

# Newsletter

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ALPHA MICRO USERS SOCIETY  
1216 Pearl St., P.O. Box 1723  
Boulder, Colo. 80306  
(303) 449-6917

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AMUS office hours are from 8:00 AM to 5:00 PM, Mountain Time. Our overworked secretary is Sharon Greene who is happy to assist you with any question you might have about AMUS, or the Alpha Micro Computer. If she doesn't know the answer to your question, she will try to direct you to someone who does.

The AMUS Newsletter is published monthly and sent to all AMUS members. Additional copies and back issues of the newsletter may be ordered from Sharon Greene. Bug, fixes, articles, letters, reviews of software and information about Alpha Micro applications are happily accepted. material must be received by the 20th of the month for inclusion in the following month's edition.

The AMUS Newsletter is published monthly by AMUS, P. O. Box 1723, Boulder, Colorado 80306. Subscription rates are \$7.50 per year. Application to mail at second-class postage rates is pending at Boulder, Colorado 80302.

Each member representative receives a one year subscription to the Alpha Micro User's Society Newsletter, the cost (\$7,50) of which is included in the annual dues.

The Alpha Micro Users Society Network is a computer system meant to give members access to information and other Alpha Micro users with similar interests. It consists of an Alpha Micro computer with a Hawk disk drive, a 300 baud modem, a 1200 baud modem, and 160K of memory. AMUS members are given an individual account and password on the Network so that they may receive personal electronic mail. Many thanks to Alpha Micro Systems in Irvine, California; North America Title Co. of Houston, Texas; and The Byte Shop of Reno, Nevada who have donated equipment and software to the Network.

AMUS has a library of programs that have been donated by members for distribution to other members. Programs are available either through the AMUS Network, or, if you prefer, we can make floppy or Hawk cartridge copies and mail them to you. Orders may be placed through Sharon Greene.

FROM THE EDITOR

WHOOPIE !!!

I'm afraid we've created a monster! The opportunity to place a one page ad in this newsletter each month and reach all you lovely subscribers has enticed over 50 members to do just that - to the point that this is an advertising media rather than the information tool it was designed to be. Our printing and postage costs have soared beyond the practical point and now prohibit the continuation of this practice.

Sooooo.....we had to make a decision this month. Except for some notices about Fortran, Cobol and Forth, the only ads in this issue are for used equipment. Henceforth, advertising will be at the rate of \$50.00 per page, with a minimum of 1/4 page. This decision was reached after polling all members of the board of directors. Since this is a democracy, if anyone strenuously objects to either this policy or the charge, please drop me a note with your your recommendations and reasons therefor.

All who submitted ads which were not printed have been notified of this change and requested to forward a disposition of their pending ad.

Unlike most media publications, we print retractions in BOLD PRINT in the front, not buried in tiny little letters in the back.

A SINCERE APOLOGY TO JOHN WYCOTT OF THE BYTE SHOP OF RENO. DUE TO A TYPOGRAPHICAL ERROR, JOHN'S AD FOR THE USER ACCOUNTING SYSTEM WAS PRICED AT \$195.00 - IT SHOULD HAVE BEEN \$495.00. (I hope John doesn't charge me the difference)

DUE TO THE COMPLEXITY OF INSTALLING UAS, IT WILL BE SOLD AND DISTRIBUTED THROUGH LOCAL DEALERS. PLEASE CONTACT YOUR DEALER OR JOHN FOR MORE DETAILS.

T I D B I T

Steve and I recently had the same problem with similar Diablo printers and thought we would share our new-found knowledge with you. These printers would intermittently go into an error condition and stop printing. There was no correlation anyone could find except the IBM copier running upstairs (I should have known).

I finally lowered myself to performing a totally obscure and unheard-of (and I might add time-consuming) task. I read the manual. In two volumes of operation, maintenance, protocol, etc., in a tiny hidden paragraph was 'Some modems require the signal ground and protective ground lines in the interface connector to be disconnected'. Soldering iron out and loaded for bear, I spent two minutes removing one jumper.

After over 30 hours of sweating over this thing, and even some service calls, the printer runs fine. It seems this jumper creates a ground loop and allows noise in the line to create a device error. So if you own a Diablo printer, and if you can't make it run consistently, call us.....we're cheap.

Pat

New Educational User's Group

Tacoma Community College, Tacoma, Washington, is forming a new educational computer users' group to exchange programs, identify who is doing what, where, etc. For more information, contact

David P. Habura  
Dean of Instruction  
Tacoma Community College  
5900 S. 12th Street  
Tacoma, Washington 98465

or contact your editor - I have an application and would be happy to mail anyone a copy upon request.

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Due to Christmas, hardware failures, and busy, busy people, this newsletter covers October and November 1980. We will start fresh with December and begin 1981 with a real monthly newsletter. Merry Christmas, Happy New Year and all that good stuff to all of you from the Amus staff - we wish a prosperous and hardware-free 1981 to all (especially us).

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# EMS

## Electronic Messaging on the Alpha Micro

Electronic Messaging is beginning to be recognized as an extremely valuable tool in the business world. Amid lowering productivity in white collar positions, and increasing percentages of the labor force being devoted to clerical and managerial positions, Electronic Messaging Systems (EMS) are demonstrating their capability to increase the speed and effectiveness of communications within an organization.

EMS has been around for several years, mostly being used by larger corporations who have been tested out its use on a small segment of the organization. The true value of EMS, however is not realized until almost every individual of an organization has access to the system. At that point, every person in the company has direct access to every other individual. The president can send out a memo, and be confident that every employee will receive it in the shortest possible time.

The personnel department can send an enquiry to any employee and receive the answer with a minimum of interruptions in work. Since the answer to an enquiry will already be electronically stored, it can be instantly filed without recopying.

The Alpha Micro computer now has the capability to handle Electronic Messaging. This means that small company willing to take the leap into the electronic office by providing each employee with access to a terminal can take advantage of the considerable increases in productivity that a centralized computer and EMS can offer. EMS coupled to phone communications, makes it possible for employees at remote locations to be in close touch with the home office.

A report by Raymond R. Panco and Rosemarie U. Panco entitled "A survey of Computer Mail Users at Darcom" listed a dozen improvements that Electronic Mail made in productivity for Managers, Professionals, and Secretaries.

EMS is not without its problems. In very large systems, names of participants becomes a problem. There might be three James Johnson's and a sender would have to be able to discern Jim1 from Jim2 from Jim3. Heavy users of EMS are able to use its ability to send multiple copies of one item and could produce a deluge of information that would slow down the operation. How do you allow employees to send an important message to all the other company employees when necessary, but restrict them from sending out announcements of their upcoming garage sale on Saturday? How do you handle an employee that leaves the organization with 72 items left in her mailbox? How about the boss who can't type? How about the boss who delegates all the electronic mail to a secretary - you don't realize this, and send VERY personal message about his activities at the last Los Vegas convention...

EMS will not replace travel, phone calls, or staff meetings. However, it can make an organization more efficient, and make travel, phone calls, and meetings run smoother by providing information prior to meetings, cutting down filing and retrieval time, and disseminating information directly to those who need it.

At AMUS headquarters in Boulder, Colorado, the Electronic Mail and Bulletin Board system built by the Byte Shop of Reno is being used by the staff to keep track of problems submitted by members, forward phone messages, submit articles for the newsletter, and just plain fun. The power of the system stems from its simplicity, availability of help, and forgiving nature.

