



Asus AM1M-E Manual

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Summary of Contents for Asus AM1M-E

[Page 1](#) AM1M-E...

[Page 2](#) Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

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Processing Unit (APU)1-4 System memory 1-8 Expansion slots

[Page 4: Safety Information](#)

Safety information Electrical safety • To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system. • When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

[Page 5](#) Refer to the following sources for additional information and for product and software updates. ASUS websites The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information. Optional documentation Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer.

[Page 6: Package Contents](#)

DDR3 1600/1333 MHz memory modules Single-channel memory architecture • Hyper DIMM support is subject to the physical characteristics of individual APUs. • The maximum 32GB memory capacity can be supported with 16GB or above DIMMs. ASUS will update the memory QVL once the DIMMs are available in the market. • Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List). • When you install a total memory of 4GB capacity or more, Windows 32-bit ®...

[Page 7](#) - ASUS AI Charger - ASUS Anti Surge - ASUS USB 3.0 Boost - ASUS Disk Unlocker - ASUS UEFI BIOS EZ Mode featuring friendly graphics user interface ASUS Quiet Thermal Solution - ASUS Fan Xpert ASUS EZ DIY - ASUS CrashFree BIOS 3...

[Page 8](#) 64 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI 2.0, WfM 2.0, SM BIOS features BIOS 2.7, ACPI 2.0a, Multi-language BIOS, ASUS EZ Flash 2, ASUS CrashFree BIOS 3, My Favorites, Quick Note, Last Modified log, F12 Printscreen function, F3 Shortcut function and ASUS DRAM SPD (Serial...

[Page 9: Chapter 1: Product Introduction](#)

- Unplug the power cord from the wall socket before touching any component.
- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the ATX power supply 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, or components. ASUS AM1M-E...

[Page 10: Motherboard Overview](#)

1.2.2 Screw holes Place six screws into the holes indicated by circles to secure the motherboard to the chassis. Do not overtighten the screws! Doing so can damage the motherboard. Place this side towards the rear of the chassis AM1M-E Chapter 1: Product introduction...

[Page 11](#) 1.2.3 Motherboard layout 17.0cm(6.7in) CPU_FAN KBMS_USB34 DIGI +VRM ATX12V HDMI USB3_12 8111GR LAN_USB12 64Mb BIOS_CHA_FAN AUDIO PCIEX16 AM1M-E PCIEX1_1 Super BATTERY PCIEX1_2 SPDIF_OUT SPEAKER USB56 USB78 F_PANEL AAFP 14 13 ASUS AM1M-E...

[Page 12: Accelerated Processing Unit \(Apu\)](#)

System panel connector (10-1 pin F_PANEL) 1-18 1-15 TPM connector (20-1 pin TPM) 10. USB 2.0 connectors (10-1 pin USB56, USB78) 1-20 11. Serial port connector (10-1 pin COM) 1-17 12. LPT connector (26-1 pin LPT) 1-20 13. Digital audio connector (4-1 pin SPDIF_OUT) 1-19 14. Front panel audio connector (10-1 pin AAFP) 1-19 Accelerated Processing Unit (APU) This motherboard comes with an AM1 socket designed for AMD Sempron™ and Athlon™ ® Series processors. Ensure that you use an APU designed for the AM1 socket. The APU fits in only one correct orientation. DO NOT force the APU into the socket to prevent bending the pins and damaging the APU! AM1M-E AM1M-E CPU socket AM1 Chapter 1: Product introduction...

[Page 13](#) 1.3.1 APU installation ASUS AM1M-E...

[Page 14](#) 1.3.2 APU heatsink and fan assembly installation Apply the Thermal Interface Material to the APU heatsink and APU before you install the heatsink and fan if necessary. To install the APU heatsink and fan assembly Chapter 1: Product introduction...

[Page 15](#) To uninstall the APU heatsink and fan assembly ASUS AM1M-E...

[Page 16: System Memory](#)

System memory 1.4.1 Overview This motherboard comes with two Double Data Rate 3 (DDR3) Single Inline Memory Modules (DIMM) sockets. A DDR3 module has the same physical dimensions as a DDR2 DIMM but is notched differently to prevent installation on a DDR2 DIMM socket. DDR3 modules are developed for better performance with less power consumption. The figure illustrates the location of the DDR3 DIMM sockets: Channel Sockets Channel A DIMM_A1 and DIMM_A2 AM1M-E AM1M-E 240-pin DDR3 DIMM sockets When using only one memory module, install it into slot DIMM_A2. 1.4.2 Memory configurations You may install 1GB, 2GB, 4GB, and 8GB unbuffered non-ECC DDR3 DIMMs into the DIMM sockets. • Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules. • Due to the memory address limitation on 32-bit Windows OS, when you install 4GB ® or more memory on the motherboard, the actual usable memory for the OS can be about 3GB or less. For effective use of memory, we recommend that you do any of the...

