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alpha micro   Software Notes
V4.5

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INTRODUCTION

This is the Alpha Micro Software Notes, a publication designed to give technical software information to our OEM/dealer network. Please address all inquiries or suggestions concerning this newsletter to:

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INTRODUCTION

You may be wondering by now where your March Software Notes is. Because the energies of the Software Department were funneled into producing the new Software Release, AMOS 4.5, we did not publish a March issue.

This month's issue is a special one-- it is devoted to information about the new 4.5 Software Release. (AMOS 4.5 will be available to dealers the first part of May. Please contact the Alpha Micro Sales Order Department for information on ordering software and manuals.)

AMOS 4.5 RELEASE

Features and Enhancements

Keep a lookout for this month's Marketing Newsletter which contains an article on the new 4.5 release. Even more information on the changes and additions for 4.5 are in the 4.5 Release Notes included in the 4.5 AMOS Software Update Documentation Packet, DSS-10000-05.

For now, we would like to list just a few of the enhancements and features offered by 4.5:

* This Release introduces the Alpha Micro electronic mail system, AlphaMAIL. AlphaMAIL allows users on a single computer system to exchange mail in the form of AMOS files. This mail may consist of letters, reports, binary data files, random files, or any other type of AMOS file.

* Many enhancements have been made to AlphaBASIC, including:

  Two new versions of the run-time package: RUN and RUNSML. RUNSML.PRG is much smaller than RUN because it does not support several of the less frequently used mathematical functions. Many users will be able to save a considerable amount of memory (over 1000 bytes) by using the smaller RUNSML rather than the standard RUN to execute AlphaBASIC programs.

  Two new file access modes: OPEN APPEND, which allows your program to open an existing sequential file and write new data beginning at the end of the file; and OPEN FORCED'RANDOM, which causes BASIC to do a disk access whenever you read from or write to that file (useful for programs that do file locking, since it ensures that any record you retrieve will contain the latest updates to that record).

  Use of Include Files. Include files contain variable definitions or routines that you want to include in multiple programs. By asking for an Include File within a source file, you tell COMPIL to include the contents of the Include File in the compilation of your source program.

  Error detection and reporting have been considerably enhanced. Also, if an error occurs during compilation, COMPIL will not produce a .RUN file.

* This Release includes the new program NEWTRM, which builds a terminal driver configured for a specific terminal. NEWTRM asks you questions about the characteristics of your terminal, and then creates the proper .MAC file for the desired driver. NEWTRM is an AlphaPASCAL program, requiring that your system contain AlphaPASCAL Version 2.0.

* Double power fail detection is now supported by the monitor for the AM-100/T CPU used with an AM-120 Auxiliary I/O Controller. For more information on double power fail, see "Software Hints," below. This Release also includes software that supports the AM-120 Auxiliary I/O Controller and the new AM-710 128K-byte memory board.

* Magnetic tape file-oriented backup programs are now available. These programs allow you to save and restore AMOS files on a magnetic tape unit that runs under control of the AM-600 Magnetic Tape Formatter Interface. The set of programs allow complete wildcard file specifications.

* The AMOS assembly language programming system has been considerably enhanced. MACRO now supports the use of local symbols, provides an optional symbol cross reference listing, and recognizes several new pseudo opcodes.

  LINK and SYMBOL have been rewritten for Release 4.5, and their functions have been considerably expanded. For example, both LINK and SYMBOL now recognize optional files and library files.

A new program, LIB, generates a library of object file routines that all assembly language programmers on your system can make use of. Such library files can be modified as well as created.

*   We have added four commands to TXTFMT: /HEADER NO EMBED, /HEADER EMBED, /NUMBER HEADER, and /NO NUMBER HEADER. The first two commands affect whether or not section titles of level three or deeper are embedded in the text that follows the title. The last two commands enable or disable section-oriented page numbering.

*   The monitor contains several new monitor calls that your programs can make use of. Also, a new output control command, Control-R, causes the monitor to repeat back the current contents of your input buffer. This is extremely useful when you type several lines of input ahead while your terminal is busy displaying program output and you need to remember what you typed on the last line.

*   Various miscellaneous changes have been made. Among these changes are: the generalized terminal driver program, TRM.DVR, no longer has to be in system memory; HASHER now accepts input in the same form used by DSKCPY; SYSTAT now displays the name of the AlphaBASIC program a user is running rather than just "RUN"; the APPEND extension defaults have been changed to make the command easier to use; and, LOAD now uses the appropriate extension as the default extension if you have specified an ersatz device.

4.5 Documentation

We have revised many of our existing manuals for Release 4.5, and have created several new ones as well.

We have released one new manual for AMOS Release 4.5:

AlphaMAIL User's Manual, DSS-10000-06.

We have also released several change page packets for existing manuals:

Change Page Packet #2 for the "AlphaBASIC User's Manual", DSS-10000-07.

Change Page Packet #1 for the "AlphaPASCAL User's Manual", DSS-10000-10.

Change Page Packet #2 for the "AMOS System Commands Reference Manual", DSS-10000-09.

Manuals revised for AMOS Release 4.5 are:

AlphaFIX User's Manual, DWM-00100-69, Revision A01.

AMOS Assembly Language Programmer's Manual, DWM-00100-43, Revision B00.

AMOS Monitor Calls Manual, DWM-00100-42, Revision B00.

