

1985 MECC PRODUCT STANDARDS/GUIDELINES

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INITIAL DISPLAY SCREENS

1.0 Initial Display Screens

1.1 MECC Logos

1.1.1 Standard Logo

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1.1.3 Software Minnesota

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1.3 Informational Types

1.3.1 Information

1.3.2 Warnings

1.3.3 Hardware Configuration Error

1.4 Non-Menu Products

1.5 Miscellaneous

1.5.1 Ufonic Speech

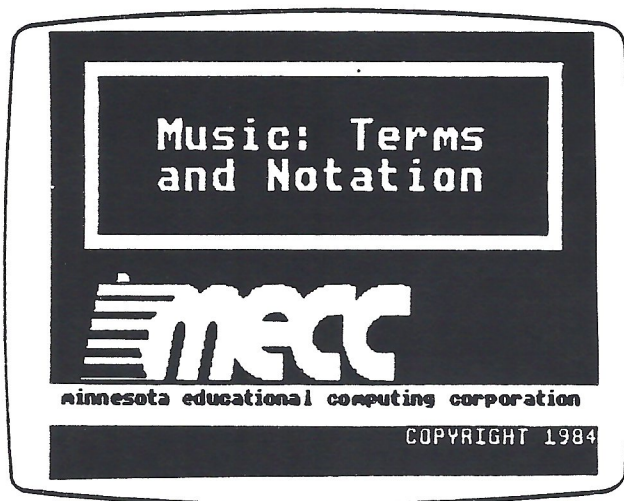
- 1.0 Initial Display
- 1.1 MECC Logos

1.0 Initial Display Screens

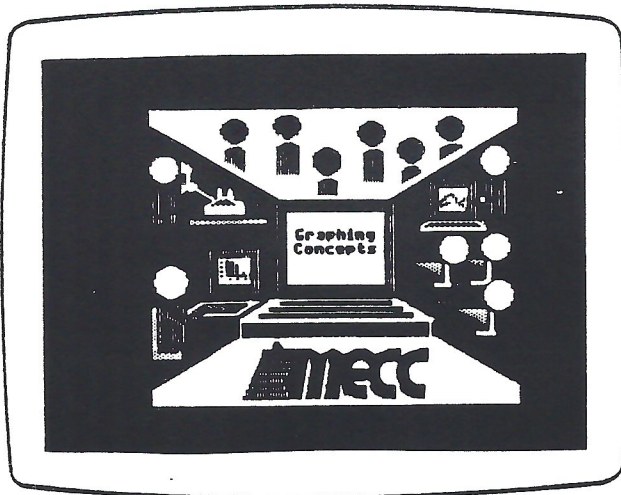
1.1 MECC Logos

- a. The product title appears in upper/lower case.
- b. The logo appears for a minimum of 8 seconds. The space bar should be active.
- c. The logo remains on the screen until the menu appears.

1.1.1 Standard Logo



1.1.2 High Tech Logo

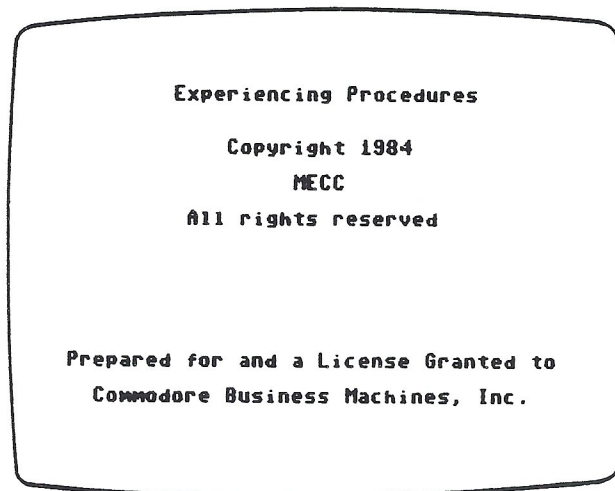


~~1.1.3 Software Minnesota~~

- 1.0 Initial Display
- 1.2 Copyright

1.2 Copyright

Copyright screens may exist for products produced under contractual agreement. The format of these screens is specified in the contracts. The following example shows how these screens should appear.



