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30/10/2002
Si dichiara che questo prodotto è conforme
alle normative vigenti e soddisfa i requisiti
essenziali richiesti dalle direttive
2004/108/CE, 2006/95/CE e 1999/05/CE
quando ad esso applicabili

Short Declaration of conformity
We declare this product is complying with the
laws in force and meeting all the essential
requirements as specified by the directives
2004/108/CE, 2006/95/CE and 1999/05/CE
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Chapter 1: Introduction

1.1 Before You Start

Thank you for choosing our product. Before you start installing the motherboard, please make sure you follow the instructions below:

- Prepare a dry and stable working environment with sufficient lighting.
- Always disconnect the computer from power outlet before operation.
- Before you take the motherboard out from anti-static bag, ground yourself properly by touching any safely grounded appliance, or use grounded wrist strap to remove the static charge.
- Avoid touching the components on motherboard or the rear side of the board unless necessary. Hold the board on the edge, do not try to bend or flex the board.
- Do not leave any unfastened small parts inside the case after installation. Loose parts will cause short circuits which may damage the equipment.
- Keep the computer from dangerous area, such as heat source, humid air and water.
- The operating temperatures of the computer should be 0 to 45 degrees Celsius.
- To avoid injury, be careful of:
 - Sharp pins on headers and connectors
 - Rough edges and sharp corners on the chassis
 - Damage to wires that could cause a short circuit

1.2 Package Checklist

- Serial ATA Cable x2
- Rear I/O Panel for ATX Case x1
- Quick Installation Guide x1
- Fully Setup Driver DVD x1

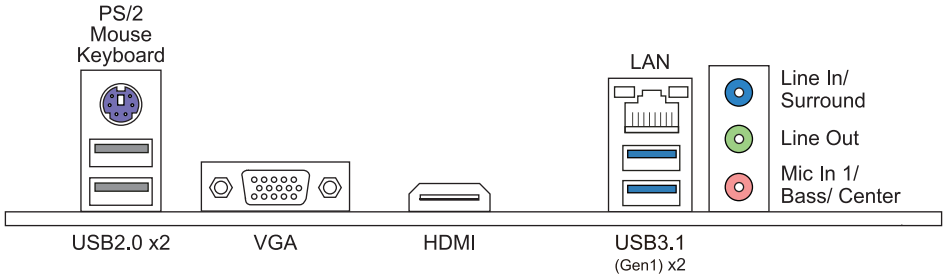
Note

- » *The package contents may be different due to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.*
-

1.3 Specifications

Specifications	
CPU Support	Intel® Celeron® J4105 processor
Memory	Supports Dual Channel DDR4-1866/ 2133/ 2400 2x DDR4 DIMM Memory Slot, Max. Supports up to 8 GB Memory Each DIMM supports non-ECC 4GB DDR4 module * Please refer to www.biostar.com.tw for Memory support list.
Storage	2x SATA III (6Gb/s) : Supports AHCI 1x Key M - M.2_10Gb/s (PCI-E2.0) : Supports PCI-E & SATA SSD
LAN	RTL8111H 10/ 100/ 1000 Mb/s auto negotiation, Half / Full duplex capability
Audio Codec	ALC887 7.1 Channels, High Definition Audio
USB	2x USB 3.1(Gen1) port (2 on rear I/Os) 6x USB 2.0 port (2 on rear I/Os and 4 via internal headers)
Expansion Slots	1x PCIe 2.0 x16 Slot 1x Key E - M.2 Slot (Optional)
Rear I/Os	1x PS/2 Keyboard/ Mouse Port 1x HDMI Port 1x VGA Port 2x USB 3.1(Gen1) Port 2x USB 2.0 Port 1x LAN port 3x Audio Jack
Internal I/Os	2x SATA III - 6Gb/s Connector 2x USB 2.0 Header (each header supports 2 USB 2.0 ports) 1x 4-Pin Power Connector 1x 24-Pin Power Connector 2x System Fan Connector 1x Front Panel Header 1x Front Audio Header 2x COM Serial Header 1x Printer Port Header 1x Clear CMOS Header 1x TPM Header (Optional)
Form Factor	Mini-ITX Form Factor, 170 mm x 170 mm
OS Support	Windows 10(64bit) * Biostar reserves the right to add or remove support for any OS with or without notice.

