

General Information

This chapter gives background information of the mainboard.

Sections Include:

- Board Specifications
- Layout and Dimensions

Introduction

The MB-668 is an all-in-one Celeron/Pentium III FC-chip processor based LPX-size single board computer (MB) with a PCI Flat Panel controller, a PCI 100Base-T Ethernet interface. When using an Intel Pentium III processors, the MB-668 achieves outstanding performance that surpasses any other SBC in its class. In addition, the onboard SSD interface supports M-Systems DiskOnChip 2000 series, memory capacity up to 288 MB.

Onboard features include four serial ports (one RS-232, three RS-232/422/485), one multi-mode parallel (ECP/EPP/SPP) port, pin header for two USB (Universal Serial Bus) ports, a floppy drive controller, and a keyboard/PS/2 mouse interface. The built-in high speed PCI IDE controller supports Ultra DMA/33 mode. Up to four IDE devices can be connected, including large hard disks, CD-ROM drives, and tape backup drives, etc.

The MB-668 also features power management to minimize power consumption. It complies with and supports three types of power saving features: Doze mode, Standby mode, and Suspend mode. In addition, the board's watchdog timer can automatically reset the system or generate an interrupt in case the system stops due to a program bug or EMI.

Highly integrated LPX-size SBC

The MB-668 is a highly integrated LPX-size SBC that combines, video, and network functions on a single computer board. It provides up to 1024 x 768 resolution @ 64K colors with on-chip 2MB SDRAM display memory. Major onboard devices adopt PCI technology to achieve outstanding computing performance making the MB-668 one of the world's best and most powerful LPX-size Main Board Computer.

Features

- Supports Intel Celeron /Pentium III FC-370
- Supports DiskOnChip (SSD) up to 288MB
- C&T 69000 LCD controller supports 36-bit TFT Panels
- 10/100Base-T Fast Ethernet
- Supports H/W status monitoring

Specifications

Standard LPX-size SBC functions

- CPU: FC-370 Pentium III (Coppermine), Celeron, and compatible CPUs (With system bus frequencies of 66/100MHz).
- CPU socket: 370 pins Socket
- BIOS: Award 256KB Flash BIOS
- Chipset: Intel 440BX
- I/O chipset: ITE IT8661F / Winbond W83977ATF.
- Memory : Onboard one 168 pins DIMM socket supports up to 512Mbytes SDRAM.
- Enhanced IDE: Two EIDE channels. Supports up to 4 Ultra DMA/ 33 devices with data transfer rate of 33MB/sec.. With two 44-pin IDE connectors power enhanced.
- FDD interface: Supports two floppy disk drives, 5.25" (360KB and 1.2MB) and/or 3.5" (720KB, 1.44MB, and 2.88MB), with one standard type connector and one FPC connector.
- Parallel port: Two bi-directional parallel ports. Supports SPP, ECP, and EPP modes. One external 25-pin D-sub connector and one 13x2 pin header for LPT1.
- Serial port: One RS-232 and three RS-232/422/485 serial port with +5/+12 power capability. Ports can be configured as COM1, COM2, COM3, COM4, or disabled individually. 16C550 serial UARTs. 3 external D-sub connectors, 1 internal 5x2 pin header supporting COM2.
- IR interface: Supports one IrDA Tx/Rx header (FIR/SIR, IrDA 1.0 spec.).
- KB/Mouse connector : 6-pin mini-DIN connector supports PC/AT keyboard and PS/2 mouse.
- USB connectors: 6-pin onboard conn. supports dual USB external ports.
- Battery: Lithium battery for data retention
- CMOS Backup: CMOS data backup in flash memory, auto system reload when data is loss.

- Watchdog timer: Can generate a system reset, IRQ15, IRQ10, and IRQ11. Software selectable time-out interval (1 sec. ~ 255 min., 1 sec./step)
- DMA: 7 DMA channels (8237 equivalent)
- Interrupt: 15 interrupt levels (8259 equivalent)
- Power management: I/O peripheral devices support power saving and doze/standby/suspend modes. APM 1.2 compliant. Supports ATX power supply, PC 97 and modem ring-in function.
- H/W status monitoring: Winbond W83781D H/W status monitoring IC supports power supply voltages, fan speed control and temperature monitoring.
- LED status pin header: LED status indicator for power, CPU fan, Aux. fan, HDD, low temperature, high temperature and LAN.