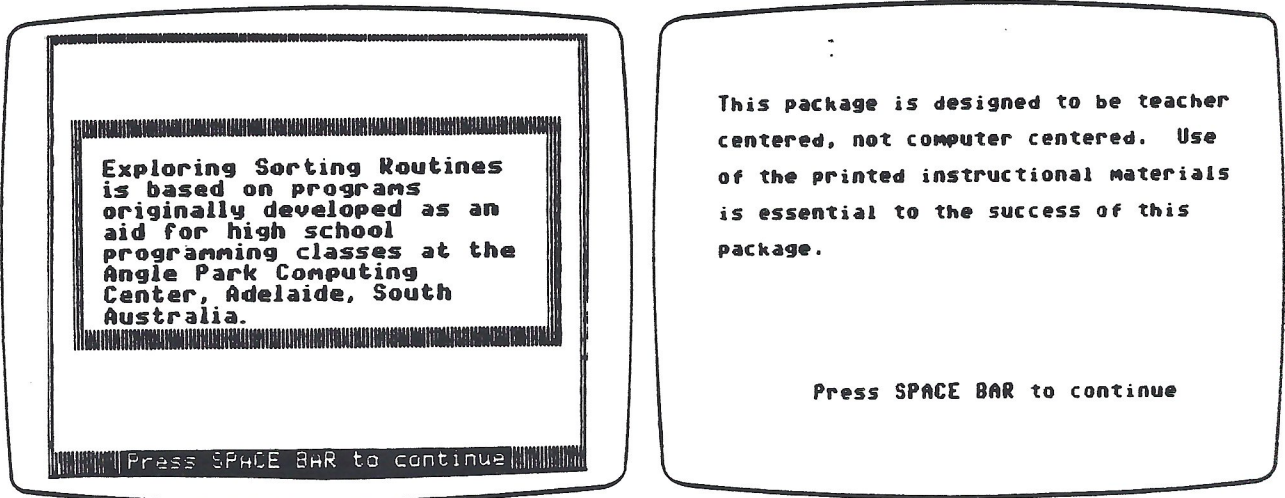
Jan. 15, 1985
E. Peterson

- 1.0 Initial Display
- 1.3 Informational

1.3 Informational

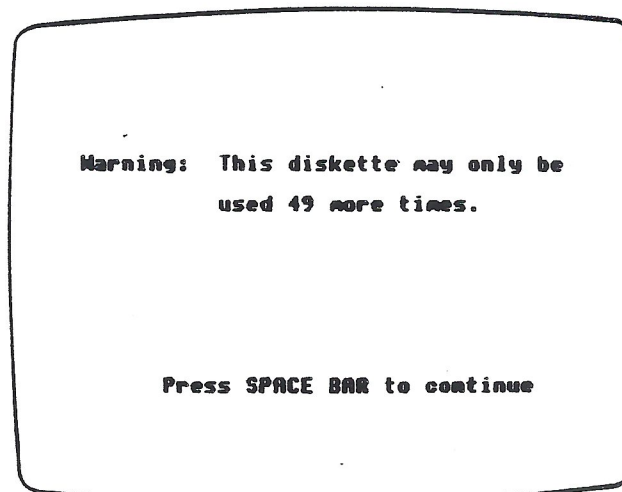
1.3.1 Information

In some products it is important to present information to the user prior to the main menu. The following screens are examples of informational screens.



1.3.2 Warning

A warning is found on MECC backup diskettes.



Jan. 15, 1985
E. Peterson

- 1.0 Initial Display
- 1.3 Informational

1.3.3 Hardware Configuration error

There are many configuration error messages which appear prior to the main menu in MECC products. Following are examples of hardware configuration error messages.

Apple Messages

THIS DISKETTE NEEDS AT LEAST 64K TO RUN.

THIS DISKETTE WILL ONLY RUN ON AN APPLE IIe OR IIc COMPUTER.

IBM Message

You must have a color/graphics card to use this diskette.

Jan. 15, 1985
E. Peterson

- 1.0 Initial Display
- 1.4 Non-menu Products

1.4 Non-menu Products

MECC produces some products meant to be used with other products such as a template diskette for VisiCalc. These products should boot and display a message which explains how the diskette is to be used including startup procedures.

IN ORDER TO USE 'EZ LOGO', YOU MUST
FIRST START UP WITH THE APPLE LOGO
DISKETTE.

WHEN APPLE LOGO TELLS YOU 'IF YOU HAVE
YOUR OWN FILE DISKETTE, INSERT IT NOW',
INSERT YOUR 'EZ LOGO' DISKETTE

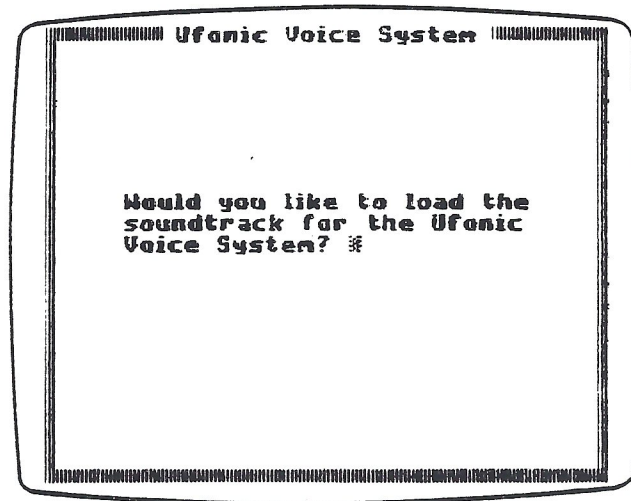
PRESS  TO CONTINUE

- 1.0 Initial Display
- 1.5 Miscellaneous

1.5 Miscellaneous

1.5.1 Ufonic Speech

When a Ufonics card is selected on products which use speech, the following screen is displayed.



MAIN MENU

2.0 Main Menu

2.1 Standard Text Menu

2.1.1 Use of upper and lower case

2.1.2 40 and 80 column displays

2.2 Graphic Menu

2.2.1 Use of Graphic menu

2.2.2 Visual aspects

2.0 Main Menu
2.1 Standard Text Menu

2.0 Main Menu

2.1 Standard Text Menu

2.1.1 Use of Upper and Lower Case

- Upper lower case will be used on all menus
- All lower case will be converted to upper on machines that can not display lower case (Apple II and Apple II+)
- See Figure 1

2.1.2 40 and 80 Column Displays

- Packages that use 80 column displays must be designated as Apple IIe or IIc only.

2.0 Main Menu
2.2 Graphic Menu

2.2 Graphic Menu

2.2.1 Use of Graphic Menu

- Graphic Menus are used on lower elementary products and on other special programs

2.2.2 Visual aspects

- See Figures 2 and 3

March 11, 1985
C. Copley

MENU OPTIONS

3.0 Menu Options

3.1 Programs

3.1.1 Use of Upper/Lower Case

3.2 General Information

3.2.1 General Information Main Menu Entry

3.2.2 The Program Description Screen Layout

3.2.3 The Manual Screen

3.2.4 ESC/ESC Screen

3.2.5 Sound Toggle Screen

3.2.6 Color Adjust Screens

3.3 Program Manager

3.3.1 The Menu Option "Program Manager"

3.3.2 Hidden Management Options

3.3.3 No Management Options

3.4 Printer Support

3.4.1 Including Printer Support on the Main Menu

3.4.2 The Main Menu Message

3.4.3 The Printer Support Program

3.5 Diskette Support

3.5.1 Including Diskette Support on the Main Menu

3.5.2 The Main Menu Message

3.5.3 The Diskette Support Program

3.6 Adjustments/Switches

3.6.1 Sound

3.6.2 Color

3.6.3 Speech

3.6.4 Screen Position

3.7 End/Run another Diskette/End

3.7.1 Main Menu

3.0 Menu Options
3.1 Programs

3.0 Menu Options

The Main Menu is broken into two major visual categories: Programs and Options.

3.1 Programs

3.1.1 Use of Upper Lower Case

- Program names will be in upper/lower case
(upper case on machines that cannot display lower case)
- Options or functions will also be in upper/lower case
- The chaining message will be friendly when possible
- The standard chaining message will be "Getting Program Name..."

