

**Windows®. Life without Walls™.**  
**Fujitsu recommends Windows 7.**

# DATASHEET

## FUJITSU CELSIUS M470

### WORKSTATION

YOUR NEW “THOROUGHbred” WORKSTATION

The CELSIUS M Series is the single-processor platform with a particularly well-balanced ratio between price and performance. The CELSIUS M470 incorporates the latest advances in performance technologies enabling you to meet increasingly demanding schedules using professional applications such as CAD/CAE, virtual reality and finance.

**PERFORMANCE**

Higher productivity

- High performance multi-core processors, hard disk drives and next generation graphics subsystems

**ERGONOMICS**

Quiet system for a pleasant working environment

- Optimized thermal management, low-noise chassis and silent fans

**RELIABILITY**

System stability for the complete lifecycle

- High product standards thanks to top-quality components and comprehensive testing in certified in-house laboratories for 24/7 operation

**CERTIFICATION OF WORKSTATION APPLICATIONS**

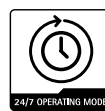
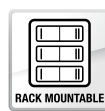
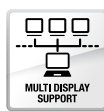
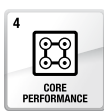
Stability, compatibility and performance for the main workstation applications

- Comprehensive support for ISV applications and ease of integration into existing IT networks

**EXPANDABILITY**

Excellent expandability for future demands

- Increased memory capacities of up to 24 GB



# COMPONENTS

## PROCESSOR

Intel® Xeon® processor X5570 (4C, 2.93 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor X5560 (4C, 2.8 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor X5550 (4C, 2.66 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor W5590 (4C, 3.33 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor W5580 (4C, 3.2 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor W3580 (4C, 3.33 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor W3570 (4C, 3.2 GHz, 8 MB, 6.4 GT/s)  
 Intel® Xeon® processor W3565 (4C, 3.20 GHz, 8 MB, 4.8 GT/s)  
 Intel® Xeon® processor W3550 (4C, 3.06 GHz, 8 MB, 4.8 GT/s)  
 Intel® Xeon® processor W3540 (4C, 2.93 GHz, 8 MB, 4.8 GT/s)  
 Intel® Xeon® processor W3520 (4C, 2.66 GHz, 8 MB, 4.8 GT/s)  
 Intel® Xeon® processor W3505 (2C, 2.53 GHz, 4 MB, 4.8 GT/s)  
 Intel® Xeon® processor W3503 (2C, 2.5 GHz, 4 MB, 4.8 GT/s)  
 Intel® Xeon® processor L5530 (4C, 2.40 GHz, 8 MB, 5.86 GT/s)  
 Intel® Xeon® processor L5520 (4C, 2.26 GHz, 8 MB, 5.86 GT/s)  
 Intel® Xeon® processor L5506 (4C, 2.13 GHz, 4 MB, 4.8 GT/s)  
 Intel® Xeon® processor E5540 (4C, 2.53 GHz, 8 MB, 5.86 GT/s)  
 Intel® Xeon® processor E5530 (4C, 2.4 GHz, 8 MB, 5.86 GT/s)  
 Intel® Xeon® processor E5520 (4C, 2.26 GHz, 8 MB, 5.86 GT/s)  
 Intel® Xeon® processor E5506 (4C, 2.13 GHz, 4 MB, 4.8 GT/s)  
 Intel® Xeon® processor E5504 (4C, 2.0 GHz, 4 MB, 4.8 GT/s)  
 Intel® Xeon® processor E5502 (2C, 1.86 GHz, 4 MB, 4.8 GT/s)

## OPERATING SYSTEM

**Operating system optional preinstalled** Genuine Windows® 7 Professional 64-bit  
 Genuine Windows® 7 Professional 32-bit  
 Genuine Windows Vista® Business 64-bit  
 Genuine Windows Vista® Business 32-bit

**Operating system compatible** Genuine Windows® XP Professional x64 Edition  
 Genuine Windows® XP Professional  
 Linux

**Operating system notes** Red Hat® certification  
 Novell® certification pending  
 For some configurations third party drivers are currently not available or configuration restrictions may apply.

