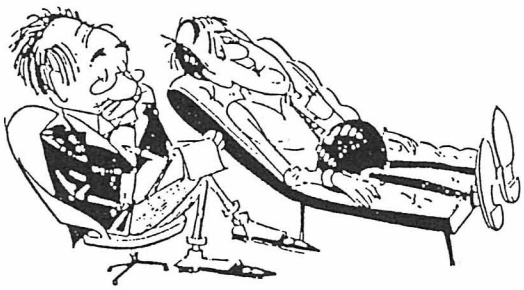
ALTOGETHER
A Newsletter for UNIX/XENIX* Multi User Computer Dealers
Volume 3 • Issue 10 • October 1989



ASK DR. ALBERT

Q.
I am installing a ACPA board in my Series 1000. What are some of the limitations on the 1000? I have the ACPA board in my 2000 along with two 10 port comm. boards.

A.
On the Series 1000, you may have the first 8 ports included with the CPU and the ACPA board, but no other comm. boards may be included.

Q.
Can I install more than 16 mb of system memory on my Series 2000?

A.
No. The Series 2000 only supports 16 mb. However, the new enhancements planned for the 2000 (to be released by the end of the year) will allow up to 64 mb.

Q.
I have a 2086-386, upgraded to a 16 mhz 386 CPU with (2) UK-190 hard disks. The price of the UK-190 is much higher than a UK-170 meg, and I don't need the extra 20 meg storage. Can I use the 170 instead of the 190 meg hard disk?

A.
The UK-170 is an ESDI drive. The UK-190 uses the ST-506 interface. They have a different number of sectors per track as well as other major differences with the interface. Also, the backplane on your 2086 was probably an ST-506 backplane which also would not support ESDI.

EDITORIAL COMMENTS

Maybe Nordstroms someday - right now Altos is about on a par with Woolworth's (at least they are ahead of Bomgaar's). I am still glad to have the old Altos guys back, but when I am in a depressive cycle, I realize what a big job they have to do.

Just to share some of this month's frustrations, I will detail some of my experiences with the new Altos. At the Roadshow, Mr. Conway addressed the lack of a parts price sheet and stated that it was an "action" item. I guess he meant something different than I thought, because four more weeks have passed without anything happening. Here in Iowa we call that an "inaction" item.

One of the accomplishments they are proud of is the reduction of inventory by about 20 million dollars. We have discovered that much of the reduction was in replacement parts. It sure is hard to buy popular items from spare parts, hope Nordstrom's has more stock than this.

Afer the Roadshow, I was all excited by Ethernet, so I came back to the office and ordered an ACPA board, TCP/IP software, and DOS Server software. Since I had ordered a bunch of this stuff back when it was Adlantes, I figured I could use some of my inventory for the experiments. My first problem was with the TCP/IP manual - it was missing pages (including, but not limited to, Chapter 3 - Installation). I notified both the distributor (an unnamed national distributor) and my Altos rep. After 10 days I still only get vague promises that someone is going to do something Real Soon Now.

I dug out my old ACPA/PC board and discovered that we have mislaid the software disks that came with it (they never worked anyway). Well, we lost it; so we will just have to buy another, I can handle that. We called the factory and were told "Sure, you can buy another, but it is the same cost as the board and the software together." Even Bomgaar's doesn't treat you that way!

In the same time we have purchased, assembled and tested other Ethernet systems and find it to be very much what we were searching for; it is just Altos stuff that we can't get together. By this time, I am sure some of you are saying "Yeah, but who the hell is Bomgaar's". I guess that is the point; if Altos doesn't take their new approach seriously, people will be saying, "Who the hell was Altos"; and I surely wouldn't enjoy that.

(Editor's Note: After this was written, I received the correct manual for the TCP/IP package. I was going to upgrade them to K-Mart until we received an invoice for twenty-five cents for special handling. We're leaving them at Woolworth for this month.)

THIS ISSUE...

