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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see
www.dtsc.ca.gov/hazardouswaste/perchlorate"

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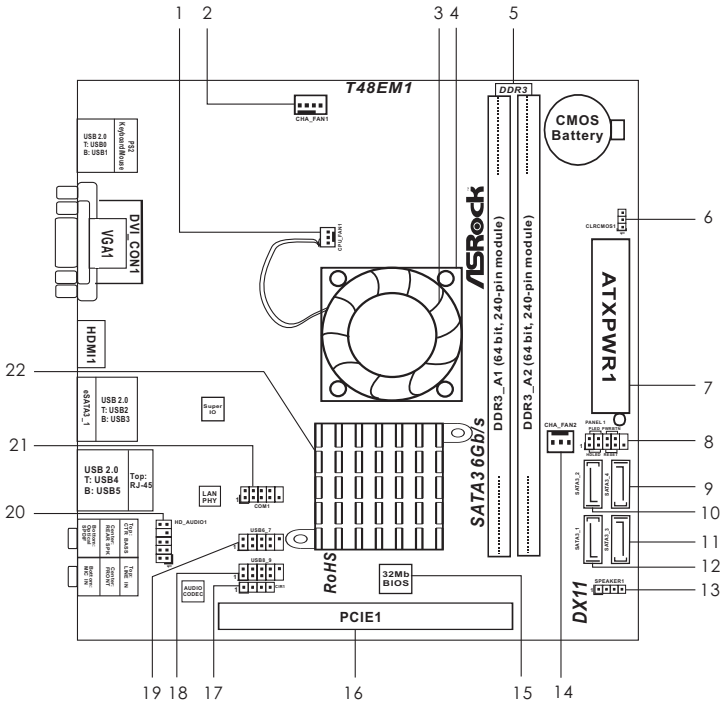
HIGH-DEFINITION MULTIMEDIA INTERFACE

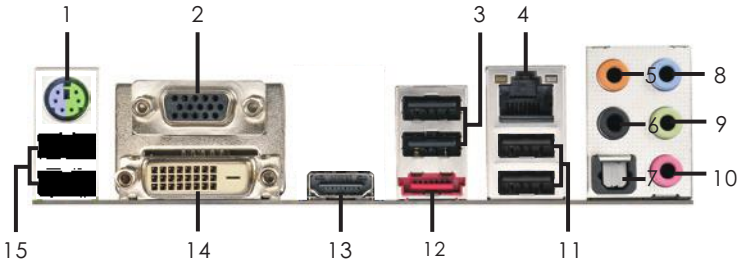
Motherboard Layout



1	CPU Fan Connector (CPU_FAN1)	12	SATA3 Connector (SATA3_1)
2	Chassis Fan Connector (CHA_FAN1)	13	Chassis Speaker Header (SPEAKER 1)
3	CPU Fan	14	Chassis Fan Connector (CHA_FAN2)
4	CPU Heatsink	15	32Mb SPI Flash
5	2 x 240-pin DDR3 DIMM Slots (DDR3_A1, DDR3_A2)	16	PCI Express 2.0 x16 Slot (PCIE1)
6	Clear CMOS Jumper (CLRCMOS1)	17	Consumer Infrared Module Header (CIR1)
7	ATX Power Connector (ATXPWR1)	18	USB 2.0 Header (USB8_9)
8	System Panel Header (PANEL1)	19	USB 2.0 Header (USB6_7)
9	SATA3 Connector (SATA3_4)	20	Front Panel Audio Header (HD_AUDIO1)
10	SATA3 Connector (SATA3_2)	21	COM Port Header (COM1)
11	SATA3 Connector (SATA3_3)	22	AMD A50M Chipset

English

I/O Panel



1	PS/2 Keyboard/Mouse Port (Purple/Green)	9	Front Speaker (Lime)**
2	D-Sub Port	10	Microphone (Pink)
3	USB 2.0 Ports (USB23)	11	USB 2.0 Ports (USB45)
4	LAN RJ-45 Port*	12	eSATA3 Port
5	Central / Bass (Orange)	13	HDMI Port
6	Rear Speaker (Black)	14	DVI-D Port
7	Optical SPDIF Out Port	15	USB 2.0 Ports (USB01)
8	Line In (Light Blue)		

* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

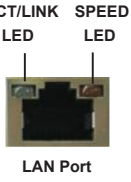
LAN Port LED Indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



** If you use 2-channel speaker, please connect the speaker's plug into "Front Speaker Jack". See the table below for connection details in accordance with the type of speaker you use.

TABLE for Audio Output Connection

Audio Output Channels	Front Speaker (No. 9)	Rear Speaker (No. 6)	Central / Bass (No. 5)	Line In or Side Speaker (No. 8)
2	V	--	--	--
4	V	V	--	--
6	V	V	V	--
8	V	V	V	V

To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. After restarting your computer, you will find “Mixer” tool on your system. Please select “Mixer ToolBox”  , click “Enable playback multi-streaming”, and click “ok”. Choose “2CH”, “4CH”, “6CH”, or “8CH” and then you are allowed to select “Realtek HDA Primary output” to use Rear Speaker, Central/Bass, and Front Speaker, or select “Realtek HDA Audio 2nd output” to use front panel audio.

1. Introduction

Thank you for purchasing ASRock ***T48EM1*** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

This Quick Installation Guide contains introduction of the motherboard and step-by-step installation guide. More detailed information of the motherboard can be found in the user manual presented in the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website http://www.asrock.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. www.asrock.com/support/index.asp

1.1 Package Contents

ASRock ***T48EM1*** Motherboard (Mini-ITX Form Factor)
ASRock ***T48EM1*** Quick Installation Guide
ASRock ***T48EM1*** Support CD
2 x Serial ATA (SATA) Data Cables (Optional)
1 x I/O Panel Shield

1.2 Specifications

Platform	- Mini-ITX Form Factor - Solid Capacitor for CPU power - High Density Glass Fabric PCB
CPU	- AMD Embedded G-Series APU T48E - Supports AMD's Cool 'n' Quiet Technology - UMI 2.5 GT/s
Chipset	- AMD A50M Chipset
Memory	- 2 x DDR3 DIMM Slots - Supports DDR3 1333/1066/800 non-ECC, un-buffered memory - Max. capacity of system memory: 16GB (see **CAUTION 1**)
Expansion Slot	- 1 x PCI Express 2.0 x16 Slot (PCIE1 @ x4 mode)
Graphics	- Integrated AMD Radeon HD 6250 graphics - DX11 class iGPU, Pixel Shader 5.0 - Max. shared memory 512MB - Three graphics output options: D-Sub, DVI-D and HDMI - Supports HDMI with max. resolution up to 1920x1200 (1080P) - Supports DVI-D with max. resolution up to 1920x1200 @ 75Hz - Supports D-Sub with max. resolution up to 2048x1536 @ 85Hz - Supports HDCP with DVI-D and HDMI Ports - Supports Full HD 1080p Blu-ray (BD) playback with DVI-D and HDMI Ports - Supports Dolby® TrueHD and DTS-HD Master Audio through HDMI Port
Audio	- 7.1 CH HD Audio with Content Protection (Realtek ALC892 Audio Codec) - Premium Blu-ray Audio support - Supports Surge Protection (ASRock Full Spike Protection)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Supports Wake-On-LAN - Supports Lightning/ESD Protection (ASRock Full Spike Protection) - Supports LAN Cable Detection - Supports Energy Efficient Ethernet 802.3az - Supports PXE

Rear Panel I/O	- 1 x PS/2 Keyboard/Mouse Port - 1 x D-Sub Port - 1 x DVI-D Port - 1 x HDMI Port - 1 x Optical SPDIF Out Port - 6 x USB 2.0 Ports (Supports ESD Protection (ASRock Full Spike Protection)) - 1 x eSATA3 Connector - 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) - HD Audio Jacks: Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone
Storage	- 4 x SATA3 6.0 Gb/s Connectors, support NCQ, AHCI and Hot Plug
Connector	- 1 x CIR Header - 1 x COM Port Header - 1 x CPU Fan Connector (3-pin) - 2 x Chassis Fan Connectors (1 x 4-pin, 1 x 3-pin) - 1 x 24 pin ATX Power Connector - 1 x Front Panel Audio Connector - 2 x USB 2.0 Headers (Support 4 USB 2.0 ports) (Supports ESD Protection (ASRock Full Spike Protection))
BIOS Feature	- 32Mb AMI UEFI Legal BIOS with GUI support - Supports Plug and Play - ACPI 1.1 compliant wake up events - Supports jumperfree - SMBIOS 2.3.1 support - DRAM, FCH, +1V, +1.8V Voltage multi-adjustment
Hardware Monitor	- CPU temperature sensing - Chassis temperature sensing - CPU/Chassis Fan Tachometer - CPU/Chassis Quiet Fan (Auto adjust chassis fan speed by CPU temperature) - CPU/Chassis Fan multi-speed control - Voltage monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit / XP 32-bit / XP 64-bit
Certifications	- FCC, CE, WHQL - ErP/EuP ready (ErP/EuP ready power supply is required)

* For detailed product information, please visit our website: http://www.asrock.com

English

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 third-party 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.

CAUTION!

1. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 8.1 / 8 / 7 / XP. For Windows® OS with 64-bit CPU, there is no such limitation.

2. Installation

This is a Mini-ITX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure 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.

2.3 Installation of Memory Modules (DIMM)

T48EM1 motherboard provides two 240-pin DDR3 (Double Data Rate 3) DIMM slots.

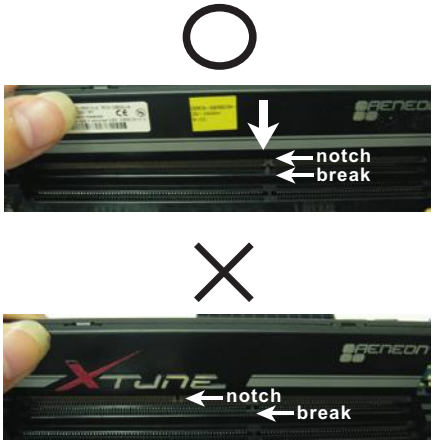
It is not allowed to install a DDR or DDR2 memory module into DDR3 slot; otherwise, this motherboard and DIMM may be damaged.

Installing a DIMM

Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

Step 1. Unlock a DIMM slot by pressing the retaining clips outward.

Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



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.

2.4 Expansion Slot (PCI Express Slot)

There is 1 PCI Express slot on this motherboard.

PCIE slot:

PCIE1 (PCIE x16 slot) is used for PCI Express x4 lane width graphics cards.

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.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

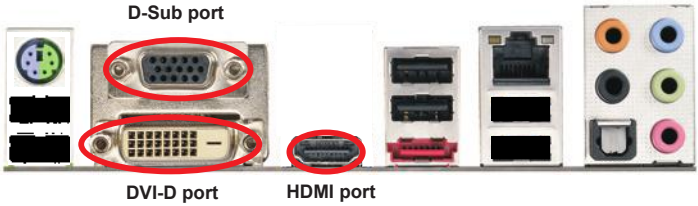
2.5 Dual Monitor Feature

Dual Monitor Feature

This motherboard supports dual monitor feature. With the internal graphics output support (DVI-D, D-Sub and HDMI), you can easily enjoy the benefits of dual monitor feature without installing any add-on graphics card to this motherboard. This motherboard also provides independent display controllers for DVI-D, D-Sub and HDMI to support dual graphics output so that DVI-D, D-sub and HDMI can drive same or different display contents.

To enable dual monitor feature, please follow the below steps:

1. Connect DVI-D monitor cable to DVI-D port on the I/O panel, connect D-Sub monitor cable to D-Sub port on the I/O panel, or connect HDMI monitor cable to HDMI port on the I/O panel.



2. If you have installed onboard graphics driver from our support CD to your system already, you can freely enjoy the benefits of dual monitor function after your system boots. If you haven't installed onboard graphics driver yet, please install onboard graphics driver from our support CD to your system and restart your computer.

D-Sub, DVI-D and HDMI monitors cannot be enabled at the same time. You can only choose the combination: DVI-D + HDMI, DVI-D + D-Sub, or HDMI + D-Sub.

HDCP Function

HDCP function is supported on this motherboard. To use HDCP function with this motherboard, you need to adopt the monitor that supports HDCP function as well. Therefore, you can enjoy the superior display quality with high-definition HDCP encryption contents. Please refer to below instruction for more details about HDCP function.

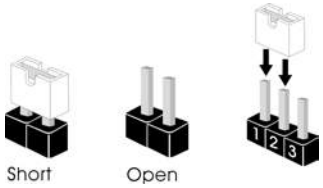
What is HDCP?

HDCP stands for High-Bandwidth Digital Content Protection, a specification developed by Intel® for protecting digital entertainment content that uses the DVI interface. HDCP is a copy protection scheme to eliminate the possibility of intercepting digital data midstream between the video source, or transmitter - such as a computer, DVD player or set-top box - and the digital display, or receiver - such as a monitor, television or projector. In other words, HDCP specification is designed to protect the integrity of content as it is being transmitted.

Products compatible with the HDCP scheme such as DVD players, satellite and cable HDTV set-top-boxes, as well as few entertainment PCs requires a secure connection to a compliant display. Due to the increase in manufacturers employing HDCP in their equipment, it is highly recommended that the HDTV or LCD monitor you purchase is compatible.

2.6 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.



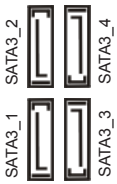
Jumper	Setting	Description
Clear CMOS Jumper (CLRCMOS1) (see p.2, No. 6)	1_2 Default; 2_3 Clear CMOS	

Note: CLRCMOS1 allows you to clear the data in CMOS. 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 pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile, 1394 GUID and MAC address will be cleared only if the CMOS battery is removed.

2.7 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!

Serial ATA3 Connectors
(SATA3_1: see p.2, No. 12)
(SATA3_2: see p.2, No. 10)
(SATA3_3: see p.2, No. 11)
(SATA3_4: see p.2, No. 9)

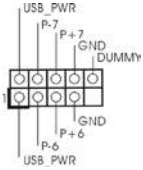


These four Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

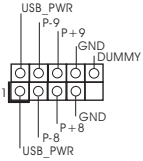
Serial ATA (SATA) Data Cable
(Optional)

Either end of the SATA data cable can be connected to the SATA / SATAII / SATA3 hard disk or the SATAII / SATA3 connector on this motherboard.

USB 2.0 Headers
(9-pin USB6_7)
(see p.2 No. 19)



(9-pin USB8_9)
(see p.2 No. 18)

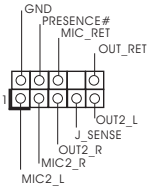


Besides six default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

Consumer Infrared Module Header
(4-pin CIR1)
(see p.2 No. 17)

This header can be used to connect the remote controller receiver.

Front Panel Audio Header
(9-pin HD_AUDIO1)
(see p.2 No. 20)



This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

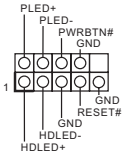
English

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. To activate the front mic.
      For Windows® XP / XP 64-bit OS:
      Select "Mixer". Select "Recorder". Then click "FrontMic".
      For Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit OS:
      Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

System Panel Header

(9-pin PANEL1)

(see p.2 No. 8)



This header accommodates several system front panel functions.

Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

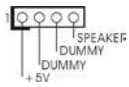
PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).
HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

Chassis Speaker Header

(4-pin SPEAKER 1)

(see p.2 No. 13)

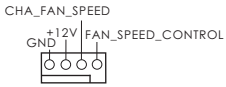


Please connect the chassis speaker to this header.

Chassis Fan Connectors

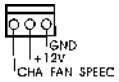
(4-pin CHA_FAN1)

(see p.2 No. 2)



(3-pin CHA_FAN2)

(see p.2 No. 14)

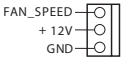


Please connect the fan cables to the fan connectors and match the black wire to the ground pin. CHA_FAN2 supports fan speed control by fan power voltage.

