

Table 6-1
Peripheral-card I/O
memory locations
enabled by DEVICE
SELECT'

Slot	Locations
1	\$C090-\$C09F
2	\$C0A0-\$C0AF
3	\$C0B0-\$C0BF
4	\$C0C0-\$C0CF
5	\$C0D0-\$C0DF
6	\$C0E0-\$C0EF
7	\$C0F0-\$C0FF

Signals for which the active
state is low are marked with a
prime (').

Table 6-2
Peripheral-card ROM
memory locations
enabled by I/O SELECT'

Slot	Locations
1	\$C100-\$C1FF
2	\$C200-\$C2FF
3	\$C300-\$C3FF
4	\$C400-\$C4FF
5	\$C500-\$C5FF
6	\$C600-\$C6FF
7	\$C700-\$C7FF

See the section "I/O
Programming Suggestions" later
in this chapter.

Peripheral-card I/O space

Each expansion slot has the exclusive use of 16 memory locations for data input and output in the memory space beginning at location \$C090. Slot 1 uses locations \$C090 through \$C09F, slot 2 uses locations \$C0A0 through \$C0AF, and so on through location \$C0FF, as shown in Table 6-1.

These memory locations are used for different I/O functions, depending on the design of each peripheral card. Whenever the Apple IIe addresses one of the 16 I/O locations allocated to a particular slot, the signal on pin 41 of that slot, named DEVICE SELECT', switches to the active (low) state. This signal can be used to enable logic on the peripheral card that uses the 4 low-order address lines to determine which of its 16 I/O locations is being accessed.

Peripheral-card ROM space

One 256-byte page of memory space is allocated to each accessory card. This space is normally used for read-only memory (ROM or PROM) on the card with driver programs that control the operation of the peripheral device connected to the card.

The page of memory allocated to each expansion slot begins at location \$Cn00, where n is the slot number, as shown in Table 6-2 and Figure 6-3. Whenever the Apple IIe addresses one of the 256 ROM memory locations allocated to a particular slot, the signal on pin 1 of that slot, named I/O SELECT', switches to the active (low) state. This signal enables the ROM or PROM devices on the card, and the eight low-order address lines determine which of the 256 memory locations is being accessed.

Expansion ROM space

In addition to the small areas of ROM memory allocated to each expansion slot, peripheral cards can use the 2K-byte memory space from \$C800 to \$CFFF for larger programs in ROM or PROM. This memory space is called *expansion ROM space*. (See the memory map in Figure 6-3.) Besides being larger, the expansion ROM memory space is always at the same locations regardless of which slot is occupied by the card, making programs that occupy this memory space easier to write.