

Desktop



CHIPSET	Intel® Q67
CPU	3rd Generation Intel® Core™ processors 2nd Generation Intel® Core™ processors
MEMORY	4 DDR3 DIMM up to 32GB
EXPANSION	1 PCIe x16, 1 PCIe x4, 2 PCI
DISPLAY OUTPUTS	1 DVI-I (DVI-D signal), 1 VGA
LAN	2 Gigabit LAN ports
COM	6 COM
USB	12 USB 2.0
STORAGE	6 SATA: 2 SATA 3.0, 4 SATA 2.0
DIO	8-bit DIO

The diagram illustrates the Intel Atom D2000 SoC architecture, centered around the **Core i7/i5/i3 Pentium G850** and the **Q67** chipset. The system is connected to various external components through multiple interfaces:

- Power and Storage:** VRD 12 (Vcore Power), PCIe x16, and two channels of DDR3 DIMM 2x (Channel A and Channel B, both at 1066/1333MHz).
- Display and Video:** DVI (DMI-D signal only), CRT Connector (R.G.B), and Level Shift SKT (T.M.D.S Bus).
- Connectivity:** USB 12x (USB2.0), SATA 4x (SATA2.0), SATA 2x (SATA3.0), COM 4x, TPM (Opt.), and COM Port Bridge.
- Expansion and I/O:** PCIe x4, PCIe x1 (LAN1, LAN2), SPI Bus (SPI BIOS), PCI Bus (PCI), HD Audio Bus (HD Audio), and Digital I/O 8-bit.
- Internal Components:** The **Q67** chipset manages the internal data flow, including DMI, FDI, and Host_CLK/PIN signals.
- Super I/O:** The **Super I/O** block handles H/W Monitor, PS/2 K/B, PS/2 Mouse, and other low-level I/O functions.

Specifications

PROCESSOR

- LGA 1155 socket for:
 - 3rd generation Intel® Core™ processors (22nm process technology) (Rev. A00 or later)
 - : Intel® Core™ i7-3770 (8M Cache, up to 3.9GHz); 77W
 - : Intel® Core™ i5-3550S (6M Cache, up to 3.7GHz); 65W
 - : Intel® Core™ i3-3220 (3M Cache, 3.3GHz); 55W
 - : Intel® Pentium® G2120 (3M Cache, 3.1 GHz); 65W
 - 2nd generation Intel® Core™ processors (32nm process technology)
 - : Intel® Core™ i7-2600 (8M Cache, up to 3.8 GHz); 95W
 - : Intel® Core™ i5-2400 (6M Cache, up to 3.4 GHz); 95W
 - : Intel® Core™ i3-2120 (3M Cache, 3.3 GHz); 65W
 - : Intel® Pentium® G850 (3M Cache, 2.9 GHz); 65W
- Intel® Advanced Vector Extensions (Intel® AVX) Instructions
- Intel® Turbo Boost Technology

CHIPSET

- Intel® Q67 Express chipset

SYSTEM MEMORY

- Four 240-pin DDR3 DIMM sockets
- Supports DDR3 1333/1600MHz (3rd generation processors)
- Supports DDR3 1066/1333MHz (2nd generation processors)
- 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 PCIe x16 slots
 - Supports Gen 3.0 (3rd generation processors)
 - Supports Gen 2.0 (2nd generation processors)
- 1 PCI Express x4 slot (PCI E 2.0)
- 2 PCI slots (PCI 2.3: supports universal PCI card)

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 ALC262 2-channel High Definition Audio
- High performance DACs with 100dB SNR
- ADCs with 90dB SNR
- Two stereo DACs support 24-bit PCM format for stereo audio playback
- Three stereo ADCs support 20-bit PCM format for multiple input streaming
- S/PDIF audio interface

ONBOARD LAN FEATURES

- Intel® 82579LM with iAMT8.0 Gigabit Ethernet Phy
- Realtek RTL8111DL PCI Express Gigabit Ethernet controller
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

SERIAL ATA (SATA) INTERFACE

- 6 Serial ATA ports
 - 4 SATA 2.0 ports with data transfer rate up to 3Gb/s (SATA port 4 provides adequate space for SATA DOM)
 - 2 SATA 3.0 ports with data transfer rate up to 6Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0/1/5/10

INTEL ACTIVE MANAGEMENT TECHNOLOGY (AMT)

- Supports iAMT8.0
- Out-of-band system access
- Remote troubleshooting and recovery
- Hardware-based agent presence checking
- Proactive alerting
- Remote hardware and software asset tracking

TRUSTED PLATFORM MODULE (TPM) - optional

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

REAR PANEL I/O PORTS

- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 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
- 4 USB 2.0/1.1 ports
- Mic-in, line-in and line out jacks

I/O CONNECTORS

- 4 connectors for 8 external USB 2.0/1.1 ports
- 4 connectors for 4 external RS232 serial ports
- 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 24-pin ATX power connector
- 1 8-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 2 fan connectors

BIOS

- AMI BIOS
- 64Mbit SPI BIOS

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 V_{CORE}/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

POWER CONSUMPTION

- 117.25 W with i7-2600 at 3.40GHz and 4x 2GB DDR3DIMM

OS SUPPORT

- Windows XP Professional x86 & SP3 (32-bit)
- Windows XP Professional x64 & SP2 (64-bit)
- Windows 7 Ultimate x86 & SP1 (32-bit)
- Windows 7 Ultimate x64 & SP1 (64-bit)
- Windows 8 Enterprise x86 (32-bit)
- Windows 8 Enterprise x64 (64-bit)

TEMPERATURE

- 0°C to 60°C

HUMIDITY

- 10% to 90%

DIMENSIONS

- microATX form factor
- 244mm (9.6") x 244mm (9.6")

CERTIFICATION

- CE, FCC Class B, UL, RoHS

Packing List

- 1 SB330-CRM motherboard
- 2 Serial ATA data cables
- 2 Serial ATA power cables
- 2 USB cables
- 1 COM port cable
- 1 I/O shield
- 1 DVD
- 1 QR (Quick Reference)

Optional Items

- USB port cable
- COM port cable
- Serial ATA data cable
- Serial ATA power cable
- PS/2 Keyboard/Mouse cable
- I/O shield