CPU Fan Connectors

(3-pin CPU_FAN1)

(see p.2 No. 1)

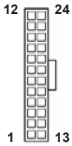


Please connect the CPU fan cable to the connector and match the black wire to the ground pin. CPU_FAN1 supports fan speed control.

ATX Power Connector

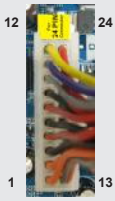
(24-pin ATXPWR1)

(see p.2 No. 7)



Please connect an ATX power supply to this connector.

Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13.

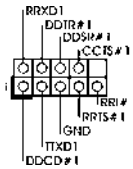


20-Pin ATX Power Supply Installation

Serial port Header

(9-pin COM1)

(see p.2 No. 21)



This COM1 header supports a serial port module.

English

1. Einführung

Wir danken Ihnen für den Kauf des ASRock ***T48EM1*** Motherboard, ein zuverlässiges Produkt, welches unter den ständigen, strengen Qualitätskontrollen von ASRock gefertigt wurde. Es bietet Ihnen exzellente Leistung und robustes Design, gemäß der Verpflichtung von ASRock zu Qualität und Halbarkeit. Diese Schnellinstallationsanleitung führt in das Motherboard und die schrittweise Installation ein. Details über das Motherboard finden Sie in der Bedienungsanleitung auf der Support-CD.

Da sich Motherboard-Spezifikationen und BIOS-Software verändern können, kann der Inhalt dieses Handbuches ebenfalls jederzeit geändert werden. Für den Fall, dass sich Änderungen an diesem Handbuch ergeben, wird eine neue Version auf der ASRock-Website, ohne weitere Ankündigung, verfügbar sein. Die neuesten Grafikkarten und unterstützten CPUs sind auch auf der ASRock-Website aufgelistet.
ASRock-Website: http://www.asrock.com
Wenn Sie technische Unterstützung zu Ihrem Motherboard oder spezifische Informationen zu Ihrem Modell benötigen, besuchen Sie bitte unsere Webseite:
www.asrock.com/support/index.asp

1.1 Kartoninhalt

ASRock ***T48EM1*** Motherboard (Mini-ITX-Formfaktor)
ASRock ***T48EM1*** Schnellinstallationsanleitung
ASRock ***T48EM1*** Support-CD
Zwei Serial ATA (SATA) -Datenkabel (optional)
Ein I/O Shield

1.2 Spezifikationen

Plattform	- Mini-ITX-Formfaktor - Festkondensator für CPU-Leistung - PCB mit hochverdichtetem Glasfasergewebe
CPU	- AMD G-Serie APU T48E - Unterstützt Cool 'n' Quiet™-Technologie von AMD - UMI 2.5 GT/s
Chipsatz	- AMD A50M Chipsatz
Speicher	- 2 x Steckplätze für DDR3 - Unterstützt DDR3 1333/1066/800 non-ECC, ungepufferter Speicher - Max. Kapazität des Systemspeichers: 16GB (siehe **VORSICHT 1**)
Erweiterungs-steckplätze	- 1 x PCI Express 2.0 x16-Steckplatz (PCIE1 für x4-Modus)
Onboard-VGA	- Integrierte AMD Radeon HD 6250-Grafik - DX11 Klasse iGPU, Pixel Shader 5.0 - Maximal gemeinsam genutzter Speicher 512MB - Drei VGA-Ausgangsoptionen: D-Sub, DVI-D sowie HDMI - Unterstützt HDMI mit einer maximalen Auflösung von 1920 x 1200 (1080P) - Unterstützt DVI-D mit einer maximalen Auflösung von 1920 x 1200 bei 75 Hz - Unterstützt D-Sub mit einer maximalen Auflösung von 2048 x 1536 bei 85 Hz - Unterstützt HDCP-Funktion mit DVI-D- und HDMI-Ports - Unterstutzt 1080p Blu-ray (BD)-Wiedergabe mit DVI-D- und HDMI-Ports
Audio	- 7.1 CH HD Audio mit dem Inhalt Schutz (Realtek ALC892 Audio Codec) - Premium Blu-ray-Audio-Unterstützung - Unterstützt Überspannungsschutz (ASRocks Komplettschutz vor Spannungsspitzen)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Unterstützt Wake-On-LAN - Unterstützt LAN-Kabelerkennung - Unterstützt energieeffizientes Ethernet 802.3az - Unterstützt PXE

E/A-Anschlüsse an der Rückseite	- 1 x PS/2-Tastaturanschluss/Mausanschluss - 1 x D-Sub port - 1 x DVI-D port - 1 x HDMI port - 1 x optischer SPDIF-Ausgang - 6 x Standard-USB 2.0-Anschlüsse (Unterstützt Schutz vor elektrostatischer Entladung (ASRocks Komplettschutz vor Spannungsspitzen)) - 1 x eSATA3-Anschluss - 1 x RJ-45 LAN Port mit LED (ACT/LINK LED und SPEED LED) - HD Audiobuchse: Lautsprecher hinten / Mitte/Bass / Audioeingang / Lautsprecher vorne / Mikrofon
Speicher	- 4 x SATA 3-Anschlüsse (6,0 Gb/s); unterstützt NCQ-, AHCI- und „Hot Plug“ (Hot-Plugging)-Funktionen
Anschlüsse	- 1 x Consumer Infrared-Modul-Header - 1 x COM-Anschluss-Header - 1 x CPU-Lüfteranschluss (3-polig) - 2 x Gehäuselüfteranschluss (1 x 4-polig, 1 x 3-polig) - 1 x 24-pin ATX-Netz-Header - 1 x Anschluss für Audio auf der Gehäusevorderseite - 2 x USB 2.0-Anschlüsse (Unterstützung 4 zusätzlicher USB 2.0-Anschlüsse) (Unterstützt Schutz vor elektrostatischer Entladung (ASRocks Komplettschutz vor Spannungsspitzen))
BIOS	- 32Mb AMIs Legal BIOS UEFI mit GUI-Unterstützung - Unterstützung für “Plug and Play” - ACPI 1.1-Weckfunktionen - JumperFree-Übertaktungstechnologie - SMBIOS 2.3.1 - DRAM, FCH, +1V, +1.8V Stromspannung Multianpassung
Hardware Monitor	- Überwachung der CPU-Temperatur - Motherboardtemperaturerkennung - Drehzahlmessung für CPU/Gehäuselüfter - Geräuscharmer CPU-/Gehäuselüfter (ermöglicht die au tomatische Anpassung der Gehäuselüftergeschwindigkeit durch CPU- oder MB-Temperatur) - Mehrstufige Geschwindigkeitsteuerung für CPU-/ Gehäuselüfter - Spannungsüberwachung: +12V, +5V, +3.3V, Vcore

Betriebssysteme	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit / XP 32-bit / XP 64-bit
Zertifizierungen	- FCC, CE, WHQL - Gemäß Ökodesign-Richtlinie (ErP/EuP) (Stromversorgung gemäß Ökodesign-Richtlinie (ErP/EuP) erforderlich)

* Für die ausführliche Produktinformation, besuchen Sie bitte unsere Website: http://www.asrock.com

WARNUNG

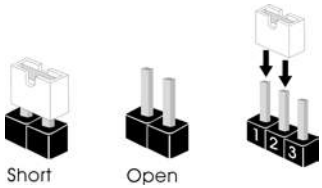
Beachten Sie bitte, dass Overclocking, einschließlich der Einstellung im BIOS, Anwenden der Untied Overclocking-Technologie oder Verwenden von Overclocking-Werkzeugen von Dritten, mit einem gewissen Risiko behaftet ist. Overclocking kann sich nachteilig auf die Stabilität Ihres Systems auswirken oder sogar Komponenten und Geräte Ihres Systems beschädigen. Es geschieht dann auf eigene Gefahr und auf Ihre Kosten. Wir übernehmen keine Verantwortung für mögliche Schäden, die aufgrund von Overclocking verursacht wurden.

VORSICHT!

1. Durch Betriebssystem-Einschränkungen kann die tatsächliche Speichergröße weniger als 4 GB betragen, da unter Windows® 8.1 / 8 / 7 / XP etwas Speicher zur Nutzung durch das System reserviert wird. Unter Windows® OS mit 64-Bit-CPU besteht diese Einschränkung nicht.

1.3 Einstellung der Jumper

Die Abbildung verdeutlicht, wie Jumper gesetzt werden. Werden Pins durch Jumperkappen verdeckt, ist der Jumper “Gebrückt”. Werden keine Pins durch Jumperkappen verdeckt, ist der Jumper “Offen”. Die Abbildung zeigt einen 3-Pin Jumper dessen Pin1 und Pin2 “Gebrückt” sind, bzw. es befindet sich eine Jumper-Kappe auf diesen beiden Pins.



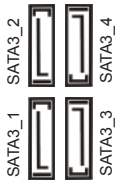
Jumper	Einstellun	Beschreibung
CMOS löschen (CLRCMOS1, 3-Pin jumper) (siehe S.2, No. 6)	1_2 Default-Einstellung 2_3 CMOS löschen	

Hinweis: CLRCMOS1 ermöglicht Ihnen die Löschung der Daten im CMOS. Zum Löschen und Zurücksetzen der Systemparameter auf die Standardeinrichtung schalten Sie den Computer bitte aus und trennen das Netzkabel von der Stromversorgung. Warten Sie 15 Sekunden, schließen Sie dann Pin2 und Pin3 am CLRCMOS1 über einen Jumper fünf Sekunden lang kurz. Sie sollten das CMOS allerdings nicht direkt nach der BIOS-Aktualisierung löschen. Wenn Sie das CMOS nach Abschluss der BIOS-Aktualisierung löschen müssen, fahren Sie zuerst das System hoch. Fahren Sie es dann vor der CMOS-Löschung herunter. Bitte beachten Sie, dass Kennwort, Datum, Uhrzeit, benutzerdefiniertes Profil, 1394 GUID und MAC-Adresse nur gelöscht werden, wenn die CMOS-Batterie entfernt wird.

1.4 Integrierte Header und Anschlüsse

Integrierte Header und Anschlüsse sind KEINE Jumper. Setzen Sie KEINE Jumperkappen auf diese Header und Anschlüsse. Wenn Sie Jumperkappen auf Header und Anschlüsse setzen, wird das Motherboard unreparierbar beschädigt!

Seriell-ATA3-Anschlüsse
(SATA3_1: siehe S.2 - No. 12)
(SATA3_2: siehe S.2 - No. 10)
(SATA3_3: siehe S.2 - No. 11)
(SATA3_4: siehe S.2 - No. 9)

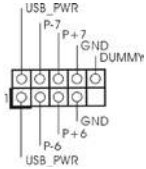


Diese vier Serial ATA3- (SATA3-)Verbínder unterstützten SATA-Datenkabel für interne Massenspeichergeräte. Die aktuelle SATA3- Schnittstelle ermöglicht eine Datenübertragungsrate bis 6,0 Gb/s.

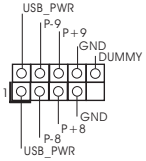
Serial ATA- (SATA-) Datenkabel
(Option)

SJedes Ende des SATA Datenkabels kann an die SATA / SATAII / SATA3 Festplatte oder das SATAII / SATA3 Verbindungsstück auf dieser Hauptplatine angeschlossen werden.

USB 2.0-Header
(9-pol. USB6_7)
(siehe S.2 - No. 19)

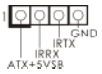


(9-pol. USB8_9)
(siehe S.2 - No. 18)



Zusätzlich zu den sechs üblichen USB 2.0-Ports an den I/O-Anschlüssen befinden sich zwei USB 2.0-Anschlussleisten am Motherboard. Pro USB 2.0-Anschlussleiste werden zwei USB 2.0-Ports unterstützt.

Consumer Infrared-Modul-Header
(4-pin CIR1)
(siehe S.2 - No. 17)



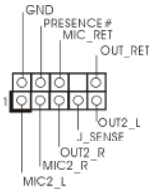
Dieser Header kann zum Anschließen Remote-Empfänger.

Deutsch

Anschluss für Audio auf der Gehäusevorderseite

(9-Pin HD_AUDIO1)

(siehe S.2 - No. 20)



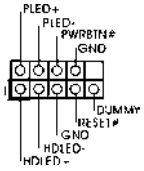
Dieses Interface zu einem Audio-Panel auf der Vorder seite Ihres Gehäuses, ermöglicht Ihnen eine bequeme Anschlussmöglichkeit und Kontrolle über Audio-Geräte.

1. High Definition Audio unterstützt Jack Sensing (automatische Erkennung falsch angeschlossener Geräte), wobei jedoch die Bildschirmverdrahtung am Gehäuse HDA unterstützen muss, um richtig zu funktionieren. Beachten Sie bei der Installation im System die Anweisungen in unserem Handbuch und im Gehäusehandbuch.
2. Wenn Sie die AC'97-Audioleiste verwenden, installieren Sie diese wie nachstehend beschrieben an der Front-Audioanschlussleiste:
   A. Schließen Sie Mic_IN (MIC) an MIC2_L an.
   B. Schließen Sie Audio_R (RIN) an OUT2_R und Audio_L (LIN) an OUT2_L an.
   C. Schließen Sie Ground (GND) an Ground (GND) an.
   D. MIC_RET und OUT_RET sind nur für den HD-Audioanschluss gedacht. Diese Anschlüsse müssen nicht an die AC'97-Audioleiste angeschlossen werden.
   E. So aktivieren Sie das Mikrofon an der Vorderseite.
      Bei den Betriebssystemen Windows® XP / XP 64 Bit:
      Wählen Sie „Mixer". Wählen Sie „Recorder" (Rekorder). Klicken Sie dann auf „FrontMic" (Vorderes Mikrofon).
      Bei den Betriebssystemen Windows® 8.1 / 8.1 64 Bit / 8 / 8 64 Bit / 7 / 7 64 Bit:
      Wählen Sie im Realtek-Bedienfeld die „FrontMic" (Vorderes Mikrofon)-Registerkarte. Passen Sie die „Recording Volume" (Aufnahmelautstärke) an.

System Panel-Header

(9-pin PANEL1)

(siehe S.2 - No. 8)



Dieser Header unterstützt mehrere Funktion der Systemvorderseite.

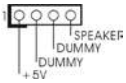
Schließen Sie die Ein-/Austaste, die Reset-Taste und die Systemstatusanzeige am Gehäuse an diesen Header an; befolgen Sie dabei die nachstehenden Hinweise zur Pinbelegung. Beachten Sie die positiven und negativen Pins, bevor Sie die Kabel anschließen.

PWRBTN (Ein-/Ausschalter):
Zum Anschließen des Ein-/Ausschalters an der Frontblende des Gehäu ses. Sie können konfigurieren, wie das System mit Hilfe des Ein-/Ausschalters ausgeschaltet werden können soll.

RESET (Reset-Taste):
Zum Anschließen der Reset-Taste an der Frontblende des Gehäuses. Mit der Reset-Taste können Sie den Computer im Falle eines Absturzes neu starten.
PLED (Systembetriebs-LED):
Zum Anschließen der Betriebsstatusanzeige an der Frontblende des Gehäuses. Die LED leuchtet, wenn das System in Betrieb ist. Die LED blinkt, wenn sich das System im Ruhezustand S1 befindet. Die LED schaltet sich aus, wenn sich das System in den Modi S3/S4 befindet oder ausgeschaltet ist (S5).
HDLED (Festplattenaktivitäts-LED):
Zum Anschließen der Festplattenaktivitäts-LED an der Frontblende des Gehäuses. Die LED leuchtet, wenn die Festplatte Daten liest oder schreibt.

