

ASUS[®]

TW100-E6

Configuration Guide



E6056

First Edition
August 2010

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Revision history

Revision	Revision history	Date
V1	First release of TW100-E6 configuration guide	August 2010

Safety information

Electrical Safety

- Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.
- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing any additional devices to or from the system, contact a qualified service technician or your dealer. Ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you service.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your dealer.

Operation Safety

- Servicing of this product or units is to be performed by trained service personnel only.
- Before operating the server, carefully read all the manuals included with the server package.
- Before using the server, make sure all cables are correctly connected and the power cables are not damaged. If any damage is detected, contact your dealer as soon as possible.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Place the server on a stable surface.



This product is equipped with a three-wire power cable and plug for the user's safety. Use the power cable with a properly grounded electrical outlet to avoid electrical shock.

Lithium-Ion Battery Warning

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

CD-ROM Drive Safety Warning

CLASS 1 LASER PRODUCT

Heavy System

CAUTION! This server system is heavy. Ask for assistance when moving or carrying the system.

Chapter 1

This chapter describes the key features of TW100-E6. It includes the product overview and general specifications.

Product introduction

1.1 Key features

TW100-E6, with the latest and fastest I/O solution, is the best choice of new generation workstation system that requires high performance and ultra bandwidth of data transmission. Its super quietness working level is also ideal for SOHO & SMB users.

True USB 3.0 Support

- Up to 4.8Gbps speed allows you to transfer data 10X faster and is also backward compatible with USB 2.0 components.

True SATA 6Gb/s Support

- Delivers up to 6.0Gb/s data transfer rates.
- Gets enhanced scalability, faster data retrieval, double the bandwidth of current bus systems.

Ultra-Quiet Working Environment

- Runs at very low acoustic level (24.5dBA at idle mode), providing super quiet working environment for SOHO & SMB users

SAS Upgrade Kit for Multiple Storage Solution

- Optional ASUS upgrade kits SASsaby 1064E (supports LSIR Integrated RAID 0, 1, 1E) and SASsaby M (supports H/W RAID 0, 1, 10, 5)
- Provides direct support for SAS storage and ensure reliable data protection.

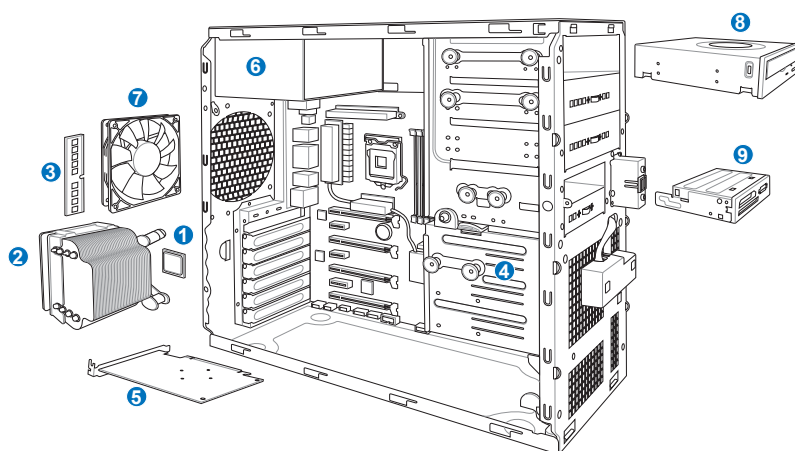
Extreme Power Efficiency

- EPU (Energy Processing Unit) for optimal CPU power management.
- Equipped with 80+ Bronze PSU enhances system power efficiency.

High Quality Components for Great System Reliability

- 16+ 3 phase power design reduces ripples of input current and out voltage.
- Utilizes all Japan-made 5000hr ultra long life conductive polymer capacitors

