

Expand Your Apple

SMARTERM CHARACTER ENHANCEMENT INSTRUCTIONS

This sheet provides the instructions for installing the Smarterm Character Enhancement, as well as the documentation changes necessary to update the standard Smarterm manual. The kit contains only two parts, an 8002 character generator and an EPROM with a small sticker on it marked "2.0".

INSTALLATION

Carefully follow these step-by-step instructions:

1. TURN OFF POWER TO THE APPLE][[[
2. Open the cover, and remove the Smarterm
3. Carefully pry the 24 pin device marked 8002-003 from its socket and press it into the foam that the kit includes
4. Remove the 8002A from the foam, line up the notch with the notch painted on the circuit card, align the 24 pins with the socket and firmly press the device into the socket
5. Carefully pry the ROM or EPROM from its socket. This is the 24 pin device next to the character generator, marked 9316B or with a small sticker with "1.0" or "1.1". Press it into the foam.
6. Remove the new EPROM from the foam, align its notch and pins, and press it into its socket
7. Reinstall the Smarterm as described in the Smarterm manual, page 5

VIDEO ADJUSTMENT PROCEDURE

The new character set generates much more vertical video information, due to the 7x11 dot matrix. Therefore, it will be necessary to adjust the vertical size and linearity controls on your monitor. These controls are a small knob or a small hole through which an adjusting screwdriver can be inserted either on the front or rear of the monitor. The procedure is based on creating a pleasing display. Turn the vertical size (perhaps labelled "height") counterclockwise to reduce the vertical display size enough to put all 24 lines of information on the screen.

If, after the above adjustment, you notice an unsatisfactory difference in size between the top and bottom lines on the screen, adjust the vertical linearity control A VERY SMALL AMOUNT. If necessary readjust size to fill the screen. Repeat these two adjustments until the screen is full with 24 lines displayed and the linearity of the display is satisfactory.

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SMARTERM FUNCTIONS -

All functions of the Smarterm are identical to the descriptions in the Smarterm manual. Keyboard controls have been enhanced for application to a wider variety of programs and especially for use with CP/M based word processing and business applications. The firmware assumes that the shiftkey modification has been installed when booting CP/M or Pascal diskettes, but maintains a provision for a single key shift if that is not the case. The special keys and their functions are as follows:

1. CTRL-SHIFT-P (press all three characters at once) is used as a shift key only if the shift wire has not been installed.
2. CTRL-SHIFT-M (press all three characters at once) provides a shift lock/unlock function.
3. "Literal" means that the Smarterm will not process the next character typed. Under CP/M and Pascal, the literal key is ESC (escape). Thus, to pass ESC to the program, press it twice. (See para 6 below for extra functions.)
4. In Apple DOS, CTRL-Q is used as the literal key, and ESC functions exactly as described in the Apple documentation. Thus, to switch from 80 column to 40 column, press ESC then CTRL-Q then CTRL-Q.
5. The ESCape function is passed to the system by pressing ESC two times.
6. Pressing ESC (CTRL-Q in Apple DOS) provides 12 extra keys, as follows:

Escape then numeral	_	`	{		}	-	^	[]	\	@	d
Shifted key		"	#	\$	%	&	'	()	0	*	=
Unshifted key	1	2	3	4	5	6	7	8	9	0	:	-
	d = DEL											

7. CTRL-O sent to the screen will turn the inverse mode on, and CTRL-N will turn it off. Since CP/M "echoes" all characters to the screen, pressing these keys at the system level (A> on the screen) will turn inverse on and off. Since these are usually program controlled functions, this function can appear as a surprise.
8. In the event that RESET is pressed in error or for any reason the code to enable graphics is sent to the screen, the sequence CTRL-T B 1 (cr) will restart the 80 column mode.
9. CTRL-S is the stop list feature, to interrupt any listing to screen or printer. A stopped listing will wait for any other character to be pressed.
10. The CTRL-F (FLUSH) command is unnecessary and has been deleted.
11. The graphics mode is now a 160 x 96. (See the Smarterm manual, page 29)