User's Manual

Version 1.1

2807632

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Revision History

Revision	Revision History	Date
V1.0	First release	July 2005

Technical Support

If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please try the following help resources for further guidance.

Visit the Global American, Inc. website
at: *http://www.globalamericaninc.com*

Contact our technical staff at: support@globalamericaninc.com

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Safety Instructions

1. Always read the safety instructions carefully.

2. Keep this User's Manual for future reference.

3. Keep this equipment away from humidity.

4. Lay this equipment on a reliable flat surface before setting it up.

5. The openings on the enclosure are for air convection hence protects the equipment from overheating. DO NOT COVER THE OPENINGS.

6. Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.

7. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.

8. Always Unplug the Power Cord before inserting any add-on card or module.

9. All cautions and warnings on the equipment should be noted.

10. Never pour any liquid into the opening that could damage or cause electrical shock.

11. If any of the following situations arises, get the equipment checked by service personnel:
    † The power cord or plug is damaged.
    † Liquid has penetrated into the equipment.
    † The equipment has been exposed to moisture.
    † The equipment does not work well or you can not get it work according to User's Manual.
    † The equipment has dropped and damaged.
    † The equipment has obvious sign of breakage.

12. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60^0C (140^0F), IT MAY DAMAGE THE EQUIPMENT.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

☞ 警告使用者:
這是甲類的資訊產品,在居住的環境中使用時,可能會造成無線電干擾, 在這種情況下,使用者會被要求採取某些適當的對策。

廢電池請回收

For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the measures listed below.

  † Reorient or relocate the receiving antenna.

  † Increase the separation between the equipment and receiver.

  † Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

  † Consult the dealer or an experienced radio/television technician for help.

Notice 1
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2
Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.

2807632

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.

CONTENTS

Mainboard Specifications

Processor Support

- VIA C7 1GHz / 21x21mm nano BGA2 package
- TDP max 1.2GHz @ 12W
- Supports VRM mobile (down to 0.7V)
- Thermal design margin up to 100c Tcase
- 3D instructions SSE / SSE2 / SSE3
- Security Features RGN / AES / SHA-1

Supported FSB

- 400 / 533 MHz

Chipset

- North Bridge: VIA CN700 chipset
- South Bridge: VIA 8237R+ chipset

Memory Support

- Supports DDRII 400/533 SDRAM (1GB Max)
- 1 DDRII DIMM (240pin / 1.8V)

LAN

- Supports PCI LAN 10/100 Fast Ethermet by VIA VT6103LG

Audio

- Chip integrated by VIA VT1618G
- Flexible 8-channel audio with jack sensing
- Compliant with AC97 2.3 spec

IDE

- 1 IDE port by VT8237R+
- Supports Ultra DMA 66/100/133 mode
- Supports PIO, Bus Master operation mode

SATA

- Supports two SATA ports by VT8237R+
- Supports storage and data transfers at up to 150MB/s

RAID

- SATA1~2 supports RAID 0/ 1/ 0+1 or JBOD mode by VT8237R+

Connectors

● **Back Panel**
- 1 PS/2 mouse port
- 1 PS/2 keyboard port
- 2 serial ports (COMA and COMB)
- 2 USB 2.0 ports
- 1 LAN jack (10/100/1000) by VT6103LG
- 3 flexible audio jacks
- 1 S-video port
- 1 DVI port
- 1 VGA oort

● **On-Board Pinheaders**
- 3 USB 2.0 pinheaders
- 1 audio pinheader

Slots
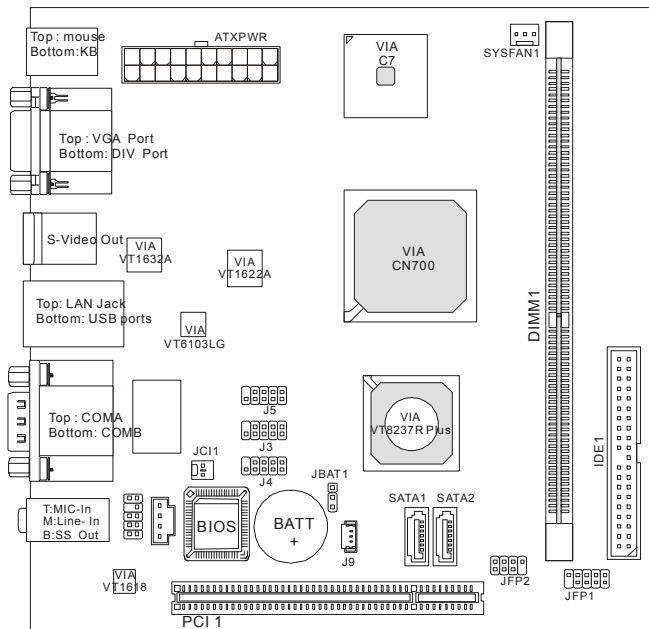
- 1 PCI slot
- Supports 3.3V/ 5V PCI bus Interface