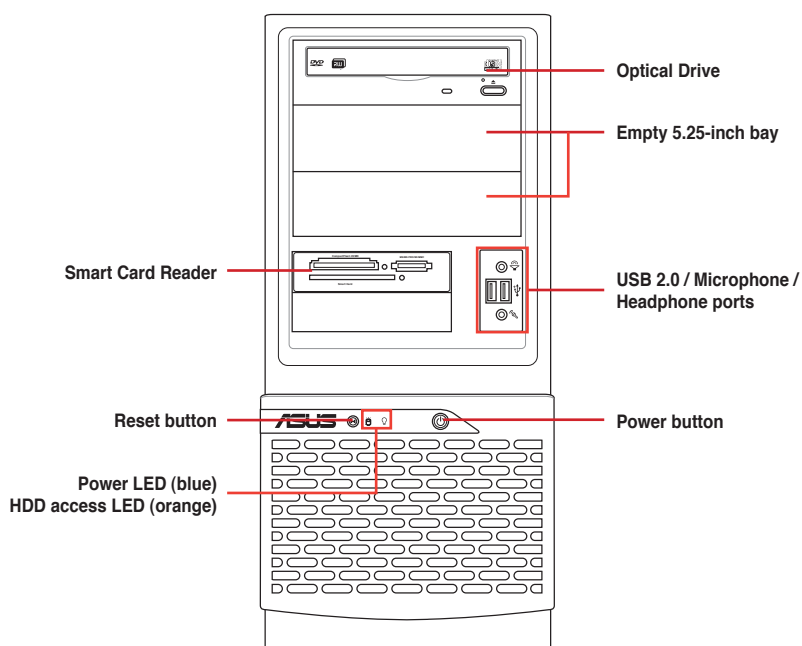
1.2 System overview



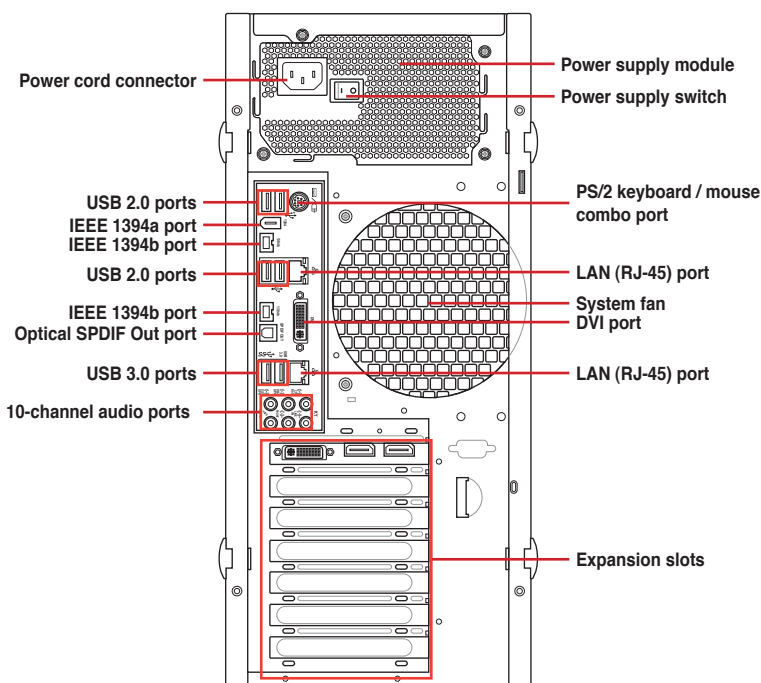
Items

- | | |
|----|-------------------------------|
| 1. | Central processing unit (CPU) |
| 2. | CPU heatsink and fan |
| 3. | System memory |
| 4. | Hard disk drives |
| 5. | Graphics card |
| 6. | Single power supply |
| 7. | System fan |
| 8. | Optical drive (optional) |
| 9. | Smart card reader |

1.3 Front panel features



1.4 Rear panel features



The PS/2 keyboard / mouse combo port, USB ports, DVI-I ports, Audio ports, S/PDIF Out ports, and Gigabit LAN ports do not appear on the rear panel if motherboard is not present.

