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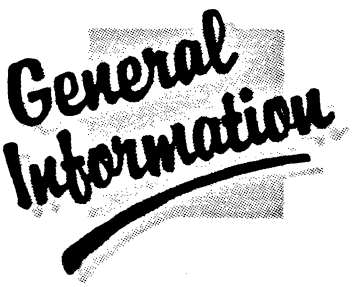
In this issue...



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We hope you find the *AMSD Journal* to be a valuable reference tool, and that you will want to refer to its articles frequently in the future. To make it easy and quick to find information, current articles are designed to be filed with articles from past issues. The entire set of *Journal* back issues forms three volumes: "General Information," "Software Information," and "Hardware Information." (The set of back issues is available for purchase. See "Subscription Information," above.)

The title of each feature article in this issue includes a reference number. Use the reference number to file the article in the back issue volume indicated at the top of each page of the article. For example, if the top of the first page of the article "6.5.5 One Hundred New Uses for MULTI," contains the words "Software Information," you know that article is to be filed in Section 6 of the "Software Information" back issue volume after article number 6.5.4.

The last pages of the *Journal* are new Tables of Contents for the back issue volumes, updated with entries for articles included in this month's issue.

2.8.3
Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

By Arthur Silverstein
Senior Support Specialist
Technical Support Group

With the release of AMOS/L 1.3C, you now have the ability to increase the storage capability of your 30Mb Quantum disk drive. This will increase your drive's capacity by 5Mb without any cost increase except a little time. But before doing this, we need to review the differences in the new device driver. The goal of this article is to prepare you for ALL the steps and parts required so the change will be easy.

Although we give detailed instructions below, the procedures in this article require familiarity with basic Alpha Micro software and hardware maintenance: if you do not feel comfortable following these procedures, please contact a qualified service technician trained on Alpha Micro equipment for assistance.

I also want to warn you that you are updating from an earlier revision of the operating system to a later one and should check in advance that ALL the programs and utilities you are presently using are compatible with this later version.

There is a basic difference in the new disk driver which will cause you some extra work. The original driver for 30Mb was not a "hidden sector zero" type driver and the new driver for 35Mb is.

The way this type of driver works is: in the booting stage, the boot PROMs will try to read the very first sector on the drive and if the drive's first sector contains valid data for a "hidden sector zero" drive, it will retrieve ALL information required for it to boot from this hidden sector and commence the boot operation. If the data is not valid for a "hidden sector zero" drive, it will try to search through its look-up tables and determine the drive size and capacity and boot based on the results of this search.

Due to this difference in booting and drive specification retrieval philosophy, it may be necessary to replace the boot PROMs, replace the disk controller, reformat the drive, and recapture bad block information.

This operation is not quite as easy as it sounds. Therefore, I will list ALL the steps and then go through detailed instructions for each step. The step-by-step instructions will assume the Quantum drive is the only drive on the system and you are using VCR tape as a backup media. We also assume there are multiple logical devices on the disk drive. Proper precautions and/or adjustments may be necessary if the drive is not the system boot device, or if there are add-on drives such as the Alpha Micro AM-1001 Disk expansion.

1. Back up ALL the data on the system.
2. Replace boot PROMs and controller if necessary
3. Install AMOS/L 1.3C.
4. Make bootable tapes of 1.3C and use MONTST to bring the system up onto AMOS/L 1.3C.
5. Save BADBLK.SYS and run XXXCRT to reformat the drive.
6. Restore BADBLK.SYS.
7. Reboot the system.
8. Restore data onto DSK0:.

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

9. Make a new system boot device driver.

10. Change the AMOSL.INI for the proper system configuration.

11. Change AMOSL.MON to use the proper disk driver.

12. Check the monitor and initialization files.

13. Check that the system boots when you press the RESET button.

14. Restore the rest of the data to the system disk.

If all these steps progress correctly, you will have a 35Mb disk drive instead of the 30Mb drive you had before.

STEP BY STEP INSTRUCTIONS

1 - Back up ALL Data on the System

Once you have made sure ALL other users are off the system and will not need to use it for the required time period, you will have to make a complete backup. Please note the time required to do this will vary with the amount of data and average file size, in blocks, on your system. The first step is to log into the System Operator's account with the following command:

LOG OPR:

If your system has this account with password protection enabled the system will ask you for the password and you will have to give it the correct one.

Once you are logged into this account, you need to verify the data structure on each of the drives is correct. This is done with the following command:

DSKANA DSK**xx**:

where **xx** refers to the logical unit number. You must run DSKANA on every logical DSK device defined on your system.

Once you complete this step, save ALL the data on the system. The following command will save ALL system data onto VCR tape:

VCRSAV ALL:[]

Once this program is started, it asks you to preform certain functions on the VCR and on the terminal executing the program. This means it will be very convenient to select a terminal very close to the system as well as the VCR.