March 11, 1985
C. Copley

3.2 General Information

3.2.1 General Information Main Menu Entry

- The message on the Main Menu will be "n. General Information"
- General Information will be included on all MECC packages

3.2.2 The Program Description Screen Layout

- The main information screens will have the diskette title and version number centered on the top of the screen
- Version numbers are in "n.n" format for normal school products and 3, 5, or 7 stars ("*") for home products
- Program descriptions can be in either paragraph or program form
 - See Figure 1
- Paragraph form is descriptive paragraphs on the product or programs
- Program form has the program title followed by a hyphen followed by a psudeo paragraph explaining the purpose of the program

3.2.3 The Manual Screen

- Manual screens will be included in all school products
- See Figure 2 for the format of this screen

3.2.4 Esc/Esc Screen

- Esc/Esc screens will be included in all products
- See Figure 3 for the format of this screen

3.2.5 Sound Toggle Screen

- All diskettes having the on-the-fly sound toggle will have this screen
- See figure 4 for the format of this screen

3.2.6 Color Adjust Screens

- Products that have large amounts of color or are color dependent will have the color adjust screen
- See figure 5 for the format of this screen

3.3 Program Manager

3.3.1 The Menu Option "Program Manager"

- Home products will not have hidden management options.
This is replaced by the Main Menu Option "Program Manager"
- The format of this option will be "n. Program Manager"
- After selecting this option the user will see "Getting Management Options..."

3.3.2 Hidden Management Options

- School products with management options will be accessed via the CTRL-a option
- After selecting this option the user will see "Getting Management Options..."

3.3.3 No Management Options

- If no Management Option are available - use Figure 6

3.4 Printer Support

3.4.1 Including Printer Support on the Main Menu

- Printer Support is placed on the Main Menu for teacher oriented packages
- Printer Support is hidden for those packages that have primarily student users
- When printer support is hidden, it is normally placed in Management Options

3.4.2 The Main Menu Message

- The Menu Entry is "n. Printer Support" (upper/lower case)
- When selected the message "Getting Printer Support..." is placed on the screen vertically centered, right justified

3.4.3 The Printer Support Program

- See Section 7 for the Printer Support program documentation

3.5 Diskette Support

3.5.1 Including Diskette Support on the Main Menu

- Diskette Support is placed on the Main Menu for teacher oriented packages
- Diskette Support is hidden for those packages that have primarily student users
- When Diskette Support is hidden it is normally placed in Management Options

3.5.2 The Main Menu Message

- The Menu Entry is "n. Diskette Support" (upper/lower case)
- When selected the message "Getting Diskette Support..." is placed on the screen vertically centered, right justified

3.5.3 The Diskette Support program

- See Section 6 for the Diskette Support program documentation

3.6 Adjustments/Switches

3.6.1 Sound

- The standard messages are "n. Turn sound off" and "n. Turn sound on."

3.6.2 Color

- Menu Option on non-Apple computers
- See figure _ for the format of this screen

3.6.3 Speech

- Menu Option on non-Apple computers
- See Figure _ for the format of this screen

3.6.4 Screen Position

- Menu Option on non-Apple computers
- See Figure _ for the format of this screen

3.0 Main Options
3.7 End/Run Another Diskette

3.7 End/Run another Diskette

3.7.1 Main Menu

- The "End" Option will be used on the Main Menu
- When selected, the message "Insert another diskette."
will be displayed (centered on the screen) with a Space Bar message.
- Pressing Space Bar will re-boot the computer from the last booted
disk drive
- Esc/Esc will return to the Main Menu
- See Figure 7

MANAGEMENT SUPPORT

- 4.0 Management Support
 - 4.1 Hidden Options
 - 4.2 Standard Options
 - 4.2.1 Diskette Support
 - 4.2.2 Printer Support
 - 4.3 Product Specific Options
 - 4.3.1 Scores/Winners Lists
 - 4.3.2 Editing Options
 - 4.3.3 Toggles
 - 4.3.4 Selections
 - 4.3.5 Set Values
 - 4.4 Management Disks

4.0 Management Support

4.1 Hidden Options

4.0 Management Support

Management options should be permanent configuration changes, i.e., changes which, once made, will be permanent until deliberately changed again. Options which are reset when the diskette is booted should appear on the main menu for convenience.

The primary management options menu screen will contain the product title centered on line 1, and the words "Management Options" centered on line 2.

4.1 Hidden Options

Products which are designed primarily for use by teachers should display management support as a main menu option.

Product designed for use by students should display only those options which a student needs to access. Any other options would remain hidden (see 6.0 Diskette Support and 7.0 Printer Support).

Products with no hidden options should print "There are no management options available" on a separate screen when the access code is typed.

4.0 Management Support
4.2 Standard Options

4.2 Standard Support Options

4.2.1 Diskette Support

The menu option in the management program for selecting a separate diskette support program should read "Select diskette options." The message when chaining to the program will be "Getting Diskette Options..." This message should be vertically centered and left justified.

4.2.2 Printer Support

The menu should read "Select printer options." The message between programs should be "Getting Printer Options..." This message should be vertically centered and left justified.

4.3 Product Specific Options

4.3.1 Scores/Winners Lists

There should be two separate options in the management menu: the first would read "Look at scores for (program name)" or "Look at and print scores for (program name)"; the second would be "Erase names and scores for (program name)".

Specific program names could be omitted for products where this is meaningless (e.g., Early Addition) or for products in which several programs have their own lists. In the latter case, the menu option would take one to a submenu which contains the individual program names.

For circular files (i.e., files in which a particular maximum number of entries are kept, and any new entries delete the oldest ones), the "Look at" option should contain a warning about the number of files already entered, the number allowed, and the fact that new entries delete old ones.

The "Erase" option should always tell the user what they are about to do and ask the question: "Do you really want to do this?"

It is strongly recommended that an option for sending the score lists to a printer be included in most cases.

4.3.2 Editing Options

The menu option for editing should read "Edit (options)" (e.g., "Edit word lists").

When editing is complete, users should be asked whether they want to save the edited file. If they answer yes, the file should be saved before returning to the management options menu.

Editing should be menu-driven whenever possible.

When extensive text editing is to be done, and menu-driven editing is inappropriate, MECC Writer commands should be used. These commands should be displayed either on the same screen where edits are done, or on a Help screen.