1.5 System specifications

Model Name		TW100-E6
Operating System		Genuine Windows® 7 Professional
		1 x Socket LGA1156
Processor / System Bus supported		Intel® Core™ i7 / Core™ i5 / Core™ i3/ Pentium® series desktop processors Intel® Xeon™ X3400 series server processors
Core Logic		Intel® 3450 Chipset Nvidia NF200*1
Memory	Total Slots	6 (Dual-Channel)
	Capacity	Maximum up to 16GB
	Memory Type	DDR3 1333 / 1066 / 800 MHz, non-ECC/ECC, unbuffered memory
	Memory Size	1GB, 2GB and 4GB
Expansion Slots	Total PCI/PCI-X/PCI-E Slots	7
	Slot Type	2 x PCIe 2.0 x16 (@ x16 or x8) 2 x PCIe 2.0 x16 (@ x8) 3 x PCIe x1 (@ x1)
Storage	SATA Controller	Intel® 3450 Chipset - 6 x SATA 150/300 - Intel® Matrix Storage supporting SATA RAID 0, 1, 10, and 5 (for Windows® only) Marvell® PCIe SATA6Gb/s controller - 2 x SATA 6.0 Gb/s ports - Support SATA RAID 0 and 1
	SAS Controller	Optional: ASUS SASSABY 1064E ASUS SASSABY M
HDD Bays	I = internal A or S will be hot-swappable	3 x Internal 3.5" SATA HDD Cages
Networking	LAN	2 x Realtek 81112L Dual Gb LAN - Support teaming function

(continued on the next page)

Graphic	VGA	DVI-I / RGB ports (only enabled with Intel® Core™ i5 / Core™ i3 / Pentium™ Processors) Supports DVI with max. resolution 1920 x 1200 @ 60Hz Supports RGB with max. resolution 2048 x 1536 @ 75 Hz Maximum shared memory of 1748 MB
Auxiliary Storage FDD / CD / DVD		1 x 3.5" Smart Card Reader 3 x 5.25" media bays (No ODD / DVD-ROM / DVD-RW)
Back Panel I/O		1 x PS/2 KB/MS port 1 x S/PDIF Out (Optical) 4 x USB 2.0/1.1 ports 2 x USB 3.0/2.0 ports 1 x IEEE1394a 2 x IEEE1394b 2 x LAN Connector 1 x DVI-I port 1 x 10-channel Audio I/O
Front Panel I/O		2 x USB 2.0 ports 1 x Line In 1 x Line Out
Anti-virus Software		Norton® Internet Security 2010 (Trial Version)
Dimension (HH x WW x DD)		190mm x 423mm x 435mm (W x H x D)
Net Weight Kg (CPU, DRAM & HDD excluded)		12 Kg
Power Supply		470W Single Power Supply (80+, Bronze)
Power Rating		Input: 100–240Vac, 8–4A, 50/60Hz Class 1
Environment		Operation temperature: 10°C–35°C Non operation temperature: -40°C–70°C Non operation humidity: 20%–90% (Non-condensing)

*Specifications are subject to change without notice.

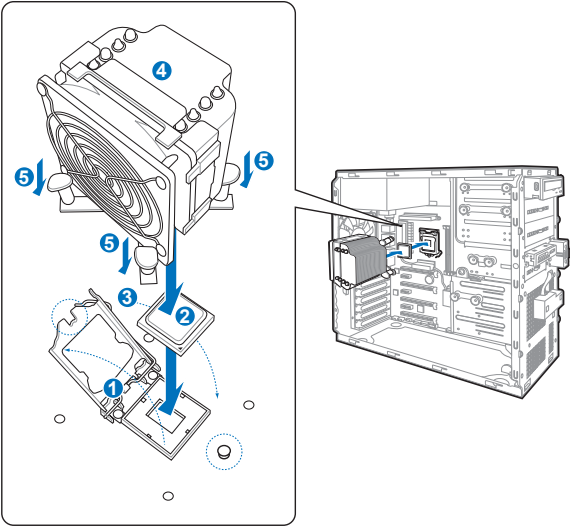
Chapter 2

This chapter lists the key components and optional accessories for the server system.

Components

2.1 Upgrading CPU and CPU heatsink

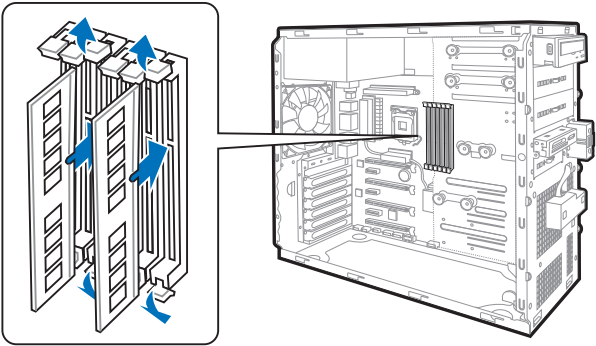
TW100-E6 supports Intel® LGA1156 Core™ i7 / Core™ i5 / Core™ i3 / Pentium® / Xeon® X3400 Series processors.