- Special Software/Hardware Bonus
- And, of course, Duke's Free Classifieds!

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Special Hardware - Software Bonus

Both the Series 1000 and the Series 2000 suffer from a malady commonly known as DDS (Disappearing Disk Space). The space isn't really gone; Altos just doesn't put much effort into getting maximum usage out or the drives they ship. The worst case of DDS we have encountered is the 190 MB drive in the Series 1000. The Altos approach provides only 119 megabytes of usable space, while the drive offers 160; probably enough to be worth the effort to reclaim it.

The "problem" can be corrected by modifying certain files and re-installing the operating system. We DO NOT recommend that you do this unless you need the space. This information is offered without warranty; it's just some useful knowledge.

First, determine disk partition sizes and missing blocks with the utility /etc/layout. Type the command:

/etc/layout -f 0 /dev/hd0.layout

Caution: This program has been known to do terrible things if you choose the Quit option. Exit **ONLY** by hitting the delete key.

The output from this command will be similar to the following:

All numbers are in 512 byte blocks.

```
        Total available:          281610
        Blocks assigned:          260120
        Blocks left:               21490
Current Assignments:
1:a              12880  (main swap area                )
2:b             246960  (root file system              )
3:c                  0  (not used                     )
4:d                  0  (not used                     )
5:e                  0  (not used                     )
6:f                  0  (not used                     )
7:g                  0  (not used                     )
8:h                  0  (not used                     )
9:.spares          280  (spares for grown bad sectors )
10:j                 0  (not used                     )
11:k                 0  (not used                     )
12:l                 0  (not used                     )
12:.restart          0  (restart memory usage         )
14:extras        21490  (currently unassigned         )
Command     q)uit     m)ove     d)isplay
```

Do NOT choose Quit - just hit the delete key to exit.

The number of blocks that could be utilized is obviously the extra amount. In this example we have used an IN-170 ESDI drive on a Series 2000. The drive would normally provide 151.55 megabytes of available space but 10.745 megabytes (8%) are being wasted at this time. Some of the larger drive types are even more extreme, and the space that is potentially recoverable is even more substantial.

The root floppy has several ASCII files in the directory /etc/layouts/defaults that correspond to the approximate size of the hard disk options. An example of this is 127.0 for the 170 megabyte drive. This file contains the number of blocks allocated to hard disk partitions and frequently is substantially less than the optimum number, apparently to allow different drive models to be used within the range.

Correction of the DDS phenomena involves calculating the correct values for the drive installed, modification of the appropriate file and re-installation of the operating system. Remember - this is a destructive process, and the backup has to be tar format.

The actual correction must be performed when the file structure is built, during the first time installation. To make a change it is necessary to make a copy of the root disk and modify the layout files for the installation process. The layout file for this example was:

```
/etc/layouts/defaults/127.0
# layout file for 170 megabyte drive
# 127 megabytes; approx 260120 blocks
a 12880
b 246960
c 0
d 0
.spares 280
```

To correctly modify this file, you will need to mount the copy of the root disk on a working system and (using vi) change the number on the line labeled b to 268450. This number is the amount of extra blocks on the system added to the amount allocated for the root file system originally. When modification is complete just mount the floppy and do a first time install using this special root disk. The result is the maximum use of the drive. A similar approach on a functioning system would increase the space on a second hard disk in the same manner.

So You Want to Be a Salesman . . .

As mentioned elsewhere in this issue, we are really burning the Midnight Oil (OK, the six o'clock oil) to learn as much as possible about Ethernet. I have not historically been a fan of networking because it usually involved PC's, something I try to avoid (like the measles). I still don't love PC's much, but I have discovered that some of the PC owners have cash to spend and want to ease the transition to UNIX based equipment. The first makes them personal friends of mine, and the second gets us into Ethernet networking.

