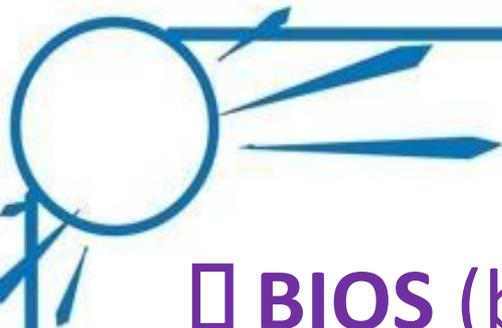




Настройка BIOS или UEFI для последующей установки операционной системы

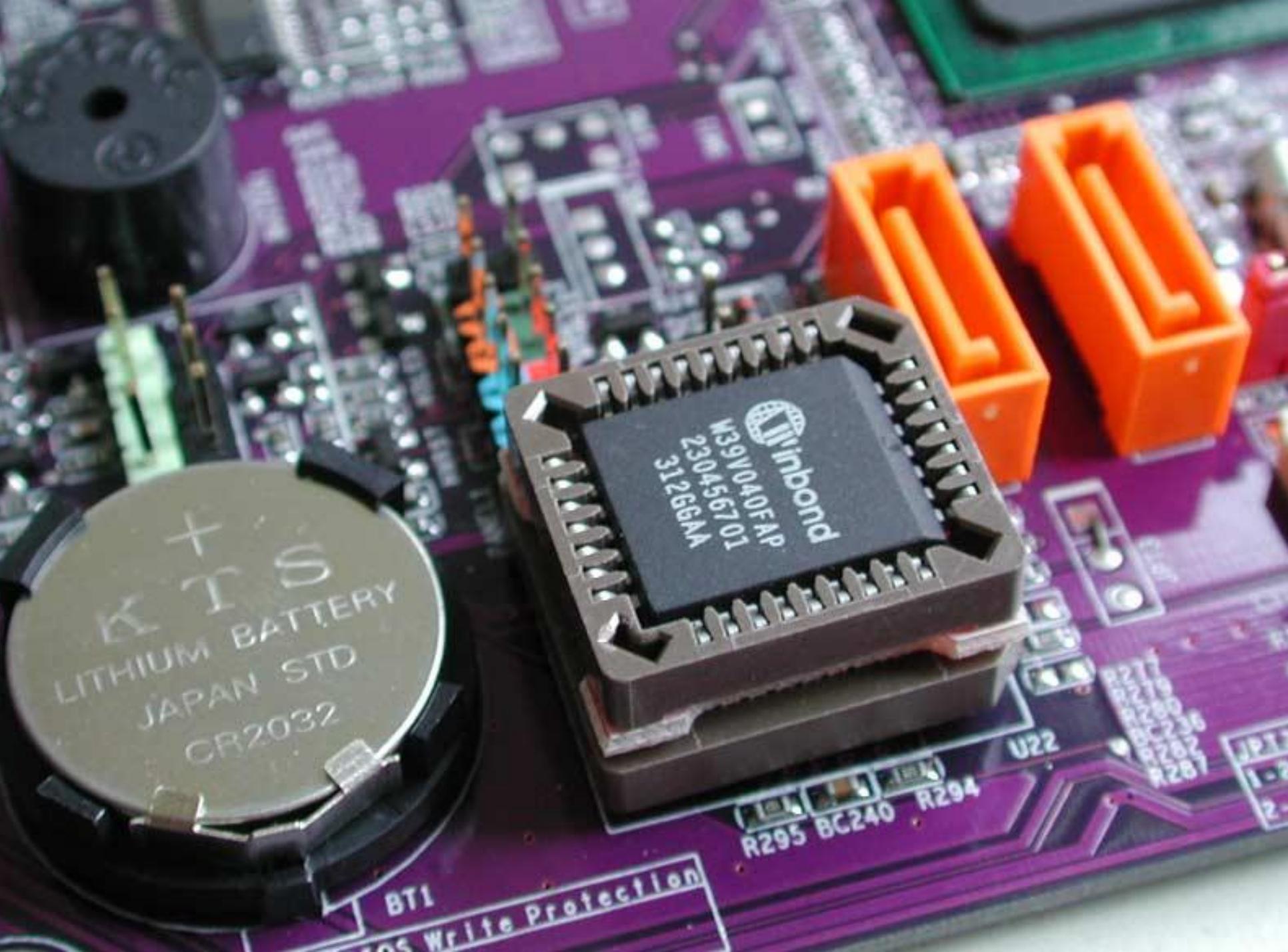
МиИ 4, Зверева В.В.