1.4 Rear Panel Connectors



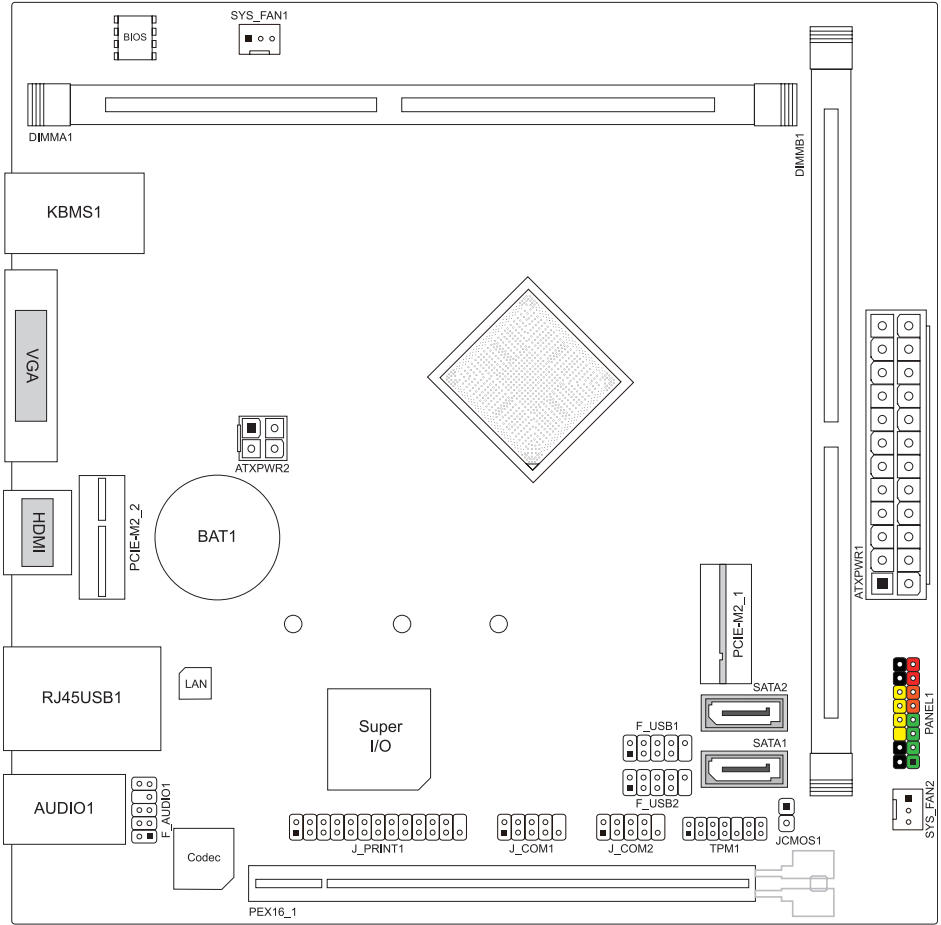
Note

- » *VGA, HDMI ports only work with an Intel® integrated Graphics Processor.*
- » *Maximum resolution*
VGA: 1920 x 1200 @60Hz
HDMI: 4096x 2160 @30Hz, compliant with HDMI 1.4
- » *When using the front HD audio jack and plug in the headset, the rear sound will be automatically Disabled.*
- » *The mainboard supports two onboard display outputs at same time and the display output configuration can be selected in Intel graphics driver utility.*

The 2/ 4/ 5.1/ 7.1-channel configuration

Audio Port	2-channel	4-channel	5.1 channel	7.1 channel
Blue (Rear Panel)	Line In	Line In	Line In	Side Speaker Out
Green (Rear Panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear Panel)	Mic In	Mic In	Center/Subwoofer Out	Center/Subwoofer Out
Green (Front Panel)	Headphone	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out

1.5 Motherboard Layout



Note

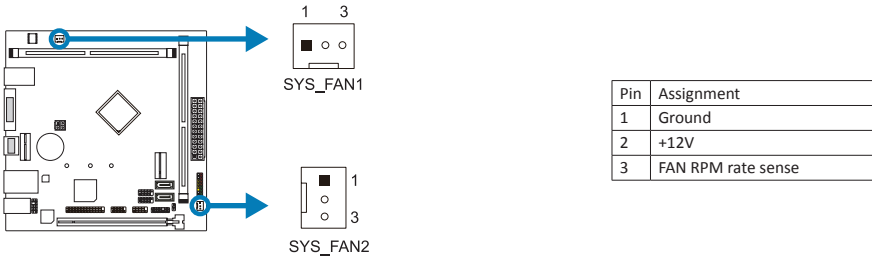
- » ■ represents the 1st pin.
- » The PCI-E-M2_2 slot/ TPM header is optional.

Chapter 2: Hardware installation

2.1 Connect Cooling Fans

These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer.

SYS_FAN1/2: System Fan Header

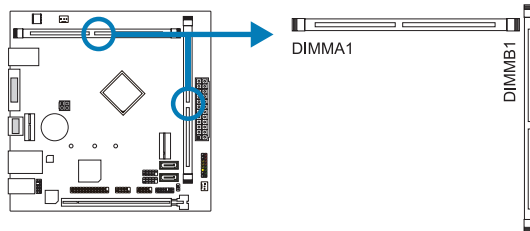


Note

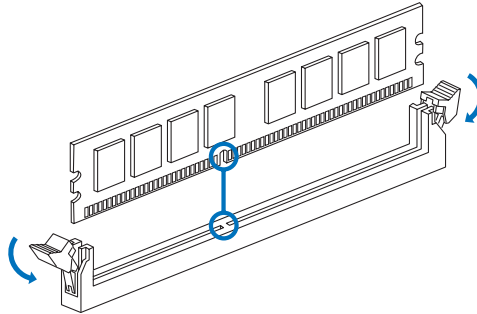
- » SYS_FAN1/2 support 3-pin head connectors. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to pin#1(GND).

2.2 Install System Memory

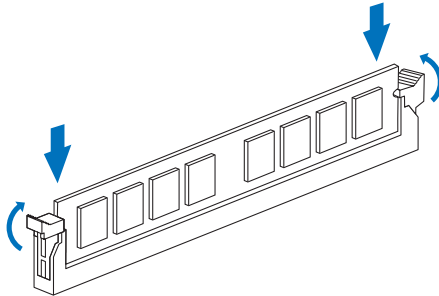
DDR4 Modules



Step 1: Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



Step 2: Insert the DIMM vertically and firmly into the slot until the retaining clips snap back in place and the DIMM is properly seated.



Note

» If the DIMM does not go in smoothly, do not force it. Pull it all the way out and try again.

Memory Capacity

DIMM Socket Location	DDR4 Module	Total Memory Size
DIMMA1	4GB	Max is 8GB.
DIMMB1	4GB	

Dual Channel Memory Installation

Please refer to the following requirements to activate Dual Channel function:
Install memory module of the same density in pairs, shown in the table.

Dual Channel Status	DIMMA1	DIMMB1
Disabled	O	X
Disabled	X	O
Enabled	O	O

(O means memory installed, X means memory not installed.)

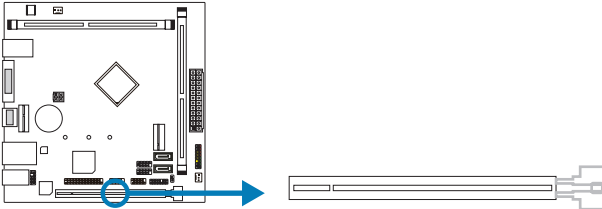
Note

» When installing more than one memory module, we recommend to use the same brand and capacity memory on this motherboard.

