



FEATURE

- 5.25"x3 +3.5"x2 drive bays for RAID 0, 1, 5 & CD-ROM
- Two ball-bearing cooling fans for better ventilation
- Traditional rack-mount handles
- Two card retainer positions
- 2 USB ports
- One modularized function panel for single(default) and dual (optional) systems
- ATX M/B applicable, especially for big-AT sized M/B
- PS/2 redundant power supply installable

General

Construction	Heavy-duty steel with aluminum front panel
Drive Bay	External: 5.25"x3 + 3.5" FDD x1 Internal: 3.5" HDD x1
Card Retainer	Two locations for one card retainer
Cooling Fan	One 12 cm and one 8 cm ball-bearing cooling fans
Indicator	Power on/off x1, HDD x1
Switch	Power on/off x1, System reset x1, K/B lock x1
Air Filter	One replaceable filter
Connector	2 USB ports on the front panel
Standard Color	Beige, Black
Dimension	HR4145 : 482(W) x 450(D) x 177(H) mm; 19"(W) x 17.7"(D) x 7"(H))
Weight	PŪI FI Í : Net: 14 kg.(30.9 lb); Gross: 15kg.(33.1 lb)
Backplane	PBP-14I: 14-slot ISA backplane PBP-14AC: 14-slot (12xPCI) active PICMG backplane PBP-14A7: 14-slot (7xPCI) active PICMG backplane PBP-14P4: 14-slot (4xPCI) PICMG backplane PBP-13D4: 13-slot dual-system PICMG backplane

Power Supply (PW-330ATXE-12V optional)

Maximum Output	330W
Output Voltage & Current	330W ATX for PRC-2193P: +5V@30A, +12V@16A, +3.3V@28A, -5V@0.3A, -12V@0.8A, +5Vsb@2A
Input Voltage	90V ~ 132V, 180 ~ 264V AC selectable
Input Frequency	47 ~ 63 Hz
Input Current	10A@115V, 5A@230V
Eff ciency	> 70%
MTBF Reliability	100,000 hrs
Certificatio	UL, cUL,TUV, CE, FCC

Environment

Operating Temperature Range	0 to +55°C
Storage Temperature Range	0 to +70°C
Relative Humidity	5% to 95%, non-condensin

FEATURE	BENEFITS
A lockable front door with acrylic windows	Good for dust-proof & Running status visible
One power on/off switch with LED indicator, one reset and one K/B lock switches inside the lockable door	Avoid accidental reset for better running security
Front replaceable air filter	For installing dual systems and redundant power supplies more easily
One K/B DIN connectors on the front panel	For easy cleaning
Two ball-bearing cooling fans	Better ventilation to provide the system with higher reliability
Enhanced drive bracket to hold 3x5.25"+1x3.5" (external) and 1x3.5" drives (internal)	For integrating varied systems with higher flexibility
Shock-resistant cushion for the drive bracket	Suitable for installing RAID and CD-ROM drive
Two adjustable positions for hold-down card retainers	For fixing all the cards more visibly and tightly
Changeable modularized back panel for 14-slot ISA/PICMG backplane or ATX M/B	Only one minute to change the back panel Easy to change to different backplanes and keep stock
Field replaceable power supply bracket for both normal PS/2 power supply and PS/2 type redundant power supply	Only 3 minutes to change the defective power supply Only 30 seconds to change the defective PSU module

WHAT'S NEW



Replaceable function panel

Two modular designed function panels are available for single or dual system display panels. Any OEM project is welcome.