A new user need about ten minutes of instruction, mostly that if you need help, type in the word HELP. If you are in doubt about what to do, hit a RETURN. In most cases, it takes you onto the next prompt without damaging any message already in the system. Prompts are concise and informative, instructions entered by the user are simple, and easy to remember: Send, Read, Scan, Forward, Delete, and Quit are all the commands that a user needs to know to begin using the system. Since all messages are postmarked with the day and time, you know what has been ignored the longest. Keeping one's Mailbox empty becomes a normal part of a working day. Frequent users check in about three times a day and find that most messages can be dispatched quickly with phone call, or a reply entered immediately.

Alpha Micro dealers should be aware of the potential for increased sales by offering the EMS package as part of the computers capabilities. In addition to showing a company how a computer can increase productivity, you sell more terminals and memory. Coupled with VUE or another word processor, Phone communication capability, and a good data base management system, the Alpha Micro computer competes well with any Electronic Office system offered today. The Electronic office system software package offered by Prime Computers costs \$20,000 and sits on an \$150,000 machine. Such a system might serve 32 simultaneous users. An Alpha Micro Package with the same capabilities might consist of two AM-100T's linked together and cost one half the price.

ske

# FINAL

F R E E            P L A N N I N G  
W O R K S H O P / S E M I N A R  
F O R    A L P H A    U S E R S

F I N A L - F I N a n c i a l   A n a l y s i s   L a n g u a g e   i s   a   m a n a g e m e n t   t o o l   f o r :

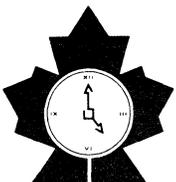
- \* Cash Flow Analysis
- \* Investment Analysis
- \* Budgeting
- \* Business Planning
- \* 'What If' Analysis
- \* Consolidations

FINAL is a simple, yet powerful Modeling Language. Using an English vocabulary of about fifty terms you can tell FINAL what your data is, the required calculations, and the exact layout of your reports.

Please contact me to register for the workshop, or to receive a colour brochure on FINAL.

*Mo Monsa*

Mo Monsa  
President



CANADIAN TIME SHARING INC.  
67 YONGE STREET, SUITE 1510, (416) 366-5676  
TORONTO, ONTARIO M5E 1J8

# letters

A. A. Holder  
Graphic Computer Services Ltd.  
50 Barclay Road  
London, S.W.6.  
England

Dear AMUS:

Thank you for your prompt attention. We have, however, not yet received past copies of your newsletter. I am sure we will find them a valuable addition to our Alpha Micro library of bug fixes, etc.

Some of your other readers may also be interested in knowing about our most recent experience. One of our clients directly acquired its second Alpha Micro computer. This time the 100-T model with 192kb of memory and double density CDC floppy discs. His first is a standard AM-100 with 192kb of memory supporting 2 Hawk drives, 5 VDV's and a printer. Here follows a weekly account of the fun to come.

## WEEK 1:

The first two days were spent getting familiar with any hidden subtleties which 4.4 might have in store for us, like amending the Hazel driver to respond to Vue; finding out if DSKPAK worked ok and doing ISMFIX on our 4.2 generated files, as well as recompiling our huge library of well-established programs.

While all this was going on, the system had the unfortunate problem of rebooting itself. We supposed at once that the 100-T processor must be more sensitive to unclean power supplies.

On the third day the system was connected to a clean power. Several attempts were made to reboot but without joy. Covers off and somewhat alarmed the investigation started.

All the boards seemed in order and firmly in place. Moved the CPU board one slot over, powered up and the system happily rebooted itself.

Our first diagnostic was that the board might have gotten dislodged while the box was being moved about. By the way, the plastic guide rails which hold the larger board set seemed to us quite inadequate and somewhat fragile.

Next we decided to leave the machine running overnight performing some trivial tasks. In the morning, all seemed well but while thinking up some performance tests, the system rebooted itself but failed to complete System.INI. Several further attempts were made without success so the covers had to come off again.

The symptoms were different this time. The heads of the floppy would not load. Checked all the connections, moved the CPU board again, but no change.

More urgent matters called, so the fiddling around had to be left for a while; but on resuming our detective work, the system offered no hesitation in working perfectly the first time.

The next thought was that the 100-T might be very sensitive to temperature or at least more so than the plain 100. Even on the old machine we found that the single fan on the TEI box was inadequate, especially when becoming near full of boards. So the problem was simply overcome by mounting two extra fans on the side grill to blow air into the box and reversing the rear fan to suction. The same preventative action was taken for the larger 100-T box. The system, however, refused once again to boot and the disc heads would not load.

## WEEK 2:

A more close examination of the 100-T processor revealed some real goodies.

1. 2 chips had a pin outside their sockets
2. 1 chip holder was making lousy connection on the board

When this was put right, the system began to function and all appeared to be well.

We cursed Alpha Micro for neglecting their quality control and for having wasted our time and our client's money.

More software tests were carried out and still unaware of the pitfalls of 4.4 we decided to hook up the Hawks and start running the new 100-T with the live system. The increased performance was impressive and we all looked forward to an easy time ahead.

The next few days, however, were really the end - every 20 minutes or so a sudden and mysterious BUSS ERROR would appear. We swapped memories around, performed the available hardware tests and all seemed normal. Arithmetic operations in Basic were failing, i.e.,

$$5 + 1 = 7.----- \quad 15/0.45 * \\ 0.45 = 15 \quad 15 * 0.45 / 0.45 = \text{anything} \\ \text{between } 13.85.... \text{ and } 18.67....$$

A few telephone calls to friendly Alpha dealers revealed that this problem could be cured by firmly securing the heat-sinks on all boards and including the mother-board. Some of these were found to be quite loose. [Quality Control?]

The math problem was cured, but only for a short while, so a decision was made to revert to the old AM-100 and to hand over the 100-T to our competent service engineers.

WEEK 3:

After nearly another week of investigations, none was any wiser, but to the fact that yet another hardware problem had been found.

The clock line from the main power supply to the mother board was making a bad connection. [Quality control] After this repair, the system refused to work at all and since the warranty was still valid, we returned the processor to the supplier.

Further tests were carried out with the engineers spare processor and we conclusively proved that heat, unclean main power supply, and not very tightly secured heat sinks, caused the system to behave in a strange manner.

While we await news from our supplier, we thought of letting other 100-T users know some of the problems and it would be some consolation to know that Alpha Micro might consider testing their systems more thoroughly before shipping them.

Thank you for a helpful magazine.

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COBOL EVALUATION

As many of you know at NCC last May, Leo Scheiner with Computer Applications Research in London, England was showing a working copy of a COBOL package his company has developed. At that time, he offered to lend a copy to AMUS for evaluation. As an experiment in potential software evaluation, AMUS accepted and I volunteered to evaluate it since my company works with COBOL as a large part of our computing.

This is a very preliminary report of my evaluation to date. Several things have prevented me from being more timely and I hope to complete the evaluation soon. The release I am referring to in this letter is 3.0.

