alpha micro   Software Notes

V 4.4

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INTRODUCTION

This is the second issue of Software Notes, the Alpha Micro software newsletter written for our Dealer and OEM network. The first issue was distributed in February of this year.

Since it has been a while between issues, we'd like to list once again the intentions behind this newsletter:

1. To provide a quick turn-around method of distributing patches, bug reports, work-arounds, and other information pertaining to system software.

2. To distribute unofficial software information of interest to our Dealers and OEMs, outside of the regular software documentation. We plan to use this newsletter to disseminate information on certain programs without committing to any further support of the program or the information.

3. To let our customers know the latest plans for software releases and other software products.

4. To answer commonly asked questions so that all our readers may benefit.

We also repeat our invitation for you to send comments and/or suggestions for features to:

Editor, Alpha Micro Software Notes
P.O. Box 18347
Irvine, CA 92713

In addition to the other items, this issue presents some new information on AMOS Release 4.4. Much of the information has already been given to you over the phone; here we are simply documenting it in written form.

Finally, patches for recognized software problems of AMOS Release 4.4. are included in this issue.

POLICIES AND PROCEDURES

Software Support

In the last issue we talked at length about the Software Performance Report (SPR) used by our customers for reporting software problems and offering suggestions. Very shortly, all dealers will be sent five copies o the new SPR (Software Performance Report) form. It is a 4-part NCR® form designed to help maintain more efficient records on our software performance and to provide you with a better vehicle for reporting bugs and communicating suggestions about our software. A note accompanying the SPRs explains how to fill out and distribute them.

Originally, the Software Performance Report was used only within our company as a way to keep track of new ideas or problems about a particular piece of software or a software package. When that software was scheduled for maintenance, SPRs were used as a guideline for enhancements and/or fixes.

A little over a year ago, we sent copies of that original SPR form to all our dealers, soliciting problem descriptions and suggestions for enhancements. The response to that mailing was tremendous; many of you put forth time and effort to send us valuable suggestions, descriptions of problems, and comments.

The reports had been intended for our use only. However, toward the end of July last year, we decided to start acknowledging each SPR, as well as logging them and informing the submitter upon resolution of the problem. Sometimes our responses were not as timely as we had hoped. The first priority is maintenance of the software; at times the fix would show up in the latest release before we responded to the individual who submitted the SPR.

This new SPR form will help us keep a more constant eye on the submitted SPRs and their progress toward resolution. Additionally, the new form provides you with a means of inquiring about the status of any SPRs you submit.

As long as we are talking about SPRs, we'd like to re-emphasize the importance of completeness on the forms. When filling out the form, please keep in mind that the more information you give us, the quicker we may be able to solve your problem. Since bugs that we can reproduce are generally resolved before those we cannot reproduce, it is to your benefit to describe as completely as possible the circumstances under which the problem occurs.

Also, if you believe that your problem requires immediate attention, you may contact the Applications group within ISSG at (714) 957-1404, ext 277 or 278 (or ask for Applications). ISSG also has a dial-direct phone number: (714) 957-0392. We have found that the majority of bugs which people encounter result from a combination of hardware and software problems. Usually, Applications can answer your questions right on the spot. If, however, it is necessary for Applications to refer the problem to the Software Department, someone from Software Support will contact you by phone.

FUTURE PRODUCT ANNOUNCEMENTS

AMOS Version 4.4A
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We are planning the release of an updated version of the 4.4 release. This update will contain the patches given in this newsletter, as well as some new copies of programs correcting problems that were not patchable, namely FIX.

This new update disk will be shipped to end users who are on our direct Update Service. We recommend that dealers either order a 4.4A disk (in any of the standard configurations) from the Sales Order Department, or make the patches given in this newsletter on a 4.4 System Disk and pick up the new software off the 4.4A disk that will be included with your next system.

AlphaPASCAL

AlphaPASCAL will be available during the first part of August 1980. We are not planning a general distribution of the software, but will instead make it available by special order. It will be included as a standard item on the 4.5 software release.

Information on ordering AlphaPASCAL will be provided in the next issue of this newsletter. Please do not try to order AlphaPASCAL before you receive that information. Sales will be unable to process your request until then.

QUESTIONS AND ANSWERS

We have had numerous inquiries about sending individual pages from a large file to a printer. This is necessary if you are using cut paper and wish to print a multiple-page document.

Shown below is a simple AlphaBASIC program which will send individual pages to the printer, pausing between pages to allow the operator to insert a new piece of paper.

