

SAGE

COMPUTER TECHNOLOGY

PRICE LIST

SEPTEMBER 1, 1983

NOTE:

- These current prices are valid until updated.
- See volume orders for 10 days or more lead times.
- Contact your local dealer for International Markets.

All SAGE microcomputer shipments contain the following standard equipment:

- | | |
|--|--|
| <ul style="list-style-type: none"> - SAGE program version 4.12 - Power supply - 80000 word assembler - Microprogrammed editor - Editor utilities - Basic 2 manual, 100 pages - Resident type utility, 100pages - Resident I/O Monitor System - SAGE Monitor System - Teletype Spreadsheet Data Program | <ul style="list-style-type: none"> - IBM/XT hard programmer - 10' Hercules Cable - 10' length of parity tape - Hercules keyboard - 10' or 20' SAGE serial cable - Assembler printer card - Assembler check and assembler - Printer manual, 100 pages - Guide to SAGE I/O card, 100 pages - SAGE 2 Monitor System |
|--|--|

SAGE COMPUTER SYSTEMS

PART #	DESCRIPTION	PRICE
80000	1pc SAGE 1000 XT with one SAGE floppy drive including full installation CDROM	\$2900.00
80001	1pc SAGE 1000 XT with two SAGE floppy drives including full installation CDROM	4700.00
80002	1pc SAGE 1000 XT with SAGE 1000 XT drive & separate Winchester disk drive	3300.00
80003	1pc SAGE 1000 XT with one SAGE floppy drive & separate Winchester disk drive	3900.00
80004	1pc SAGE 1000 XT with one SAGE floppy drive & separate Winchester disk drive	4500.00

SAGE EXPANSION

80005	1 unit of SAGE 1000 bytes of Parity RAM	\$300.00
-------	---	----------

NOTE: Minimum RAM for all SAGE microcomputers is 768K.
 1 unit of RAM is required to install SAGE 1000 to 1000 MB.
 2 units of RAM are required to install SAGE 1000 to 2000 (1 Meg).
 Floppy-based RAM is a unit above a minimum of 512K MB.
 100K minimum RAM is required to install SAGE 2 Microsystem.

PERIPHERALS

80006	SAGE 10' Hercules Cable	\$190.00
80007	10' length of SAGE serial cable	400.00
80008	10' length of SAGE keyboard	120.00
80009	10' length of SAGE printer card	180.00
80010	10' length of SAGE assembler check and assembler	150.00
80011	10' length of SAGE printer manual	100.00
80012	10' length of SAGE I/O manual	100.00

