

APPLE MACINTOSH ENCYCLOPEDIA

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APPLE MACINTOSH

ENCYCLOPEDIA



The Apple Macintosh Personal Computer

PREFACE

The Apple Macintosh Encyclopedia provides easily accessible, brief and understandable information on the topics that you are most likely to have questions about. We have carefully digested the manuals, books, magazine articles, and other information sources for the Macintosh. These, combined with our own experience in using the Macintosh and other personal computers, have been integrated into an alphabetical sequence of short entries in the style of an encyclopedia. The goal is to provide concise, useful and easy-to-understand information on a particular topic that is quickly accessible when you need it.

Much of the information in the entries is not contained in the manuals provided with the Macintosh and various software products. For example, notice the discussion, under WIDTH, of the "deferred" nature of this command when used with a device name, the discussion of the colon (:) in Multiplan for ranges, or Saving, Problems With. These topics are omitted or inadequately covered in the standard manuals.

The Macintosh is the first truly visual computer. In keeping with the highly visual nature of using the Macintosh, we have provided over 100 illustrations. Each shows exactly what you will see on the screen when exploring topics discussed in the text. The Macintosh Encyclopedia opens with a visual guide to icons, and remains highly visual in orientation throughout the text.

In addition to the operating software provided with the Macintosh, we have provided detailed coverage of Multiplan, Microsoft BASIC, MacWrite, MacPaint and many other major programs for the Macintosh. Dozens of other programs and hardware accessories for the Macintosh are also described. Entries which describe commercial products are distinguished by an asterisk (*) following the entry title. There are also category entries which list the available products for that category. For example, the entry under Word Processors lists the various word processing programs available for the Macintosh. See the Appendix on Vendors for further guidance in using the product descriptions and the categorical listings.

The Macintosh Encyclopedia also offers reference data on such topics as books for the Macintosh, magazines and user groups. We invite new user groups, authors or publishers of new Macintosh books, programs or hardware to send us information and review products for inclusion in future editions of the Apple Macintosh Encyclopedia. Any suggestions from our readers will also be greatly appreciated.

The entries are alphabetized by ignoring spaces and special characters. In a few cases we have departed from a strictly alphabetical ordering when many entries have similar titles. Our goal has been to make the entries easy to find and to group closely-related entries together whenever possible. The cross references are ordinarily optional pointers for further information. In a few cases the cross reference is slightly abbreviated or modified from the full entry title to save space or avoid potential confusion.

While we have made every effort to ensure the accuracy of all information in the Apple Macintosh Encyclopedia, the reader should verify on the Macintosh any information to be used in potentially sensitive situations. Neither the authors nor the publisher assume any liability with respect to the use of the material in the Encyclopedia.

We have attempted to provide adequate cross-referencing without redundancy. We trust that you will find the Apple Macintosh Encyclopedia a valuable tool in exploring the marvelous capabilities of your Macintosh.

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Gary Phillips and Jacquelyn Smith wish to dedicate this book to their child, who was present throughout the production of the manuscript and will be born about the same time as the book.

Portions of this book were adapted from *Macintosh Technical Tips* by Gary Phillips, copyright 1984 Gary Phillips & Associates.

Some of the general microcomputer definitions in the book have been adapted or reprinted by permission from the *International Microcomputer Dictionary* published by SYBEX, Inc., copyright 1981 SYBEX, Inc.

MACINTOSH DESKTOP ICONS



File Document



MacPaint Document



Document



MacWrite Document



File Folder



Program Notes



System Folder



Empty Folder



MS-Basic Language



MacFORTH Language



MacBasic Language



Application



MS-Basic Program



MacFORTH Application



MacBasic Program



MAIN STREET FILER
Application Program



Microsoft Chart Document



Microsoft Chart



Mac Terminal
Document



Mac Terminal
Application



System File



Happy Macintosh



Sad Macintosh



MacWrite



Disk Copy



Disk Icon



Trash



MacDrive
Hard Disk Drive



Microsoft Word



MacDraw



MacDraw Document



MacPaint

A

A ASCII 65, HEX 41. **a** ASCII 97, HEX 61. Also the hexadecimal symbol for decimal 10. The following all represent the same number:

A base 16 = 10

10 base 10 = 10

12 base 8 = 10

1010 base 2 = 10

A The symbol used in MacPaint to signify text entry. The letter appears in the MacPaint drawing tool palette on the left-hand side of the MacPaint screen. When the pointer arrow is positioned on this icon and the mouse button is pressed once, a text cursor which resembles a pair of parentheses)(may be moved about the screen by moving the mouse. This is called the I-beam. A font may be selected from the pull-down Font menu at the top of the screen by dragging the mouse pointer down the menu until the desired font is highlighted. Then the mouse button is released. Font size and style may be selected in a similar fashion. Once the proper font, font size and font style have been selected, the cursor may be placed at the desired point on the screen by moving the I-beam and pressing the mouse button. A straight vertical line appears in the I-beam's place and the user may start entering text. See Icon, Mouse, I-Beam, Pull-down Menu, Fonts, Change Font Size, Menu, MacPaint, Pointer, Arrow.

A The abbreviation used in Microsoft BASIC to SAVE a file in ASCII format. See ASCII.

Abort The process of ending a program which has encountered an error condition in an orderly manner, and returning control to an operator or operating system. For the Macintosh, this is accomplished by pressing Command-C together or by pressing the reset button on the lower left-hand side of the Macintosh's left side.

About the Finder Option The Apple menu on the Desktop display of a boot disk has an option called "About the Finder". When this option is displayed, a drawing entitled "The Macintosh Finder" is displayed on the screen. This display also shows the version of the Finder on the disk, the year it was implemented and names the authors of the Finder.

ABS A Microsoft BASIC function which returns the positive (absolute) value of the expression α without regard of negative signs. The format is:

$\langle \text{variable} \rangle = \text{ABS}(\alpha)$

α may be any numeric expression. For example:

```
PRINT ABS(-100)
100
```

The positive (absolute) value of -100 is 100.

This function may be used in a mathematical expression or algebraic equation where an absolute number is required. The example listed below is a brief Microsoft BASIC program that illustrates the ABS function:

```
10 REM TEST OF ABS FUNCTION
20 PRINT "INPUT A POSITIVE OR NEGATIVE NUMBER AND ITS ABSOLUTE"
30 INPUT "VALUE WILL BE DISPLAYED FOR YOU..."; N
35 PRINT: PRINT: PRINT
40 PRINT "THE ABSOLUTE VALUE OF ";N;" IS ";ABS(N)
45 PRINT: PRINT: PRINT
50 INPUT "WOULD YOU LIKE TO TRY AGAIN ?(Y/N) ";R$
55 IF R$ = "Y" GOTO 10
60 PRINT "THANK YOU..."
65 END
```

This program is set up to accept the input of a number by the user (Line 30), print out the number that was input as an absolute number (Line 40), and allow the user to either try again or to quit (Line 55).

