefit with the Model 2236DE terminal. The programmer can use these new features to develop a better information exchange between the user and the machine. The user benefits through receiving a system that is more responsive and easier to use.

Programs developed for the 2236D require no modification to operate on the 2236DE. Conversely, programs developed for the new 2236DE Terminal will work properly on the 2236D except that the previously mentioned features will be ignored. Graphics characters will, however, display non-meaningful characters when used on the 2236D.

UPGRADES

Upgrades of existing 2236D terminals to include the features of the 2236DE are *NOT* possible. The 2236DE terminal's design prohibits simple modification of the 2236D.

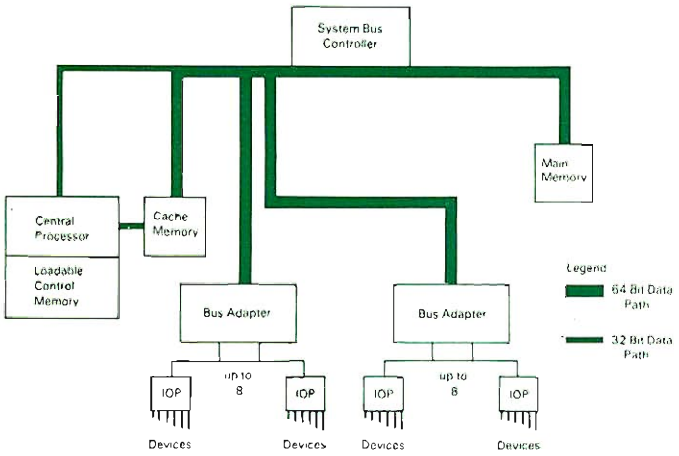
VS-100

The VS-100 is the first addition of Wang's general-purpose VS business systems. It is substantially faster and offers greater capacity for file storage than the VS; it will also support concurrent execution of multiple job streams, both batch and interactive. Application programs may be written in a variety of programming languages, all of which can share files.

The VS-100 is offered with main memory sizes starting at 256K bytes, and can grow to a maximum 2048K bytes in 256K byte increments. The system's main memory is augmented by a 32K cache memory to provide high-speed read access to the Central Processor. Data is transferred between system components by means of a 64-bit Systems Bus; input and output devices are interfaced via 16-bit paths.

The system supports VS serial devices currently offered. These devices interface with the system through microprogrammed IOP processors, which will be modified via program to utilize the larger memory space of the VS-100. This modularity and flexibility in design allows for the compatibility of devices and programs now associated with the VS. Microprocessor program changes will be supplied by Wang Laboratories when devices are transferred from a VS to a VS-100.

VS-100
CONCEPTUAL REPRESENTATION



Errors are automatically corrected by techniques utilizing integrity checks on main memory, system bus transfers, and resposition/retry system for disk operations.

The VS-100 has enhanced error detection and isolation features. An error transaction log, maintained on disk, records errors occuring on the high speed system bus which interconnects main memory, the central processor, and all input/output devices. The recording and later review of errors will enhance serviceability and provide for higher up time since marginal devices can be repaired before they fail completely.

The VS-100 is a transaction driven, commercial data processing system that will support many devices, including up to 128 workstations. These devices are selectable from all of those presently offered on the VS except the 2260V — 10MB disk drives and any parallel devices. For a detailed description of devices, refer to the VS Peripheral Data Sheet.

VS/WP INTEGRATED INFORMATION SYSTEM

The VS computer offers a combination of features unique among computers in its price range. The VS/WP Integrated Information System is designed for users requiring large volume computer and word processing services. VS data processing capabilities offer the user a versatile, interactive operating system; virtual memory; and multiple languages: COBOL, BASIC, RPG II, FORTRAN, PL/1, Assembler, and Procedure. VS word processing offers the same text handling capabilities as Wang's Word Processor and Office Information Systems series of word processors.

The basic configuration for the VS/WP includes a CRT workstation, a printer, and disk storage ranging in size from 10 million characters to 4.6 billion characters. The CRT workstation is capable of performing both word and data processing functions. Each separately ordered workstation includes a 80-character by 24-line CRT, which displays all actions as they are performed. Contrast and brightness controls allow adjustments of character intensity and general screen brightness. The keyboard is the same as a standard office typewriter with the addition of cursor movement keys and operational keys, which are programmable when performing data processing applications.