CONTENTS

Introduction 1

Chapter 1: System Architecture 15

Chapter 2: Operating System 35

Chapter 3: Network Configuration 55

Chapter 4: Security Protocols 75

Chapter 5: Performance Tuning 95

Chapter 6: Troubleshooting 115

Chapter 7: Future Trends 135

Appendix A: Glossary 155

Appendix B: References 175

Appendix C: Index 195

CONTENTS

Chapter 8: Cloud Computing 215

Chapter 9: Big Data Analytics 235

Chapter 10: Internet of Things (IoT) 255

Chapter 11: Artificial Intelligence (AI) 275

Chapter 12: Blockchain Technology 295

Chapter 13: Quantum Computing 315

Chapter 14: Cybersecurity 335

Chapter 15: Edge Computing 355

Chapter 16: 5G Networks 375

Chapter 17: Smart Cities 395

Chapter 18: Autonomous Vehicles 415

Chapter 19: Space Exploration 435

Chapter 20: Nanotechnology 455

Chapter 21: Biotechnology 475

Chapter 22: Environmental Science 495

Chapter 23: Agriculture 515

Chapter 24: Healthcare 535

Chapter 25: Education 555

Chapter 26: Entertainment 575

Chapter 27: Finance 595

Chapter 28: Manufacturing 615

Chapter 29: Energy 635

Chapter 30: Transportation 655

Chapter 31: Real Estate 675

Chapter 32: Retail 695

Chapter 33: Hospitality 715

Chapter 34: Sports 735

Chapter 35: Media 755

Chapter 36: Government 775

Chapter 37: Law 795

Chapter 38: Military 815

Chapter 39: Space Exploration 835

Chapter 40: Future Trends 855

Appendix A: Glossary 875

Appendix B: References 895

Appendix C: Index 915

Chapter 41: Virtual Reality (VR) 935

Chapter 42: Augmented Reality (AR) 955

Chapter 43: Mixed Reality (MR) 975

Chapter 44: Extended Reality (XR) 995

Chapter 45: Metaverse 1015

Chapter 46: Digital Marketing 1035

Chapter 47: E-commerce 1055

Chapter 48: Social Media 1075

Chapter 49: Data Analytics 1095

Chapter 50: Business Intelligence (BI) 1115

Chapter 51: Project Management 1135

Chapter 52: Human Resources (HR) 1155

Chapter 53: Finance 1175

Chapter 54: Manufacturing 1195

Chapter 55: Energy 1215

Chapter 56: Transportation 1235

Chapter 57: Real Estate 1255

Chapter 58: Retail 1275

Chapter 59: Hospitality 1295

Chapter 60: Sports 1315

Chapter 61: Media 1335

Chapter 62: Government 1355

Chapter 63: Law 1375

Chapter 64: Military 1395

Chapter 65: Space Exploration 1415

Chapter 66: Future Trends 1435

Appendix A: Glossary 1455

Appendix B: References 1475

Appendix C: Index 1495

Module III (Operating System), Section Systems \$195.00

CONTENTS

Chapter 1: Introduction to Operating Systems 1

Chapter 2: System Architecture 15

Chapter 3: Operating System Functions 35

Chapter 4: Process Management 55

Chapter 5: File System Management 75

Chapter 6: Device Management 95

Chapter 7: Security and Access Control 115

Chapter 8: Performance Tuning 135

Chapter 9: Troubleshooting 155

Chapter 10: Future Trends 175

Appendix A: Glossary 195

Appendix B: References 215

Appendix C: Index 235

SAGE

COMPUTER TECHNOLOGY

Dear SAGE Inquirer:

Thank you for this opportunity to introduce the SAGE product line. With its low-cost implementation of the 8 megabyte 80386 processor, SAGE IV microcomputers provide more performance (both speed and capacity) per dollar than any computer in history.

SAGE IV microcomputers can expand to six terminals, 1MB of zero wait-state RAM memory, and 1MB of Winchester hard disk. Other standard features of SAGE IV microcomputers include:

- DOS 3.31 System Operating System (CP/DOS, 1.8in, Modula-3, PASC, 4th, FOR, Basic 4.0, and SuperPorts optional)
- IBM-486 interface
- Timberline Spreadsheet Calculator Program
- Hard/T Hard Processor
- 90-day Warranty (18-month Extended Warranty available for \$100)

Service for SAGE microcomputers is fast and comprehensive. It is performed by the dealer, distributor or factory depending upon your location. To better serve our customers, we will be opening regional offices across the United States. The first of these offices is now open in the Boston area. The address is:

SAGE COMPUTER TECHNOLOGY - BOSTON DIVISION
15 New England Executive Park, 4th
Burlington, MA 01803

For further details and complete technical information, please read the accompanying information. With a starting retail price of \$1800, you will see why SAGE Computer Technology delivers more performance for the price than any other computer manufacturer in the industry.

If you have any questions regarding our product, please contact a Sales Engineer in New at (781) 681-6866 or please the Boston office at (617) 681-6866. We look forward to providing you with the means to do more as well as fast the time.