## MEMORY MODULES

1 GB (1 module(s) 1 GB) DDR3-SDRAM, unbuffered, ECC, 1333 MHz, PC3-10600  
 1 GB (1 module(s) 1 GB) DDR3-SDRAM, unbuffered, non-ECC, 1066 MHz, PC3-8500  
 2 GB (1 module(s) 2 GB) DDR3-SDRAM, unbuffered, ECC, 1333 MHz, PC3-10600  
 4 GB (1 module(s) 4 GB) DDR3-SDRAM, unbuffered, ECC, 1333 MHz, PC3-10600

<b>GRAPHICS ADD ON CARDS (OPTIONAL)</b>	Remote Graphics: CELSIUS RemoteAccess Card, PCIe x1, 2x DVI-I GPU computing card: NVIDIA® Tesla™ C1060, 4 GB, PCIe x16, - Ultra-high-end 3D: NVIDIA® Quadro® FX 5800, 4 GB, PCIe x16, 2x DL-DVI-I, DP Ultra-high-end 3D: NVIDIA® Quadro® FX 4800, 1.5 GB, PCIe x16, 2x DL-DVI-I, 2x DP High-end 3D: NVIDIA® Quadro® FX 3800, 1024 MB, PCIe x16, DL-DVI-I, 2x DP High-end 3D: ATI FirePro™ V7750, 1024 MB, PCIe x16, 2x DP, 1x DVI-I Midrange 3D: NVIDIA® Quadro® FX 1800, 768 MB, PCIe x16, DL-DVI-I, 2x DP Midrange 3D: NVIDIA® Quadro® FX 580, 512 MB, PCIe x16, DL-DVI-I, 2x DP Entry 3D: NVIDIA® Quadro® FX 380, 256 MB, PCIe x16, 2x DL-DVI-I Entry 3D: ATI FirePro™ V3700, 256 MB, PCIe x16, 2x DL-DVI-I Multi monitor 2D: NVIDIA® Quadro® NVS 295, 256 MB, PCIe x1, 2x DP Multi monitor 2D: 2nd NVIDIA® Quadro® NVS 295, 256 MB, PCIe x1, 2x DP Professional 2D: NVIDIA® Quadro® NVS 450, 512 MB, PCIe x16, 4 x DP Professional 2D: NVIDIA® Quadro® NVS 295, 256 MB, PCIe x16, 2x DP Professional 2D: NVIDIA® Quadro® NVS 290, 256 MB, PCIe x16, 2x SL DVI-I Professional 2D: NVIDIA® Quadro® NVS 290, 256 MB, PCIe x1, 2x SL DVI-I
<b>HARD DISK DRIVES (INTERNAL)</b>	SSD SATA, 256 GB, 2.5-inch SSD SATA, 128 GB, 2.5-inch SATA III, 10000 rpm, 600 GB, 3.5-inch internal SATA II, 10000 rpm, 300 GB, 2.5-inch, S.M.A.R.T. SATA II, 10000 rpm, 150 GB, 2.5-inch, S.M.A.R.T. SATA II, 7200 rpm, 2000 GB, 3.5-inch, S.M.A.R.T. business critical SATA II, 7200 rpm, 1000 GB, 3.5-inch, S.M.A.R.T. business critical SATA II, 7200 rpm, 1000 GB, 3.5-inch, S.M.A.R.T. SATA II, 7200 rpm, 750 GB, 3.5-inch, S.M.A.R.T. business critical SATA II, 7200 rpm, 500 GB, 3.5-inch, S.M.A.R.T. business critical SATA II, 7200 rpm, 500 GB, 3.5-inch, S.M.A.R.T. SATA II, 7200 rpm, 320 GB, 3.5-inch, S.M.A.R.T. SATA II, 7200 rpm, 160 GB, 3.5-inch, S.M.A.R.T. HDD SAS, 15000 rpm, 600 GB, 3.5-inch internal HDD SAS, 15000 rpm, 450 GB, 3.5-inch HDD SAS, 15000 rpm, 300 GB, 3.5-inch HDD SAS, 15000 rpm, 146 GB, 3.5-inch
<b>Hard disk notes</b>	2.5-inch drives will be mounted in the 3.5-inch bays One Gigabyte equals one billion bytes, when referring to hard disk drive capacity.
<b>DRIVES (OPTIONAL)</b>	Blu-ray Disc™ Triple Writer DVD-ROM DVD Super Multi MultiCard Reader 20in1, 3.5-Inch
<b>INTERFACE ADD ON CARDS/COMPONENTS (OPTIONAL)</b>	WLAN III, 802.11g/Draft-n (Windows only) Parallel Interface Gigabit Ethernet PCIe x1 eSATA Interface Dual serial card PCI
<b>Base unit</b>	CELSIUS M470 <span style="float: right;">CELSIUS M470 power</span>
<b>MAINBOARD</b>	
<b>Mainboard type</b>	D2778
<b>Formfactor</b>	ATX
<b>Chipset</b>	Intel® X58 Express, Intel® 82801JR ICH10R
<b>Processor socket</b>	LGA 1366

