

---

**Important**

Because main memory is switched in, all memory addresses used later in this chapter are in main memory unless otherwise specified.

---

---

## Managing main and auxiliary stacks

Apple has adopted a convention that allows the Apple IIe to be run with two separate stack pointers since the Apple IIe with an Extended 80-Column Text Card has two stack pages. Two bytes in the auxiliary stack page are used as storage for inactive stack pointers: \$0100 for the main stack pointer when the auxiliary stack is active, and \$0101 for the auxiliary stack pointer when the main stack is active.

When a program using interrupts switches in the auxiliary stack for the first time, it must place the value of the main stack pointer at \$0100 (in the auxiliary stack) and initialize the auxiliary stack pointer to \$FF (the top of the stack). When it subsequently switches from one stack to the other, it must save the current stack pointer before loading the pointer for the other stack.

The current stack pointer is stored at \$0101, and the main stack pointer is retrieved from \$0100 when an interrupt occurs while the auxiliary stack is switched in. *Then* the main stack is switched in. The stack pointer is restored to its original value after the interrupt has been handled.

---

**Important**

The built-in XFER routine does not support this procedure. If you are using XFER to swap stacks, you must use code like the following to set up the stack pointers and stack.

---