## Q.

When adding an expansion memory board to a 586 , the system gets panic traps; but the board works in a different system.

## A.

My first guess would be the cable from the power supply to the CPU board. These cables are deteriorating, and the extra power required for the board causes the failure. About the only other likely cause is the memory management PAL's.

## IN THIS ISSUE...

- Tech Notes Discusses NFS for the 1000, p. 5
- Letter to the Editor asks "Is URN for Real?", p. 5
- CSSC Spotlights Terry Hubert, p. 8
Q.

I ran into an unusual problem with my 1086 that I wish to pass along to everyone. I was installing a second drive into my 1086 when I discovered that when I installed it, not only did it not work, but my first drive also quit working. I examined the connector and found no problem. The system passed all diagnostics when the drive was not installed and the drive worked great in the first slot. I discovered that the pins on the backplane were too long and, when I inserted the second drive, the hard disc cage was actually touching the backplane pins. I would assume that I am not the only one to get a backplane in this condition.

## A.

Thanks for the info; let's hope this saves someone else hours of time and possibly hundreds of dollars on parts.

# EDITORIAL COMMENTS 

Sometimes I think I would have made a pretty decent salmon in a different life; I seem to spend a lot of time swimming against the current. Back when most everyone in the computer industry thought the sun rose and set on an IBM PC/XT with two floppies and Lotus $1-2-3$, I wanted multiuser systems with hard disk drives and databases. Now, when everyone wants multiprocessor 80486 boxes with tons of memory and gigabytes of storage, I want multiuser systems with hard disk drives and databases. Guess there is just no pleasing some people.

The problem with me is that I keep wanting the computer to be useful, not fashionable. The business market has been well-served by the systems we have been installing the last two years, and I honestly have enjoyed delivering the product. While not everything that you could want in a computer, they have been really excellent for accounting, database, and other character-based applications that business users tend to require. The Series 2000 will handle business environments that require up to fifty terminals and support some very extensive storage capabilities. It is well sorted out, reliable, a known quantity to resellers, and dead meat to Altos. Unfortunately, I still like it a lot.

In its place, we are being told that the new 80486 based systems, that will handle up to 200 users and/or do graphics that would make Walt Disney drool, are the answers to our prayers. They may be too complicated for $50 \%$ of Altos' dealers to sell and support, and they may cost
$50 \%$ more than what we are used to; but they sure are wonderful. Having watched the life cycle of computer hardware growing progressively shorter, I have more of a tendency to want to spend some time with the systems that work and deliver on the promises I am prone to making.

The Series 2000 was introduced a couple of years ago as a replacement for the 2086 type of system. Altos dropped any new support of it last fall, so its product life cycle was about eighteen months. We have gotten used to servicing it and have a substantial parts inventory, so I wasn't ready to quit selling it yet. Nothing against the new 80486-based systems, but a lot of our business clients were pleased with 15 to 20 terminals and a few printers - exactly where the 2000 waś at its best.

I could see some price adjustment to position it against the lower priced ISA bus equipment, but if Altos is going to discontinue it anyway, what would that hurt. At about $\$ 8,000$ dealer cost, I could sell them in abundance, assuming I had some essential items like NFS and other packages that are under development. Since the 486 is upward compatible from the 386, there isn't going to be any software that requires this new high tech hardware. Altos could ship an SCO compatible OS for those who like the applications available there and add some of their new packages to Altos System V for minimal cost.

Continued on page 5...

## So You Want to Be a Salesman ...

This month we thought that a focus on a specific category of hardware would be an interesting approach. There is a lot happening in the tape backup area, and this creates many opportunities for those that are aware of the new development. I thought that I would start with today's systems and recap the options available, working my way back through the historical models; that way you can quit reading when I have outlasted your attention span.
The Series 1000 (including 486/1000 and 600) are shipped with a 150 megabyte SCSI tape drive. This is an excellent choice if you have a 190 megabyte hard disk, because you can usually do your backup onto a single tape. We have always felt that this is important, because the operators don't have to attend the backup process; they can start it and go home. There is a new tape cartridge available for this unit that expands the capacity to $\mathbf{2 5 0}$ megabytes. It does not require anything different on the computer - no hardware changes, no software changes - just a new tape cartridge. Since the cost on this new cartridge is only $\$ 34.00$ dealer, it is very competitive with the previous low capacity model. This option seems ideal for hard drives up to 300 megabytes.

