EBC 580

5.25" VIA/ Eden™/ C7 Embedded CPU Board with Dual independent LVDS/ Gigabit LAN

Board diagram labels: VIA CN700, LVDS1, LVDS2, CCFL, PCI, VIA 8237R+, CF, COM Port, CD-In, Line-In, Microphone in, Speaker out, VGA, GbE x 2, USB2.0, PS/2 connector, Parallel Port, DIMM, USB Connector, Supports VIA Eden and C7 Processors, Power Input Connector, Standby, 44-pin IDE, SATA, Power select

Main Features

- VIA Eden™/C7 with V4 Bus Processors On-board
- VIA CN700 and 8237 R+ Chipsets
- 1 x 184-pin DDR DIMM Socket Supports Un-buffered Non-ECC DDR 333/400 up to 1 GB
- 2 x Realtek RTL8110SC Gigabit Ethernet Controller
- Supports Dual LVDS Independent Display
- CompactFlash Socket

Product Overview

The 5.25" EBC 580 embedded board computer is Based on VIA's new generation of embedded CPUs featuring Eden™ (low power) and C7 (high performance) that all use the new V4 Bus (@400 MHz). The EBC 580 incorporates a VIA CN700 and 8327R+ chipset. The VIA CN700 supports un-buffered non-ECC DDR 333/400 memory up to 1 GB and offers a powerful integrated graphics engine.

The South Bridge 8327 R+ chipset provides a standard 32-bit/33 MHz PCI slot, parallel port, 44-pin IDE connector, SATA connector, CompactFlash socket, and numerous other I/O ports such as four serial ports, four USB 2.0 ports, two Gigabit Ethernet LAN ports, an audio interface, as well as others.

The RoHS compliant EBC 580 is the successor of EBC 569, keeping the same mechanical dimensions to share the same chassis with EBC 569 board. The EBC 580 has many enhancement compared to the EBC 569, include improving CPU performance up to 40 ~ 50%, utilizing DDR memory, support USB 2.0 and SATA storage, integrated dual Gigabit Ethernet, and supports AT & ATX power supplies. Additionally, the new EBC 580 supports a wide range of LVDS panels ranging from 18-bit to 48-bit panels and dual independent LVDS.

Specifications

CPU Support
- VIA Eden™ V4 1 GHz
- VIA C7-D 1.5 GHz

Main Memory
- 1 x 184-pin DIMM Socket for up to 1 GB un-buffered non-ECC DDR 333/400 memory

Chipset
- VIA® CN700 / VIA® 8237R+

BIOS
- Award System BIOS
- Supports Power On after power fail as a BIOS option
- Supports Wake on LAN
- 4 Mbit flash ROM

On-board LAN
- 2 x 10/100/1000 network connection Realtek RTL8110SC
- Each LAN port reserved with 2-pin header for extended LAN LED (Active, Link 100, and 1000 LAN LED)

- Supports Wake on LAN (When 5 Vsb power available). (LAN1 is available for Wake up, LAN2 is not available for Wake up)

Audio
- VIA, VT1616 CODEC for AC97 V 2.0
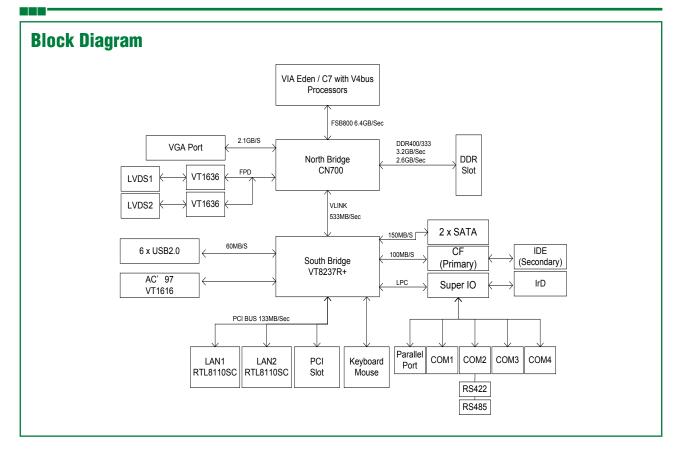- MIC-in, Speaker-out, CD-in, Line-in

Display
- LVDS1: VIA VT1636 transmitter, 2 x DF13-20 DP, 20-pin connector for LVDS1 panel output
- LVDS2: VIA VT1636 transmitter, 2 x DF13-20 DP, 20-pin connector for LVDS2 panel output
- CCFL: 2 x CCFL for LCD panel backlight inverter power
- VGA: 1 x DB15 VGA connector

I/O Interface
- Serial port: 4 ports, with 1x 40 pin header, COM 2 for RS 232/422/485
- USB 2.0 x 4
- Parallel port: 1 port, with 2x13 box header (2.0 mm)
- PS/2: 1 x Mini-Din for Keyboard/Mouse
- Digital I/O: 2x4 pin header (2.54 mm)

Block Diagram

- IrDA: on-board pin header for IrDA Tx/Rx
- SMBus 2.0 controller
- On-board header for reset SW and HD active LED
- I2C: On-board 3-pin header for I2C, one pin for GND

Watchdog Timer
- Watchdog timeout is programmable by software from 1 second to 64 seconds

On-board RTC
- On-chip RTC with battery back up
- 1 x External Lithium battery

Storage
- HDD: 1 x 44-pin connector (secdonary)
- 1 x internal CF socket

System Monitor
- Derived from Super I/O to support system monitor
- Monitoring of 5 voltages, 3 temperatures and 2 fan speeds.
- 5 voltage (For +3.3 V, +5 V, +12 V, Vcore and +2.5 V)
- 3 temperature (For CPU and two external for system)
- 2 fan speed (one for CPU and one for systems)

Power Input
- 3-pin header for AT/ATX mode switch
- +3.3 V is converted from +5 V
- 6-pin power input connector
- 3-pin Jst connector to receive the 5 Vsb input from power source
- Factory default setting is AT Mode

Power Consumption:

CPU : VIA C7-D 1.5GHz/400MHz Memory : 1 x DDR 1GB	+12 V	+5 V
Full-Loading Mode	1.28 A	4.17 A
Light-Loading Mode	0.36 A	1.71 A

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

ATX Mode
- Power required: +12 V/+5 V/+5 Vsb
- Supports Power On push Button, Software Shutdown function and LAN1 remote wake up only
- 2-pin Header for Power On Push Button

AT Mode
- Power Required: +5 V/+12 V
- No Power On push Button, No Software Shutdown function and No LAN1 remote wake up

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 580-715 (P/N: 10E00058001X0)**
  Low Power Embedded Board with VIA C7-D CPU 1.5 GHz w/ VGA/ Dual LVDS/ Audio/4 COM/4 USB 2.0 /Dual Gigabit LAN
- **EBC 580-E10 (P/N: 10E00058002X0)**
  Low Power Embedded Board with VIA Eden™ V4 Bus CPU 1 GHz w/ VGA/ Dual LVDS/ Audio/ 4 COMs/ 4 USB 2.0 /Dual Gigabit LAN