EBC 583

Labels on board diagram: VIA CN700, PCI, VIA 8237R+, CF, LAN 3, LAN 2, LAN 1, VGA, PS/2 connector, COM, AC'97 interface, Parallel Port, DDR DIMM, VIA,C7-D 1.5GHz, Power Input Connector, USB, 44-pin IDE, SATA
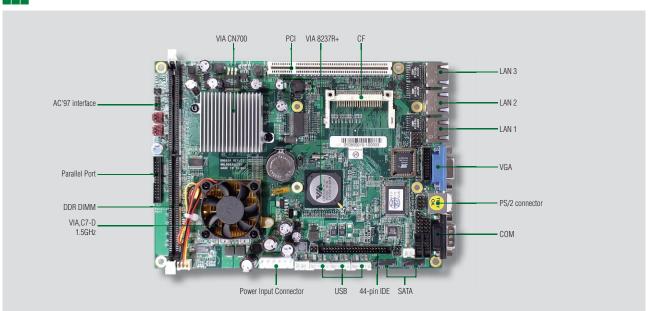
Main Features

- VIA Eden™/C7 with V4bus@400MHZ Processors Support CPU Speed from 400MHZ~1.5GHZ
- VIA CN700 and 8237R+ Chipsets
- 2 x SATA, Supports RAID 0, 1
- 3 x Realtek 8139C+(L) 10/100 Ethernet
- Supports CompactFlash and SATA/IDE 2.5" HDD
- Supports One PCI Slot Expansion

Product Overview

The EBC 583 is a 5.25" embedded board computer supports VIA Eden™ or VIA C7 with V4 bus processors with different frequencies and L2 caches, which contribute up to 40% of performance upgrade compare to VIA C3 family.

Incorporates VIA CN700 and 8327R+ chipsets, the EBC 583 supports main stream un-buffered non-ECC DDR 333/400 with maximum memory size up to 1GB. The low power consumption of South Bridge 8327R+ supports one standard 32-bit/33MHz PCI slot, parallel port, 44-pin IDE connector, Compact Flash socket, and versatile I/O ports, such as serial ports, and USB 2.0 ports.

The EBC 583 and EBC 563 are mechanical compatible. In addition, they share most of the major components and can fit into existing Chassis design. To ensure the software compatibility, the Ethernet Controller on EBC 583 follows original RTL8139C+ RoHS version and design.

Specifications

CPU Support

- VIA Eden™/C7 with V4bus@400 MHZ Processors support CPU Speed from 400 MHZ ~ 1.5 GHZ

Main Memory

- 1 x 184-pin DIMM Socket, up to 1GB un-buffered non-ECC DDR 333/400 SDRAM

Chipset

- VIA CN700
- VIA 8237R+

BIOS

- AWARD system BIOS
- 4 Mbit Flash ROM

On-board LAN

- 3 x Realtek RTL8139C+ (L)10/100 Fast Ethernet Controller
- Supports PXE LAN boot ROM for Ethernet Boot up
- Supports Wake on LAN (LAN 1 only)
- Interface: 3 x RJ45 connector

Display

- VIA CN700 Integrated UniChrome Pro 3D / 2D Graphics & Video Controller
- Supports 16/32/64 MB Frame Buffers size
- 64 MB VGA shared memory
- Interface:1 x DB-15 connector for CRT
- Supports max resolution 1600x1200 at 85 Hz

Audio

- AC' 97 Interface: one 2x5-pin header (for NEXCOM EBK AC97)

I/O interface

- USB 2.0: 6 x USB2.0, with1x6 JST(2.0mm)
- Serial ports: 2 x ports, with DB9, 2x5-pin header
- Parallel ports: 2x13-box header(2.0mm), Bi-directional, EPP/ECP
- PS/2: 1 x external Mini-Din (or internal 2x4-pin header) for Keyboard/Mouse
- GPIO: 8 GPIO lines via header (4 IN and 4 Out); TTL Level (0/5V)
- FAN: 3 x FAN WAFER connector for CPU and Chassis
- IrDA: 1 x pin header for IrDA,TX,RX
- I2C: 1 x pin header
- 1 x on board buzzer

