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You can read the recommendations in the user guide, the technical guide or the installation guide for ASROCK P4I945GC. You'll find the answers to all your questions on the ASROCK P4I945GC in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual ASROCK P4I945GC
User guide ASROCK P4I945GC
Operating instructions ASROCK P4I945GC
Instructions for use ASROCK P4I945GC
Instruction manual ASROCK P4I945GC



ASRock

P4i945GC

User Manual

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Manual abstract:

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1 Install Operating System

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*1 Compliance Wake Up Events - Supports jumperfree - AMBIOS 2.3.1 Support - Supports Smart BIOS - Drivers, Utilities, AntiVirus Software (Trial Version)
- Instant Boot - ASRock Instant Flash (see CAUTION 10) - Hybrid Booster: - CPU Frequency Stepless Control (see CAUTION 11) - ASRock U-COP (see CAUTION 12) - Boot Failure Guard (B.F.G.) - CPU Temperature Sensing - Chassis Temperature Sensing - CPU Fan Tachometer - Chassis Fan Tachometer
- Voltage Monitoring: +12V, +5V, +3.3V, Vcore - Microsoft® Windows® 2000 / XP / Vista™ compliant - FCC, CE, WHQL * For detailed product information, please visit our website: <http://www.asrock.com> WARNING Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using the thirdparty overclocking tools. Overclocking may affect your system stability, or even cause damage to the components and devices of your system.*

It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking. 7 CAUTION! 1. 2. 3.

4. If you adopt FSB400-CPU on this motherboard, you need to adjust the jumpers. Please refer to page 15 for proper jumper settings.



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About the setting of "Hyper Threading Technology", please check page 26. This motherboard supports Untied Overclocking Technology. Please read "Untied Overclocking Technology" on page 21 for details. Please check the table below for the CPU FSB frequency and its corresponding memory support frequency. CPU FSB Frequency 800 533 400 5. Memory Support Frequency DDR2 400, DDR2 533, DDR2 667 DDR2 400, DDR2 533 DDR2 400 Due to the chipset limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® XP and Windows® Vista™. The maximum shared memory size is defined by the chipset vendor and is subject to change. Please check Intel® website for the latest information. For microphone input, this motherboard supports both stereo and mono modes. For audio output, this motherboard supports 2-channel, 4-channel, 6-channel, and 8-channel modes. Please check the table on page 10 for 6. 7.

8. proper connection. Before installing SATAII hard disk to SATAII connector, please read the "SATAII Hard Disk Setup Guide" on page 20 to adjust your SATAII hard disk drive to SATAII mode. You can also connect SATA hard disk to SATAII connector 9. directly. Power Management for USB 2.0 works fine under Microsoft® Windows® Vista™ / XP SP1 or SP2 / 2000 SP4. 10. ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®.

With this utility, you can press <F6> key during the POST or press <F2> key to BIOS setup menu to access ASRock Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. 11. Although this motherboard offers stepless control, it is not recommended to perform over-clocking.

Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU. 12. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CP that the power is switched off or the power cord is detached from the power supply.

Failure to do so may cause severe damage to the motherboard, peripherals, and/or components. 11 2.1 CPU Installation Step 1. Step 2. Step 3. Unlock the socket by lifting the lever up to a 90° angle. Position the CPU directly above the socket such that its marked corner matches the base of the socket lever. Carefully insert the CPU into the socket until it fits in place. The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to avoid bending of the pins.

Step 4. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked. CPU Marked Corner Lift Lever Up to 90° Socket Marked Corner STEP 1: Lift The Socket Lever Up to 90° STEP 2/STEP 3: Match

The CPU Marked Corner to The Socket Marked Corner STEP 4: Push Down And Lock The Socket Lever 2.2 Installation of CPU Fan and Heatsink This motherboard adopts 478-pin CPU socket to support Intel® Pentium®4 CPU. It requires larger heatsink and cooling fan to dissipate heat. You also need to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU_FAN connector (CPU_FAN1, see page 9, No. 2).

For proper installation, please kindly refer to the instruction manuals of the CPU fan and the heatsink. 12 2.3 Installation of Memory Modules (DIMM) P4I945GC motherboard provides two 240-pin DDR2 (Double Data Rate 2) DIMM slots. 1. 2.

It is not allowed to install a DDR memory module into DDR2 slot; otherwise, this motherboard and DIMM may be damaged. Please make sure to disconnect power supply before adding or removing DIMMs or the system components. Step 1. Step 2. Unlock a DIMM slot by pressing the retaining clips outward.

Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot. notch break notch break The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation. Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated. 13 2.4 Expansion Slots (PCI and PCI Express Slots) There are 2 PCI slots and 2 PCI Express slots on this motherboard. PCI slots: PCI slots are used to install expansion cards that have the 32-bit PCI interface. PCIE slots: PCIE1 (PCIE x1 slot) is used for PCI Express cards with x1 lane width cards, such as Gigabit LAN card, SATA2 card, etc. PCIE2 (PCIE x16 slot) is used for PCI Express cards with x16 lane width graphics cards.

If you install the add-on PCI Express VGA card to PCIE2 (PCIE x16 slot), the onboard VGA will be disabled. If you install the add-on PCI Express VGA card to PCIE2 (PCIE x16 slot) and adjust the "Internal Graphics Mode Select" BIOS option to [Enabled, 1MB] or [Enabled, 8MB], the onboard VGA will be enabled, and the primary screen will be onboard VGA. Installing an expansion card Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation. Remove the bracket facing the slot that you intend to use. Keep the screws for later use. Align the card connector with the slot and press firmly until the card is completely seated on the slot. Fasten the card to the chassis with screws. Step 2.

Step 3. Step 4. 14 2.5 Jumpers Setup The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "Short".

If no jumper cap is placed on pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when jumper cap is placed on these 2 pins. Jumper Setting PS2_USB_PWR1 1_2_2_3 Description Short pin2, pin3 to enable (see p.9 No. 1) +5VSB (standby) for PS/2 +5V +5VSB or USB wake up events.

Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply. Clear CMOS (CLR_CMOS1, 2-pin jumper) (see p.9 No. 9) 2-pin jumper Note: CLR_CMOS1 allows you to clear the data in CMOS.



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The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short 2 pins on CLRCMOS1 for 5 seconds. FD Jumpers (FD0 3-pin jumper, see p.9 No. 29) (FD2 3-pin jumper, see p.

9 No. 28) 1_2 1_2 Default Note: If you want to adopt FSB400-CPU on this motherboard, you need to adjust the jumpers. Please short pin2, pin3 for FD0 jumper and pin2, pin3 for FD2 jumper. Otherwise, the CPU may not work properly on this motherboard. Please refer to below jumper settings. 2_3 2_3 15

2.6 Onboard Headers and Connectors Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard! FDD connector (33-pin FLOPPY1) (see p.9 No. 21) Pin1 FLOPPY1 the red-striped side to Pin1 Note: Make sure the red-striped side of the cable is plugged into Pin1 side of the connector. Primary IDE connector (Blue) (39-pin IDE1, see p.9 No. 8) Secondary IDE connector (Black) (39-pin IDE2, see p.9 No.

7) PIN1 IDE1 PIN1 IDE2 connect the black end to the IDE devices connect the blue end to the motherboard 80-conductor ATA cable Note: If you use only one IDE device on this motherboard, please set the IDE device as "Master". Please refer to the instruction of your IDE device vendor for the details. Besides, to optimize compatibility and performance, please connect your hard disk drive to the primary IDE connector (IDE1, blue) and CD-ROM to the secondary IDE connector (IDE2, black). Serial ATAII Connectors (SATAII_1: see p.9, No.

14) (SATAII_2: see p.9, No. 13) (SATAII_3: see p.9, No. 11) (SATAII_4: see p.9, No. 12) SATAII_1 Serial ATA (SATA) Data Cable (Optional) SATAII_2 These Serial ATAII (SATAII) connectors support SATAII or SATA hard disk for internal storage devices. The current SATAII interface allows up to 3.0 Gb/s data transfer rate. Either end of the SATA data cable can be connected to the SATA / SATAII hard disk or the SATAII connector on the motherboard.

SATAII_3 16 SATAII_4 Serial ATA (SATA) Power Cable (Optional) connect to the SATA HDD power connector connect to the power supply Please connect the black end of SATA power cable to the power connector on each drive. Then connect the white end of SATA power cable to the power connector of the power supply. Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports. USB 2.0 Headers (9-pin USB6_7) (see p.

9 No. 17) 1 USB_PWR P-7 P+7 GND DUMMY GND P+6 P-6 USB_PWR (9-pin USB4_5) (see p.9 No. 18) USB_PWR P-5 P+5 GND DUMMY 1 GND P+4 P-4 USB_PWR Internal Audio Connector (4-pin CD1) (CD1: see p.9 No.