During this operation, VCRSAV will display on the screen ALL the files it is going to back up. While it is giving you the directory of what it is going to save on tape, please make sure it lists ALL the data on the disk drive. If you want to halt the screen display to look and investigate, you may do so by pressing the CTRL and S keys on the terminal at the same time. To continue the operation, press the CTRL and Q keys at the same time.

Once this program has finished, you should check the tape for a good reliability ratio, greater than 100:1, and no hard errors. This is done with the following command:

CRT610/C

The system will display information on the reliability ratio while it is running. This

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

operation will take the same amount of time the backup took. Once finished, it will prompt you to rewind the tape. Please note the reliability ratio and hard error count at this time. If there are any hard errors or if the reliability ratio is below 100:1, please investigate and cure the problem or call for assistance. DO NOT continue unless everything is good.

2 - Boot PROMs and Controller If Necessary

Depending on the age of your AM-1000 and the modifications done to it over time, you may not have boot PROMs that will work with a "hidden sector zero" drive.

The lowest revision acceptable is part numbers DWB-00169-10 and DWB-00169-11, revision B00. (Boot PROMs are in sets because one of the PROMs is for the high byte of the word and the other is the low byte of the same word.) These are located on your AM-1000's main logic card in IC locations U82 and U83.

If replacement boot PROMs are needed, you may order them through Order Administration under part number RFK-00167-01.

If your boot PROMs are an acceptable revision, you may bypass the rest of this section and go to Step #2.A, "Checking the Controller Version."

The first step in changing PROMs is to power off the system. First, unmount the drive by typing the following command:

MOUNT DSK0:/U

Turn off the A/C power entering the system. The A/C power switch is a toggle switch and located on the back of the system. Place it in the OFF or 0 position and listen for the disk drive to stop spinning. This should take about one minute.

Remove the top cover by unscrewing the three attaching screws on each side and the four on the back of the system. Place the top cover where it will not be damaged.

Locate the boot PROMs in locations U82 and U83. We need to warn you that some memory expansion boards cover the boot PROMs. If this is the case you will have to remove the memory expansion at this time.

Replace the PROM at location U82 with the PROM labeled DWB-00169-10. Please be careful in removing the old PROM. If you use an IC removal tool, you will minimize your chances of damage. Also be careful to make sure pin 1 is positioned properly.

Replace the PROM in location U83 with the PROM labeled DWB-00169-11 following all the precautions taken to replace U82.

If your system had a memory expansion board which you removed earlier, you should reinstall it at this time. Please make sure you do not bend or damage any signal pins connecting the memory expansion to the AM-1000's main logic card. Also make sure all the pins are connected and you have replaced the board correctly.

Now, run self test on the system. To do this, press the RESET button on the system's front status display panel and hold it for five seconds or so after you turn on the systems A/C power. At this time, make sure either the terminal connected to port 0 is set for baud rate of 300 or the front status display codes are correct for an operational system. (See the AM-1000 Owner's Manual for a list of the status display codes and their meaning.) Please note the quantity of memory the

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

self test reports the system as having. If this is not correct or if self test will not run, you need to verify you have installed everything correctly.

Once self test has made a complete pass through the system and is at the point of testing memory again, you may press the reset button to reboot the system. (Replacing the boot PROMs should not affect the booting operation.) Please remember to set the terminal back to the baud rate at which it normally operates.

If the system does not perform both the self test and booting functions, check what you have just done and make sure it is correct.

2.A - Checking the Controller Version

After successfully completing the previous steps, you will need to replace the disk controller if it is not the correct version.

First, unmount the drive with the following command:

MOUNT DSK0:/U

Now you must turn the A/C power to the system off.

The disk controller is located above the disk drive but below the main logic board. To enable you to investigate it, you will have to remove the four screws located in the rear of the system which attach the brace on the main logic board to the systems back panel, and place the main logic board in the service or extended position. Please use the latch holding it in this position and make sure it is secure so the main logic board does not collapse onto you while you are working on the system.

The disk controller is located above the disk drive on the right hand side of the system as you look into it from the back of the system.

There are two different types of disk controllers used in the AM-1000, models 1410 and 1410A. There is an easy way to identify the type of controller installed in your system: examine the power cable entering the controller board. If the power connector is parallel to the controller board, the controller is a 1410A. If the power connector is at 90 degrees to the controller board, the controller is a 1410. If your controller is a 1410A, you can proceed to step 2.B "Preparing the System for Operation."

The 1410A is a direct replacement for the 1410. This means all you need to do is to replace one with the other. ALL the connectors, mounting holes and hardware used are the same for both types of controllers.

To replace the 1410 with the 1410A, you must unplug the 26-pin and 34-pin ribbon cables from the 1410 on the side of the controller toward the rear of the AM-1000, that run from the controller to the disc drive. Now unplug the power cable for the controller. Next remove the four nylon attaching screws attaching the controller to the drive/controller assembly. The controller is now physically free of the drive/controller assembly, but still attached to the main logic card by a 50-pin ribbon cable. Upon unplugging the cable from the 1410 controller, you can remove the controller from your system.