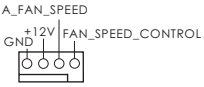
Das Design der Frontblende kann je nach Gehäuse variiere. Ein Frontblendenmodul besteht hauptsächlich aus einer Ein-/Austaste, einer Reset-Taste, einer Betriebs-LED, einer Festplattenaktivitäts-LED, Lautsprechern, etc. Stellen Sie beim Anschließen des Frontblendenmoduls Ihres Gehäuses an diesem Header sicher, dass die Kabel- und Pinbelegung korrekt übereinstimmen.

Gehäuselautsprecher-Header
(4-pin SPEAKER1)
(siehe S.2 - No. 13)

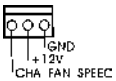


Schließen Sie den Gehäuselautsprecher an diesen Header an.

Gehäuse lüfteranschlüsse
(4-pin CHA_FAN1)
(siehe S.2 - No. 2)

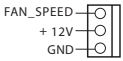


(3-pin CHA_FAN2)
(siehe S.2 - No. 14)



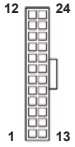
Verbinden Sie die Lüfterkabel mit den Lüfteranschlüssen, wobei der schwarze Draht an den Schutzleiterstift angeschlossen wird.

CPU-Lüfteranschluss
(3-pin CPU_FAN1)
(siehe S.2 - No. 1)



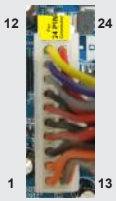
Verbinden Sie das CPU - Lüfterkabel mit diesem Anschluss und passen Sie den schwarzen Draht dem Erdungsstift an.

ATX-Netz-Header
(24-pin ATXPWR1)
(siehe S.2 - No. 7)



Verbinden Sie die ATX-Stromversorgung mit diesem Header.

Obwohl dieses Motherboard einen 24-pol. ATX-Stromanschluss bietet, kann es auch mit einem modifizierten traditionellen 20-pol. ATX-Netzteil verwendet werden. Um ein 20-pol. ATX-Netzteil zu verwenden, stecken Sie den Stecker mit Pin 1 und Pin 13 ein.

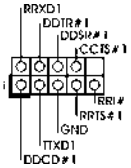


Installation eines 20-pol. ATX-Netzteils

COM-Anschluss-Header

(9-pin COM1)

(siehe S.2 - No. 21)



Dieser COM-Anschluss-Header wird verwendet, um ein COM-Anschlussmodul zu unterstützen.

1. Introduction

Merci pour votre achat d'une carte mère ASRock ***T48EM1***, une carte mère très fiable produite selon les critères de qualité rigoureux de ASRock. Elle offre des performances excellentes et une conception robuste conformément à l'engagement d'ASRock sur la qualité et la fiabilité au long terme.
Ce Guide d'installation rapide présente la carte mère et constitue un guide d'installation pas à pas. Des informations plus détaillées concernant la carte mère pourront être trouvées dans le manuel l'utilisateur qui se trouve sur le CD d'assistance.

Les spécifications de la carte mère et le BIOS ayant pu être mis à jour, le contenu de ce manuel est sujet à des changements sans notification. Au cas où n'importe qu'elle modification intervenait sur ce manuel, la version mise à jour serait disponible sur le site web ASRock sans nouvel avis. Vous trouverez les listes de prise en charge des cartes VGA et CPU également sur le site Web ASRock.
Site web ASRock, http://www.asrock.com
Si vous avez besoin de support technique en relation avec cette carte mère, veuillez consulter notre site Web pour de plus amples informations particulières au modèle que vous utilisez.
www.asrock.com/support/index.asp

1.1 Contenu du paquet

Carte mère ASRock ***T48EM1*** (Facteur de forme Mini-ITX)
Guide d'installation rapide ASRock ***T48EM1***
CD de soutien ASRock ***T48EM1***
Deux câbles de données de série ATA (SATA) (en option)
Un I/O Panel Shield

1.2 Spécifications

Format	- Facteur de forme Mini-ITX - Condensateur résistant pour alimentation de processeur - PCB High Density Glass Fabric
CPU	- AMD G-série APU T48E - Supporte la technologie Cool 'n' Quiet™ d'AMD - UMI 2.5 GT/s
Chipsets	- AMD A50M Chipsets
Mémoire	- 2 x slots DIMM DDR3 - Supporter DDR3 1333/1066/800 non-ECC, sans amortissement mémoire - Capacité maxi de mémoire système: 16GB (voir **ATTENTION 1**)
Slot d'extension	- 1 x slot1 PCI Express 2.0 x16 (PCIE1 @ mode x4)
VGA sur carte	- Graphiques intégrés à l'AMD Radeon HD 6250 - DX11 classe iGPU, nuanceur de pixels 5.0 - mémoire partagée max 512MB - Trois options de sortie VGA : D-Sub, DVI-D et HDMI - Prend en charge le HDMI avec une résolution maximale jusqu'à 1920x1200 (1080P) - Prend en charge le DVI-D avec une résolution maximale jusqu'à 1920x1200 @ 75Hz - Prend en charge le D-Sub avec une résolution maximale jusqu'à 2048x1536 @ 85Hz - Prise en charge de la fonction HDCP avec ports DVI-D et HDMI - Supporter 1080p Blu-ray(BD) avec ports DVI-D et HDMI
Audio	- 7,1 CH HD Audio avec protection de contenu (Realtek ALC892 Audio Codec) - Prise en charge de l'audio Premium Blu-ray - Supporte la protection contre les surtensions (protection complète contre surges ASRock)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Support du Wake-On-LAN - Supporte la protection contre la foudre/ESD (protection complète contre surges ASRock) - Prise en charge de la détection de câble LAN - Prend en charge la norme Energy Efficient Ethernet (Ethernet à efficacité énergétique) 802.3az

	- Prend en charge PXE
Panneau arrière	- 1 x port clavier/souris PS/2 - 1 x port D-Sub - 1 x port DVI-D - 1 x port HDMI - 1 x Port de sortie optique SPDIF - 6 x ports USB 2.0 par défaut (Supporte la protection ESD (protection complète contre surges ASRock)) - 1 x Connecteur eSATA3 - 1 x port LAN RJ-45 avec LED (ACT/LED CLIGNOTANTE et LED VITESSE) - Prise HD Audio: Haut-parleur latéral / Haut-parleur arrière / Central / Basses / Entrée Ligne / Haut-parleur frontal / Microphone
Stockage	- 4 x connecteurs SATA3 6,0 Gb/s, prennent en charge les fonctions NCQ, AHCI et « Hot Plug » (Branche ment à chaud)
Connecteurs	- 1 x Barrette pour module à infrarouges grand public - 1 x En-tête de port COM - 1 x connecteur pour ventilateur de CPU (3 broches) - 2 x connecteur pour ventilateur de châssis (1 x 4 broches, 1 x 3 broches) - 1 x br. 24 connecteur d'alimentation ATX - 1 x Connecteur audio panneau avant - 2 x En-tête USB 2.0 (prendre en charge 4 ports USB 2.0 supplémentaires) (Supporte la protection ESD (protection complète contre surges ASRock))
BIOS	- 32Mb AMI UEFI Legal BIOS avec support GUI - Support du "Plug and Play" - Compatible pour événements de réveil ACPI 1.1 - Gestion jumperless - Support SMBIOS 2.3.1 - DRAM, FCH, +1V, +1.8V Tension Multi-ajustement
Surveillance système	- Contrôle de la température CPU - Mesure de température de la carte mère - Tachéomètre ventilateur processeur/châssis - Ventilateur silencieux pour unité centrale/châssis (permet le réglage automatique de la vitesse du ventilateur pour châssis, selon la température de l'unité centrale ou du MB) - Commande de ventilateur processeur/châssis à plusieurs vitesses - Monitoring de la tension: +12V, +5V, +3.3V, Vcore

OS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit / XP 32-bit / XP 64-bit
Certifications	- FCC, CE, WHQL - Prêt pour ErP/EuP (alimentation Prêt pour ErP/EuP requise)

* Pour de plus amples informations sur les produits, s'il vous plaît visitez notre site web: http://www.asrock.com

ATTENTION

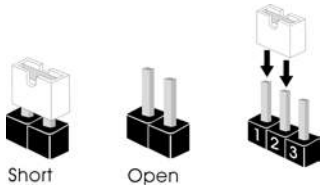
Il est important que vous réalisiez qu'il y a un certain risque à effectuer l'overclocking, y compris ajuster les réglages du BIOS, appliquer la technologie Untied Overclocking, ou utiliser des outils de tiers pour l'overclocking. L'overclocking peut affecter la stabilité de votre système, ou même causer des dommages aux composants et dispositifs de votre système. Si vous le faites, c'est à vos frais et vos propres risques. Nous ne sommes pas responsables des dommages possibles causés par l'overclocking.

ATTENTION!

1. Du fait des limites du système d'exploitation, la taille mémoire réelle réservée au système pourra être inférieure à 4 Go sous Windows® 8.1 / 8 / 7 / XP. Avec Windows® OS avec CPU 64 bits, il n'y a pas ce genre de limitation.

1.3 Réglage des cavaliers

L'illustration explique le réglage des cavaliers. Quand un capuchon est placé sur les broches, le cavalier est « FERME ». Si aucun capuchon ne relie les broches,le cavalier est « OUVERT ». L'illustration montre un cavalier à 3 broches dont les broches 1 et 2 sont « FERMEES » quand le capuchon est placé sur ces 2 broches.



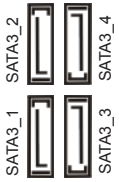
Le cavalier	Description	
Effacer la CMOS (CLRCMOS1) (voir p.2 fig. 6)	1_2 Paramètres par défaut	2_3 Effacer la CMOS

Remarque : CLRCMOS1 vous permet d'effacer les données du CMOS. Pour effacer et réinitialiser les paramètres du système à la configuration originale, veuillez éteindre l'ordinateur et débrancher le cordon d'alimentation de la prise de courant. Après 15 secondes, utilisez un couvercle de jumper pour court-circuiter les broches pin2 et pin3 de CLRCMOS1 pendant 5 secondes. Veuillez cependant ne pas effacer le CMOS immédiatement après avoir mis à jour le BIOS. Si vous avez besoin d'effacer le CMOS après avoir mis à jour le BIOS, vous devez allumer en premier le système, puis l'éteindre avant de continuer avec l'opération d'effacement du CMOS. Veuillez noter que le mot de passe, la date, l'heure, le profil par défaut de l'utilisateur, 1394 GUID et l'adresse MAC seront effacés seulement si la batterie du CMOS est enlevée.

1.4 En-têtes et Connecteurs sur Carte

Les en-têtes et connecteurs sur carte NE SONT PAS des cavaliers. NE PAS placer les capuchons de cavalier sur ces en-têtes et connecteurs. Le fait de placer les capuchons de cavalier sur les en-têtes et connecteurs causera à la carte mère des dommages irréversibles!

Connecteurs Série ATA3
(SATA3_1: voir p.2 No. 12)
(SATA3_2: voir p.2 No. 10)
(SATA3_3: voir p.2 No. 11)
(SATA3_4: voir p.2 No. 9)

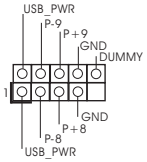


Ces quatre connecteurs Série ATA3 (SATA3) prennent en charge les câbles SATA pour les périphériques de stockage internes. L'interface SATA3 actuelle permet des taux transferts de données pouvant aller jusqu'à 6,0 Gb/s.

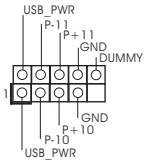
Câble de données Série ATA (SATA)
(en option)

Toute cote du cable de data SATA peut etre connecte au disque dur SATA / SATAII / SATA3 ou au connecteur SATAII / SATA3 sur la carte mere.

En-tête USB 2.0
(USB6_7 br.9)
(voir p.2 No. 19)

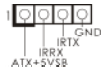


(USB8_9 br.9)
(voir p.2 No. 18)



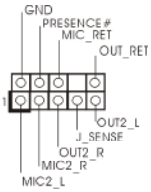
A côté des six ports USB 2.0 par défaut sur le panneau E/S, il y a deux embases USB 2.0 sur cette carte mère. Chaque embase USB 2.0 peut prendre en charge 2 ports USB 2.0.

Barrette pour module à infrarouges grand public
(CIR1 br.4)
(voir p.2 No. 17)



Cette barrette peut être utilisée pour connecter des récepteur à distance.

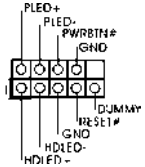
Connecteur audio panneau
(HD_AUDIO1 br. 9)
(voir p.2 No. 20)



C'est une interface pour un câble avant audio en façade qui permet le branchement et le contrôle commodes de périphériques audio.

1. L'audio à haute définition (HDA) prend en charge la détection de fiche, mais le fil de panneau sur le châssis doit prendre en charge le HDA pour fonctionner correctement. Veuillez suivre les instructions dans notre manuel et le manuel de châssis afin installer votre système.
2. Si vous utilisez le panneau audio AC'97, installez-le sur l'adaptateur audio du panneau avant conformément à la procédure ci-dessous :
   A. Connectez Mic_IN (MIC) à MIC2_L.
   B. Connectez Audio_R (RIN) à OUT2_R et Audio_L (LIN) à OUT2_L.
   C. Connectez Ground (GND) à Ground (GND).
   D. MIC_RET et OUT_RET sont réservés au panneau audio HD. Vous n'avez pas besoin de les connecter pour le panneau audio AC'97.
   E. Pour activer le micro avant.
   Pour les systèmes d'exploitation Windows® XP / XP 64 bits : Sélectionnez "Mixer". Sélectionnez "Recorder" (Enregistreur). Puis cliquez sur "FrontMic" (Micro avant).
   Pour les systèmes d'exploitation Windows® 8.1 / 8.1 64 bits / 8 / 8 64 bits / 7 / 7 64 bits :
   Allez sur l'onglet "FrontMic" (Micro avant) sur le Panneau de contrôle Realtek. Ajustez "Recording Volume" (Volume d'enregistrement).

En-tête du panneau système
(PANEL1 br.9)
(voir p.2 No. 8)



Cet en-tête permet d'utiliser plusieurs fonctions du panneau système frontal.

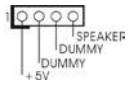
Connectez l'interrupteur d'alimentation, l'interrupteur de réinitialisation et l'indicateur d'état du système du châssis sur cette barrette en respectant l'affectation des broches décrite ci-dessous. Faites attention aux broches positives et négatives avant de connecter les câbles.

PWRBTN (Interrupteur d'alimentation):
Connectez ici le connecteur d'alimentation sur le panneau avant du châssis. Vous pouvez configurer la façon de mettre votre système hors tension avec l'interrupteur d'alimentation.
RESET (Interrupteur de réinitialisation):
Connectez ici le connecteur de réinitialisation sur le panneau avant du châssis. Appuyez sur l'interrupteur de réinitialisation pour redémarrer l'ordinateur s'il se bloque ou s'il n'arrive pas à redémarrer normalement.

PLED (DEL alimentation système):
Connectez ici l'indicateur d'état de l'alimentation sur le panneau avant du châssis. Ce voyant DEL est allumé lorsque le système est en marche. Le voyant DEL clignote lorsque le système est en mode veille S1. Le voyant DEL est éteint lorsque le système est en mode veille S3/ S4 ou lorsqu'il est éteint (S5).
HDLED (DEL activité du disque dur):
Connectez ici le voyant DEL d'activité du disque dur sur le panneau avant du châssis. Ce voyant DEL est allumé lorsque le disque dur est en train de lire ou d'écrire des données.

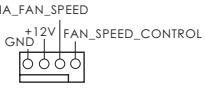
Le design du panneau avant peut varier en fonction du châssis. Un module de panneau avant consiste principalement en : interrupteur d'alimentation, interrupteur de réinitialisation, voyant DEL d'alimentation, voyant DEL d'activité du disque dur, haut-parleur, etc. Lorsque vous connectez le panneau avant de votre châssis sur cette barrette, vérifiez bien à faire correspondre les fils et les broches.