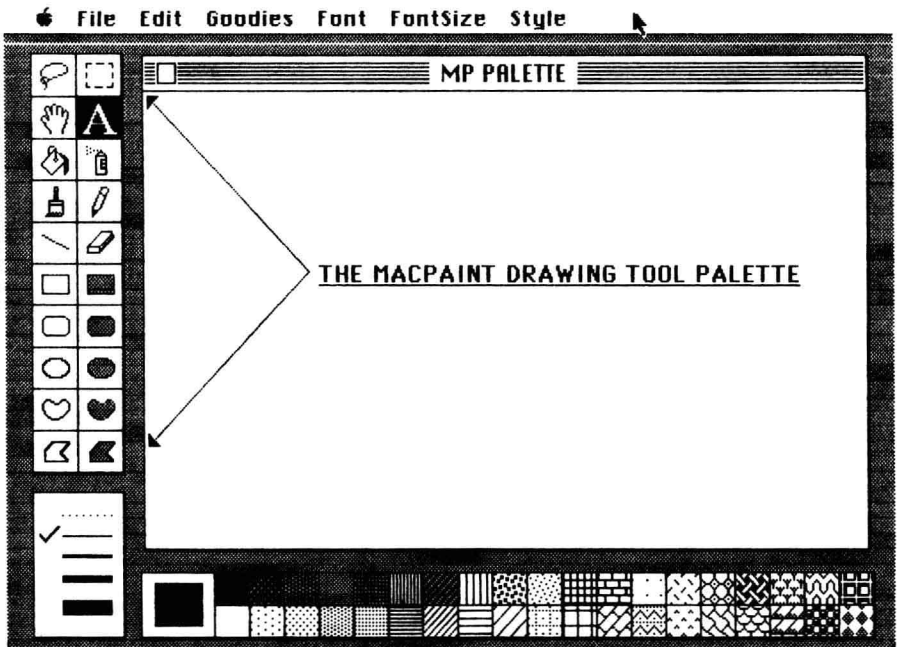


Fig. A1 The MacPaint drawing tool palette. Note the large letter A that is used to select text.

ABS A built-in function available in many electronic spreadsheet programs such as Microsoft Multiplan. When used, this function returns the absolute value of the numbers or of the formula included in the parentheses following the function. The cell containing the function could include the formula shown below:

=ABS(AVERAGE(4,12,8))

and would return the value 8. It could also contain the formula:

=ABS(-99)

and would return the value 99. See Spreadsheet, Multiplan, AVERAGE.

Absolute Reference Used in spreadsheet programs such as Microsoft MultiPlan when a formula is copied from one column or row to another, and references to other cells now refer to new cells in the same position relative to the moved cell (relative reference). Example 1 below shows a formula copied from cell R12C2 to cells R13C2 and R14C2 using the Fill Down option on the Multiplan Edit menu from the menu bar at the top of the screen.

Since the Absolute Reference command was not used, all references are relative. The formula refers to cell R13C2 by the relative reference R[-9] to use the inflation factor inserted by the user. This relative reference was carried down to the next two cells under cell R12C2 when the Fill Down option was used although the user intended to refer always to cell R13C2.

	1	2
1		
2		
3	INFLATION RATE(%).....>	22
4		
5	UNINFLATED COSTS	
6	FUEL	2000
7	UTILITIES	700
8	REPAIRS	900
9	TOTAL	=SUM(R[-3]C:R[-1]C)
10		
11	INFLATED COSTS	
12	FUEL	=R[-6]C*(1+(R3C2/100))
13	UTILITIES	=R[-6]C*(1+(R3C2/100))
14	REPAIRS	=R[-6]C*(1+(R3C2/100))
15	TOTAL	=SUM(R[-3]C:R[-1]C)

Fig. A2 Example 1. Using relative references.

To avoid relative reference use the Absolute Reference command by pressing the Command key along with the T key as soon as the R[-9] reference was entered. This would have changed the formula to read R13C2 instead of R[-9] when moved. This is shown in Example 2 below.

Thus, an Absolute Reference refers to a specific cell in a spreadsheet while a Relative Reference refers to a cell in the same relative position in a different column or row. See Cell, Spreadsheet, Fill Down Option, Microsoft Multiplan, Relative Reference.

Absolute Value The value of the number without reference to positive or negative sign. The value of a number or the result of a formula provided by using the ABS function in Microsoft BASIC or Microsoft Multiplan.

In mathematical notation this is denoted by enclosure in vertical bars (). Thus, if a number is positive or zero $x = x$. If x is negative: $x = -x$. See ABS.