**MAINBOARD**

<b>Processor quantity maximum</b>	1
<b>Memory slots</b>	6 DIMM
<b>Supported capacity RAM (max.)</b>	24 GB
<b>Memory notes</b>	In configurations with 4 GB and more the visible memory may be reduced to approximately 3.5 GB or less (for 32-bit operating systems) and configurations with 8 GB the visible memory may be reduced to approximately 7.5 GB or less (depending on system configuration).
<b>LAN</b>	Built-in 10/100/1000 MBit/s Realtek RTL8111
<b>Audio codec</b>	Realtek ALC663
<b>Audio features</b>	High Definition Audio

**I/O CONTROLLER ON BOARD**

<b>Serial ATA total</b>	6
<b>thereof eSATA</b>	1, optional
<b>SATA RAID support</b>	0, 1, 10, 5

**INTERFACES**

<b>Audio: in (rear)</b>	1
<b>Audio: out / SPDIF (rear)</b>	2 / 1
<b>Front Audio: in</b>	1
<b>Front Audio: out</b>	1
<b>FireWire (IEEE1394) (front)</b>	1
<b>FireWire (IEEE1394) (rear)</b>	1
<b>Internal speakers</b>	1
<b>USB 2.0 total</b>	11
<b>USB front</b>	2
<b>USB rear</b>	6
<b>USB internal</b>	3, thereof 1 type A
<b>Serial (RS-232)</b>	1
<b>Mouse / Keyboard (PS/2)</b>	1 / 1
<b>Ethernet (RJ-45)</b>	1
<b>Parallel</b>	Optional
<b>Interface Module notes</b>	Anytime USB charge functionality

**DRIVE BAYS**

<b>Drive bays total</b>	7
<b>3.5-inch internal bays</b>	4
<b>5.25-inch external bays</b>	3

**SLOTS**

<b>PCI-Express 2.0 x16</b>	2 x (312 mm) full height
<b>PCI-Express 1.0 x4 (mech. x8)</b>	1 x (312 mm) full height
<b>PCI-Express 2.0 x4 (mech. x8)</b>	1 x (312 mm) full height
<b>PCI (32-bit / 33 MHz)</b>	2 x (312 mm) full height

**ELECTRICAL VALUES**

<b>Power consumption note</b>	190 W depending on configuration	190 W depending on configuration
<b>Rated voltage range</b>	100 - 240 V	100 - 240 V
<b>Rated frequency range</b>	50 - 60 Hz	50 - 60 Hz
<b>Max. output of single power supply</b>	500 W up to 85% efficiency	700 W up to 85% efficiency

**NOISE FOR STANDARD CONFIGURATION (HDD, ODD, FDD)**

<b>Noise emission</b>	According to ISO9296 (LpAm at bystander position)
<b>Idle mode</b>	23 dB(A)
<b>Office mode</b>	23 dB(A)
<b>Noise notes / description</b>	depending on configuration

**DIMENSIONS / WEIGHT / ENVIRONMENTAL**

<b>Dimensions (W x D x H)</b>	215 x 522 x 446 mm
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**DIMENSIONS / WEIGHT / ENVIRONMENTAL**

<b>Operating position</b>	Vertical / horizontal
<b>Weight</b>	18 kg
<b>Weight notes</b>	Actual weight may vary depending on configuration
<b>Operating ambient temperature</b>	15 - 35°C
<b>Operating relative humidity</b>	10 - 75 %

