

2121 System and Memory Controller

The 2121 is an integrated high performance CMOS PC/AT system controller that integrates the following functions and logic into one single chip: clock generator and selector, bus controller, bus swap logic, coprocessor interface logic, memory decoder, command delay and wait state generation circuits, reset and shut down logic, and ADDR/DATA control logic.

Features

- 100% hardware and software compatible with the IBM PC/AT
- Supports the Intel 286 and 386SX microprocessors
- Built-in 80287 and 80387SX coprocessor interface logic
- Fully compatible with the Intel 82288 bus controller
- Built-in command delay and wait state generation logic
- Supports CPU operation up to 25 MHz
- Supports 16 MB on board memory
- Turbo speed change performed through hardware or software
- 1-Way, 2-Way or 4-Way page interleaved memory controller
- Direct Access Memory Controller
- Simultaneous EMS and Shadow RAM
- Simultaneous extended and EMS expanded memory
- Supports 64K x 1, 256K x 1, 256K x 4, 1M x 1, 1M x 4, 4 M x 1 memory and 16 MB on motherboard
- 384K Memory mapping above the resident RAM address space
- Supports shadow RAM for efficient BIOS execution
- Programmable wait states for ROM
- ROM chip select for 27256 or 27512
- Built-in OS/2 optimization circuitry
- Supports EMS 4.0 address translation logic with 4 map registers
- Staggered memory refresh
- 1.2 micron high performance CMOS technology
- 160-pin PFP package

Block Diagram

