# data<sup>2</sup>

# Data Sheet · CELSIUS R610 · Issue June 2004

# CELSIUS<sup>®</sup> R610 The most powerful workstation



CELSIUS workstations are equipped with the very latest technology and system components to deliver high-end performance. They are the ideal hardware choice for business segments like CAD, CAE, mechanical design, simulation, virtual reality, visualization, digital content creation, and finance. CELSIUS are certified for a huge variety of software applications, guaranteeing you optimum performance whatever your preferred software solution.

If you need more performance and more expandability than a single processor workstation can offer, choose the high-end workstation CELSIUS R610.

#### Performance

- Latest processor technology,
  max. 2 Intel<sup>®</sup> Xeon<sup>®</sup> processors up to
  3.2 GHz, Hyper-Threading technology for
  multiprocessing
- Max. 4.0 GB DDR-SDRAM for memorydemanding applications
- PCI/X for high speed I/O
- AGP 8x Pro 50 to deliver enough energy to accommodate even the most powerful graphics subsystems
- Optional SCSI controller with 10k and 15k rpm hard disk drives for high speed storage access
- RAID (0) support for SCSI disks for high speed storage

#### Reliability

- Developed and manufactured in Germany guaranteeing high quality, reliability and stability
- Features to enhance reliability, like ECC memory and RAID (1) for your mission critical applications
- Your choice of supply for on-time and tailored delivery: value4you, made4you
- Warranty, service, and spare part supply to suit your individual needs
- Certification of all relevant workstation applications to ensure ISV support

#### Manageability

- Easy and remote administration with DeskView client management
- Microsoft Windows XP Professional optionally preinstalled,
- Certified for Linux (RedHat and SuSE)

#### Ergonomics

- Convenient front access to USB, audio, and IEEE1394
- Optimized cooling to ensure lowest possible noise emission
- Specially tuned graphics driver for best image quality and performance
- Reduce downtime with service-friendly cabinet and easy component access (EasyChange and FlexyBay)

#### Security

- Secure access and protection for your business critical data
- SecureIT: software suite for easy integration into your IT environment



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## System

**Operating Systems** Windows XP Professional Linux (RedHat, SuSE)

optional certificatied

Fujitsu Siemens Computers recommends Microsoft® Windows® XP Professional for business.

#### Mainboard D1357

Mainboard D1357			
Microprocessor	up to 2 Intel Xeon		
•	max. 3.20 GHz,		
	Hyper-Threading technology		
Front Side Bus	533 MHz		
Second-level cache	533 MHZ 512 KB / 1 MB		
	max. 4 GB <sup>1),</sup> DDR-SDRAM, ECC,		
Memory*			
5	DDR266, dual-channel		
DIMM slots	4		
Chipset	Intel E7505		
Flash EEPROM	BIOS update by software		
Interfaces			
Serial	1 x 9-pin, RS232		
Parallel	1 x 25 pin, EPP and ECP		
	$2 \times PS/2$		
Keyboard, mouse			
USB 2.0	4 x rear, 2 x front		
LAN	1 x RJ45		
IEEE1394	1 x front, 1 x rear		
Front audio	1 x headphone out, 1 x mic in		
Rear audio	1 x line in, 1 x line out,		
	1 x mic in, 1 x S/PDIF		
1/O controller			
I/O controller	and have not fam. Only Ondering a		
Fast IDE / Ultra DMA-100	on board for 2 x 2 drives		
SCSI controller	29320-R, dual-channel on board		
	Host RAID 0 / 1 support		
LAN	Intel i82540,		
	10/100/1000 Mbit/s, ASF 2.0		
Audio (on board)	Analog devices AD1981A (AC 97)		
Audio (on board)	Analog devices AD1981A (AC 97)		
Graphics subsystems	Analog devices AD1981A (AC 97)		
Graphics subsystems Professional 2D:	<u> </u>		
Graphics subsystems	64 MB, AGP 8x,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200	<u> </u>		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D:	64 MB, AGP 8x, 2 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D:	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo, 2 x DVI-I		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000 Floppy disk drive	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo,		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000 Floppy disk drive Hard disk drives	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo, 2 x DVI-I 3.5-inch, 1.44 MB		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000 Floppy disk drive	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo, 2 x DVI-I 3.5-inch, 1.44 MB		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000 Floppy disk drive Hard disk drives	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo, 2 x DVI-I 3.5-inch, 1.44 MB		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000 Floppy disk drive Hard disk drives Ultra DMA 100	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo, 2 x DVI-I 3.5-inch, 1.44 MB		
Graphics subsystems Professional 2D: Nvidia GeForce FX 5200 Multi monitor 2D: Matrox Millennium G450 Entry-level 3D: Nvidia Quadro4 580 XGL Mid-range 3D: Nvidia Quadro4 980 XGL Nvidia Quadro FX 1100 High-End 3D: Nvidia Quadro FX 3000 Floppy disk drive Hard disk drives Ultra DMA 100 Serial ATA	64 MB, AGP 8x, 2 x DVI-I 32 MB, AGP 4x, 2 x VGA or 1 x DVI-I 32 MB, PCI, 1 x VGA and 1 x DVI-I 64 MB, AGP 8x, 2 x VGA or 2 x DVI-D 128 MB, AGP 8x, stereo, 2 x DVI-I 128 MB, AGP 8x, stereo, 2 x DVI-I 256 MB, AGP 8x, stereo, 2 x DVI-I		