First the good points:

1. It works.
2. The manual, documentation and error messages are intelligible.
3. It includes a very good coverage of the COBOL language.
4. The compiler and run time package are relatively fast. I don't believe they are as fast as Alphabasic, but not much slower either.
5. The people at CAR, Leo Scheiner and Tony Sales have been very helpful.
6. It appears to be equal to or better to any other small machine COBOL I have heard of or read about.
7. It supports all types of Alpha Micro files, including ISAM.
8. It comes with about 10 sample programs which demonstrate how to use many types of statements, files, techniques in this implementation.

9. There is a reasonable way to support screen functions.
10. It is multi-user. Multiple users can run or develop COBOL programs simultaneously.

Now some weak points:

1. It requires a lot of memory. (COBOL is a very large language and this should be expected.) Thus, both the basic and COBOL run time packages cannot be in system memory at the same time. CAR COBOL requires a 32kb user partition and about 12k system memory to work.
2. There are some logistic problems dealing with an overseas vendor. My last update floppy arrived bent completely out of shape and not usable.
3. It does not include any of the common IBM 370 large mainframe extensions that my company (I have recently discovered) uses all the time. This is not a defect with the product, and in fact, CAR has expressed interest in implementing several of them, but a factor to consider if you are converting large mainframe COBOL programs to the Alpha Micro.
4. There are still several minor bugs popping up in the system. Most of them can be programmed around.

General comments:

The package appears to be a good product and a reasonable alternative for users who have COBOL programs and don't want to convert them to Alphabasic. CAR is implementing many features for release in November, 1980, such as assembly language calls which will make the product even better. I understand there are about 5 installations in the US and 10 in Europe at this time. I would welcome any input from these sites on their experiences, problems, and use of COBOL on the Alpha Micro. Also, I would welcome any input from potential users as to their specific questions or requirements in a COBOL package on the Alpha Micro to help use as a yardstick in this evaluation.

For more information, contact Leo Scheiner at 011-44-1-486-0702, 10 St. Albans, London W8, or Tony Sales at 011-44-2-302-2788. Tony is the author

and best source of information on technical questions.

Respectfully submitted,

Eugene C. Platt

John E. Hewlett  
Modern Information Methods  
2751 E Chapman, Suite 205  
Fullerton, CA 92631  
(714) 738-6434

Eugene C. Platt  
Vice President, Alpha Micro Users Society  
4834 Jason  
Houston, Texas 77096  
(713) 666-8166

As secretary of SC/AMUS, I have been authorized to make two suggestions to AMUS.

I. As more and more areas of the country organize regional AMUS groups, it is probable that a great deal of duplication of effort will occur. It is our suggestion that each group volunteer for (or be assigned) one or more club projects. For example, most of our members are interested in seeing more competition in the area of Phoenix disk drives. To further this goal, we intend to encourage Konan (of Phoenix, Az) to start offering Phoenixes and disk controllers to A-M users. To assist them, SC/AMUS will assume responsibility for:

- a. Modifying any drivers, as necessary
- b. Keeping these drivers operational as A-M releases future versions of AMOS

We suggest that AMUS should take the lead in co-ordinating and assigning such club projects, and in distributing the results of each project to other regional groups. To encourage the formation of other groups, and to share the work load in an equitable manner, we further suggest that the results of club projects only be distributed to other clubs who have accepted responsibility for at least one project. No workee, no benefits !!!

II. Our members are a little worried about the reliability of Phoenix drives. There seems to have been a rash of head crashes lately. We hear of most of the catastrophies in S. California, but we can't accurately translate these sporadic incidents into meaningful reliability statistics. We could, of course, request such statistics from A-M and/or CDC, but I'm skeptical of whether or not they'd reply. And I'm not sure I'd believe their answers if they did. We suggest that AMUS take the lead in collecting and publishing reliability statistics on all the components of Alpha Micros. This, of course, will require a great deal of co-operation on the part of all AMUS members, since they really should send in a form (about once a quarter) describing not only any failures they may have had, but also an estimate of the number of hours (that quarter) their equipment has been used. If this were done with any accuracy, AMUS could publish quarterly figures on the MTBFs of each piece of hardware.

SC/AMUS will be happy to assist, in any way we can, to implement these suggestions.

Where I work at North America Title Company we have dual 300 mb Trident disks. We have had them for almost two years and have had good results. There have been only three times in the last two years in which our system was down because of the Trident subsystem. Two of those times we were able to repair them ourselves, and the third time we required parts and expertise not available in the Houston area.

Over the last several months I have talked with several of you who also have Trident systems, but I have not kept records of who you are and where you are. Since the Trident user community is one of smaller in Alpha Micro land, and technical support and experience is widely spread over the country, I would like to offer to coordinate a Trident share group.

What I have in mind is a very simple system. Basically, I would like to assemble a list of the Trident systems, their size, location, and the name of the person who is responsible for the system. With this information the Trident users could hopefully exchange information concerning maintenance, backup, drivers, programming, and operating experience.

If you have a Trident system, would you please send me a letter with the above information. I will then assemble this information and mail back to each of you a directory of all of the responses I get. Several times a year I will solicit new listings and updates and mail out current lists.

I believe that this sharing can be very beneficial to every Trident user and I hope to hear from you soon.

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#### AMUS OFFICE NEW ADDRESS

Amus has moved !! Our new address is:

934 Pearl, Suite B  
Boulder, Colorado 80302

The phone numbers are still the same; that is, if the phone company ever gets us hooked up again. Honest folks, the move was planned in conjunction with Ma Bell.

The post office box is no more. We eventually get mail which goes there - it just takes a while. Please send your mail to the following:

Anything to do with the newsletter to your faithful editor in care of:

Dunn, Moore & Associates  
1401 E. Bridge Street  
Brighton, Co 80601  
(303) 659-1335

All other correspondence, dues, etc. to the Pearl Street address in Boulder.

w i s h i n g        w e l l

John Brady  
Dystat Computers  
50 Crown Street  
Wollongong  
New South Wales  
Australia 2500  
042-28-08-97

John is seeking information regarding the interface of a Data Terminal Systems cash register to the Alpha Micro, and would greatly appreciate anyone with any experience at all contacting him.

\* \* \* \* \*

Sandi Miller  
Informatics, Inc.  
1508 Kennedy Drive, Suite 215  
Bellevue, Nebraska 68005  
402-291-8301

Informatics is currently looking for a used Hawk drive. Sandi is also fairly accomplished in the use of TXTFMT and would be willing to help anyone with questions/problems.

\* \* \* \* \*

Richard N. Smith  
Northwest Computer Services  
P.O. Box 1496  
Everett, Washington 98206  
(206) 258-4744

Richard is currently looking for Sales Brokerage and Property Management software for a real estate agency. He would also like to know if there is any interest among Alpha Micro users in the Seattle area for seminars; he has office spare available for the seminars. Please contact Richard with the area of training and time factors.

\* \* \* \* \*

Eugene Platt  
4834 Jason  
Houston, Texas 77096  
(713) 666-8166

Eugene is looking for a gas purchase system which runs on the Alpha Micro.

\* \* \* \* \*

Dennis Schock  
Edgar, Nebraska  
402-224-4615

Dennis is looking for a used Hawk Drive

\* \* \* \* \*

Pat Seitsinger  
Dunn, Moore & Associates  
1401 E Bridge Street  
Brighton, Co 80601  
303 659-1335

This is going to sound pretty elementary to all you genuises out there who speak assembler.....

I'm looking for a good self-study book, course, ANYTHING on assembly language. Anybody know of one, please call me or leave a message for me on the network (leave mail for Pat).

