



Main Features

- Support Intel® Atom™ E600 Series Ultra Low Power Consumption SoC
- On-board DDR2 1GB Main Memory
- Support VGA/LVDS Display
- Support Video Decode (MPEG2, MPEG4, H.264, VC1, WMV9) / Encode (MPEG4, H.264)
- Two Gigabit Ethernet
- One CAN Controller
- 3x COMs, 5x USB 2.0, 2x SATA
- Single DC 12V Power Input

Product Overview

The EBC 310 is a 3.5" ECX embedded board with an on-board Intel® Atom™ E640 1.0GHz SoC with L2 cache 512 KB and extreme low power consumption 3.6 watts. The EBC 310 features DDR2 1GB memory on-board, dual display application to support independent CRT and LVDS interface and build-in HD video decoder/ encoder. Intel® PCH EG20T supports 1x CAN and USB 2.0 controller. The EBC 310 embedded board supports a various operation systems such as Windows 7, Windows XP embedded, Win CE and Linux.

Specifications

CPU Support

- On-board Intel® Atom™ E640 1.0GHz SoC (System-On-Chip)

Main Memory

- On-board DDR2 800-MHz 1GB, Non-ECC and Un-buffered

Chipset

- Intel® EG20T (PCH)

BIOS

- AMI BIOS
- Plug and play support

On-board LAN

- 1 x Intel® 82574L Gigabit Ethernet controller
- 1 x Realtek 8211CL Gigabit Ethernet controller
- Support Boot from LAN and Wake on LAN
- 2 x RJ45 with LED

Display

- Intel® Atom™ E600 series integrated graphic engine, support video decode (MPEG2, MPEG4, H.264, VC1, WMV9)/ encode (MPEG4, H.264)
- Analog VGA interface:
 - 1 x DB15 VGA port, resolution up to 1280 x 1024
- LVDS interface: support Single 18/24-bit LVDS channel, resolution up to 1280 x 768

Audio

- Realtek ALC886 CODEC for High Definition
- 1 x Mic-in and 1 x Line-out pin header

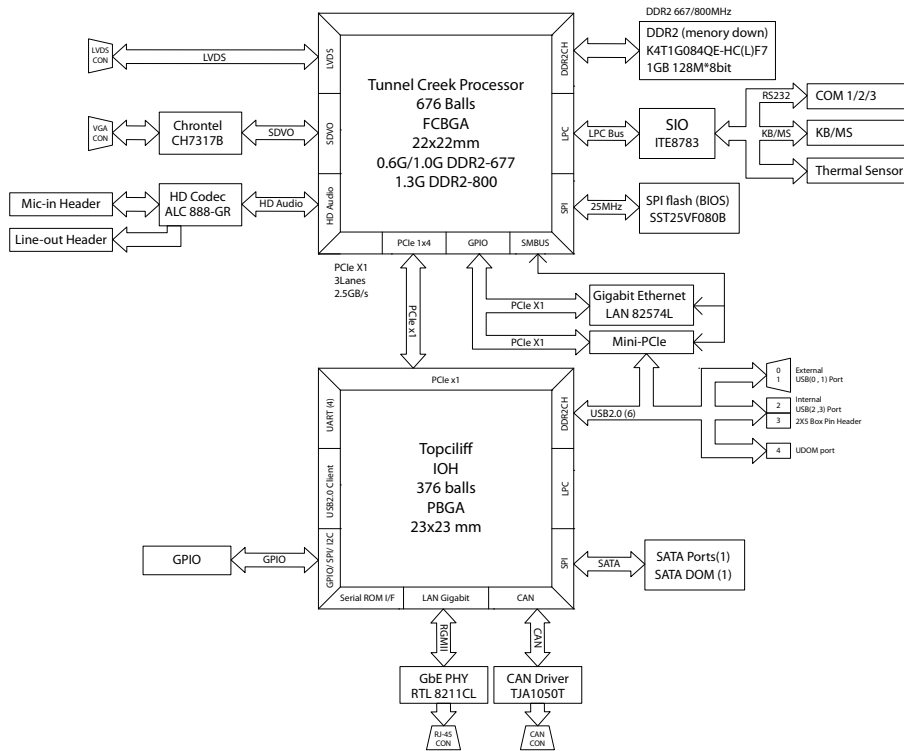
Expansion

- 1 x Mini-PCIe socket

I/O Interface

- Serial port: 3 ports
- 1 x RS232 DB9 Connector (COM1)
- 1 x RS232 with 10-pin box header, 2.0mm pitch (COM3)
- 1 x RS232/422/485 (COM2) with 10-pin box header, 2.0mm pitch
- USB 2.0: 5 ports
 - 2 ports with USB 2.0 connector
 - 2 ports with 2 x 2-pin header, 2.54mm pitch
 - 1 port supports USB DOM
- CAN:
 - Integrated CAN 2.0 Controller supporting IEEE1588 over CAN
 - External CAN Bus Driver – TJA1050
 - 2 x 2-pin header, 2.54mm pitch
- 8 x GPIO, 10-pin pin header, (GPI 0~3 and GPO0~3) with TTL Level (0/5 V)
- On-board Power LED and HDD Active LED Pin Header
- 1 x 4-pin fan connector (for CPU)
- 6-pin JST connector for PS2 Keyboard/ Mouse
- On board Buzzer/ SMBus2.0/ Reset/ On & Off switch button

Block Diagram



Watchdog Timer

- Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

Storage

- 2 x SATA connector (support 1 x SATA DOM)

System Monitor

- Monitoring of 5 voltages and 2 temperature
- 5 voltages (12, 5, 3.3, VNN, Vcore)
- 2 temperature (CPU, system)

On-board RTC

- On-chip RTC with battery backup
- 1 x External Li-Ion battery

Power Input

- Support AT and ATX mode (ATX as the default)

Power Requirements

- Power requirement: +12V DC Input
- One 4-pin power connector

Dimensions

- 3.5" ECX form factor
- 146mm (L) x 105mm (W) (5.7" x 4.1")

Environment

- Operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: Operating 10% to 90%, non-condensing

Certifications

- CE approval
- FCC Class A

Ordering Information

- **EBC 310-01G (P/N: 10E00031000X1) RoHS Compliant**

Ultra Low power Embedded Board with Intel® Atom™ E640 processor
 On-board DDR2 1GB memory, VGA/ LVDS, 1 x CAN, 2 x GbE,
 1 x Mini-PCle, 3 x COM, 5 x USB 2.0, DC12V input