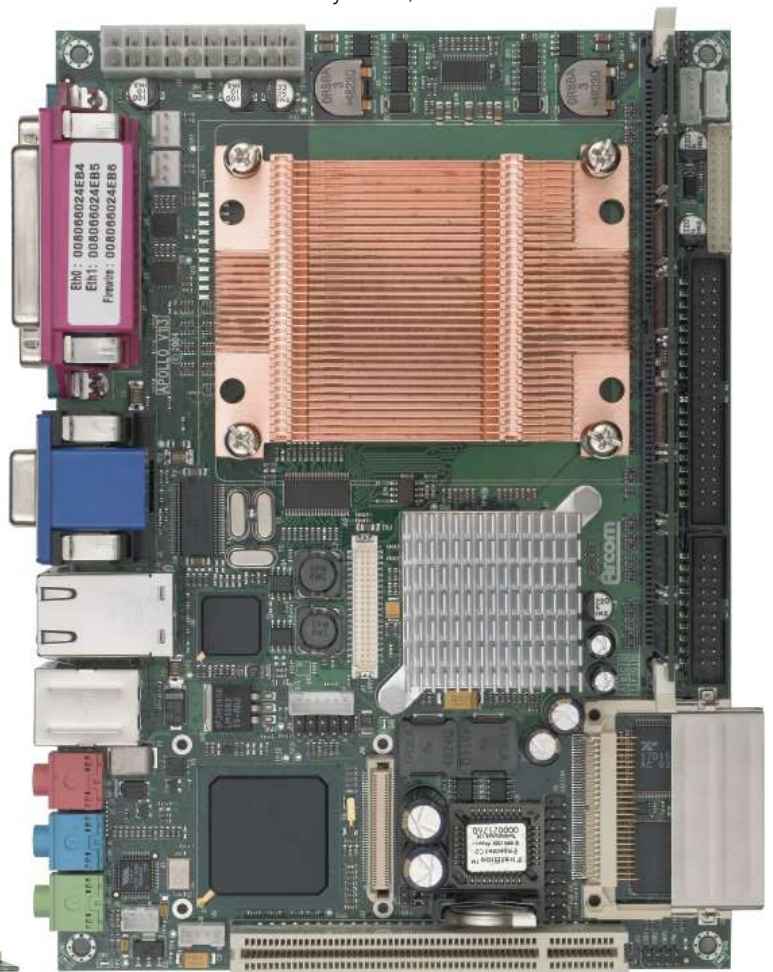# APOLLO
EBX format Intel ® Pentium ® M or Celeron M based embedded PC

Features

- Intel Pentium M and Celeron M processor options
  - Intel Pentium M (1.1 to 1.8GHz)
  - Intel Celeron M (600MHz to 1.5GHz)
  - Socketable µFC-PGA package or factory build option surface mount µFC-BGA package
  Note: The overall processor performance of a 1.6GHz Pentium M is similar to an Intel 2.4GHz Pentium 4

- Power consumption (based on a Pentium M 1.6GHz CPU with 512MB PC2700 DDR memory and SpeedStep disabled - running at fixed frequency)
  - 36W at 1.6GHz (full speed)
  - 12.3W at 600MHz (at idle)

- Chipset
  - North Bridge: Intel 82555GME
  - South Bridge: Intel 82801DB/ICH4
  - 400MHz processor side bus speed

- Up to 1024MB PC2700 DDR DIMM memory

- Video (Integrated Intel Extreme Graphics 2)
  - VGA CRT interface - 2048 x 1536 @ 75Hz
  - LVDS interface (single/dual channel) - 1600 x 1200 @ 60Hz
  - Dual video controller - allows for two independent video displays
  - Extra LVDS, CRT, DVI and TV-out also available via additional module

- Audio
  - AC97 CODEC with support for six channel 5.1 surround sound
  - S/PDIF (Sony/Philips Digital Interface) compressed digital output to optical transmitter

- Dual 10/100baseTx Ethernet ports (option for 1000baseT Gigabit Ethernet)