Before installing the replacement 1410A controller, we must check the position of its jumpers. There are two jumpers to be concerned with. These jumpers are located, one each, on either side of the 50-pin connector for the ribbon cable. The first is for the controller address. This jumper is marked with a "0" to "7" where there are two pins for each position, and must be in the "0" position

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for the controller in the AM-1000. The second is for data sector length. It is marked "2" and "5" and must be in the "5" position, connecting the center pin with the pin on the "5" position.

You are now ready to install the 1410A controller into your AM-1000. The first step is to connect the 50-pin ribbon cable to the 1410A controller. Be sure pin 1 is in the proper position and the connector is connected completely. The next step is to attach the 1410A to the drive/controller, installing the four nylon attaching screws. The final step is to attach the remaining two ribbon cables, and power cable.

2.B - Preparing the System for Operation

Closing the system and verifying operation must be done before you can continue.

First, place the AM-1000's main logic board into its normal operating position by releasing the latch and carefully lowering the board. Now install the four screws into the back of the unit and attach it to the lower portion which houses the fan. Now place the top cover in position, making sure the orientation of front to rear is correct. Install the remaining four screws in the rear and the six side screws, three in each side.

Once you have reassembled the AM-1000, place the unit into self test and make certain ALL tests pass if you have the component being tested. If self test passes, boot the system and check the operation of the disk service area by running DSKANA on each logical. If self test does not pass or DSKANA fails, you must investigate why and correct before you can continue.

If everything tests OK, you may continue.

3 - Install AMOS/L 1.3C

Install the new version of AMOS/L per the installation instructions in the AMOS/L 1.3C Release Notes. Be careful to follow the instructions step by step, and use the disk driver for a 30Mb Quantum disk drive when asked to use FIX420.

4 - Make Bootable Backup Tape of 1.3C and Use MONTST to Boot Onto 1.3C

Once AMOS/L 1.3C has been loaded, you must make two warm boot tapes with the 35Mb Quantum disk driver. You do not have to backup any files on the warmboot tape. Be careful not to exceed the 61000 bytes warmboot limitation.

First log into the system driver account with the following command:

```
LOG DVR:
```

Now create a 35 Mbyte QT driver by entering:

```
FIX420
```

The system will now ask you for the device. Enter the selection for a 35QT. This will create a 35 Mbyte Quantum disk driver.

The system will now ask for the number of logicals you want to create the driver for. The factory setting for this is 2. If your system is running with a different number of logicals, please enter the number of logicals.

The system will now ask you if this is a sub-system. The correct answer is NO.

The system will now ask you for the new device driver name. Please enter the name "BOOT".

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

The system will now tell you the correct bitmap size. Please write down for use later.

We now need to save the device driver onto the system. This is done by entering the following command:

SAVE BOOT.DVR

Now log into the system account. This is done by entering the following command:

LOG SYS:

We can now make the first of the two warmboot tapes. In order to keep the two clear in our minds we will have to give them two different names.

To generate the first tape, enter the following command:

WRMGEN 35CRT.WRM

The system will now ask you for the input monitor. Please enter:

AMOSL

The system will now ask you for the system boot device. Please enter:

BOOT

The system will now ask you for the system interface driver. This and the next three steps are specific to the terminal you are working on. In most cases it will be the very first port on the system and either 9600 or 19200 baud. I will assume you are use an AM-62 type terminal and running at 9600 baud. If you are using a different terminal, port, or baud rate, please enter the information for your specific situation. With the basic assumptions stated before, please enter:

AM1000

The system will now ask you for the port assignment. Please enter:

0

The system will now ask you for the terminal baud rate. Please enter:

9600

The system will now ask you for the terminal driver. Please enter:

SOROC

SPECIAL NOTE: On my selection of terminal drivers. The SOROC terminal driver will work with almost all ASCII terminals, you will not need the advanced screen handling of the AM6X series terminal drivers, and it is smaller in size by byte count.

The system will now ask you for all secondary devices to define. Please enter:

/VCR0

Then a blank line.

The system will now ask you to enter programs to load into system memory. Please enter:

XXXCRT
BADBLK
SYSTEM

Then a blank line.

The system will now ask you for programs to load into user memory. Please enter:

Just enter a blank line.

The system will now compile the warm boot file, and report to you the total size in bytes. Please make sure the total size is less than 61000 bytes.

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

The next warm boot to create is to restore data. Please enter:

WRMGEN RESTOR.WRM

All the information, and conditions, for this tape are the same as the first, except the programs to load into system memory. These are:

SCNWLD.SYS
VCRRES
VCR.DVR[1,6]
SYSACT
SYSTEM

The two warm boot tapes are now complete. We are now going to save them onto tape and check them. To do this, please enter:

CRT610 RESTOR.WRM/B

Follow the instructions to control the VCR and the first warm boot tape will be made.

