STANDARD-DENSITY CHARACTER SET KIT
for Videx UltraTerm

What is the Standard-Density Character Set Kit

The new firmware and character set chips in this package enhance the display qualities of the UltraTerm when using a standard video monitor such as the Apple Monitor //. By using slightly smaller characters the UltraTerm can display up to 32 lines of text without using special monitors that support interlace video. The UltraTerm with the Standard-Density character set will work well with any monitor that has at least 18MHz bandwidth.

With the Standard-Density kit installed in your UltraTerm only the 80 × 48 display mode requires interlace video. Other display modes (such as 128 × 32, and 80 × 32) do not require interlace video. However, should you wish, a new command has been added to the UltraTerm to turn on interlacing in any mode.

EQUIPMENT YOU WILL NEED

The tools you will need to install and test the Standard-Density Character Set in the UltraTerm are:

- Small common (flat-bladed) screwdriver or IC extractor
- UltraTerm character set: **ULT-CHS-3C3B** (enclosed in this package)
- UltraTerm firmware: **ULT-FRM-B5C9** (enclosed in this package)
- A standard video monitor
- An Apple][,][+,//e, or Enhanced //e

NOTE: If you encounter any terms or language you are not familiar with, please refer to the Glossary at the end of this manual.

SYSTEM CONFIGURATION

When installing this kit in an UltraTerm, it is important to determine if your computer is an Apple][, Apple //e, or Enhanced Apple //e. The picture below shows the difference between an Apple][and the Apple //e. The Enhanced Apple //e can be identified by the name that appears on the screen when the computer is first turned on. The older Apple //e displays this name on the top of the screen, **APPLE][**. The Enhanced Apple //e displays this name, **APPLE //e**.

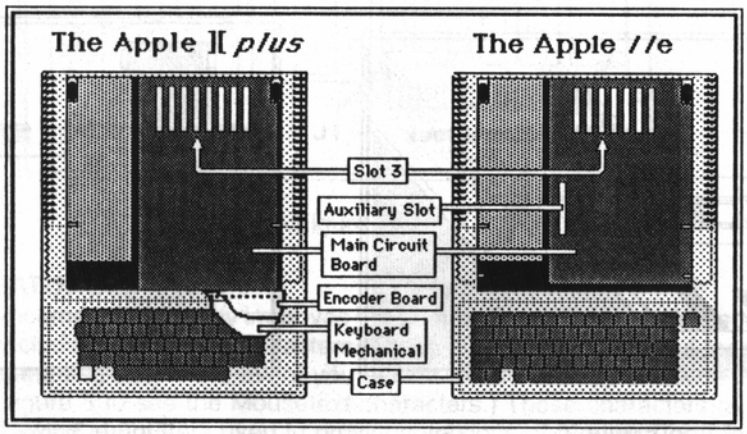

Figure 1.

INSTALLATION

Whichever computer you have (Apple][,][+, //e, or Enhanced //e), the first step is to install the new firmware and character set chips in sockets U1 and U21 respectively (see figure 4). Use the following procedure to configure and install the Standard-Density kit in your UltraTerm.

- ☐ Turn off the power to your computer and remove the UltraTerm from slot 3 of your Apple.
- ☐ Remove both chips U1 and U21 on the UltraTerm (see figure 4). To remove a chip: use a small common (flat bladed) screwdriver or IC extractor. Place the blade of the screwdriver between the IC and its socket, GENTLY pry the IC from the socket.
- ☐ Insert the new firmware (the chip labeled ULT-FRM-B5C9) into the now empty socket at location U1, making sure that the notch in the chip is toward the top of the board. Examine the chip to make sure that all the pins go into the socket and that none are bent.
- ☐ Insert the new character set (the chip labeled ULT-CHS-3C3B) into the empty socket at location U21. Please make sure that the notch in the chip is toward the top of the board. Examine the chip to make sure that all the pins go into the socket and that none are bent.
- ☐ The jumper block on the UltraTerm pictured in figure 2 is set according to the model of Apple computer you are using. For the Enhanced Apple //e, Apple][or Apple][+ the jumper block is **off** the two pins. If you are using the older Apple //e, the jumper block must be **on** the two pins.

  NOTE: If you have an Enhanced Apple //e but your UltraTerm does not have this jumper block as shown in figure 2, remove the chip in socket U4 and bend pin 20 to the side (see figure 3). Replace the chip in the socket so pin 20 does not enter the pin hold. This achieves the same result as removing the jumper block for the Enhanced Apple //e. The jumper block at J1 (figure 4) must be set on the lower two pins for the Apple][,][+ and Enhanced //e. The jumper block must be on the upper two pins for the older Apple //e. (Please refer to page 2.2 & Y.4 of your UltraTerm manual for more information on jumper J1)

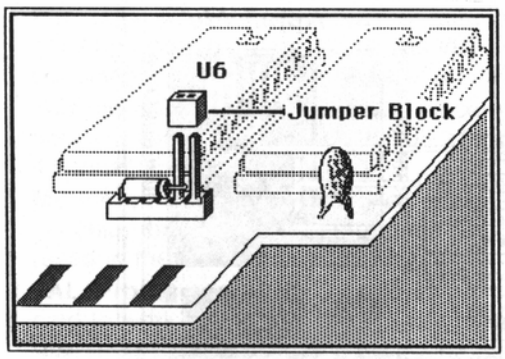

Figure 2.