Since the existing standard is pretty much TCP/IP we are spending our R & D funds in this area. We have been experimenting mostly in a multi-vendor environment and have found the basic stuff to be just that - basic. You can transfer files, and function as a terminal on the other unit, but not too much that gets PC users excited. I think that we may find that a terminal controller unit (8 or 16 ports) running on Ethernet may be the better choice than Multi-drop for serving large groups of terminals, but for PC's you need more sizzle.

What we haven't selected yet is the best manner to provide access by PC's. The function of DOS Server is to provide services to attached PC's. This would include printer sharing and the ability to load programs from the host system. The initial reaction we have encountered is that it uses too much of the PC's memory, but we don't know (we still haven't got ours installed).

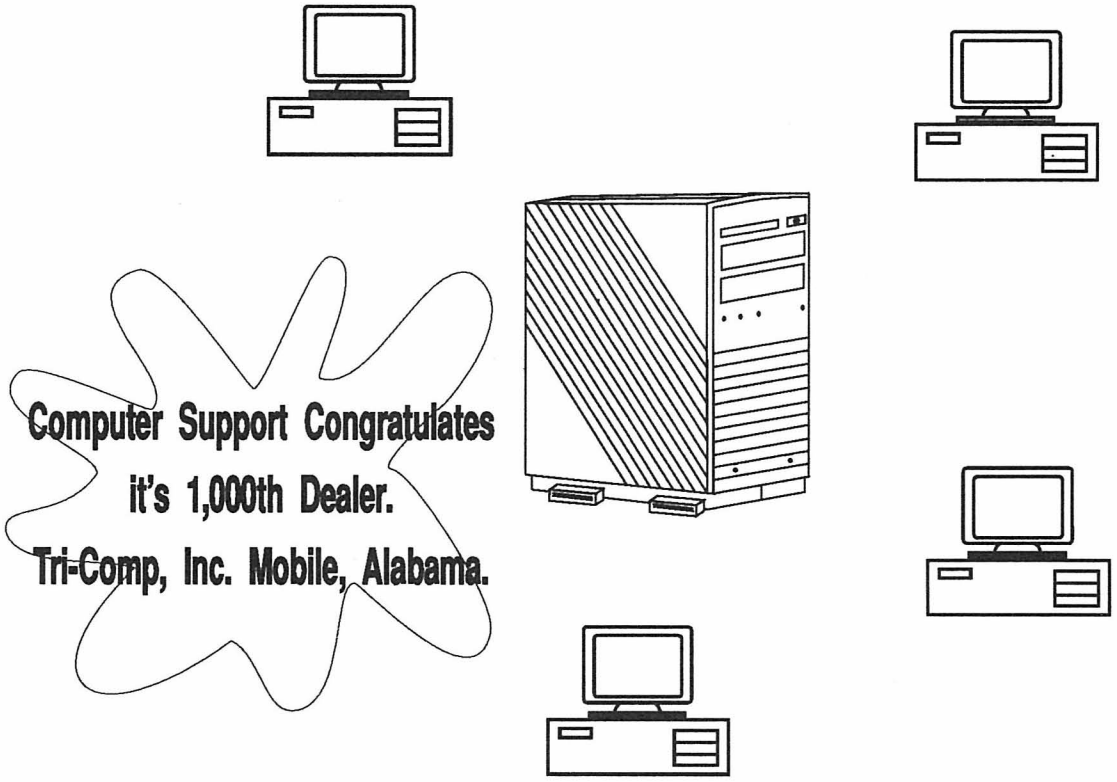
There are alternatives available, both in hardware and software that we are also investigating as sales possiblilities. The DOS Server is Altos proprietary so we will investigate the other choices to see if there may be something better that we should support. The ACPA/PC board is real easy to beat, since it isn't intelligent and is a memory hog itself. (It is pretty cheap if that is high on your list of priorities.) We will be doing most of our work with something like the Excelan board, because it will also serve us under SCO XENIX Net. Using one brand of board makes some sense to me from an inventory and knowledge basis.