Then check the tape with the following command:

CRT610/C

Now make the second tape by entering the following command:

CRT610 35CRT.WRM/B

Then check the tape with the following command:

CRT610/C

If a tape does not have an acceptable reliability ratio, follow the steps to make that tape again before continuing.

5 - Save BADBLK.SYS and Run XXXCRT To Reformat the Drive

Log into the operator account and type:

BADBLK DSK0:

The system will respond with a "*" prompt. Now list all the defects and drive serial number by typing in the following:

L

The system will list the serial number, number of bad blocks and a listing of all the bad blocks. You MUST copy this information on an external device. For simplicity's sake, I suggest just writing it out on paper, since you will only need the information for a short period of time.

To exit back to AMOS, level type:

E

You should now have the AMOS prompt back on your terminal.

Once we are sure we have this information, you need to warm boot the system with the 35CRT warmboot tape and reformat the drive with the following command:

XXXCRT DSK0:

Once this program is finished, the drive is now reformatted and you can continue. If the program has aborted please try to run XXXCRT again. If it fails again you will have to call for assistance.

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

6 - Restore BADBLK.SYS

To restore the original bad blocks, use the BADBLK.LIT program you loaded onto your warm boot tape earlier. To execute it, type in the following command:

BADBLK DSK0:

The program will give you a "*" prompt. To see all the bad blocks it found, type:

L

To change the serial number to the original serial number type:

S **xxxxxxxxxx**

where **xxxxxxxxxx** is the serial number desired.

To add a block to the bad block list, type:

A **xxxxxxx**

where **xxxxxx** is the block number you want to add. This should be one of the blocks that was previously in BADBLK.SYS.

The program will then warn you that you will destroy data and ask you if this is OK. You should answer YES.

Once you have added all the original bad blocks back into BADBLK.SYS, you should list them, as explained before with the L command.

If all the blocks are present and the serial number is correct, you will need to exit by typing:

E

BADBLK.SYS has now been updated on the drive.

7 - Reboot the System

Using the RESTOR warmboot tape you made previously, warmboot the system.

8 - Restore Data onto DSK0:

Restore ALL data to the first logical of the drive with the following command:

VCRRES DSK0:[]=DSK0:[]

The system will prompt you to control the VCR. Please just follow along and the system will restore data to the first logical on your system.

9 - Create the New System Boot Device Driver

Log into the DVR account, DSK0:[1,6], and execute FIX420 and generate a new device driver as previously done for the correct number of logicals, and controller address. Remember the bitmap size as you will need it in the next step. You may still have the bitmap size from earlier. If so, this should be the same. I suggest you name this driver "BOOT".

Once you have generated the driver, you will have to save it as you did previously.

10 - Change AMOSL.INI for Proper System Configuration

Log into the SYS account, DSK0:[1,4], and use AlphaVUE to edit a test .INI file. I suggest you use the name TEST.INI. This should be a copy of the AMOSL.INI file. Make the appropriate changes to the BITMAP statements--from the number you saved earlier--in the .INI file, test it, and save the final version.

2.8.3 (Continued) Increasing Data Storage on an AM-1000E Quantum 30Mb Disk Drive

11 - Change AMOSL.MON for Proper Disk Driver

Use the MONGEN command and generate a new system monitor file under a test name. This is done by entering the following command:

```
MONGEN
```

The system will ask you for the system boot driver. The system device driver is the driver you created in Step #9. Please enter:

```
BOOT
```

The system will now ask you for the language definition table. A blank line will default to English. Please press RETURN.

The system will now ask you for the name of the new monitor. Please enter:

```
TEST
```

Now that we have generated a new system monitor for the 35 Mbyte drive we need to save it with the following command:

```
SAVE TEST.MON
```

12 - Check the Monitor and Initialization Files

Log into the OPR account, DSK0:[1,2], and use the MONTST command, specifying the test monitor and initialization files you have just created. If you have been following along and using the names I have suggested this can be done by entering the following command:

```
MONTST TEST.MON,TEST.INI
```

If the system boots, use the SYSTAT command to make sure the bitmap statements are correct and the drive bitmaps are not KAPUT.

If everything is correct, you will need to copy the test initialization and monitor files into the names AMOSL with the following commands:

```
COPY AMOSL.MON=TEST.MON
COPY AMOSL.INI=TEST.INI
```

13 - Check for Boot on Hardware Reset

The final test for proper operation is to reboot the system manually by pressing the RESET button. If the system boots, you have successfully completed the change and from this point onward your system will have a 35Mb drive.