2.3 Expansion Slots

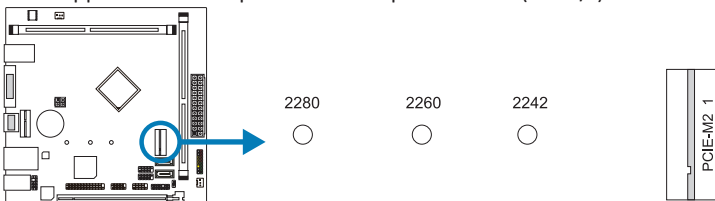
PEX16_1: PCI-Express Gen2 x16 Slot

- PCI-Express 2.0 compliant.
- Maximum theoretical realized bandwidth of 8GB/s simultaneously per direction, for an aggregate of 16GB/s totally.



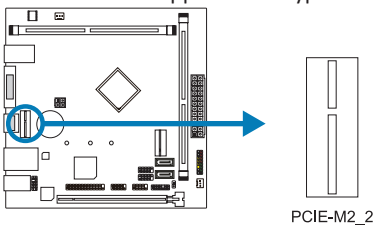
PCI-E-M2_1: M.2 (Key M) Slot

- The M.2 slot supports M.2 Type 2242/2260/2280 SSD module. When installing M.2 SSD module, please place the screw and hex pillar to correct position.
- Support M.2 PCI Express module up to Gen2 x2 (10Gb/s).



PCI-E-M2_2: M.2 (Key E) Slot (Optional)

- The M.2 slot supports M.2 Type 2230 WiFi module.



Install an Expansion Card

You can install your expansion card by following steps:

- Read the related expansion card's instruction document before install the expansion card into the computer.
- Remove your computer's chassis cover, screws and slot bracket from the computer.
- Place a card in the expansion slot and press down on the card until it is completely seated in the slot.
- Secure the card's metal bracket to the chassis back panel with a screw.
- Replace your computer's chassis cover.
- Power on the computer, if necessary, change BIOS settings for the expansion card.
- Install related driver for the expansion card.

2.4 Jumper & Switch Setting

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.

Pin opened



Pin closed

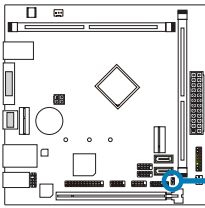


Pin 1-2 closed



JCMOS1: Clear CMOS Jumper

The jumper allows users to restore the BIOS safe setting and the CMOS data. Please carefully follow the procedures to avoid damaging the motherboard.



Pin 1-2 Open: Normal Operation (Default)



Pin 1-2 Short: Clear CMOS data

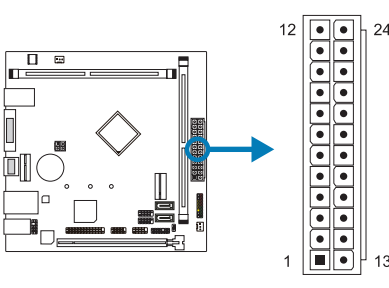
Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to “Pin 1-2 short”, you can use a metal object like a screwdriver to touch the two pins.
3. Wait for five seconds.
4. After clearing the CMOS values, be sure the jumper is “Pin 1-2 open”.
5. Power on the AC.
6. Load Optimal Defaults and save settings in CMOS.

2.5 Headers & Connectors

ATXPWR1: ATX Power Source Connector

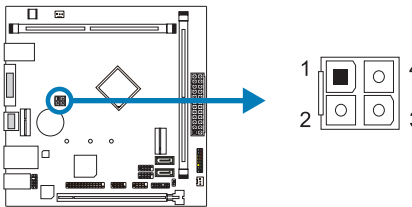
For better compatibility, we recommend to use a standard ATX 24-pin power supply for this connector. Make sure to find the correct orientation before plugging the connector.



Pin	Assignment	Pin	Assignment
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	NC	8	PW_OK
21	+5V	9	Standby Voltage+5V
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

ATXPWR2: ATX Power Source Connector

The connector provides +12V to the CPU power circuit.



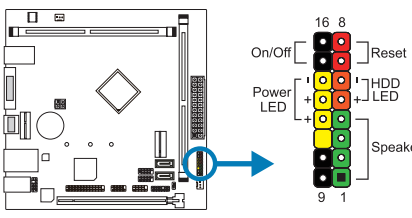
Pin	Assignment
1	+12V
2	+12V
3	Ground
4	Ground

Note

- » Before you power on the system, please make sure that both ATXPWR1 and ATXPWR2 connectors have been plugged-in.
- » Insufficient power supplied to the system may result in instability or the peripherals not functioning properly. Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices.

PANEL1: Front Panel Header

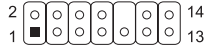
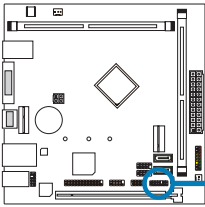
This 16-pin header includes Power-on, Reset, HDD LED, Power LED, and speaker connection.



Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	9	N/A	N/A
2	N/A		10	N/A	N/A
3	N/A		11	N/A	N/A
4	Speaker		12	Power LED (+)	Power LED
5	HDD LED (+)	13	Power LED (+)		
6	HDD LED (-)	14	Power LED (-)		
7	Ground	Reset	15	Power button	Power-on button
8	Reset control	button	16	Ground	

TPM1: Trusted Platform Module Header (Optional)

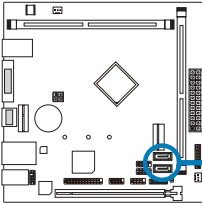
This header allows you to store cryptographic keys that protect information.