En-tête du haut-parleur de châssis
(SPEAKER1 br. 4)
(voir p.2 No. 13)

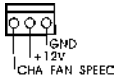


Veuillez connecter le haut-parleur de châssis sur cet en-tête.

Connecteur pour châssis
(CHA_FAN1 br. 4)
(voir p.2 No. 2)

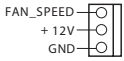


(CHA_FAN2 br. 3)
(voir p.2 No. 14)



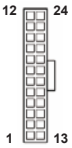
Branchez les câbles du ventilateur aux connecteurs pour ventilateur et faites correspondre le fil noir à la broche de terre.

Connecteur du ventilateur de l'UC
(CPU_FAN1 br. 3)
(voir p.2 No. 1)



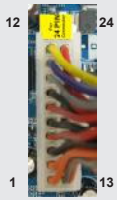
Veuillez connecter le câble de ventilateur d'UC sur ce connecteur et brancher le fil noir sur la broche de terre.

En-tête d'alimentation ATX
(ATXPWR1 br. 24)
(voir p.2 No. 7)



Veuillez connecter l'unité d'alimentation ATX sur cet en-tête.

Bien que cette carte mère fournisse un connecteur de courant ATX 24 broches, elle peut encore fonctionner si vous adopter une alimentation traditionnelle ATX 20 broches. Pour utiliser une alimentation ATX 20 broches, branchez à l'alimentation électrique ainsi qu'aux broches 1 et 13.

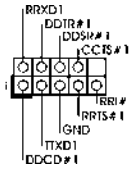


20-Installation de l'alimentation électrique ATX

En-tête de port COM

(COM1 br.9)

(voir p.2 No. 21)



Cette en-tête de port COM est utilisée pour prendre en charge un module de port COM.

1. Introduzione

Grazie per aver scelto una scheda madre ASRock ***T48EM1***, una scheda madre affidabile prodotta secondo i severi criteri di qualità ASRock. Le prestazioni eccellenti e il design robusto si conformano all'impegno di ASRock nella ricerca della qualità e della resistenza.

Questa Guida Rapida all'Installazione contiene l'introduzione alla motherboard e la guida passo-passo all'installazione. Informazioni più dettagliate sulla motherboard si possono trovare nel manuale per l'utente presente nel CD di supporto.

Le specifiche della scheda madre e il software del BIOS possono essere aggiornati, pertanto il contenuto di questo manuale può subire variazioni senza preavviso. Nel caso in cui questo manuale sia modificato, la versione aggiornata sarà disponibile sul sito di ASRock senza altro avviso. Sul sito ASRock si possono anche trovare le più recenti schede VGA e gli elenchi di CPU supportate.
ASRock website http://www.asrock.com
Se si necessita dell'assistenza tecnica per questa scheda madre, visitare il nostro sito per informazioni specifiche sul modello che si sta usando.
www.asrock.com/support/index.asp

1.1 Contenuto della confezione

Scheda madre ASRock ***T48EM1*** (Mini-ITX Form Factor)
Guida di installazione rapida ASRock ***T48EM1***
CD di supporto ASRock ***T48EM1***
Due cavi dati Serial ATA (SATA) (opzionali)
Un I/O Shield

1.2 Specifiche

Piattaforma	- Mini-ITX Form Factor - Condensatore solido per alimentazione CPU - Circuito in vetro ad alta densità
Processore	- AMD G-serie APU T48E - Supporto tecnologia AMD Cool 'n' Quiet™ - UMI 2.5 GT/s
Chipset	- AMD A50M Chipset
Memoria	- 2 x slot DDR3 DIMM - Supporto DDR3 1333/1066/800 non-ECC, momoria senza buffer - Capacità massima della memoria di sistema: 16GB (vedi **ATTENZIONE 1**)
Slot di espansione	- 1 x Alloggi PCI Express 2.0 x16 (PCIE1 a modalità x4)
VGA su scheda	- Grafica AMD Radeon HD 6250 integrata - iGPU classe DX11, Pixel Shader 5.0 - Memoria massima condivisa 512MB - Tre opzioni d'output VGA: D-Sub, DVI-D e HDMI - Supporta HDMI con risoluzione massima fino a 1920x1200 (1080P) - Supporta DVI-D con risoluzione massima fino a 1920x1200 @ 75Hz - Supporta D-Sub con risoluzione massima fino a 2048x1536 @ 85Hz - Supporto della funzione HDCP con le porte DVI-D e HDMI - Supporto 1080p Blu-ray (BD) riproduzione con le porte DVI-D e HDMI
Audio	- 7.1 CH HD Audio con protezioni contenuti (Realtek ALC892 Audio Codec) - Supporto audio Blu-ray Premium - Supporto protezione da sovratensione (protezione completa ASRock dai picchi di corrente)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Supporta Wake-On-LAN - Supporto la protezione da fulmini/scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente) - Supporta il rilevamento cavo LAN - Supporto di Energy Efficient Ethernet 802.3az - Supporta PXE

Pannello posteriore I/O	- 1 x porta PS/2 per tastiera/mouse - 1 x Porta D-Sub - 1 x Porta DVI-D - 1 x Porta HDMI - 1 x Porta ottica SPDIF Out - 6 x porte USB 2.0 già integrate (Supporto della protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente)) - 1 x Connettore eSATA3 - 1 x porte LAN RJ-45 con LED (LED azione/collegamento e LED velocità) - Connettore HD Audio: cassa posteriore / cassa centrale / bassi / ingresso linea / cassa frontale / microfono
Archiviazione	- 4 x Connettori SATA3 6,0Gb/s, supporto delle funzioni NCQ, AHCI e “Hot Plug”
Connettori	- 1 x Connettore modulo infrarosso consumer - 1 x collettore porta COM - 1 x connettore ventola CPU (3 pin) - 2 x connettore ventola chassis (1 x 4 pin, 1 x 3 pin) - 1 x 24-pin collettore alimentazione ATX - 1 x Connettore audio sul pannello frontale - 2 x Collettore USB 2.0 (supporta 4 porte USB 2.0) (Supporto della protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))
BIOS	- 32Mb AMI UEFI Legal BIOS con interfaccia di supporto - Supporta “Plug and Play” - Compatibile con ACPI 1.1 wake up events - Supporta jumperfree - Supporta SMBIOS 2.3.1 - Regolazione multi-voltaggio DRAM, FCH, +1V, +1.8V
Monitoraggio Hardware	- Sensore per la temperatura del processore - Sensore temperatura scheda madre - Indicatore di velocità per la ventola del CPU/Chassis/ Alimentazione - Ventola CPU/Chassis silenziosa (permette la regolazione automatica della ventola dello chassis in base alla temperatura della CPU o della scheda madre) - Ventola CPU/Chassis con controllo di varie velocità - Voltaggio: +12V, +5V, +3.3V, Vcore

Compatibilità SO	- Microsoft® Windows® 8.1 32 bit / 8.1 64 bit / 8 32 bit / 8 64 bit / 7 32 bit / 7 64 bit
Certificazioni	- FCC, CE, WHQL - Predisposto ErP/EuP (è necessaria l'alimentazione predisposta per il sistema ErP/EuP)

* Per ulteriori informazioni, prego visitare il nostro sito internet: http://www.asrock.com

AVVISO

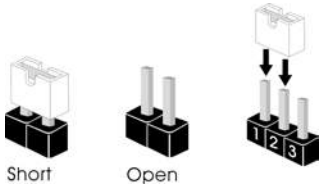
Si prega di prendere atto che la procedura di overclocking implica dei rischi, come anche la regolazione delle impostazioni del BIOS, l'applicazione della tecnologia Untied Overclocking Technology, oppure l'uso di strumenti di overclocking forniti da terzi. L'overclocking può influenzare la stabilità del sistema, ed anche provocare danni ai componenti ed alle periferiche del sistema. La procedura è eseguita a pro prio rischio ed a proprie spese. Noi non possiamo essere ritenuti responsabili per possibili danni provocati dall'overclocking.

ATTENZIONE!

1. A causa delle limitazioni del sistema operativo, le dimensioni effettive della memoria possono essere inferiori a 4GB per l'accantonamento riservato all'uso del sistema sotto Windows® 8.1 / 8 / 7 / XP. Per Windows® OS con CPU 64-bit, non c'è tale limitazione.

1.3 Setup dei Jumpers

L'illustrazione mostra come sono settati i jumper. Quando il ponticello è posizionato sui pin, il jumper è "CORTOCIRCUITATO". Se sui pin non ci sono ponticelli, il jumper è "APERTO". L'illustrazione mostra un jumper a 3 pin in cui il pin1 e il pin2 sono "CORTOCIRCUITATI" quando il ponticello è posizionato su questi pin.



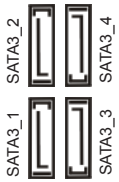
Jumper	Setting del Jumper
Resettare la CMOS (CLRCMOS1) (vedi p.2 item 6)	 Impostazione predefinita  Azzeramento CMOS

Nota: CLRCMOS1 permette si azzerare i dati nella CMOS. Per cancellare e ripristinare i parametri del sistema sulla configurazione iniziale, spegnere il computer e scollegare il cavo d'alimentazione dalla presa di corrente. Attendere 15 secondi, poi usare un cappuccio jumper per cortocircuitare il pin 2 ed il pin 3 su CLRCMOS1 per 5 secondi. Tuttavia, si consiglia di non cancellare la CMOS subito dopo avere aggiornato il BIOS. Se si deve azzerare la CMOS quando si è completato l'aggiornamento del BIOS, è necessario per prima cosa avviare il sistema e poi spegnerlo prima di eseguire l'azzeramento della CMOS. Notare che password, data, ore, profilo utente predefinito, 1394 GUID e indirizzo MAC saranno cancellati solo se è rimossa la batteria della CMOS.

1.4 Collettori e Connettori su Scheda

I collettori ed i connettori su scheda NON sono dei jumper. NON installare cappucci per jumper su questi collettori e connettori. L'installazione di cappucci per jumper su questi collettori e connettori provocherà danni permanenti alla scheda madre!

Connettori Serial ATA3
(SATA3_1: vedi p.2 Nr. 12)
(SATA3_2: vedi p.2 Nr. 10)
(SATA3_3: vedi p.2 Nr. 11)
(SATA3_4: vedi p.2 Nr. 9)

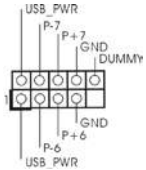


Questi quattro connettori Serial ATA3 (SATA3) supportano cavi dati SATA per dispositivi di immagazzinamento interni. ATA3 (SATA3) supportano cavi SATA per dispositivi di memoria interni. L'interfaccia SATA3 attuale permette velocità di trasferimento dati fino a 6.0 Gb/s.

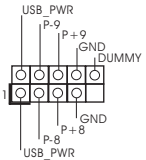
Cavi dati Serial ATA (SATA)
(Opzionale)

Una o altra estremità del cavo di dati SATA può essere collegata al disco rigido SATA / SATAII / SATA3 o al connettore di SATAII / SATA3 su questa cartolina base.

Collettore USB 2.0
(9-pin USB6_7)
(vedi p.2 Nr. 19)

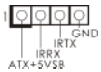


(9-pin USB8_9)
(vedi p.2 Nr. 18)



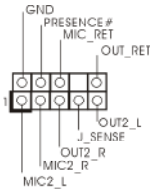
Oltre alle sei porte USB 2.0 predefinite nel pannello I/O, la scheda madre dispone di due intestazioni USB 2.0. Ciascuna intestazione USB 2.0 supporta due porte USB 2.0.

Connettore modulo infrarosso consumer
(4-pin CIR1)
(vedi p.2 Nr. 17)



Questo connettore può essere utilizzato per collegare ricevitore remoto.

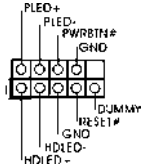
Connettore audio sul pannello frontale
(9-pin HD_AUDIO1)
(vedi p.2 Nr. 20)



È un'interfaccia per il cavo del pannello audio. Che consente connessione facile e controllo dei dispositivi audio.

1. La caratteristica HDA (High Definition Audio) supporta il rilevamento dei connettori, però il pannello dei cavi sul telaio deve supportare la funzione HDA (High Definition Audio) per far sì che questa operi in modo corretto. Attenersi alle istruzioni del nostro manuale e del manuale del telaio per installare il sistema.
2. Se si utilizza un pannello audio AC'97, installarlo nell'intestazione audio del pannello anteriore, come indicato di seguito:
   A. Collegare Mic_IN (MIC) a MIC2_L.
   B. Collegare Audio_R (RIN) a OUT2_R e Audio_L (LIN) ad OUT2_L.
   C. Collegare Ground (GND) a Ground (GND).
   D. MIC_RET e OUT_RET sono solo per il pannello audio HD. Non è necessario collegarli per il pannello audio AC'97.
   E. Per attivare il microfono frontale.
   Sistema operativo Windows® XP / XP 64-bit:
   Selezionare "Mixer". Selezionare "Recorder" (Registratore). Poi, fare clic su "FrontMic" (Microfono frontale).
   Sistema operativo Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit:
   Andare alla scheda "FrontMic" (Microfono frontale) del pannello di controllo Realtek. Regolare la voce "Recording Volume" (Volume registrazione).

Collettore pannello di sistema
(9-pin PANEL1)
(vedi p.2 Nr. 8)



Questo collettore accomoda diverse funzioni di sistema pannello frontale.

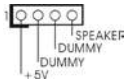
Collegare l'interruttore d'alimentazione, l'interruttore di ripristino, l'indicatore di stato del sistema del pannello frontale del telaio a questo header in base all'assegnazione dei pin definita di seguito. Determinare i pin positivi e negativi prima di collegare i cavi.

PWRBTN (interruttore d'alimentazione):
Va collegato all'interruttore d'alimentazione del pannello frontale del telaio. Usando l'interruttore d'alimentazione si può configurare il modo in cui si spegne il sistema.

RESET (interruttore di ripristino):
Va collegato all'interruttore di ripristino del pannello frontale del telaio. Premere l'interruttore di ripristino per riavviare il sistema se il computer si blocca e non riesce ad eseguire un normale riavvio.
PLED (LED alimentazione del sistema):
Va collegato all'indicatore di stato d'alimentazione del pannello frontale del telaio. Il LED è acceso quando il sistema è operativo. Il LED continua a lampeggiare quando il sistema è in stato di standby S1. Il LED è spento quando il sistema è in stato di sospensione /ibernazione S3/S4 oppure spento (S5).
HDLED (LED attività disco rigido):
Va collegato al LED attività disco rigido del pannello frontale del telaio. Il LED è acceso quando disco rigido legge e scrive i dati.

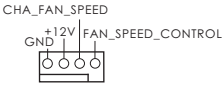
Il design del pannello frontale può variare in base ai telai. Il modulo di un pannello frontale può consistere di: interruttore d'alimentazione, interruttore di ripristino, LED d'alimentazione, LED attività disco rigido, casse, eccetera. Quando si collega il modulo del pannello frontale a questo header, assicurarsi che l'assegnazione dei fili e dei pin sia fatta corrispondere in modo appropriato.

Collettore casse telaio
(4-pin SPEAKER1)
(vedi p.2 Nr. 13)

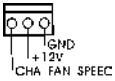


Collegare le casse del telaio a questo collettore.

Collettori Chassis ventola
(4-pin CHA_FAN1)
(vedi p.2 Nr. 2)

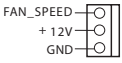


(3-pin CHA_FAN2)
(vedi p.2 Nr. 14)



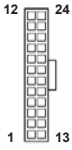
Collegare i cavi della ventola ai corrispondenti connettori facendo combaciare il cavo nero col pin di terra.