14 - Restore Remaining Data To System

Log into the System Operator Account, DSK0:[1,2], and restore the rest of the data to the logicals of the drive with the following command:

```
VCRRES ALL:[]=ALL:[]/NOD
```

Follow along as the program once again asks you to control the VCR.

Once this step is complete, your system is operational and all data has been restored. I suggest you now make a backup of the first logical due to the monitor and initialization files changing. If you maintain a warm boot tape for your system, it is a good idea to regenerate the replacement AMOSL.WRM warm boot file.

3.7.2
Rekeying AM-350 I/O Expansion Cable

To prevent incorrect installation of the AM-350 cable between the AM-905 I/O Expansion box and the AM-350 board, the 60 pin flat cable has been keyed on both ends at pin 60. This cable is now available as part number DWB-10190-00 Rev. A00.

In compliance with this change, pin 60 is removed from positions J1 and J2 on the AM-350 board Rev. A05/C01. And, pin 60 is removed from positions J1, J3, J7 and J9 on the AM-349 board inside the AM-905 expansion box Rev. B01.

To use this new cable between earlier revisions of the AM-350 board (prior to A05/C01) and the AM-349 board inside the AM-905 expansion box (prior to B01) you must remove pin 60 from the header (connector on the board), as described in the previous paragraph.

4.7.1
AM-324 Line Printer Interface Performance Update

by John Proper
Director of Hardware Development
Advanced Products Development

This article provides information on the performance characteristics of the AM-324 High Speed Parallel Line Printer Interface, as well as discussing some of the testing done with this interface.

AM-324 Description

The AM-324 High Speed Parallel Line Printer Interface connects between the AM-355 bus on either the AM-175 CPU (AM-1500) or the AM-180 CPU (AM-2000) and the line printer. The AM-324 is a paddle card and mounts on the back panel of the computer system along with any other paddle cards (for example, AM-355, AM-640, AM-353, AM-525, and AM-526). The interface to the printer can be either a Data Products or a Centronics interface, and it supports either a short line (TTL - 15 meter) cable or a long line (Differential - 50 meter) cable.

The AM-324 contains an 8Kb circular buffer for the storage of characters transferred between the CPU and the printer. Using the AM-324, the CPU can deliver a buffer full of data at the CPU's speed and the printer will take characters at its rate. When the buffer is half empty, the CPU refills it at high speed; this allows for the fastest possible printing speed at the lowest CPU burden.

Original AM-324 Specifications

We originally specified the AM-324's performance at a printing speed of 2000 lines per minute (LPM) based on the printer specifications provided to us by Data Products. The type of printers on which these specifications were based is typically either a band printer or a drum printer.

Speed in printing is achieved by rotating the character set past each print position as quickly as possible. Band printers rotate the characters horizontally and drum printers rotate characters vertically. Speed is limited by the speed at which all the characters pass the print positions. The length of the line and the pattern of the characters do not affect the printing speed.

Updated Specifications

As a result of some testing we did for a European customer, we have more fully defined the specifications of our interface. Storage Technology Corporation makes a band type line printer capable of 5000 LPM, and we have tested the AM-324 with this printer. The printer is specified as providing 5000 LPM with any length of line using any character pattern when using a 48-character band. The printer has dual hammer banks separated by five print lines and uses large, internal buffers to store 20 lines of print.

The printer used by Alpha Micro has a 52-character band installed and a specified print speed of 4618 LPM. Our testing indicates we were able to drive the printer at 4650 LPM, which is on the high side of the 3% specifications tolerance.

We then added eight jobs to the system (an AM-2000) and had each of those jobs running a compute-only task which left the printer with only 1/9 of the CPU time. The speed was still 4650 LPM.

We then built a "printer simulator," which simulates an infinitely fast printer whose speed is limited only by the Data Products interface timing specifications. We used

4.7.1 (Continued)
AM-324 Line Printer Interface Performance Update

this simulator to test the total throughput of the printer channel. The simulator ran at 74,517 LPM, indicating that we had a large margin for driving a printer.

These timings are based on a memory-based supply of characters, rather than the more normal disk-based supply, since we are trying to define the limits of the printer channel, not the disk channel. However, printing generally comes either from disk or tape and the delivery capability of either channel must be considered when calculating actual print speed in a "real" environment.

Printer Applications

The application for high speed printers today is best suited for situations in which multiple copies of the same page are required. Laser printers are available which print pages at about the same rate or faster than the 5000 LPM printer described above. However, when multiple copies are needed, the line printer excels because it can print several copies at the same time while a laser printer must print them sequentially.

The application for high speed line printers is interesting because it shows how far some areas of technology have advanced, while others are still far behind.

The real-world configuration that sparked our additional testing of the AM-324, consists of three 5000 LPM printers (15,000 LPM total) driven by three 9-track magnetic tape drives. While just a tape-to-print application, the same application as in the early 1960s, this application is advanced simply because of the quantity of data that can be processed. While Alpha Micro will not know for several months how well the application works in production, our numbers show that it is possible to have enough CPU cycles to meet this heavy demand, and that the AM-2000 and AMOS are the best low cost solution for difficult data processing loads.

