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## Interrupt handling

Even though most application programs don't use interrupts, the Apple IIe (and Apple IIc) provide for interrupt-driven programs. For example, the 80-column firmware periodically enables interrupts while it is clearing the display (normally a long time to have interrupts locked out). Interrupts are discussed in Chapter 6.

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## Vertical sync for animators

Programs with animation on the Apple IIe and Apple IIc can stay in step with the display and avoid flickering objects in their displays. Chapter 7 includes a description of the video generation and the vertical sync.

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## Signature byte

A program can find out whether it's running on an Apple IIe, Apple IIc, Apple III (in emulation mode), or older model Apple II by reading the byte at location \$FBB3 in the System Monitor. In the Apple IIe Monitor, this byte's value is \$06; in the Autostart Monitor (the standard Monitor on the Apple II Plus), its value is \$EA. (If you start up with DOS and switch to Integer BASIC, the Autostart Monitor is active and the value at location \$FBB3 is \$EA, even on an Apple IIe.) Obviously, there are lots of other locations that have different values in the different versions of the Monitor; location \$FBB3 was chosen because it will have the value \$06 even in future revisions of the Apple IIe Monitor.

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## Hardware implementation

The hardware implementation of the Apple IIe is radically different from the Apple II and Apple II Plus. Three of the more important differences are

- ☐ the custom ICs: the IOU and MMU
- ☐ the video hardware, which uses ROM to generate both text and graphics
- ☐ the peripheral data bus, which is fully buffered

These features are described in Chapter 7.