CPU Support List
Quad Core Intel Xeon X3480 4/8 3.06 Yes 8M LGA1156
Quad Core Intel Xeon X3470 4/8 2.93 Yes 8M LGA1156
Quad Core Intel Xeon X3460 4/8 2.80 Yes 8M LGA1156
Quad Core Intel Xeon X3450 4/8 2.66 Yes 8M LGA1156
Quad Core Intel Xeon X3440 4/8 2.53 Yes 8M LGA1156
Quad Core Intel Xeon X3430 4/4 2.40 Yes 8M LGA1156
Quad Core Intel Core i7-880 4/8 3.06/Tb/ 8M LGA1156
Quad Core Intel Core i7-875K 4/8 2.93 /Tb/ 8M/LGA1156
Quad Core Intel Core i7 870 4/8 2.93/Tb/ 8M/ LGA1156
Quad Core Intel Core i7 860 2.80 /Tb /8M /LGA1156
Quad Core Intel Core i5-760 4/4 2.80/Tb/8M/LGA1156
Quad Core Intel Core i5-750 4/4 2.66/Tb/8M/LGA1156
Dual Core Intel Core i5-680 2/4 3.60 /Tb/4M LGA1156
Dual Core Intel Core i5 670 2/4 3.46/Tb/ 4M/ LGA1156
Dual Core Intel Core i5 661 2/4 3.33/Tb/ 4M/ LGA1156
Dual Core Intel Core i5 660 2/4 3.33/Tb/ 4M/ LGA1156
Dual Core Intel Core i5-655K 2/4 3.20/Tb/ 4M/LGA1156
Dual Core Intel Core i5 650 2/4 3.20/Tb/ 4M/ LGA1156
Dual Core Intel Core i3-560 2/4 3.33/No Tb/ 4M /LGA1156
Dual Core Intel Core i3-550 2/4 3.20/No Tb/ 4M / LGA1156
Dual Core Intel Core i3 540 2/4 3.06/ 4M/ LGA1156
Dual Core Intel Core i3 530 2/4 2.93/ 4M/ LGA1156
Dual Core Intel Pentium G6950 2/2 2.80/ 3M/ LGA1156

2.2 Upgrading system memory

The motherboard comes with six (6) Double Data Rate 3 (DDR3) Dual Inline Memory Modules (DIMM) sockets.



Memory population configuration

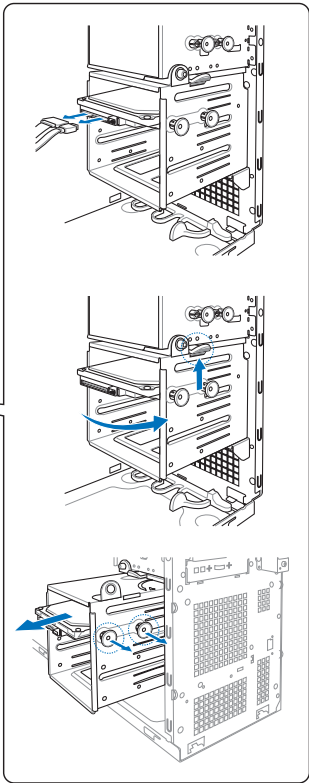
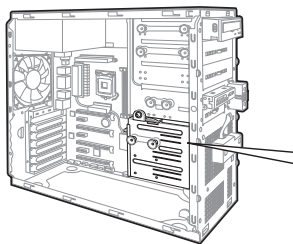
Dual Channel Memory configuration table for Lynnfield CPU						
	A3	A2	A1	B3	B2	B1
1 DIMM	—	—	—	—	—	SS/DS
1 DIMM	—	—	SS/DS	—	—	—
2 DIMMs	—	—	SS/DS	—	—	SS/DS
4 DIMMs	—	SS/DS	SS/DS	—	SS/DS	SS/DS
4 DIMMs	DS	—	DS	DS	—	DS
6 DIMMs	SS	SS	SS	SS	SS	SS
(SS = Single-sided; DS = Double sided; “—” = No memory)						