Probably the best we could hope for is the ability to use the PC board of our choice with the Altos software. It must be their fear of this that causes them to price the software alone at the same price as the board/software package. If this eludes us, we will locate software that provides the kind of support we need without Altos being involved (maybe the smartest long-term solution anyway).

So far we are committed to using a product to replace the problematic TCU-8 and to using off-the-shelf PC cards that are intelligent and high performing. The ability to mix in SCO based systems is becoming more of a plus every day, because we think the UNIX world is evolving into more of an SCO world in a rapid fashion. We just hope they do a better job with it than some other companies who inherited a big piece of the pie.

During our early efforts we really haven't been disappointed by anything about Ethernet. It is fast, well documented, supported by a lot of companies (IBM has announced Ethernet for the AS400!), and very straightforward to work with. Most of the things that have made life less than pleasant have been related to PC's or Altos, about what we should have expected. We are determined to plunge ahead in this category and have even wired our new building with extensive networking capabilities to use the products ourselves - just hope we didn't waste the money on the Altos stuff (again).

Ethernet Cabling Supplies



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586	- 10, 20, 30, 40	~~1250+~~	999+
986	- 40	~~2700~~	2500+
586T	- 40, 80	~~2500+~~	2000+
986T	- 40, 80	~~3000+~~	2500+
686	- 25, 50	~~2200+~~	1750+
686T	- 50	~~3000~~	2500+
886T	- 25, 50, 80	~~3500+~~	3000+
1086	- 50, 80, 190	~~5000+~~	4000+
2086T	- 80, 190	~~6000+~~	5000+
3086T	- 170	~~10000+~~	8000+
3068	- 80, 170, 190	~~7500+~~	6000+
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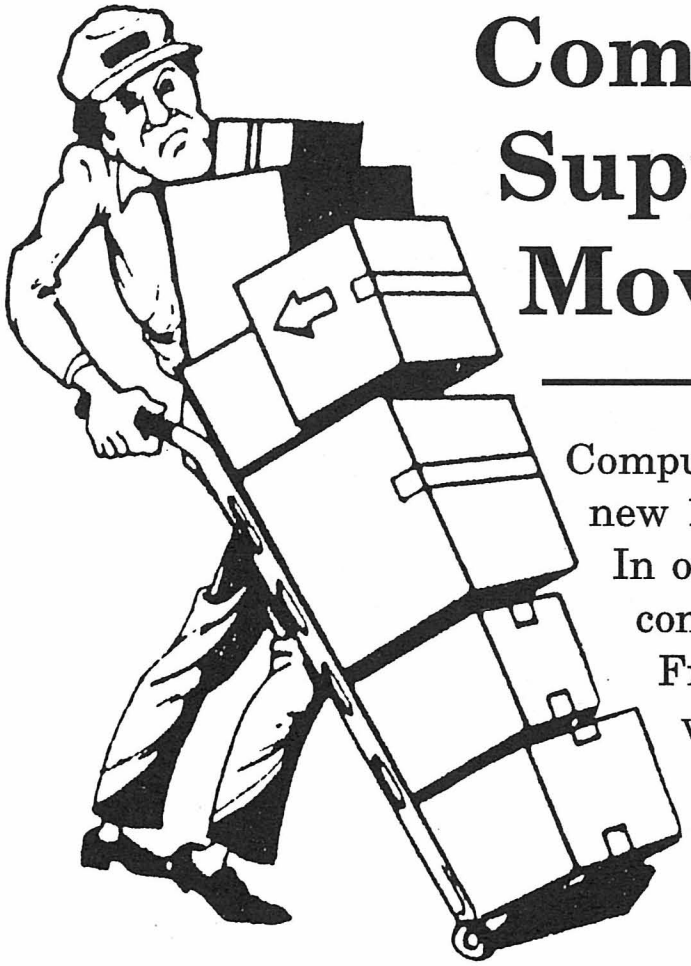

Computer Support is Moving!

Computer Support is expanding into its new 12,000 square foot headquarters! In order to complete the move, the company will suspend operation on Friday, October 19, at 3:00 CST. It will resume normal business operations on the following Monday, October 22nd, at 8:00 AM CST.

