



*The campus of North Carolina State University in Raleigh where SAGEs are used for Computer Science.*

# Majoring in Microcomputers

This month at North Carolina State, students will be returning to school and returning to SAGEs.

The SAGE IV<sup>TM</sup> system actually has its roots in higher education. Our machine was born on the p-System and Pascal, both products of the academic world. Nicholas Wirth of the ETH Technical Institute of Zurich developed Pascal in 1970-71 specifically to teach students programming. In the mid-70's Kenneth Bowles, working at the Institute for Information Systems at the University of California at San Diego, designed the p-System and UCSD Pascal to allow implementation on low-cost micros.

SAGE enhanced that formula by adding the speed of the 68000 processor along with multi-user capabilities. Today, SAGE also boasts a wide variety of Operating Systems including: CP/M-68K, Modula II, Idris, PDOS, Micro APL, Mirage, BOS, HyperForth+ and ADA.

The Department of Computer Science at N.C. State in Raleigh was one of the first to equip their labs with 50 of our machines. Chairman Don Martin said the original decision to go SAGE was based on our low bid price. It's proved to be a popular move. Martin himself bought a

SAGE II for personal use, and over 30 students took advantage of an option to buy their own machines through the Department. Not a bad grade for our first semester in class last spring.

At the University of Wyoming, the SAGEs are at work in Engineering Sciences from Petroleum Exploration to Chemistry. The University of California at San Diego (UCSD) sports them throughout the campus. And even Stanford University, in the heart of Silicone Valley, is home to a few of our boxes.

In the adjacent world of research, you'll find SAGEs in such diverse environments as telescope control, helicopter rotor design, and motion picture camera stabilization. Of course, when it comes to the basic computer discipline of pure number crunching, our system has no equal in the micro world.

To keep our products at the leading edge of high-tech development, SAGE has always offered, and will continue to offer, substantial discounts to qualified educational users.





Printer Tim Eetersen watches *SAGE News* come off the press.

## Newsletter & You

Last month's *SAGE News* was the premiere edition, but it won't be the last. Company president Rod Coleman feels a strong commitment to fostering communications with the SAGE family of users and developers. He says, "The sharing of information is the key to this industry. Keeping abreast of the latest developments from both the manufacturers and the garage experimenters is the only way to maintain your edge in technology."

Another of Coleman's goals is to make *SAGE News* a two-way street. "I want those people with good ideas to share them; and those who need help should have a place to find it." With that in mind, we encourage you to write us with your suggestions for the publication. We're especially interested in new developments, software products, operating tips and any unusual SAGE environments. As interest grows, so will this newsletter.

Six thousand copies of Volume 1, Number 1 were sent to SAGE users and dealers throughout the world, and just as many are being shipped today. The publication is free to SAGE owners, and a limited number are available from your SAGE dealer. Correspondence, manuscripts and photos are welcome and should be sent to *SAGE News* in Reno.

## Software Consultants

Can you help other SAGE users with their software problems? We'd like to establish a directory of programming consultants across the country to assist in de-bugging or customizing SAGE application programs. This referral listing will be part of our upcoming Applications Catalog. If you'd like to be included, write Verlene Bonham, Senior Software Engineer, c/o SAGE Computer Technology in Reno. Please note your specialties and credentials.

## Journal Review

The computer press continues to give the SAGE II rave reviews. The latest praise-in-print comes from the July/August issue of *The Journal of Pascal and ADA*.

Editor John Craig revealed that the demo SAGE II is actually used at their offices to provide a Hotline Service and to handle the company's mailing list.

No surprise then that the powerful low-profile machine reaped plenty of praise: "After agonizing over compilation on a slow machine, the SAGE is most refreshing." The magazine went on to make a comparison, "... our sorting program ran ten times as fast on the SAGE as it used to on the Apple II."

As more and more machines are being sold, we're also hearing a new comment; users like our Customer Support staff! "We were pleased to receive considerate treatment from SAGE's service staff. SAGE provided professional, polite, and helpful service."