г. Пушкин
2015



BIOS

- **BIOS** (basic input/output system) – базовая система ввода-вывода.
 - **BIOS** выполняет первичные инструкции при включении компьютера, такие как самопроверка, первичная настройка оборудования и предоставление управления тому устройству, на котором (по мнению пользователя) установлен загрузчик операционной системы
- 



Winbond
W39V040FAP
230456701
31266AA

KTS
LITHIUM BATTERY
JAPAN STD
CR2032

BT1

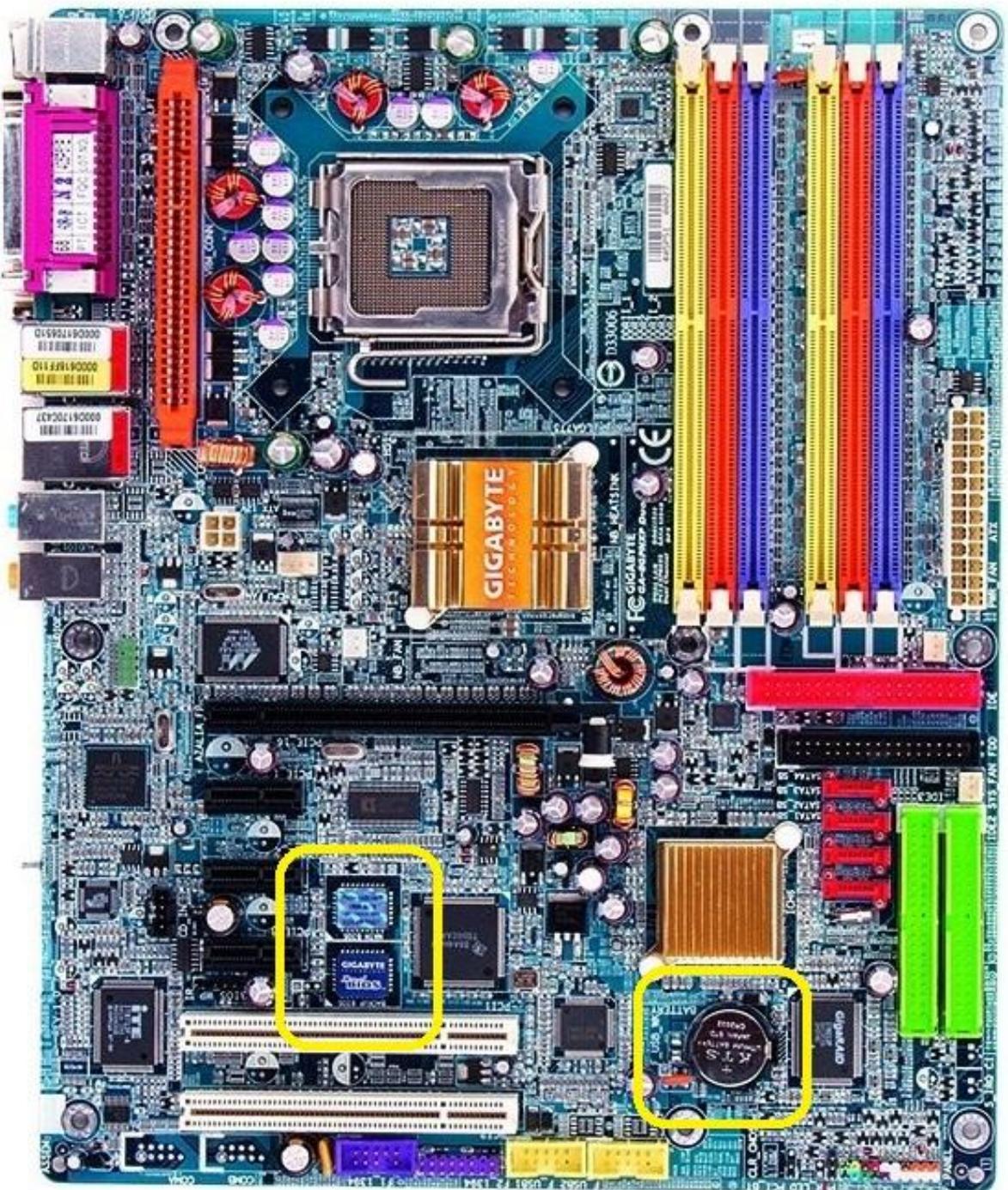
Write Protection

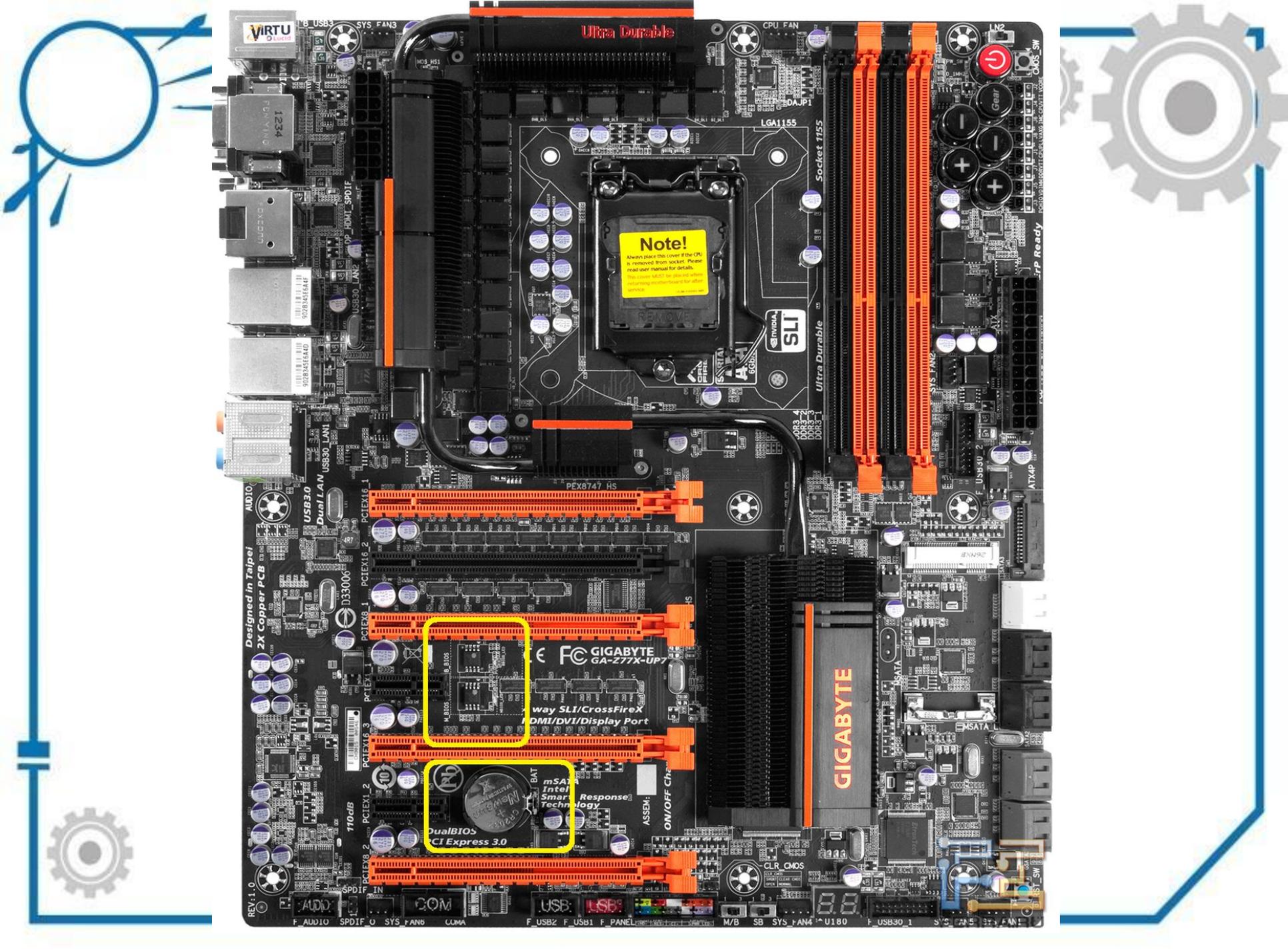
R295 BC240 R294

U22

R277
R278
R279
R280
R281
R282
R283
R284
R285
R286
R287

JPT
1-2
2-





VIRTU
DASH

16 USB3
SYS_FAN3

Ultra Durable

CPU_FAN

LGA1155

Socket T155

Note!

Always place this cover if the CPU is removed from socket. Please read user manual for details. The cover MUST be placed for safety reasons. (not for other purposes)