ISAM System User's Guide, DWM-00100-06, Revision A02.

TXTFMT User's Manual, DWM-00100-07, Revision B00.

We would like to point out that several new and revised manuals were released between the last major Software Release (4.4) and Release 4.5. They are: AlphaPASCAL User's Manual, DWM-00100-08, Revision B00; AlphaVUE/TXTFMT Training Guide, DSS-10000-03, Revision A00; AlphaBASIC User's Manual, DWM-00100-01, Revision B00; and, Change Page Packet #1 for the "AlphaBASIC User's Manual", DSS-10000-04.

NOTE: The 4.5 Release Notes mentions that to order a complete set of all Alpha Micro software documentation plus the Alpha Micro Integrated Systems User's Guide, you may order part number PDB-00001-00. However, the Release Notes also states that all software documentation is included in that set except the AlphaLISP User's Manual. Our apologies for the misinformation-- beginning with Release 4.5, the AlphaLISP User's Manual is being included in the Alpha Micro Software Documentation Library.

NEWTRM Notice

Dealers who buy their software updates on single-sided floppy diskettes please note: To get the new terminal driver generator program NEWTRM, you must purchase the 4.5 AlphaPASCAL/AlphaLISP diskette. NEWTRM has been included on that diskette because it is an AlphaPASCAL program. Dealers who buy their updates on double-sided floppies or on hard disk packs will automatically get NEWTRM along with the rest of the 4.5 Release.

<center>SOFTWARE HINTS</center>

4.5 Double Power Fail Option

The 4.5 AMOS Software Update Documentation Packet inadvertently omitted information on the double power fail option supported by the 4.5 monitor. Although this newsletter does not usually include hardware-oriented information, we would like to make an exception this month so that we can explain what we mean by "double power fail option."

The AMOS 4.5 monitor supports a two-level power fail (also called "double power fail") option for an AM-100/T CPU (Revision level D or later) used with an AM-120 Auxiliary I/O Controller. You must also use an Alpha Micro chassis or a power supply that supports our power fail signal. (For information on configuring hardware to make use of the double power fail option, see the hardware manual AM-120 Auxiliary Input/Output Circuit Board, DWM-00120-00.)

A power fail can cause serious problems because it may cause spurious disk writes or may garble data currently being written to the disk. (NOTE: A

power fail is only dangerous when it causes the AC line to drop long enough for the DC power line to drop below the minimum required by the computer's circuits.) Below we discuss both single and double power fail detection and handling.

The single power fail detection method used by the AM-100/T without an AM-120 checks the AC power line for a power drop. If the AC power line drops below a safe level, then the AM-100/T asserts the reset line, minimizing the chance of damage to the data on the disk drives. Then, when power to the AC line is restored, the system automatically reboots.

The double power fail detection option requires the use of the AM-100/T and an AM-120. This method causes the AM-100/T to check the AC power line and the DC power line. If the AC line drops below a certain level, rather than automatically rebooting, then the AM-100/T pauses until it detects that the faulty AC line condition has been corrected. The AM-120 generates a reset only if the DC power line has also dropped below a safe level (causing the system to reboot when both AC and DC power is restored). If the DC power has not been affected and the AC power is restored, the AM-100/T continues processing without rebooting the system.

The double power fail option thus protects your system against unnecessary rebooting while still minimizing the chance of damage to the data on your disk drives from spurious and garbled writes.

4.5 DSKCPY and HASHER

The new 4.5 DSKCPY and HASHER programs have an eccentricity that you should be aware of. If you include a comment (any text beginning with a semicolon) on the DSKCPY or HASHER command line, you see an error message that begins:

   ?Invalid switch, please use one or more of the following:

and DSKCPY or HASHER aborts. For example, the command line:

   .DSKCPY   ; Now backup System Disk

causes the error message to be displayed. If you have any command files that contain DSKCPY or HASHER commands, be sure to remove any comments from those command lines.

Also, note that the way HASHER accepts input has changed for Release 4.5. Instead of typing HASHER followed by a disk specification, you now use HASHER in the same way that you use DSKCPY; that is, you type HASHER followed by a RETURN. Then HASHER asks you for a device specification. If any command files contain HASHER commands, remember to change the command files to correspond to the new HASHER command format.

AlphaVUE and AlphaBASIC Device Access

AlphaVUE and AlphaBASIC set up memory in their own way rather than by using the standard module scheme used by the AMOS monitor. This is necessary because of the functions performed by VUE and BASIC, but it does result in one side effect-- once BASIC or VUE have been invoked, there is no room left in memory to load device drivers into memory. So, if you are going to be accessing a device that is not your System Device and the driver for that device is not in system memory, BASIC or VUE will not be able to load the driver into your memory partition, and you won't be able to access the device. Instead, you see an error message (e.g., "Device does not exist" or "file not found").

This situation has always been true, but we thought we would warn you of it again because one of the features of AMOS 4.5 is that the generalized terminal driver TRM.DVR no longer has to be loaded into system memory. That means that users whose programs have depended on the fact that TRM: was in system memory will find that the TRM: accesses no longer work.

If your BASIC programs make use of the TRM: device to send data to terminals or printers, include TRM.DVR in system memory (via the SYSTEM command in the system initialization command file) or remember to use the monitor level LOAD command to load TRM.DVR into your memory partition before using the BASIC program that accesses TRM:.