[Page 17](#) • The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value. To operate at the vendor-marked or at a higher frequency, refer to section 2.5 Ai Tweaker menu for manual memory frequency adjustment. • For system stability, use a more efficient memory cooling system to support a full memory load (2 DIMMs) or overclocking condition. • Visit the ASUS website at: www.asus.com for the latest QVL. 1.4.3 Installing a DIMM ASUS AM1M-E...

[Page 18: Expansion Slots](#)

To remove a DIMM Expansion slots In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support. Unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components. 1.5.1 Installing an expansion card To install an expansion card: Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card. Remove the system unit cover (if your motherboard is already installed in a chassis).

[Page 19](#) - SATA controller - - - shared - - - - OnChip XHCI controller - - shared - - - - - OnChip USB EHCI 1/2/3 - shared - - - - - OnChip USB OHCI - - - - shared - - - - ASUS AM1M-E 1-11...

[Page 20: Jumpers](#)

This header allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords. CLRRTC AM1M-E PIN 1 AM1M-E Clear RTC RAM To erase the RTC RAM: Turn OFF the computer and unplug the power cord. Use a metal object such as a screwdriver to short the two pins. Plug the power cord and turn ON the computer. Hold down the key during the boot process and enter BIOS setup to re- enter data. •...

[Page 21: Connectors](#)

1Gbps connection (Blinking) LAN port Orange Ready to (Blinking then wake up from steady) S5 mode Line In port (light blue). This port connects to the tape, CD, DVD player, or other audio sources. Line Out port (lime). This port connects to a headphone or a speaker. In the 4.1, 5.1, and 7.1-channel configurations, the function of this port becomes Front Speaker Out. Microphone port (pink). This port connects to a microphone. Refer to the audio configuration table on the next page for the function of the audio ports in 2.1, 4.1, 5.1, or 7.1-channel configuration. ASUS AM1M-E 1-13...

[Page 22](#) Audio 2.1, 4.1, 5.1, or .1-channel configuration Headset Port 4.1-channel 5.1-channel 7.1-channel 2.1-channel Light Blue (Rear Rear Speaker Rear Speaker Line In Rear Speaker Out panel) Front Speaker Front Speaker Front Speaker Lime (Rear panel) Line Out Pink (Rear panel) Mic In Mic In Bass/Center Bass/Center Lime (Front panel) — — — Side Speaker Out To configure a 7.1-channel audio output: Use a chassis with HD audio module in the front panel to support a 7.1-channel audio output.

[Page 23](#) CPU and chassis fan connectors (4-pin CPU_FAN, and 4-pin CHA_FAN) Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector. CPU_FAN CHA_FAN AM1M-E AM1M-E Fan connectors DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors. • The CPU_FAN connector supports a CPU fan of maximum 2A (24W) fan power.

[Page 24](#) +5 Volts Power OK -5 Volts +5 Volts PSON# +5 Volts AM1M-E +3 Volts -12 Volts +3 Volts +3 Volts PIN 1 AM1M-E ATX power connectors • We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 300W power rating. This PSU type has 24-pin and 4-pin power plugs. • If you intend to use a PSU with 20-pin and 4-pin power plugs, ensure that the 20-pin power plug can provide at least 15 A on +12 V and that the PSU has a minimum power rating of 300W. The system may become unstable or may not boot up if the power is inadequate. • DO NOT forget to connect the 4-pin ATX +12V power plug. Otherwise, the system will not boot up.

[Page 25](#) Serial ATA 6.0 Gb/s connectors (7-pin SATA6G 1~2) These connectors are for the Serial ATA 6.0 Gb/s signal cables for Serial ATA hard disk drives and optical disc drives. AM1M-E AM1M-E SATA 6.0Gb/s connectors • You must install Windows XP Service Pack 3 or later version before using Serial ATA ® hard disk drives. • When using hot-plug and NCQ, set the type of the SATA connectors in the BIOS to [AHCI]. Serial port connector (10-1 pin COM) This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis. PIN 1 AM1M-E AM1M-E Serial port connectors The COM module is purchased separately. ASUS AM1M-E...

[Page 26](#) System panel connector (10-1 pin PANEL) This connector supports several chassis-mounted functions. F_PANEL +PWR_LED- PWR_BTN PIN 1 AM1M-E +HDD_LED- RESET AM1M-E System panel connector • System power LED (2-pin PWR_LED) This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode. • Hard disk drive activity LED (2-pin HDD_LED) This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD. • ATX power button/soft-off button (2-pin PWR_BTN) This 2-pin connector is for the system power button.

[Page 27](#) Front panel audio connector (10-1 pin AAFP) This connector is for a chassis-mounted front panel audio I/O module that supports either High Definition Audio or AC'97 audio standard. Connect one end of the front panel audio I/O module cable to this connector. AAFP PIN 1 PIN 1 AM1M-E HD-audio-compliant Legacy AC'97 pin definition compliant definition AM1M-E Front panel audio connector • We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard high-definition audio capability. • If you want to connect a high definition front panel audio module to this connector, set the Front Panel Type item in the BIOS to [HD]. • The front panel audio I/O module is purchased separately. ASUS AM1M-E 1-19...