Connettore ventolina CPU
(3-pin CPU_FAN1)
(vedi p.2 Nr. 1)



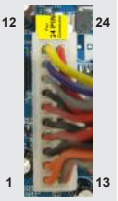
Collegare il cavo della ventolina CPU a questo connettore e far combaciare il filo nero al pin terra.

Connettore alimentazione ATX
(24-pin ATXPWR1)
(vedi p.2 Nr. 7)



Collegare la sorgente d'alimentazione ATX a questo connettore.

Con questa scheda madre, c'è in dotazione un connettore elettrico ATX a 24 pin, ma può funzionare lo stesso se si adotta un alimentatore ATX a 20 pin. Per usare l'alimentatore ATX a 20 pin, collegare l'alimentatore con il Pin 1 e il Pin 13.

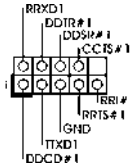


Installazione dell'alimentatore ATX a 20 pin

Collettore porta COM

(9-pin COM1)

(vedi p.2 Nr. 21)



Questo collettore porta COM è utilizzato per supportare il modulo porta COM.

1. Introducción

Gracias por su compra de ASRock ***T48EM1*** placa madre, una placa de confianza producida bajo el control de calidad estricto y persistente. La placa madre provee realización excelente con un diseño robusto conforme al compromiso de calidad y resistencia de ASRock.

Esta Guía rápida de instalación contiene una introducción a la placa base y una guía de instalación paso a paso. Puede encontrar una información más detallada sobre la placa base en el manual de usuario incluido en el CD de soporte.

Porque las especificaciones de la placa madre y el software de BIOS podrían ser actualizados, el contenido de este manual puede ser cambiado sin aviso. En caso de cualquier modificación de este manual, la versión actualizada estará disponible en el website de ASRock sin previo aviso. También encontrará las listas de las últimas tarjetas VGA y CPU soportadas en la página web de ASRock.

Website de ASRock http://www.asrock.com

Si necesita asistencia técnica en relación con esta placa base, visite nuestra página web con el número de modelo específico de su placa.

www.asrock.com/support/index.asp

1.1 Contenido de la caja

Placa base ASRock ***T48EM1*** (Factor forma Mini-ITX)

Guía de instalación rápida de ASRock ***T48EM1***

CD de soporte de ASRock ***T48EM1***

Dos cables de datos Serial ATA (SATA) (Opcional)

Una protección I/O

1.2 Especificación

Plataforma	- Factor forma Mini-ITX - Condensador sólido para alimentación de CPU - PCB de fibra de vidrio de alta densidad
Procesador	- AMD G-serie APU T48E - Con soporte para tecnología Cool 'n' Quiet™ de AMD - UMI 2.5 GT/s
Chipset	- AMD A50M Chipset
Memoria	- 2 x DDR3 DIMM slots - Apoya DDR3 1333/1066/800 non-ECC, memoria de un-buffered - Máxima capacidad de la memoria del sistema: 16GB (vea **ATENCIÓN 1**)
Ranuras de Expansión	- 1 x ranura PCI Express 2.0 x16 (PCIE1 @ modo x4)
VGA OnBoard	- Tarjeta gráfica integrada AMD Radeon HD 6250 - iGPU de clase DX11, Pixel Shader 5.0 - 512MB de Memoria máxima compartida - Tres opciones de salida VGA: D-Sub, DVI-D y HDMI - Admite HDMI con una resolución máxima de 1920x1200 (1080P) - Admite DVI-D con una resolución máxima de 1920x1200 a 75 Hz - Admite D-Sub con una resolución máxima de 2048x1536 a 85 Hz - Admite la función HDCP con puertos DVI-D y HDMI - Apoya la reproducción de Blu-rayo de 1080p (BD) con puertos DVI-D y HDMI
Audio	- 7.1 CH HD Audio con Protección de Contenido (Realtek ALC892 Audio Codec) - Compatible con audio Blu-ray de alta calidad - Admite protección contra subidas de tensión (Protección Integral contra Picos de ASRock)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Soporta Wake-On-LAN - Admite protección contra rayos/ESD (Protección Integral contra Picos de ASRock) - Admite detección de conexión de cable LAN - Compatible con Ethernet 802.3az de bajo consumo energético

	- Compatible con PXE
Entrada/Salida de Panel Trasero	- 1 x puerto de teclado/ratón PS/2 - 1 x puerto D-Sub - 1 x puerto DVI-D - 1 x puerto HDMI - 1 x puerto de salida óptica SPDIF - 6 x puertos USB 2.0 predeterminados (Admite protección ESD (Protección Integral contra Picos de ASRock)) - 1 x Conector eSATA3 - 1 x Puerto LAN RJ-45 con LED (LED de ACCIÓN/ENLACE y LED de VELOCIDAD) - Conexión de audio: Altavoz lateral / Altavoz trasero / Central/Bajos / Entrada de línea / Altavoz frontal / Micrófono
Almacenamiento	- 4 x conectores SATA3 de 6,0 Gb/s con funciones NCQ, AHCI y de “Hot Plug” (conexión en caliente)
Conectores	- 1 x Base de conexiones del módulo de infrarrojos para el consumidor - 1 x En-tête de port COM - 1 x conector de ventilador de la CPU (de 3 pines) - 2 conector de ventilador de chasis (1 x de 4 pines, 1 x de 3 pines) - 1 x 24-pin cabezal de alimentación ATX - 1 x Conector de audio de panel frontal - 2 x Cabezal USB 2.0 (admite 4 puertos USB 2.0 adicionales) (Admite protección ESD (Protección Integral contra Picos de ASRock))
BIOS	- 32Mb BIOS legal UEFI AMI compatible con GUI - Soporta “Plug and Play” - ACPI 1.1 compliance wake up events - Soporta “jumper free” - Soporta SMBIOS 2.3.1 - Múltiple ajuste de DRAM, FCH, +1V, +1.8V Voltage
Monitor Hardware	- Sensibilidad a la temperatura del procesador - Sensibilidad a la temperatura de la placa madre - Taquímetros de los ventiladores del procesador y del CPU / chasis - Ventilador silencioso del procesador y el chasis (ajuste automático de la velocidad del ventilador del chasis en función de la temperatura del procesador o la placa base) - Control de ajuste de la velocidad del ventilador de la CPU y el chasis - Monitor de Voltaje: +12V, +5V, +3.3V, Vcore

OS	- Microsoft® Windows® 8.1 32 bits / 8.1 64 bits / 8 32 bits / 8 64 bits / 7 32 bits / 7 64 bits / XP 32 bits / XP 64 bits
Certificaciones	- FCC, CE, WHQL - Cumple con la directiva ErP/EuP (se requiere una fuente de alimentación que cumpla con la directiva ErP/EuP)

* Para más información sobre los productos, por favor visite nuestro sitio web:
http://www.asrock.com

ADVERTENCIA

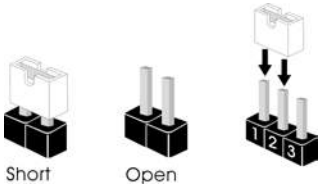
Tenga en cuenta que hay un cierto riesgo implícito en las operaciones de aumento de la velocidad del reloj, incluido el ajuste del BIOS, aplicando la tecnología de aumento de velocidad liberada o utilizando las herramientas de aumento de velocidad de otros fabricantes. El aumento de la velocidad puede afectar a la estabilidad del sistema e, incluso, dañar los componentes y dispositivos del sistema. Esta operación se debe realizar bajo su propia responsabilidad y Ud. debe asumir los costos. No asumimos ninguna responsabilidad por los posibles daños causados por el aumento de la velocidad del reloj.

ATENCIÓN !

1. Debido a las limitaciones del sistema, el tamaño real de la memoria debe ser inferior a 4GB para que el sistema pueda funcionar bajo Windows® 8.1 / 8 / 7 / XP. Para equipos con Windows® OS con CPU de 64-bit, no existe dicha limitación.

1.3 Setup de Jumpers

La ilustración muestra como los jumpers son configurados. Cuando haya un jumper-cap sobre los pins, se dice gue el jumper está “Short”. No habiendo jumper cap sobre los pins, el jumper está “Open”. La ilustración muesta un jumper de 3 pins cuyo pin 1 y pin 2 están “Short”.



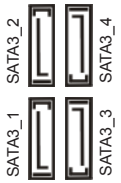
Jumper	Setting	
Limpiar CMOS (CLRCMOS1, jumper de 3 pins) (ver p.2, No. 6)	 Valor predeterminado	 Restablecimiento de la CMOS

Nota: CLRCMOS1 permite borrar los datos de la memoria CMOS. Para borrar los parámetros del sistema y restablecer la configuración predeterminada de los mismos, apague el equipo y desenchufe el cable de alimentación de la toma de corriente eléctrica. Deje que transcurran 15 segundos y, después, utilice un puente para cortocircuitar los contactos 2 y 3 de CLRCMOS1 durante 5 segundos. No borre la memoria CMOS justamente después de actualizar el BIOS. Si necesita borrar la memoria CMOS justamente después de actualizar el BIOS, debe iniciar primero el sistema y, a continuación, cerrarlo antes de llevar a cabo el borrado de dicha memoria. Tenga en cuenta que la contraseña, la fecha, la hora, el perfil predeterminado del usuario, el GUID 1394 y la dirección MAC solamente se borrará si la batería CMOS se quita.

1.4 Cabezales y Conectores en Placas

Los conectores y cabezales en placa NO son puentes. NO coloque las cubiertas de los puentes sobre estos cabezales y conectores. El colocar cubiertas de puentes sobre los conectores y cabezales provocará un daño permanente en la placa base.

Conexiones de serie ATA3
(SATA3_1: vea p.2, N. 12)
(SATA3_2: vea p.2, N. 10)
(SATA3_3: vea p.2, N. 11)
(SATA3_4: vea p.2, N. 9)



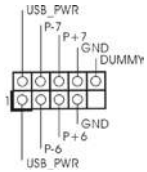
Estas cuatro conexiones de serie ATA3 (SATA3) admiten cables SATA para dispositivos de almacenamiento internos. La interfaz SATAII / SATA3 actual permite una velocidad de transferencia de 6.0 Gb/s.

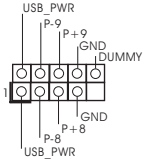
Cable de datos de serie ATA (SATA)
(Opcional)

Cualquier extremo del cable de los datos de SATA puede ser conectado con el disco duro de SATA / SATAII / SATA3 o el conectador de SATAII / SATA3 en esta placa base.

Cabezal USB 2.0
(9-pin USB6_7)
(vea p.2, N. 19)

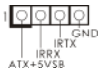
(9-pin USB8_9)
(vea p.2, N. 18)





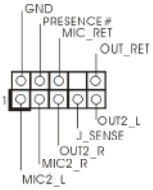
Además de seises puertos USB 2.0 predeterminados en el panel de E/S, hay dos bases de conexiones USB 2.0 en esta placa base. Cada una de estas bases de conexiones admite dos puertos USB 2.0.

Base de conexiones del módulo de infrarrojos para el consumidor
(4-pin CIR1)
(vea p.2, N. 17)



Esta base de conexiones se puede utilizar para conectar receptor remoto.

Conector de audio de panel frontal
(9-pin HD_AUDIO1)
(vea p.2, N. 20)



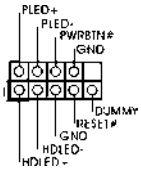
Este es una interface para cable de audio de panel frontal que permite conexión y control conveniente de apparatos de Audio.

1. El Audio de Alta Definición soporta la detección de conector, pero el cable de panel en el chasis debe soportar HDA para operar correctamente. Por favor, siga las instrucciones en nuestro manual y en el manual de chasis para instalar su sistema.
2. Si utiliza el panel de sonido AC'97, instálelo en la cabecera de sonido del panel frontal de la siguiente manera:
   A. Conecte Mic_IN (MIC) a MIC2_L.
   B. Conecte Audio_R (RIN) a OUT2_R y Audio_L (LIN) en OUT2_L.
   C. Conecte Ground (GND) a Ground (GND).
   D. MIC_RET y OUT_RET son sólo para el panel de sonido HD. No necesitará conectarlos al panel de sonido AC'97.
   E. Activación del micrófono frontal.
   En sistemas operativos Windows® XP / XP 64-bit:
   Seleccione "Mixer" (Mezclador). Seleccione "Recorder" (Grabadora). A continuación, haga clic en "FrontMic" (Micrófono frontal).
   En sistemas operativos Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit:
   Acceda a la ficha "FrontMic" (Micrófono frontal) del panel de control Realtek. Ajuste la posición del control deslizante "Recording Volume" (Volumen de grabación).

Cabezal de panel de sistema

(9-pin PANEL1)

(vea p.2, N. 8)



Este cabezar acomoda varias dunciones de panel frontal de sistema.

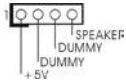
Conecte el interruptor de alimentación, el interruptor de restablecimiento y el indicador de estado del sistema situados en el chasis con esta cabecera en función de las siguientes asignaciones de contacto. Preste atención a los contactos positivos y negativos antes de conectar los cables.

PWRBTN (interruptor de alimentación):
Conecte el interruptor de encendido situado en el panel frontal del chasis. Puede configurar la forma de apagar su sistema mediante el interruptor de alimentación.
RESTABLECER (interruptor de restablecimiento):
Conecte el interruptor de restablecimiento situado en el panel frontal del chasis. Pulse el interruptor de restablecimiento para restablecer el equipo si se bloquea y no se reinicia con normalidad.
PLED (LED de alimentación del sistema):
Conecte el indicador de estado de alimentación situado en el panel frontal del chasis. El LED se enciende cuando el sistema esté en funcionamiento. El LED parpadea cuando el sistema se encuentre en estado de suspensión S1. El LED se apaga cuando el sistema se encuentre en estado de suspensión S3/S4 o se apaga (S5).

HDLED (LED de actividad del disco duro):
Conecte el LED de actividad de disco duro situado en el panel frontal del chasis. El LED se enciende cuando el disco duro esté leyendo o escribiendo datos.

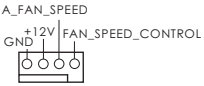
Es posible que el diseño del panel frontal varíe en función del chasis. Un módulo del panel frontal consiste principalmente de interruptor de alimentación, interruptor de restablecimiento, LED de alimentación, LED de actividad del disco duro, altavoz, etc. Al conectar el módulo del panel frontal del chasis a esta cabecera, asegúrese de que las asignaciones de cables y las asignaciones de contactos coincidan correctamente.

Cabezal del altavoz del chasis
(4-pin SPEAKER1)
(vea p.2, N. 13)

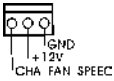


Conecte el altavoz del chasis a su cabezal.

Conectores de ventilador de chasis
(4-pin CHA_FAN1)
(vea p.2, N. 2)

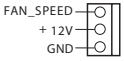


(3-pin CHA_FAN2)
(vea p.2, N. 14)



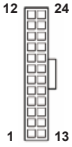
Por favor, conecte los cables del ventilador a los conectores de ventilador, haciendo coincidir el cable negro con la patilla de masa.

Conector del ventilador de la CPU
(3-pin CPU_FAN1)
(vea p.2, N. 1)



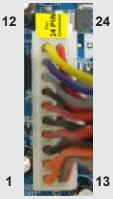
Conecte el cable del ventilador de la CPU a este conector y haga coincidir el cable negro con el conector de tierra.

Cabezal de alimentación ATX
(24-pin ATXPWR1)
(vea p.2, N. 7)



Conecte la fuente de alimentación ATX a su cabezal.

A pesar de que esta placa base incluye in conector de alimentación ATX de 24 pins, ésta puede funcionar incluso si utiliza una fuente de alimentación ATX de 20 pins tradicional. Para usar una fuente de alimentación ATX de 20 pins, por favor, conecte su fuente de alimentación usando los Pins 1 y 13.