Pin	Assignment	Pin	Assignment
1	F_LAD0	2	+3V
3	F_LAD1	4	+3V
5	F_LAD2	6	C_PCICLK_TPM
7	F_LAD3	8	GND
9	F_FRAME#	10	NC
11	F_SERIRQ	12	S_PCIRST#_TBD
13	F_CLKRUN	14	+3VSB

SATA1/2: Serial ATA Connectors

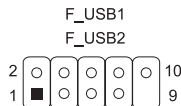
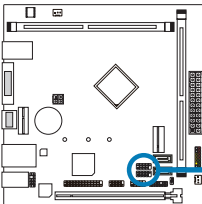
These connectors connect to SATA hard disk drives via SATA cables.



Pin	Assignment
1	Ground
2	TX+
3	TX-
4	Ground
5	RX-
6	RX+
7	Ground

F_USB1/2: Header for USB 2.0 Ports at Front Panel

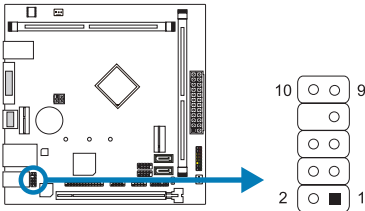
This header allows user to add additional USB ports on the PC front panel, and also can be connected with a wide range of external peripherals.



Pin	Assignment
1	+5V (fused)
2	+5V (fused)
3	USB-
4	USB-
5	USB+
6	USB+
7	Ground
8	Ground
9	Key
10	NC

F_AUDIO1: Front Panel Audio Header

This header allows user to connect the chassis-mount front panel audio I/O which supports HD and AC'97 audio standards.



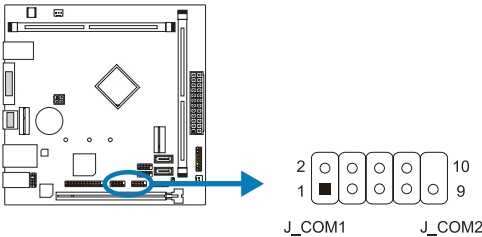
HD Audio		AC'97	
Pin	Assignment	Pin	Assignment
1	Mic Left in	1	Mic In
2	Ground	2	Ground
3	Mic Right in	3	Mic Power
4	GPIO	4	Audio Power
5	Right line in	5	RT Line Out
6	Jack Sense	6	RT Line Out
7	Front Sense	7	Reserved
8	Key	8	Key
9	Left line in	9	LFT Line Out
10	Jack Sense	10	LFT Line Out

Note

- » It is recommended that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high definition audio capability.
- » Please try to disable the "Front Panel Jack Detection" if you want to use an AC'97 front audio output cable. The function can be found via O.S. Audio Utility.

J_COM1/2: Serial Port Header

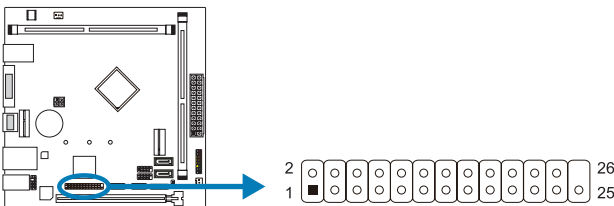
The motherboard has a serial port header for connecting RS-232 Port.



Pin	Assignment
1	Carrier detect
2	Received data
3	Transmitted data
4	Data terminal ready
5	Signal ground
6	Data set ready
7	Request to send
8	Clear to send
9	Ring indicator
10	Key

J_PRINT1: Printer Port Connector

This header allows you to connector printer on the PC.



Pin	Assignment	Pin	Assignment
1	-Strobe	14	Ground
2	-ALF	15	Data 6
3	Data 0	16	Ground
4	-Error	17	Data 7
5	Data 1	18	Ground
6	-Init	19	-ACK
7	Data 2	20	Ground
8	-Scltin	21	Busy
9	Data 3	22	Ground
10	Ground	23	PE
11	Data 4	24	Ground
12	Ground	25	SCLT
13	Data 5	26	Key

Chapter 3: UEFI BIOS & Software

3.1 UEFI BIOS Setup

- The BIOS Setup program can be used to view and change the BIOS settings for the computer. The BIOS Setup program is accessed by pressing the key after the Power-On Self-Test (POST) memory test begins and before the operating system boot begins.
- For further information of setting up the UEFI BIOS, please refer to the UEFI BIOS Manual on our website.

3.2 BIOS Update

The BIOS can be updated using either of the following utilities:

- **BIOSTAR BIOS-FLASHER:** Using this utility, the BIOS can be updated from a file on a hard disk, a USB drive (a flash drive or a USB hard drive), or a CD-ROM.
- **BIOSTAR BIOS Update Utility:** It enables automated updating while in the Windows environment. Using this utility, the BIOS can be updated from a file on a hard disk, a USB drive (a flash drive or a USB hard drive), or a CD-ROM, or from the file location on the Web.

BIOSTAR BIOS-FLASHER

Note

- » This utility only allows storage device with FAT32/16 format and single partition.
- » Shutting down or resetting the system while updating the BIOS will lead to system boot failure.

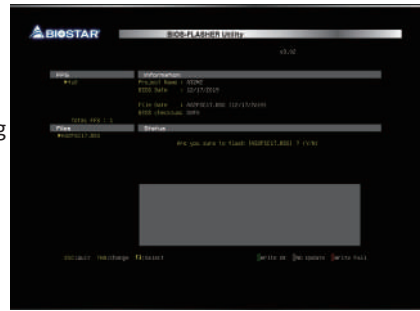
Updating BIOS with BIOSTAR BIOS-FLASHER

1. Go to the website to download the latest BIOS file for the motherboard.
2. Then, copy and save the BIOS file into a USB flash (pen) drive. (Only supported FAT/FAT32 format)
3. Insert the USB pen drive that contains the BIOS file to the USB port.
4. Power on or reset the computer and then press <F12> during the POST process.

5. After entering the POST screen, the BIOS-FLASHER utility pops out. Choose <fs0> to search for the BIOS file.



6. Select the proper BIOS file, and a message asking if you are sure to flash the BIOS file. Click “Yes” to start updating BIOS.