Line 150 of the program should be changed so that it references the printer device on your system. Remember that any driver you reference in this line, whether the TRM driver as shown, or some other printer driver, must be loaded into system or user memory before running this program.

When run, the program asks you for the name of the file you wish to print. The default extension is .DAT. The program then starts printing the file. When a form-feed is encountered, the program waits for you to type a carriage-return on your terminal to allow you time to insert a new sheet of paper into the printer.

```
100 ! PAGEIT            Program to print large files, pausing between
110 !                   pages to allow paper change
120 !
130
140 MAP1 FILENAME,S,30                      ! input file name
150 MAP1 PRINTER,S,30,"TRM:MULTRM"          ! change to your printer
160 MAP1 LINEX,S,500                        ! line buffer
170 MAP1 A,F,6                              ! dummy variable
180
190 START:
200     INPUT "File to print: "; FILENAME   ! fetch filename
210     OPEN #1, FILENAME, INPUT            ! open for reading
220     OPEN #2, PRINTER, OUTPUT            ! open the printer
230 LOOP:
240     INPUT LINE #1, LINEX                ! get line from file
250     IF EOF(1) THEN GOTO END'IT          ! all done at end of file
260     IF ASC(LINEX[1,1]) = 12 THEN GOTO PAUSE ! need to pause if form-feed
270     PRINT #2, LINEX                     ! otherwise print the line
280 !   GOTO LOOP                           ! and go get more
290
300 PAUSE:
310     PRINT #2, CHR(12);                  ! output a form-feed
320     CLOSE #2                            ! flush the buffer
330     OPEN #2, PRINTER, OUTPUT            ! open printer again
340     INPUT "Type CR to print next page"; A  ! wait for user to hit CR
350     PRINT #2, LINEX[2,LEN(LINEX)]       ! print line minus form-feed
360     GOTO LOOP                           ! and go print this page
370
380 END'IT:
390     CLOSE #1                            ! close all files to be
400     CLOSE #2                            ! sure to flush buffers
410     GOTO START                         ! go get another file
```

DOCUMENTATION ADJUSTMENTS

In the section entitled, "New Command File and DO File Features," of the AMOS Version 4.4 Release Notes (DWM-00100-70), the examples of command files should all begin with a :R. The :R allows you to see the output of the programs invoked by the command file.

Page 2-5 of the AlphaFIX User's Manual (DWM-00100-69) states that the LOCK instruction is equivalent to an IEN. Actually, LOCK is an IDS instruction.

The new COM program has an error message that escaped documentation, namely "?Filename is not a compilable file". This message is given if you specify a file that does not have an extension of .MAC, .BAS, .PAS, or .TXT.

SOFTWARE HINTS

Generating Monitors

With version 4.4 of the MONGEN program, the driver area within the monitor
is cleared before loading the new driver. This ensures that regardless of
what monitor you start with, a monitor generated for a particular device
will always have the same hash total.   However, to make this work
properly, you must start out with a monitor that was generated under a 4.4
monitor.

The SYSTEM.MON on the Hawk and Phoenix 4.4 packs were not generated under
a 4.4 monitor, thus preventing consistent hash totals. This can easily be
corrected by booting up under 4.4, generating a monitor for the Phoenix,
saving it, then using that new monitor to generate a monitor for the
device you wish to use. Once the Phoenix monitor is generated and used as
the   "core" of another MONGENed monitor, the hash totals will be
consistent. Any monitors generated from that point on will also have
consistent hash totals.

To be more specific, on the Hawk 4.4 pack, SYSTEM.MON has a hash of
520-121-262-000; on the Phoenix 4.4 pack it has a hash of 275-742-467-405.
These monitors were not MONGENed under a 4.4 monitor.   By coming up
under one of these monitors and using MONGEN to generate a Phoenix-based
monitor, you end up with a hash total of 602-103-747-643. Now that this
monitor has been generated, it may be used to generate any other monitor,
which will then have one of the hash totals listed below:

        Phoenix Monitor   602-103-747-643
        Hawk Monitor   772-067-343-570
        DDA Monitor   617-643-573-621
        Persci AMS Monitor   646-225-154-274
        Wangco AMS Monitor   332-362-022-356
        Persci STD Monitor   506-213-570-207
        Wangco STD Monitor   775-753-241-614

Any one of the above monitors can now be used to MONGEN any other kind and
it will have one of the hash totals listed above.

It should be noted that there is absolutely nothing operationally wrong
with the Hawk or Phoenix monitors as distributed; making these changes
only makes it easier to verify that you have the correct monitor.

