

Chip Name : Memory // complete memory addr space

Inputs : in[16], // what to write
load, // write-enable bit
address[15] // where to write

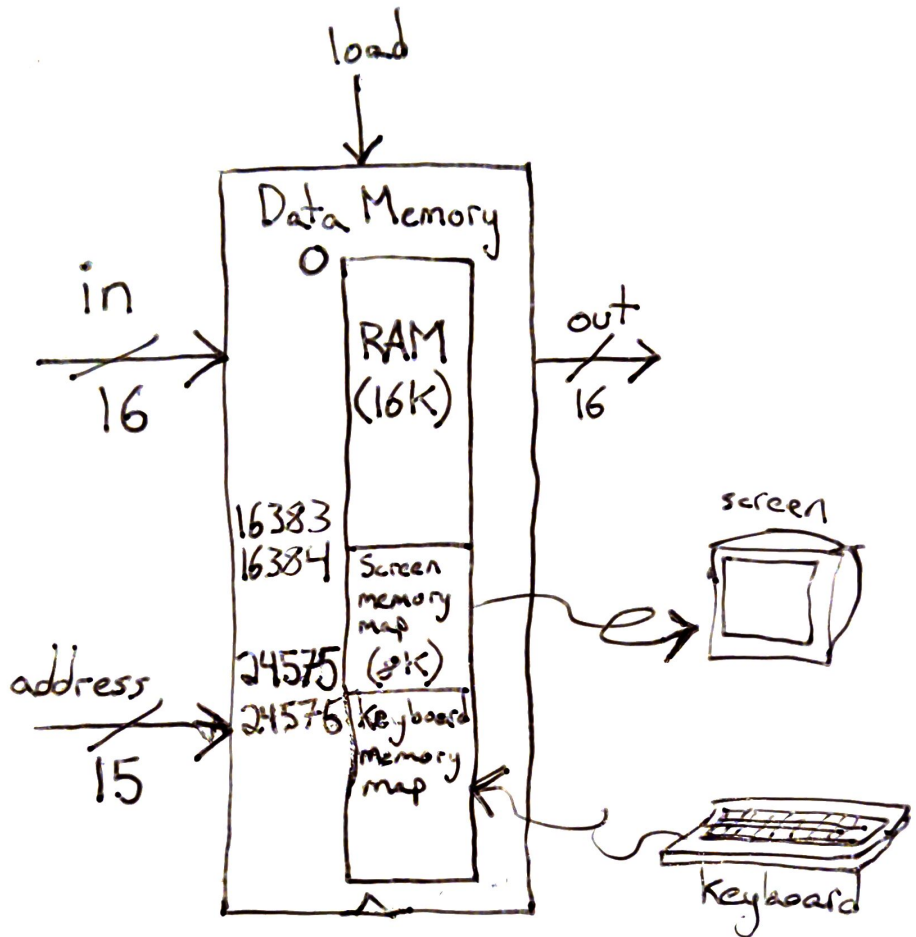
Output: out[16] // memory value at the given address

Function: 1. $out(t) = Memory[address(t)](t)$
2. IF load $(t-1)$ then

$Memory[address(t-1)](t) = in(t-1)$
(t is the current time unit, or cycle)

Comment: Access to address > 24576 ($0x6000$) is invalid. Access to any address in the range $16384 \dots 24575$ ($0x4000 \dots 0x5FFF$) results in accessing the screen memory map. Access to address 24576 ($0x6000$) results in accessing the Keyboard memory map. The behavior in these addresses is described in the Screen and Keyboard chip specifications.

Chip Name: Memory



RAM16K $\rightarrow \begin{cases} \text{in}[16] \\ \text{load} \\ \text{address}[14] \end{cases}$ \leftarrow First address space

Screen $\rightarrow \begin{cases} \text{in}[16] \\ \text{load} \\ \text{address}[13] \end{cases}$ \leftarrow Second address space