As a second option on the Series 1000 (and spin-offs), you can replace the OEM drive with a new drive. (CSSC offers the TAPE-320 at \$1,200 dealer.) This drive does everything that the stock drive does, like reads 60's and writes 150 megabytes, plus it stores 525 megabytes on a single cartridge. This size is well-suited to drive up to 700 megabytes. Since the capacity of the tape equals $75 \%$ of the drive, you should be able to do a file-by-file backup to a single cartridge.

The third option is to use the Exabyte drive as a second drive on the system. CSSC offers it as an external subsystem and as a module for the SCSI Expansion Unit. It has a capacity of over two gigabytes and does not interfere with the external drive at all. The media is very inexpensive (about $\$ 9$ ), and with drive sizes of 990 megabytes, it is still possible to have more hard disk capacity than backup capability, if you really want to.

The Series 2000 has similar options to the 1000 with a couple of significant differences. The MHZ systems were shipped with a 60 megabyte tape drive that was NOT SCSI. As with all of the 60 megabyte drives, you have the option of utilizing the 100 megabyte cartridge for increased storage capability. If you are running a different operating system than Altos System V (i.e.: XENIX 5.2C, CCPM, Theos, Pick or whatever), CSSC offers a hardware upgrade to the 150/250 megabyte configuration. This upgrade allows you to use the higher capacity tape cartridges without requiring SCSI support.

If you are on an Altos System V, you have the option of using either the 525 megabyte tape drive or the Exabyte unit on the system. CSSC's implementation of the Exabyte is the only available subsystem that does not use a slot on the backplane and runs on stock Altos hardware and software. The biggest advantage to this approach is that, should a problem occur, the tape drive can easily be eliminated as a potential source. If you unplug the cable from the file processor, the computer is restored to absolutely stock condition. This package is also the only available subsystem that can be utilized with over sixteen megabytes of memory.

For the desktop models, CSSC offers several increased capability products. The first is the 100 megabyte cartridge that replaces the old 60 megabyte tapes. NO changes in hardware and software; just buy the new tapes and enjoy $40 \%$ more capacity. If you have an 886 or 686 running a 190 megabyte hard disk or even a couple of 80 's, you may want to
consider the 150/250 megabyte tape drive upgrade. It does require replacing the drive, but it works extremely well.

If you have the "early" 586/986 type box with the MTU-4, you can purchase the tape cartridges that increase capacity to 26 megabytes. It may not seem like much, but if you are backing up a forty, it is just enough. Again, NO hardware or software changes to the equipment; just a new cartridge.

Congratulations to those of you who made it to the end; you are now awarded an honorary degree in Tapeology and the right to go forth and make a lot more money selling media and drive upgrades.

## Altos Launches UNIX EISA Minis

Altos Computer Systems, Inc. plans today to unveil two Intel Corp. 80486-based minicomputers that use the Extended Industry Standard Architecture bus and are aimed at vertical markets.
Dubbed the Altos Multiuser System 5000 and the Altos Power Server 5000, the UNIX systems are targeted to both character-based minicomputer and graphics applications.
Altos has backed up its effort by building $X$ Window System capability into the Multiuser System 5000. This lets resellers offer traditional business applications such as accounting, database and inventory control, as well as graphics applications such as desk-top publishing and computer-aided design, the company said.

Under an agreement with Network Computing Devices, Inc., (NCD), Mountain View, Calif., Altos' distributors will stock NCD X terminals. When an Altos VAR orders the System 5000 configured with an $X$ display, the reseller will receive the NCD product with Altos' name on it.

An example of an environment that could benefit from the ability to mix character-based and graphical applications is wholesale distribution, according to Altos. A company could use the 5000 to run inventory applications and use a desktop publishing application to create its catalogues.

Altos hopes its new systems will increase its market share in the federal government sector, as well.

Rich Tung, vice president of marketing at Altos, said a 5000 could be configured for up to 200 users and priced below $\$ 25,000$, a good price in the federal market.

The 5000 not only meets federal government requirements for standard architecture, but also lets resellers propose complete systems at prices below the $\$ 50,000$ General Services Administraton limit, eliminating the need to participate in the costly government request for proposals bidding process, said Tung.
Less than 10 percent of Altos' $\$ 139$ million revenue comes from the federal government. Tung sees that market growing to 15 percent by the end of the company's fiscal 1991, in June.

