Chapter 1   Introduction and Specifiction

5.25" Pentium® III Level New Embedded Engine Is Ideal For New Generation of POS Kiosk

EBC 569,a new Pentium® III-based embedded CPU board, and claimed that it is a powerful engine for the new generation of multimedia, networked, and panel-based POS (Point Of Sales) machines.

This kind of POS, kiosks, or even game machines will deliver vivid audio/video streams, quick responses, and real-time updates to and from local or remote servers.

:-EBC 569

For high sales seasons, definitely need the best POS machines to attract more customers and process more transactions with the same or even lower investment. The **EBC 569**, with the powerful on board, surface-mounted Pentium III compatible CPU, the richest built-in features, and various conventional specs like SIO x4, PC 104, etc. all included, it will boost the POS kiosk and game machines to new heights.

The **EBC 569** specifications are as follows:

- **CPU:** C3 EBGA CPU, up to 800MHz, 133MHz FSB or VIA Eden series ultra low power CPU without fan support

- **Memory:** 512 MB SDRAM (max.), DIMMx1, PC 133 spec.

- **Chipset:** VIA 8606 (Twister T)

- **VGA:** S3 Savage4 on Die, 4X AGP, 2D/3D support, 32 MB shared Frame Buffer, TTL/ LVDS interface to Panels

- **Audio:** AC 97 compliant

- **LAN:** 10/ 100 Base T Ethernet port x2

- ▪ **Compact Flash connector x1**

- ▪ **I/O:** SIO x4, PIO x1, USB x2, FDD, IDE,¡K

- ▪ **Bus:** PC 104 x1, PCI slot x1

- ▪ **Form Factor:** 5.25" Drive foot print, 203mm x 143mm

The computing power, the audio/video capabilities, and the connectivity have become a basic requirement for the new generation of POS machines, which means a Pentium III class of CPU is a must for the computing functions. The trend of feeding video streams through the network to the POS/POI (Point of Information) machines is now growing very fast. The 3D graphics, or even videos are very popular on game machines. The DVD quality, or more specifically the MPEG II decoding capability, given that it has already become a standard in the consumer world, is also a growing trend. People just can't live without it! The traditional embedded solutions offered to answer these growing needs just seem a little bit awkard.

People use the discrete chips for the solutions; the Intel Pentium III CPU, with the additional VGA chip

supporting panels that have higher performance (which is still not enough), they are either too expensive or far

below the performance required. However, with NEXCOM's **EBC 569**, we use the low power yet high

performance C3 CPU with the same process as the Tualatin CPU (.13u), and up to 800 MHz (1GHz in the

near future), plus the chip set built with the H/W core from S3 Savage4 4X AGP video controller, 3D capability,

and 32 MB shared frame buffer. This is the new generation, highly integrated, and cost effective computing

platform for the embedded world. It just fits perfectly! With the CPU performance growing steadily on the same

design, it's a platform that promises a long term superiority.

For applications that prefer low power to high performance, the **EBC 569** will be able to use the ultra low

power series of Eden CPUs starting from 400 MHz up to 667 MHz in the near future; and for the 400 MHz

version specifically, there is no need of a cooling fan on the CPU, the only requirement is for the whole chassis

solution can provide the air flow to remove the heat.

Specification:

- 5.25" small form factor with Dimensions: 203mm(L) × 143mm(W)
- PCB : 6 Layer with double side

■ **On Board CPU**

- Onboard VIA C3 Processor EBGA Package with 128KB Level 1 and 64KB Level 2 Cache
- **800MHZ** CPU on board, and feature VIA C3 series CPU with EBGA Package
- CPU FSB 100/133MHZ
- CPU FANless feature By VIA Eden Series Ultra Low Power CPU and Chassis air flow.

■ **Main Memory**

- One 168-pin DIMM. Support Max memory size to **512MB**

■ **BIOS**

- Award System BIOS
- Advanced Power Management support
- Optional ACPI Support
- 4M bits flash ROM

■ **Chip Set**

- VIA 8606 (Twister T) 100 /133 MHz North Bridge
- VIA VT82C686B PSIPC PCI SUPER-I/O INTEGRATED PERIPHERAL CONTROLLER
- PCI V2.2 complied

■ **On Board LAN**

- **Realtek RTL 8139C Ethernet Controller x 2**
- Single Chip 10 /100 Base TX support, full duplex
- Boot From LAN function
- Drivers support：
  DOS/Windows, Windows 95/98/2000, Windows NT, Netware, SCO Open Server 5.0, Linux 7.2 or later, FreeBSD
- RJ45 with LED connector × 2