CREATIVE SYSTEMS  
8101 SW Nybert, Suite 220  
Tualatin, Oregon 97062  
(503) 638-8406

Last July, several dealers who performed maintenance services for Alpha Micro systems were endorsed by Alpha-Micro in the newsletter.

CREATIVE SYSTEMS was inadvertently omitted from this list.

CREATIVE SYSTEMS specializes in system design, hardware, software, service and, most of all, support. They offer a response time of less than 24 hours and have maintained an excellent reputation with their clients.

Contact Mark J. Kloepfer, Service Manager for more information.

Thank you to Bob Fowler and friends for the 'Bug List'. Perhaps a better name would be 'Suggestion List'. In all fairness to Alpha Micro, this list was prepared prior to the release of Version 4.4B. Maybe Bob will be kind enough to review 4.4B for us in the next newsletter.

Buglist #15 is titled "4.4A" for continuity's sake, but it all applies equally to 4.4.

It appears that Buglist #13 was never published (sent 2/29/80).

I am compiling a summary of all AMUS newsletter releases. If anyone out there has any data on actual (vs scheduled) release dates, I would be grateful if you would jot it down on a postcard and send to me at the address below. Usually, "actual release date" means "earliest known postmark date". I have only seen 3 postmarks so far. Do you have any? The summary itself is all done except for "holes" in the data. One page.

Just in case some of you thought these bugs are all my own, they aren't. Bugs come from myself, fellow employees, other dealers, and customers. For this buglist, I will follow each bug with a bracketed reference to the person "without whom this bug report would not have been possible". This will give some vague indication of how many people are actually contributing to this buglist, and partly to say "thank you" to all. If there is no bracket, the bug is from yours truly.

Keeping the releases straight, we appear to have the following :

|               |     |   |
|---------------|-----|---|
| 4.4           | --- | preliminary, to dealers, AM solicited comments        |
| 4.4 + patches | --- | DDT fixes given in Software Notes #2 (7/2/80)         |
|               |     | programs affected : BASORT,CRT410,DUMP,MOUNT,200DVR   |
| 4.4A          | --- | Final 4.4 release to users, FIX re-released (7/23/80) |
|               |     | programs added : MENDEF.MAC,AM301.IDV,AM302.IDV       |
| 4.4A + patch  | --- | DDT fix given in Software Notes #3 (8/5/80)           |
|               |     | fixes a minor potential problem in SYSTEM.MON         |
| New PASCAL    | --- | Released independently on PASCAL diskette (8/18/80 ?) |
| 4.5           | --- | in the future; will include new PASCAL                |

Bob Fowler  
Alpha Information Systems  
800 San Antonio Road  
Palo Alto, CA 94303

(1) Buglist #14 --- Errata

Bug (21) is not a bug. Use "HELP? <boolean>", not "HELP <boolean>".  
[thanks Gerry]

(2) AM-900 Mainframe --- Real-time CPU clock interrupt is consistantly low

The voltage of the clock interrupt line on the AM-900 mainframe is supposed to be "24v peak-to-peak" (about 10v RMS) according to page 3-1 of the AM-900 documentation manual. In the very first schematic of section VI (sheet 1 of the cabling diagram), it also says "10v AC". Welllllllll, so far we have received, tested, and used 4 or 5 AM-900s, all of which have had mainframe clock voltages centering in the range of 6.0v to 7.4v. If all the measurements taken here are included, no voltages were ever above 8.0v, and one dipped down into the 5-6v range. The most unfortunate part of all this is that the clock begins to lose interrupts somewhere in this lower voltage range. When our line voltage dropped slightly (sometimes due to an adjacent piece of hardware), the cpu was subject to lose 99+ percent of the interrupts, causing an interrupt cycle of minutes, rather than milli-minutes.  
[thanks, Gerry]

(3) VUE --- sometimes deletes all characters following a null

Use EDIT to create a file that has the following 22 characters :  
A cr lf nul A cr lf  
Where I have added spaces above for readability; there are no blanks in the actual file, which looks like this on the screen :  
AAAAAAAAAAAAAAAAAAAA (16 letter A's)  
A (an "invisible" null)  
Now VUE this file, and the second line will disappear. "Finish" from VUE and the second line will be deleted from the file. In a large file this can cause great losses. Not all cases will manifest this problem. The only "problem" case simpler than the above that I know of is :  
cr lf nul A cr lf  
Which is 6 characters. After being VUE'd, it becomes the 3 characters :  
sp cr lf  
Everything after the null is lost and (due to a VUE quirk) a sp is added.

Note : there are nulls in the 4.4 MENU.VUE --- if you attempt to VUE this file to change it, VUE will appear to load only 2 odd-looking lines. If you then exit with an "F", you will lose the rest of MENU.VUE !

(4) VUE --- control-B goofs when typed in middle of last screen display

If VUE is in the process of writing the entire screen for the last page of a file, and control-B is hit during the time this display is in progress, the screen usually gets messed up. VUE is trying to save the user from having to wait for the initial display to complete, but it doesn't succeed in this case. To demonstrate this, get into VUE, use PAGE or control-T to get to the last page, and hit escape/escape/control-B in rapid succession. This is demonstrated best when there are about 12 lines in the last screen. Until this bug is fixed, the display can be corrected by simply hitting escape twice.

(5) VUE --- entering lines longer than 80 characters goof up screen

Enter a line (or edit an old line) so that you end up at the right end of the line, with more than 80 characters. Call this "line A". Now hit return. The cursor will be (correctly) positioned at the beginning of the next line, or "line B". VUE now knows that some lines on the crt (ie, line A) are not left-justified, and must be re-displayed, so it re-displays line B. Unfortunately, it re-displays line B before re-positioning the cursor, so lines A and B both look like line B. For now, if this happens, clean up the crt by hitting escape twice. To prevent it from happening, hit control-U before the carriage return.

(6) VUE --- can't VUE files with extension of ".ZZZ" (1)

Try typing "VUE A.ZZZ" and see what happens. VUE will act as if no extension had been typed, and will go to the INI.VUE file and use the default extension given there; if there is no INI.VUE, it will assume the extension "MAC". This doesn't appear to happen with any other extension !

(7) VUE --- YANK <filename> at beginning of file doesn't function properly

Start with any VUE file, position the cursor at the very beginning (using control-^), then go to the menu and do a YANK <filename> using any insert file you want. Now return to editing mode (hit escape). You will find that, prior to executing the YANK, VUE improperly rolled the screen up 1 line (leaving line 2 at the top of the screen), thus re-positioning the cursor at the beginning of line 2. When the YANK was then (properly) executed, the insert file ended up between lines 1 and line 2, rather than before line 1. If you now hit control-^, line 1 will re-appear, immediately preceding the insert file.

(8) VUE --- unreliable screen update of >80 character lines while time-sharing

This bug is a bit of a sprite, and will elude attempts to track it down, but the following circumstances should make it show itself. Use a system with at least 2 terminals (ours is a Phoenix, if that helps). Use VUE to create a file with "several" lines longer than 80 characters. Then, while the other job does some intensive activity (try a REDALL), hit escape twice to repaint the screen. Keep hitting double escapes, and (hopefully) you will find that, at random times and random lines, columns 75-80 on the crt will get messed up (on >80-character lines). We used just a 3-line file, with 100 characters in each line, and got messed-up lines on about half of the crt "re-paints". I recommend using the following 100-character line, to make the goofs stand out :  
"000000000111111111222222222333333333444444444...<etc>..."  
If this fails, try more & longer lines.

