EBC 540

Intel® Atom™ N270 — Power Connector — PCI — Intel® ICH7-M — SATA x 2 — PCI 104 — USB 2.0 JST x 2 — Mic-in — Line-out — VGA — GbE LAN x 2 — USB 2.0 x 2 — PS/2 Connector — DIMM — Intel® 945GSE — SDVO 1/2 — Mini-PCIe — CCFL — LVDS — LPT — COM x 2 — COM — CF

Main Features

- Support Intel® Atom™ N270 1.6GHz processor with 533 MHz FSB
- Intel® 945GSE integrated 3D graphics engine GMA950 chipset with CRT and LVDS display
- 1 x 240-pin DDR2 DIMM socket, up to 2GB non-ECC 400/533 MHz DDR2 memory
- Realtek RTL8111C-GR PCI Express Gigabit Ethernet x 2
- Realtek ALC888 Audio CODEC x 1
- USB 2.0 x 6, Serial port x 6 and parallel port x 1
- Mini-PCIe x 1/PCI 104 Interface x 1/PCI slot x 1
- SATA x 2, Compact Flash Socket x 1

Product Overview

The EBC 540 is a 5.25" embedded board with an on-board Intel® Atom™ N270 1.6GHz processor with 512 KB L2 cache by 533 MHz FSB. The EBC 540 features Intel® 945GSE and ICH7-M chipsets, which supports DDR2 400/533 memory, along with integrated GMA950 graphics for large display application to support independent CRT and LVDS interface.

The South Bridge ICH7-M provides a Compact Flash socket, six serial ports, six USB 2.0 ports, two PCI Express Gigabit Ethernet LAN ports, two SATA ports, one PCI 104 interface and one PCI slot for application.

The EBC 540 is a great solution featuring a low power consumption processor and small footprint with versatile displays and numerous I/O port support at industrial applications.

Specifications

CPU Support

- Support Intel® Longevity CPU Atom™ N270 1.6GHz processor with 533MHz FSB

Main Memory

- 1 x 240-pin DDR2 DIMM socket, support up to 2GB non-ECC 400/533 DDR2 memory

Chipset

- Intel® 82945GSE Graphic Controller Hub (GMCH)
- Intel® 82801 GBM ICH7 Mobile (ICH7-M)

BIOS

- Award system BIOS
- Plug & Play support
- Advanced Power Management
- Advanced Configuration & Power Interface
- 8M bits SPI ROM

On-board LAN

- 2 x Realtek RTL8111C-GR PCI Express Gigabit Ethernet
- Support Boot From LAN (PXE)
- Wake on LAN (When 5Vsb power available) (LAN1 only)
- 2 x RJ45 with LED

Display

- Intel® 945GSE integrated 3D graphics engine, based on Intel® GMA950 architecture, delivers sophisticated graphics for large display application, dual independent display support, at graphics core speeds up to 166MHz, provides a wealth of options for high-resolution displays
- Analog VGA Interface:
  1 x DB15 VGA port
  Resolution up to 1600x1200 at 85 Hz, 2048x1536 at 75Hz
- LVDS Interface:
  Support 18-bit single channel LVDS, resolution up to 1024 x 768 with maximum pixel depth of 18-bpp
- SDVO Interface (one 30-pin box header):
  SDVO w/ CH7308B or CH7307C daughter board for LVDS or DVI output
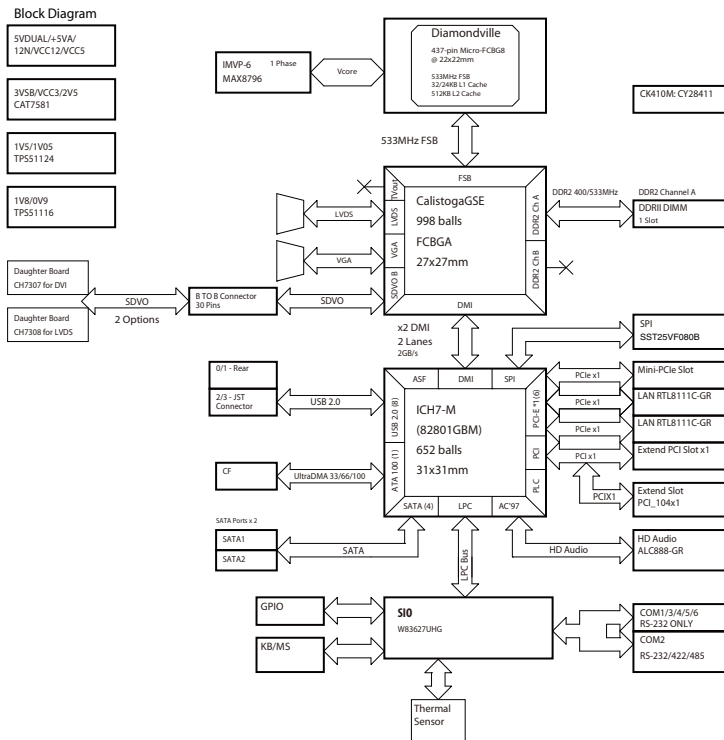- CCFL Interface:
  1 x CCFL for LCD Panel Backlight Inverter

Audio

- Realtek ALC888 CODEC for High Definition
- Mic-in and Line-out Connector

Expansion

- 1 x Mini-PCIe slot
- 1 x PCI slot
- 1 x PCI 104 slot

Block Diagram

Block Diagram

I/O Interface

- Serial port: 6 port, two 2x5 2.0mm box headers, one 2x20 2.0mm box Header
- Parallel port: 1x 26-pin box header
- USB 2.0: 4 ports, 2 ports edge connector, 2 ports by 2.0mm JST connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL Level (0/5 V)
- On-board Power LED and HDD Active LED Pin Header
- Two connectors x 3-pin fan connector (for CPU, System)
- 1 x DB15 VGA port
- 1 x Keyboard/Mouse pin header
- On board Buzzer/SMBus2.0/Reset SW

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 ports
- 1 x CF socket

System Monitor

- Monitoring of 5 voltages and 3 temperatures
- 5 Voltage (+5V, Vcore , +12V , +3.3V , +2.5V)
- 3 Temperatures (CPU, two external Temperature Sensor)

On-board RTC

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

Power Requirements

- Supports both AT and ATX Mode (default setting is AT mode)
- Power Supply must provide +12V, +5V at least for AT mode
- Power Supply must provide +12V, +5V, +5Vsb for ATX mode
- Power On CON 6P (Standard) + PS_On JST 3P CON

Dimensions

- 5.25" form factor/203mm (L) x 146mm (W) (7.9"x5.7")

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 540 (P/N: 10E00054000X0)**
  Low power Embedded Board with Intel® Atom™ N270 processor and based on Intel® 945GSE 3D graphics engine GMA950 w/ VGA/LVDS/6 x USB2.0/ 6 x COMs/2 x PCIe Gigabit LAN/1 x parallel port/1 x Mini-PCIe interface/ 1 x PCI 104 interface/1 x PCI slot

- **EBKSDVO1 (P/N: 10E0SDVO100X0)**
  CH7307C daughter board w/ DVI-Single link for DVI output

- **EBKSDVO2 (P/N: 10E0SDVO200X0)**
  CH7308B daughter board for LVDS output

- **Packing List**

Part No.	Description
60233USB59X00	USB CABLE
60233MK202X00	PS2 Y CABLE
6023309402X00	COM CABLE L: 300mm
60233PW145X00	POWER CABLE
60233ATA17X00	SATA CABLE
60233PRT10X00	PRINT CABLE
60233SIO006X00	COM CABLE

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