7. A dialog pops out after BIOS flash is completed, asking you to restart the system. Press the <Y> key to restart system.



8. While the system boots up and the full screen logo shows up, press to enter BIOS setup.

After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes and Reset> to restart the computer. Then the BIOS Update is completed.

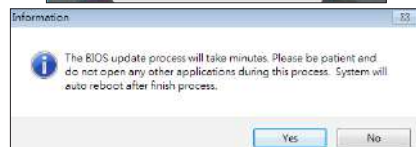
BIOS Update Utility (through the Internet)

1. Installing BIOS Update Utility from the DVD Driver.
2. Please make sure the system is connected to the internet before using this function.

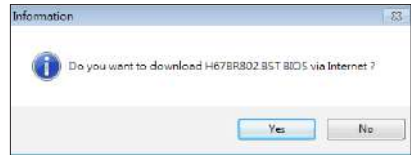
3. Launch BIOS Update Utility and click the “Online Update” button on the main screen.



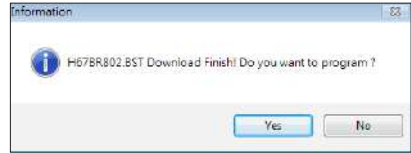
4. An open dialog will show up to request your agreement to start the BIOS update. Click “Yes” to start the online update procedure.



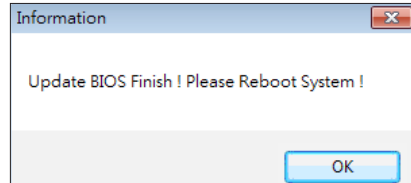
5. If there is a new BIOS version, the utility will ask you to download it. Click “Yes” to proceed.



6. After the download is completed, you will be asked to program (update) the BIOS or not. Click “Yes” to proceed.



7. After the updating process is finished, you will be asked you to reboot the system. Click “OK” to reboot.



8. While the system boots up and the full screen logo shows up, press key to enter BIOS setup.

After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes> and <Reset> to restart the computer. Then, the BIOS Update is completed.

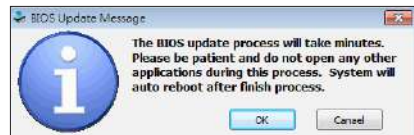
BIOS Update Utility (through a BIOS file)

1. Installing BIOS Update Utility from the DVD Driver.
2. Download the proper BIOS from <http://www.biostar.com.tw/>

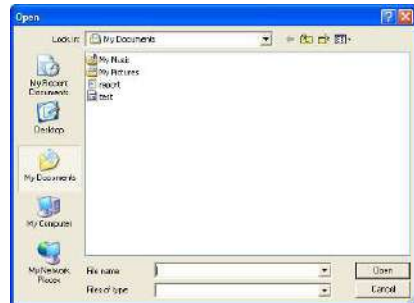
3. Launch BIOS Update Utility and click the “Update BIOS” button on the main screen.



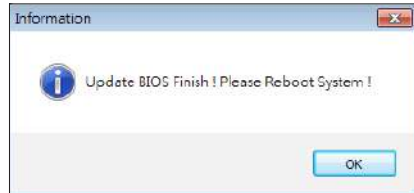
4. A warning message will show up to request your agreement to start the BIOS update. Click “OK” to start the update procedure.



5. Choose the location for your BIOS file in the system. Please select the proper BIOS file, and then click on “Open”. It will take several minutes, please be patient.



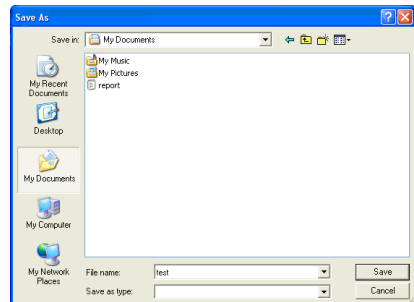
6. After the BIOS Update process is finished, click on “OK” to reboot the system.



7. While the system boots up and the full screen logo shows up, press key to enter BIOS setup. After entering the BIOS setup, please go to the <Save & Exit>, using the <Restore Defaults> function to load Optimized Defaults, and select <Save Changes and Reset> to restart the computer. Then, the BIOS Update is completed.

Backup BIOS

Click the Backup BIOS button on the main screen for the backup of BIOS, and select a proper location for your backup BIOS file in the system, and click “Save”.

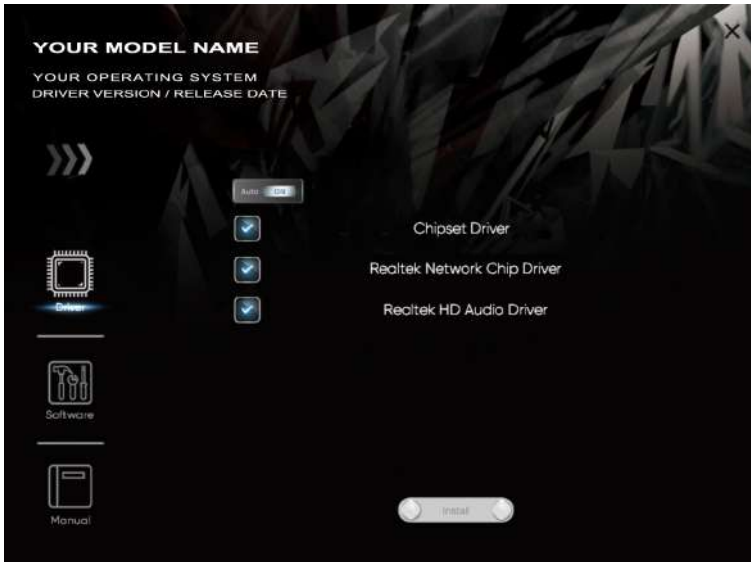


Chapter 4: Useful help

4.1 Driver Installation

After you installed your operating system, please insert the Fully Setup Driver DVD into your optical drive and install the driver for better system performance.