Miscellaneous

We wish to remind everyone that you should not use the MOUNT program or
the XMOUNT subroutine to mount a disk if any other users are accessing
that disk. Doing so may corrupt the bitmap, thereby damaging your files.

On the same subject, under AMOS Version 4.3A it is necessary to mount the disk after performing a DSKANA or DSKPAK operation. Failure to do so can result in anything from destroying the disk's file structure to simply rendering the DSKANA or DSKPAK operation ineffective. This mounting is no longer necessary under Version 4.4.

The LOAD program (pre-4.4 versions) will crash your job if it is given a nonexistent device specification. Be careful!

Many have reported difficulty in formatting a disk when other jobs are running. This difficulty arises because all formatting programs are designed to run "stand-alone"; i.e., when no one else is using the system. This is required because of the rather precise timing requirements of disk formatting.

One characteristic of the COMPIL program that has caused some confusion is the way it handles line numbers. Users should realize that the COMPIL program completely ignores line numbers. This means that line numbers are optional, an advantage when striving for maximum readability of your programs. However, this also means that COMPIL does not check for duplicated line numbers or line numbers out of sequence. This can lead to some confusion when the program is loaded into memory by the interactive BASIC program. The BASIC program requires line numbers, and will simply take the last of any duplicated line numbers.

If the colon (:) is left off of the device specification for DSKANA, then DSKANA assumes DSK0:.

In AlphaVUE (version 2.4), if only one Control-P (block marker) command has been used, and a MOVE command is attempted, the system will crash. If you wish to move (or copy or delete) a single line of text, be sure to enter two Control-P commands on the same line.

SOFTWARE CHANGE NOTICES

During the test period for Version 4.4, several problems were isolated both here at Alpha Micro and by our dealers. A list of those problems which can be fixed by patches is given below, with their patches. Solutions to the other problems are discussed above.

1. BASORT.SBR has a bug where records may be duplicated within the file, if you are sorting only a portion of a random file. A patch to correct this is given below.

2. There is a problem in the AM-100/T boot PROMs that affects people booting off the AM-210 only. The symptom of this problem is failure of the system to boot, accompanied by a buzzing noise from the floppy drive. We recommend that AM-100/T users who wish to boot off an AM-210 do not install the Rev. B00 PROMs recently sent to you. All AM-100/T - AM-210 users will be contacted soon regarding the availability of upgraded PROMs.

3. The AM-200 driver has a problem that shows up when running with
    other devices (Hawks, Phoenixes, etc.) in a bank-switched system.
    A patch to correct this problem is given below.

4. The DUMP program will not dump the last disk block of a file in
    its entirety. A patch is given below.

5. Two programs, MOUNT and CRT410, do not correctly load the
    alternate track table for the Phoenix when the Phoenix is used as
    a non-system device. Patches are given for these two programs
    also.

In all of the patches given below, the (RET) symbol is used to mean "press
the return key," and the ↓ symbol is used to mean "press the line-feed
key."

Be sure to verify the hash total of your copy of the program before making
the patch, to ensure that you are patching the correct version. Notice
that we also suggest that you use the DIR MEM:/H command after making the
patch but before saving the module on the disk. Check the hash total
shown by that command against the hash total we list at the end of the
patch as being the correct hash total for the patched version of the
program. This will make sure that the patch has been made correctly. If
the hash totals do not agree, do NOT save the module on the disk (that is,
do not continue with the SAVE command). Instead, reload the program from
the disk and do the patch over, checking once again to make sure that the
unpatched hash total is correct.

Patch for BASORT.SBR

```
.LOG 7,6 (RET)
.DDT BASORT.SBR (RET)
PROGRAM BASE IS xxxxxx
PROGRAM SIZE IS 2050

1402/   INC 10(R4)                  JMP 2050 (RET)

1462/   MOV 10(R4),46(R5)           0 ↓
1464/   RSVC                        0 ↓
1466/   MSKO SP                     0 (RET)

2050/   INC 10(R4) ↓
2054/   MOV 10(R4),46(R5) ↓
2062/   JMP 1406 (RET)
^C
.DIR MEM:/H (RET)
BASORT SBR 2066   060-244-556-163        MEM:

.SAVE BASORT.SBR (RET)
```

The hash total before the patch should be 162-064-071-532; after the
patch, it should be 060-244-556-163.