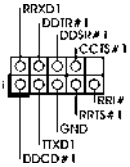


Instalación de una Fuente de Alimentación ATX de 20 Pins

Cabezal del puerto COM

(9-pin COM1)

(vea p.2, N. 21)



Este cabezal del puerto COM se utiliza para admitir un módulo de puerto COM.

1. Введение

Благодарим вас за покупку материнской платы ASRock ***T48EM1*** надежной материнской платы, изготовленной в соответствии с постоянно предъявляемыми ASRock жесткими требованиями к качеству. Она обеспечивает превосходную производительность и отличается отличной конструкцией, которые отражают приверженность ASRock качеству и долговечности.

Данное руководство по быстрой установке включает вводную информацию о материнской плате и пошаговые инструкции по ее установке. Более подробные сведения о плате можно найти в руководстве пользователя на компакт-диске поддержки.

Спецификации материнской платы и программное обеспечение BIOS иногда изменяются, поэтому содержание этого руководства может обновляться без уведомления. В случае любых модификаций руководства его новая версия будет размещена на веб-сайте ASRock без специального уведомления. Кроме того, самые свежие списки поддерживаемых модулей памяти и процессоров можно найти на сайте ASRock.

Адрес веб-сайта ASRock http://www.asrock.com

При необходимости технической поддержки по вопросам данной материнской платы посетите наш веб-сайт для получения информации об используемой модели.

www.asrock.com/support/index.asp

1.1 Комплектность

Материнская плата ASRock ***T48EM1*** (форм-фактор Mini-ITX)
Руководство по быстрой установке ASRock ***E3501***
Компакт-диск поддержки ASRock ***T48EM1***
2 x кабель данных Serial ATA (SATA) (дополнительно)
1 x I/O Щит Группы ввода / вывода

1.2 Спецификации

Платформа	- форм-фактор Mini-ITX - Твердотельный конденсатор в цепи питания процессора - High Density Glass Fabric PCB
Процессор	- AMD G-серия APU T48E - Поддержка технологии AMD Cool 'n' Quiet™ - UMI 2.5 GT/s
Набор микросхем	- AMD A50M Набор микросхем
Память	- 2 x гнезда DDR3 DIMM - Поддержите DDR3 1066/800 не- ECC, безбуферная память - Максимальный объем системной памяти: 16 ГБ (см. **ОСТОРОЖНО, пункт 1**)
Гнезда расширения	- 1 x PCI Express 2.0 x16 (PCIE1 в режиме x4)
Графика	- Встроенный видеоадаптер AMD Radeon HD 6250 - Поддержка DirectX 11, Pixel Shader 5.0 - Макс. объем разделяемой памяти 512Мб - Три VGA-выхода: D-Sub, DVI-D и HDMI - Поддержка HDMI с максимальным разрешением до 1920x1200 (1080P) - Поддержка DVI-D с максимальным разрешением до 1920x1200 @ 75 Гц - Поддержка D-Sub с максимальным разрешением до 2048x1536 @ 85 Гц - Поддержка функции HDCP через разъемы DVI-D и HDMI - Подержат Blu-луч 1080p (КОММУТАЦИОННАЯ ДОСКА) через разъемы DVI-D и HDMI
Аудиосистема	- 7.1 CH HD Аудио HD с Довольной Защитой (Кодер-декодер Аудио Realtek ALC892) - Поддержка Premium Blu-ray audio - Поддержка защиты от перенапряжений (Полная защита (ASRock от выбросов напряжения))
ЛВС	- PCIE x 1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - поддержка Wake-On-LAN - Поддержка защиты от молнии/электростатического электричества (Полная защита (ASRock от выбросов напряжения)) - Поддержка определения кабеля ЛВС - Поддержка энергосберегающего интерфейса Ethernet 802.3az - Поддержка PXE
Разъемы ввода-вывода на задней панели	- 1 x порт клавиатуры/мыши PS/2 - 1 x D-Sub порт - 1 x DVI-D порт - 1 x HDMI порт - 1 x порт Optical SPDIF Out

	- 6 x порта USB 2.0 на задней панели в стандартной конфигурации (Поддержка защиты от электростатического электричества (Полная защита (ASRock от выбросов напряжения)) - 1 x eSATA3 порт - Разъем 1 x RJ-45 LAN с светодиодным индикатором (индикатор ACT/LINK и индикатор SPEED) - Соединитель звуковой подсистемы: тыльная колонка / центральная / субвуфер / линейный вход / передняя колонка / микрофон
Запоминающие устройства	- 4 x порта SATA3 со скоростью передачи данных 6,0 Гбит/с, с аппаратной поддержкой функций NCQ, AHCI и «горячего подключения»
Колодки и плате	- 1 x Датчик пользовательского инфракрасного модуля - 1 x Колодка COM - 1 x разъем для вентилятора ЦП (3-контактный) - 2 x разъем для вентилятора корпуса (1 x 4-контактный, 1 x 3-контактный) - 1 x 24-контактный Колодка питания ATX - 1 x Аудиоразъем передней панели - 2 x Колодка USB 2.0 (одна колодка для поддержки 4 дополнительных портов USB 2.0 (Поддержка защиты от электростатического электричества (Полная защита (ASRock от выбросов напряжения))
BIOS	- 32Mb AMI UEFI Legal BIOS с поддержкой графического интерфейса поль зователя - поддержка “Plug and Play” - ACPI 1.1, включение по событиям - поддержка режима настройки без перемычек - поддержка SMBIOS 2.3.1 - центральный Мультирегулирование Напряжения DRAM, FCH, +1V, +1.8V
Контроль оборудо-вания	- Датчики температуры процессора - Датчики температуры корпуса - Тахометры вентиляторов CPU/Chassis FAN - Бесшумный вентилятор ЦП/системного блока (возможность авто матической настройки скорости вентилятора системного блока в соответствии с температурой центрального процессора или мате ринской платы) - Мультиконтроль скорости вентилятора ЦП/системного - Контроль напряжения: +12V, +5V, +3.3V, Vcore
Операцион	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit / XP 32-bit / XP 64-bit
ные системы Сертификаты	- FCC, CE, WHQL - Совместимость с ErP/EuP Ready (требуется блок питания совместимый с ErP/EuP)

* Для детальной информации продукта, пожалуйста посетите наш вебсайт: http://www.asrock.com

ВНИМАНИЕ

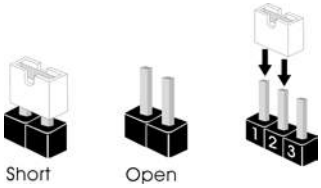
Следует понимать, что с оверклокингом связан определенный риск во всех случаях, включая изменение установок BIOS, применение технологии Untied Overclocking или использование инструментов оверклокинга сторонних производителей. Оверклокинг может повлиять на стабильность работы системы и даже вызвать повреждение входящих в нее компонентов и устройств. Приступая к оверклокингу, вы полностью берете на себя все связанные с ним риски и расходы. Мы не будем нести ответственность за любые возможные повреждения в результате оверклокинга.

ОСТОРОЖНО!

1. В силу ограничения операционной системы фактическая емкость памяти может быть меньше 4Гб для обеспечения резервного места для использования системой Windows® 8.1 / 8 / 7 / XP. Таких ограничений нет для Windows® OS с 64-bit центральным процессором.

1.3 Установка перемычек

Конфигурация перемычек иллюстрируется на рисунке. Когда перемычка надета на контакты, они называются “замкнутыми” (short). Если на контактах перемычки нет, то они называются “разомкнутыми” (open). На иллюстрации показана 3-контактная перемычка, у которой контакты 1 и 2 замкнуты.

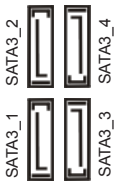
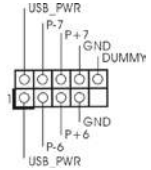
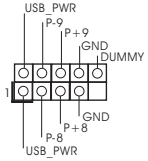
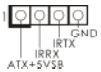
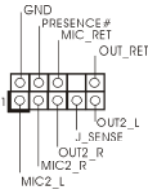


Перемычка	Установка	Описание
Очистка CMOS (CLRCMOS1, 3-контактная перемычка) (см. стр. 2, п. 6)	 Стандартные	 Очистка CMOS

Примечание. Контактная колодка CLRCMOS1 позволяет очистить данные CMOS. Для очистки данных и восстановления заводских системных параметров сначала выключите компьютер и отсоедините сетевую вилку кабеля питания от электророзетки. Выждите не менее 15 секунд и колпачковой перемычкой на 5 секунд перемкните штырьки 2 и 3 контактной колодки CLRCMOS1. Однако не производите очистку CMOS непосредственно после обновления BIOS. Если необходимо очистить CMOS сразу же после окончания обновления BIOS, то, перед очисткой CMOS, необходимо сначала выполнить загрузку системы, а затем завершить ее работу. Примите во внимание, что пароль, дата, время, профиль пользователя по умолчанию, идентификатор 1394 GUID и MAC-адрес будут очищены только тогда, когда будет извлечена из своего гнезда батарейка CMOS.

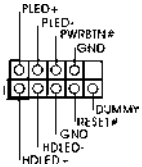
1.4 Колодки и разъемы на плате

Имеющиеся на плате колодки и разъемы НЕ ЯВЛЯЮТСЯ контактами для перемычек. НЕ УСТАНАВЛИВАЙТЕ перемычки на эти колодки и разъемы – это приведет к необратимому повреждению материнской платы!

Разъемы Serial ATA3 (SATA3_1, см. стр. 2, п. 12) (SATA3_2, см. стр. 2, п. 10) (SATA3_3, см. стр. 2, п. 11) (SATA3_4, см. стр. 2, п. 9)		Четыре соединителя Serial ATA3 предназначаются для подключения внутренних устройств хранения с использованием нтерфейсных кабелей SATA3. В настоящее время интерфейс SATA допускает скорость передачи данных до \ 6,0 Гбит/с.
Информационный кабель Serial ATA (SATA) (дополнительно)		Информационный кабель интерфейса SATA / SATAII / SATA3 не является направленным. Любой из его соединителей может быть подключен либо к жесткому диску интерфейса SATAII / SATA3 либо к материнской плате.
Колодка USB 2.0 (9-контактный USB6_7) (см. стр. 2, п. 19)		Помимо шесть стандартных портов USB 2.0 на панели ввода-вывода, на данной материнской плате предусмотрено два разъема USB 2.0. Каждый разъем USB 2.0 поддерживает два порта USB 2.0.
(9-контактный USB8_9) (см. стр. 2, п. 18)		
Датчик пользовательского инфракрасного модуля (4-контактный CIR1) (см. стр. 2, п. 17)		Датчик можно использовать для подключения дистанционный приемник.
Аудиоразъем передней панели (9-контактный HD_AUDIO1) (см. стр. 2, п.20)		Этот интерфейс предназначен для присоединения аудиокабеля передней панели, обеспечивающего удобное подключение аудиоустройств и управление ими.

1. Система High Definition Audio поддерживает функцию автоматического обнаружения разъемов (Jack Sensing), однако для ее правильной работы кабель панели в корпусе должен поддерживать HDA. При сборке системы следуйте инструкциям, приведенным в нашем руководстве и руководстве пользователя для корпуса.
2. Если вы используете аудиопанель AC'97, подключите ее к колодке аудиоинтерфейса передней панели следующим образом:
   A. Подключите выводы Mic_IN (MIC) к контактам MIC2_L.
   B. Подключите выводы Audio_R (RIN) к контактам OUT2_R, а выводы Audio_L (LIN) к контактам OUT2_L.
   C. Подключите выводы Ground (GND) к контактам Ground (GND).
   D. Контакты MIC_RET и OUT_RET предназначены только для аудиопанели HD. При использовании аудиопанели AC'97 подключать их не нужно.
   E. Процедура активации микрофона приведена ниже.
   Для ОС Windows® XP / XP 64-бита:
   Выберите «Mixer» (Микшер). Выберите «Recorder» (Устройство записи). Затем щелкните «FrontMic» (Передний микрофон).
   Для ОС Windows® 8.1 / 8.1 64-бита / 8 / 8 64-бита / 7 / 7 64-бита:
   Перейдите к вкладке «FrontMic» (Передний микрофон) в панели управления Realtek. Отрегулируйте уровень «Recording Volume» (Громкость записи).

Колодка системной панели
(9-контактный PANEL1)
(см. стр. 2, п. 8)



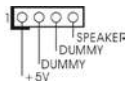
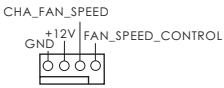
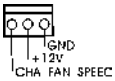
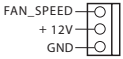
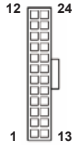
Данная колодка обеспечивает работу нескольких функций передней панели системы.

Подключите к этому разъему кнопку питания, кнопку сброса и индикатор состояния системы на корпусе в соответствии с указанным ниже назначением контактов. При подключении кабелей необходимо соблюдать полярность положительных и отрицательных контактов.

PWRBTN (кнопка питания):
Подключите к этим контактам кнопку питания на передней панели корпуса. Способ выключения системы с помощью кнопки питания можно настроить.
RESET (кнопка сброса):
Подключите к этим контактам кнопку сброса на передней панели корпуса. Нажмите кнопку сброса для перезагрузки компьютера, если компьютер «завис» и нормальную перезагрузку выполнить не удается.

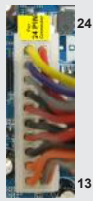
PLED (индикатор питания системы):
Подключите к этим контактам индикатор состояния питания на передней панели корпуса. Этот индикатор светится, когда система работает. Индикатор мигает, когда система находится в режиме ожидания S1. Этот индикатор не светится, когда система находится в режиме ожидания S3 или S4, либо выключена (S5).
HDLED (индикатор активности жесткого диска):
Подключите к этим контактам индикатор активности жесткого диска на передней панели корпуса. Этот индикатор светится, когда осуществляется считывание или запись данных на жестком диске.

Конструкция передней панели может различаться в зависимости от корпуса. Модуль передней панели в основном состоит из кнопки питания, кнопки сброса, индикатора питания, индикатора активности жесткого диска, динамика и т.п. При подключении к этому разъему модуля передней панели корпуса удостоверьтесь, что провода подключаются к соответствующим контактам.

Колодка динамика корпуса (4-контактный SPEAKER1) (см. стр. 2, п. 13)		Подключите к этой колодке кабель от динамика на корпусе компьютера.
Chassis Fan-соединители (4-контактный CHA_FAN1) (см. стр. 2, п. 2)		Подключите кабели вентилятора к соединителям и присоедините черный шнур к штырю заземления.
(3-контактный CHA_FAN2) (см. стр. 2, п. 14)		
Разъем вентилятора процессора (3-контактный CPU_FAN1) (см. стр. 2, п. 1)		Подключите к этому разъему кабель вентилятора процессора так, чтобы черный провод соответствовал контакту земли.
Колодка питания ATX (24-контактный ATXPWR1) (см. стр. 2, п. 7)		Подключите к этой колодке кабель питания ATX.

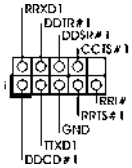
Русский

Несмотря на то, что эта материнская плата предусматривает 24-штыревой разъем питания ATX, работа будет продолжаться, даже если адаптируется традиционный 20-штыревой разъем питания ATX. Для использования 20-штыревого разъема питания ATX вставьте источник питания вместе со штекером 1 и штекером 13.



Установка 20-штыревого разъема питания ATX

Колодка COM-порта
(9-контактный COM1)
(см. стр. 2, п. 21)



Данная колодка COM-порта позволяет подключить модуль порта COM.

1. Introdução

Gratos por comprar nossa placa–mãe ***T48EM1***, um produto confiável feito com ASRock um estrito controle de qualidade consistente. Com um excelente desempenho, essa placa é dotada de um projeto robusto que atende a ASRock de compromisso com a qualidade e durabilidade.

Este Guia de Instalação Rápida apresenta a placa-mãe e o guia de instalação passo a passo. Mais informações detalhadas sobre a placa-mãe podem ser encontradas no manual do usuário do CD de suporte.