Sincerely,



Kenneth G. Risher
V.P. Marketing/Sales

021883

SAGE

COMPUTER TECHNOLOGY

PERIPHERALS

SAGE microcomputers are designed to interface with hundreds of different peripherals. This flexibility is accomplished through the use of SMARTS and SMART programs which are provided on distribution disks with every computer.

When a system is installed, a system generation procedure is done to properly configure the SAGE microcomputer to your peripherals. This system generation procedure requires reformatting your terminal and printer manuals to determine cable requirements and software configuration. This generally requires 15-30 min to four hours.

This procedure is somewhat simplified for the following terminals as SAGE provides software modules for their interface on your distribution disks.

Teletype DEC	Fredkin 100	Smith 801
Teletype DEC	EMCC 1250	Sanclinton 1000
Teletype 980	Leur 8000	IBM Report 99
Teletype 980	DEC VTEC	IBM Report 99

SAGE can simplify this procedure even more by providing terminals, printers and cables which we have already interfaced and tested. A disk exists for the SAGE IV terminal (Fredkin 100) is also included in the package. The purchase of your peripherals from SAGE will allow you to have your system operational within minutes after you receive it.

The following peripherals are currently distributed by SAGE:

SAGE IV terminal (Fredkin 100) - This low-cost terminal has excellent resolution, a detachable keyboard and graphics characters. The screen dimension is 24 x 80 with a reverse video feature.

Smith Microline 80 dot-matrix printer - 80 CPS, 80 or 128 columns, 8.5 inch wide paper, graphics character set.

Smith Microline 81 dot-matrix printer - 100 CPS, 80 columns, 8.5 inch wide paper, graphics character set.

Smith Microline 83 dot-matrix printer - 180 CPS, 128 or 224 columns, 14 7/8 inch wide paper, graphics character set.

Smith Microline 84 dot-matrix printer - 300 CPS, 128 or 224 columns, 14 7/8 inch wide paper, high-resolution graphics, dual pass correspondence quality.

IBM Report 99 dot-matrix printer - 80 CPS, 128 or 128 columns, 14 7/8 inch wide paper, blue letter quality printing, proportional spacing.

SAMPLE SYSTEM CONFIGURATIONS

There are many different ways to configure a IBM compatible system depend on whether you intend to use it as a desktop, a workstation, a server, or a network node. The number of disk drives, the number of serial ports, and the type of printer will vary according to how you plan to use your IBM compatible.

The following examples should be used only as guidelines to your planning. To recommend that you consult with your local dealer or a factory-trained before determining a final configuration.

The Controller

This system is typically used as a dedicated industrial controller. It is the most robust configuration supported by IBM, within price IBM is used.

IBM XT with one 5MB disk drive	799.00
Expansion to 1 MB of RAM	150.00
IBM XT terminal cable	20.00
Total	969.00

The Two User Business System

This configuration is typical of a two user system. It is expanded to 1MB of RAM, which will lead to more utilization of IBM's software, which is needed in every IBM microcomputer.

IBM XT with two 5MB disk drives	1299.00
Expansion to 1 MB of RAM	150.00
IBM XT terminal cable	20.00
Printer expansion to printer	150.00
IBM Parallel printer cable	20.00
IBM Serial printer terminal cable	20.00
Total	1659.00

The Three User Business System

This system can be used as a general system for a small business. IBM's expanded basic math function will provide the business user with accounts receivable and other accounting functions. The 3 megabyte hard drive ensures the integrity of your IBM accounting system.

IBM XT with one 5MB disk drive	799.00
and one 3 megabyte hard disk drive	1299.00
Expansion to 1 MB of RAM	150.00
Printer expansion to printer	150.00
IBM Parallel printer cable	20.00
IBM Serial printer terminal cable	20.00
Total	2638.00

The Six User Business System

This six user system can provide service to a multi-employee business. It is the most powerful for other business systems offer for its price. The capacity for more user productive employees. The 16 megabyte hard drive allows for expansion in a growing amount of data, very quickly. IBM will use all the capabilities of the six user system of lower cost than the eight user system.