(9) BASIC --- integer variables aren't INT'ed on INPUT statements

According to the AlphaBASIC manual, variables ending in % are stored as F6, but automatically truncated as if they were true integers. This fails in the case of inputs, as demonstrated by the following :

```
10 INPUT A%
20 B=A%+A%
30 PRINT A%,B
```

Enter "1.1" to this program, and "1.1 2.2" will be outputted.

(10) BASIC --- FILEBASE not reset correctly after CHAIN

If "FILEBASE <n>" occurs in any program (n>0), and a CHAIN occurs, and the destination program has no FILEBASE command, then this second program will READ random file records as if FILEBASE n were still in effect, but "Illegal record number" error messages will be reported as if FILEBASE 0 were in effect. Thus, the most likely case will be the most bizarre, namely the following :

```
FILEBASE 1 (in first program)
CHAIN "FRED" (chain to second program)
OPEN #1,"FRED",RANDOM,512,RECNUM (in second program; no FILEBASE)
RECNUM=0
READ #1, X (where X is properly Mapped)
```

The contents of X will be record "-1" in the file; AMOS will read in a block outside of the file ! But no errors will be given, since the error message is reacting as if FILEBASE 0 had indeed been reset.  
[thanks, Lai]

(11) BASIC --- INPUT doesn't reset TAB counter

It is well-known that you are not supposed to single-TAB backwards, eg,  
PRINT "HELLO"; TAB(2); "HI" (try it !)  
On a backwards TAB(n), AlphaBASIC effectively executes  
PRINT CHR(13); SPACE(n);  
Thus erasing any output on that crt line up to the ending TAB position. (Note that on printer output this works exactly as one would like it to.) None of this so far is a bug (although it would be nice if backwards tabs didn't output all those erasing spaces; hard to debug at 9600 baud). The bug is in the INPUT statement, which fails to reset the TAB counter. Thus, the following will get messed up :

```
PRINT M; TAB(10); "ENTER NEW VALUE : "; : INPUT M
PRINT N; TAB(10); "ENTER NEW VALUE : "; : INPUT N
```

The second PRINT's output will get cleared from column 0 thru column 9. A fix is to insert between the two lines the following :  
PRINT : PRINT TAB(-1,3);  
This bug is very old, & was reported in Buglist #8 (Jul 1978 newsletter).  
[thanks, Lai]

(12) BASIC --- a bizarro special for certain types of incorrect syntax

Create the following incorrect-syntax program in VUE or EDIT :

```
10 A$=B$(
Now "GO" from VUE or COMPIL from AMOS. COMPIL will display "illegal", then " - ", then it will hang up for 115 seconds, leave the error message incomplete, display the incorrect line, and exit (no AMOS crash). BASIC itself has no problem with this, giving a "Syntax error" message. Other simple, one-line programs that demonstrate the same problem are :
10 A$=B$(
10 A$=B$({
10 A$=B$([1,1])
10 A$=A$([INSTR(1,A$,A$))
However, if numeric variables are used (use A,B in place of A$,B$ above), COMPIL will not hang up, and in all cases will give no error messages  
[thanks to Lai, Dr Fogg, and myself]
```

(13) COMPIL --- lets bad syntax by

The following one-line program will be compiled by COMPIL :

```
10 PRINT "A
```

and, when RUN, will display an "A". BASIC will reject the line, however.  
[thanks, Bill]

(14) EDIT --- beware FS on crlf when tabs are present

Create a file it, EDIT it, then type the following :  
I TAB A CR ESC ESC  
This inserts a tab,A,cr,lf (4 characters) into the file.  
Then try the following global search and replace :  
F S CR CR ESC CR ESC ESC  
We get several dozen buss errors here before AMOS dies.

(15) TXTFMT --- nulls turn on underlining

If TXTFMT encounters a null in an input file, the output file will contain underlining. The simplest clear example is :  
nul A cr lf  
Which is 4 characters. After being TXTFMT'ed, the output is :  
A bs \_ cr lf lf  
Which is a total of 6 characters.

(16) FMT210 --- set TIME afterwards

Running FMT210 off of a Phoenix system, we find that the format takes about 55 seconds; during this time the system TIME has advanced about 5 seconds. Evidently, FMT210 is so intensive that it not only precludes any other active jobs (dealers see Alpha's Software Newsletter #2), but also locks the real time clock up so tight that less than 10% of the interrupts are getting processed! Moral : keep other users off, and reset the TIME afterwards.

(17) BASORT --- documentation says it can be done, but it can't

The following sample (sequential) file sort works fine :  
10 OPEN #1, "BOB1.DAT", INPUT : OPEN #2, "BOB2.DAT", OUTPUT  
20 XCALL BASORT,1,2,10, 5,1,0, 0,0,0, 0,0,0  
25 ! XCALL BASORT,1,1,10, 5,1,0, 0,0,0, 0,0,0  
30 CLOSE #1 : CLOSE #2

The BASORT documentation says that a sequential file may be sorted onto itself by using equal channel numbers in the XCALL BASORT statement. For instance, in the above example, use line 25 in place of line 20. However, this causes an error message from BASORT :  
?File improperly open in XCALL BASORT  
[thanks, Ron Cochran]

(18) BASORT --- documentation still says it has to be loaded into memory

A long time ago, in a galaxy far far away, BASORT had to be loaded into memory before being XCALLED (like all subroutines at that time). But now it can be auto-loaded at XCALL time. The documentation for BASORT (in the 4.4 release notes and the SBR.TXT Accounting doc file) still does not reflect this (ages old) improvement.  
[thanks, Gerry]

(19) PRINT --- documentation doesn't mention global switches

Like many other utilities, PRINT has both global & local switches. The global switch syntax is not mentioned in the documentation, however. For example, to get no form feeds on several files, enter :  
PRINT/NOF FORM1.TXT,FORM2.TXT,FORM3.TXT,FORM4.TXT  
[thanks, Ron Cochran]

(20) INPUT.SBR --- backspace only works properly as first input character

If backspace is the first input to an XCALL INPUT with a TYPE field of "?E" (see documentation for details), then "END" will be returned. However, if 1 or more valid characters are entered, then an infinite number of backspaces can be entered, going outside the input field, beyond the input line, and onward to complete crt wrap-around.

(21) PRINT.SBR --- Leaves print string as "" after XCALL

The third parameter passed to XCALL PRINT is the actual line to be printed. After XCALL PRINT, this variable is being set equal to "". Thus, if the same line is to be printed twice, and 2 XCALLs in a row are made, you will find that the second line actually ends up blank. Is this intentional? Nothing is said about this in the documentation. For a sample XCALL PRINT program which points this out, see following.

