
Forced cold start

If a program has loaded the reset vector to point to the beginning of the program, as described in the next section, pressing Control-Reset causes a warm-start reset that uses the vector to transfer control to that program. If you want to stop such a program without turning the power off and on, you can force a cold-start reset by holding down Open Apple and Control, then pressing and releasing Reset.

- ❖ *Unconditional restart:* When you want to stop a program unconditionally—for example, to start up the Apple IIe with some other program—you should use the forced cold-start reset, Open Apple-Control-Reset, instead of turning the power off and on.

Whenever you press Control-Reset, firmware in the Apple IIe always checks to see whether either Apple key is down. If the Solid Apple key (or Option key, in the extended keyboard IIe) is down, with or without the Open Apple key, the firmware performs the self-test described later in this chapter. If only the Open Apple key is down, the firmware starts a forced cold-start reset. First, it destroys the program or data in memory by writing two bytes of arbitrary data into each page of main RAM. The two bytes that get written over in page 3 are the ones that contain the reset vector. The reset routine then performs a normal cold-start reset.

The reset vector

When you reset the Apple IIe, the reset routine transfers control to the resident program by means of an address stored in page 3 of main RAM. This address is called a *vector* because it directs program control to a specified destination. There are several other vector addresses stored in page 3, as shown in Table 4-11, including the interrupt vectors described in the section “Interrupts on the Enhanced Apple IIe” in Chapter 6, and the ProDOS and DOS vectors described in the *ProDOS Technical Reference Manual* and the *Apple II DOS Programmer's Manual*.