(One late note just as this newsletter goes to press is that the folks at *The Journal* have completed arrangements to purchase their loaned SAGE II. That is the ultimate good review — Ed.)

## New Catalog

*SoftTech Microsystems* has recently updated their software applications catalog for the p-System. The new Fourth Edition replaces the old catalog that we've been shipping with SAGEs. The new version is \$5 from SoftTech, 16885 West Bernardo Drive, San Diego, CA 92127.

## New Dealers

The number of authorized dealers throughout the country continues to grow. Welcome to SAGE:

RUSIN DATA  
SYSTEMS, INC.

Roy Rusin  
10 Jackson Street,  
Suite 112

Los Gatos, CA 95030  
(408) 395-9444

TIPS-MICROCOMPUTER  
IMPLEMENT

Hassan El-Sayed  
2223 El Cajon Blvd., #314  
San Diego, CA 92104  
(619) 692-2090

BLUE CHIP

AUTOMATION

5006 Washington Street  
Downers Grove, IL 60515  
(312) 971-0046

VIMA INCORPORATED

Aubrey McIntosh  
1305 B Tompkins Dr.  
Madison, WI 53716  
(608) 221-4447

CLM/Systems, Inc.

C.L. Miller

3654 Gandy Blvd.

Tampa, FL 33611

(813) 831-7090



# DataFax

LINK Systems calls that character to the right a data monster and claims their *DataFax* software package is the way to tame the beast. After using the program just a short time, we're inclined to agree.

They compare their new information management system to a set of file folders. We like to think of it more like a completely cross-indexed set of 3 x 5 cards. It's an unstructured and easy-to-use data base with a thousand different applications.

Basically, *DataFax* allows you to enter anything you like on a blank page. You then use a control function to mark certain words, characters or numbers as "keys". Later, you can call up the page by entering any of the keys, or by using a wildcard on a portion of the key.

The advantage here is that you can mix apples and oranges in the same data base and still get uniform sorting. We really like this feature since we have a habit of thinking about several different things at the same time. For instance, you could enter the name of the manager of the local computer store as John Smith. You'd key his name and the store. But while talking with him, you discover he also owns a Nikon camera and is a member of the Porsche Club. You just key those items as well, and can find him under the store or the club, or under Nikon, or whatever else you've selected.

On a more practical basis, you can also file text material for in-depth reference on a subject. The *DataFax* brochures show examples of specific applications for lawyers, physicians, real estate salesmen, insurance brokers and many more professions.

That's the beauty of *DataFax*; its use is limited only by your imagination. If you've ever struggled trying to make off-beat information fit into a pre-defined data field, you'll love this system. It's like not using a computer at all, but still getting its benefits. And the limits are liberal. You can tag up to 60 key fields in each 'folder'; that's 60 cross-refer-



ences for each page. Additionally, you can load and unload information from standard text formats — a real timesaver in certain uses.

Now for the good part. *DataFax* is completely ported to the SAGE with full documentation. (No translating of keystrokes or control keys!) The three-ring User's Manual is well-written and includes a complete tutorial with demo files. There's even a special reference card that's useful while learning the keystroke functions.

Like most of the new software for the SAGE, you'll find that speed is again a selling point. Since *DataFax* is also running on the IBM, this is another piece of software you can use to show your IBM friends how slow their "Big Blue" PC really is. *DataFax* from LINK Systems is available from SAGE dealers for \$295.



**CP/M '83  
EAST**

SAGE will be on the convention circuit again at the end of the month for CP/M '83 East. This show for Digital Research's™ popular operating system is being held in Boston, MA from September 29 to October 1.

SAGE Computer Technology supplied one of the first units to Digital for their development of the 68000-based version of CP/M. We are currently one of the few manufacturers to ship CP/M-68K™ with our systems and to provide this Operating System in a multi-user environment.

The semi-annual convention (east and west coasts) is the largest gathering ever organized around a single software product. Sponsors expect over 40,000 attendees at Boston, just as there were in January for CP/M '83 West, held in San Francisco.