4 • Accented Characters

	1	2
1		
2		
3	INFLATION RATE (%).....>	22
4		
5	UNINFLATED COSTS	
6	FUEL	2000
7	UTILITIES	700
8	REPAIRS	900
9	TOTAL	=SUM(R[-3]C:R[-1]C)
10		
11	INFLATED COSTS	
12	FUEL	=R[-6]C*(R[-9]C/100)
13	UTILITIES	=R[-6]C*(R[-9]C/100)
14	REPAIRS	=R[-6]C*(R[-9]C/100)
15	TOTAL	=SUM(R[-3]C:R[-1]C)

Fig. A3 Example 2. The same spreadsheet section where formulas were copied using the absolute reference.

Accented Characters Characters that are given a specific inflection in a language such as French or Spanish. The accent is portrayed by a symbol that generally appears above the letter to be stressed or pronounced in a particular fashion. Accented characters are displayed by the Macintosh by pressing the Option key along with another key. The Option key with the (`) key in the upper left-hand corner of the Macintosh keyboard prints a grave accent (`). The Option key with the e key produces an acute accent symbol (´). The Option Key along with the i key produces a circumflex (^). The Option Key and the u key produce an umlaut (¨). The Option Key and the n key produce a tilde (~). This use of the Option Key makes the Macintosh useful for foreign languages such as French, German, and Spanish. See Option Key.

Accessories Items that supplement a basic computer system. The basic Macintosh system consists of the Macintosh computer, the keyboard and the mouse. Accessories could consist of an ImageWriter printer, a second disk drive, a modem, a numeric keypad, the security accessory kit and a carrying case. For specific products, see Carrying Cases, Covers, Hardware, Maccessories Cleaning Kit, Maccessories Disk Case, Maccessories Printer Stand, Maccessories Starter Pak, Maccessories Swivel, MAGICphone, Microdisk Minder, Power Supplies, Security Kits, Video-Digitizer.

Accumulator A register into which the results of arithmetic operations are stored. More than one accumulator can be present in a central processor. The D0-D7 registers of the Macintosh's MC68000 often function as accumulators. The Macintosh's MC68000 has no accumulators. Instead, it uses general purpose registers.

ACM Association for Computing Machinery
11 W. 42nd St. 3rd Floor
New York, NY 10036
212-869-7440

The major international society for computer technology. With its numerous publications and special interest groups that discuss many topics, ACM will be

of interest to many Macintosh users. For more information write to ACM or find the Journal of the ACM at your library.

Acoustic Coupler A mechanical instrument for connecting the telephone handset to a computer, through a modem. The data is converted to tones, usually audible, for transmission over the phone lines.

Activate Event The activity or event that results from a window changing state between inactive and active. The activity is generated by the Window Manager program, part of the Macintosh Operating System, when the user places the pointer on a button or any place in a window and clicks the mouse button. See Button, Window, Window Manager, Operating System.

Activating a Window If more than one window is being displayed at once on the Macintosh screen, one window may be activated by moving the arrow pointer into the desired window and clicking the mouse button. This process is used when Finder windows for more than one disk are being displayed on the screen at the same time, more than one Multiplan window is being displayed, or when the List window and the output menu are being displayed together in Microsoft BASIC. See Mouse Pointer, Clicking, Mouse Button, Window.

Active Cell An active cell in a spreadsheet such as Microsoft Multiplan is the cell that is currently being used to enter a value, a label or a formula. This cell could also have been activated to paste data from the Clipboard or Scrapbook, to cut data to the Clipboard or Scrapbook, or to copy data to the Clipboard or Scrapbook. A cell is made active in Multiplan by placing the plus sign pointer on the cell and clicking the mouse button. See Clipboard, Scrapbook, Cell, Mouse Button.

Active Selection The menu selection or icon currently in use. See Icon, Dimmed Commands, Menu.

Active Window When a number of windows are being displayed on the Macintosh screen, the topmost window is the active window. This window may be rendered inactive by closing it or by placing the mouse pointer on another window and clicking the mouse button. MacBASIC and other programming languages allow more than one window to be active at a time. Windows are rendered active, in this context, by clicking them and inactive by closing them.

A/D "A to D." Analog to Digital. Conversion from a sensor's analog voltages and currents to the digital representation used by computer systems. Computers can then process data directly from the external world.

