

EXTENDED ADDRESSING CIRCUITRYABSTRACT

A selected address within one of two segments of a memory space (124) of a second address/data bus (116), can be accessed from a first bus (102) through one of two data registers (136 and 138). In addition, the location of the two segments within the memory space of the second bus is selectable through two segment registers (148 and 150), which are accessed from the first bus through the first data register (136). A two byte wide "mode" register (126 and 128), which can be directly accessed from the first bus, stores data within three ranges. When the mode register data is within the first range, a selected segment register can be accessed through the first data register. A first value within this range selects the first segment register (148), while a second value selects the second segment register (150). Data loaded into the first and second segment registers points to first and second segments of the second memory space, respectively. When the mode register data is within the second range, this data functions as a pointer to select an address within a selected segment. The selected address is accessed through the data registers; the first data register (136) accessing the selected address in the first segment, while the second data register (138) accesses the selected address in the second segment. After a selected address has been accessed, an auto-increment circuit (Fig. 2) increments the mode register so that the next sequential address in the selected segment can be accessed without having to reload the mode register. When the mode register data is within the first range, the two data registers can be directly accessed from the first bus.

This Sheet Has Been Replaced