Optical drives			
ATAPI DVD	16/48–speed		
ATAPI CD RW / DVD combo	48/16/48/16-speed		
ATAPI DVD+R/+RW	4/4/10/16/12/40-speed		
Mouse	wheel mouse		
optional	optical wheel mouse,		
	SpaceMouse		
Slots	6 (max. 350 mm)		
	1 x AGP 8x Pro 50,		
	1 x PCI-X (64-bit / 133 MHz)		
	2 x PCI-X (64-bit / 100 MHz)		
	2 x PCI (32-bit / 33 MHz)		
Drive bays	8		
Internal	4 x 3.5 inch (HDD)		
External	1 x 3.5 inch (FDD)		
	3 x 5.25 inch (ODD)		
Electrical values			
Power supply	410 W, 100-240 V, 50-60 Hz		
Typical power consumption	200 W <sup>3)</sup>		
Temperature/noise/dimensions/v	veight		
Ambient temperature	10-35° C acc. to IEC 721		
Relative humidity	20-80% acc. to IEC 721		
Noise emission values			
according to ISO 9296			
(LpAm at bystander position)	27 dB, standby mode		
	28 dB, idle mode		
	32 dB, full operation mode		
Dimensions (H x W x D)	445 x 205 x 560 mm		
Weight	20 kg <sup>3)</sup>		
Compliance with standards			
Product safety	IEC60950, EN60950,		
	UL1950, CSA22.2 No.950		
Ergonomics	ISO9241 (GS marks)		
Electromagnetic compatibility	EN55022/B, EN50082-1,		
0 <b>-</b> 1	FCC class B		
CE mark	89/336/EEC (EMI),		
	73/23/EEC (product safety)		
Security features			
Cabinet security features			
	intrusion detection,		
	antitheft function, seal option		
	antitheft function, seal option Kensington lock support		
BIOS security features:	antitheft function, seal option Kensington lock support write protect for EEPROM,		
BIOS security features:	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD,		
BIOS security features:	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password,		
BIOS security features:	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling		
BIOS security features:	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling functions for many system		
- 	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling		
Software	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling functions for many system components		
Software Drivers and Utility CD (DUCD)	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling functions for many system components included		
Software	antitheft function, seal option Kensington lock support write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling functions for many system components included		

<sup>21</sup> In 4 GB configurations the visible memory may be reduced down to 3.5 GB (depending on system configuration).
 <sup>21</sup> 1 GB equals one billion bytes, when referring to hard disk drive capacity; accessible capacity may vary, also depending on used software and tools.
 <sup>3)</sup> Depending on configuration

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	trademark owners. Copyright © Fujitsu Siemens Computers, 04/2003	