82C721 and 82C722
Super Peripheral Controller

82C721 Features

- For motherboard applications with configuration via software
- Pin compatible to 82C711/A
- Low power CMOS, 100-pin PQFP package
- On chip power management features, controllable through hardware and/or software
- 100% IBM PC XT/AT compatibility
- 24mA AT/XT bus interface buffers
- Schmitt trigger input on reset pin and FDC interface inputs
- Two 16450 compatible UARTs
- One IBM PC XT/AT compatible enhanced (bi-directional) parallel port
- 24mA parallel port output drivers
- IDE interface (for embedded AT and XT hard drives)
- Single 24MHz crystal/oscillator for UART and floppy disk controller
- Fully uPD72065B and IBM BIOS compatible floppy controller
  - 48mA floppy drive interface buffers
  - Data rate and drive control registers
  - Two pin programmable precompensation modes
  - Supports up to four drives directly
  - DMA Enable logic
- On chip precision digital data separator
- No external filter components
- Second serial port programmable to support MIDI data rate (31.25K Baud)
- One game port chip select

82C722 Features

- For adapter applications with configuration via hardware (jumper selectable)
- Pin compatible to 82C812/A
- Low power CMOS, 100-pin PQFP package
- 100% IBM PC XT/AT compatibility
- 24mA AT/XT bus interface buffers
- Schmitt trigger input on reset pin and FDC interface inputs
- Two 16450 compatible UARTs
- One IBM PC XT/AT compatible parallel port
- One game port chip select
- 24mA parallel port output drivers
- IDE interface (for embedded AT hard drives)
- Single 24MHz crystal/oscillator for UART and floppy disk controller
- Fully uPD72065B and IBM BIOS compatible floppy controller
  - 48mA floppy drive interface buffers
  - Data rate and drive control registers
  - Two pin programmable precompensation modes
  - Supports up to four drives directly
  - DMA Enable logic
- On chip precision digital data separator
- No external filter components

The 82C721 and 82C722 Super Peripheral Controllers are single chip controllers offering a complete I/O solution for the PC-XT and PC-AT environments. The 82C721 and 82C722 chips are operationaly and pin identical in all respects.

The 82C721 supports the motherboard application. It provides one enhanced parallel port (printer/bi-directional), two 16450 UARTs, one IDE XT/AT hard disk interface and floppy disk controller. The configuration is software controllable which can be integrated into system BIOS. Power management for the 82C721 includes modular power down for each port. The hardware management is done through the PWRGD pin. When the chip is powered down, the current drawn is less than 250 micro amp. All inputs are disabled, and all outputs are inactive. The contents of all the registers are preserved, as long as the power supply to the 82C721 is maintained.

The 82C722 supports adapter applications. It provides one printer port, two 16450 UARTs, IDE AT hard disk interface, floppy disk controller, and one game port chip select.

The 82C721 and 82C722 feature 24mA drivers for the output buffers, including the host data bus and parallel port data bus. The floppy output drivers are capable of sinking 48mA. The host interface is PC compatible and can be connected directly to the bus.

Figure 3-6. *82C711/A and 82C712/A Block Diagram*