Form Factor

- ITX (17 cm X 17 cm)

Mounting

- 4 mounting holes

Mainboard Layout

CN700T (2807632) v1.X ITX Mainboard

Packing Checklist

Mainboard

Driver/Utility CD

SATA Cable

Power Cable

Standard Cable for
IDE Devices

User's Guide

* The pictures are for reference only. Your packing contents may vary depending on the model you purchased.
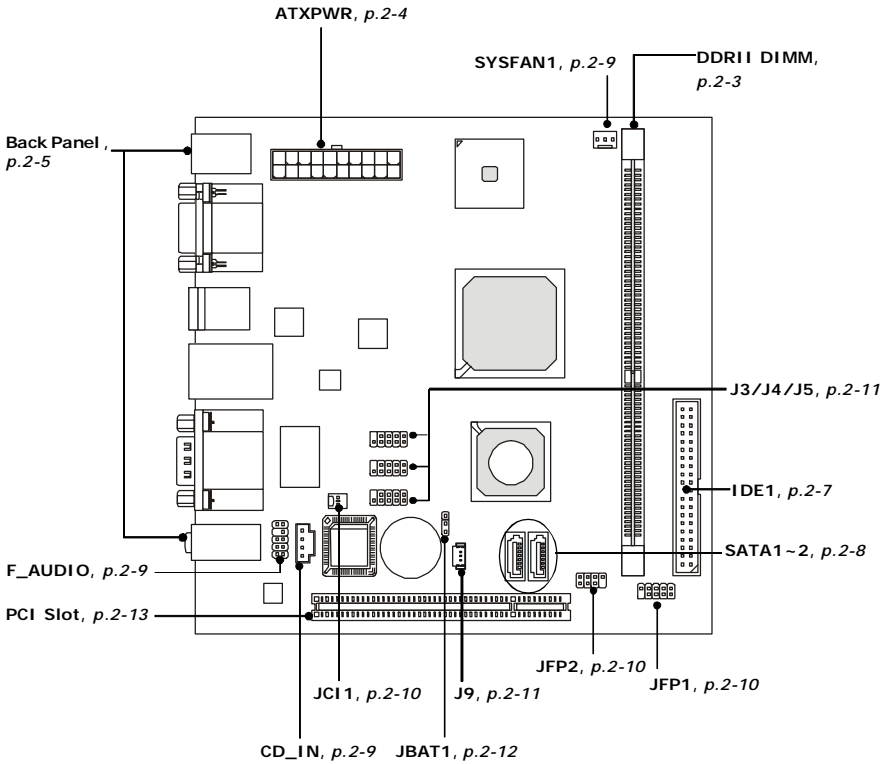
Chapter 2

Hardware Setup

This chapter provides you with the information about hardware setup procedures. While doing the installation, be careful in holding the components and follow the installation procedures. For some components, if you install in the wrong orientation, the components will not work properly.

Use a grounded wrist strap before handling computer components. Static electricity may damage the components.

Quick Components Guide

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Memory

The mainboard provides one 240-pin non-ECC **DDRII** DIMM and supports up to 1GB system memory.

DDRII
240-pin, 1.8V

56x2=112 pin   **64x2=128 pin**
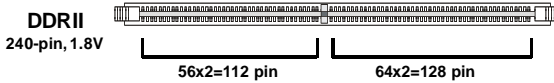
Installing DDRII Modules

1. The memory module has only one notch on the center and will only fit in the right orientation.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it in until the golden finger on the memory module is deeply inserted in the socket.