You will see the following window after you insert the DVD



The setup guide will auto detect your motherboard and operating system.

A. Driver Installation

To install the driver, please click on the Driver icon. The setup guide will list the compatible driver for your motherboard and operating system. Click on each device driver to launch the installation program.

B. Software Installation

To install the software, please click on the Software icon. The setup guide will list the software available for your system, click on each software title to launch the installation program.

C. Manual

Aside from the paperback manual, we also provide manual in the Driver DVD. Click on the Manual icon to browse for available manual.

Note

- » *If this window didn't show up after you insert the Driver DVD, please use file browser to locate and execute the file SETUP.EXE under your optical drive.*
- » *You will need Acrobat Reader to open the manual file. Please download the latest version of Acrobat Reader software from <http://get.adobe.com/reader/>*

4.2 AMI BIOS Beep Code

Boot Block Beep Codes

Number of Beeps	Description
Continuing	Memory sizing error or Memory module not found

POST BIOS Beep Codes

Number of Beeps	Description
1	Success booting.
8	Display memory error (system video adapter)

4.3 AMI BIOS post code

Code	Description
10	PEI Core is started
11	Pre-memory CPU initialization is started
15	Pre-memory North Bridge initialization is started
19	Pre-memory South Bridge initialization is started
2B	Memory initialization. Serial Presence Detect (SPD) data reading
2C	Memory initialization. Memory presence detection
2D	Memory initialization. Programming memory timing information
2E	Memory initialization. Configuring memory
2F	Memory initialization (other).
31	Memory Installed
32	CPU post-memory initialization is started
33	CPU post-memory initialization. Cache initialization
34	CPU post-memory initialization. Application Processor(s) (AP) initialization
35	CPU post-memory initialization. Boot Strap Processor (BSP) selection
36	CPU post-memory initialization. System Management Mode (SMM) initialization
37	Post-Memory North Bridge initialization is started
3B	Post-Memory North Bridge initialization (North Bridge module specific)
4F	DXE IPL is started
60	DXE Core is started
F0	Recovery condition triggered by firmware (Auto recovery)
F1	Recovery condition triggered by user (Forced recovery)
F2	Recovery process started
F3	Recovery firmware image is found
F4	Recovery firmware image is loaded
E0	S3 Resume is started (S3 Resume PPI is called by the DXE IPL)
E1	S3 Boot Script execution
E2	Video repost
E3	OS S3 wake vector call
60	DXE Core is started
61	NVRAM initialization
62	Installation of the South Bridge Runtime Services
63	CPU DXE initialization is started
68	PCI host bridge initialization
69	North Bridge DXE initialization is started
6A	North Bridge DXE SMM initialization is started

Code	Description
70	South Bridge DXE initialization is started
71	South Bridge DXE SMM initialization is started
72	South Bridge devices initialization
78	South Bridge DXE Initialization (South Bridge module specific)
79	ACPI module initialization
90	Boot Device Selection (BDS) phase is started
91	Driver connecting is started
92	PCI Bus initialization is started
93	PCI Bus Hot Plug Controller Initialization
94	PCI Bus Enumeration
95	PCI Bus Request Resources
96	PCI Bus Assign Resources
97	Console Output devices connect
98	Console input devices connect
99	Super IO Initialization
9A	USB initialization is started
9B	USB Reset
9C	USB Detect
9D	USB Enable
A0	IDE initialization is started
A1	IDE Reset
A2	IDE Detect
A3	IDE Enable
A4	SCSI initialization is started
A5	SCSI Reset
A6	SCSI Detect
A7	SCSI Enable
A8	Setup Verifying Password
A9	Start of Setup
AB	Setup Input Wait
AD	Ready To Boot event
AE	Legacy Boot event
AF	Exit Boot Services event
B0	Runtime Set Virtual Address MAP Begin
B1	Runtime Set Virtual Address MAP End
B2	Legacy Option ROM Initialization
B3	System Reset
B4	USB hot plug
B5	PCI bus hot plug
B6	Clean-up of NVRAM
B7	Configuration Reset (reset of NVRAM settings)

4.4 Troubleshooting

Probable	Solution
1. There is no power in the system. Power LED does not shine; the fan of the power supply does not work. 2. Indicator light on keyboard does not shine.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System is inoperative. Keyboard lights are on, power indicator lights are lit, and hard drives are running.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from a hard disk drive, but can be booted from optical drive.	1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from an optical drive. Hard disks can be read, applications can be used, but system fails to boot from a hard disk.	1. Back up data and applications files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message shows "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
System cannot boot after user installs a second hard drive.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

CPU Overheated

If the system shutdown automatically after power on system for seconds, that means the CPU protection function has been activated.

When the CPU is over heated, the motherboard will shutdown automatically to avoid a damage of the CPU, and the system may not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. CPU fan is rotated normally.
3. CPU fan speed is fulfilling with the CPU speed.

After confirmed, please follow steps below to relief the CPU protection function.

1. Remove the power cord from power supply for seconds.
2. Wait for seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data. (See "Close CMOS Header: JCMOS1" section)
2. Wait for seconds.
3. Power on the system again.