Dual Channel Memory configuration table for Clarkdale CPU						
	A3	A2	A1	B3	B2	B1
1 DIMM	—	—	—	—	—	SS/DS
1 DIMM	—	—	SS/DS	—	—	—
1 DIMMs	—	—	—	—	SS/DS	—
1 DIMMs	—	SS/DS	—	—	—	—
2 DIMMs	—	—	SS/DS	—	—	SS/DS
2 DIMMs	—	SS/DS	—	—	SS/DS	—
4 DIMMs	—	SS/DS	SS/DS	—	SS/DS	SS/DS
(SS = Single-sided; DS = Double sided; “—” = No memory)						

Order P/N	Description
90-S000I0340T	1GB DDR3 1333 UDIMM ECC
90-S000I0350T	2GB DDR3 1333 UBDIMM ECC
90-S000I0570T	4GB DDR3 1333 UBDIMM ECC

2.3 Upgrading hard disk drives

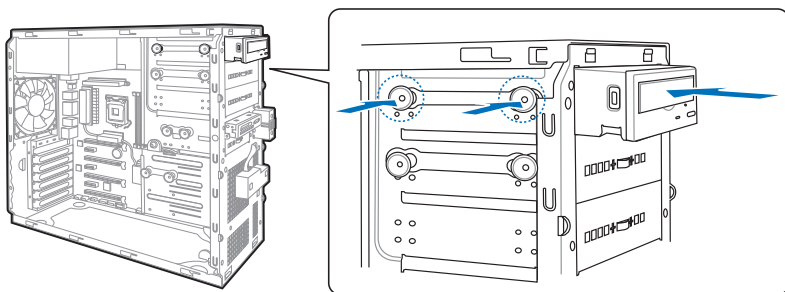
The system supports three SATAII hard disk drives.



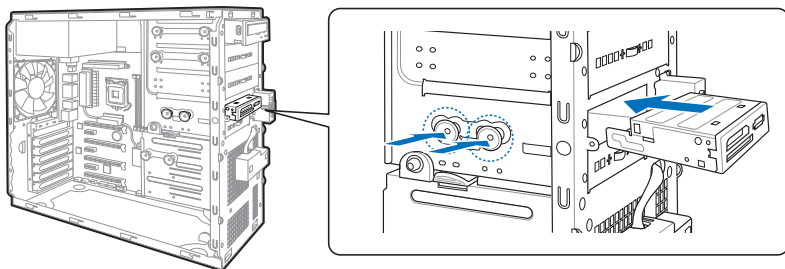
We recommend that you install identical drives of the same model and capacity for RAID configuration.

Order P/N	Description
90-S000H0030	146GB SAS15000rpm
90-S000H0040	300GB SAS15000rpm
90-S000H6010T	500GB SATAII 7200rpm
90-S000H6030T	1T GB SATAII 7200rpm

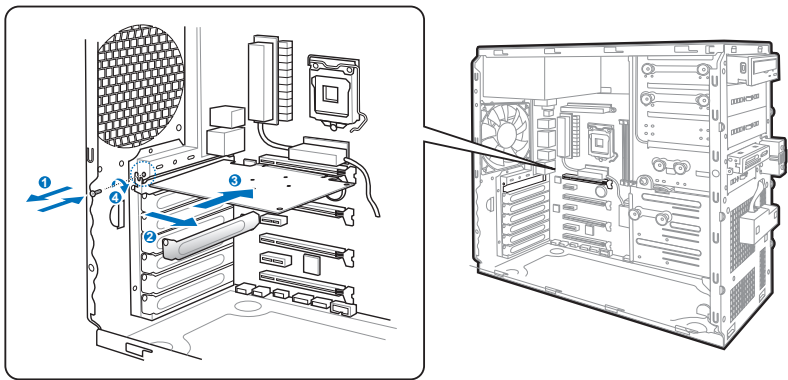
2.4 Upgrading 5.25-in drives



2.5 Upgrading the smart card reader



2.6 Upgrading expansion card



VGA Support List	
NVIDIA Quadro FX380	
NVIDIA Quadro FX580	
NVIDIA Quadro FX1800	
NVIDIA Quadro FX3800	
NVIDIA Quadro FX4800	

Order P/N	Description
90-C1SCJ0-00UAY00Z	ASUS SASSABY1064E 4-port SAS card (RAID 0,1,1E)

2.7 OS support list

OS support list
Genuine Windows® 7 Professional pre-loaded.