

CHIPSET	Intel® B65 PCH
CPU	Intel® Core™ i7/i5/i3 Intel® Pentium®
MEMORY	4 DDR3 DIMM up to 32GB
EXPANSION	1 Mini PCIe x1, 7 PCI
DISPLAY OUTPUTS	1 DVI-I (DVI-D signal), 1 VGA
LAN	2 Gigabit LAN
COM	6 COM
USB	10 USB 2.0
SATA	6 SATA (1 SATA 3.0 and 5 SATA 2.0)
DIO	8-bit DIO

- Chrontel CH7308B
- Supports 18/24-bit 1600x1200 LVDS panel
- 1 LVDS LCD panel connector
- 1 LCD/Inverter power connector
- SDVO interface
- Supports dimming control via hot keys

- 45mm (1.77") x 38mm (1.49")

The diagram illustrates the system architecture of the Intel Atom Z670. At the top, the **Core i7/i5/i3 Pentium G850** is connected to **VRD 12** via **Vcore Power**. It has two memory channels, **Channel A** and **Channel B**, each supporting **DDR3 DIMM 2x** at **1066/1333MHz**. The core connects to the **B65 PCH** via **DMI**, **FDI**, and **HOST_CLKP/N**.

The **B65 PCH** manages various I/O functions:

- Front Panel I/O:** DVI-I, LEVEL SHIFT SKT (via TMDs Bus), CRT (via R.G.B), USB 10x (via USB2.0), SATA II 5x (via 3GB/s), and SATA III (via 6GB/s).
- Storage and Expansion:** IDE, JM368, Mini PCIe, GLAN 1, GLAN 2 (via four PCIe x1 ports), SPI BIOS (via SPI Bus), PCI 2x (via PCI 33MHz), and PCI Arbiter.
- Audio and Peripherals:** PCI 5x, HD Audio, and COM 4x (via F81217U).
- Security and Management:** TPM (Opt.) via LPC Bus and F81217U via LPC Bus.

At the bottom, the **Super IO** chip handles **COM 2x**, **H/W Monitor**, **PS/2 K/B**, **PS/2 Mouse**, and **Digital I/O 8-bit**, connected to the PCH via **LPC Bus**.

Specifications

PROCESSOR

- LGA 1155 socket for:
 - Intel® Core™ i7-2600 (3.4GHz, 95W)
 - Intel® Core™ i5-2400 (3.1GHz, 95W)
 - Intel® Core™ i3-2120 (3.3GHz, 65W)
 - Intel® Pentium® G850
- New microarchitecture on 32nm process technology
- Intel® Advanced Vector Extensions (Intel® AVX) Instructions
- Intel® Turbo Boost Technology

CHIPSET

- Intel® B65 PCH (Platform Controller Hub)

SYSTEM MEMORY

- Four 240-pin DDR3 DIMM sockets
- Supports DDR3 1066/1333MHz
- Supports dual channel memory interface
- Supports up to 32GB system memory
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

EXPANSION SLOTS

- 1 Mini PCIe x1 slot (PCIe 2.0)
- 7 PCI slots (PCI 2.3)

ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: DVI-I (DVI-D signal) and VGA
- DVI-I supports up to 1920x1200 @ 60Hz resolution
- VGA supports up to 2048x1536 @ 75Hz resolution
- Supports 6 Graphics Execution Units (EUs)
- Intel® Clear Video Technology
- DirectX Video Acceleration (DXVA) support for accelerating video processing

ONBOARD AUDIO FEATURES

- Realtek ALC886 5.1-channel High Definition Audio
- Audio outputs: Mic-in/Center+Subwoofer, line-in/surround and line out
- S/PDIF audio interface

ONBOARD LAN FEATURES

- 2 Realtek RTL8111DL PCI Express Gigabit Ethernet controllers
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Supports wire management

SERIAL ATA (SATA) INTERFACE

- 6 Serial ATA ports
 - 5 SATA 2.0 ports with data transfer rate up to 3Gb/s
 - 1 SATA 3.0 port with data transfer rate up to 6Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller

TRUSTED PLATFORM MODULE (TPM) - optional

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

BIOS

- AMI BIOS
- 64Mbit SPI BIOS

REAR PANEL I/O PORTS

- 1 mini-DIN-6 port for PS/2 mouse/keyboard
- 2 DB-9 serial ports
 - Supports RS232/422/485 (RS232 and/or Power)
- 1 DB-15 VGA port
- 1 DVI-I port (DVI-D signal)
- 2 RJ45 LAN ports
- 6 USB 2.0/1.1 ports
- Line-in/Surround, Line out, Mic-in/Center+Subwoofer jacks

I/O CONNECTORS

- 2 connectors for 4 external USB 2.0/1.1 ports
- 4 connectors for 4 external RS232 serial ports
- 1 SDVO connector for the optional SDVO-LVDS daughterboard
- 1 8-bit Digital I/O connector
- 1 front audio connector for line-out and mic-in jacks
- 1 CD-in connector
- 1 S/PDIF connector
- 6 Serial ATA ports
- 1 IDE connector
- 1 24-pin ATX power connector
- 1 8-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 3 fan connectors

ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving (optional)
- Supports ACPI
- System Power Management
- Wake-On-Events include:
 - Wake-On-PS/2 KB/Mouse
 - Wake-On-USB KB/Mouse
 - Wake-On-LAN
 - RTC timer to power-on the system
- CPU stopped clock control
- AC power failure recovery

DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors VCore/5V/3.3V/V_DIMM/12V/5VSB voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Watchdog timer function

TEMPERATURE

- Operating: 0°C to 60°C
- Storage: -20°C to 85°C

HUMIDITY

- 10% to 90%

DIMENSIONS

- ATX form factor
- 305mm (12") x 244mm (9.6")

Packing List

- 1 SB601-C motherboard
- 2 Serial ATA data cables
- 2 USB port cables (with bracket)
- 2 COM port cables (with bracket)
- 1 IDE cable
- 1 I/O shield
- 1 DVD
- 1 QR (Quick Reference)

Optional Items

- SDVO-LVDS daughterboard
- USB port cable
- COM port cable
- Serial ATA data cable
- Serial ATA power cable
- PS/2 Keyboard/Mouse cable