The multiuser model 5000 comes with 8 megabytes of memory, expandable to 64 megabytes, and can support up to 29 gigabytes of on-line disk storage in 30 disk drives over five SCSI channels. System 5000 runs The Santa Cruz Operation Inc.'s version of UNIX.

The 5000 file server comes standard with Altos' highperformance file processor card. Priced at $\$ 40,000$, the APS/5000 can simultaneously support PC LANs and UNIX workstations, as well as multiuser UNIX applications. Other features of the APS/5000 include an Intel 80486 CPU running at $25 \mathrm{MHZ}, 125 \mathrm{k}$ bytes of external cache memory and 16 megabytes main memory, expandable to 64 megabytes.

Both systems are available now.
Reprinted from the April 2, 1990, issue of Computer Systems News.

# Computer Support of Sioux City <br> Tape Products for Increased Storage Capacity Price Schedule - April 1, 1990 

Part\#
Altos 1000
420989-080
$420991-080$
$421000-080$

150 MB
250 MB
525 MB*

3M Part\#

DC6150
\$27.00
DC6250
DC6525
34.00
40.00

Altos 2000

| $420961-080$ | $60 \mathrm{MB}(16 \mathrm{mhz})$ | DC600A | 26.00 |
| :--- | :--- | :--- | :--- |
| $420972-080$ | 100 MB | DC600A $/$ XL | 33.00 |
| $420989-080$ | 150 MB | DC6150 | 27.00 |
| $420991-080$ | 250 MB | DC6250 | 34.00 |
| $421000-080$ | $525 \mathrm{MB}^{*}$ | DC6525 | 40.00 |

Altos 2086/1086/3068/3086

| $420961-080$ | 60 MB | DC600A | 26.00 |
| :--- | :--- | :--- | :--- |
| $420972-080$ | 100 MB | DC600A $/$ XL | 33.00 |
| $420989-080$ | $150 \mathrm{MB}^{*}$ | DC6150 | 27.00 |
| $420991-080$ | $250 \mathrm{MB}^{*}$ | DC6250 | 34.00 |

Altos 886/686

| $420961-080$ | 60 MB | DC600A | 26.00 |
| :--- | :--- | :--- | :--- |
| $420972-080$ | 100 MB | DC600A $/$ XL | 33.00 |
| $420989-080$ | $150 \mathrm{MB}^{*}$ | DC6150 | 27.00 |
| $420991-080$ | $250 \mathrm{MB}^{*}$ | DC6250 | 34.00 |

Altos 586T/986T

| $420961-080$ | 60 MB | DC600A | 26.00 |
| :--- | :--- | :--- | :--- |
| $420972-080$ | 100 MB | DC600A/XL | 33.00 |
| $420989-080$ | $150 \mathrm{MB}^{*}$ | DC6150 | 27.00 |
| $420991-080$ | $250 \mathrm{MB}^{*}$ | DC6250 | 34.00 |

Altos 586/986

| $420962-080$ | 17.7 MB | DC300XLP | 20.00 |
| :--- | :--- | :--- | :--- |
| $420963-080$ | 26 MB | DC300XLP /XL | 26.00 |

Altos is a registered trademark of Altos Computer Systems.

* Requires a non-standard replacement drive.

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## Do you yearn for URN?

The UNIX Resellers Network needs some answers from you to assist the organization in getting off the ground. Since we do not have a budget just yet, you will have to pay for the stamp, but it will be the best investment of 25 cents you make this year. Please indicate your level of interest in the following (with 0 being NO interest and 10 being very interested).
I. Developing buying capabilities that offer price advantages from consolidated purchasing.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

II. The exchange of UNIX related knowledge that is free of the bias sometimes associated with a particular vendor.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

III. The exchange of business related information that is unique to Value Added Resellers.
$\begin{array}{llll}0 & 1 & 2 & 3\end{array}$
4
5
6
7
8
9
10
IV. The development of a national support organization with standardised charges and some form of accrediting program that insures uniform minimum capabilities.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

V. The delivering of a private label hardware platform that is not distributed thru any other channel.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

VI. The annual dues for the organization should be:

| $\$ 100$ | $\$ 200$ | $\$ 300$ | $\$ 00$ |
| :--- | :--- | :--- | :--- |

If you desire to be placed on the URN mailing list to keep abreast of the planning process be provide the following information:

Contact Name: $\qquad$

Company Name: $\qquad$

Address:

City/State/Zip $\qquad$
Mail completed questionaire to:
URN Communications Director
P.O. Box 2159

Sioux City, IA 51102

## TECHNOTES: New Tool for Networking

by - Brian Keairns

With the introduction of NFS for the 1000, Altos resellers now have an excellent new tool to move into the growing networking market. Anyone selling a 1000 should consider using the ACPA board and Altos System V/NFS for the following reasons:

1. A 1000 with these options has unlimited connectivity potential.
2. Adding PCs, printers, terminal servers, etc. is very straightforward on an Ethernet network.
3. Using Ethernet for your connectivity solution is easier to work with than RS-232, and it provides better performance.
4. TCP/IP is a good idea, because every type of serious computer on the market has TCP/IP available for it.

The Altos NFS package for the Series 1000 comes as a complete operating system and includes TCP/IP. Under this configuration, it is very simple to get started with NFS since the TCP/IP and NFS are built into the operating system. Installation is as easy as Altos operating systems usually aremenu driven and with very few questions.

If DOS based PCs are going to be integrated with the Series 1000, and you desire a finished package similar to DOS Server, the next decision is the choice of an NFS package for the DOS machines. The factors involved in this decision include the number of boards that the package supports, the per station cost of the package, and the available memory on the PC after the network is up and running. FTP Software's PC/TCP package has drivers for a variety of boards, including Excelan's board, so it offers both high end and economical solutions. CMC offers an NFS package that runs on its CMC-630 board (which is actually a Western Digital Ethercard Plus compatible board). These boards are inexpensive "dumb" boards, but under CMC's TCP/IP and NFS for DOS the boards actually perform quite well. Another important factor in choosing a DOS NFS package is the amount of memory it uses. CMC's NFS package on the Western Digital type board used about 80k, which compared very well to FTP Software's entry, which used about 140k. The CMC package also did well in the ease of installation department. In fact, the product practically installed itself.

Note: Brian has worked in the Altos market for four years and recently had an article published in Altos World. He does technical writing for Computer Support.

Editorial Comments continued from front page . . .
Altos typically doesn't give a hoot what I think, but I have visited with a lot of resellers who share my view; that we are throwing good experience right out the window. If Altos wanted to cooperate a bit more openly, we would certainly do anything we could to extend the useful life cycle of this hardware for another year or two. While I am sure that this approach could be profitable and realistic for Altos, I am almost equally certain that they would never seriously consider it. They seem to be as committed to going with the flow (neat California approach to everything) as I seem to be committed to swimming against the current.

## LETTERS TO THE EDITOR: URN Sparks Interest

The biggest benefit of URN will be the networking of the members of the URN seminars and meetings.
The URN seminars and meetings should be kept as informal and intimate as the seminar sponsored by Computer Support. This might be accomplished if the members of URN remained only VARs who sell UNIX system on computers other than large mainframes. Keep the organization vertical, just for VARs with similar development needs. There are only 400 UNIX VARs in the U.S.

I think the ideas on the questionnaire are good. I think they should be discussed at one of the future URN meetings. The replies and input from VARs who show up at a URN meeting would be more sincere. They would not just be filling out one of the dozens of questionnaire/surveys they receive every year.

I think the expenses of URN should be covered by dues. There should be some discussion and agreement what is to be done with these dues before it is decided what the amount should be. I think the expenses of URN seminars and meetings should be covered by fees for each one.

Long weekend seminars or meetings which take up only one working day, such as Computer Support's networking seminar, are easier to attend.

## Robert Delamar

Lynk Systems, Inc.

## Dear Harry,

So the big question is, is URN real or just another DUKE? Or, put another way, do we really yearn to URN? Funny question to be coming from the Chairman, but it could be treated as a whim by some people. You said that you have had 17 dealers express interest. Did any discussions and/or correspondence proceed beyond initial curiosity? If so, what was the tone? Are resellers actually interested in organizing such a group?

I am interested and willing to put in some time for a worthwhile venture. I am interested in the concept of either a "dealers association" or a "CSSC authorized dealer program". A separate dealer association could offer such fringes as health insurance. On the other hand, if CSSC intensified its relationship with dealers, and helped us all to have a common national identification, and it made us all some money; it wouldn't really matter what the organization looked like.