Add Characters In Between Existing Characters In Microsoft BASIC, position the pointer in the Command window at the location where a character is to be inserted and press the mouse button. A vertical line cursor will appear at the location. The character to be inserted can then be typed from the keyboard. Pressing the Return key will cause the computer to accept the line along with the newly added characters. See EDIT.

Add-On A system or circuitry attached to a computer to increase memory or performance. For the Macintosh these ordinarily attach to the ports at the back of the computer (mouse, serial RS-422, etc.).

Address Position of a word in memory, expressed by a number. In the Macintosh, addresses range from 0 to 128K, and will go up to 512K on the upgraded Macintosh when 256K chips are available.

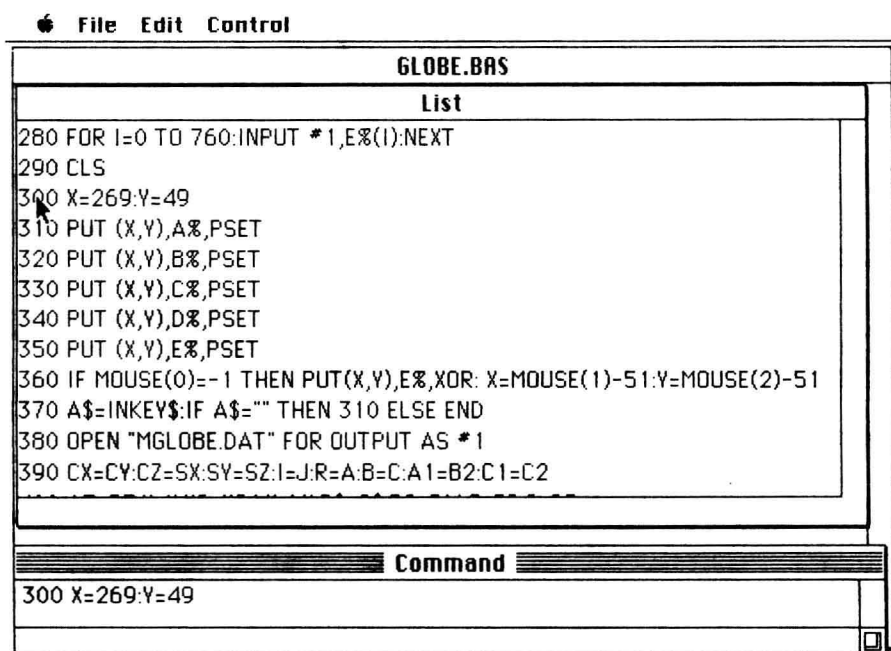


Fig. A4 Selecting a program line for editing from the List window.