6.1.45a
Errata: "AM-1000 CPU Modification History"

Three typographic errors have been found in the September 1987 Journal Hardware Volume article 6.1.45 - "AM-1000 CPU Modification History."

The page, column, and step number are given below so you can find the error in the original article. Please make the corrections shown in bold type below to the original article.

Page 8, Second Column - Modification #26

The first sentence of step A gives incorrect U position numbers and should read as follows:

> Install a 3.3K ohm resistor from **U175** pin 8 to **U175** pin 14.

Page 8, Second Column - Modification #26

The first sentence of step B gives incorrect U position numbers and should read as follows:

> Install a 3.3 K ohm resistor from **U175** pin 11 to **U175** pin 14.

Page 9, Second Column - Modification #31

The first sentence of step A has an omission and should read as follows:

> Replace the resistor at location R9 from a **220K** ohm to a 1K ohm resistor.

3.2.29
New software Patches Available from AMSD

The following list gives a description of the new software patches now available from AMSD. The products affected by these patches are: AM-520 Support Software, AlphaWRITE, AMOS/L 1.3C and AMOS/32 1.0A.

Patches in the following list include SPNs 298 through 308, and are current through 15 September 1987. As indicated on the list, some patches have already been released, some patches are still in test. See the September Journal Vol. 9, #9 - Software Article 3.2.28 for more information.

The SPN description in the purpose column ends with the software version(s) this patch is intended for.

3.2.29 (Continued)
New software Patches Available from AMSD

SPN #	Module	Purpose
298	CRT520	Corrects a problem when used on a DSK devcie that would cause an MFD damaged error message. This patch applies to AM-520 support software.
299	—	Released in a previous month.
300 - 301	—	Used internally.
302	—	Released in a previous month.
NOTE: Re: 303 - 307	AlphaWRITE	The problems resolved by SPNs 303 through 307 are listed below. These patches should be installed consecutively to AlphaWRITE version 1.2A(210). - Special characters cause a jagged edge on right-justified text. - In single or double spaced text, the line counter is thrown off causing extraneous page breaks. - In command line processing when using the /S option on the command line: if you use **CTRL C** to stop you get an error message "Illegal instruciton at ..." and are returned to AMOS, rather than staying in AlphaWRITE. - When in 132 column display, column 80 is sometimes blanked out. - The last line of a block of text prior to the next margin block is handled incorrectly when a line is inserted after it. - No access provided to the terminal's printer port for use within AlphaWRITE. - Formatting is not always correct when using tabs if proportional spacing is set. - Special characters, like **FONT** or **UNDER** don't work properly in a **merge** data document.
303	WRITE	AlphaWRITE 1.2A(210)-1. See NOTE above.
304	WRT080.OVR	AlphaWRITE 1.2A(210)-1. See NOTE above.
305	WRT170.OVR	AlphaWRITE 1.2A(210)-1. See NOTE above.
306	WRT190.OVR	AlphaWRITE 1.2A(210)-1. See NOTE above.
307	WRT130.OVR	AlphaWRITE 1.2A(210)-1. See NOTE above.
308	RUN	Corrects a problem detecting out of memory conditions when the variable space uses more space than is avaialble. This patch applies to AMOS/L 1.3C and AMOS/32 1.0A.

6.8.1
AlphaCOBOL 1.2B Release

A new maintenance release of AlphaCOBOL 74 is now available. This release includes enhancements and corrections, both of which are described in this article.

Enhancements

These enhancements are included in the AlphaCOBOL 1.2B release:

- New interface and calls to UNIFY, our Relational Database Manager.
- Extended RM COBOL compatibility through addition of new function key tables.
- New clause "VALUE OF BANNER" for print files, allowing greater control of printing banners on multiple spooled reports.

Corrections

AlphaCOBOL 1.2B is a maintenance release and as such includes a number of corrections which close outstanding SPRs (Software Problem Report). The corrections are:

- SORT now works on files greater than 32K bytes.
- The compiler now supports multiple report groups. Previously, a REPORT section with multiple report groups and detail lines caused a syntax error.
- Correct indexing now occurs if a COMP-3 item is used as a subscripted variable.
- Source listing is no longer suppressed after a blank line if a program uses CRT format.
- Subprograms with many large indexed files will not cause the system to hang, no matter how many times you call the subprogram.
- The "BLANK WHEN ZERO" clause now works properly.
- Display of numeric characters is now correct when using the UPDATE phrase and the field length accepted is larger than the field length displayed.
- The display is now correct when using the OFF phase on ACCEPT statements; all characters typed are displayed as asterisks.
- The compiler now allocates variable sized buffers for passing parameters.
- The cursor is now turned on again when exiting EXOBL with a run-time error or when waiting for input at a "STOP literal" statement.
- The DELETE file statement no longer stops a program if the file doesn't exist. Instead of exiting the program, the control passes to the user declared file exception routine.
- The ACCEPT statement now treats CTRL-C as a program interrupt instead of as a valid input character.
- The DISPLAY statement with ERASE attribute no longer displays a line at the beginning of the screen.

