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Dual Intelligent Processors 2 with DIGI+ VRM

Digital Power Design: The New Standard

The world's first Dual Intelligent Processors from ASUS pioneered the use of two onboard chips - EPU (Energy Processing Unit) and TPU (TurboV Processing Unit). New generation Dual Intelligent Processors 2 with DIGI+ VRM digital power design launch control into a new era.

The digital architecture delivers twice the precision power, intelligently adjusting PWM voltage and frequency modulation with minimal power loss through BIOS tuning and an exclusive user interface to increase the board's overclocking range while performance reaches its full potential. It also adjusts VRM frequencies dynamically, cutting radiation interference by half and decreasing Vcore power noise for CPU to enhance system stability through enabling VRM spread spectrum. ASUS DIGI+ VRM digital power design empowers users with superior flexibility and perfect precision to ensure optimized performance, extreme system stability and greater power efficiency.

#### DIGI+ VRM

Herald the Arrival of a New Digital Power Design Era

VRM, or voltage regulator modules, are considered among the most essential motherboard design components. They supply the voltage demanded by the CPU, and a good VRM must intelligently detect actual CPU power draw to provide precise power accordingly. ASUS DIGI+ VRM is an innovative, industry-leading technology that fully integrates Intel® VRD12 specifications on a native level, greatly enhancing power to go far beyond the limits of analog designs.

ASUS DIGI+ VRM design features a digital programmable microprocessor onboard and upgrades motherboard power delivery to a digital standard. The 12+2 digital architecture delivers twice the precision power, intelligently adjusting PWM voltage and frequency modulation with minimal



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# Advantages of ASUS DIGI+ VRM Digital Power Design

Unlike previous VRD versions, Intel® VRD12 uses digital signals (SVID). To ensure perfect power delivery, ASUS specially designed DIGI+ VRM to sync completely with this new technology.

Faster sensing and response: ASUS DIGI+ VRM acts as a digital controller to perfectly match digital power signal (SVID) requests from the CPU, eliminating digital-to-analog conversion lag. Better cooling: exclusive dual driver and MOS design doubles the heat dissipation area with expanded cooling surfaces for improved thermal performance. Spacing components out over a wider area speeds up cooling to enhance reliability and stability.

2X CPU power supply: the same exclusive dual driver and MOS design also provides twice the CPU power supply with two complete power stages. This results in far greater phase load tolerances, so the CPU never has to wait for power to arrive, increasing performance and overclocking potential.

# Active Cooling for Extreme Durability- Super Cool VRM

ASUS DIGI+ VRM delivers intelligent power management to balance loadings for each power phase by detecting VRM temperatures to ensure longer component lifespan and better cooling.

## **TPU**

## The Ultimate Turbo Processor

Unleash your performance with ASUS' simple onboard switch or AI Suite II utility. The TPU chip offers precise voltage control and advanced monitoring through Auto Tuning and TurboV functions. Auto Tuning offers a user friendly way to automatically optimize the system for fast, yet stable clock speeds, while TurboV enables unlimited freedom to adjust CPU frequencies and ratios for optimized performance in diverse situations.

#### **EPU**

## Energy Efficiency All Around

Tap into the world's first real-time PC power saving chip through a simple onboard switch or AI Suite II utility. Get total system-wide energy optimization by automatically detecting current PC loadings and intelligently moderating power consumption. This also reduces fan noise and extends



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component longevity!

**ASUS Exclusive Features** 

BT GO!

Diverse BT Enjoyment, New Technology Lifestyle

Onboard Bluetooth wireless design enables smart connectivity to Bluetooth devices with no additional adapter. ASUS BT GO! comes with 7 special functions that offer a significant breakthrough in Bluetooth evolution, including Folder Sync, BT Transfer, BT Turbo Remote, BT-to-Net, Music Player, Shot and Send, and Personal Manager. All are accessible through the exclusive, user-friendly ASUS interface.