**COMPLIANCE**

<b>Product</b>	CELSIUS M470	CELSIUS M470 power
<b>Model</b>	MCS-D2778	MCS-D2778
<b>Germany</b>	GS depending on configuration Blauer Engel / Blue Angel	GS depending on configuration
<b>Europe</b>	CE	CE
<b>USA/Canada</b>	cCSAus FCC Class B	cCSAus FCC Class B
<b>Global</b>	RoHS (EU & China) ENERGY STAR® 5.0 Medical EMC standard IEC60601-1-2 in combination with medical kit	RoHS (EU & China) ENERGY STAR® 5.0 Medical EMC standard IEC60601-1-2 in combination with medical kit
<b>China</b>	CCC	CCC
<b>Compliance link</b>	<a href="https://sp.ts.fujitsu.com/sites/certificates/default.aspx">https://sp.ts.fujitsu.com/sites/certificates/default.aspx</a>	<a href="https://sp.ts.fujitsu.com/sites/certificates/default.aspx">https://sp.ts.fujitsu.com/sites/certificates/default.aspx</a>

**SECURITY**

<b>Physical security</b>	Kensington Lock support Eye for padlock Seal option Intrusion switch Optional: Integrated cabinet lock
<b>System security</b>	Write protect option for the Flash EPROM Boot protection for floppy disk / CD drive and write protection for floppy disk drive Dynamic USB security for full hardware USB protection Control of all USB interfaces External USB interfaces detachable separately Embedded security (TPM 1.2) - Infineon
<b>User security</b>	Optional: Access protection via internal SmartCard reader User and supervisor BIOS password Optional: SmartCase Logon+

**ADDITIONAL SOFTWARE**

<b>Additional software (optional)</b>	Drivers & Utilities DVD (DUDVD) Windows® 7 & Vista & XP CyberLink PowerDVD 9 Nero 9 Essentials XL Recovery DVD (Windows® 7) Recovery DVD (Windows Vista®) Windows® XP 64 downgrade pack Windows® XP 32 downgrade pack	
<b>Spare part availability</b>	Keyboard on (Special Fujitsu keyboard required) Thermal management	Keyboard on (Special Fujitsu keyboard required) Thermal management
	5 years	5 years

**MANAGEABILITY**

<b>Manageability features</b>	DeskUpdate Driver management
<b>Manageability type</b>	DeskView 10.x client management including: DASH 1.1 remote system management
<b>DeskView features</b>	On/Offline remote client management Detailed system inventory management and reports BIOS Management Remote power management System notifications Security Remote Control DeskView Helpdesk Integration

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**MANAGEABILITY**

<b>Supported standards</b>	WMI BootP (made4you) PXE
<b>Manageability link</b>	<a href="http://ts.fujitsu.com/manageability">http://ts.fujitsu.com/manageability</a>

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**INPUT DEVICE / COMPONENTS**

<b>Input devices (optional)</b>	Optical USB tilt wheel mouse Optical USB/PS2 tilt wheel mouse Space Explorer USB Space Navigator USB Space Pilot USB Keyboard
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**WARRANTY**

<b>Standard Warranty</b>	3 years (depending on country)
<b>Service level</b>	On-site Service (depending on country)

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**MAINTENANCE AND SUPPORT SERVICES - THE PERFECT EXTENSION**

<b>Recommended Service</b>	5x9, Response Time: Next Business Day
<b>Service Weblink</b>	<a href="http://ts.fujitsu.com/Supportservice">http://ts.fujitsu.com/Supportservice</a>

**FUJITSU PLATFORM SOLUTIONS**

In addition to Fujitsu CELSIUS M470, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

**Dynamic Infrastructures**

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

**Computing Products**

[www.fujitsu.com/global/services/computing/](http://www.fujitsu.com/global/services/computing/)

**Software**

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

**MORE INFORMATION**

Learn more about Fujitsu CELSIUS M470, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website. <http://ts.fujitsu.com/celsius>

**FUJITSU GREEN POLICY INNOVATION**

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at <http://www.fujitsu.com/global/about/environment/>



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