SLI

Ultra Durable

Power

+

-

+

-

VR Ready

AUDIO

Designed in Taipei
2X Copper PCB

USB3.0

Dual LAN

USB3.0 LAN

USB3.0 LAN

PCIE16_1

PCIE16_2

PCIE16_3

PCIE16_4

PCIE16_5

PCIE16_6

PCIE16_7

PCIE16_8

PCIE16_9

PCIE16_10

PCIE16_11

PCIE16_12

PCIE16_13

PCIE16_14

PCIE16_15

PCIE16_16

PCIE16_17

PCIE16_18

PCIE16_19

PCIE16_20

PCIE16_21

PCIE16_22

PCIE16_23

PCIE16_24

PCIE16_25

PCIE16_26

PCIE16_27

PCIE16_28

PCIE16_29

PCIE16_30

PCIE16_31

PCIE16_32

PCIE16_33

PCIE16_34

PCIE16_35

PCIE16_36

PEX8747 HS

GIGABYTE
GA-Z77X-UP7

Way SLI/CrossFireX
DMI/DVI/Display Port

DualBIOS
CI Express 3.0

mSATA
Intel
Smart
Technology

Response

GIGABYTE

REV.1.0

AUDIO

SPDIF IN

COM

USB

F_USB2 F_USB1 F_PANEL

M/B

SB

SYS_FAN4

U180

F_USB30_1

SYS_FAN5

FAN

FAN

FAN

FAN

FAN

FAN

Основные производители BIOS

□ Phoenix Technologies Ltd.

