ASRock
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C216 WS
Workstation Motherboard

Intel® C216 Chipset

Windows 8 Ready

AMD CROSSFIRE TECHNOLOGY

Digi Power ASM Design

Premium Gold Caps

PCI-E 3.0

PCIe Gen3

Product Brief

- Premium Gold Caps

- Digi Power Design, 8 + 4 Power Phase Design

- Supports Dual Channel DDR3 1600

- 2 x PCIe 3.0 x16 Slots, 1 x PCIe 2.0 x16 Slot,

  Supports AMD 3-Way CrossFireX

- Supports Broadcom Dual PCIE GLAN

- 8 USB 3.0 (2 Front, 6 Rear), 6 SATA3, 1 eSATA3

- 7.1 CH HD Audio with Content Protection

  (Realtek ALC892 Audio Codec)

Detail Specification

Platform	- ATX Form Factor - Premium Gold Capacitor design (100% Japan-made high-quality Conductive Polymer Capacitors)
CPU	- Intel® Socket 1155 for 3rd/2nd Generation Core™ i7/Core™ i5/Core™ i3 Processors - Intel® Socket 1155 for Intel® E3-1200/12x5 v2 processors - Supports Intel® 32 nm CPU - Supports Intel® 22 nm CPU - Digi Power Design - 8 + 4 Power Phase Design - Supports Intel® Turbo Boost 2.0 Technology - Supports Hyper-Threading Technology
Chipset	- Intel® C216
Memory	- Dual Channel DDR3 memory technology - 4 x DDR3 DIMM slots - Supports DDR3 1600/1333/1066 ECC/ non-ECC, un-buffered memory * ECC memory is supported with Xeon® E3 CPU only. - Max. capacity of system memory: 32GB
Expansion Slot	- 2 x PCI Express 3.0 x16 slots (PCIE2/PCIE4: Single at x16 (PCIE2) mode or dual at x8 (PCIE2) / x8 (PCIE4) mode) * PCIe Gen3 is supported on 3rd Generation of Intel® Core™ i5 and Core™ i7 CPUs. - 1 x PCI Express 2.0 x16 slot (PCIE5: x4 mode) - 2 x PCI Express 2.0 x1 slots - 2 x PCI slots - Supports AMD Quad CrossFireX™, 3-Way CrossFireX™ and CrossFireX™

Graphics	* Intel® HD Graphics Built-in Visuals and the VGA outputs can be supported only with processors
	  which are GPU integrated.
	- Supports Intel® HD Graphics Built-in Visuals : Intel® Quick Sync Video 2.0, Intel® InTru™ 3D,
	  Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 2500/4000 with Intel® Ivy
	  Bridge CPU
	- Supports Intel® HD Graphics Built-in Visuals : Intel® Quick Sync Video, Intel® InTru™ 3D, Intel® Clear
	  Video HD Technology, Intel® HD Graphics 2000/3000, Intel® Advanced Vector Extensions (AVX) with
	  Intel® Sandy Bridge CPU
	- Pixel Shader 5.0, DirectX 11 with Intel® Ivy Bridge CPU. Pixel Shader 4.1, DirectX 10.1 with Intel®
	  Sandy Bridge CPU.
	- Max. shared memory 1760MB with Intel® Ivy Bridge CPU. Max. shared memory 1759MB with Intel®
	  Sandy Bridge CPU.
	- Supports HDMI 1.4a Technology with max. resolution up to 1920x1200 @ 60Hz
	- Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI
	  (Compliant HDMI monitor is required)
	- Supports HDCP function with HDMI port
	- Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback with HDMI port

Audio	- 7.1 CH HD Audio with Content Protection (Realtek ALC892 Audio Codec) - Premium Blu-ray audio support
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Broadcom BCM57781 - Supports Wake-On-LAN - Supports Energy Efficient Ethernet 802.3az - Supports Dual LAN with Teaming function - Supports PXE

Storage	- 2 x SATA3 6.0 Gb/s connectors by Intel® C216, support RAID (RAID 0, RAID 1, RAID 5, RAID 10,
	  Intel Rapid Storage and Intel Smart Response Technology), NCQ, AHCI and "Hot Plug" functions
	- 4 x SATA3 6.0 Gb/s connectors by ASMedia ASM1061, support NCQ, AHCI and "Hot Plug" functions
	  (SATA3_A4 connector is shared with eSATA3 port)
	- 4 x SATA2 3.0 Gb/s connectors by Intel® C216, support RAID (RAID 0, RAID 1, RAID 5, RAID 10,
	  Intel Rapid Storage and Intel Smart Response Technology), NCQ, AHCI and Hot Plug functions