4.3.3 Toggles

The menu should state the action which is performed by selecting the toggle option (e.g., "Turn sound on").

When the toggle is selected, a separate screen is displayed to indicate the new setting (e.g., "The graphics is now turned off").

Guidelines: The CTRL-S Key should be used, when possible and appropriate, to toggle sound during program execution.

4.3.4 Selections

After choosing to change the selections, the question is asked whether all items should be selected. If the answer is yes, then all items are selected and user is returned to the management options menu. If no, the selection screen appears.

On the selection screen, the list of items is displayed. Multiple screens are used if necessary. An arrow is used as the cursor for selections, and is moved through the list using the arrow or IJKM Keys. RETURN is used to select the item pointed to by the arrow. After the item is chosen, it is displayed in inverse. Offset from the list, but accessible using the arrow cursor, are other options: End, See next page, and See previous page (if necessary). These options are not inversed when selected.

4.3.5 Set Values

The option is indicated on the management options menu with a statement such as "Change frog jump time" or "Set license fee."

A separate screen gives the current value, then asks "Do you want to change this?" If the answer is no, return to the menu. If yes, erase the question and prompt for the new value. When new value is entered, erase screen except for the title, and print the new value. Space Bar then returns to the management options menu.

4.0 Management Support
4.4 Management Disks

4.4 Management Disks

Management disks will be mostly product specific. Standards which apply to the management options (4.1 and 4.2) will also apply to the options available on the management disk. The main menu for a management disk will contain action verb phrases, similar to the management options menu of an instructional disk.

SCREENS

5.0 Screens

5.1 Overall Guidelines

- 5.1.1 Visual Readability
- 5.1.2 Appropriate use of Language
- 5.1.3 Humor/Repetitiveness
- 5.1.4 Music/Sounds

5.2 Graphics

- 5.2.1 Composition of Screen
- 5.2.2 Multiple Monitors/Texture
- 5.2.3 Animation and Use

5.3 Text

- 5.3.1 Fonts
- 5.3.2 Hardware Limits/Display Modes
- 5.3.3 Word Split/Hyphen
- 5.3.4 Justification

5.4 Help

- 5.4.1 Establish a Need
- 5.4.2 Keystrokes
- 5.4.3 Directional Considerations
- 5.4.4 Types
 - 5.4.4.1 Instructional Content
 - 5.4.4.2 Technical Assistance
- 5.4.5 Windowing

5.5 Error Handling

- 5.5.1 Software Errors
- 5.5.2 User Errors

5.6 Processing Status

5.7 Program Menus

- 5.7.1 Title Setoff
- 5.7.2 Return to Specific Section
- 5.7.3 Consistent form for Choice

5.0 Screens Introduction

5.0 Screens

The focus of this document is to layout the "look" of MECC's courseware products. To provide standards in the area's of initial display screens, menu's, management support, diskette support, printer support, input, ending, and documentation. The screens area is more generally addressed by the title guidelines. This area has short abbreviated statements to guide the designer or developer in program development. Please use these items as background information to produce technically superior presentation styles. Any comments or additional ideas are appreciated, even a reference list of courseware design principles could be added.

Jan. 21, 1985
N. Leekley

5.1 Overall Guidelines

5.1.1 Visual Readability

- the use of mixed case is recommended
- titles should generally be large, bold, and visually attractive
- break text into sections "framing text" or boxes
- keep in mind various monitor types so colored text will be readable on b/w or green screens.

5.1.2 Appropriate use of Language

- concrete, direct, active words, or voices
- consider age group or intended audience
- appropriate reading level
- sentences develop complete thoughts and that sentences flow one from another in a given body of text

5.1.3 Humor/Repetitiveness

- lightness in tone
- watchful eye for durability
- some processing status and feedback can use non-repetitiveness

5.1.4 Music/Sounds

- non-repetitive music
- communicate to the user "attention", "feedback", "reward", and "keypress"

5.2 Graphics

5.2.1 Composition of Screen

- use add-on graphics (overlays) when possible
- balance of graphics and text
- draw attention to the correct area
- graphics neat and well-delineate
- carefully use inverse, color in color dependent programs
- graphics should be reuseable in package when possible
- clean, crisp, sharp
- users may watch a graphic plot and evolution of an idea
- encourage user control of graphics
- choice of characters is appropriate (non-stereotypical) with an "ethnic balance"

5.2.2 Multiple Monitors/Texture

Graphics should be visual on multiple monitors by producing texture and/or shading for color representation.

5.2.3 Animation and Use

- used to motivate
- development of idea or progress that is illustrated by graphical changes
- thematic organization
- call attention to a particular concern

5.3 Text

5.3.1 Fonts

- clarity of text
- choose appropriate font for grade level
- take care in selecting multiple fonts (have complementary types of fonts that work together)
- size follows function

5.3.2 Hardware Limits/Display Modes

*NOTE: These are the machine specifications and capabilities. They may be altered with assembly routines.

Machines	Mode	Text	Graphics & Pixels	Notes
Acorn	Both 0	80 Characters	640x200	2 colors
	Both 1	40 Characters	320x200	4 colors
	Both 2	20 Characters	160x200	16 colors
	Text 3	80 Characters		
	Both 4	40 Characters	320x200	2 colors
	Both 5	20 Characters	160x200	4 colors
	Text 6	40 Characters		
	Text 7	40 Characters		Teletext Mode
Apple	Split	40 Characters	LoRes 40x40	16 colors
	Text	80 Characters		80 Column Card
	Split	4 lines (window)	280x160	
	Hires	No text	280x192 (B & W)	6 colors (side/side color problems)
	Double Hires	No text	140x192 (color) 560x192 (B & W) 140x192 (color)	16 colors, IIe with extended 80 column card or IIc.
Commodore	Both	40 Characters	320x200	1 color per character 16 colors
	Hires	No text	160x200	4 colors 8 sprites
IBM	Text	80 or 40		3 of 16 colors, foreground, back, border.
	Med-Res (text)		320x200	3 of 16 colors, foreground, back, border.
	Hires (text)		640x200	Black & White