Производит Phoenix BIOS.



□ Award Software (сейчас принадлежит
Phoenix Technologies Ltd.)

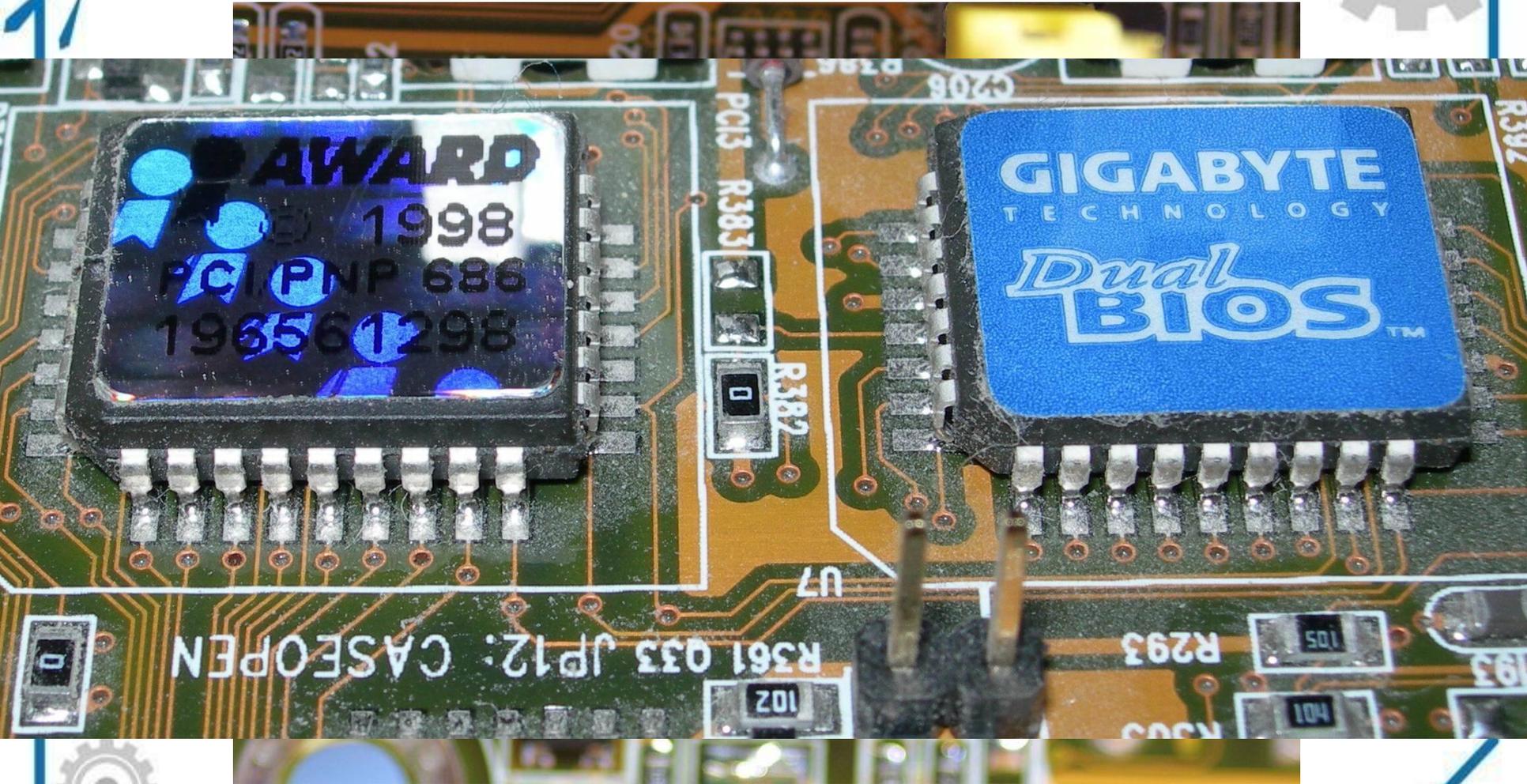
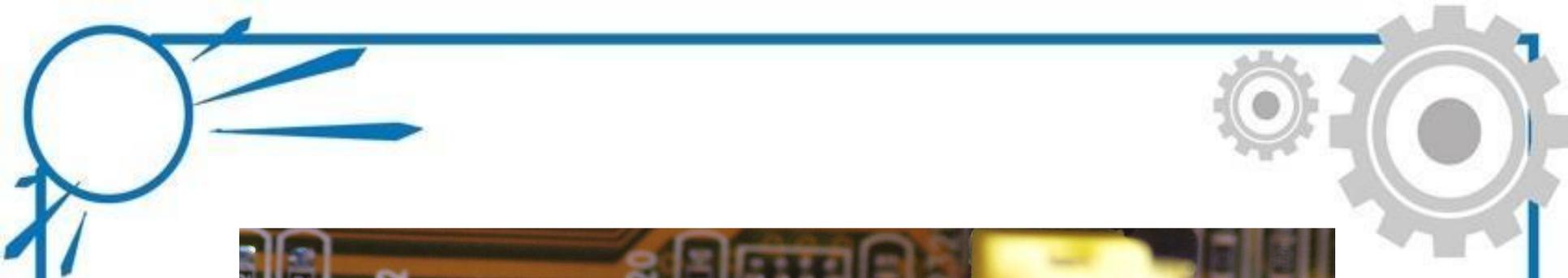
производит марку Award BIOS,
раньше производили Energy Star BIOS.