If you're a CP/M freak, this is definitely the place. In addition to dozens of hardware demos, there is a full slate of seminars and lectures on a variety of topics.

Whether or not you're running CP/M-68K on your SAGE if you're in Boston, drop by and say hello.



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## Questions and Answers

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### Do I need a line filter or surge protector for my SAGE?

The SAGE has an EMI/RF in-line filter and will handle most noise and other trash that comes spurting out the AC plug. In fact, the switched power supply in the SAGE IV is guaranteed to give constant output, operating on line voltages from 95 to 135V. We have no surge protector, but the machine seems to do quite well on short duration spikes and dips. During a recent electrical storm here in Reno all our terminals were knocked out, but most of the SAGEs kept data intact. For big surges, our engineers hedge on their advice. They say that aftermarket protection devices will help, but they also note that during electrical storms, they unplug their personal equipment, protector or not. As a last word, the only way to get 100% protection is with a complete AC backup system; but for practical purposes that's usually too expensive. Short of that, your SAGE should handle 99 out of a 100 problems.

### Does SAGE have a UNIX-type operating system?

Yes. Beginning this month, Idris, a complete rewrite of UNIX, will be available to SAGE users. Idris is one-half the size of UNIX, runs up to twice as fast on micros, yet contains all the important and powerful functionality of UNIX. SAGE News will have complete details next month.

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## Customer Support

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By Lonnie Cline

During shipping, some SAGE IVs get pretty rough treatment. If the abuse is severe, it might result in a radial misalignment of the Winchester hard drive. This problem could also occur if you subject your machine to excessive shock on location.

The first sign of a problem will occur during the boot procedure. You could be unable to boot, or may receive CRC errors unexplained by duplicate volume names, or may find that some programs bomb out mysteriously.

If you suspect an alignment problem, there is a simple test. From the F)ile command, select B)ad-blks. This procedure will scan the disk for defective blocks. When your SAGE is subjected to shock or vibration, misalignment can occur. The head then reads in the wrong location, perhaps in between, instead of on, the individual tracks. There should be zero bad blocks on your Winchester. If your test uncovers any, you have a problem.

Rest assured that it is easily corrected and can be fixed with the software provided with your machine. You will have to use the two diskettes, labeled "Mapper" and "Build". These will allow you to reconstruct an accurate bad-track map and to rebuild your disk.

The procedures are outlined in the Release Notes dated August 8, 1983, and in a special handout packed with the machine entitled "Service Procedure For Building a Hard Drive."

HOWEVER, we strongly recommend that you DO NOT attempt this procedure before calling a Customer Support Engineer. The new mapping will destroy all disk data so be sure it is necessary before beginning. The process is time consuming, but not difficult. Good Luck.



Patty Brown



Dave Maggilini

## People

Meet **Patty Brown!** She's the one who responds so quickly to your requests for literature. "It's really important that people get this information promptly or they'll lose interest (and go elsewhere)." The huge backlog of requests she found when she started at SAGE three months ago no longer exists.

SAGE News certainly appreciates Patty because she is the one who mails it out every month.

Don't be fooled by the picture! Our serious-faced Product Manager, **Dave Maggilini**, attacks a long list of goals each day and, even when he feels overwhelmed, manages a grin and a joke. He came to SAGE on Valentine's Day '83 with a reputation for organization and attention to detail and a background in business and mainframe programming. He's the man with the product availability answers.

## Help Wanted

SAGE Computer Technology currently has openings for the following personnel:

### Chicago — Minneapolis — Los Angeles

We are looking for qualified individuals for district manager, customer support and sales positions in our Regional Offices. Applicants must have a direct working knowledge of microcomputers. Experience with Apple computers and Pascal is desired. Good communication skills are mandatory.

Please forward resumes to Serena Sigl, c/o Personnel Office, SAGE Computer Technology, 4905 Energy Way, Reno, NV 89502.

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