24) CD-L GND GND CD-R CD1 This connector allows you to receive stereo audio input from sound sources such as a CD-ROM, DVD-ROM, TV tuner card, or MPEG card. This is an interface for front panel audio cable that allows convenient connection and control of audio devices. Front Panel Audio Header (9-pin HD_AUDIO1) (see p.9 No. 22) 1 GND PRESENCE# MIC_RET OUT_RET OUT2_L J_SENSE OUT2_R MIC2_R MIC2_L 1.

High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system. 2. If you use AC'97 audio panel, please install it to the front panel audio header as below: A. Connect Mic_IN (MIC) to MIC2_L. B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L. C. Connect Ground (GND) to Ground (GND). D.

MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel. E. Enter BIOS Setup Utility. Enter Advanced Settings, and then select Chipset Configuration. Set the Front Panel Control option from [Auto] to [Enabled]. 17 F. Enter Windows system. Click the icon on the lower right hand taskbar to enter Realtek HD Audio Manager. For Windows® 2000 / XP OS: Click "Audio I/O", select "Connector Settings", choose "Disable front panel jack detection", and save the change by clicking "OK".

For Windows® Vista™ OS: Click the right-top "Folder" icon, choose "Disable front panel jack detection", and save the change by clicking "OK". G. To activate the front mic. For Windows® 2000 / XP OS: Please select "Front Mic" as default record device. If you want to hear your voice through front mic, please deselect "Mute" icon in "Front Mic" of "Playback" portion.

For Windows® Vista™ OS: Go to the "Front Mic" Tab in the Realtek Control panel.

@@@This section will guide you to install the SATA / SATAII hard disks. @@STEP 2: Connect the SATA power cable to the SATA / SATAII hard disk. STEP 3: Connect one end of the SATA data cable to the motherboard's SATAII connector. STEP 4: Connect the other end of the SATA data cable to the SATA / SATAII hard disk.

2.9 Driver Installation Guide To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from up to bottom side to install those required drivers. Therefore, the drivers you install can work properly. 2.10 Untied Overclocking Technology This motherboard supports Untied Overclocking Technology, which means during overclocking, FSB enjoys better margin due to fixed PCI / PCIE buses. Before you enable Untied Overclocking function, please enter "Overclock Mode" option of BIOS setup to set the selection from [Auto] to [CPU, PCIE, Async.]. Therefore, CPU FSB is untied during overclocking, but PCI / PCIE buses are in the fixed mode so that FSB can operate under a more stable overclocking environment.

Please refer to the warning on page 7 for the possible overclocking risk before you apply Untied Overclocking Technology. 21 Chapter 3 BIOS SETUP UTILITY 3.1 Introduction This section explains how to use the BIOS SETUP UTILITY to configure your system. The BIOS FWH chip on the motherboard stores the BIOS SETUP UTILITY. You may run the BIOS SETUP UTILITY when you start up the computer. Please press <F2> during the Power-On-Self-Test (POST) to enter the BIOS SETUP UTILITY, otherwise, POST will continue with its test routines. If you wish to enter the BIOS SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.



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Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen. 3.

1.1 BIOS Menu Bar The top of the Main Smart Advanced PCIPnP Boot screen has a menu bar with the following selections: To set up the system time/date information To load the BIOS according to your requirements To set up the advanced BIOS features To set up the PCI features To set up the default system device to locate and load the Operating System Security To set up the security features Chipset To set up the chipset features Exit To exit the current screen or the BIOS SETUP UTILITY Use < > key or < > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. 22

3.1.2 Navigation Keys Please check the following table for the function description of each navigation key.

Navigation Key(s) // +/<Enter> <F1> <F9> <F10> <ESC> Function Description Moves cursor left or right to select Screens Moves cursor up or down to select items To change option for the selected items To bring up the selected screen To display the General Help Screen To load optimal default values for all the settings To save changes and exit the BIOS SETUP UTILITY To jump to the Exit Screen or exit the current screen 3.2 Main Screen When you enter the BIOS SETUP UTILITY, the Main screen will appear and display the system overview BIOS SETUP UTILITY Advanced H/W Monitor Boot Main Smart Security Exit System Overview System Time System Date BIOS Version Processor Type Processor Speed Microcode Update Cache Size Total Memory DDRIII DDRII2 : : : : [14:00:09] [Wed 06/10/2009] P4i945GC P1.00 Intel (R) Celeron (R) CPU 2.60GHz 2600MHz F29/2E 128KB Use [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system Time.