5.0 Screens
5.3 Text

Machine	Mode	Text	Graphics & Pixels	Notes
TRS-80 Model III	Text	64 Characters		Block graphics Black & White
Color	Text	64 Characters	Lo-Res	Block graphics, 9 colors
	Med-Res	No text	128x192	2 colors
	Hires	No text	256x192	2 colors

Both = text and graphics

- 5.3.3 Word Split/Hyphen
- avoid if possible
 - hyphenate correctly
 - ask for editing assistance

- 5.3.4 Justification
- left justified
 - paragraph spacing should be consistent throughout the package
 - ragged right

Nov. 15, 1984
N. Leekley

5.4 Help

5.4.1 Establish a Need

- anticipate problem areas
- identify changes in classroom testing

5.4.2 Keystrokes

- ? keystroke (on the machine) as the first character on an input when help is available goes to help screens
- indication of help available on the screen

5.4.3 Directional Considerations

- ESC/ESC exit to end the program and then restart
- previous screen keystroke, (arrow key or CTRL-B) processing can be helpful in textual instruction
- help usually provides additional information then back to original program screen
- ? keystroke to return to program from help

5.4.4 Types

5.4.4.1 Instructional Content

- list of suggestions/helpful hints
- availability of summary information

5.4.4.2 Technical Assistance

- layout clearly defines the choices for technical help (give additional information)

5.4.5 Windowing

- size and position of windows must not interfere with appearance of the product.

5.5 Error Handling

5.5.1 Software Errors

These are errors over which the user has no control. There is nothing that the user can do except start over. Theoretically, software errors should almost never occur. When they do occur, there is no value in explaining to the user what sort of internal error occurred (NEXT WITHOUT FOR, RETURN WITHOUT GOSUB, OUT OF MEMORY, BAD SUBSCRIPT, etc.). Instead, simply provide the following message:

An ERROR has occurred within a program on this disk.
Please call 612/481-3660 to report the following information
to MECC:

ERROR (number) IN LINE (number) IN (program name.)

Then put up the space bar message, and return to the main menu.

5.5.2 User Errors

User errors should be treated in a very friendly and helpful manner. Emphasize what the user can do to recover, not that the user has made an error. Many user-caused errors can be prevented by the software. Most user errors fall into one of the following three categories:

5.5.2.1 Disk interactions (wrong disk in drive, no disk in drive, wrong setup in diskette support program)

Disk errors are best prevented by observing the following rule:

ANY TIME THAT THE DISK IS NOT TURNING, THE USER SHOULD BE ABLE TO REMOVE THE DISKETTE WITHOUT BOMBING THE PROGRAM OR DAMAGING THE DATA. FURTHERMORE, ANY TIME THAT THE DISK IS NOT TURNING, THE USER SHOULD BE ABLE TO TURN OFF THE MACHINE WITHOUT DAMAGING ANY DATA FILES.

There are at least two corollaries to this rule:

1. NEVER ASSUME THAT THE CORRECT DISK IS IN THE DRIVE.
2. NEVER LEAVE A HALF-FILLED WRITE BUFFER IN MEMORY.

5.0 Screens

5.5 Error Handling

Any time that the program is about to read from or write to a disk, it should first verify that the correct disk is out there. (This, of course, implies an ability to identify the diskette being looked for). If the correct disk is not there (or no diskette at all), simply tell the user:

Please insert your program diskette for (product name).

or

Please insert your data diskette for (product name).

If the diskette support has been set up for 2 drives, then add the phrase "in drive number."

Handling problems caused by the user removing a diskette WHILE the drive was running is an altogether different problem. Programs, however, should be as friendly as possible, and offer the user a reasonable method for recovering whatever data remains.

5.5.2.2 Printer interactions (printer not selected, printer paper not ready, no printer, wrong setup in printer support program)

Printer errors are not likely to trigger the error-trapping process; never the less, many of them can be avoided in advance.

5.5.2.3 Input (bad input values)

Bad input values should be screened out when they are first input, before they have a chance to produce errors.

Nov. 15, 1984
N. Leekley

5.6 Processing Status

There are two primary reasons that the user might have to wait for the computer to do something before the user may continue:

1. Disk access - The computer needs to load or save a file or part of a file.
2. Computation - The computer needs to engage in some "number crunching", string manipulation, or some similar activity that takes a bit a time.

In either case, an appropriate message should appear on the screen if the activity will take more than 3 or 4 seconds. This may be accompanied by a graphic, or for pre-reading products, entirely replaced by a graphic. The screen should not be blank during this time, nor at any time longer than 3 seconds.

It is often helpful to give the user an idea of what is happening (without being overwhelming). Thus, when chaining between programs, it is recommended to say

Getting (program name)...

or something that gets this idea across. If the wait is a long one, it is also helpful to vary the screen appearance periodically, to assure the user that something is indeed happening. This is particularly true when the wait is due to computation.

5.7 Program Menus

5.7.1 Title Setoff

- there should be a title
- emphasize by character size, color, boxing, etc.
- centered

5.7.2 Return to specific Section

- return to named screen
- example: Return to teacher options
Return to menu "product"

5.7.3 Consistent form for Choice

- use verb to start task selection
- use types of phrases together
- menu lead in phrase, then selections, then questions
- use capitalize character for first letter
- use punctuation sparingly
- there should be a space after the question mark.

off { The next two issues need to be discussed with the main committee allow all numeric keys (error or message) or allow subsets of numeric keys (no error message) at input prompts.

DISKETTE SUPPORT

6.0 Diskette Support

- 6.1 Program Diskette
- 6.2 Program and User
- 6.3 Diskette

Charles / Craig
Include PPO-DOS
appendix

PRINTER

7.0 Printer

7.1 Printer Output

7.1.1 Margins

7.1.2 Titles

7.2 Printer Support (printer set-up)

7.3 Diverting Output to Printer

7.4 Printer Document Support

Appendix C Using a printer with this courseware

7.0 Printer

Assumption/MECC will support the computer manufactures' printers.

7.1 Printer Output

7.1.1 Margins

Printer output should break cleanly between pages, leaving margins at the top and bottom of each page (side).

