

40-column versus 80-column text

The Apple IIe has two modes of text display: 40-column and 80-column. (The 80-column display mode described in this manual is the one you get with the Apple IIe 80-Column Text Card or other auxiliary-memory card installed in the auxiliary slot.) The number of dots in each character does not change, but the characters in 80-column mode are only half as wide as the characters in 40-column mode. Compare Figure 2-3 and Figure 2-4. On an ordinary color or black-and-white television set, the narrow characters in the 80-column display blur together; you must use the 40-column mode to display text on a television set.

Graphics modes

The Apple IIe can produce video graphics in three different modes. All the graphics modes treat the screen as a rectangular array of spots. Normally, your programs will use the features of some high-level language to draw graphics dots, lines, and shapes in these arrays; this section describes the way the resulting graphics data are stored in the Apple IIe's memory.

Low-resolution graphics

In the low-resolution graphics mode, the Apple IIe displays an array of 48 rows by 40 columns of colored blocks. Each block can be any one of sixteen colors, including black and white. On a black-and-white monitor or television set, these colors appear as black, white, and three shades of gray. There are no blank dots between blocks; adjacent blocks of the same color merge to make a larger shape.

Data for the low-resolution graphics display is stored in the same part of memory as the data for the 40-column text display. Each byte contains data for two low-resolution graphics blocks. The two blocks are displayed one atop the other in a display space the same size as a 40-column text character, seven dots wide by eight dots high.