6.8.1 (Continued) AlphaCOBOL 1.2B Release

- The DISPLAY statement no longer causes display of an extra blank line when the variable length is 80.

- When a program tries to write to a tape that is not on line, you now see the message "?XXXXXX.CBJ REQUESTED A TAPE DEVICE!" and the program waits for a tape to be mounted. This is instead of "DEVICE IS NOT READY!!" and immediate exit to AMOS.

- Print file records are no longer truncated after 132 characters. This supports printers capable of printing more than 132 characters per line.

- The SELECT statement now allows a file name to be the same as the PROGRAM-ID name.

- When using a dynamic access method, READ ... INVALID KEY no longer returns an "end of file" after executing the AT END clause.

- The "DECIMAL-POINT IS COMMA" clause now works properly.

- The format of "ORGANIZATION IS LINE SEQUENTIAL" now causes the compiler to generate just CR-LF after each record instead of CR-CR-LF.

- The first WRITE print-line AFTER PAGE now writes a form feed followed by print-line, rather than print-line form feed as it did before.

- PCOBOL no longer generates the error message "?Can't rename cwf.tmp, file already exists" for a large COBOL program when a SYMDEBUG compile switch is used.

3.1.3
Upgrading an AMOS/L Documentation Library to AMOS/32

by Robin Soto, Manager
Technical Publications

Several dealers have posed the question recently: "What if I have customers who are upgrading from AMOS/L to AMOS/32-- can they upgrade their documentation library as well, instead of buying an entirely new AMOS/32 documentation library?"

Such an upgrade is not difficult to do because, as many of you have noticed, the contents of the two libraries are currently not all that different. (However, be warned-- although staff requirements delayed producing entirely new documentation for AMOS/32 1.0, with the AMOS/32 2.0 release, the libraries will begin to diverge more widely in content, and upgrading the AMOS/L library to AMOS/32 will become more difficult as time goes by.)

Leaving aside such differences as tables of contents, tabs, and binders, the following sections discuss what manuals are different between the two libraries. This information assumes both libraries are up to current revisions (AMOS/L 1.3C and AMOS/32 1.0A).

One difference not noted below is that all AMOS/L library volumes contain the document AMOS/L Software Documentation Revision Status, DSS-10042-00, listing the current revision levels of AMOS/L manuals, and all AMOS/32 library volumes contain the document AMOS/32 Software Documentation Revision Status, DSS-10227-00, listing revision levels of AMOS/32 manuals. (These two documents are available from Order Administration free of charge.)

Volume 1 - System Tools Vol. 1

The AMOS/L volume, PDB-00025-01, contains the following unique items:

AMOS/L 1.3 Release Notes, DSS-10125-00
AMOS/L 1.3B Release Notes, DSS-10204-00,

The AMOS/32 volume, PDB-00032-01, contains the following unique items:

AMOS/32 1.0 Release Notes, DSS-10195-00
Change Page Packet #2, AMOS User's Guide, DSS-10231-00

Volume 2 - System Tools Vol. 2

The AMOS/L volume, PDB-00025-02, is the same as the AMOS/32 volume, PDB-00032-02, except the AMOS/32 volume contains the following additional items:

Command File User's Manual, DSS-10203-00

Volume 3 - System Commands

The AMOS/L volume, PDB-00025-03, is the same as the AMOS/32 volume, PDB-00032-03, except the AMOS/32 volume contains the following additional item:

Change Page Packet #8, System Commands Reference Manual, DSS-10004-08

Volume 4 - System Operator's Guide

The AMOS/L volume, PDB-00025-04, is the same as the AMOS/32 volume, PDB-00032-04, except the AMOS/32 volume contains the following additional items:

Change Page Packet #6, System Operator's Guide, DSS-10002-06

3.1.3 (Continued) Upgrading an AMOS/L Documentation Library to AMOS/32

Volume 5 - AlphaBASIC

The AMOS/L volume, PDB-00025-05, is the same as the AMOS/32 volume, PDB-00032-05, except the AMOS/32 volume contains the following additional items:

Change Page Packet #1, AlphaBASIC XCALL Subroutine User's Manual, DSS-10122-01

Volume 6 - System Features

The AMOS/L and AMOS/32 volumes (PDB-00025-06 and PDB-00032-06) contain the same manuals.

Volume 7 - Assembly Language

The AMOS/L and AMOS/32 volumes (PDB-00025-07 and PDB-00032-07) contain the same manuals.