IBM XT with one 5MB disk drive	999.00
and one 16 megabyte hard disk drive	1299.00
Expansion to 1 MB of RAM	150.00
IBM XT terminal cable	20.00
Printer expansion to printer	150.00
IBM Parallel printer cable	20.00
IBM Serial printer terminal cable	20.00
Total	2638.00

SAGE

COMPUTER TECHNOLOGY

APPLICATION SOFTWARE

Application software is currently available from the following sources:

*** Arizona Computer Systems ***

P.O. Box 40076, Tucson, AZ 85717 - phone (602) 622 2076

INVENTORY is a business management system for the IBM PC. It is an advanced software tool to help users organize, retrieve, update, delete, and report from database files. Mailing list capability is included, and reports can go to screen, printer, or disk files. A tutorial is provided for leading the beginner step by step. \$120

*** Microfinancial Corp. ***

1240 E. Valley Blvd., City of Industry, CA 91744 - phone (818) 944 6200

The **FINWARE** application packages have features that may be selected, added, or deleted to meet your needs. Systems may be tailored before, and after, total setup, installation. All packages may be integrated, and each is database oriented with built-in report writer. \$400 (one-time fee).

CURRENT EXPENSE will accumulate small or large companies. Information can automatically enter from other packages, or be entered manually. Audit trails, up-to-the-minute analysis, many other standard features. \$1000

ACCOUNTS RECEIVABLE can be used manually, or interfaced with the order processing system for automatic invoicing and general ledger updates. \$1000

ACCOUNTS PAYABLE can increase profits through reduced labor, cash flow forecasting, automatic payments, etc. It can interface to general ledger, inventory, and purchasing, or operate stand-alone. \$1000

ORDER PROCESSING speeds processing and billing, reduces bad debts and inventory problems. Includes business inquiry, notes, automatic calculations, pricing lists, packing slips, payment terms. \$1000

INVENTORY system updates inventory with automatic reordering, cross reference of parts, vendor and barcodes processing, vendor lead time tracking, planning and perpetual inventory, general ledger interface. \$900

FINANCIAL has automatic vendor print and querying capabilities, with a balance of automatic features and manual controls. \$900

PAYROLL has a full range of automatic payroll processing functions, with annual overrides to handle even very unusual situations. It is payroll processor, has W-2 and check printing, quarterly and annual reports, audit trails, and instant inquiry. \$1500

Sales ANALYSIS system provides up-to-the-minute data on sales and trends. Online updates and analysis by various criteria are included. \$700

*** Microfinancial Corp. ***

1100 E. Valley Blvd., City of Industry, CA 91744 - phone (714) 962-8007

JOB COSTING automatically records costs and revenues through general ledger to provide instant access to variance analysis against estimates. \$2000

FLEXIBLE DEVELOPMENT SYSTEM allows you to quickly develop customized systems for fast generation of new markets. Easy support, automatic self-diagnostics, and continuous operation. \$5000

*** PDI Systems ***

Box 111, 118 North Main St., New Can, NY 14111 - phone (516) 504-7421

LISP EXPERIMENTS with over 80 basic LISP functions built in, allows user to write most applications without further support facilities. EXPERIMENT-PL is based on U. of Texas LISP, and has debugging facilities and efficient memory management. \$111

CODE ASSEMBLER PACKAGE allows you to generate native code assembly language files for IBM, 80, 4860, 808-11/801-11, 8081, 4800, 4804, 8900 microprocessors. \$175

FILE (Personal File Access System) is an easy to use home database package. It uses a file name index for speed and efficiency, and has protected files and record locks, optimized performance with no file reorganization. Can be built in to your own programs. \$275

MAKERS is a writing (text program in Pascal), with macros included, so you can tailor it to your own needs. Sub-structure and writing are separated, as well as looking at the disk directory without leaving the program. \$111