: 512MB with 8MB shared memory Single-Channel Memory Mode : 512MB/200MHz (DDRII400) : None +Tab F1 F9 F10 ESC Select Screen Select Item Change Field Select Field General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. System Time [Hour:Minute:Second] Use this item to specify the system time. System Date [Day Month/Date/Year] Use this item to specify the system date. 23 3.3 Smart Screen In the Smart screen, you can load the BIOS setup according to your requirements. BIOS SETUP UTILITY H/W Monitor Boot Main Smart Advanced Security Exit Smart Settings Save Changes and Exit Load BIOS Defaults Load Performance Setup Default (IDE/SATA) BIOS Update Utility ASRock Instant Flash Exit system setup after saving the changes. F10 key can be used for this operation. Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc.

Save Changes and Exit When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the BIOS SETUP UTILITY. Load BIOS Defaults Load BIOS default values for all the setup questions. F9 key can be used for this operation. Load Performance Setup Default (IDE/SATA) This performance setup default may not be compatible with all system configurations. If system boot failure occurs after loading, please resume optimal default settings. F5 key can be used for this operation. ASRock Instant Flash ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/ 12 file system.

If you execute ASRock Instant Flash utility, the utility will show the BIOS files and their respective information. Select the proper BIOS file to update your BIOS, and reboot your system after BIOS update process completes. 24 3.4 Advanced Screen In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, ACPI Configuration, IDE Configuration, PCIPnP Configuration, Floppy Configuration, SuperIO Configuration, and USB Configuration. BIOS SETUP UTILITY H/W Monitor Boot Main Smart Advanced Security Exit Options for CPU Advanced Settings WARNING : Setting wrong values in below sections may cause system to malfunction.

CPU Configuration Chipset Configuration ACPI Configuration IDE Configuration PCIPnP Configuration Floppy Configuration SuperIO Configuration USB Configuration Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. Setting wrong values in this section may cause the system to malfunction. 3.4.

1 CPU Configuration BIOS SETUP UTILITY Advanced CPU Configuration Overclock Mode CPU Frequency (MHz) PCIE Frequency (MHz) Boot Failure Guard Spread Spectrum Ratio Status Ratio Actual Value Ratio CMOS Setting [Auto] [100] [100] [Enabled] [Auto] Select the over clock mode. Unlocked (Min:16, Max:26) 26 [26] [Disabled] [Enabled] [Auto] +F1 F9 F10 ESC Max CPUID Value Limit CPU Thermal Throttling On-Demand Clock Mudulation Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. Overclock Mode Use this to select Overclock Mode. The default value is [Auto]. Cnfiguration options: [Auto], [CPU, PCIE, Sync.], [CPU, PCIE, Async.] and [Optimized]. CPU Frequency (MHz) Use this option to adjust CPU frequency. PCIE Frequency (MHz) Use this option to adjust PCIE frequency.

25 Boot Failure Guard Enable or disable the feature of Boot Failure Guard. Spread Spectrum This item should always be [Auto] for better system stability. Ratio Status This is a read-only item, which displays whether the ratio status of this motherboard is "Locked" or "Unlocked". If it shows "Unlocked", you will find an item Ratio CMOS Setting appears to allow you changing the ratio value of this motherboard. Ratio Actual Value This is a read-only item, which displays the ratio actual value of this motherboard. Ratio CMOS Setting If the ratio status is unlocked, you will find this item appear to allow you changing the ratio value of this motherboard. Max CPUID Value Limit For Prescott CPU only, some OSes (ex. NT4.0) cannot handle the function with disable. This should be enabled in order to boot legacy OSes that cannot support CPUs with extended CPUID functions.

CPU Thermal Throttling You may select [Enabled] to enable P4 CPU internal thermal control mechanism to keep the CPU from overheated.



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PCI Devices Power On Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode.

PS/2 Keyboard Power On Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode. RTC Alarm Power On Use this item to enable or disable RTC (Real Time Clock) to power on the system. 30 ACPI HPET Table Use this item to enable or disable ACPI HPET Table. The default value is [Disabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® Vista™ certification.