Word processing text may be stored offline on an operator-designated disk, along with data files and

programs; text also may be stored on diskette with a capacity of 300,000 characters (approximately 120 pages). A variety of printers are available for typewriter-quality output and draft applications.

As text processing requirements increase, the basic VS word processing software application may be expanded to include up to 128 workstations, plus printers and other peripherals in many different combinations. The recommended configuration is two workstation per daisy printer with a line printer for draft applications.

2246C SERIAL WORKSTATION

The 2246C Serial Workstation is unique among VS workstations in that it can be used for both data processing and word processing applications. This dual purpose workstation enables current VS installations to add the word processing capabilities available on Wang's Word Processor and Office Information Systems. New installations will find VS with word processing capable of supporting all their information processing needs.

Each 2246C Serial Workstation has 32K of Random Access Memory, and consists of a Cathode Ray Tube (CRT) screen and a typewriter-like keyboard. The screen contains 24 vertical lines, each of which holds up to 80 characters. Brightness and contrast controls allow the user to adjust the screen for maximum visibility in various lighting conditions. A blinking cursor resembling an underscore indicates the location of the next character to be entered. The entire ASCII character set can be displayed, including upper/lowercase characters, in high or low intensity with optional blinking. An audio alarm is included, which produces a short beep whenever an illegal keying operation is attempted in either mode. When the workstation is in the data processing mode, the display may be formatted into descrete fields which may be assigned specific attributes (such as numeric, alphanumeric, protected, or modifiable). In the word processing mode, the same screen takes on the attributes of Wang's WPS and OIS workstations, displaying the word processing format lines, prompts, messages, and text. Horizontal Scroll, and asynchronous and bisynchronous telecommunications are supported in this mode. Workstations are controlled by the 22V07 Serial Workstation/Printer IOP, and can be cabled up to 2,000 feet from the Central Processor. Up to 128 2246C Serial Workstations can be supported by the VS.

MODEM SHARING UNIT — MODEL 2247V-4

The Model 2247V-4 Modem Sharing Unit enables up to four Model 2246R Remote Workstations to share a single communications line.

The Modem Sharing Unit eliminates the need for one modem per workstation, where multiple 2246R Remote Workstations coexist within close proximity of each other. Instead, only one modem is required for up to four 2246R Remote Workstations.

The major restriction associated with the MSU is that the maximum cable distance from 2246R to 2247V-4 is 50 feet. The maximum cable length between 2247V-4 and the Modem is also 50 feet.

The Modem Sharing Unit offers your VS customers, who require multiple Remote Workstations at a single location, an inexpensive means of multi-dropping these units off of a single communications line.

The 2247V-4 comes equipped with a 25' modem cable, as do 2246R Remote Workstations. Each 25' cable, however, may be substituted for a 50' modem cable (order Part Number 120-2227-50). There is a charge for this substitution so please check current price sheets.

Delivery of the Modem Sharing Unit will commence July 1, 1979.

2209V-3 7-TRACK DRIVE

The 2209V-3 is a 7-track tape drive which operates with a density of 800 bpi, and uses standard 1/2-inch-wide magnetic tape. Vertical parity can be EVEN when writing Binary Coded Decimal (BCD), or ODD when writing binary format. NRZI is used as the method of recording. The 2209V-3 attaches to the VS by means of the 22V05-2 Magnetic Tape IOP.

The 2209V-3 allows the system programmers more flexiblity in selecting magnetic tape interfaces to other systems (computers, terminals, microfiche (COM) equipment, or various specialized subsystems).

The number of 7-track tape drives is limited by the 22V05-2 IOP, which controls up to four drives. They may be intermixed with 9-track drives on the same IOP.

MAILWAY

MAILWAY (Release VS-1) is Wang's electronic mail and message system. This optional VS-resident software automates the distribution of documents and computer files between senders and recipients within networks interconnecting:

- VS computers
- VS/WP computers (VS computers with the word processing option)
- Office Information Systems
- Word Processors, except the System 5

Within a network, the MAILWAY software must be available in at least one VS or VS/WP system, and all systems must have communications capabilities compatible with each other and MAILWAY.