To accomplish this, a number of assumptions have to be made, such as:

a) The user is using continuous feed, perforated fanfold paper, 11" between perforations. (Single sheets 11" tall are probably also acceptable.)

b) Printing starts at the top of the first page. (The user has properly positioned the paper before printing begins.)

c) The printer is set to print 6 lines per vertical inch.

d) A mechanism exists for determining where the top of each page is. If the user has properly set "top-of-form," a form feed signal can be generated to position the next sheet. If we do not trust the user to do this or we do not trust the printer to recognize the signal, then the program must constantly count the number of lines generated. This latter approach assumes that there are 66 lines per page, and that the number of characters per line that the printer will handle without wrap-a-round is known.

7.1.2 Titles

When appropriate, programs that generate multiple-page output should print page numbers and/or titles at the top or bottom of each page after the first page, to aid the user in keeping track of the pages.

7.0 Printer
7.2 Printer Support

7.2 Printer Support (printer set-up)

- 7.2.1 The printer set-up should work by default in the majority of cases. That is, most users should not have to enter the Printer Support program in order to get MECC software to work with their printer.
- 7.2.2 Products upon which host machine is being used, Printer Support should allow flexibility for the user in terms of:
- a) what type and brand of printer can be used
 - b) what type and brand of printer interface card can be used
 - c) what special commands can be sent to the printer (control codes and escape sequences)
 - e) number of lines per page.

Nov. 15, 1984
N. Leekley

7.3 Diverting Output to Printer

*will
N. Leekley*

7.3.1 If reasonable, ask question, do you want to use a printer and flag?
select one of the questions.
(ON-LINE, top of form, power on) (define esc. process)

7.3.2 Before sending output to the printer, the program should print a
message on the screen to the effect of:

Please prepare your printer.

Press RETURN to start printing.

7.3.3 If hardware limitations allow, the program should, before sending
output to the printer, verify:

a) that a printer exists at the slot indicated

b) that the printer is powered up

c) that the printer is selected (i.e., the "SELECT" button is activated)

d) that the printer has paper

e) if the printer is not found by all case divert output to the screen
when possible

7.3.4 After the printout is completed, the printer should eject the
remainder of the current page, placing the print head at the top
of the next page.

7.0 Printer
7.4 Printer Document
Support

7.4 Printer Document Support

Recommend adding the standardized appendix then editing it to make sure it fits the product being presented.

- 1) text printing
- 2) hires graphics printing
- 3) text and lines graphics

*reference
appendix*

Nov. 15, 1984
N. Leekley

USING A PRINTER WITH THIS COURSEWARE

A printer is required or may be used with this product. To connect your printer to an Apple II, II Plus, or //e computer, you will need the appropriate printer card (called an interface card) inserted into a slot (usually slot number 1 or 2) in the computer. To connect an Apple //c computer, use the printer port on the back of the computer. (The Apple //c contains the equivalent of a serial interface card in slot 1.)

This product is initially set to work with an Apple Parallel card, an Apple Serial card, or an Apple Communications card located in either slot 1 or slot 2. If you have this setup, you do not need to do anything further.

If your printer uses a different setup than described above or if you need or want to enter special printing commands, you will need to use the Printer Support option contained on the diskette.

Depending on which MECC software you are using, you can select the Printer Support option from the main menu or from the Management Options menu. (The Management Options menu is accessed by pressing Control-A while viewing the main menu. To press Control-A, hold down the Control Key and press the letter A.) You will then see the Printer Support menu as shown in Figure 1.

Option 1, "Check current printer setup," shows the current printer setup.

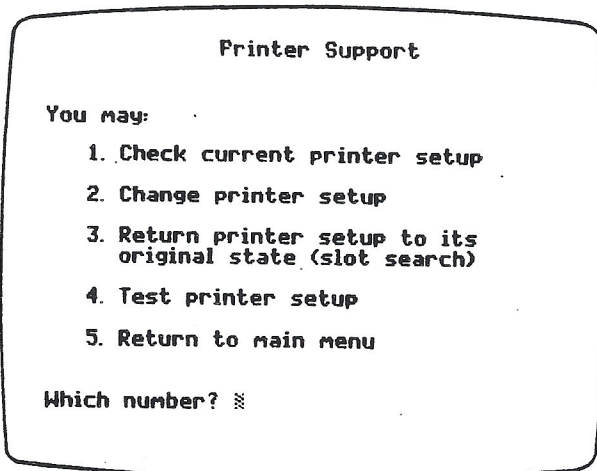


Figure 1

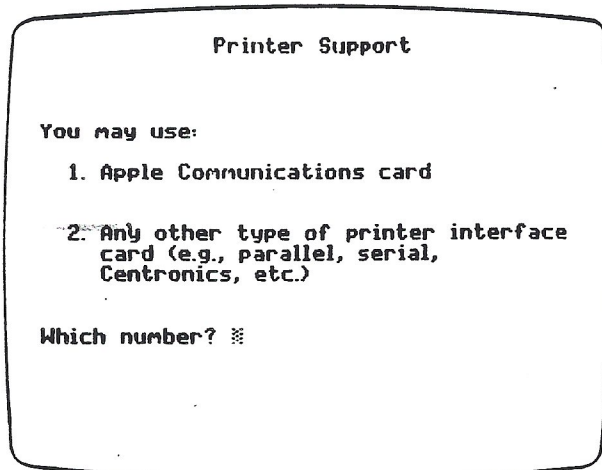


Figure 2

Option 2, "Change printer setup," enables you to change the printer setup. To do this, you will first need to identify the type of printer card you are using (Figure 2). If you are using an Apple Communications card, specify the printer speed and the slot number. If you are using any other type of printer card, specify the slot number and whether your printer requires special commands.

Special commands enable certain types of printers to operate and also permit special printing formats. These commands are listed in your manufacturer's printer or interface card manual. To illustrate, Figure 3 below shows the special command you could enter to produce compressed printing on an Apple Dot Matrix, Apple Imagewriter, or Apple Scribe Printer. Figure 4 shows the special command you could enter to produce compressed printing on most Epson Printers. Press the Return Key after entering a special command. The CHR\$(n) command will be translated into its corresponding character on the screen. You may then enter another command or simply press Return to end.