□ American Megatrends Inc.

Производит AMI BIOS.

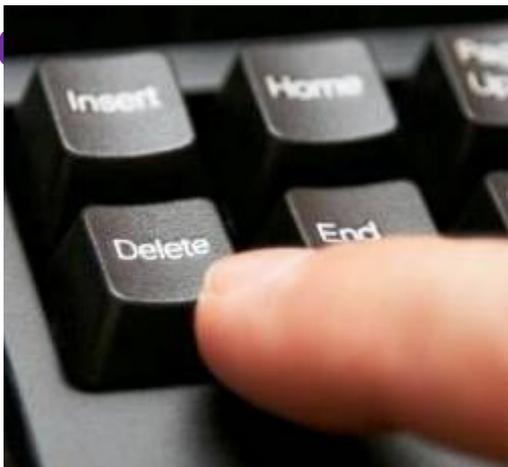




Доступ к интерфейсу BIOS

□ В большинстве случаев при помощи клавиш

Del



F2



Иногда

F1, F10, Ctrl+Alt+Esc, Ctrl+Alt+Enter, Fn+F1,
Ctrl+Alt+Ins Ctrl+S Fn+Fsc

ASUS®

P5WDG2 WS Professional

Workstation Motherboard



mainSTATION

The extreme workstation engine

Press DEL to run Setup, Press TAB to display BIOS POST Message



American Megatrends

www.ami.com

AMIBIOS (C) 2008 American Megatrends, Inc.
SUS P5WDG2 WS PRO ACPI BIOS Revision 0905
CPU : Intel(R) Core(TM)2 Duo CPU E8400 @ 3.00GHz
Speed : 3.00 GHz Count : 2

Press DEL to run Setup

Press F8 for BBS POPUP

C2-4300 Dual Channel Interleaved
Initializing USB Controllers .. Done.
896MB OK

(C) American Megatrends, Inc.
4-0905-000010-00101111-030600-975X-A0520001-Y2KC

BIOS SETUP UTILITY

Main

Advanced

Power

Boot

Tools

Exit

System Time [18:32:20]
System Date [Wed 01/27/2016]
Legacy Diskette A [Disabled]
Language [English]

▶ Primary IDE Master : [Not Detected]
▶ Primary IDE Slave : [Not Detected]
▶ Third IDE Master : [WDC WD10EARS-00Y5B1]
▶ Third IDE Slave : [ST3250410AS]
▶ Fourth IDE Master : [ST3250410AS]
▶ Fourth IDE Slave : [ASUS DRW-1814BL]
▶ IDE Configuration

▶ System Information

While entering setup, BIOS auto detects the presence of IDE devices. This displays the status of auto detection of IDE devices.

↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit

Third IDE Master

Device : Hard Disk
 Vendor : WDC WD10EARS-00Y5B1
 Size : 1000.2GB WDC WD10EARS-00Y5B1
 LBA Mode : Supported Western Digital
 Block Mode: 16Sectors
 PIO Mode : 4
 Async DMA : MultiWord DMA-2
 Ultra DMA : Ultra DMA-5
 SMART Monitoring: Supported

Disabled: Disables LBA Mode.
 Auto: Enables LBA Mode if the device supports it and the device is not already formatted with LBA Mode disabled.

LBA/Large Mode [Auto]
 Block (Multi-Sector Transfer) M [Auto]
 PIO Mode [Auto]
 DMA Mode [Auto]
 SMART Monitoring [Auto]
 32Bit Data Transfer [Enabled]

↔ Select Screen
 ↑↓ Select Item
 +- Change Option
 F1 General Help
 F10 Save and Exit
 ESC Exit

BIOS SETUP UTILITY

Main

Advanced

Power

Boot

Tools

Exit

Boot Settings

- ▶ **Boot Device Priority**
- ▶ **Hard Disk Drives**
- ▶ Boot Settings Configuration
- ▶ Security

Specifies the Boot Device Priority sequence.