So, if we are serious, then let's set a membership fee and some initial goals for minimum membership numbers. If we reach that goal, then elect some real directors and go forward. If not, send everybody their money back.

What are your thoughts on this whole issue?
Sincerely,
Jim SIoan

## We would Like to Hear from You!

Please fill out the survey on page six to let us know how you feel about URN.

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| 586 | 10, 20, 40 |
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Q1, Q2
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P1, P2

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We would like to introduce you to the real support at Computer Support of Sioux City: our technicians, office staff and sales personnel. These are the people who give you the service you have come to expect from CSSC.

Our first employee in the Spotlight is the man who makes quality his business, Terry Hubert. Terry has been with CSSC since 1987 and is our Quality Assurance "Chief".

Terry is a Sioux City native who attended local schools and graduated from Western Iowa Tech with a specialty in Electronics. He worked in the radio repair field for 11 years before coming to Computer Support.

Terry and his wife, Sue, also an employee of Computer Support, have the typical American family of 2.5 kids - a son, Neal, 12, a daughter, Amanda, 10, and they are expecting a baby in July.

For relaxation, Terry plays the guitar, preferring rock (which he says he's "outgrown") and country. He is also the ultimate Mr. Fix-It when he tears apart old homes and rebuilds them . . for fun! In the summertime, Terry can be found at the Little League fields, coaching, shagging fly balls and cheering enthusiastically for his favorite team.
"He's excellent! A nice person to work with," says Heip, one of his co-workers. Wife Sue says, "Oh, he's easy to get along with. It's not as hard to work with your husband as you might think." Of course, she's in a different department!

Terry's Words of Wisdom - "If it ain't broke, don't fix it." Great advice from a guy who can fix anything!

## MORE DR. ALBERT...

Q.

I want to change the hostname and internet address of my Altos, but when I reinstalied TCP/IP to make the change, it didn't ask me those questions like it did on my first time install. How can I do this - short of reinstalling the entire operating system?

## A.

Make sure your host file is accurate (i.e., it reflects the host name you want it to have), change the /etc/systemid file and reboot!


If you hold your nose to the grindstone rough, and hold it down there long enough, you'll soon forget there are such things, as brooks that babble and birds that sing. These three things will your world compose: Just you, and a stone, and your darned old nose!

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ALTOS 1000/1409T with 4 Mb of RAM, 16 ports, 125 Mb Tape Drive, 90 Mb Hard Drive, FILEIT (Buttonware SQL), Operating System 5.3bS1$\$ 7,000$ or best offer. Numerous 586/986T Altos Computers, Tape Drives. Ada Business Computers, (405) 436-2803.

WANTED: Hard Disk for Altos 2086, 80 Mb or larger. Contact Eddie Harmon at (313) 326-6666.

INVENTORY REDUCTION SALE. Excelan 205T (the best Ethernet PC card available) now available from Computer Support. We purchased an overstock of this quality board and can provide it at a reseller cost of just $\$ 520$. If you need an Ethernet board that is intelligent, conserves PC memory, and is supported by every software package on the market - this is for you. Call Brian at (712) 258-8888 to save big bucks.

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USED AND NEW ALTOS EQUIPMENT. All models. Low prices. Authorized Altos reseller. Factory trained technicians. Call Walter at (203) 263-3563 or Bob at (614) 587-0426.

68000s \& MTUs - 5. Best offer. (317) 788-5728. Medical Computer Services. Ask for Tom.

HARDWARE TECH OPENING with top Arizona Altos/IBM dealer. Ability to service 200 user base, cpus and peripherals. IBS, 2220 S. Country Club, Mesa, AZ 85210. Phone (602) 892-7223.

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UPS SPECIAL EXTENDED. We still have some of the uninterruptible power supplies at the special dealer cost of $\$ 700$. These units will work with the Series 2000, the Series 1000 and the SCSI Expansion Unit (SEU). These units are new, in the original carton, and are designed to work specifically with the Altos Computer systems. There is no off-the-shelf power system that can compete with these units. Call Computer Support for details at (712) 277-0095.

TOO MUCH INVENTORY: (2) Altos 586-40, \$500. UK-40, \$400. Various Altos spares-controllers, drives - ask. (3) NEC 3510 printers, $\$ 225$. CRTs ADDS, Altos, more. All look, run great. Howard J. Press Consulting, (309) 764-2991.

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