3.4.4 IDE Configuration BIOS SETUP UTILITY Advanced IDE Configuration SATAII/IDE1 Configuration OnBoard IDE2 Controller SATAII 1 SATAII 2 SATAII 3 SATAII 4 IDE1 Master IDE1 Slave IDE2 Master IDE2 Slave [Enhanced] [Enabled] [Hard Disk] [Not Detected] [Not Detected] [Not Detected] [ATAPI CDROM] [Not Detected] [Not Detected] [Not Detected] Set [Compatible] when Legacy OS (MS-DOS, Win NT) device is used. Set [Enhanced] when Native OS (Win2000 / XP) is used. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. SATAII/IDE1 Configuration Please select [Compatible] when you install legacy OS (Windows® NT). If native OS (Windows® 2000 / XP) is installed, please select [Enhanced]. When [Compatible] is selected Combined Option It allows you to select between [SATA 1, SATA 2, SATA 3, SATA 4], [SATA 1, SATA 3, IDE 1], and [IDE 1, SATA 2, SATA 4]. If it is set to [SATA 1, SATA 3, IDE 1], then SATAII_2, SATAII_4 will not work.

Likewise, if it is set to [IDE 1, SATA 2, SATA 4], then SATAII_1, SATAII_3 will not work. Because Intel® ICH7 south bridge only supports four IDE devices under legacy OS (Windows® NT), you have to choose [SATA 1, SATA 2, SATA 3, SATA 4], [SATA 1, SATA 3, IDE 1], or [IDE 1, SATA 2, SATA 4] when the installed device is used with legacy OS. [SATA 1, SATA 2, SATA 3, SATA 4] Master Slave SATAII 1, SATAII 2 SATAII 3, SATAII 4 [SATA 1, SATA 3, IDE 1] SATAII 1 SATAII 3 [IDE 1, SATA 2, SATA 4] SATAII 2 SATAII 4 OnBoard IDE2 Controller Use this item to enable or disable onboard IDE2 controller. 31 IDE Device Configuration You may set the IDE configuration for the device that you specify. We will use the "IDE1 Master" as the example in the following instruction, which can be applied to the configurations of "IDE1 Slave", "IDE2 Master", "IDE2 Slave", "SATAII 1", "SATAII 2", "SATAII 3" and "SATAII 4" as well. BIOS SETUP UTILITY Advanced Primary IDE Master Device Vendor Size LBA Mode Block Mode PIO Mode Async DMA Ultra DMA S.M.A.R.T.

Type LBA/Large Mode Block (Multi-Sector Transfer) PIO Mode DMA Mode S.M.A.R.T.

32Bit Data Transfer :Hard Disk :ST340014A :40.0 GB :Supported :16Sectors :4 :MultiWord DMA-2 :Ultra DMA-5 :Supported [Auto] [Auto] [Auto] [Auto] [Auto] [Disabled] [Enabled] Select the type of device connected to the system. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. TYPE Use this item to configure the type of the IDE device that you specify.

Configuration options: [Not Installed], [Auto], [CD/DVD], and [ARMD]. [Not Installed]: Select [Not Installed] to disable the use of IDE device. [Auto]: Select [Auto] to automatically detect the hard disk drive. After selecting the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format the new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active. [CD/DVD]: This is used for IDE CD/DVD drives. [ARMD]: This is used for IDE ARMD (ATAPI Removable Media Device), such as MO. LBA/Large Mode Use this item to select the LBA/Large mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Disabled] to disable the LBA/Large mode. Block (Multi-Sector Transfer) The default value of this item is [Auto].

If this feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer. 32 PIO Mode Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing. DMA Mode DMA capability allows the improved transfer-speed and data-integrity for compatible IDE devices. S.M.A.R.T. Use this item to enable or disable the S.M.

A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled], [Auto], [Enabled].

32-Bit Data Transfer Use this item to enable 32-bit access to maximize the IDE hard disk data transfer rate. 3.4.5 PCIPnP Configuration BIOS SETUP UTILITY Advanced Advanced PCI / PnP Settings PCI Latency Timer PCI IDE BusMaster [32] [Enabled] Value in units of PCI clocks for PCI device latency timer register. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.

54 (C) Copyright 1985-2005, American Megatrends, Inc. PCI Latency Timer The default value is 32. It is recommended to keep the default value unless the installed PCI expansion cards' specifications require other settings. PCI IDE BusMaster Use this item to enable or disable the PCI IDE BusMaster feature. 33

3.4.6 Floppy Configuration In this section, you may configure the type of your floppy drive. BIOS SETUP UTILITY Advanced Floppy Configuration Floppy A [1.44 MB 31 2"] Select the type of floppy drive connected to the system. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.