The new facilities will double the space in which the company operates and will allow Computer Support to maintain its traditional high level of quality and support. The new building will mean an expanded service area and more room for inventory. The expansion should come as good news for Computer Support and its customers as well. Our new address will be 4200 West Gordon Drive. The phone numbers are unchanged.

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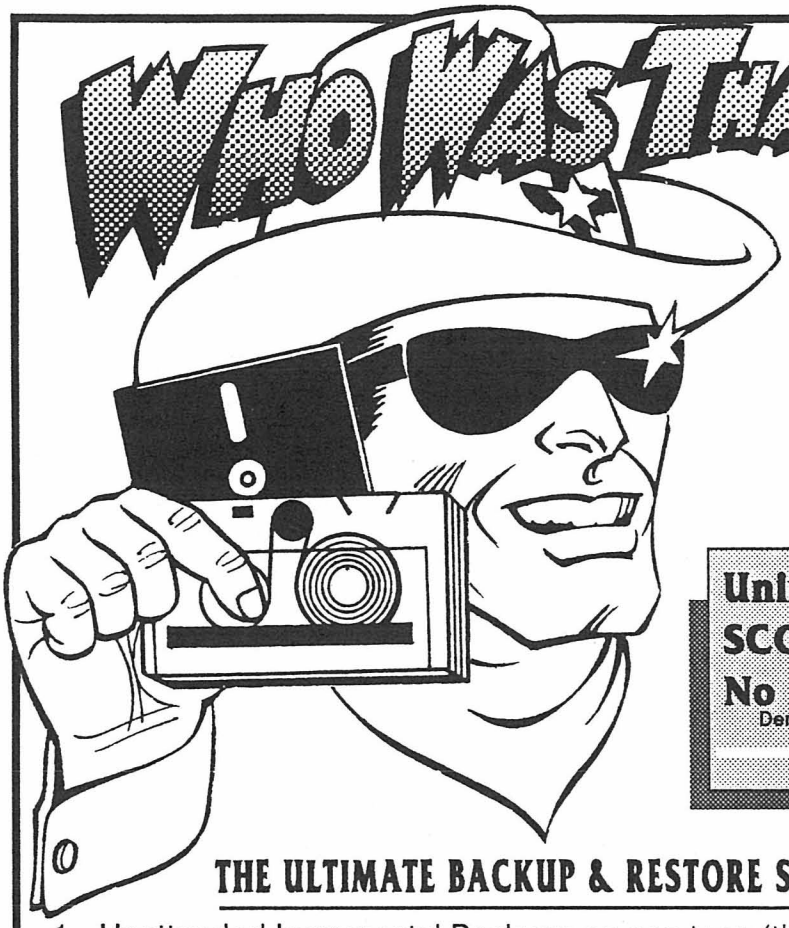
LATE NEWS FLASH!

LAS VEGAS, NEVADA — At Comdex, in Las Vegas, from November 13 to 17, 1989, Altos will have private showings of EISA based 80486 Systems. Rumor has it that the only operating system offered will be SCO UNIX. You should probably call your District Sales Manager and ask for an invitation to the private shows.

Shipments are scheduled for the first quarter of 1990.

WHO WAS THAT LONE-TAR! ™



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11 - Group tag option makes restoring or archiving files for a "group" id possible
12 - Restore SCO in 20 minutes with lone-tar CRASH RECOVERY SYSTEM
13 - Maintains log flies of all archives, restores, verifications,etc.
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16 - Vol # checking on restore prevents restoring out of sequence
17 - Can except file name to archive or restore through a pipe (|)
18 - 33% faster to verify & restore than any other utilities
19 - Dual sequential device backup with automatic switching
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21 - Supports Inclusion & Exclusion file lists
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25 - True Data Verification mode
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WANTED: Used Altos equipment or excess inventory. Contact Ed Embree at (312) 860-5807.

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