Important

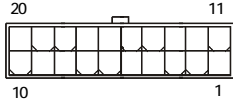*You can barely see the golden finger if the module is properly inserted in the socket.*

3. The plastic clip at each side of the DIMM slot will automatically close.

Volt   **Notch**
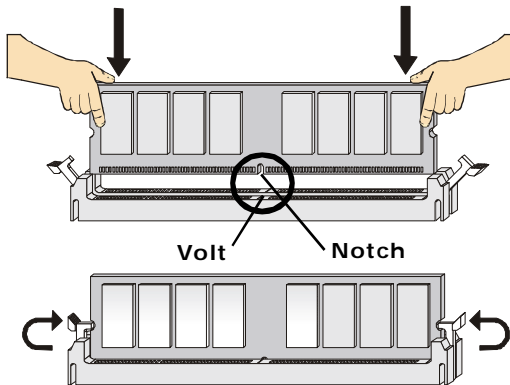
Power Supply

ATX 20-Pin Power Connector: ATXPWR

This connector allows you to connect to an ATX power supply.

ATXPWR Pin Definition

PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

ATXPWR

Back Panel

Mouse	**VGA Port**	**LAN**	**Serial Port**	**L-In**
		S-Video		**L-Out**
				Mic
Keyboard	**DVI Port**	**USB Ports**	**Serial Port**	
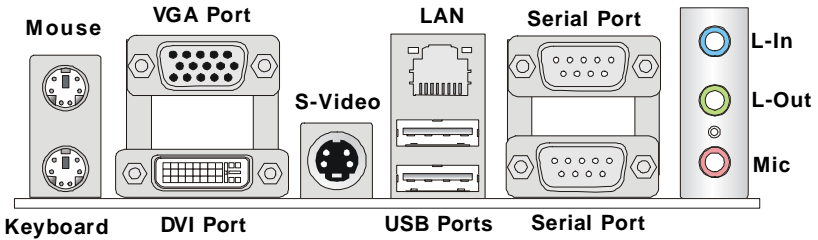
▶ **Mouse/Keyboard Connector**
The standard PS/2® mouse/keyboard DIN connector is for a PS/2® mouse/keyboard.

▶ **VGA Connector**
The DB15-pin female connector is provided for VGA monitors.

▶ **Digital Panel Connector**
The DVI (Digital Visual Interface) connector allows you to connect an LCD monitor. It provides a high-speed digital interconnection between the computer and its display device. To connect a LCD monitor, simply plug your monitor cable into the DVI connector, and make sure that the other end of the cable is properly connected to your monitor (refer to your monitor manual for more information.)

▶ **S-Video Connector**
The S-Video connector allows users to connect display devices for **component** video input/output.
S-Video (Super-Video, sometimes referred to as Y/C Video, or component video) is a video signal transmission in which the luminance signal and the chrominance signal are transmitted separately to achieve superior picture clarity. The luminance signal (Y) carries brightness information, which defines the black and white portion, and the chrominance signal (C) carries color information, which defines hue and saturation. An S-Video connection brings better video quality than a composite/RCA connection.

▶ **LAN (RJ-45) Jack**
The standard RJ-45 jack is for connection to single Local Area Network (LAN). You can connect a network cable to it.

10/100 LAN (Optional)

Activity Indicator ──── ──── Link Indicator
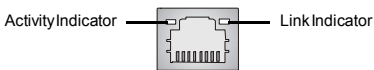
PIN	SIGNAL	DESCRIPTION
1	TDP	Transmit Differential Pair
2	TDN	Transmit Differential Pair
3	RDP	Receive Differential Pair
4	NC	Not Used
5	NC	Not Used
6	RDN	Receive Differential Pair
7	NC	Not Used
8	NC	Not Used

► USB Connectors
The OHCI (Open Host Controller Interface) Universal Serial Bus root is for attaching USB devices such as keyboard, mouse, or other USB-compatible devices.

► Serial Port Connector
The serial port is a 16550A high speed communications port that sends/ receives 16 bytes FIFOs. You can attach a serial mouse or other serial devices directly to the connector.

► Audio Port Connectors
These audio connectors are used for audio devices. You can differentiate the color of the audio jacks for different audio sound effects.