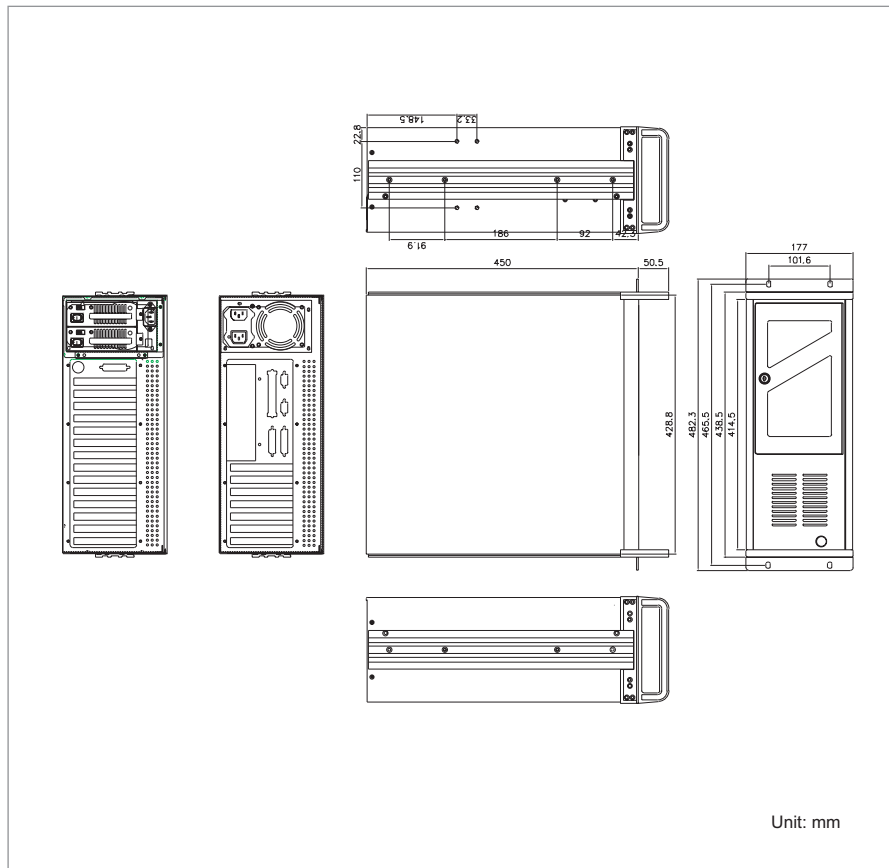
19" 4U rack-mount chassis for ATX M/B with 330W ATX power supply

19" 4U rack-mount chassis for 14-slot PICMG backplane with 300W ATX power supply

19" 4U rack-mount chassis for 14-slot PICMG backplane

19" 4U rack-mount chassis for ATX M/B

ENGINEERING DRAWING



Unit: mm

Industrial Mainboard D2836-S ATX

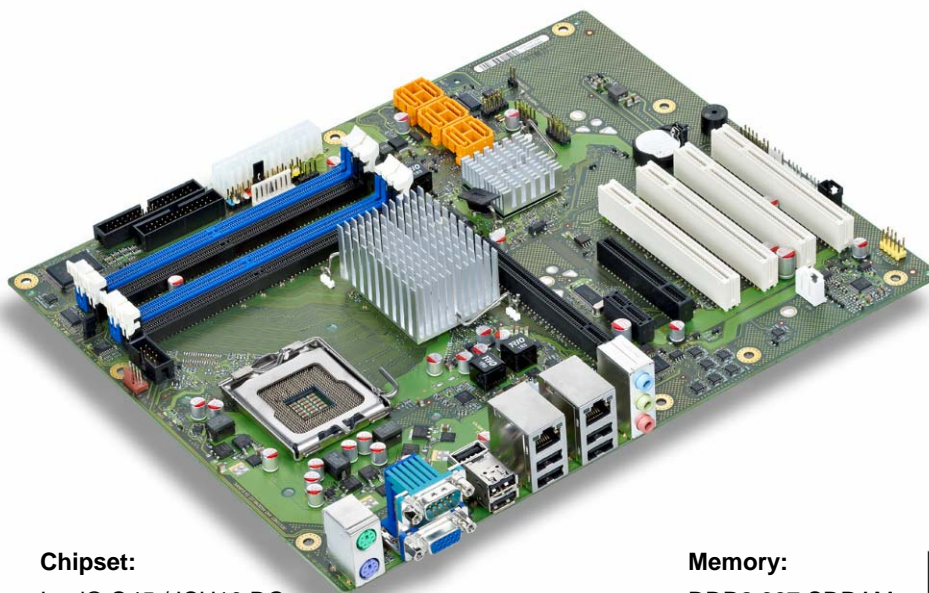
Issue October 2008

Pages 2

Intel® Q45 Express Chipset for DDR2 800 SDRAM Memory and
Intel® Core™2 Duo Processors and Core™2 Quad Processors (up to 1333 MHz FSB)

Designed & approved for enhanced operating temperature range from 0°C to 60°C

Designed & approved for 24/7 continuous operation



Chipset:

Intel® Q45 / ICH10 DO

Processors:

Intel® Core™ 2 Quad Q9xxx / Q8xxx Processors,
LGA775 with 1333/1066 MHz FSB

Intel® Core™ 2 DUO E8xxx / E6xxx Processors,
LGA775 with 1333/1066/800 MHz FSB

Intel® Core™ 2 DUO E7xxx / E4xxx Processors,
LGA775 with 1333/1066/800 MHz FSB

Intel® Pentium® Dual Core E2xxx Processors,
LGA775 with 800 MHz FSB

Intel® Celeron® Dual Core E1xxx Processors,
LGA775 with 800 MHz FSB

Intel® Celeron® 4xx Processors,
LGA775 with 800 MHz FSB

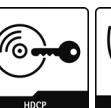
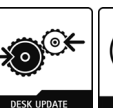
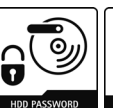
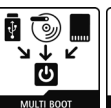
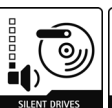
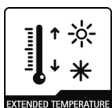
Memory:

DDR2 667 SDRAM
DDR2 800 SDRAM



Product Features:

- Dual GbE LAN onboard
- PCI Express generation 2
- State-of-the-art graphics onboard
- 5.1 multichannel audio onboard
- Trusted Platform Modul (TPM) V1.2 onboard
- Serial ATA II RAID onboard
- USB 2.0 onboard



Board Size	ATX: 12" x 9.6" (304.8 x 243.8 mm)
Chipset	Intel® Q45 / ICH10 DO
Memory	4 DIMM Sockets (1.8V), 512MB - 16GB, Single Channel or Dual Channel DDR2 800/667 SDRAM, unbuffered, no ECC (For details on recommended RAM, please refer to our website)
Processors	Intel® Core™ 2 Quad Q9xxx / Q8xxx, 1333/1066 MHz FSB, Intel® Core™ 2 Duo E8xxx / E6xxx, 1333/1066 MHz FSB, Intel® Core™ 2 Duo E7xxx / E4xxx, 1066/800 MHz FSB, Intel® Pentium® Dual Core E2xxx, 800 MHz FSB, Intel® Celeron® Dual Core E1xxx, 800 MHz FSB Intel® Celeron® 4xx, 800 MHz FSB Compatible with Intel® 06 and 05A processors, max. 95W (LGA775) (For details on supported processors please refer to our website)

Power Specification
 BTX12V (24 Pin) or ATX12V (20 Pin) Power Supply required
 5V and 3.3V supply voltage on PCI slots (PCI Rev. 2.3)
 3.3V auxiliary supply voltage on PCI Slots (wake-up support)

Power Supply (PS) Requirements
 for onboard components (worst case)

Source	Voltage	PS Load (min.) ¹	Voltage Tolerance (max)	Mainboard Current (max.)
Main Power Supply	+ 12 V	0.3 A	± 5 %	12 A
	- 12 V	0 A	± 10 %	0.05 A
	+ 5 V	0.6 A	± 5 %	6 A
	+ 3.3 V	0 A	± 5 %	0.5 A
Aux. Power Supply	+ 5 V	0 A	+5 % / -3%	2 A

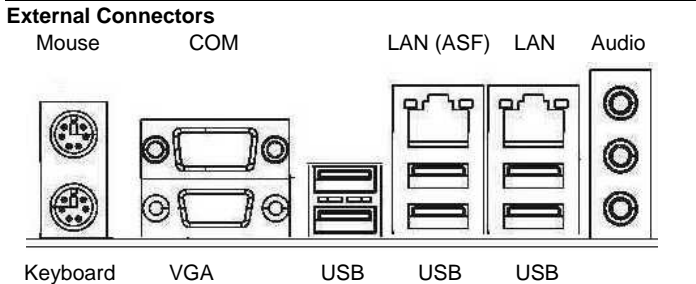
1) PS must support these load conditions if low power processors (e.g. Celeron 4xx) are used.

BIOS
 Phoenix Secure Core BIOS Version 6.00
 modified and adapted by Fujitsu Siemens Computers

Security Features
 Recovery BIOS, System and BIOS Password, Write Protection for Floppy Disk Drive, Boot Sequence Control, Serial/Parallel/USB- Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS. Trusted Platform Module (TPM) V1.2 (Infineon)

Special Features
 Silent Fan Independent temperature related processor fan and system fan supervision and control
 System Guard View and adjust Silent Fan features
 Voltage Guard Realtime operating voltage supervision
 Silent Drives Noise reduction for optical and hard disk drives
 Recovery BIOS Restores a corrupted BIOS
 Desk Update Simple driver update with Driver&Utilities DVD
 Multi Boot Comfortable boot from any boot device
 HDD Password Access protection for disk drives