A virtual floppy disk drive (Floppy Drive B:) may appear when you set the CD-ROM drive as the first boot device.

↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit

Boot Device Priority

1st	Boot Device	[CDROM:4S-ASUS DRW-]
2nd	Boot Device	[HDD:3M-WDC WD10EAR]
3rd	Boot Device	[Removable Dev.]

Specifies the boot sequence from the available devices.

A device enclosed in parenthesis has been disabled in the corresponding type menu.

↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

BIOS SETUP UTILITY

Boot

Boot Device Priority

1st Boot Device	[CDROM:4S-ASUS DRW-]
2nd Boot Device	[HDD:3M-WDC WD10EAR]
3rd Boot Device	[Removable Dev.]

Specifies the boot sequence from the available devices.

A device enclosed in parenthesis has been disabled in the corresponding type menu.

Options

Removable Dev.
HDD:3M-WDC WD10EARS-00Y5B1
CDROM:4S-ASUS DRW-1814BLT
Disabled

←→ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

BIOS SETUP UTILITY

Main Advanced Power Boot Tools **Exit**

Exit Options

- Exit & Save Changes
- Exit & Discard Changes
- Discard Changes

- Load Setup Defaults

Exit system setup after saving the changes.

F10 key can be used for this operation.

- ↔ Select Screen
- ↑↓ Select Item
- Enter Go to Sub Screen
- F1 General Help
- F10 Save and Exit
- ESC Exit

BIOS SETUP UTILITY

Main Advanced Power Boot Tools **Exit**

Exit Options

Exit & Save Changes
Exit & Discard Changes
Discard Changes

Load Setup Defa

Exit system setup
after saving the
changes.

F10 key can be used
for this operation.

Save configuration changes and exit now?

[Ok]

[Cancel]

Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit

lenovo



Press <F2> for enter Setup. <F12> to enter MultiBoot Menu

phoenix

Phoenix SecureCore Tiano Setup

Information Configuration Security Boot Exit

Product Name Ideapad 2570
BIOS Version 45CN47WW
KBC Version 45EC29WW
Lenovo SN WB05715284
UUID Number 9995A280-77EE-11E1-BD6A-A2FC7EC706C0

CPU Intel(R) Pentium(R) CPU B940 @ 2.00GHz
System Memory 4096 MB
Hard disk ST9500325AS - 500 GB
ODD MATSHITADVD-RA - ATAPI

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

Boot Priority Order

1. USB FDD:
2. ATA HDD: ST9500325AS
3. ATAPI CD: MATSHITADVD-RAM UJ8B1AS
4. USB HDD: UFD 2.0 Silicon-Power4G
5. USB CD:
6. PCI LAN: Realtek PXE B03 D00

Item Specific Help

Use <↑> or <↓> select a device. then press <F6> to move it up the list, or <F5> to move it down the list.

Phoenix SecureCore Tiano Setup

Information

Configuration

Security

Boot

Exit

Boot Priority Order

1. ATAPI CD: MATSHITADVD-RAM UJ8B1AS
2. ATA HDD: ST9500325AS
3. USB FDD:
4. USB HDD: UFD 2.0 Silicon-Power4G
5. USB CD:
6. PCI LAN: Realtek PXE B03 D00

Item Specific Help

Use <↑> or <↓> select a device. then press <F6> to move it up the list, or <F5> to move it down the list.

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

Phoenix SecureCore Tiano Setup

Information

Configuration

Security

Boot

Exit

Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes

Item Specific Help

Equal to F10, save all changes of all menus, then exit setup configure driver. Finally resets the system automatically.

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

Phoenix - AwardBIOS CMOS Setup Utility

▶ **Standard CMOS Features**

▶ Advanced BIOS Features

▶ Integrated Peripherals

▶ Power Management Setup

▶ PnP/PCI Configurations

▶ PC Health Status

▶ Frequency/Voltage Control

Load Defaults

Set Supervisor Password

Set User Password

Save & Exit Setup

Exit Without Saving

Esc : Quit

F10 : Save & Exit Setup

↑ ↓ → ← : Select Item

Time, Date, Hard Disk Type...