(22) PRINT.SBR --- PPN on the CONAME filename causes suppression of FF option

All the particulars of this bug are covered in the following program. This bug is referred as bug #1; bug #2 is the one mentioned above.

```
10 REM ..... DEMO OF FF OPTION BUG IN "PRINT.SBR[7,6]"
11 REM ..... MUST PRE-LOAD INTO MEMORY : FLTCNV.PRG & PRINT.SBR
12 MAP1 TT,S,10,"TITLE"
13 MAP1 LC,F,6,99 ! 99=DON'T USE CONAME.DAT
14 MAP1 PC,F,6,0 ! PAGE COUNT
15 MAP1 PL,S,4,"LINE"
16 REM ..... BUG #1 : IN FOLLOWING STRING (CN),
17 REM IF PPN IS ABSENT, FORM FEEDS ARE OUTPUTTED BY XCALL (CORRECT)
18 REM IF PPN PRESENT, LINE FEEDS ARE OUTPUTTED BY XCALL (INCORRECT)
19 REM BUT NOTE : CONAME IS NOT USED (NOR OPENED) BY XCALL PRINT
20 MAP1 CN,S,25,"DSKO:CONAME.DAT[1,4]" ! USE ANY dev AND ppn
21 OPEN #1, "BUG.LST", OUTPUT
22 FOR I=1 TO 60
23 REM ..... BUG #2 : NEXT LINE IS NEEDED TO RE-INSTATEMENT PRINT STRING
24 PL="LINE"
25 REM ..... BUG #1 : FOLLOWING SHOULD OUTPUT FORM FEEDS (NOT LINE FEEDS)
26 XCALL PRINT,LC,PC,PL,TT,"NO HDR","","","NO LEGEND","","",1,80,80,0,1,CN,0
27 REM ..... BUG #2 : PL IS NOW A NULL STRING
28 NEXT I
29 CLOSE #1
30 REM ..... BUG #1 : TYPE OUT "BUG.LST" AFTER RUN & SEE THE LINE FEEDS !
```

(23) PRINT.SBR --- truncates title field to 50 characters after page 1

On page 1, the title field is not centered, and can be > 50 characters. After page 1, the title field is centered between the date & page #. Evidently, PRINT truncates it to avoid running out of room, but this is not mentioned in the documentation. Or else, it is a bug.  
[thanks, Gerry]

(24) SPOOL.SBR --- messes up at least one variable !!!

AMOS SUGGESTIONS (Version 4.4)

Try running the following program and seeing what happens :

```
10 FNAME$="BUG.LST"
20 I=1
30 OPEN #99, FNAME$, OUTPUT : PRINT #99, "HELLO" : CLOSE #99
40 PRINT I
50 XCALL SPOOL, FNAME$, "", 132
60 PRINT I
```

The first display of I is "1" (ok), but the second display is some other arbitrary number; if you change the program slightly, this arbitrary number will change to another arbitrary number ! After fooling around awhile, I think it is always the last variable in the BASIC variable table which gets messed up, but I'm not sure. This bug has probably escaped detection for so long because most applications (eg, Alpha Accounting) CHAIN immediately after XCALL SPOOL. [thanks, Bill]

(25) COPY --- adds a 64th PPN to the MFD

The MFD has room for 64 PPN's, but the last one is always supposed to be empty, because SYSACT uses it as an end-of-MFD marker. Global COPYs will go ahead and insert a 64th PPN, however. If SYSACT is then used to delete any PPN's, the 64th PPN will become the "junk" that was present in memory at the "65th PPN" location. [thanks, Gerry]

(26) SPOOL.SBR --- docs should say that FLTCNV must be pre-loaded into memory

The documentation for SPOOL.SBR does not say anything about this. In addition, the list of error messages does not include the error given if FLTCNV isn't found in memory.

(27) Phoenix 4.3A to 4.4 conversion document --- bad advice for no-boot case

The document DWM-00100-71 (titled STOP ! in huge letters) is being sent with 4.4.A releases, warning of the importance of 4.4 to Phoenix users. It has very bad advice to users who find that their 4.4 update wont boot. Section 1.2.2 instructs the user who normally boots off a cartridge to boot off the 4.4 update cartridge; it doesn't consider the no-boot case. Section 1.1.4 instructs the user who normally boots off a fixed disk to boot off the update, & if it fails to boot, to boot off the 4.3A fixed disk & then use a 4.3 operating system to change the SYSTEM.INI on the 4.4-certified disk ("and bad tracks be damned", eh Alfie ?). This is bad. If your 4.4 Phoenix update doesn't boot, the only safe procedure is to boot off of a cartridge 4.3, type RES to LOAD all necessary utilities, preserve the SYSTEM.INI in some place like DSK2, load the 4.4 cartridge, COPY contents to DSK1, restore the SYSTEM.INI, & boot off the fixed disk (eg, MONTST DSK1:SYSTEM). At this point, you are running a 4.4 system on a 4.3-certified disk, which is ok. You may now edit the 4.4 cartridge.

(1) VUE --- allow control-S to interrupt a screen update

As of now, control-T, control-R, control-E, control-^ all interrupt a screen re-paint (if one is in progress). Please add control-S also.

(2) VUE --- un-implement control-rub ??

It is not normal to take a "step backwards" in software, but I am sure that I am not alone in my agony over continually hitting control-rub accidentally instead of plain rub (thus losing a whole line). I rarely use control-rub intentionally, and would rather see it gone. If other users agree, write AM and say so; I may represent a minority, but I don't think so. Remember, control-rub only saves 1 key stroke. Or, how about a new command to "undelete" a control-Z or control-rub ? Easy to implement : simply change VUE so that a control-Z or rub actually "MOVE"s the line to the end of the file (just like MOVE), but looks gone. This would very easy to implement because most of the code already exists. The only hard part would be trying to scrape up another control character. [thanks, Gerry]

(3) SCNWLD --- ersatz name cleanup

"DIR OPR:" and "DIR LIB:" should be added; "DIR MPL:" should be deleted. This would make the SCNWLD ersatz name set consistent with that in LOG.

(4) DUMP --- DUMP BITMAP could be even better !

For those rare times when some poor devil actually wants to know the block corresponding to a particular bitmap bit, the DUMP BITMAP output could be made even more readable using the following format :

```
"000001: 11111111 11111111 11111111 11111111 etc"
```

Using this format, 79 characters would appear per line, avoiding column 80 wrap-around problems.

(5) CRT410 --- should add BADBLK to [1,2] slightly different

As of now, BADBLK.SYS is entered into the [1,2] directory as a sequential file having 1 block, with 512 bytes "active" in the last block. This is somewhat unorthodox, since the first 2 bytes in a sequential are usually a pointer, leaving only 510 bytes for data. Thus, if you type :

```
LOG OPR:
LOAD BADBLK.SYS
SAVE BADBLK.SYS
```

You will find that BADBLK now has 2 blocks, with 2 bytes used in the last (second) block, because SAVE produced a "correct" directory entry for the file. None of this monkey business appears to cause any troubles. It would be best if CRT410 put a size of 510 (vs 512) into the directory. Incidentally, I think this is the reason why DSKCOPY changes BADBLK from 1 to 2 blocks long on the destination disk.