Porque as especificações da placa mãe e o software de BIOS poderiam ser atualizados, o conteúdo deste manual pode ser cambiado sem aviso. Em caso de qualquer modificação deste manual, a versão atualizada estará disponível no website de ASRock sem prévio aviso. Pode também encontrar as listas das mais recentes placas VGA e das CPUs suportadas no site da web da ASRock.

Website de ASRock http://www.asrock.com

Se precisar de apoio técnico em relação a este placa-mãe, por favor visite o nosso sítio da internet para informação específica acerca do modelo que está a utilizar. www.asrock.com/support/index.asp

1.1 Este pacote contém

Placa-mãe ASRock ***T48EM1*** (Formato Mini-ITX)
Guia de instalação rápida da ASRock ***T48EM1***
CD de suporte da placa ASRock ***T48EM1***
Dois cabo de dados ATA Serial (SATA) (Opcional)
Uma proteção I/O

1.2 Especificações

Plataforma	- Formato Mini-ITX - Condensador Solid para alimentação da CPU - PCB de Fibra de Vidro de Alta Densidade
CPU	- AMD G-série APU T48E - Suporta a tecnologia AMD Cool 'n' Quiet™ - UMI 2.5 GT/s
Chipsets	- AMD A50M Chipsets
Memória	- 2 x slots de DDR3 DIMM - Suporte para memória não intermédia DDR3 1333/1066/800, não ECC - Capacidade máxima de memória do sistema: 16GB (veja o **AVISO 1**)
Slots de Expansão	- 1 x slot de PCI Express 2.0 x16 (modo PCIE1 @ x4)
VGA integrado	- Placa gráfica AMD Radeon HD 6250 integrada - DX11 class iGPU, Pixel Shader 5.0 - Memória partilhada máxima 512MB - Três VGA Saída: D-Sub, DVI-D e HDMI portas - Suporta HDMI com resolução máxima até 1920x1200 (1080P) - Suporta DVI-D com resolução máxima até 1920x1200 @ 75Hz - Suporta D-Sub com resolução máxima até 2048x1536 @ 85Hz - Suportar HDCP função com DVI-D e HDMI portas - Suportar 1080p Blu-ray (BD) playback com DVI-D e HDMI portas
Áudio	- Áudio HD de 7.1 canais com protecção de conteúdo (Codec de áudio Realtek ALC892) - Suporte áudio Blu-ray superior - Suporta Proteção Contra Surto (Proteção Total contra Picos ASRock)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Suporta Wake-On-LAN - Suporta Proteção contta Relâmpago/ESD (Proteção Total contra Picos ASRock) - Suporta detecção de cabo LAN - Suporta IEEE 802.3az - Suporta PXE

Entrada/Saída pelo painel traseiro	- 1 x porta para teclado/mouse PS/2 - 1 x porta D-Sub - 1 x porta DVI-D - 1 x porta HDMI - 1 x porta óptica para saída SPDIF - 6 x portas USB 2.0 padrão (Suporta Proteção ESD (Proteção Total contra Picos ASRock)) - 1 x porta eSATA3 - 1 x porta LAN RJ-45 com LED (LED ACT/LIG e LED VELOCIDADE) - HD Áudio Jack: Altifalante traseiro / Central/Graves / Entrada de linha / Altifalante frontal / Microfone
Armazenamento	- 4 x conectores SATA3, suporte a taxa de transferência de dados de até 6,0 Gb/s, suporte NCQ, AHCI e “conexão a quente”
Conectores	- 1 x Conector do módulo de consumidor infravermelho - 1 x Conector da porta COM - 1 x Conector da ventoinha da CPU (3 pinos) - 2 x Conector da ventoinha do chassis (1 x 4 pinos, 1 x 3 pinos) - 1 x Conector de força do ATX de 24 pinos - 1 x Conector Áudio do painel frontal - 2 x cabezal USB 2.0 (suportar 4 portas USB 2.0 adicionais) (Suporta Proteção ESD (Proteção Total contra Picos ASRock))
BIOS	- 32Mb BIOS UEFI oficial da AMI com suporte para GUI - Suporta dispositivos “Plug and Play” - ACPI 1.1 atendendo a eventos de “wake up” - Suporta dispositivos sem jumper - Suporte para SMBIOS 2.3.1 - DRAM, FCH, +1V, +1.8V Voltage Multi-adjustment
Monitor do HW	- Sensores de temperature do procesador - Medição de temperatura da placa-mãe - Tacômetros de ventilador do Processador/chassis - Ventoinha da CPU/Chassis silenciosa (Permite o ajuste automático da velocidade da ventoinha do chassis através da temperatura da CPU ou da placa principal) - Controlo de velocidade da ventoinha da CPU/Chassis - Monitoramento de voltagem : +12 V, +5 V, +3.3 V, Vcore
Sistema	- Microsoft® Windows® 8.1 de 32 bits / 8.1 de 64 bits / 8 de 32 bits / 8 de 64 bits / 7 de 32 bits / 7 de 64 bits / XP de 32 bits / XP de 64 bits

Certificações	- FCC, CE, WHQL - “ErP/EuP Ready” (é necessária alimentação eléctrica “ErP/EuP Ready”)

* Para informações mais detalhadas por favor visite o nosso sítio Web: http://www.asrock.com

AVISO

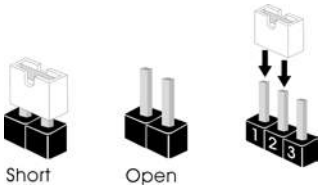
Tenha em atenção que a operação de overclocking envolve alguns riscos, nomeadamente no que diz respeito ao ajuste das definições do BIOS, à aplicação da tecnologia Untied Overclocking ou à utilização de ferramentas de overclocking de terceiros. O overclocking pode afectar a estabilidade do seu sistema ou até mesmo causar danos ao nível dos componentes e dispositivos que integram o sistema. Esta operação é da total responsabilidade do utilizador. Não nos responsabilizamos pelos possíveis danos resultantes do overclocking.

AVISO!

1. Devido às limitações do sistema operativo, o tamanho real da memória pode ser inferior a 4 GB uma vez que uma parte desta está reservada para utilização pelo sistema operativo no âmbito do Windows® 8.1 / 8 / 7 / XP. No caso da CPU de 64 bits do Windows® OS, esta limitação não existe.

1.3 Configuração dos Jumpers

A ilustração mostra como os jumpers são configurados. Quando há uma capa de jumpers sobre os pinos, diz–se que o jumper está “curto”. Não havendo capa sobre os pinos, o jumper está “aberto”. A ilustração mostra um jumper de 3 pinos em que os pinos 1 e 2 están “curtos” quando a capa de jumper estiver colocada sobre esses 2 pinos.

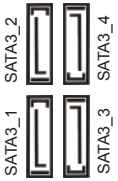
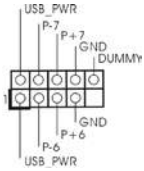
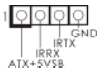


Jumper	Configuração
Restaurar CMOS (CLRCMOS1, jumper de 3 pinos) (veja a folha 2, No. 6)	 Configuração-padrão  Limpar o CMOS

Nota: CLRCMOS1 permite-lhe limpar os dados no CMOS. Para limpar e repor os parâmetros do sistema para os valores predefinidos, encerre o computador e desligue a ficha da tomada. Depois de aguardar 15 segundos, utilize uma tampa de jumper para ligar o pino2 e o pino3 no CLRCMOS1 durante 5 segundos. No entanto, não limpe o CMOS logo após ter efectuado a actualização da BIOS. Se precisar de limpar o CMOS logo após ter terminado uma actualização da BIOS, deverá primeiro iniciar o sistema e voltar a encerrá-lo antes de efectuar a acção de limpeza do CMOS. Tenha em atenção que a palavra-chave, data, hora, perfil predefinido de utilizador, 1394 GUID e endereço MAC apenas serão limpos se a bateria do CMOS for retirada.

1.4 Conectores

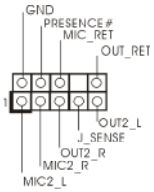
Os conectores NÃO SÃO jumpers. NÃO coloque capas de jumper sobre estes conectores. A colocação de pontos de jumper sobre os conectores causará danos irreversíveis à placa-mãe.

Conector	Figura	Descrição
Conectores ATA3 Serial (SATA3_1: veja a folha 2, No. 12) (SATA3_2: veja a folha 2, No. 10) (SATA3_3: veja a folha 2, No. 11) (SATA3_4: veja a folha 2, No. 9)		Estes quatro conectores Serial ATA3 (SATA3) suportam unidades de disco rígido SATA como dispositivos de armazenamento internos. A atual interface SATA3 permite uma taxa de transferência de dados de até 6.0 Gb/s.
Cabo de dados ATA (SATA) (opcional)		Tanto a saída do cabo de Serial dados SATA pode ser conectado ao disco rígido SATA / SATAII / SATA3 quanto o conector SATAII / SATA3 na placa mãe.
Cabezal USB 2.0 (USB6_7 de 9 pinos) (veja a folha 2, No. 19) (USB8_9 de 9 pinos) (veja a folha 2, No. 18)		Além das seis portas USB 2.0 por defeito no painel de entrada/saída, há duas ligações USB 2.0 nesta placa-mãe. Cada ligação USB 2.0 pode suportar duas portas USB 2.0.
Conector do módulo de consumidor infravermelho (CIR1 de 4 pinos) (veja a folha 2, No. 17)		Este conector suporta um receptor remoto.

Conector Áudio do painel frontal

(HD_AUDIO1 de 9 pinos)

(veja a folha 2, No. 20)



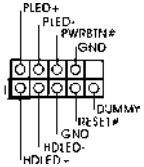
Esta é uma interface para o cabo de áudio no painel frontal, que permite uma conexão e controle convenientes dos dispositivos de áudio.

1. Áudio de elevada definição que suporta a sensibilidade da tomada, mas o fio do painel existente no chassis tem de suportar HDA para funcionar correctamente. Siga s instruções que aparecem no manual e no manual do chassis para instalar o sistema.
2. Se utilizar o painel de áudio AC'97, instale-o no cabeçalho de áudio do painel frontal, como a figura abaixo mostra:
   A. Ligue o Mic_IN (MIC) ao MIC2_L.
   B. Ligue o Audio_R (RIN) ao OUT2_R e o Audio_L (LIN) ao OUT2_L.
   C. Ligue o Ground (GND) ao Ground (GND).
   D. MIC_RET e OUT_RET são apenas para o painel de áudio HD. Não necessita de os ligar para o painel de áudio AC'97.
   E. Para activar o microfone frontal.
      Para os Sistemas Operativos Windows® XP / XP 64 bits:
      Seleccione "Misturador". Seleccione "Gravador". Depois clique em "Microfone frontal".
      Para os Sistemas Operativos Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit:
      Aceda ao separador "Microfone frontal" no painel de Controlo Realtek. Ajuste o "Volume de gravação".

Conector do sistema no painel

(PANEL1 de 9 pinos)

(veja a folha 2, No. 8)



Este conector acomoda diversas funções de sistema no painel frontal.

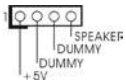
Ligue o botão de alimentação, o botão de reposição e o indicador do estado do sistema no chassis a este conector de acordo com a descrição abaixo. Tenha em atenção os pinos positivos e negativos antes de ligar os cabos.

PWRBTN (Botão de alimentação):
Ligue ao botão de alimentação no painel frontal do chassis. Pode configurar a forma para desligar o seu sistema através do botão de alimentação.
RESET (Botão de reposição):
Ligue ao botão de reposição no painel frontal do chassis. Prima o botão de reposição para reiniciar o computador caso este bloqueie e não seja possível reiniciar normalmente.

PLED (LED de alimentação do sistema):
Ligue ao indicador do estado da alimentação no painel frontal do chassis. O LED ficará acesso quando o sistema estiver em funcionamento. O LED ficará intermitente quando o sistema estiver no estado de suspensão S1. O LED ficará desligado quando o sistema estiver nos estados de suspensão S3/S4 ou desligado (S5).
HDLED (LED de actividade do disco rígido):
Ligue ao LED de actividade do disco rígido no painel frontal do chassis. O LED ficará acesso quando o disco rígido estiver a ler ou a escrever dados.

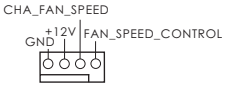
O design do painel frontal poderá variar dependendo do chassis. Um módulo de painel frontal consiste principalmente em um botão de alimentação, um botão de reposição, um LED de alimentação, um LED de actividade do disco rígido, um altifalante, etc. Ao ligar o seu módulo de painel frontal do chassis a este conector, certifique-se que os fios e os pinos têm uma correspondência exacta.

Conector do alto-falante do chassi
(SPEAKER1 de 4 pinos)
(veja a folha 2, No. 13)

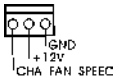


Ligue o alto-falante do chassi neste conector.

Conector do ventilador do chassis
(CHA_FAN1 de 4 pinos)
(veja a folha 2, No. 2)

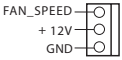


(CHA_FAN2 de 3 pinos)
(veja a folha 2, No. 14)



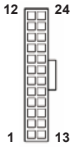
Ligue o cabo do ventilador neste conector, coincidindo o fio preto com o pino de aterramento.

Conector do ventilador da CPU
(CPU_FAN1 de 3 pinos)
(veja a folha 2, No. 1)



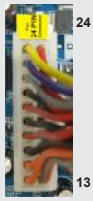
Ligue o cabo do ventilador da CPU, coincidindo o fio preto com o pino de aterramento.

Conector de força do ATX
(ATXPWR1 de 24 pinos)
(veja a folha 2, No. 7)



Ligue a fonte de alimentação ATX neste conector.

Embora esta placa-mãe providencie um conector de energia ATX de 24 pinos, pode apesar disso funcionar com a adapta-ção de uma fonte de energia tradicional de 20 pinos. Para usar a fonte de alimentação de 20 pinos, por favor ligue a sua fonte de alimentação com o Pino 1 e o Pino 13.

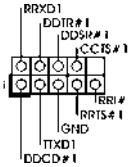


Instalação da Fonte de alimentação ATX de 20 Pinos

Conector da porta COM

(COM1 de 9 pinos)

(veja a folha 2, No. 21)



Este conector é usado para suportar um módulo de porta COM.

Português

1. Giriş

ASRock'ın kesintisiz titiz kalite denetimi altında üretilen güvenilir bir anakart olan ASRock ***T48EM1*** anakartını satın aldığınız için teşekkür ederiz. ASRock'ın kalite ve dayanıklılık konusundaki kararlılığına uygun güçlü tasarımıyla mükemmel bir performans sunar.

Bu Hızlı Takma Kılavuzu anakarta giriş ve adım adım takma kılavuzu içerir. Anakart hakkında daha ayrıntılı bilgiyi Destek CD'sinde sunulan kullanıcı kılavuzunda bulabilirsiniz.