\* The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by ASUSTeK Computer Inc. is under license. Other trademarks and trade names are those of their respective owners

EFI BIOS (EZ Mode)

# Flexible & Easy BIOS Interface

The new ASUS EFI BIOS is an Extensible Firmware Interface that complies with uEFI architecture, offering a user-friendly interface that goes beyond traditional keyboard-only BIOS controls to enable more flexible and convenient mouse input. Users can easily navigate the new EFI BIOS with the same smoothness as their operating system. The exclusive EZ Mode displays frequently-accessed setup info, while the Advanced Mode is for experienced performance enthusiasts that demand far more intricate system settings.

# Supports Hard Drives over 2.2TB

ASUS EFI BIOS natively supports hard drives larger than 2.2TB in 64-bit, with full storage space utilization, helping deliver far more exciting computing than traditional BIOS versions! Exclusive ASUS Interface

EZ Mode - easy to learn, use, and manage

Advanced Mode - for experienced performance enthusiasts that demand intricate system settings

#### AI Suite II

One-stop Access to Innovative ASUS Features

With its user-friendly interface, ASUS AI Suite II consolidates all exclusive ASUS features into one



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simple-to-use package. It allows users to supervise overclocking, energy management, fan speed, voltage and sensor readings, even interact with mobile devices via Bluetooth. This all-in-one software offers diverse and easy to use functions, with no need to switch back and forth between different utilities.

Latest Transfer Technology

Complete USB 3.0 Integration

Double USB Access, Double Convenience

ASUS facilitates strategic USB 3.0 accessibility for both the front and rear panels - 4 USB 3.0 ports in total. Experience the latest plug & play connectivity at speeds up to 10 times faster than USB 2.0. The P8P67 PRO affords greater convenience with high speed connectivity.

Extra SATA 6Gb/s Support

Extra Ports, Extra Speed and Accessibility

The Intel® P67 Express chipset natively supports the next-generation Serial ATA (SATA) interface, delivering up to 6Gb/s data transfers. ASUS provides extra SATA 6Gb/s ports with enhanced scalability, faster data retrieval and double the bandwidth of current bus systems.

**ASUS Crystal Sound** 

**DTS** 

DTS Surround Sensation UltraPC

DTS Surround Sensation UltraPC delivers exceptional 5.1 surround experience through the most common PC audio setups - your existing stereo speakers or headphones. In addition to virtual surround, "Bass enhancement" provides stronger low frequency bass sound, and "Voice clarification" provides clear human dialogue even with loud background sound. With these technologies, you may experience a better home-theater audio with ease.

**ASUS EZ DIY** 

Ai Charger+

ASUS Ai Charger+, the latest Ai Charger\* version, brings you to a new level of USB3.0 fast charging experience. With its easy and user-friendly interface, you can not only easily charge iPod,



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iPhone and iPad, but also BC 1.1\*\* standard mobile devices three times\*\*\* as fast as before.

- \*Ai Charger is ASUS unique fast-charging software which supports iPod, iPhone and iPad.
- \*\*Check your USB mobile device manufacturer if it fully supports the BC 1.1 function.
- \*\*\*The actual charging speed may vary with your USB device's conditions.

# **ASUS Q-Design**

DIY Quickly, DIY Easily!

ASUS Q-Design enhances your DIY experience. All of Q-LED, Q-Slot and Q-DIMM design speed up and simplify the DIY process!

CPU, Chipset and Graphics features

LGA1155 socket for Intel® Second Generation Core<sup>TM</sup> i7/ Core<sup>TM</sup> i5/ Core<sup>TM</sup> i3 Processors

This motherboard supports the latest Intel® second generation Core<sup>TM</sup> i7/Core<sup>TM</sup> i5/Core<sup>TM</sup> i3 processors in the LGA1155 package, with memory and PCI Express controllers integrated to support 2-channel (4 DIMM) DDR3 memory and 16 PCI Express 2.0 lanes. This provides great graphics performance. Intel® second generation Core<sup>TM</sup> i7/Core<sup>TM</sup> i5/Core<sup>TM</sup> i3 processors are among the most powerful and energy efficient CPUs in the world.

Intel® P67 Express Chipset

The Intel® P67 Express Chipset is the latest single-chipset design to support new socket 1155 Intel® second generation Core<sup>TM</sup> i7/Core<sup>TM</sup> i5/Core<sup>TM</sup> i3 processors. It provides improved performance by utilizing serial point-to-point links, allowing increased bandwidth and stability. Additionally, the P67 provides 2 SATA 6Gb/s and 4 SATA 3Gb/s ports for faster data retrieval at double the bandwidth of current bus systems.