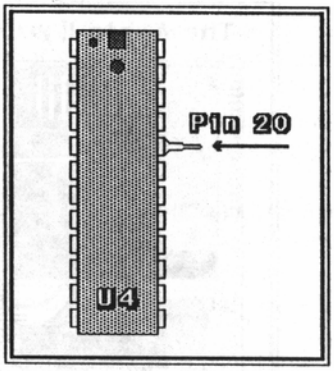

Figure 3

THE ULTRATERM SWITCHPLATE

The optional switchplate is a convenient and popular way of turning the UltraTerm on and off. By using the toggle switch on the switchplate you can make the UltraTerm invisible to most application programs. In effect, you are removing the UltraTerm without taking off the lid of your Apple. This can be useful for programs such as PFS that do not utilize 80-column cards properly.

In the current switchplate package, a new PAL labeled 251C should be installed in the UltraTerm at location U4. The Standard-Density kit requires this new PAL if you are using the UltraTerm in an Apple][or Enhanced Apple //e. If your switchplate did not include a PAL 251C replacement and you are using an Apple][or Enhanced Apple //e, call Videx and we will see that you receive one at no charge. The complete switchplate package that includes this PAL can be purchased directly from Videx.

SUMMARY

The following is a quick guide explaining how to set up the UltraTerm for your computer:

APPLE][and][+

- Install firmware in U1 and Character Set in U21
- Jumper block OFF (see figure 2)
- Requires PAL 251C for proper Switchplate operation
- J1 jumper on bottom two pins

APPLE //e

- Install firmware in U1 and Character Set in U21
- Jumper block ON (see figure 2)
- Does not require PAL 251C for proper Switchplate operation
- J1 jumper on top two pins

ENHANCED APPLE //e

- Install firmware in U1 and Character Set in U21
- Jumper block OFF or bend pin 20 of U4
- Requires PAL 251C for proper Switchplate operation
- J1 jumper on bottom two pins

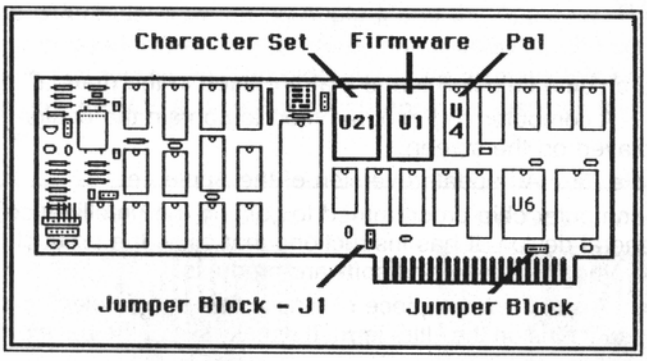

Figure 4.

NEW FEATURES

This enhancement kit not only improves the quality of your computer's display, but also includes Mousetext characters. These characters are useful for your own programming and in the event you decide to use the Apple Mouse card. (Refer to figure 5 to see the Mousetext characters.) These characters replace the line-drawing characters used in previous versions of the UltraTerm (as shown in appendix B of the UltraTerm manual).

When using the Standard-Density character kit; the eight display sizes of the UltraTerm are the same as those described in the manual (see page 5.3, & 8.6 of your UltraTerm manual and note the changes). However, only mode six (80 × 48) requires interlace video.

Another new feature activates the interlace capability while using non-interlace screen modes. Entering ESCAPE or Control-V followed by 9 will turn interlace on. To turn interlace off, enter another ESCAPE or CONTROL-V followed by a number to select the non-interlace video mode of your choice. Refer to the UltraTerm manual for a more detailed explanation of the ESCAPE and CONTROL-V commands.

MOUSE CHARACTERS

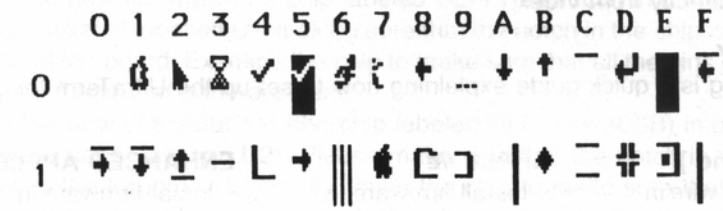

Figure 5.

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10  PRINT  CHR$ (4)"PR#3"
20  FOR J = 64 TO 95: REM                MOUSETEXT CHARACTERS
30  PRINT  CHR$ (27);: INVERSE : REM     TURN ON MOUSETEXT
40  PRINT  CHR$ (J);: REM                PRINT THE CHARACTER
50  PRINT  CHR$ (24);: NORMAL : REM      EXIT MOUSETEXT MODE
60  PRINT " ";: REM                      SKIP A SPACE
70  NEXT : PRINT
```

GLOSSARY

The following are some selected terms that are used in the manual.

Character set – A computer chip programmed to contain the design of the characters displayed on the screen.

Enhanced Apple //e – An updated version of the Apple //e.

Firmware – A computer chip programmed to contain the "intelligence" of the computer peripheral device. It has instructions that allow the product to be compatible with other hardware and software products.

Jumper Block – A small square piece of plastic that makes electrical contact between two upright pins on the UltraTerm. It usually sits at the base of the pins it connects.

MouseText – Specially designed characters (programmed into the Character set chip) that are used in programs designed to work with the Apple Mouse (used in the Enhanced Apple //e).

PAL (Programmable Array Logic) – A chip on the UltraTerm used to allow the card to work easier with difficult hardware and software.

SWITCHPLATE – An optional (toggle) switch installed on the back of the computer that is used to turn the UltraTerm on and off. It allows an easy method to switch between the display of the UltraTerm and the Apple 80-column card in the Apple //e.