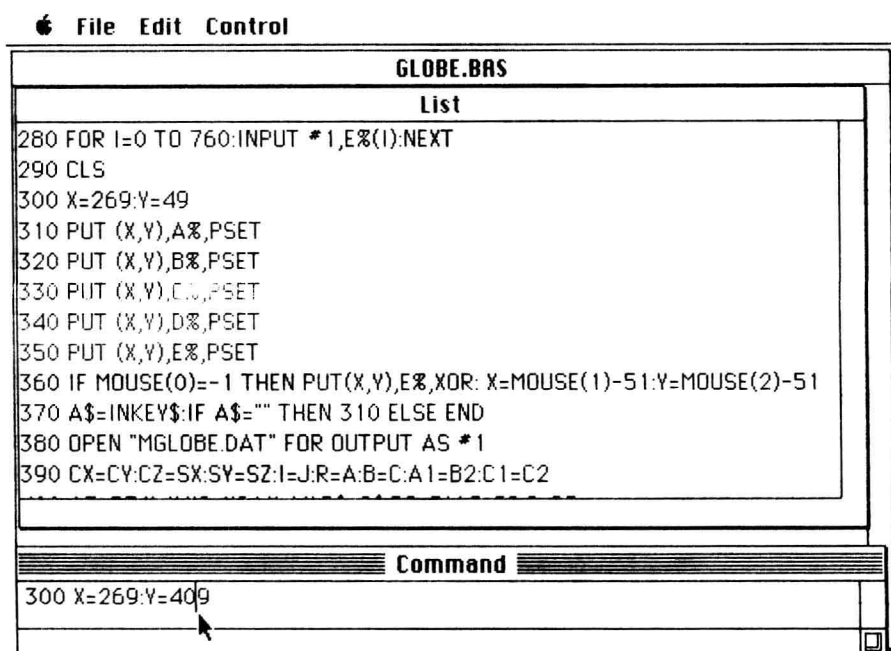


Fig. A5 Inserting a character between two other characters.

Address of Variable in Memory See VARPTR.

Adjusting References This term is used in Microsoft Multiplan to describe the process of changing the cells referred to in a formula on a spreadsheet, to agree with the column or row to which a formula is moved or copied by the user. If a formula called for the sum of the cells in column 3 rows 12 through 19 (R12:19C3) in Multiplan, and this formula was copied into column 5, the references in the formula would be adjusted to read the sum of the cells in column 5 rows 12 through 19 (R12:19C5) automatically by the program. The same automatic adjustments are made by other electronic spreadsheet programs such as Lotus 1-2-3 when a formula is moved along with the row or column that contains the column, or when a formula is copied from one location to another on the spreadsheet.

Advance One Line on the Printer To space up (advance) one line on the printer without carriage return enter Microsoft BASIC statement:

```
LPRINT CHR$(27);CHR$(102)
```

Or use the line feed (LF) button of the printer.

Just LPRINT gives a line feed, both space up one line (line feed) and return to left margin (carriage return).

Advance to Top of Page How to Form Feed Printer. Enter Microsoft BASIC statement:

```
LPRINT CHR$(27);CHR$(12)
```

Or use the top of form or form feed (FF) manual control button on the printer.

You may then need to adjust the paper in the printer so it actually is at the top of a page as defined by the perforations.

In a program, you may want to provide instructions to the operator and a pause to allow for adjustment of the paper.

AgDisk* AgDisk agricultural programs are directed toward farm management and available on separate disks. They consist of Profit Projector, Financial Management, Machinery Management, Swine Management and a collection of Multiplan templates for use in farm management. Although these programs are directed toward the farmer, the Financial Management disk could have some use outside of agriculture. Harris Technical Systems.

Alarm Clock One of the options available from the Macintosh desk accessories accessed by using the Apple menu (signified by an apple symbol in the upper left corner of the Macintosh screen display) on the menu bar when an application program is in use. It is activated by dragging down the Apple menu until Alarm Clock is highlighted, then releasing the mouse button. The Alarm Clock is displayed in the upper right-hand corner of the screen. This display may be moved anywhere on the screen by placing the arrow pointer inside the display, pressing the mouse button, dragging the display to the desired location on the screen and releasing the mouse button. The alarm may be set by placing the arrow pointer on the small alarm clock symbol to the right of the time displayed on the screen and pressing the mouse button. This will cause the display to be expanded to show the date or another time on a line below the time display, and three symbols below the second line. These symbols are a large clock, a calendar and an alarm clock. Any of these items may be reset by placing the arrow pointer on the appropriate icon and pressing the mouse button.

8 • Alert

The next step is to place the crosshair that replaces the pointer over the hours, minutes or seconds on the time display on the second line and then press the mouse button. This will highlight the time segment under the pointer and cause an up arrow and a down arrow to be displayed to the right of the time display. The highlighted time may be adjusted upward or downward by placing the crosshair over the appropriate arrow and clicking the mouse button. Once the desired setting is made to the time, the crosshair is moved to the icon on the second line that resembles a lock (but is called the bell icon) then press the mouse button. See Arrow, Crosshair, Icon.