PLAN 80 financial planning and analysis combines great abilities to plan and analyze with the computer's ability to calculate and process information quickly and accurately. Includes what-if capabilities, easy change capability for re-evaluation of parameters, and clear definition of problems. \$241

IMP (Instant Mathematical Programming) allows you to state your problems in algebra as well as arithmetic. It will re-arrange and re-compute your equations and then use a variable iteration procedure to converge on a solution. It checks your work and allows comments. \$200

AMP (Advanced System Editor) is based on the popular p-System editor that comes as part of every Page II. It allows large file editing, user-defined functions, optional key shortcuts, change logging, joint mode editing, nested editing, and system interfaces for executing system functions without leaving the editor. \$150

MPR (MPR Formatter) allows you to create documents as diverse as single business letters, individual papers, contracts, and program source manuals. Self-diagnostic for all printers. \$100

MTRX-CRUC helps plan test cases and develop special data for contractual problem cases. It is designed specifically for tester's division. MTRX-CRUC-PL, or MTRX-CRUC-PL. Includes 100 common tests. \$200

MEMOTION is an advanced medical office management package designed to support 1 to 20 HMO's/clinics. It includes estimated billing, appointment, insurance form processing, collection lists, billing status, and ledger updates. \$2000 or \$4000 (depends on configuration)

SAGE

COMPUTER TECHNOLOGY

ERATOSTHENES' SIEVE PRIME NUMBER

The following is a comparison chart of the Sage and other major microcomputer times as compared to the benchmark study published in ENR magazine (Oct. 28). The chart demonstrates that Sage executes p-Code faster than any other existing microcomputer, and this is accompanied by performance advantages for native and assembly code.

	p-Code (Pascal seconds)	native code (Pascal seconds)	native code (Assembly seconds)
Sage 1-81888	41	42	1.0
Pascal-800	64	66	66
Multigenie	63	66	66
Multisa-6500	75	73	2.05
Z80	156	18.7	6.8
8086	120	10.2	66
IBMPC 8088	64	10.2	4.2
S-990	187	12.8	66
Tandy 100-80100 II	234	NA	NA
Tandy 20-11	347	NA	NA
Apple II	216	NA	NA
PDP-11/70	NA	2.6	NA
PDP-11/60	NA	4.8	NA
HP-3000	NA	200	NA

COMPILATION

The Sage with RAM-Disk implemented will compile Pascal source code, Version M.1 of a code of approximately 1888 lines per minute, or 147 lines/minute for a 65000 Apple II.

DISK PERFORMANCE

The Floppy Disk interface to the Sage is entirely interrupt driven and does nothing but copy sectors transferring or deleting. It will transfer 20 Kbytes in approximately one second to the drive RAM-Disk which is 284 Kbytes in 17 seconds including stoppage. The Hard-Disk interface to the Sage is a direct data-bus buffer and will transfer 160 K to 400 K per second.

SAGE
SAGE
SAGE
SAGE
SAGE
SAGE
SAGE
SAGE
SAGE
SAGE

SAGE[™]
COMPUTER TECHNOLOGY

**SUPER PRICES --
SUPER MICROS**

SAGE
COMPUTER TECHNOLOGY

SAGE IV computers use the 68000 CPU, come with UCSD p-System, PASCAL, Macro Assembler, Multi-user system, Word processor, Spreadsheet, 1 year warranty.

Available SAGE configurations include:

- | | |
|-----------------------------------|--------|
| 1 640K floppy & 256K RAM | \$3120 |
| 2 640K floppies & 256K RAM | \$3760 |
| 1 floppy, 256K RAM, 6mb Hard disk | \$5840 |
| 1 floppy, 1mb RAM, 18mb Hard disk | \$8000 |

As software developers and authorized SAGE dealers we offer customer support.

**MARITIME SOFTWARE
ASSOCIATES**

(503) 929-2552

6660 Reservoir Road Corvallis, OR 97333