MAILWAY-Supported Wang Systems

System	Requirements
VS, VS/WP, VS-100	A 22V06-1, -2, or -3 Communications IOP (a maximum of two lines can be used, but any line used for MAILWAY cannot concurrently support other communications software); the VS 2780/3780 Emulator, Release 2 (or later); the COBOL compiler; and VS Operating System Release 4.0 (or later).
OIS 125, 130	TC-B Communications Controller and WPS protocol.
OIS 140, 145	TC-B1 Communications Controller and WPS protocol.
WPS 20, 25, 30	TC-B2 Communications Controller and WPS protocol; SO-3 System Security.

VS DBMS

The Wang VS Data Base Management System (DBMS) is a comprehensive data management facility that simplifies the organizing, maintaining, and accessing of an installation's total base of stored data. VS DBMS provides complete facilities for imposing a consistent logical structure on the data base, centralizing control over the data base, and facilitating end-user access to needed information in the data base.

Significant Features of VS DBMS

Logical data independence	Data descriptions are independent of application programs. Descriptions can be easily modified with little or no impact on programs. Management has control over data definition and accessibility.
Physical data independence	Physical data storage descriptions are independent of logical descriptions. Physical storage characteristics can usually be modified without forcing changes to programs. Management can "tune" system performance without requiring recompilation of any programs.
Easy-to-use data definition utilities	Data descriptions are created by filling in forms displayed on the CRT screen. No complex, special- purpose data definition language is used.
Data protection	User programs have access to the data base only through their defined "views." No program can read or modify data outside its view; data is thus protected from unauthorized use.
Data sharing	DBMS allows common information to be shared and updated by many users. Because all access to the data base is through DBMS, the integrity and consistency of such data are always ensured.

Data recovery — In the event of hardware or software failure, DBMS ensures that lost or damaged data can be recovered and the entire data base restored to its status prior to the failure.

Data relationships — DBMS permits the definition of many different types of data structures based on different logical relationships. Structures in the data base accurately model information structure and flow.

Upward compatibility with DMS and ADMS — Applications which are too simple or unique to require DBMS can use the more elementary file-oriented functons provided by DMS and ADMS. Programs can run under DMS or ADMS concurrently with other programs running under DBMS.

VS/3270 EMULATION

With the 3270 communications software, a VS computer can emulate an IBM 3270 Information Display System and communicate with any host computer which supports the following devices:

- A 3271 Control Unit, Model 2

  This BSC remote cluster controller, which supports a 1920-character buffer and the EBCDIC character set, is emulated by a VS-resident master control program and special microcode loaded into a data link processor on the 22V06 IOP.

- Attached 3277 Display Stations, Model 2 (with typewriter keyboard option).

  These display stations, with 24 lines by 80 characters (1920 characters), are emulated by local VS workstations (except the Model 2246P); the workstations may be logically attached to (or detached from) the emulated 3271 cluster controller via a VS-resident attachment task which loads the 3277 emulation microcode into a VS workstation in response to simple menu selection. In 3270 mode, a VS workstation is dedicated to the host system and cannot perform normal VS functions; however, the VS HELP key may be used to switch the workstation to its normal VS capabilities at any time without affecting other workstations currently attached to the emulated cluster.

- Attached 3288 Printer, Model 2 (with Vertical Forms Control option)

  The 22V06 data link processor and VS-resident master control program emulate these printers by routing received print data to a 3288 "virtual printer" with a 1920-character buffer capacity; the data is converted to VS print format and sent optionally to an on-line VS printer, the VS print spooler, or a specified print file on disk.

In addition to emulating a 3271 cluster controller with attached 3277 display stations and 3288 printers, Wang's 3270 emulation software provides an exclusive "virtual terminal" capability that allows user-generated application programs to pass screen-buffered data to/from the master control program. Thus, an application program may effectively access the emulated 3271 cluster controller and appear to the host as another attached device.

In 3270 mode VS workstations or user-written programs can perform inquiry, interactive transaction processing, or data entry operations — the primary functions of 3270 Information Display Systems. The VS 3270 software supports formatted displays, information handling occurs on a field-by-field basis according to the host-supplied attribute byte for each field. Screen formatting, field checking, and field protection correspond to the attribute bytes for the displayed data.