Patch for AM-200 Driver (200DVR.DVR)

```
        .LOG 1,6 (RET)
        Logged into DSK0:[1,6]
        .
        .DIR 200DVR.DVR/H (RET)
        200DVR DVR 2      207-500-354-252          DSK0:[1,6]
        .
        .DEL * (RET)
        .
        .DDT 200DVR.DVR (RET)
        PROGRAM BASE IS nnnnn
        PROGRAM SIZE IS 1524
        110/      MOV #-20,R5                 CALL PC,1524 (RET)

        552/      BNE 612                     BNE 614 (RET)

        610/      RTN                         SVCA 47 ↓
        612/      MOV @#116,R0                RTN PC ↓
        614/      SVCA 16                     MOV @#116,R0 ↓
        620/      MSKO R0                     BIT #40,36(R0) ↓
        626/      BIT #20,R1                  BEQ 1024 ↓
        630/      IAK R0                      BIT #20,R1 ↓
        634/      SVCA 6                      BEQ 662 ↓
        636/      XOR (R5)+,(R3)+             JMP 1534 ↓
        642/      LEA R1,@-(PC)              0 ↓
        644/      XOR @72157(R0),-(R0)       0 ↓
        646/      ASH R1,@-(PC)              0 ↓
        650/      XOR @(R0)+,-(R0)           0 ↓
        652/      ASH R5,@-(PC)              0 ↓
        654/      XOR (R1)+,@-(SP)           0 ↓
        656/      0                           0 ↓
        660/      BR 722                      0 (RET)

        1524/                                 MOV #-20,R5 ↓
        1530/                                 SVCA 46 ↓
        1532/                                 RTN PC ↓
        1534/                                 SVCA 6 ↓
        1536/                                 XOR (R5)+,(R3)+ ↓
        1540/                                 ASH R1,-(R3) ↓
        1542/                                 LEA R1,@-(PC) ↓
        1544/                                 XOR @72157(R0),-(R0) ↓
        1550/                                 XOR @(R0)+,-(R0) ↓
        1552/                                 ASH R5,@-(PC) ↓
        1554/                                 XOR (R1)+,@-(SP) ↓
        1556/                                 0 ↓
        1560/                                 JMP 722 (RET)

        ^C
        .DIR MEM:/H (RET)
        200DVR DVR 1564  071-504-312-252      MEM:

        .SAVE 200DVR.DVR (RET)
```

T..e hash before the patch should be 207-500-354-252; after the patch it should be 071-504-312-252.

Remember--be sure to use the FIXDVR program to generate new floppy drivers from the modified 200DVR.

Patch for DUMP.PRG

```
        .LOG 1,4 (RET)
        .DDT DUMP.PRG (RET)
        PROGRAM BASE IS xxxxxx
        PROGRAM SIZE IS 2712

        366/    SVCB 0                  CALL PC,2712 (RET)

        520/    MOV 4(SP),-(SP)         MOV 54(SP),-(SP) (RET)

        2712/   MOV 6(SP),56(SP) ↓
        2720/   SVCB 0 ↓
        2722/   BIS 2(SP),R0 ↓
        2726/   RTN PC (RET)
        ^C
        .DIR MEM:/H (RET)
        DUMP PRG 2730   140-134-475-751        MEM:

        .SAVE DUMP.PRG (RET)
```

The hash before the patch should be 142-372-230-216; after the patch it should be 140-134-475-751.

Patch for MOUNT.PRG

```
        .LOG 1,4 (RET)
        .DDT MOUNT.PRG (RET)
        PROGRAM BASE IS xxxxxx
        PROGRAM SIZE IS 1452

        220/    MOVB 3(R3),412          JMP 1452 (RET)

        1452/   MOVB 3(R3),412 ↓
        1460/   MOV 4(R3),410 ↓
        1466/   JMP 226 (RET)
        ^C
        .DIR MEM:/H (RET)
        MOUNT PRG   1472   513-535-526-313        MEM:

        .SAVE MOUNT.PRG (RET)
```

The hash before the patch should be 204-216-443-651; after the patch, it should be 513-535-526-313.

Patch for CRT410.PRG

```
        .LOG 1,4 (RET)
        .DDT CRT410.PRG (RET)
        PROGRAM BASE IS xxxxxx
        PROGRAM SIZE IS 5350

        4450/   MOVB 3(R3),4642        JMP 5350 (RET)

        5350/   MOVB 3(R3),4642 ↓
        5356/   MOV 4(R3),4640 ↓
        5364/   JMP 4456 (RET)
        ^C
        .DIR MEM:/H (RET)
        CRT410 PRG  5370  153-472-054-042      MEM:

        .SAVE CRT410.PRG (RET)
```

The hash before the patch should be 462-335-135-616; after the patch it should be 153-472-054-042.