Anakart özellikleri ve BIOS yazılımı güncelleştirilebileceğinden bu kılavuzun içeriği önceden haber verilmeksizin değişebilir. Bu belgede değişiklik yapılması durumun -da, güncelleştirilmiş sürüm ayrıca haber verilmeksizin ASRock web sitesinde sunulur. En son VGA kartlarını ve CPU destek listelerini de ASRock web sitesinde bulabilirsiniz. ASRock web sitesi http://www.asrock.com
Bu anakartla ilgili teknik desteğe ihtiyacınız olursa, kullandığınız modele özel bilgiler için lütfen web sitemizi ziyaret edin.
www.asrock.com/support/index.asp

1.1 Paket İçindekiler

ASRock ***T48EM1*** Anakart (Mini-ITX Form Faktörü)
ASRock ***T48EM1*** Hızlı Takma Kılavuzu
ASRock ***T48EM1*** Destek CD'si
2 x Seri ATA (SATA) Veri Kablosu (İsteğe Bağlı)
1 x G/Ç Panel Kalkanı

1.2 Özellikler

Platform	- Mini-ITX Form Faktörü - CPU gücü için Katı Kapasitör
	- Yüksek Yoğunluklu Cam Elyaflı Kumaş PCB
CPU	- AMD G-dizi APU T48E - AMD'nin Cool 'n' Quiet™ Teknolojisini Destekler - UMI 2.5 GT/s
Yonga seti	- AMD A50M Yonga seti
Bellek	- 2 x DDR3 DIMM yuva - DDR3 1333/1066/800 ECC olmayan, ara belleksiz bellek - Sistem belleğinin maks. kapasitesi: 16 GB (bkz. **DİKKAT 1**)
Genişletme Yuvası	- 1 x PCI Express 2.0 x16 yuva (PCIE1 @ x4 modu)
Grafikler	- Entegre AMD Radeon HD 6250 grafik kartı - DX11 sınıfı iGPU, Pixel Shader 5.0 - Maks. paylaюэlan bellek 512 MB - Üç VGA Зэкэю seэenepi: D-Sub, DVI-D ve HDMI - 1920x1200 (1080P)'e kadar maks. зцzъnьrlьkle HDMI Teknolojisini destekler - 75Hz'de 1920x1200'e kadar maks. зцzъnьrlьkle DVI-D'yэ destekler - 85Hz'de 2048x1536'ya kadar maks. зцzъnьrlьkle D-Sub'э destekler - DVI-D ve HDMI portlarэyla HDCP iюlevini destekler - DVI-D ve HDMI portlarэyla Tam HD 1080p Blu-ray (BD) oynatэmэnэ destekler
Ses	- İçerik Korumalı (Realtek ALC892 Ses Codec'i) 7,1 Kanal HD Ses - Premium Blu-ray ses desteği - Dalgalanma Korumasını destekler (ASRock Tam Ani Yükseliş Koruması)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/sn - Realtek RTL8111E - LAN'da Uyan özelliğini destekler - Yıldırım/ESD Korumasını destekler (ASRock Tam Ani Yükseliş Koruması) - LAN Kablo Algılama'yı destekler - Enerji Verimli Ethernet 802.3az desteği - PXE özelliğini destekler

Arka Panel G/3	- 1 x PS/2 Klavye/Fare Portu - 1 x D-Sub Portu - 1 x DVI-D Portu - 1 x HDMI Portu - 1 x Optik SPDIF Зəкəюə Portu - 6 x Kullanəma Hazər USB 2.0 Portu (ESD Korumasını destekler (ASRock Tam Ani Yükseliş Koruması)) - 1 x eSATA3 Konektцrь - 1 x RJ-45 LAN Portu, LED'li (AKT/LƏNK LED'i ve HIZ LED'i) - HD Ses Jakı: Yan Hoparlör/Arka Hoparlör/Orta/Bas/Hat Girişi/Ön Hoparlör/Mikrofon
Depolama	- 4 x SATA3 6,0Gb/sn, donanım NCQ, AHCI ve "Sistem Açıkken Bileşen Takma" işlevlerini
Konektör	- 1 x Kullanıcı Kızılötesi Modül Bağlantısı - 1 x COM portu fişi - 1 x CPU Fan bağlayıcısı (3-pin) - 2 x Kasa Fanı bağlayıcısı (1 x 4-pin, 1 x 3-pin) - 1 x 24 pin ATX güç konektörü - 1 x Ön panel ses konektörü - 2 x USB 2.0 fiş (4 USB 2.0 portu destekler) (ESD Korumasını destekler (ASRock Tam Ani Yükseliş Koruması))
BIOS Özelliği	- 32 Mb GUI destekli AMI UEFI Geçerli BIOS - "Tak Çalıştır"ı destekler - ACPI 1.1 Uyumlu Uyandırma Olayları - Jumpersız ayarlamayı destekler - AMBIOS 2.3.1 Desteği - DRAM, FCH, +1V, +1.8V Voltaj Çoklu ayarı
Donanım Monitör	- CPU Sıcaklık Duyarlılığı - Kasa Sıcaklık Duyarlılığı - CPU/Kasa Fan Takometresi - İşlemci/Kasa Sessiz Fanı (Kasa Fan Hızı'nın İşlemci veya Ana Kart sıcaklığı ile Otomatik Ayar'ına izin verir) - CPU/Kasa Fan Çoklu-Hız Kontrolü - Voltaj İzleme: +12V, +5V, +3,3V, CPU Vcore
İS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit / XP 32-bit / XP 64-bit
Sertifikalar	- FCC, CE, WHQL - ErP/EuP Hazır (ErP/EuP hazır güç kaynağı gerekli)

* Ayrıntılı ürün bilgileri için lütfen web sitemizi ziyaret edin: http://www.asrock.com

UYARI

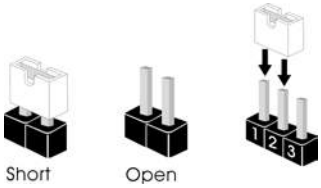
Lütfen, ayarı BIOS'da ayarlama, Untied Overclocking Teknolojisi'ni uygulama veya üçüncü taraf aşırı hızlandırma araçlarını kullanma gibi durumlarda aşırı hızlandırmayla ilgili risk olduğunu unutmayın. Aşırı hızlandırma sisteminizin kararlılığını etkiler veya hatta sisteminizin bileşenlerini ve cihazlarına zarar verebilir. Bu risk size aittir ve zararı siz ödersiniz. Aşırı hızlandırmadan kaynaklanan olası zarardan sorumlu değiliz.

DİKKAT!

1. İşletim sistemi kısıtlaması nedeniyle, Windows® 8.1 / 8 / 7 / XP altında sistem kullanımı için ayırmak için gerçek bellek boyutu 4 GB'den az olabilir. 64-bit CPU'lu Windows® OS için bu tür bir sınırlama yoktur.

1.3 Jumper'ların Ayarı

Şekilde jumper'ların nasıl ayarlandıkları gösterilmektedir. Jumper kapağı pinler üzerine yerleştirildiğinde jumper "Kapalı" dır. Jumper kapağı pinler üzerindeyken jumper "Açık" tır. Şekilde pin1 ve pin2'si "Kapalı" olan jumper kapağı bu 2 pine yerleştirilmiş 3-pinli jumper gösterilmektedir.



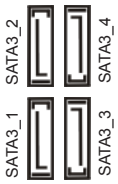
Jumper	Ayar
CMOS'u temizleme (CLRCMOS1, 3-pinli jumper) (bkz. s.2 No. 6)	 Default Clear CMOS

Not: CLRCMOS1, CMOS'daki verilerinizi temizlemenize olanak sağlar. Sistem parametrelerini temizlemek ve varsayılan ayara sıfırlamak için lütfen bilgisayarı kapatın ve güç kablosunun fişini güç kaynağından çekin. 15 saniye bekledikten sonra, pin2 ve pin3'ü CLRCMOS1'de 5 saniye kısaltmak için bir atlatıcı şapkası kullanın. Ancak, BIOS'u güncelledikten hemen sonra lütfen CMOS'u temizlemeyin. BIOS'u güncellemeyi tamamladığınızda CMOS'u temizlemeniz gerekirse, ilk olarak sistemi başlatmanız ve ardından CMOS temizleme işlemini gerçekleştirmeden önce kapatmanız gereklidir. Parola, tarih, saat, kullanıcı varsayılan profili, 1394 GUID ve MAC adresinin yalnızca CMOS pili çıkarıldığında temizleneceğini lütfen aklınızda bulundurunuz.

1.4 Yerleşik Fişler ve Konektörler

Yerleşik fişler ve konektörler jumper DEĞİLDİR. Bu fişlerin ve konektörlerin üzerine jumper kapakları YERLEŞTİRMEYİN. Fişlerin ve konektörlerin üzerine jumper kapakları yerleştirmek anakartın kalıcı olarak zarar görmesine neden olabilir!

Seri ATA3 Konektörler
(SATA3_1: bkz. s.2, No. 12)
(SATA3_2: bkz. s.2, No. 10)
(SATA3_3: bkz. s.2, No. 11)
(SATA3_4: bkz. s.2, No. 9)

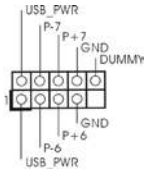


Bu dört Seri ATA3 (SATA3) konektör, dahili depolama cihazları için SATA veri kablolarını destekler. Geçerli SATA3 arayüzü 6,0 Gb/sn veri aktarım hızına izin verir.

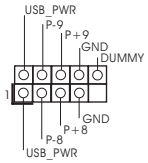
Seri ATA (SATA) Veri Kablosu
(İsteğe bağlı)

SATA veri kablosunu her iki ucu da SATA / SATAII / SATA3 sabit diskine veya anakarttaki SATAII / SATA3 konektörüne bağlanabilir.

USB 2.0 Fişleri
(9-pinli USB6_7)
(bkz. s.2 No. 19)



(9-pinli USB8_9)
(bkz. s.2 No. 18)

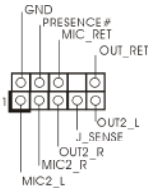


G/Ç panelindeki varsayılan altı USB 2.0 portundan başka, bu anakartta iki USB 2.0 fişi bulunur. Her USB 2.0 fişi iki USB 2.0 portunu destekler.

Kullanıcı Kızılötesi Modül Bağlantısı
(4-pinli CIR1)
(bkz. s.2 No. 17)

Bu fiş, uzaktan kumanda alıcısı destekler.

Ön Panel Ses Fişi
(9-pinli HD_SES1)
(bkz. s.2 No. 20)



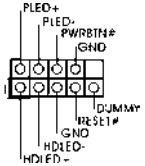
Bu, panel ses kablosu için uygun bağlantı sağlayan ve ses cihazlarını kontrol etmeyi sağlayan bir arayüzdür.

1. Yükse Tanımlı Ses Jak Duyarlılığını destekler, ancak kasadaki panel kablosunun HDA'nın düzgün çalışmasını desteklemesi gerekir. Lütfen sisteminizi yüklemek için kılavuzumuzdaki ve kasa kılavuzundaki talimatları izleyin.
2. AC'97 ses paneli kullanıyorsanız, lütfen ön panel ses fişine aşağıdaki gibi takın:
   A. Mic_IN'i (MIC) MIC2_L'ye bağlayın.
   B. Audio_R'yi (RIN) OUT2_R'ye ve Audio_L'yi (LIN) OUT2_L'ye bağlayın.
   C. Ground'u (GND) Ground'a (GND) bağlayın.
   D. MIC_RET ve OUT_RET yalnızca HD ses paneli içindir. Bunları AC'97 ses paneli için bağlamanız gerekmez.
   E. Ön mikrofonu etkinleştirmek için
      Windows® XP / XP 64-bit İS için:
      "Karıştırıcı"yı seçin. "Kaydedici"yi seçin. Sonra "Ön Mikrofon"u tıklatın.
      Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit İS için:
      Realtek Kontrol panelinde "Ön Mikrofon" Sekmesine gidin. "Kayıt Ses Seviyesi"ni ayarlayın.

Sistem Paneli Fişi

(9-pinli PANEL1)

(bkz. s.2 No. 8)



Bu fiş, birçok sistem ön paneli işlevini barındırır.

Kasa üzerindeki güç anahtarını, sıfırlama anahtarını ve sistem durumu göstergesini aşağıdaki pin atamalarına göre bu bağlantıya bağlayın. Kabloları bağlamadan önce pozitif ve negatif pinlere dikkat edin.

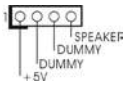
PWRBTN (Güç Anahtarı):
Kasa üzerindeki güç anahtarını ön panele bağlayın. Güç anahtarını kullanarak sisteminizi kapatma şeklinizi yapılandırabilirsiniz.
RESET (Sıfırlama Anahtarı):
Kasa üzerindeki sıfırlama anahtarını ön panele bağlayın. Bilgisayar donarsa veya normal bir yeniden başlatma gerçekleştirilemezse, bilgisayarı yeniden başlatmak için sıfırlama anahtarına basın.
PLED (Sistem Gücü LED'i):
Kasa üzerindeki güç durumu göstergesini ön panele bağlayın. Sistem çalışırken LED yanar. Sistem S1 uyku modunda iken LED yanıp sön meye devam eder. Sistem S3/S4 uyku modunda veya kapalı (S5) iken LED söner.
HDLED (Sabit Disk Çalışma LED'i):
Kasa üzerindeki sabit disk çalışma LED'ini ön panele bağlayın. Sabit disk veri okurken veya yazarken LED yanar.

Ön panel tasarımı kasaya göre değişiklik gösterebilir. Ön panel modülünde temel olarak güç anahtarı, sıfırlama anahtarı, güç LED'i, sabit disk çalışma LED'i, hoparlör vb. bulunur. Kasa ön panel modülünüzü bu bağlantıya bağlarken, kablo atamalarının ve pin atamalarının doğru biçimde eşleştirildiğinden emin olun.

Kasa Hoparlörü Fişi

(4-pinli SPEAKER1)

(bkz. s.2 No. 13)

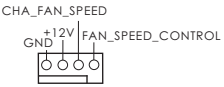


Lütfen kasa hoparlörünü bu fişe bağlayın.

Kasa Fan Konektörü

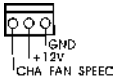
(4-pinli CHA_FAN1)

(bkz. s.2 No. 2)



(3-pinli CHA_FAN2)

(bkz. s.2 No. 14)

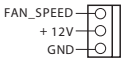


Lütfen kasa fan kablolarını fanına bu konektöre bağlayın ve siyah kabloyu toprak pinine bağlayın.

CPU Fan Konektörü

(3-pinli CPU_FAN1)

(bkz. s.2 No. 1)

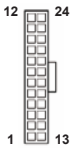


Lütfen fan kablolarını CPU fanına bu konektöre bağlayın ve siyah kabloyu toprak pinine bağlayın.

ATX Güç Konektörü

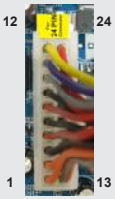
(24-pinli ATXPWR1)

(bkz. s.2 No. 7)



Lütfen bir ATX güç kaynağını bu konektöre bağlayın.

Bu anakart 24-pinli ATX güç konektörü sağlasa da geleneksel bir 20-pinli ATX güç kaynağı bağlarsanız da çalışabilir. 20-pinli ATX güç kaynağını kullanmak için, lütfen güç kaynağınızı Pin 1 ve Pin 13'le birlikte takın.

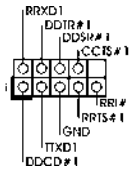


20-Pinli ATX Güç Kaynağını Takma

Seri port Fişi

(9-pinli COM1)

(bkz. s.2 No. 21)



Bu COM1 fişi bir seri port modülünü destekler.

Installing OS on a HDD Larger Than 2TB

This motherboard is adopting UEFI BIOS that allows Windows® OS to be installed on a large size HDD (>2TB). Please follow below procedure to install the operating system.

1. Please make sure to use **Windows® Vista™ 64-bit (with SP1 or above)**, **Windows® 7 64-bit** or **Windows® 8 64-bit**.
2. Press <F2> or <Delete> at system POST. Set **AHCI Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.
3. Choose the item **"UEFI:xxx"** to boot in UEFI Setup Utility > Boot > Boot Option #1. ("xxx" is the device which contains your Windows® installation files. Normally it is an optical drive.) You can also press <F11> to launch boot menu at system POST and choose the item **"UEFI:xxx"** to boot.
4. Start Windows® installation.
5. If you install **Windows® 7 64-bit** OS, OS will be formatted by GPT (GUID Partition Table). Please install the hotfix file from Microsoft®: http://support.microsoft.com/kb/979903

Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information. For technical questions, please submit a support request form at http://www.asrock.com/support/tsd.asp

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