■ **On Board Audio**

- VT82C686A and AC97 ver. 2.0 compliant interface, Multi-stream Direct Sound and Direct Sound 3D acceleration
- Audio interface:
  CD audio in , Line in (Internal),
  Microphone in, Speaker out (with Amplifier)

■ On Board VGA (Hardware Disable is needed)

- **VIA 8606 Integrated Savage4 2D/3D/Video Accelerator**
  - ➢ Optimized Shared Memory Architecture (SMA)
  - ➢ 8 / 16 / 32 MB frame buffer using system memory
  - ➢ Single cycle 128-bit 3D architecture
  - ➢ Full internal AGP 4x performance
  - ➢ Next generation, 128-bit 2D graphics engine
  - ➢ High quality DVD video playback
  - ➢ 2D/3D resolutions up to 1920x1440
  - ➢ 3D Rendering Features
- **Extensive LCD Support**
  - ➢ 36-bit DSTN/TFT flat panel interface with 256 gray shade support
  - ➢ Integrated 110 MHz LVDS interface
  - ➢ Support for all resolutions up to 1600x1200
- Drivers support：Windows 95/98/2000, Windows NT4.0, Win XP, Linux.
- 15Pin D-Sub VGA Output,
- LVDS Interface Connector x 1
- TTL LCD Interface Connector x 1

■ On Board IDE Interface

- VIA 686B South Bridge Integrated UltraDMA-33/66/100 master mode EIDE controller
- Support UltraDMA-33/66/100 IDE with 40 pin connector $\times$ 1
- Internal Compact Flash socket   x 1

■ On Board Bus Expansion

- One 32 bit/33MHZ PCI Slot support PCI Expansion.
- PC 104
- **NEXCOM Proprietary PCI Interface**

■ On Chip and On Board I/O

- SIO$\times$ 4, with 4x16C550 UARTs, **40 pin 2.0 header with housing** $\times$1; one for RS422/485

- PIO$\times$ 1, bi-directional, EPP/ECP support, 26 pin connector $\times$1

- Floppy Disk controller : 34 pin connector $\times$1

- 6 pin mini DIN connector $\times$1, for PS/2 keyboard/mouse

- **On board USB port $\times$ 2**

- On Board buzzer $\times$1

- **Digital I/O: 8 x TTL DIO**

- On board 3 pin header for I^{2}C, one pin for GND

- On board 5 pin header for IrDA Tx Rx

- On Board 2 pin header for Reset SW

- On Board 4 pin header for power SW (ATX Mode)

- Power Header x 1 for LCD Panel Backlight

- COM reserved the RING pin to power Touch Screen LCD (jumper select 5 or 12V or ring),

- 3 pin Power Connector for CPU FAN or Chassis FAN

- 2 Pin IDE Active LED Header

■ Real Time Clocker

- On chip RTC with battery back up

- External Li Battery x 1

■ Watchdog Timer

- Watchdog timeout can be programmable by Software from 0.5 second to 64 Sec.

■ System Monitor

- Derived from Super IO to support system monitor.

- 5 voltage (For +3.3V, +5V, +12V, Vcore and +2.5V)

- One Fan speed

- Two temperature

- Drivers support : Windows 95/98, Windows NT4.0/2000

■ Power Source & Power Requirements

- **6 PIN Power Input Connector**

PIN Define	Voltage	Power Requirement
PIN 1	+5V	**6A(typical)**
PIN 2	+5V	
PIN 3	GND	--
PIN 4	GND	--
PIN 5	GND	--
PIN 6	+12V	**1A(Typical)**

- **3.3V is converted from +5V.**
- Accessory Power Converter Cable:
  1. Two 4P to 6P (For AT Power Supply)
  2. ATX Power Connector to 6P+ 2 Pin Power SW (For ATX Power Supply)
  3. Optional Power Module (EBK DC512)to support DC power (16Vdc ~ 24Vdc input)

■ Environments

- Operating temperatures：0°C to 60°C
- Storage temperatures：-20°C to 80°C
- Relative humidity：10% to 90% (Non-condensing)

■ Certification

- CE approval
- **FCC Class A**

■ Module Available

Model Name	Description
EBC 569	5.25" Low Power Embedded Board with on board 800+MHZ CPU
EBC 569LP	5.25" Ultra Low Power Embedded Board with on board 400MHZ CPU