Volume 8 - Monitor Calls

The AMOS/L and AMOS/32 volumes (PDB-00025-08 and PDB-00032-08) contain the same manuals.

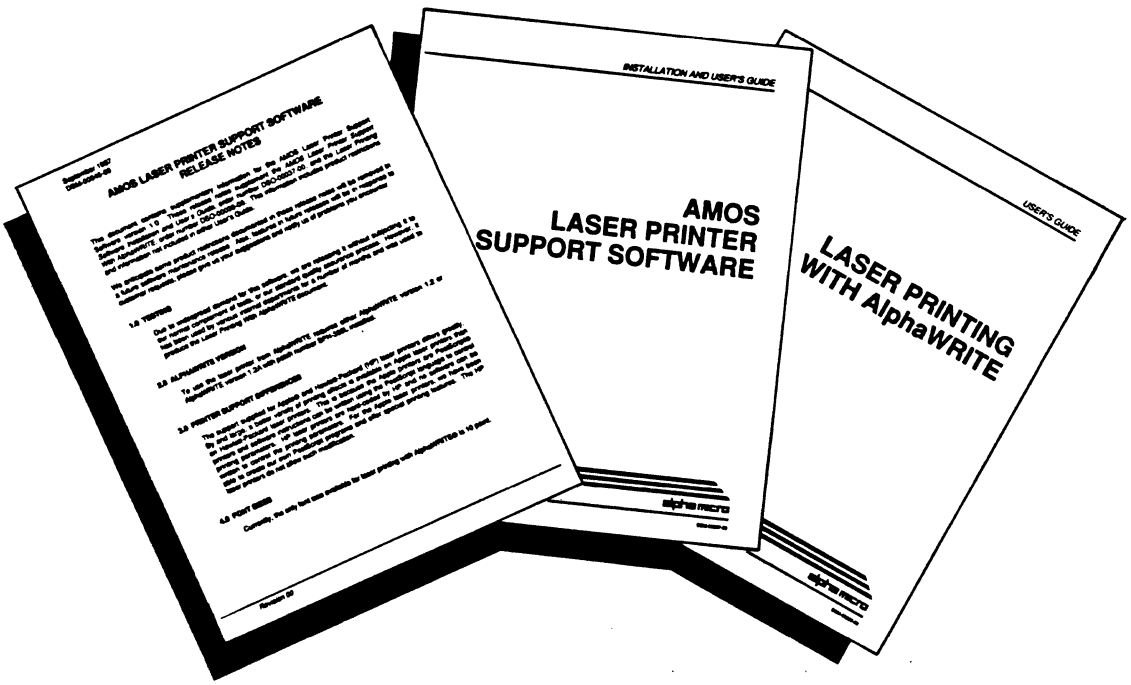
3.2.9
New Documentation Release

Several new user manuals are available for sale in October. (See the October Alpha Micro Reseller Price List for prices and availability.) The new documents are:

AMOS Laser Printer Support Software Release Notes, DSO-00046-00
: Gives an overview of the AMOS Laser Printer Support Software features.

AMOS Laser Printer Support Software Installation and User's Guide, DSO-00037-00.
: Describes how to install the AMOS Laser Printer Support Software and use the laser printer to print files from AMOS command level.

Laser Printing With AlphaWRITE, DSO-00038-00
: Provides instructions for using the laser printer's special printing features from AlphaWRITE.



AMSD JOURNAL TABLE OF CONTENTS UPDATE PAGES

The next pages of the Journal are updated Table of Contents pages for your back issue volumes. The updated pages are:

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- Hardware Volume Table of Contents (3 pages)
- Section 2 - Disk Controllers (1 page)
- Section 3 - I/O Boards (1 page)
- Section 4 - Tape Drives & Interface Boards (1 page)
- Section 6 - AM-1000 System (1 page)
- Section 13 - Maintenance, Troubleshooting and Compatability (1 page)

SOFTWARE INFO. VOLUME:
- Software Volume Table of Contents (2 pages)
- Section 3 - AMOS/L Operating System (1 page)
- Section 6 - Software Packages (1 page)
- Section 8 - AMOS/32 Operating System (1 page)

GENERAL INFO. VOLUME:
- Section 3 - Manuals (1 page)

- A footer line at the bottom of each table of contents page shows you revision information. This line shows month, year, volume and issue number of the Journal this table of contents page arrived with.

- All table of contents pages have a title line showing which volume they belong in: Hardware, Software or General Information.

- Entries for articles published since 1983 show the month and year of publication.

- Cross reference article entries use this format:

  "Article Name" - Cross reference: See Volume Name Article #.#.# - [Month Year]

  Where Volume Name is Hardware, Software or General Information. Where #.#.# is the article number designating section, category and article number. (For example, article 6.4.3 is filed in section 6, under category 4 and is the 3rd article in category 4.) [Month Year] is the Journal publication date for the article.

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