   - ■ **Blue audio jack** - Line In, is used for external CD player, tapeplayer or other audio devices.
   - ■ **Green audio jack** - Line Out, is a connector for speakers or headphones.
   - ■ **Pink audio jack** - Mic In, is a connector for microphones.

Connectors

ATA133 Hard Disk Connectors: IDE1

The mainboard has a 32-bit Enhanced PCI IDE and Ultra DMA 66/100/133 controller that provides PIO mode 0~4, Bus Master, and Ultra DMA 66/100/133 function. You can connect hard disk drives, CD-ROM and other IDE devices.

The Ultra ATA133 interface boosts data transfer rates between the computer and the hard drive up to 133 megabytes (MB) per second. The new interface is one-third faster than earlier record-breaking Ultra ATA/100 technology and is backwards compatible with the existing Ultra ATA interface.
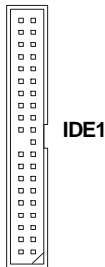
IDE1

IDE1 (Primary IDE Connector)
The first hard drive should always be connected to IDE1. IDE1 can connect a Master and a Slave drive. You must configure second hard drive to Slave mode by setting the jumper accordingly.
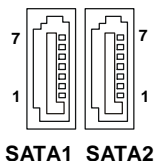
Important

If you install two hard disks on cable, you must configure the second drive to Slave mode by setting its jumper. Refer to the hard disk documentation supplied by hard disk vendors for jumper setting instructions.

Serial ATA Connectors: SATA1~SATA2

SATA1~SATA2 are high-speed Serial ATA interface ports. Each supports 1st generation serial ATA data rates of 150MB/s and is fully compliant with Serial ATA 1.0 specifications. Each Serial ATA connector can connect to 1 hard disk device.

SATA1~ SATA2 Pin Definition

PIN	SIGNAL	PIN	SIGNAL
1	GND	2	RXN
3	RXP	4	GND
5	TXN	6	TXP
7	GND		

SATA1 SATA2

Serial ATA cable

Take out the dust cover and connect to the hard disk devices

Connect to SATA1/2
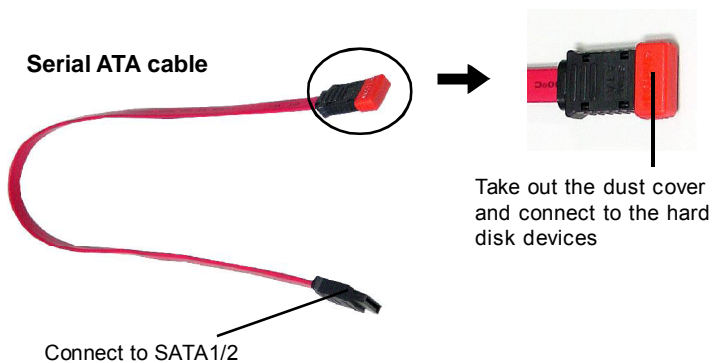
Important

Please do not fold the Serial ATA cable into 90-degree angle. Otherwise, data loss may occur during transmission.
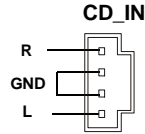
Fan Power Connector: SYSFAN1

The fan power connector supports system cooling fan with +12V. When connecting the wire to the connector, always note that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND.
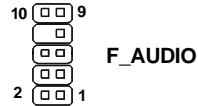
SYSFAN1
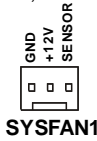
CD-In Connector: CD_IN

This connector is provided for CD-ROM audio.

CD_IN

Front Panel Audio Connector: F_AUDIO

The JAUD1 front panel audio connector allows you to connect to the front panel audio and is compliant with Intel® Front Panel I/O Connectivity Design Guide.

F_AUDIO

Pin Definition

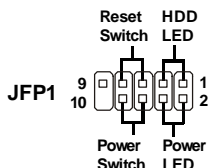| PIN	SIGNAL	DESCRIPTION
1	AUD_MIC	Front panel microphone input signal
2	AUD_GND	Ground used by analog audio circuits
3	AUD_MIC_BIAS	Microphone power
4	AUD_VCC	Filtered +5V used by analog audio circuits
5	AUD_FPOUT_R	Right channel audio signal to front panel
6	AUD_RET_R	Right channel audio signal return from front panel
7	HP_ON	Reserved for future use to control headphone amplifier
8	KEY	No pin
9	AUD_FPOUT_L	Left channel audio signal to front panel
10	AUD_RET_L	Left channel audio signal return from front panel

Important

If you don't want to connect to the front audio header, pins 5 & 6, 9 & 10 have to be jumpered in order to have signal output directed to the rear audio ports. Otherwise, the Line-Out connector on the back panel will not function.

