ADDENDUM

INFORMATION REGARDING THE *USER'S REFERENCE GUIDE*

Owner's Registration Card

Please be sure to fill out and return the Owner/User Registration card enclosed with your TI-99/4A Computer. Our receipt of this card automatically entitles you to receive the *User's Newsletter* and any other information made available to owners of the TI-99/4A Computer.

Wired Remote Controllers

If the **ALPHA LOCK** key is pressed down, the Wired Remote Controllers may not operate properly.

CALL KEY Subroutine

When you specify a *key-unit* of 1 or 2 (for a split keyboard scan) in the CALL KEY subroutine, the computer does not return a true 0 (zero) in the *return-variable* when you press **X** on keyboard 1 or **M** on keyboard 2. Therefore, if your program checks to see whether the *return-variable* equals zero, the computer returns an answer of false. The following example illustrates another way to write your program.

```
100 CALL KEY (1,A,B)
110 IF B<>1 THEN 100
120 IF A+1=1 THEN 200
    .
    .
    .
```

Note that, if line 120 read "IF A = 0 THEN 200," the program would not work properly.

Sprites

In some TI LOGO and TI Extended BASIC programs including sprites (moving graphics), one of the sprites may move into row 208, which is off the bottom of the display. If so, that sprite, and all sprites numbered greater than that one, become invisible until the sprite in row 208 moves to another position. Thus, the sprites appear to "flicker" briefly.

Cassette Recorders and the Memory Expansion Unit

The Note on page I-10 of the *User's Reference Guide* applies only to using the Memory Expansion unit with the TI Extended BASIC *Solid State Software*™ Command Module. The TI BASIC programming language built into the computer *cannot* make use of the Memory Expansion unit.

Keyboard Mapping Appendix

Note that, in Figure 1 of the Keyboard Mapping Appendix on page III-3 of the *User's Reference Guide*, a *key-unit* of 3 returns both upper- and lower-case alphabetical characters as *upper-case*, not lower-case, letters.

Available Memory

If you are developing programs to run on both computers, keep in mind that the TI-99/4A Computer has 256 fewer bytes of available Random-Access Memory (RAM) than the TI-99/4 Home Computer.

INFORMATION REGARDING SOFTWARE

The TI-99/4A Computer is a modified version of the TI-99/4 Home Computer. Several important differences relating to the use of software applications should be noted about the TI-99/4A Computer. Please read this folder and mark any appropriate changes in the owner's manuals for your *Solid State Software*™ Command Modules, Diskette software, and Cassette software.

The TI-99/4A console keyboard has both upper-case (large capital) and lower-case (displayed as small capital) alphabetical characters, and the **SHIFT** key is used, just as on standard typewriters, to type an upper-case character. Except for the letter keys, each key's shifted character is printed on the key face above the unshifted character.

IMPORTANT: If you are using the keyboard for input with Command Module, Diskette, and Cassette programs, press **ALPHA LOCK** down and enter all alphabetical characters as upper-case letters, unless the owner's manual included with the program states otherwise. If you have difficulty with any of this software, first check to be sure that **ALPHA LOCK** is pressed down.

If you are using the Wired Remote Controllers for input, however, **ALPHA LOCK** should be in the *up* (off) position.

Program Selection

The TI-99/4 Home Computer has a feature called Equation Calculator which appears on the computer's master selection list. Note, however, that this feature is not included with the TI-99/4A Computer. Therefore, although the manuals for some software packages instruct you to press **3** to select the Command Module program, press **2** on the TI-99/4A. As a general rule for selecting a module on either computer, simply find the name of the program on the selection list and press the corresponding number key.

Device and File Names

In TI BASIC device names must be entered as upper-case letters. For example,

    DSK1.*filename*
    CS1
    TP
    RS232

In addition, the file name you enter for diskette files is distinguished not only by the way you spell the name, but also by the use of upper- and lower-case letters. For example, the file name MYFILE is not the same as Myfile. Note that, since only the TI-99/4A Computer recognizes lower-case letters, any files which may be used with the TI-99/4 Home Computer must be named in all upper-case letters.

If you name a file with lower-case letters and then catalog the diskette with the Disk Manager Command Module, the module does not display the file name correctly on the screen. However, if you are using a TI Solid State Thermal Printer or a TI RS232 Interface and an RS232C-compatible printer, you can obtain a correct printout of the file names.

Control Keys

Control keys, which are primarily used in telecommunications, are accessed on the TI-99/4A by holding down the **CTRL** key while pressing a number or letter key. Control keys used with the Terminal Emulator II Command Module are explained in later sections of this folder.