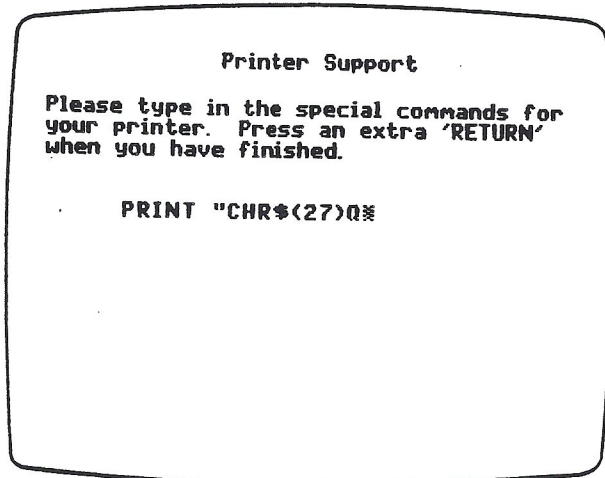


Figure 3

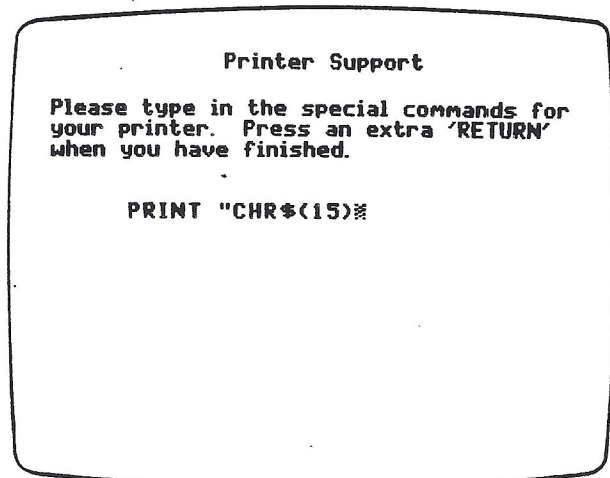


Figure 4

After you have made the necessary changes to the printer setup, you will be asked to specify the type of printer you are using. This information will be displayed when Option 1, "Check current printer setup," is selected.

Option 3, "Return printer setup to its original state (slot search)," tells the program to search slots 1 and 2 for a printer card and that no special commands will be used.

Option 4, "Test printer setup," prints out all the keyboard characters. If these characters do not appear, check to see whether you have connected your printer correctly or check your printer or interface card manual for special commands.

Note: Once the new printer setup has been established, the standard slot-searching routine will not be used. Instead, the computer will use the slot and any special commands you have specified.

The commands are saved on the diskette and are permanent until you use the Printer Support option again to change the printer setup.

INPUT

8.0 Input

8.1 General Concerns

8.2 Legal/Illegal Entries

8.3 Use of Escape

8.4 Dedicated Keys

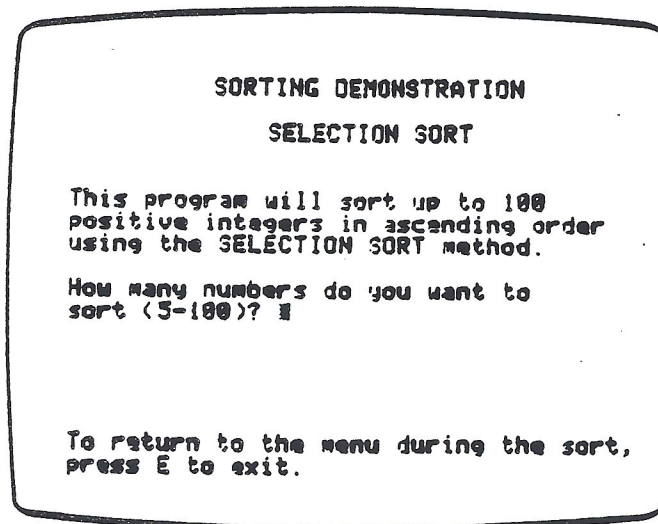
8.5 Field Designation

8.0 Input
8.1 General Concerns

8.0 Input

8.1 General Concerns

- 8.1.1 Command boxes or other current design features for input are encouraged.
- 8.1.2 The range of responses should be stated unless it is inherently obvious such as a menu or a yes/no question.



- 8.1.3 When prompting the user for input, be consistent in tone and style (e.g., do not use "What is your name?", in the same package as "Enter name").

8.0 Input
8.2 Legal/Illegal Entries

8.2 Legal/Illegal Entries

8.2.1 Legal input consists of the specified range of alpha or numeric characters only.

- a. Input should be limited to the number of characters necessary for valid input.
- b. Entry of names should allow spaces, hyphens, periods, apostrophes, and slashes.
- c. Either upper or lower-case input is accepted for standard responses such as yes/no.

8.2.2 An illegal entry will generate a soft tone.

- a. On yes/no questions only "Y" or "YES", or "N" or "NO" are legal inputs.
- b. On other illegal entries where the range is specified, pressing the Return Key clears the field and sounds the tone.
- c. A single illegal keypress displays nothing and sounds the tone.
- d. If a range is not defined or obvious, in addition to the tone, an advisory message is required.

Jan. 22, 1985
E. Peterson

8.3 Use of Escape

8.3.1 The use of Escape-Escape is always consistent within a diskette, and should not be mixed with the use of the single Escape. A single Escape can be used in utility programs.

8.3.1.1 On menu-driven software, the use of Esc-Esc will:

a. Take the user to the main menu, where there are submenus with no Return to main menu options.

or

b. Take the user to next highest level of menu which does have a Return to main menu option.

or

c. Return the user to the main menu when used at a submenu display which has a Return to main menu option.

8.3.1.2 On non-menu-driven software (simulations, games, etc), the user will be asked if they "... want to try again?" On No, they will be returned to the main menu. On YES, the program will be restarted.

8.4 Dedicated Keys

^{dedicated}
A designated key is any key or combination of keys that perform a specific task as defined by the software, not the hardware, i.e., "Apple-?" would be a Help key.

8.4.1 The following keys used with the control key should not be designated for other functions: I, J, K, U, H, \square , M.

Control - I Tab
Control - J Down arrow
Control - K Up arrow
Control - U Right arrow
Control - H Left arrow
Control - \square Escape
Control - M Return

8.4.2 On products developed for the Apple IIe or IIc, the open and closed Apple keys should be used in place of the control key.