(6) MEMORY --- check for Memory Management in effect

MEMORY does not check for Memory Management in effect before it does its memory assignment. For the first job in bank 0 this is ok. For the first job in other banks, however, MEMORY 0 will give the user all the memory that can be legitimately given to him, as well as the (illegitimate) sharable memory (in most configurations, this is the memory immediately below 32K in bank 0). This overlaps JOB1, and will cause troubles.  
[thanks, Perk]

(7) Spooler --- Don't abort wildcard spooler kills at first "not found"

Let's say that you just did a PRINT \*.BAS request, and the paper jams, and you want to clear out all remaining spool requests without rebooting. This is easily done by typing PRINT \*.BAS/K, unless the first file has finished printing. In the latter case, the spooler finds that the first file to be killed from the spool queue is not there, and it quits. It would be much nicer if it went on to (attempt) the remaining kills.  
[thanks, Gerry]

(8) SRCCOM --- for blank lines in the output, use CR-LF, not just LF

If you create a file from SRCCOM output (eg, "SRCCOM BOB.LST=A,B,C,D/Q") then try to VUE this file, the blank lines disappear. This is because SRCCOM trys to save room by only outputting a LF instead of a CR-LF pair. VUE, however, throws away all LFs when it reads in a file. If there is no CR included with the blank line, it will be totally lost after VUEing.

(1) Bad Track --- some more statistics

The following table contains bad tracks encountered by us since (4.4). The numbers in parentheses are the actual track numbers of the bad tracks.

| Packs      | Date | Number of Packs Having n Bad Tracks |                 |             |     |
|------------|------|-------------------------------------|-----------------|-------------|-----|
|            |      | n=0                                 | n=1             | n=2         | n>2 |
| System #1  | AIS  | 5                                   |                 |             |     |
| System #2  | LLL  | 5                                   |                 |             |     |
| System #3  | CF   | 4                                   | 1 (115)         |             |     |
| System #4  | 8/80 | 5                                   |                 |             |     |
| System #5  | 9/80 | 4                                   |                 |             | *   |
| cartridges | 6/80 | 6                                   |                 |             |     |
| cartridges | 7/80 | 7                                   |                 | 1 (239+240) |     |
| cartridges | 8/80 | 6                                   | 3 (742,757,769) | 1 (756+757) |     |

\* On this drive, DSK4 had 4 bad tracks (807,808,811,812) and was DOA.

(2) BADBLK.SYS --- format

Here is the data contained in 4.4 BADBLK.SYS (Bad Track format), as represented using BASIC MAPs :

```
MAP1 BADBLK'DATA
MAP2 POINTER      ,B,2    ! next block in BADBLK file, usually 0
MAP2 FORMAT       ,B,2    ! = 128 (Bad Tracks)
MAP2 DISK'ID      ,S,10   ! Entered during CRT410
MAP2 HASH         ,B,2    ! = Sum of all BAD'TRACKS, below
MAP2 UNUSED1     ,B,2
MAP2 BAD'TRACKS(15),B,2   ! Blocks (4.3) or Tracks (4.4)
MAP2 UNUSED2     ,B,464
```

The pre-4.4 version (Bad Block format) is something like this :

```
MAP1 BADBLK'DATA
MAP2 POINTER      ,B,2
MAP2 DISK'ID      ,S,10
MAP2 ?
MAP2 BAD'BLOCKS(246),B,2
MAP2 ?
```

The 2 undeciphered fields add up to 8 bytes.

(3) Octal Generator --- how to do it in BASIC

For those people who need to generate a list of all octal numbers from 1 to n, but don't feel up to doing it in assembler, it's easy :

```
10 INPUT "ENTER LAST NUMBER (IN OCTAL) : ", LAST
20 FOR I=1 TO LAST
30   N$=I USING "#ZZZ"
40   IF(INSTR(1,N$,"8")=0 AND INSTR(1,N$,"9")=0) THEN PRINT N$
50 NEXT I
```

(4) DEL,SYMBOL,WAIT --- how are they alike ?

Answer : they are the only programs to survive from AMOS 0.1 to 4.4 without changing (literally) one bit. Runners up are :

- (a) FIXMTM --- Unchanged since 1.0
- (b) FILDMP --- Unchanged since 0.1, dropped in 4.4
- (c) TYPE --- decreased by 6 bytes since 0.1 !
- (d) REVIVE,CEN.DVR --- Same size, different hash

(5) APPEND --- input limited to (buffer - 4) bytes

If the maximum input buffer length is n bytes for a crt (see TRMDEF in SYSTEM.INI), then APPEND will clip off an input line after n-4 bytes. Two of these 4 bytes is for the cr-lf; the other two are for (?). Also, APPEND appears to have no default extensions; "A." and "A" both are treated as "A." by APPEND.  
[thanks, Bill]

(6) PRINT.TDV --- how to make it small

W Most printers only require a minimal terminal driver. The TELTYP.TDV takes care of teletype echoing (using backslashes), and is only needed for hardcopy terminals. The M40.TDV sends out extra nulls at the end of each line (for printers that keep printing during the time that the carriage is returning). If you require neither of these, then you can use the following driver for your printer --- it is only 8 bytes long !

```
WORD 0
RTN
RTN
RTN
END
```

Try it. Put the above into a file named PRINT.MAC, then

```
MACRO PRINT
LOG DSK0:1,6
COPY PRINT.TDV=PRINT.PRG[p,pn]
```

(7) ERASE --- how to get auto-query (unsupported)

If you wish ERASE to default to /QUERY, thereby avoiding some headaches, either create a suitable DO file (ERASE.DO), or use the following DDT fix.

```
LOG SYS:
COPY ERASEQ=ERASE
DDT ERASEQ
PROGRAM BASE IS nnnnn
PROGRAM SIZE IS 1610
316/ CLR 1260(R5) SET 1260(R5)
control-C
SAVE *
```

This works in 4.4; no guarantees for future releases.  
[thanks, Gerry]

(8) DSKCPY (4.4) --- doesn't check Phoenix formats of source and destination

Phoenix users : another thing to beware of in your conversion from 4.3 to 4.4 disk format. In 4.3, DSKCPY between Phoenixes was a no-no. In 4.4, DSKCPY between 4.4 CRT410'ed disks is ok. Unfortunately, if you use 4.4 DSKCPY to copy a 4.3 (old) CRT410'ed disk to a 4.4 (new) CRT410'ed disk, DSKCPY evidently doesn't check the BADBLK.SYS file sufficiently to find anything amiss, and goes right ahead. Chances are, the destination disk will afterwards just sit there and be unreadable, but worst things may happen before this is properly diagnosed.

(9) VUE --- memory allocation algorithms clarified & 2 suggestions made

Upon invoking VUE, VUE loads in each line of the file, throwing away the line feed at the end of each line (keeping carriage returns). Thus, a file containing 100 empty lines occupies 100 bytes in VUE, not 0 bytes, nor 200 bytes. The line feeds are restored upon exit from VUE, unless VUE leaves IMAGE.VUE in memory. If at any time during the program load, VUE finds less than 510 bytes are left in its buffer area, it reports so, but loads the remainder of the current line. Thus, if VUE was loading the last line, you will find that (despite the warning message) that actually the whole file got loaded. Also, note that if there are more than 510 characters remaining in this "critical" line after the warning is issued, VUE and AMOS will probably both immediately crash. Thus :

SUGGESTION #1 --- upon detecting the "large file" condition, VUE should "unload" the current line, avoiding the two above problems.

While inserting in VUE, if VUE finds 32 characters left in its buffer, then (without any warning) it will proceed to accept all remaining characters, echo them, throw them away, until carriage return is hit. At this point, a bell is sounded, but the throw-aways are left displayed. If the user returns to this line, probably using control-K, then the throw-aways will then be erased, and only successful inserts displayed. Any further lines inserted will do the same. They are 100% throw-away. Note : A double-escape will re-paint the screen correctly. Thus :

SUGGESTION #2 --- when the memory buffer limit is reached, sound a bell, and do no more echoing (just as AMOS does at monitor level).