Flat Panel/CRT Interface

- Chipset: C&T 69000
- Display memory: 2MB SDRAM built in chip
- Display type: Supports non-interlaced CRT and LCD (TFT, DSTN, and Mono) displays. Can display both CRT and Flat Panel simultaneously.
- Resolution: Up to 1024x768@64K colors.

Audio Interface

- Chipset: ESS ES1938 (Solo-1)
- Audio interface: 16-bit stereo VLSI chip, PCI based AC 97 Digital Audio Processor, Sound Blaster / Pro emulation.

Ethernet Interface

- Chipset: Realtek RTL8139C 10/100Base-T Fast Ethernet controller.
- Ethernet interface : Onboard 10/100Base-Tx RJ-45 connector optional Remote Boot ROM Function.

SSD Interface

- One 32 pins DIP socket supports M-Systems DiskOnChip 2000 series up to 288MB.

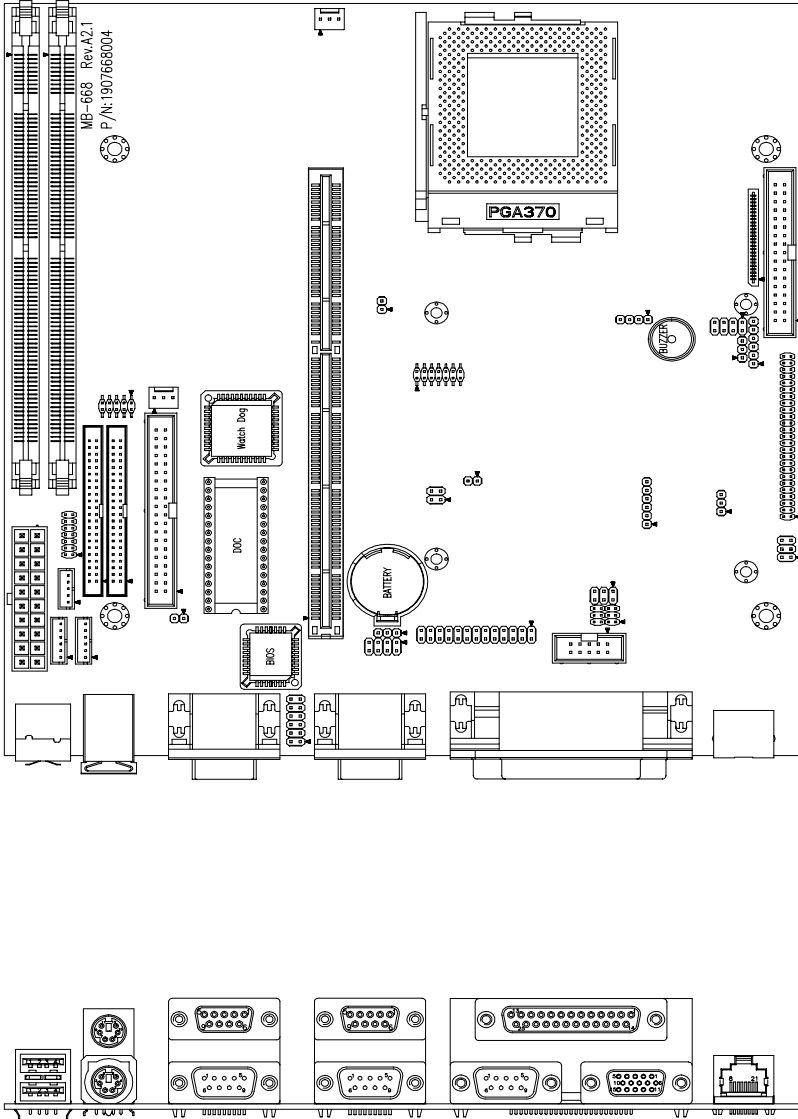
Expansion Slots

- PCI/ISA slot LVDS: One PCI/ISA slot onboard. Reserved for Aaeon's PCM-3524 LVDS module.

Mechanical and environmental

- Power supply voltage: +5V (4.75V to 5.25V),
+12V (11.4V to 12.6V)
- Operating temperature: 32 to 140°F (0 to 60°C)
- Board size: 8.9"(L) x 8.7"(W) (225mm x 220mm)
- Weight: 1.2 lb. (0.52 Kg)

Board Layout



Board Dimensions