8.4.2.1 In all cases the Help function should be accessed by pressing "Apple-?" or "Apple-/" . Help should always be indicated when available. The message should say "A-? for Help."

8.4.3 On products developed for the Apple II or II+, the control keys (excluding those referenced in 8.4.1) should be used for software defined functions.

8.4.3.1 In all cases the Help function should be accessed by pressing "/" or "?". Help should always be indicated when available. The message should say "?-Help."

8.4.4 The delete, right arrow, and left arrow are designated keys for cursor movement. Cursor movement can be in either of two modes: destructive mode or insert mode. The mode selected should be consistent throughout a package.

8.4.4.1 In destructive mode the left arrow functions as a delete key, the right arrow key does not function.

8.4.4.2 In insert mode the right and left arrow keys move the cursor without disturbing the text.

8.4.5 Where the "Press space bar to continue" prompt is displayed, both the space bar and the return key will be accepted.

8.4.6 Editing Keys

<u>Key</u>	<u>Function</u>
RETURN	accept input line (Apple, Acorn, Atari, Commodore computers)
ENTER	accept input line (IBM, Radio Shack)
DELETE	delete character to the left of the cursor (Apple, Acorn, Atari, Commodore)
Left Arrow	delete character to the left of the cursor (Apple, Commodore, IBM, Radio Shack)
CTRL-X	delete all characters on the input line (Apple)

Other dedicated keys

CTRL-S	turn sound on/off
ESC ESC (or ESC in some utility programs)	exit program (Apple, Atari, IBM)
F1 F1	exit program (Commodore)
CLEAR CLEAR	exit program (Radio Shack)

Access to Management Support is made with the following keys:

CTRL-A	Apple, Acorn, Atari, IBM computers
F8 (shift F7)	Commodore computers
down arrow T (simultaneously)	TRS computers

8.0 Input
8.5 Field Designation

8.5 Field Designation

On text screens where a field length needs to be designated, the underscore should be used.

- 8.5.1 When using the underscore in the insertion mode, the cursor position is indicated by a blinking underscore.
- 8.5.2 When using the underscore in the destructive mode, the cursor position is indicated by a blinking del character (sometimes called a checkerboard character).

Feb. 26, 1985
E. Peterson

ENDING A PROGRAM

- 9.0 Ending a Program
 - 9.1 Ending Questions
 - 9.2 Return Message
 - 9.3 Return Location
 - 9.4 Ending Summary

9.0 Ending a Program

A program may be ended by completing a normal run of the program. It also may be ended early at the users choice by pressing ESC-ESC. In either case, the ending question, return message, return location, and ending summary is the same.

9.1 Ending Question:

The ending question appears a) at the conclusion of a normal run of the program, b) when ESC-ESC is pressed, or c) following the ending summary (see 9.4). The preferred form is 9.1.1 tailored to program activity.

9.1.1 Tailored to program activity:

Would you like to go on another short errand for Jenny?
Do you want to compete again?
Do you want to sell apples again?

9.1.2 Containing program name:

Do you want to try (Program Name) again?

9.1.3 Generic phrase:

Do you want to try again?

9.2 Return Message:

A message must be on the screen while the program is chaining unless the chain is so brief there is not time to read the message. The message on screen while the program is chaining will be:

Returning to (Menu name).

or

Returning to (Program name).

9.3 Return Location:

After responding "yes" or "no" to question (see 9.1).

9.3.1. Return Location for "YES" response:

9.3.1.1 Beginning of the Program:

Most program should be handled in this way.

9.3.1.2 Main Menu: Single program disk

9.3.1.3 Sub Menu: Nested drills, Tutorials, Utility

E.G. Word Herd-Look Alikes/Sound Alikes

Pet Care

Payroll, A Business Simulation

9.3.1.4 Within the program:

Programs with one main interaction screen where repeated use is expected, and instructions are available in form of Help screens.

E.G. Sound Tracks

Word Wizards

9.3.2 Return Location if "NO" response

Main Menu

9.4 Ending Summary:

Sometimes data accumulated during a run of the program needs to be presented to the user before the program is exited. Often this is the same data and same format used at the conclusion of a normal run of the program. Sometimes this data is presented differently if the program is exited early through ESC-ESC. Following the presentation of this accumulated data the student sees the ending question (see 9.1). In programs based on mastery level learning the students will not see the ending question but will be returned to the Main Menu.

9.4.1 Summary of data collected and presented when program is ended, then goes to Ending Question (see 9.1).

E.G. Oh, Deer! five year management frame.

9.4.2 Summary of data collected and presented when program is ended, then goes to Main Menu.

E.G. Mastering Math Series student score frame.

DOCUMENTATION

10.0 Documentation

10.1 Home Product Manuals

10.2 School Product Manuals

10.0 Documentation

Documentation to support computer software takes several different forms. The MECC Documentation Standards Manual contains very explicit guidelines for the organization and layout of courseware and administrative written materials published by MECC.

The Courseware Section of this manual is divided into Home Products and School Products. Each of these sections is organized sequentially, corresponding to the organization of recent MECC documentation. Included are sections dealing with each distinct part of a MECC manual such as the table of contents, the title page, etc.

Example pages from sections of recent documents illustrating organization and layout of that section are included. Pages are chosen to illustrate typical categories of products, such as products which contain sequenced programs; which contain single programs; which are part of a series of products.

10.0 Documentation
10.1 Home Product Manuals

10.1 Home Product Manuals

The MECC Documentation Standards manual defines and illustrates: Front Cover, A Word About MECC/Copyright Page, The Welcome to Page, Program Sections, Miscellaneous Sections, To the Parent or Teacher, Rewards Page, and Back Cover.

Jan. 17, 1985
K. Jostad

10.0 Documentation
10.2 School Product Manuals

10.2 School Product Manuals

The MECC Documentation Standards Manual defines and illustrates: Front Cover, Inside Title Page, Copyright Page, Table of Contents, Forward/Preface, Description/Learning Objectives Page, Program Previews, Use in an Instructional Setting, Student Handouts, Miscellaneous Sections, Appendices (Credits, Misc., MECC Services Page), and Back Cover.

Jan. 17, 1985
K. Jostad