Function Keys

Both the TI-99/4 and the TI-99/4A consoles come with keyboard overlays identifying special computer functions (**BACK, BEGIN, QUIT**, etc.). To access TI-99/4A overlay functions, as well as any function or symbol that appears on the *front* of a key, hold down the **FCTN** key while pressing the appropriate function or symbol key.

When you are using the TI-99/4A console, note that, with the applications software packages, you should type parentheses, ( ), and not brackets, [ ], unless the owner's manual states otherwise. Also, the owner's manual enclosed with an applications software package may reference only the TI-99/4 function keys (**SHIFT C** for **CLEAR, SHIFT R** for **REDO**, etc.). Most Command Module, Diskette, and Cassette programs are compatible with both consoles; however, the keystroke sequences used in accessing the special functions of these programs differ somewhat for each keyboard.

The following chart shows the relationship between the function keys on the TI-99/4 and the TI-99/4A for most software applications.

FUNCTION KEYS

Name	TI-99/4 Keys	TI-99/4A Keys
AID	**SHIFT A**	**FCTN 7**
CLEAR	**SHIFT C**	**FCTN 4**
DELete	**SHIFT F**	**FCTN 1**
INSert	**SHIFT G**	**FCTN 2**
QUIT	**SHIFT Q**	**FCTN =**
REDO	**SHIFT R**	**FCTN 8**
ERASE	**SHIFT T**	**FCTN 3**
LEFT arrow	**SHIFT S**	**FCTN S**
RIGHT arrow	**SHIFT D**	**FCTN D**
DOWN arrow	**SHIFT X**	**FCTN X**
UP arrow	**SHIFT E**	**FCTN E**
PROC'D	**SHIFT V**	**FCTN 6**
BEGIN	**SHIFT W**	**FCTN 5**
BACK	**SHIFT Z**	**FCTN 9**
ENTER	**ENTER**	**ENTER**

Although the preceding list of function keys applies to the majority of software packages, the keystroke sequences required for certain Command Modules are different. The sequences for each of these modules are listed here.

DEMONSTRATION

Name	TI-99/4 Keys	TI-99/4A Keys
Introduction	**SHIFT A**	**FCTN 7**
Information	**SHIFT B**	**FCTN I**
Demonstrations	**SHIFT C**	**FCTN 4**
Wrap-up	**SHIFT D**	**FCTN D**

DIAGNOSTIC

For best results with the Keyboard Test, depress the **ALPHA LOCK** key to check only the upper-case alphabetical characters. Checking lower-case characters and the function keys does not produce the expected results.

EARLY LEARNING FUN

Name	TI-99/4 Key	TI-99/4A Key
Instructions	**SHIFT P**	**FCTN P**

EARLY READING

Name	TI-99/4 Keys	TI-99/4A Keys
AID	A or SHIFT A	SHIFT A or FCTN 7
REDO	R or SHIFT R	SHIFT R or FCTN 8
BEGIN	W or SHIFT W	SHIFT W or FCTN 5

INDOOR SOCCER

Name	TI-99/4 Key	TI-99/4A Key
Time-out	SHIFT T	FCTN 3
↘	. (period)	, (comma)
Kick or Tackle (right side)	ENTER	. (period)

MATHEMATICS COURSEWARE SERIES

Some of the function keys in the Addition and Subtraction 1, Addition and Subtraction 2, and Multiplication 1 modules work both shifted and unshifted on the TI-99/4 Home Computer. With the TI-99/4A Computer, these functions are accessed by pressing either **SHIFT** and the letter key or **FCTN** and the function key. For example, to use the **AID** function, you can press **SHIFT A** or **FCTN 7**.

MUSIC MAKER

Name	TI-99/4 Keys	TI-99/4A Keys
Print	SHIFT P	FCTN P
Home	SHIFT H	SHIFT < (less than)

NUMBER MAGIC

Name	TI-99/4 Key	TI-99/4A Key
Answers	SHIFT L	= (equal sign)

PERSONAL RECORD KEEPING

When you print information with the Personal Record Keeping Command Module and the TI-99/4A Computer, the maximum column width available depends on the type of printer you have. With the TI Thermal Printer, the maximum width is 32 columns, just as it is with all other programs. However, with the TI RS232 Interface and a compatible printer, the maximum column width is about 50 characters per line. Note that the maximum column width with the RS232 Interface may increase slightly if your device name is short and may decrease slightly with longer names.