Quad-GPU SLI and Quad-GPU CrossFireX Support!

Flexible Multi-GPU solutions, Your Weapon of Choice!

P8P67 PRO (REV 3.1) brings multi-GPU configurations through both SLI<sup>TM</sup> and CrossFireX. This motherboard features the powerful Intel® P67 platform, optimizing PCIe allocation in multiple GPU setups. Expect a brand new gaming sensation like you've never experienced before!

## **RoHS**

GreenASUS and ErP Ready

The motherboard is European Union's Energy-related Products (ErP) ready, and ErP requires



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products to meet certain energy efficiency requirements in regards to energy consumptions. This is in line with ASUS vision of creating environment-friendly and energy-efficient products through product design and innovation to reduce carbon footprint of the product and thus mitigate environmental impacts.

Specifiche:

**CPU** 

Intel Socket 1155
Core<sup>TM</sup> i7 Processor/Core<sup>TM</sup> i5 Processor/Core<sup>TM</sup> i3 Processor Supports Intel® Turbo Boost Technology 2.0
Support Intel® 32nm CPU

\* The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.

Chipset

P67 Express Chipset

Memoria

- 4 x DIMM, 32 GB, DDR3 1600/1866(O.C.)/2133(O.C.)/2200(O.C.)\*/1333/1066 Non-ECC,Unbuffered Memory
- \* The Max. 32GB memory capacity can be supported with DIMMs of 8GB (or above). ASUS will update QVL once the DIMMs are available on the market.
- \* Hyper DIMM support is subject to the physical characteristics of individual CPUs. Some hyper DIMMs only support one DIMM per channel. Please refer to Memory QVL for details.
- \* Due to CPU behavior, DDR3 2200/2000/1800 MHz memory module will run at DDR3 2133/1866/1600 MHz frequency as default.

Dual Channel memory architecture

Supports Intel® Extreme Memory Profile (XMP)

Slot di Espansione

x PCIe 2.0 x16 \* [Black] (max. at x4 mode, compatible with PCIe x1 and x4 devices) 1 \*The PCIe x16\_3 slot shares bandwidth with PCIe x1\_1 slot, PCIe x1\_2 slot, USB3\_34 and ESATA12. The PCIe x16\_3 runs at x1 mode by default for system resource optimization.(PCIe



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x1\_2 will be disabled.)
2 (single at x16 or dual at x8/x8 mode)
x PCIe 2.0 x16 2 x PCI
2

Multi-GPU Support

Supports NVIDIA® Quad-GPU SLI<sup>TM</sup> Technology Supports ATI® Quad-GPU CrossFireX<sup>TM</sup> Technology

# Storage

JMicron® JMB362 SATA controller

- 2 xExternal SATA 3.0 Gb/s ports\*
- \* These SATA ports are for data hard drives only. ATAPI devices are not supported. Intel® P67 Express Chipset
- 2 xSATA 6.0 Gb/s ports (gray)
- 4 xSATA 3.0 Gb/s ports (blue)
- 0,1,5,10 Intel® Rapid Storage Technology Support RAID SATA 6.0 Gb/s ports (navy blue)\*
- 2 x Marvell® 9120 controller

#### LAN

Intel® 82579 Gigabit LAN Dual interconnect between the Integrated LAN controller and Physical Layer (PHY)

Bluetooth

Bluetooth v2.1 + EDR ASUS BT GO! Utility

# Audio

Realtek® ALC892 8-Channel High Definition Audio CODEC

- Absolute Pitch 192khz/24bit True BD Lossless Sound
- BD Audio Layer Content Protection
- DTS Surround Sensation UltraPC
- Supports Jack-Detection, Multi-streaming, Front Panel Jack-Retasking
- Coaxial / Optical S/PDIF out ports at back I/O



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**IEEE 1394** 

2 VIA® 6308P controller supports x 1394a ports (one at mid-board; one at back panel)

**USB** 

## NEC USB 3.0 controllers

- x USB 3.0/2.0 ports (2 ports at mid-board for front panel support, 2 ports at back panel (blue))
- 4 Intel® P67 Express Chipset
- x USB 2.0/1.1 ports (6 ports at mid-board, 6 ports at back panel) 12