Designed for industrial applications
 Longlife components Designed for 24/7 use in industrial applications
 Tin-plated PCB Improved durability of PCB surface
 Revision control Less hardware changes and outstanding information management
 Extended lifetime Mainboard available for more than three years
 Enhanced operating temperature range (0°C-60°C)¹⁾



1) forced cooling required, see technical documentation for detailed requirements

Graphics
 Intel® GMA4500 integrated graphics controller, shared memory (up to 256MB), DirectX 10 compliant, upgradeable with PCI Express x16 graphics card or ADD2+ cards

Audio
 Realtek ALC 663, 5.1-channel, High Definition audio

LAN
 Dual Realtek RTL8111CP Ethernet Controller with 10/100/1000 MBit/s, Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, bootix® PXE Support, ASF 2.0, Teaming Support

Drives
 - 6 Serial ATA II 300 Interfaces (up to 3GBit/s, NCQ); RAID 0, 1, 10, 5
 - Floppy

Version	D2836-S
Features	
Chipset	iQ45, ICH10DO
Board Size	ATX
VGA	✓
Stereo Audio / 5.1 Multichannel Audio	- / ✓
Buzzer / int. Speaker Support	✓ / ✓
Dual LAN Gbit / 100 Mbit / 10 Mbit	✓ / ✓ / ✓
LAN ASF / DASH / WoL / Boot / iAMT	✓ / - / ✓ / ✓ / ✓ / -
SATA / ATA / RAID / eSATA Support	✓ / - / ✓ / ✓
FireWire™ / USB 2.0	- / ✓
FAN monitored PSU ²⁾ / CPU / AUX1 / AUX2 / AUX3	✓ / ✓ / ✓ / ✓ / ✓ / ✓
FAN controlled PSU ²⁾ / CPU / AUX1 / AUX2 / AUX3	✓ / ✓ / ✓ / ✓ / ✓ / ✓
TEMP monitored CPU / ONB1 / ONB2 / OFFB	✓ / ✓ / ✓ / ✓ / -
Special Features	
Silent Fan / Silent Fan LT / System Guard / Silent Drives	✓ / - / ✓ / ✓
Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
HDD Password / HDD Encryption	✓ / -
Logo Boot Option / Intel On Screen Branding	✓ / ✓
Realtime operating voltage supervision onboard	✓
High Efficient Core regulator design (85% @ 65W)	✓
Prepared for internal USB stick and USB flashdrive	✓
Internal Connectors	
DIMM Sockets (DDR2 800)	4
PCI Express x16 Slot (Gen. 2)	1
PCI Express x8 Slot (1 Lane)	1
PCI Express x1 Slot	1
PCI Slots (32Bit, 33 MHz, Rev. 2.3)	4
SATA (300) / ATA (100) / Floppy	6 / 0 / 1
S/PDIF (digital Audio) OUT / IN	1 / -
Audio Input (analogue CD type)	1
Frontpanel High Definition Audio (9-Pin)	1
FireWire™ (9-Pin, Intel standard Header)	-
USB (2.0, ~480 MB/s, 2 Channels per Connector)	2
Specific socket for USB stick	1
Specific socket for USB flashdrive	1
Serial (FIFO, 16550 compatible)	1
FAN PSU ²⁾ / CPU / AUX1 / AUX2 / AUX3 ³⁾	1 / 1 / 1 / 1 / 1
SMBus (Case Temperature) / Intrusion (Case Open)	- / 1
Parallel (EPP/ECP) Pin Connector ⁴⁾	1
Status LCD Display Connector	1
Power 24 Pin (BTX) / 4 Pin (12V Processor Supply)	1 / 1
External Connectors	
VGA Sub D / DVI ⁵⁾	1 / -
Audio Mic. In / Line in / Line out (configurable)	1 / 1 / 1
Audio Surround / RearSurround / CenterLFE	- / - / -
S/PDIF (digital Audio)	-
LAN (RJ-45)	2
PS/2 Mouse / Keyboard	1 / 1
FireWire™ (6-Pin, IEEE 1394)	-
USB (2.0, ~480MB/s)	6
Serial (RS232, FIFO, 16550 compatible)	1
Parallel (EPP/ECP) ⁴⁾	-

2) Not supported by standard Power Supplies 3) FAN3- connector supports PWM- and 3-wire fan
 4) External parallel port possible via connector cable 5) DVI possible via DVI extension D2823