Front Panel Connectors: JFP1, JFP2

The mainboard provides two front panel connectors for electrical connection to the front panel switches and LEDs. The JFP1 is compliant with Intel® Front Panel I/O Connectivity Design Guide.

JFP1 Pin Definition

PIN	SIGNAL	DESCRIPTION
1	HD_LED_P	Hard disk LED pull-up
2	FPPWR/SLP	MSG LED pull-up
3	HD_LED_N	Hard disk active LED
4	FPPWR/SLP	MSG LED pull-up
5	RST_SW_N	Reset Switch low reference pull-down to GND
6	PWR_SW_P	Power Switch high reference pull-up
7	RST_SW_P	Reset Switch high reference pull-up
8	PWR_SW_N	Power Switch low reference pull-down to GND
9	RSVD_DNU	Reserved. Do not use.

JFP2 Pin Definition
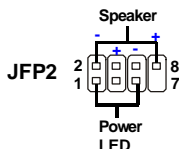
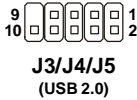| PIN	SIGNAL	PIN	SIGNAL
1	GND	2	SPK-
3	SLED	4	BUZ+
5	PLED	6	BUZ-
7	NC	8	SPK+

Chassis Intrusion Switch Connector: JCI1

This connector is connected to a 2-pin chassis switch. If the chassis is opened, the switch will be short. The system will record this status and show a warning message on the screen. To clear the warning, you must enter the BIOS utility and clear the record.

JCI1

1 CINTRU
2 GND

Front USB Connectors: J3,J4,J5

The mainboard provides three standard USB 2.0 pin headers. USB 2.0 technology increases data transfer rate up to a maximum throughput of 480Mbps, which is 40 times faster than USB 1.1, and is ideal for connecting high-speed USB interface peripherals such as **USB HDD**, **digital cameras**, **MP3 players**, **printers**, **modems and the like**.

Pin Definition

PIN	SIGNAL	PIN	SIGNAL
1	VCC	2	VCC
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	GND	8	GND
9	Key (no pin)	10	USBOC

J3/J4/J5
(USB 2.0)

Connect to J3, J4, or J5
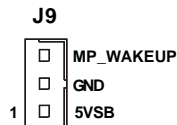
USB 2.0 Bracket
(Optional)

Important

Note that the pins of VCC and GND must be connected correctly to avoid possible damage.

Wake On LAN Connector: J9

This connector allows you to connect to a LAN card with Wake On LAN function. You can wake up the computer via remote control through a local area network.

J9

MP_WAKEUP
GND
1 5VSB

Jumpers

Clear CMOS Jumper: JBAT1

There is a CMOS RAM onboard that has a power supply from external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. If you want to clear the system configuration, use the JBAT1 (Clear CMOS Jumper) to clear data.

1
JBAT1

1
3
Keep Data

1
3
Clear Data
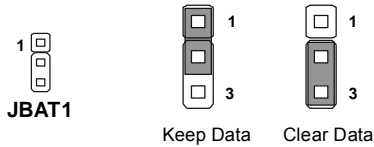
Important

You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.

Slot

PCI (Peripheral Component Interconnect) Slot

The PCI slot supports LAN cards, SCSI cards, USB cards, and other add-on cards that comply with PCI specifications. At 32 bits and 33 MHz, it yields a throughput rate of 133 MBps.

PCI Slot

PCI Interrupt Request Routing

The IRQ, acronym of interrupt request line and pronounced I-R-Q, are hardware lines over which devices can send interrupt signals to the microprocessor. The PCI IRQ pins are typically connected to the PCI bus INT A# ~ INT D# pins as follows:

	Order 1	Order 2	Order 3	Order 4
PCI Slot 1	INT B#	INT C#	INT D#	INT A#

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

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