APPENDIX I: Specifications in Other Languages

Arabic

المواصفات	
Intel® Celeron® J4105 processor	قاعدة وحدة المعالجة المركزية
تدعم قناة مزدوجة دي. دي. ار. DDR4-1866/2133/2400. 2x دي. دي. ار. DDR4 فتحات الذاكرة المزدوجة DIMM، تتحمل كحد أقصى 8 جيجابايت ذاكرة كل فتحة مزدوجة DIMM تتحمل دون 4 ECC جيجابايت دي. دي. ار. DDR4 * يرجى الرجوع إلى الموقع www.biostar.com.tw لقائمة دعم الذاكرة.	الذاكرة
AHCI 2 SATA x تتحمل رايد الأم : 6Gb/s - SATA III : (PCI-E2.0) M.2_10Gb/s SSD SATA & PCI-E - M Key	التخزين
Realtek RTL8111H	شبكة محلية LAN
1000 / 100 / 10 ميجابايت / الثانية ، تحديد تلقائي ، النصف / القدرة القصوى المزدوجة	
ALC887 7.1 قنوات عالية الدقة	الترميز الصوتي
منافذ 2 ناقل متسلسل عام USB 3.1 (Gen1) (2 في المداخل والمخارج الخلفية) منافذ 6 x ناقل متسلسل عام USB 2.0 (2 في المداخل والمخارج الخلفية و 4 من خلال الموزع الداخلي)	ناقل متسلسل عام USB
1 x فتحة منفذ الملحقات الإضافية PCIe 2.0 x 1 1 x فتحة M.2 - E Key (اختياري)	فتحات التوسع
1 x PS/2 لوحة المفاتيح للكمبيوتر/الفايرة فتحة توصيل عدد 1 x HDMI x وسيط متعدد العالبي الوضوح فتحة توصيل عدد 1 x منظومة العرض المرني VGA فتحة توصيل عدد 2 x ناقل متسلسل عام 3.1 SBU(Gen1) فتحة توصيل عدد 2 x ناقل متسلسل عام USB 2.0 فتحة لتوصيل عدد 1 x الشبكة المحلية LAN فتحة توصيل عدد 3 x جاك للصوت	المداخل والمخارج الخلفية
وصلة 2 x ساتا SATA III (6Gb/s) موزع 2 x ناقل متسلسل عام USB 2.0 (كل موزع يتحمل فتحتين ناقل متسلسل عام USB 2.0) وصلة للطاقة 4 1 x دبابيس وصلة للطاقة 24 1x ديوس وصلة 2 x مراوح تبريد المنظومة موزع 1 x اللوحة الأمامية موزع 1x الصوت الأمامي موزع 2x فتحة تسلسلية موزع 1x فتحة للطابعة موزع 1x سيموس مباشر موزع (اختياري) TPM 1x	المداخل والمخارج الداخلية
عامل شكل مدد التكنولوجيا المتقدمة Mini-ITX، 170 مم x 170 مم	عامل الشكل
ويندوز 10 (64bit) * بيوستار BIOSTAR تحتفظ بحق إضافة أو إزالة الدعم لأي نظام تشغيل مع أو بدون أنظار.	أنظمة التشغيل المدعومة

German

Spezifikationen	
CPU-Unterstützung	Intel® Celeron® J4105 processor
Festplattenspeicher	Unterstützt Dual-Channel DDR4-1866/2133/2400 2x DDR4 DIMM Arbeitsspeicher-Steckplatz, Max. Unterstützt bis zu 8 GB Speicher Jedes DIMM unterstützt Nicht-ECC-4GB DDR4-Modul * Bitte konsultieren Sie www.biostar.com.tw für Speicherunterstützung Liste.
Arbeitsspeicher	2x SATA III-Verbindung (6Gb/s) : Unterstützt AHCI 1x Key M - M.2_10Gb/s(PCI-E2.0) : Поддерживает PCI-E & SATA SSD
LAN	RTL8111H 10/ 100/ 1000 Mb Auto-Negotiation, Halb- / Voll-Duplex-fähig
Audio-Codec	ALC887 7.1 Kanäle, HD-Audio
USB	2x USB 3.1(Gen1)-Port (2 hintere I/O) 6x USB 2.0-Port (2 hintere I/Os und 4 via interne Header)
Erweiterungsanschlüsse	1x PCIe 2.0 x16-Slot 1x Key E - M.2 -Slot (wahlweise)
Hintere I/Os	1x PS/2-Keyboad / Maus 1x HDMI-Port 1x VGA-Port 2x USB 3.1(Gen1)-Port 2x USB 2.0-Port 1x LAN-Port 3x Audio Jack
Interne I/Os	2x SATA III 6.0Gb/s-Verbindung 2x USB 2.0-Header (jeder Header unterstützt 2 USB 2.0-Ports) 1x 4-Pin-Stromverbindung 1x 24-Pin-Stromverbindung 2x System-Ventilatorverbindung 1x Header für Frontpanel 1x Header für Frontaudio 2x Header für Seriellen Anschluss 1x Header für Druckerport 1x Header für klares CMOS 1x TPM-Header (wahlweise)
Formfaktor	Mini-ITX Formfaktor, 170 mm x 170 mm
OS-Unterstützung	Windows 10(64bit) * Biostar reserves the right to add or remove support for any OS with or without notice.

Russian

Спецификации	
Поддержка центрального процессора	Intel® Celeron® J4105 processor
Память	Поддерживает двухканальный DDR4-1866/2133/2400 2 гнезда платы памяти DDR4 DIMM, максимальная память до 8 Гб Каждый модуль DIMM поддерживает модуль не-ECC 4 Гб DDR4 * Перечень поддержки памяти смотрите на www.biostar.com.tw .
Накопитель	Соединитель 2x SATA III (6Gb/s) : Поддерживает AHCI 1x Key M - M.2_10Gb/s (PCI-E2.0) : Поддерживает PCI-E & SATA SSD
Локальная сеть	RTL8111H Автосогласование 10/ 100/ 1000 Мб/с, работает в полно/полудуплексном режиме
Аудиокодек	ALC887 Каналы 7.1, высококачественное аудио
USB	2 порта USB 3.1(Gen1) (2 сзади ввода-вывода) 6 порта USB 2.0 (2 сзади ввода-вывода и 4 через внутренние контакты)
Гнезда расшир.	1x PCIe 2.0 x16 гнездо 1x Key E - M.2 гнездо (необязательный)
Задняя плата ввода-вывода	1 клавиатура / мышь PS/2 1 порт HDMI 1 порт VGA 2 порта USB 3.1(Gen1) 2 порта USB 2.0 1 порт локальной сети 3 гнезд для подключения наушников
Внутр. Плата ввода-вывода	Соединитель 2x SATA III 6 Гб/с 2 контакта USB 2.0 (каждый контакт поддерживает 2 порта USB 2.0) 1 4-выводный разъем питания 1 24-выводный разъем питания 2 Разъем системного вентилятора 1 контакт передней панели 1 контакт передней аудиопанели 2 контакт последовательного порта 1 контакт порта принтера 1 контакт микросхемы Clear CMOS 1 контакт TPM (необязательный)
Конструктив	Форм-фактор Mini-ITX, 170мм x 170 мм
Поддержка ОС	Windows 10(64bit) * Biostar оставляет за собой право добавлять или удалять поддержку любой ОС, с уведомлением или без.