ASUS AI Lifestyle

**ASUS Dual Intelligent Processors** 

2 with DIGI+ VRM:

**ASUS EPU** 

- EPU, EPU switch

**ASUS TPU** 

- Auto Tuning, TurboV, TPU switch

# ASUS Digital Power Design

- Industry leading Digital 12+2 Phase Power Design
- ASUS DIGI+ VRM Utility

## ASUS BT GO! (Bluetooth)

- Folder Sync, BT Transfer, Shot & Send, BT to Net, Music Player, Personal Manager, BT Turbo Remote

## **ASUS** Exclusive Features

- MemOK!
- AI Suite II
- AI Charger
- Anti Surge
- ASUS EFI BIOS EZ Mode featuring friendly graphics user interface

# ASUS Quiet Thermal Solution

- ASUS Fanless Design: Stylish Heat-sink solution
- ASUS Fan Xpert

## **ASUS EZ DIY**

- ASUS Q-Shield



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- ASUS Q-Connector
- ASUS O.C. Tuner
- ASUS CrashFree BIOS 3
- ASUS EZ Flash 2

# ASUS Q-Design

- ASUS Q-LED (CPU, DRAM, VGA, Boot Device LED)
- ASUS Q-Slot
- ASUS Q-DIMM

## Caratteristiche di Overclock

Precision Tweaker - vCore: Adjustable CPU voltage at 0.0125V increment 0.005V - vCCIO:

Adjustable I/O voltage at 0.00625V increment

- vCCSA: 144-step system agent voltage control
- vDRAM Bus: 160-step Memory voltage control
- vPCH: 90-step Chipset voltage control
- vCPU\_PLL: 160-step CPU & PCH PLL voltage control

SFS (Stepless Frequency Selection)

- BCLK/PEG frequency tuning from 80MHz up to 300MHz at 0.1MHz increment Overclocking Protection
- ASUS C.P.R.(CPU Parameter Recall)

# Porte I/O Pannello Posteriore

- 2 x USB 3.0/2.0 ports (blue)
- 1 (purple)
- x PS/2 Keyboard 1 (green)
- x PS/2 Mouse 2 (1 x Power eSATA)
- x External SATA (1 for Coaxial, 1 for Optical)
- 2 x S/PDIF Out 1 x IEEE 1394a
- 1 (Intel® LAN)
- x RJ45 port 6 ports
- x USB 2.0/1.1 8 Channel Audio I/O

#### Connettori I/O Interni

4 x SATA 6.0Gb/s connectors (2 x gray; 2 x navy blue)

1 x Mem OK! Button

8-pin EATX 12V Power connector

1 x TPU switch



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1 x EPU switch

1 x USB 3.0/2.0 connector(s) supports additional 2 USB ports (19-pin)

3 x USB 2.0/1.1 connector(s) support additional 6 USB ports

x IEEE 1394a connector

1 (4-pin)

x CPU Fan connector 1 (1 x 4-pin; 1 x 3-pin)

x Chassis Fan connector 2 (3-pin)

1 x S/PDIF Out connector

1 24-pin EATX Power connector

Front panel audio connector

System Panel (Q-Connector)

# **BIOS**

32 Mb Flash ROM , EFI AMI BIOS, , EFI AMI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 2.5, ACPI 2.0a, Multi-language BIOS, ASUS EZ Flash 2, ASUS CrashFree BIOS 3

## Gestibilità

WfM 2.0,DMI 2.0,WOL by PME,WOR by PME,WOR by PME

#### Accessori

User's manual

1 x ASUS USB 3.0 Bracket

1 x ASUS SLI bridge connector 2 x SATA 3.0Gb/s cables

2 x SATA 6.0Gb/s cables

1 x O-Shield

2 in 1 Q-connector

CD di Supporto Drivers ASUS Utilities Anti-virus software (OEM version) ASUS Update

#### Dimensioni

ATX Form Factor 12 inch x 9.6 inch 30.5 cm x 24.4 cm)