[thanks, Lai]

(10) MAP --- switches clarified

In one buglist I was so brash as to assert that the MAP switches didn't work. Well, they do. It's just that they are more demanding than most switch sets. Basically, MAP by itself is equivalent to MAP /URMFBSH, as stated in the documentation. As soon as a "/" is included, however, all default switch options are cleared, and at least 2 or 3 options must be entered before MAP can have any logical output.

All the MAP switch choices that make any sense can be represented by the two following groups of switch combinations :

{R,U} + {M} + {B,S,H} and {F} + {B,S}

Where the braces indicate that at least 1 letter must be included from within that set of switches. If your switches do not satisfy the requirements of one of the two groups above, there will be no output !

(11) BASIC --- some things not in the manual

The following is no news to long-time AlphaBASIC users. Briefly :  
 (a) p 12 --- all references to "dynamic length strings" should probably be omitted, unless there is any future intentions ....  
 (b) p 34 --- the syntax "IF A <statement>" is not documented  
 (c) p 35 --- either DIM A(10) or DIM A(B) is allowed once, but no second DIM A(,.) is allowed in any program.

(12) LABEL.PRG --- pre-dates 4.4

We have here at Alpha Information Systems a virgin 4.2 Hawk Release disk from AM with the following label on block 0 :  
 Volume Name : AMOS Version 4.2 System Disk  
 Volume ID : SYS42  
 Installation : Alpha MicroSystems  
 System : System C  
 Creator : Bob Currier  
 (Dated) : 25-Jun-79

(13) Hashing Algorithm --- here it is

Using a good dis-assembler (DIS.PRG) on MAP.PRG, the hashing algorithm can be isolated. I quote the following from 4.4 MAP.PRG :

```

MOV #2,R5 ; go thru the program twice
CLR R3 ; R3=0
CLR R4 ; R4=0
INIT: ... ; R2 = size of module in words
... ; R0 = addr of module
HASH: MOV (R0)+,R1 ; R1 = next word in module
ADD R1,R3 ; R3=R1+R3
ADC R4 ; R4=R4+carry
SUB R2,R4 ; R4=R4-R2
ADC R3 ; R3=R3+borrow (not "-" borrow !!)
ADD R3,R4 ; R4=R4+R3
ADC R3 ; R3=R3 + carry
ASL R3 ; R3=R3*2
ROL R4 ; R4=R4*2 + carry
ADC R3 ; R3=R3 + carry
DEC R2 ; last word ?
BNE HASH ; no, go on to next word

DEC R5 ; have we gone thru twice ?
BNE INIT ; no, go thru again

... ; print out last 3 digits in R4
SWAB R4 ; swap bytes in R4
... ; print out last 3 digits in R4
... ; print out last 3 digits in R3
SWAB R3 ; swap bytes in R3
... ; print out last 3 digits in R3
    
```

Note that the file must be scanned twice. This algorithm has not changed since the first release, and probably never will.  
 As of 4.4, MAP display hashes in octal or hex (as per SET); DIR always gives hashes in octal.

(14) Disk read times --- see full page table following

Some more timings and a recap of all previous timings.

DISK READ TIMINGS

Buglist #13 had some disk read timings. Buglist #14 had some additions. Below are both previous tables plus many more timings. Also, there are blank spaces provided for all the remaining timings I can think of. A hyphen indicates cases for which hardware does not currently exist. All timings are given in milliseconds per disk block read. For RNDRED, this is an average, usually covering 500 or 1000 reads. For REDALL, this is the time of a REDALL divided by the # of blocks. The significance of this table is that it gives timings for both the slowest case (RNDRED) and the fastest case (REDALL) normally encountered in any "routine" disk reading program (excepting DSKCPY and FMTnnn). The timings are all effective as of 4.4 (probably the same as 4.3). For comparison, the 4.2 timings are given in parenthesis, to show the improvement made by version 4.3 .

| Device  | Inter | Format                      | RNDRED (4.2)                                 | REDALL (4.2)                               | Notes       |
|---------|-------|-----------------------------|--|--|-------------|
| ICOM    | ICOM  | STD<br>IMG                  | ( )<br>( )                                   | ( )<br>( )                                 |             |
| Persci  | AM200 | AMS<br>STD<br>IMG           | 150 ms (166)<br>239 ms (253)<br>138 ms (648) | 63 ms (63)<br>135 ms (130)<br>173 ms (694) | a,b,c       |
| Wangco  | AM200 | AMS<br>STD<br>IMG           | 270 ms (272)<br>365 ms (368)<br>243 ms (760) | 63 ms (62)<br>128 ms (184)<br>171 ms (690) | a,c,d       |
|         | AM210 | various                     |  |  |             |
| Shugart | AM200 | AMS<br>STD<br>IMG           | --- (271)<br>--- (369)<br>--- ( )            | --- (63)<br>--- (196)<br>--- ( )           | e<br>e<br>e |
| CDC     | AM210 | AMS/DD<br>STD/SS<br>various | 190 ms (---)<br>292 ms (---)                 | 122 ms (---)<br>130 ms (---)               | f<br>f      |
| Trident | AM400 | Trident                     | ( )  | ( )  |             |
| Hawk    | AM500 | Hawk                        | 62 ms (71)                                   | 27 ms (30)                                 |             |
| Phoenix | AM410 | Phoenix                     | 50 ms (56)                                   | 17 ms (29)                                 | g           |

Notes :

- (a) remember that IMG format only has 128 bytes per disk read
- (b) note that, for this format, RNDRED is faster than REDALL !
- (c) note the extraordinarily slow timings before 4.3
- (d) there is evidently a bug in the pre-4.3 Wangco IMG driver; it cannot read blocks 1999-2001, giving an error message that refers to block 2002 (!) The same blocks can be read by 4.4 (without re-formatting).
- (e) Shugarts were not technically supported on the AM200, but some bootlegged drivers have been obtained in the past.
- (f) CDC floppies are not supported on the AM200.
- (g) the pre-4.3 timings given are for 4.2.5

C L A S S I F I E D   A D S

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\* \* \* \* \*

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\* \* \* \* \*

HELP WANTED

If you have any articles, words of wisdom, programs, expertise or just plain b.s. you would like to share with our members, please send it to the Editor. Believe it or not, sometimes even I run out of things to say. Send it on diskette in either AMS or STD format and I'll return or replace your disk. (Sorry, I don't have a Hawk....yet). If it's short, just send the printed copy.

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Software Report Form

Software name \_\_\_\_\_

Software category  
(legal, medical, etc.)  
\_\_\_\_\_

Developer \_\_\_\_\_

Brief description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Number of current users: \_\_\_\_\_

References: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Minimum hardware configuration: \_\_\_\_\_

Special hardware requirements: \_\_\_\_\_

Batch mode: yes \_\_\_ no \_\_\_

Real time: yes \_\_\_ no \_\_\_

Multi user: yes \_\_\_ no \_\_\_

Interactive: yes \_\_\_ no \_\_\_

Language: \_\_\_\_\_

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Hard disk (specify model)

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Source \_\_\_\_\_

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Object \_\_\_\_\_

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