TERMINAL EMULATOR I

Name	TI-99/4 Keys	TI-99/4A Keys
CMD (PROC'D)	SHIFT V	FCTN 6
Arrow keys	SHIFT (arrow key)	FCTN (arrow key)

All other commands are the same as those referenced in the owner's manual, except that **FCTN 6** (rather than **SHIFT V**) is used to enter the Command Mode before pressing the appropriate command key.

TERMINAL EMULATOR II

Name	TI-99/4 Keys	TI-99/4A Keys
BREAK	SPACE ENTER	CTRL /
\ (backslash)	SHIFT Z	FCTN Z
~ (tilde)	SHIFT A	FCTN W
¦ (vertical line)	SHIFT W	FCTN A
(file separator)	SHIFT C	FCTN C
[(open bracket)	SHIFT F	FCTN R
] (close bracket)	SHIFT G	FCTN T
{ (open brace)	SHIFT R	FCTN F
} (close brace)	SHIFT T	FCTN G
__ (underline)	SHIFT U	FCTN U
— (dash)	SHIFT I	SHIFT — (dash key)
? (question mark)	SHIFT B	FCTN I
' (apostrophe)	SHIFT 6	FCTN O
" (quotation mark)	SHIFT P	FCTN P
Arrow keys	SHIFT (arrow key)	FCTN (arrow key)
Line Feed	SHIFT ENTER	CTRL J
File Separator	CONTROL M	CTRL ; (semicolon)
Group Separator	CONTROL J	CTRL = (equals)

Other commands, such as CONTROL 1 (SPEAK), CONTROL 2 (OUTPUT), etc., are the same as those referenced in the owner's manual, except that you press and hold the **CTRL** key, rather than the **SPACE BAR**, while pressing the appropriate number key. For other ASCII control codes available on the TI-99/4A console, see "Function and Control Keys" in the Appendix of your *User's Reference Guide.*

VIDEO-CHESS

Name	TI-99/4 Keys	TI-99/4A Keys
BACK-UP	SHIFT B	FCTN I
HELP	SHIFT H	SHIFT < (less than)
CLEAR	SHIFT C	FCTN 4
RESIGN	SHIFT E	FCTN E
DRAW	SHIFT D	FCTN D
TIME OUT	SHIFT T	FCTN 3
REPLAY	SHIFT R	FCTN 8
STORE	SHIFT X	FCTN X
SWITCH	SHIFT S	FCTN S
POSITION	SHIFT P	FCTN P
MODE CHANGE	SHIFT M	; (semicolon)
QUIT	SHIFT Q	FCTN = (equal sign)

VIDEO-GRAPHS

The Video-Graphs module does not include a keyboard overlay for the TI-99/4A computer. In the PATTERNS mode, the following changes to the function keys should be noted.

Name	TI-99/4 Keys	TI-99/4A Keys
CHG	B	/ (slash)
ENTER	ENTER	. (period)
TAPE	G	; (semicolon)

For information on the other function keys, refer to the "Special Function Keys" section of the module owner's manual.

A-MAZE-ING

Name	TI-99/4 Keys	TI-99/4A Keys
↘	. (period)	, (comma)
Print	SHIFT P	FCTN P

VIDEO GAMES 1

Name	TI-99/4 Keys	TI-99/4A Keys
↘	. (period)	, (comma)

Printer Use

Some Command Module owner's manuals instruct you to press **SHIFT P** to obtain a printed copy of a display. With the TI-99/4A Computer, press **FCTN P** instead to print the information. The software packages where this applies are listed here.

A-Maze-Ing   Securities Analysis
Music Maker   Tax/Investment Record Keeping
Personal Real Estate   Weight Control & Nutrition

Please mark these changes as necessary in your owner's manuals for these Command Modules.

System Lockup with TI BASIC Files

If you have a TI BASIC program that opens and closes more than one file and the filenames differ by exactly one character in length, the program may appear to "lock up" while it is running. If this happens, pressing **QUIT** is the only way to stop the program. Note, however, that when you press **QUIT**, the program in memory is lost.

You can correct this situation by taking care that the lengths of the filenames in the program do not differ by exactly one character. An easy way to do this is to make all of your filenames the same length.

Format for INPUT Statement

When displaying a prompt with an INPUT statement in a TI BASIC program, be sure to include a colon after the prompt as shown here.

INPUT "UNIT COST?":UG

With a long prompt and a different separator, such as a semicolon, the system may "crash," losing your program. (*Note:* This situation occurs most often when programs are adapted from another form of BASIC which may have a different form for the INPUT statement.)

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