CMOS Setup Utility - Copyright (C) 1984-2008 Award Software
Standard CMOS Features

Date (mm:dd:yy) Fri, Nov 28 2008
 Time (hh:mm:ss) 11 : 48 : 17

▶ IDE Channel 0 Master [SAMSUNG SP2504C]
 ▶ IDE Channel 0 Slave [None]
 ▶ IDE Channel 1 Master [None]
 ▶ IDE Channel 1 Slave [None]
 ▶ IDE Channel 2 Master [None]
 ▶ IDE Channel 3 Master [None]
 ▶ IDE Channel 4 Master [Optiarc DVD RW AD-71]
 ▶ IDE Channel 4 Slave [None]

Drive A [1.44M, 3.5"]
 Floppy 3 Mode Support [Disabled]

Halt On [All , But Keyboard]

Base Memory 640K
 Extended Memory 2046M
 Total Memory 2048M

Item Help

Menu Level ▶

Change the day, month, year

<Week>
 Sun. to Sat.

<Month>
 Jan. to Dec.

<Day>
 1 to 31 (or maximum allowed in the month)

<Year>
 2000 to 2099

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
 F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Phoenix - AwardBIOS CMOS Setup Utility

▶ Standard CMOS Features

▶ **Advanced BIOS Features**

▶ Advanced Chipset Features

▶ Integrated Peripherals

▶ Power Management Setup

▶ PNP/PCI/PCI-E Configuration

▶ PC Health Status

▶ POWER BIOS Features

Load Fail-Safe Defaults

Load Optimized Defaults

Set Supervisor Password

Set User Password

Save & Exit Setup

Exit Without Saving

Esc : Quit

F10 : Save & Exit Setup

↑ ↓ → ← : Select Item

Virus Protection, Boot Sequence...

CMOS Setup Utility - Copyright (C) 1984-2011 Award Software
 Advanced BIOS Features

▶ Hard Disk Boot Priority [Press Enter]
 Quick Boot [Disabled]
 EFI CD/DVD Boot Option [Auto]
 First Boot Device [Hard Disk]
 Second Boot Device [CDROM]
 Third Boot Device [USB-FDD]
 Password Check [Setup]
 HDD S.M.A.R.T. Capability [Disabled]
 Limit CPUID Max. to 3 [Disabled]
 No-Execute Memory Protect [Enabled]
 Delay For HDD (Secs) [0]
 Full Screen LOGO Show [Enabled]
 Init Display First [PCI]
 Onboard VGA [Auto]
 On-Chip Frame Buffer Size [64MB+2MB for GTT]

Item Help

Menu Level ▶
 Select Hard Disk Boot Device Priority.

Phoenix - AwardBIOS CMOS Setup Utility

- ▶ Standard CMOS Features
- ▶ Boot Setting Configuration
- ▶ Advanced Chipset Features
- ▶ Integrated Peripherals
- ▶ Power Management Setup
- ▶ PnP/PCI Configurations
- ▶ Hardware Monitor

- ▶ Quantum BIOS
- ▶ Board Information
- Load Optimized Defaults
- Set Supervisor Password
- Set User Password
- Save & Exit Setup**
- Exit Without Saving

Esc : Quit
F10 : Save & Exit Setup

↑ ↓ → ← : Select Item

Save Data to CMOS



American Megatrends

www.ami.com

AMIBIOS (C) 2008 American Megatrends, Inc.
ASUS P5WDG2 WS PRO ACPI BIOS Revision 0905
CPU : Intel(R) Core(TM)2 Duo CPU E8400 @ 3.00GHz
Speed : 3.00 GHz Count : 2

Press DEL to run Setup

Press F8 for BBS POPUP

PC2-4300 Dual Channel Interleaved

Initializing USB Controllers .. Done.

4096MB OK

(C) American Megatrends, Inc.

64-0905-000010-00101111-030600-975X-A0520001-Y2KC

Please select boot device:

HDD:3M-WDC WD10EARS-00Y5B1

HDD:3S-ST3250410AS

HDD:4M-ST3250410AS

CDROM:4S-ASUS DRW-1814BLT

↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

lenovo



Press <F2> for enter Setup. <F12> to enter MultiBoot Menu



Boot Menu **App Menu**

1. ATA HDD: ST9500325AS
2. ATAPI CD: MATSHITADVD-RAM UJ8B1AS
3. USB HDD: UFD 2.0 Silicon-Power4G
4. PCI LAN: Realtek PXE B03 D00

[↑↓]-Move [←→]-Collapse/Expand [Enter]-Select [ESC]-Exit
[Tab]-Switch Menu

Алгоритм смены

загрузочного устройства

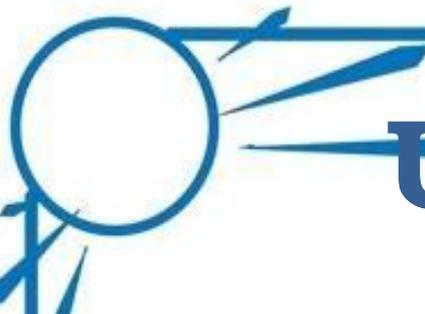
- Войти в интерфейс BIOS по горячей клавише, указанной на заставке материнской платы или экране POST.
- Проверить, есть ли нужное устройство внешней памяти среди подключенных.
- В меню Boot или Advanced BIOS Features выбрать CD-ROM или USB флеш-накопитель.
- Сохранить и выйти (лучше, используя F10).
- *При загрузке с CD/DVD-привода после экрана POST и появления надписи ***Press any key to boot from cd...*** нажать на любую клавишу, инициировав загрузку с оптического диска.