54 (C) Copyright 1985-2005, American Megatrends, Inc. 3.4.7 Super IO Configuration BIOS SETUP UTILITY Advanced Configure Super IO Chipset OnBoard Floppy Controller Serial Port Address Parallel Port Address Parallel Port Mode EPP Version ECP Mode DMA Channel Parallel Port IRQ [Enabled] [3F8 / IRQ4] [378] [ECP + EPP] [1.9] [DMA3] [IRQ7] Allow BIOS to Enable or Disable Floppy Controller. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. OnBoard Floppy Controller Use this item to enable or disable floppy drive controller. Serial Port Address Use this item to set the address for the onboard serial port or disable it. Configuration options: [Disabled], [3F8 / IRQ4], [2F8 / IRQ3], [3E8 / IRQ4], [2E8 / IRQ3].

Parallel Port Address Use this item to set the address for the onboard parallel port or disable it. Configuration options: [Disabled], [378], and [278]. 34 Parallel Port Mode Use this item to set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, "EPP Version".

Configuration options: [Normal], [Bi-Directional], and [ECP+EPP].



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EPP Version Use this item to set the EPP version. Configuration options: [1.9] and [1.7].

ECP Mode DMA Channel Use this item to set the ECP mode DMA channel. Configuration options: [DMA0], [DMA1], and [DMA3]. Parallel Port IRQ Use this item to set the IRQ for the parallel port. Configuration options: [IRQ5] and [IRQ7]. 3.4.8 USB Configuration BIOS SETUP UTILITY Advanced USB Configuration USB Controller USB 2.0 Support Legacy USB Support [Enabled] [Enabled] [Enabled] To enable or disable the onboard USB controllers. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc.

USB Controller Use this item to enable or disable the use of USB controller. USB 2.0 Support Use this item to enable or disable the USB 2.0 support. Legacy USB Support Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [BIOS Setup Only]. The default value is [Enabled]. @@@@ Enabled: Displays OEM Logo instead of POST messages. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc.

Full Screen Logo Use this item to enable or disable OEM Logo. The default value is [Enabled]. AddOn ROM Display Use this option to adjust AddOn ROM Display. If you enable the option "Full Screen Logo" but you want to see the AddOn ROM information when the system boots, please select [Enabled]. Configuration options: [Enabled] and [Disabled].

The default value is [Enabled]. Boot From Onboard LAN Use this item to enable or disable the Boot From Onboard LAN feature. Boot Up Num-Lock If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up. 37 3.7 Security Screen In this section, you may set or change the supervisor/user password for the system.

For the user password, you may also clear it. BIOS SETUP UTILITY Advanced H/W Monitor Boot Main Smart Security Exit Security Settings Supervisor Password : Not Installed User Password : Not Installed Change Supervisor Password Change User Password Install or Change the password. Enter F1 F9 F10 ESC Select Screen Select Item Change General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. 38 3.8 Exit Screen Main Smart BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Exit Options Save Changes and Exit Discard Changes and Exit Discard Changes Would you like to save current setting user defaults ? Save 1st User Defaults Load 1st User Defaults Save 2nd User Defaults Load 2nd User Defaults Save 3rd User Defaults Load 3rd User Defaults Exit system setup after saving the changes. F10 key can be used for this operation. Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. Save Changes and Exit When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the BIOS SETUP UTILITY.

Discard Changes and Exit When you select this option, it will pop-out the following message, "Discard changes and exit setup?" Select [OK] to exit the BIOS SETUP UTILITY without saving any changes. Discard Changes When you select this option, it will pop-out the following message, "Discard changes?" Select [OK] to discard all changes. Would you like to save current setting user defaults? In this option, you are allowed to load and save three user defaults according to your own requirements. 39 Software Support Chapter 4 Software Support 4 . 1 Install Operating System This motherboard supports various Microsoft® Windows® operating systems: 2000 / XP / Vista™. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information. 4 . 2 Support CD Information The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard features. 4 .

2 . 1 Running The Support CD To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASSETUP.EXE" from the BIN folder in the Support CD to display the menus.

4 . 2 . 2 Drivers Menu The Drivers Menu shows the available devices drivers if the system detects installed devices. Please install the necessary drivers to activate the devices. 4 .

2 . 3 Utilities Menu The Utilities Menu shows the applications software that the motherboard supports. Click on a specific item then follow the installation wizard to install it. 4.2.4 Contact Information If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock's website at <http://www.asrock.com>; or you may contact your dealer for further information. 40 .



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