Rear Panel I/O	I/O Panel - 1 x PS/2 Keyboard/Mouse Port - 1 x HDMI Port - 1 x Optical SPDIF Out Port - 4 x Ready-to-Use USB 2.0 Ports - 1 x eSATA3 Connector - 6 x Ready-to-Use USB 3.0 Ports - 2 x RJ-45 LAN Ports with LED (ACT/LINK LED and SPEED LED) - 1 x IEEE 1394 Port - HD Audio Jack: Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone
USB 3.0	- 2 x Rear USB 3.0 ports by Intel® C216, support USB 1.1/2.0/3.0 up to 5Gb/s - 4 x Rear USB 3.0 ports by Etron EJ188H, support USB 1.1/2.0/3.0 up to 5Gb/s - 1 x Front USB 3.0 header by Intel® C216 (supports 2 USB 3.0 ports), supports USB 1.1/2.0/3.0 up to 5Gb/s
Connector	- 1 x IR header - 1 x COM port header - 1 x HDMI_SPDIF header - 1 x IEEE 1394 header - 1 x Power LED header - 2 x CPU Fan connectors (1 x 4-pin, 1 x 3-pin) - 3 x Chassis Fan connectors (1 x 4-pin, 2 x 3-pin) - 1 x Power Fan connector (3-pin) - 24 pin ATX power connector - 8 pin 12V power connector - Front panel audio connector - 2 x USB 2.0 headers (support 4 USB 2.0 ports) - 1 x USB 3.0 header (supports 2 USB 3.0 ports) - 1 x Dr. Debug (7-Segment Debug LED)
BIOS Feature	- 64Mb AMI UEFI Legal BIOS with GUI support - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support - CPU Core, IGPU, DRAM, 1.8V PLL, VTT, VCCSA Voltage Multi-adjustment
Support CD	- Drivers, Utilities, AntiVirus Software (Client OS, Trial Version)
Unique Feature	- ASRock Instant Flash - ASRock Crashless BIOS
Hardware Monitor	- CPU Temperature Sensing - Chassis Temperature Sensing - CPU/Chassis/Power Fan Tachometer - CPU/Chassis Quiet Fan (Allow CPU Fan Speed Auto-Adjust by CPU Temperature) - CPU/Chassis Fan Multi-Speed Control - Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	- Microsoft® Windows® 8 / 8 64-bit / 7 / 7 64-bit compliant
Certifications	- FCC, CE, WHQL - ErP/EuP Ready (ErP/EuP ready power supply is required)
Accessories	- User Manual, Support CD, I/O Shield - 6 x SATA Data Cables

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Board Diagram

VRD 12 on Board

PCI-E X16 SLOT

PCI-E X8 SLOT

PCI_E BUS 100MHz

Intel Processor
Ivy Bridge
LGA-1155 Pin Socket

128-bit Dual-Channel Memory x 4 Slots

Channel A — DDR3 1066/1333/1600/2133

Channel B — DDR3 1066/1333/1600/2133

FDI LINK

DMI

PCIE x1 100MHz

PLX8608

PCIE x1 100MHz — PCI-E X1

PCIE x1 100MHz — PCI-E X1

PCIE x1 100MHz — BROADCOM 57781 10/100/1000

PCIE x1 100MHz — BROADCOM 57781 10/100/1000

PCIE x1 100MHz — VT6330

1394 Ports x 2

High-Speed USB 8 ports — 480Mb/s

Realtek ALC892 — 24MHz

INTEL
C216
Panther Point
PCH

PCIE x1 100MHz

PCIEx1 100MHz

ASM1083

PCI 33MHz

PCI-E X4 — PCIE x4 100MHz

PCI 1   PCI 2

2 Front USB3 ports

2 rear USB3 ports

SATA BUS 100MHz

| SATA2_4 | SATA2_2 | SATA3_0 |
| SATA2_5 | SATA2_3 | SATA3_1 |

SPI FLASH 64Mb — SPI

PCIE x1 100MHz — Asmedia AM1061 — SATA BUS — SATA3_A1 / SATA3_A2

HDMI Connector — DIGITAL PORT D

PCIE x1 100MHz — Asmedia AM1061

Etron EJ188 — PCIE x1 100MHz

SATA BUS

quick switch — eSATA3_1 (shared)

4 rear USB3 ports

SATA3_A3
SATA3_A4 (shared)

LPC BUS 33MHz

SIO
Nuvoton NCT6776 — COM port & IR