Restrictions for 3270 Software

- Only 3271 BSC protocol is supported (with 3277 and 3288 device emulation).
- A 22V06-1, -2, or -3 IOP is required.
- A leased or private, point-to-point or multipoint communications line is required (the line can be interfaced to the IOP by an RS-232-C, CCITT V.24 synchronous modem which provides clocking signals up to 9600 bps if the modem is compatible with the host's modem).
- VS Operating System Release 4 (or later) is required.

Features of 3270 Software

- Command chaining.
- Read Buffer, Read Modified, Write, Erase/Write, Erase All Unprotected, and Copy commands.
- Cyclic redundancy checking and automatic retransmission.
- Multiple block messages.
- EBCDIC-coded transmission.
- Emulates all IBM 3277 typewriter-style keyboard functions (Enter, Clear, New Line, PA1 through PA3, PF1 through PF12, etc.)
- Allows workstations and user-written programs to be attached to (or detached from) the emulated 3271 cluster, as required by an application, up to the IBM 3270 limit of 32 devices per cluster.
- Allows user-written programs to distribute applications between the VS and a host system (e.g., a local/remote inquiry application may access both regionally stored data in VS indexed files and centrally stored data on the host system, transparently to the operator).

NOTE

For a more comprehensive description of the new VS product offerings, please refer to the data sheets listed below. They are available from any of the Wang sales offices.

VS Data Communications	800-2107-01
VS Mailway	800-2108-01
VS System Software	800-2101-03
VS Languages	800-2201-04
VS DBMS	800-2106-01
VS 2246C Serial Workstation	800-2104-01
VS/WP Integrated Information System	800-2103-01
VS Processors	800-2105-01
VS Peripherals	800-2102-04

ISS 5.0

Below are some of the major features of the new release of ISS. If you require this release, please contact your local Wang analyst.

ISS Utilities

1. Disk Dump
   This utility now supports the CRT (for vertical dump only). The EDIT keys allow the user to step through the file.
2. Program Compare
   Also supports the CRT for error messages and now provides an error limit feature which will terminate the compare after a certain number of errors.
3. Alter Disk Index
   A new utility designed to display the disk index and delete unused files at the *end* of the catalog. It also allows for changing names and status (active, scratched) of the file.

KFAM-7

KFAM-7 in the Multiple Bank pre-release version contains the following modifications.

1. It supports the 2200MVP with extended memory (up to 256K).
2. It supports the 2280 (Phoenix) disk.
3. The reset access table utility has been modified to clear internal tables and close all, or specified, KFAM files for a given station or all stations.
4. The print key utility now includes a CRT display option.
5. All utilities use input modules and display defaults.

The new release of KFAM-7 will require the following changes to application programs.

1. The last parameter in the OPEN statement (GOSUB'230), user file device address, formerly not used in KFAM-7, will be used, and will be important in identifying the file. Both the user and key file device addresses are selected during KFAM OPEN.

2. Device addresses are limited, as follows:

   Diablo or floppy disk:

   310, B10
   320, B20
   330, B30
   350, B50
   360, B60
   370, B70

   Phoenix disk:

   B10 or D10, 310 or D11, D12 through D15
   B20 or D20, 320 or D21, D22 through D25
   B30 or D30, 330 or D31, D32 through D35
   B50 or D50, 350 or D51, D52 through D55
   B60 or D60, 360 or D61, D62 through D65
   B70 or D70, 370 or D71, D72 through D75

   The open subroutine will check the user file and key file device addresses and return an error condition (Q$ = "X") if it is not one of the above.

   NOTE: The disk addresses are now related by the KFAM subroutine OPEN to the specified device numbers.

3. In the Multiple Bank version of the KFAM-7 subroutines, global variables reside in partition KFAMCOM and not KFAM. User programs accessing KFAM global variables directly, must be modified to select KFAMCOM and then select back to KFAM to access the subroutines.

4. The Single Bank Version of the KFAM-7 subroutines, model KFAM0107, requires a partition size of 9.5K, starting with Release 5.0.

SOFTWARE PACKAGE LISTING DATE:_____

VENDOR: _____

CONTACT: _____ TELEPHONE: _____

INDUSTRY: _____

APPLICATION: _____

DESCRIPTION: _____

MINIMUM H/W CONFIGURATION: _____

INDUSTRY: _____

APPLICATION: _____

DESCRIPTION: _____

MINIMUM H/W CONFIGURATION: _____

INDUSTRY: _____

APPLICATION: _____

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MINIMUM H/W CONFIGURATION: _____

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