Spanish

Especificaciones	
Compatibilidad con el procesador	Intel® Celeron® J4105 processor
Memoria	Soporta DDR4-1866/2133/2400 Doble Canal 2x DDR4 DIMM Ranura de memoria Soporta hasta 8 GB Memoria Cada DIMM soporta un modulo non-ECC 4 GB DDR4 * Por favor consultar con www.biostar.com.tw para la lista de compatibilidad con el memoria.
Almacenamiento de información	Conector 2x SATA III (6Gb/s) : Soporta AHCI 1x Key M - M.2_10Gb/s (PCI-E2.0) : Soporta PCI-E & SATA SSD
LAN	RTL8111H 10/ 100/ 1000 Mb/s auto negociación, capacidad dúplex Mitad/Completo
Códec Audio	ALC887 Canales Audio de Alta Definición 7.1
USB	Ranura 2x USB 3.1(Gen1) (2 en las entrada/salidas posteriores) Ranura 6x USB 2.0 (2 en las entrada/salidas posteriores y 4 por los distribuidores internos)
Ranuras de Extinción	Ranura 1x PCIe 2.0 x16 Ranura 1x Key E - M.2 (Opcional)
Panel trasero de E/S	Teclado / Ratón 1x PS/2 Ranura 1x HDMI Ranura 1x VGA Ranura 2x USB 3.1(Gen1) Ranura 2x USB 2.0 Ranura 1x LAN Socket audio 3x
Conectores en placa	Conector 2x SATA III 6Gb's Distribuidor 2x USB 2.0 (cada distribuidor soporta 2 ranuras USB 2.0) Conector con 4 patillas x1 Conector con 24 patillas x1 Conector Ventilador Sistema x2 Distribuidor Panel Frontal x1 Distribuidor Audio Frontal x1 Distribuidor Ranura Serie x2 Distribuidor Ranura Impresora x1 Distribuidor CMOS Directo x1 Distribuidor TPM x1 (Opcional)
Factor de Forma	Factor de Forma Mini-ITX, 170 mm x 170 mm
Soporte OS	Windows 10(64bit) * Biostar reserva su derecho de añadir o retirar el soporte para cada OS con o sin notificación.

Thai

คุณสมบัติ	
ซีพียู	Intel® Celeron® J4105 processor
หน่วยความจำ	สนับสนุน Dual Channel DDR4-1866/2133/2400 รองรับหน่วยความจำ 2 สล็อต DDR4 DIMM สูงสุดถึง 8 GB ทุก DIMM สนับสนุนโมดูล non-ECC 4GB DDR4 * เข้าชมได้ที่ www.biostar.com.tw สำหรับรายการหน่วยความจำที่สนับสนุน
สตอเรจ	2x SATA III พอร์ตเชื่อมต่อ (6Gb/s) : สนับสนุน AHCI 1x Key M - M.2_10Gb/s (PCI-E2.0) : สนับสนุน PCI-E & SATA SSD
แลน	RTL8111H 10/ 100/ 1000 Mb/s การเจรจาอัตโนมัติ, ความสามารถในการเพ็ล็กซ์ Half / Full
ออดิโอ โคเดค	ALC887 7.1 Channels, High Definition Audio
ยูเอสบี	2x USB 3.1(Gen1) พอร์ต (2 พอร์ตด้านหลัง I/O) 6x USB 2.0 พอร์ต (2 พอร์ตด้านหลัง I/O และ 4 พอร์ต ผ่านพอร์ตเชื่อมต่อด้านใน)
สล็อตขยายเพิ่มเติม	1x PCIe 2.0 x16 สล็อต 1x Key E - M.2 สล็อต (ไม่จำเป็น)
พอร์ต I/O ด้านหลัง	1x PS/2 คีย์บอร์ด / เมาส์ 1x HDMI พอร์ต 1x VGA พอร์ต 2x USB 3.1(Gen1) พอร์ต 2x USB 2.0 พอร์ต 1x LAN พอร์ต 3x Audio Jack
พอร์ต I/O ด้านใน	2x SATA III - 6Gb/s พอร์ตเชื่อมต่อ 2x USB 2.0 พอร์ตเชื่อมต่อ (หัวเชื่อมต่อทุกตัวรองรับ 2 พอร์ต USB 2.0) 1x 4-Pin Power พอร์ตเชื่อมต่อ 1x 24-Pin Power พอร์ตเชื่อมต่อ 2x พอร์ตเชื่อมต่อระบบ Fan 1x พอร์ตเชื่อมต่อแผงด้านหน้า 1x พอร์ตเชื่อมต่อออดิโอด้านหน้า 2x พอร์ตเชื่อมต่อ Serial Port 1x พอร์ตเชื่อมต่อพรีนเตอร์ 1x พอร์ต Clear CMOS 1x พอร์ตเชื่อมต่อ TPM (ไม่จำเป็น)
รูปแบบจากโรงงาน	Mini-ITX จากโรงงาน, 170mm. x 170 มม
สนับสนุน OS	Windows 10(64bit) Biostar ขอสงวนสิทธิ์ในการเพิ่มหรือถอดการสนับสนุนสำหรับระบบปฏิบัติการ OS ต่างๆ โดยไม่ต้องแจ้งให้ทราบล่วงหน้า

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