- Six USB 2.0 channels

- Two IEEE1394a-2000 Firewire Ports (100/200/400Mbps)

- PCI Rev 2.2 Expansion (with support for 3 PCI master cards via a riser card)

- IDE ATA hard drive port (Ultra ATA100/66/33, PIO)

- CompactFlash (CF+) Ver 2.0 Type I/II socket for memory and I/O cards

- Printer, mouse, keyboard and floppy drive ports (Slimline floppy via flat flex connector)

- Four Serial ports: 2 x RS-232, 1 x RS-232/IrDA, 1 x RS-232/422/485

- Auxiliary connector for LCD character display, GPIO, LED drivers and SMBus

- Integrated Security Features:
  - Unique ID, tamper detection circuitry
  - Trusted platform module (factory build option) using Atmel AT97SC3201. Provides hardware based authentication of platform trust level, a secure store for private keys and an inbuilt encryption engine (compliant to TCPA/TCG Spec 1.1)

- User definable jumpers

- Phoenix BIOS
  - Boot from HDD, FDD, CDROM, CompactFlash, Ethernet or USB device

Description

The APOLLO supports Intel® Pentium® M technology to offer the best combination of high performance computing features with the lowest power dissipation. This single board computer can be fitted with the Intel Pentium M or Intel Celeron M processors with speed options from 600MHz to 1.8GHz. The combination of Enhanced Intel SpeedStep® Technology and the Intel 855GME/ICH4 chipset ensures that the board is ideal for compact systems with restricted ventilation and can be used to create very high performance fan-less systems. All these features are incorporated onto an industry standard EBX board with standard connectors for many of the I/O connections.

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APOLLO
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Specifications

Temperature
- Fan-less operation (passive cooling) -20°C to +65°C (based on Pentium M CPU running at 600MHz)
- Operating (active cooling) -20°C to +65°C (based on Pentium M CPU running at 1.6GHz)
- Storage -40°C to +70°C

Humidity
- 10% to 90% RH (non-condensing)

Real Time Clock accuracy
- +/- 1min/month @ 25°C

Battery
- 3.0V Lithium 180mAh (CR2032 Coin Cell)

Dimensions
- 5.75" x 8.00" (146mm x 203mm)

Weight
- 350 grams (no heatsink, CPU or memory)

Ordering Information

APOLLO (standard product)
-TPM (factory fit option with Atmel Trusted Platform Module)
-GE (factory fit option with 1000baseT Gigabit Ethernet controller)

Note: Arcom can supply the APOLLO board pre-installed with any compatible Intel processor device and DDR memory.

Typical Applications

- Low power, high density server racks
- 1U or 2U systems with passive cooling for fan-less operation
- System requiring high levels of hardware/software security
- Server/client systems using Trusted Computing
- Compact kiosk systems

Associated Products

APOLLO ICE Enclosure

Arcom's range of Industrial Compact Enclosures (ICE) offers our customers easy to use system solutions for embedded SBC applications. The APOLLO ICE is manufactured from 0.9mm (20 SWG) zinc plate passivated cold rolled mild steel. The enclosure conforms to the 19" IEC60297-1/2 DIN 41494 and MEP IEC 60917-2-1 standards and therefore meets the 19" 1U specification in height and width. Depth is approximately 350 mm.

- AC ATX PSU: Auto-ranging 90 - 132V, 180 - 264V AC @ 47 - 63Hz
- Standard I/O connections from rear panel
- Front panel connections for access, USB port and IEEE 1394 port
- Front panel reset switch
- Optional PCI riser card with 2 card expansion slots
- Optional floppy disk, hard disk drive and CD/DVD drive
- Optional front panel LCD system status display and user LEDs
- Optional tamper detect switch for enclosure lid
- ON/OFF switch with integral power LED
- HDD activity indicator

Apollo Development Kits

Arcom offers ready-to-run Development Kits supporting Windows XP Embedded. embedded Linux and Entry level - DOS. Contact the Arcom Design & Build services team to discuss your support requirements for other embedded operating systems.

Check our website for more details