Block Diagram

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                        ┌────────────────────────┐
                        │ VIA Eden / C7 with V4bus│
                        │       Processors        │
                        └────────────────────────┘
                                    │
                            FSB800 6.4GB/Sec
                                    │
  ┌──────────┐   2.1GB/S  ┌────────────────┐  DDR400/333   ┌────────┐
  │ VGA Port │───────────│  North Bridge   │  3.2GB/Sec    │  DDR   │
  └──────────┘            │     CN700      │──2.6GB/Sec────│  Slot  │
                          └────────────────┘               └────────┘
                                    │
                               VLINK
                               533MB/Sec
                                    │
                                                 150MB/S  ┌──────────┐
  ┌────────────┐  60MB/S  ┌────────────────┐─────────────│ 2 x SATA │
  │ 6 x USB2.0 │─────────│  South Bridge   │             ├──────────┤   ┌──────────────┐
  └────────────┘          │    VT8237R+    │   100MB/S   │    CF    │───│     IDE      │
  ┌────────────┐          │                │─────────────│ (Primary)│   │ (Secondary)  │
  │   AC' 97   │─────────│                 │             ├──────────┤   └──────────────┘
  │ INTERFACE  │          └────────────────┘    LPC      │ Super IO │───┌──────────────┐
  └────────────┘                                ─────────│          │   │     IrD      │
                                                         └──────────┘   └──────────────┘
         PCI BUS 133MB/Sec

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 │ LAN1  │ │ LAN2  │ │ LAN3  │ │ Mini │ │ PCI  │ │ Keyboard │  │ Parallel │ │ COM1 │ │ COM2 │
 │RTL8139+│ │RTL8139+│ │RTL8139+│ │ PCI  │ │ Slot │ │  Mouse   │  │   Port   │ │      │ │      │
 └───────┘ └───────┘ └───────┘ └──────┘ └──────┘ └──────────┘  └──────────┘ └──────┘ └──────┘
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- 1 x 2-pin header for reset
- 1 x 2-pin header for ATX power switch
- 3-pin JST for the optional Power (5Vsb, PS_ON, GND) Input

Storage

- SATA: 2 ports, support RAID 0,1
- IDE: 1 x 44-pin IDE connector, support Ultra ATA 33/66/100
- 1 x internal CF socket

Expansion

- 1 x PCI slot (support up to 2 x PCI devices)

Watchdog Timer

- Watchdog Timer is programmable by software from 1 to 64

On-board RTC

- On chip RTC with battery back up
- 1 x External Li-ion Battery

Power Input

- Supports both AT and ATX Mode (Factory default setting is AT mode)
  1 x 3-pin header for AT/ATX mode switch
  +3.3V is converted from +5V
  1 x Power Input Connector
  1 x Jst connector to receive the 5Vsb input from Power Source
- AT Mode:
  Power Required:+5V/+12V (No Power On push Button, No Software Shutdown function and LAN1 remote wake up)
- ATX Mode:
  Power Required:+5V/+12V/-12V/-5V/5Vsb Power In
  Support Power On push Button, Software Shutdown function and LAN1 remote wake up only, 2-Pin Header for Power On Push Button

Power Consumption:

CPU : On Board VIA Eden (Source #2) 800MHz Memory : 1 x DDR 256MB	+12 V	+5 V
Full-Loading Mode	0.70 A	3.19 A
Light-Loading Mode	0.74 A	2.90 A

NOTE:
1. Full Loading: Utilize CPU 100% with Burn-in test running
2. Light Loading: Utilize CPU loading below 5% without application running

Dimensions

- 5.25" form factor
  203 mm (L) x 146 mm (W) (7.9" x 5.7")

Environment

- Board level operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)

Certifications

- CE approval
- FCC Class A

Ordering Information

- **EBC 583-715 (P/N: 10E00058302X0)**
  5.25" Embedded Board with on board VIA C7-D 1.5 GHz CPU w/ VGA/ 3 x LANs/ USB/ SATA/ CF/ IDE/ PCI slot