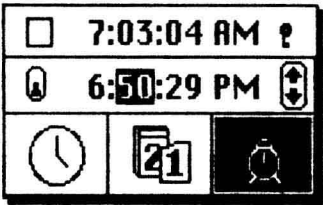


Fig. A6 Alarm Clock opened for setting. The pointer is on the set box.

Alert A warning message displayed in a special window, called an alert box, on the Macintosh. When a problem arises with a command given to the computer, a program or the computer itself, an alert message is displayed on the screen and is usually accompanied by a beep from the Macintosh speaker. One or more options are displayed as command buttons within the box to allow the user to avoid the problem he is being warned about.

Alert Box A special window that displays a warning message for the Macintosh user. These messages warn of disks that are too full to allow the storage of a letter, picture or program. They also warn the user that something is about to be lost if he proceeds to the next step in a process, such as saving or deleting a file. The alert box is generated by the Dialog Manager in the User Interface Toolbox. See User Interface Toolbox, Dialog Manager.



Fig. A7 A typical alert box.

Algorithm A solution to a problem with step-by-step specifications ending in a finite time. A problem is stated, an algorithm developed for its solution, the solution steps flowcharted and the program developed from the flowchart.

Align Left Option This command is available from the pull-down Style menu on the menu bar at the top of the MacPaint display, and executed by clicking the mouse button while the pointer rests on the Style menu, dragging the pointer down until the Align Left command is highlighted and releasing the mouse button.

This command is used in conjunction with text entry in MacPaint. An alternate method of giving this command is to press the Command key and the L key together. The use of this command causes letters to be printed on screen from left to right starting at the cursor position. See Pull-down Menu, MacPaint, Command Key, Mouse Button, Dragging.

Align Middle Option This command is available in MacPaint and is used by placing the pointer on the pull-down Style menu and clicking the mouse button. When this menu is displayed, move the pointer down until the Align Middle command is highlighted, then release the mouse button. This command can also be invoked by pressing the Command key and the M key at the same time. The use of this command causes letters to be printed to the left of the text cursor location and also causes the cursor to move one-half of a space to the right of its location when the letter is printed. See Style Menu, Pull-down Menu, Command Key, Mouse Button.

Align Right Option This MacPaint command is invoked by locating the cursor on the pull-down Style menu on the menu bar and clicking the mouse button to cause the menu to be displayed. The pointer must then be dragged down the menu until the Align Right command is highlighted. The mouse button is then released. The Command key may be pressed at the same time as the R key to invoke this command. The use of this command causes letters to be printed from right to left, starting at the location of the text cursor. The text cursor remains stationary. See MacPaint, Command Key, I-beam.

Alignment Controlled in MacWrite by using the left- alignment box icon, the center-alignment box icon, the right- alignment box icon, or the full-justification box icon under the ruler at the top of the MacWrite screen display. Alignment for text is selected by placing the pointer arrow on the appropriate box and pressing the mouse button. See MacWrite, Left Alignment, Center Alignment, Ruler, Full Justification, Icon.

All Cells Option Available in Microsoft Multiplan from the pull-down Select menu on the menu bar of the Multiplan screen display. It is used to format all cells on the work sheet in the same fashion. It can also be used to retain cell formats while erasing cell contents. See Multiplan, Select Menu, Menu Bar, Spreadsheet.

Allocation of Space Assigning particular areas of memory (internal, disk, etc.) to particular files, programs, or functions. Allocation is sometimes done by a programmer, or sometimes automatically by a program such as the Memory Manager which is built into the Macintosh ROM. Disk space allocation is handled by the Finder.

Alpha Test Site vs. Beta Test Site New software requires testing prior to its release in the marketplace. While some testing can be done by the programmers that develop the software, final testing should be done in a user environment similar to the ultimate market environment for the software. Testing of new software is ordinarily divided into two phases.

Alpha testing involves a very few test sites. In some cases, only those inside the software development company and other cases including a few companies outside. Individuals or companies participating in alpha testing understand that this software is highly incomplete and very likely to contain bugs. Usually companies are paid or promised some future value for participating in such tests.