[Page 28](#) USB 2.0 connectors (10-1 pin USB56, USB78) These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480Mbps connection speed. USB56 USB78 PIN 1 PIN 1 AM1M-E AM1M-E USB2.0 connectors Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard! The USB 2.0 module is purchased separately. LPT connector (26-1 pin LPT) The LPT (Line Printing Terminal) connector supports devices such as a printer. LPT standardizes as IEEE 1284, which is the parallel port interface on IBM PC-compatible computers. PIN 1 AM1M-E AM1M-E Parallel port connector 1-20 Chapter 1: Product introduction...

[Page 29: Software Support](#)

® Windows 8.1 before installing the drivers for better compatibility and system stability. ® 1.8.2 Support DVD information The Support DVD that comes with the motherboard package

contains the drivers, software applications, and utilities that you can install to avail all motherboard features. The contents of the Support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates. To run the Support DVD Place the Support DVD into the optical drive. If Autorun is enabled in your computer, the DVD automatically displays the Specials screen. Click Drivers, Utilities, Make Disk, Manual, and Contact tabs to display their respective menus. The following screen is for reference only. Click an icon to display Support DVD/motherboard information Click an item to install If Autorun is NOT enabled on your computer, browse the contents of the Support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run...

[Page 30: Chapter 2: Bios Information](#)

Managing and updating your BIOS Save a copy of the original motherboard BIOS file to a USB flash disk in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the ASUS Update utility.

[Page 31](#) 2.1.2 ASUS EZ Flash 2 The ASUS EZ Flash 2 feature allows you to update the BIOS without using an OS-based utility. Before you start using this utility, download the latest BIOS file from the ASUS website at www.asus.com. To update the BIOS using EZ Flash 2: Insert the USB flash disk that contains the latest BIOS file to the USB port.

[Page 32](#) 2.1.3 ASUS CrashFree BIOS 3 utility The ASUS CrashFree BIOS 3 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a USB flash drive that contains the updated BIOS file.

[Page 33](#) ENTER to select boot device ESC to boot using defaults P2: ST3808110AS (76319MB) aigo miniking (250MB) UEFI: (FAT) ASUS DRW-2014L1T(4458MB) P1: ASUS DRW-2014L1T(4458MB) UEFI: (FAT) aigo miniking (250MB) Enter Setup When the booting message appears, press <Enter> within five (5) seconds to enter FreeDOS prompt.

[Page 34](#) DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure. Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit BIOS menu. See section 2.10 Exit Menu for details. ASUS AM1M-E...

[Page 35: Bios Setup Program](#)

BIOS setup program Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program. Entering BIOS Setup at startup To enter BIOS Setup at startup:
•...

[Page 36](#) • The boot device options vary depending on the devices you installed to the system. • The Boot Menu(F8) button is available only when the boot device is installed to the system. ASUS AM1M-E...

[Page 37](#) BIOS settings. The figure below shows an example of the Advanced Mode. Refer to the following sections for the detailed configurations. To access the EZ Mode, click Exit, then select ASUS EZ Mode or press F7. Menu items General help...

[Page 38](#) The Quick Note function does not support the following keyboard functions: delete, cut, copy and paste. • You can only use the English letters to type your notes. Last Modified button This button shows the items that you last modified and saved in BIOS Setup. ASUS AM1M-E...

[Page 39: My Favorites](#)

My Favorites MyFavorites is your personal space where you can easily save and access your favorite BIOS items. Main menu The Main menu screen appears when you enter the Advanced Mode of the BIOS Setup program. The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.

[Page 40: Ai Tweaker Menu](#)

Be cautious when changing the settings of the Ai Tweaker menu items. Incorrect field values can cause the system to malfunction. The configuration options for this section vary depending

on the CPU and DIMM model you installed on the motherboard. Scroll down to display the other items. 2-11 ASUS AM1M-E...

[Page 41: Advanced Menu](#)

Advanced menu The Advanced menu items allow you to change the settings for the CPU and other system devices. Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction. Chapter 2: BIOS information 2-12...

[Page 42: Monitor Menu](#)

Monitor menu The Monitor menu displays the system temperature/power status, and allows you to change the fan settings. Scroll down to display the other items. 2-13 ASUS AM1M-E...

[Page 43: Boot Menu](#)

Boot menu The Boot menu items allow you to change the system boot options. Scroll down to display the other items. Chapter 2: BIOS information 2-14...

[Page 44: Tool Menu](#)

Exit menu The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items. You can access the EZ Mode from the Exit menu. 2-15 ASUS AM1M-E...

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[Page 46](#) ASUS Recycling/Takeback Services ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials.

[Page 47: Asus Contact Information](#)

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