Одноразовая смена загрузочного устройства

- Нажать клавишу, которая указана в фразе,
в которой есть текст:
 - BBS POPUP,
 - Boot Menu,
 - Boot Agent,
 - Multiboot Menu
- и похожие.





UEFI



- UEFI – unified extensible firmware interface (унифицированный расширяемый интерфейс прошивки).
- UEFI призван быть заменой BIOS, повсеместно впервые появился в Windows 8.
- Доступ к интерфейсу аналогичен BIOS.



Boot Configuration

Fast Boot	Enabled
SATA Support	All Devices
USB Support	Partial In...
Network Stack Driver Support	Disabled
Next Boot after AC Power Loss	Normal Boot
Hardware Fast Boot	Disabled
DirectKey	Enabled
<hr/>	
Boot Logo Display	Disabled
POST Report	5 sec
Bootup NumLock State	On
Wait For 'F1' If Error	Enabled
Option ROM Messages	Force BIOS

Select [Enabled] to accelerate the boot speed. Select [Disabled] to go back to normal boot.

Quick Note Last Modified

- ↔: Select Screen
- ↑↓: Select Item
- Enter: Select
- +/-: Change Option
- F1: General Help
- F2: Previous Values
- F3: Shortcut
- F4: Add to Shortcut and My Favorites
- F5: Optimized Defaults
- F10: Save ESC: Exit
- F12: Print Screen

CPU Analog I/O Voltage Offset Mode Sign		+
CPU Analog I/O Voltage Offset		Auto
CPU Digital I/O Voltage Offset Mode Sign		+
CPU Digital I/O Voltage Offset		Auto
SVID Control		Auto
CPU Input Voltage	1.776V	Auto
DRAM Voltage	1.485V	1.50000
PCH Core Voltage	1.059V	Auto
PCH VLX Voltage	1.500V	Auto
VTTDDR Voltage	0.750V	Auto
DRAM CTRL REF Voltage		Auto
DRAM DATA REF Voltage on CHA		Auto
DRAM DATA REF Voltage on CHB		Auto
Clock Crossing VBoot		Auto

The instantaneous voltage value when the rising edge of BCLK DN is equal to the falling edge of BCLK DP. Lower may be better.

Quick Note Last Modified

- ↔: Select Screen
- ↑↓: Select Item
- Enter: Select
- +/-: Change Option
- F1: General Help
- F2: Previous Values
- F3: Shortcut
- F4: Add to Shortcut and My Favorites
- F5: Optimized Defaults
- F10: Save ESC: Exit
- F12: Print Screen

12:58

Wednesday [05/16/2012]

P8Z77-V PRO

BIOS Version : 1015

CPU Type : Intel(R) Core(TM) i7-2600K CPU @ 3.40GHz

Speed : 3416 MHz

Total Memory : 8192 MB (DDR3 1600MHz)

English

Temperature

CPU +95.0°F/+35.0°C



MB +75.2°F/+24.0°C



Voltage

CPU 1.116V 5V 5.040V



3.3V 3.328V 12V 12.096V



Fan Speed

CPU_FAN 1247RPM CPU_OPT_FAN 679RPM



CHA_FAN1 524RPM CHA_FAN2 N/A



System Performance

Quiet



Performance

Energy Saving



Normal



Boot Priority



Use the mouse to drag or keyboard to navigate to decide the boot priority.

Shortcut (F3)

Advanced Mode (F7)

Boot Menu (F8)

Default (F5)

★ My Favorites | ≡ Main | 🛠️ Ai Tweaker | 🖨️ Advanced | 📺 Monitor | 🔌 Boot | 🛠️ Tool

⬅️ Boot\ CSM (Compatibility Support Module) >

Launch CSM

Enabled

Boot Device Control

UEFI and L...

Boot from Network Devices

Legacy OpR...

Boot from Storage Devices

Both, UEFI...

Boot from PCIe/PCI Expansion Devices

Legacy OpR...

CSM (Compatibility Support Module)
[Auto]: The system automatically detects the bootable devices and the add-on devices.
[Enabled]: For better compatibility, enable the CSM to fully support the non-UEFI driver add-on devices, or the Windows UEFI mode.
[Disabled]: Disable the CSM to fully support the Windows Security Update and Security Boot.

Quick Note

Last Modified

↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Shortcut
F4: Add to ShortCut and My Favorites
F5: Optimized Defaults
F10: Save ESC: Exit
F12: Print Screen

