

Fujitsu recommends Windows 10 Pro

Datasheet

FUJITSU Workstation CELSIUS R970

Uncompromising Workstation Performance for Extreme Requirements

Do you require the maximum in performance for simulations, analysis, rendering or High-Performance Computing? Fujitsu's CELSIUS R970 desktop workstation is designed to surpass all expectations. Achieving first-class benchmark results, this reliable, high-end dual processor desktop workstation is optimized for extremely demanding and memory intensive multi-threaded applications.



Unleash the power

Achieve the optimum out of any demanding application

- Up to 2nd Gen Intel® Xeon® Scalable Processors
- Support of Windows 10 Pro for Workstations
- Support of up to 1024 GB DDR4 2,933 ECC memory
- FUJITSU SSD PCIe card (up to 2 x 2TB)

Maximum expandability

Broad selection and configuration options

- Broad choice of professional graphics cards from NVIDIA
- Up to two ultra-high-end graphic cards for simulation or photorealistic renderings

Work around the clock

Certain components can be configured to support an extended lifetime usage

- Selection of top-quality components and comprehensive testing in certified in-house laboratories
- Full support of ISV applications and easy integration into existing IT environment
- Server capabilities: SAS RAID controller, Windows® Server 2016, Dual 10 Gigabit Ethernet

We are (VR) ready

Enjoy a fully immersive and real-time Virtual Reality experience with low latency at high frame rates

- Up to NVIDIA® Quadro® RTX 4000, RTX 5000, RTX 6000 and RTX 8000 VR-ready graphics cards



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Components

Processor	Intel® Xeon® Silver processor 4208 8C, 2.1 GHz, up to 3.2 GHz Intel® Xeon® Silver processor 4210 10C, 2.2 GHz, up to 3.2 GHz Intel® Xeon® Silver processor 4214 12C, 2.2 GHz, up to 3.2 GHz Intel® Xeon® Platinum processor 8260 24C, 2.4 GHz, up to 3.9 GHz Intel® Xeon® Gold processor 5218 16C, 2.3 GHz, up to 3.9 GHz Intel® Xeon® Gold processor 5222 4C, 3.8 GHz, up to 3.9 GHz Intel® Xeon® Gold processor 6226R 16C, 2.9 GHz, up to 3.9 GHz Intel® Xeon® Gold processor 6240 18C, 2.6 GHz, up to 3.9 GHz Intel® Xeon® Gold processor 6244 8C, 3.6 GHz, up to 4.4 GHz Intel vPro® technology	
Operating systems		
Operating system pre-installed	Windows 10 Pro for Workstations	Windows 10 Pro for Workstations
Operating system notes	Windows 7 Professional (available through downgrade rights form Windows 10 Pro) Windows® Server 2016 Linux	Windows® Server 2019 Linux
Memory modules	16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,933 MT/s 32 GB (1 module(s) 32 GB) DDR4, registered, ECC, 2,933 MT/s 64 GB (1 module(s) 64 GB) DDR4, registered, ECC, 2,933 MT/s	
Graphics	Ultra-high-end 3D: NVIDIA® Quadro® RTX 8000, 48 GB, PCIe x16, 4 x DisplayPort, 1 x Virtual Link Ultra-high-end 3D: NVIDIA® Quadro® RTX 6000, 24 GB, PCIe x16, 4 x DisplayPort, 1 x Virtual Link Ultra-high-end 3D: NVIDIA® Quadro® RTX 5000, 16 GB, PCIe x16, 4 x DisplayPort, 1 x Virtual Link High-end 3D: NVIDIA® Quadro® RTX 4000, 8 GB, PCIe x16, 3 x DisplayPort, 1 x Virtual Link Entry 3D: NVIDIA® Quadro® P400 , 2 GB, PCIe x16, 3 x miniDP Others: DP to DVI-D (single link) Adapter Cable Others: MiniDP to DP Adapter Cable	
Hard disk drive	SSD PCIe, 2048 GB M.2 NVMe Highend module SSD PCIe, 1024 GB M.2 NVMe Highend module SSD PCIe, 512 GB M.2 NVMe Highend module SSD PCIe, 256 GB M.2 NVMe Highend module SSD PCIe, 2x 2048 GB M.2 NVMe Highend card SSD PCIe, 2x 1024 GB M.2 NVMe Highend card SSD PCIe, 2x 512 GB M.2 NVMe Highend card SSD PCIe, 2x 256 GB M.2 NVMe Highend card SSD PCIe, 1x 2048 GB M.2 NVMe Highend card SSD PCIe, 1x1024 GB M.2 NVMe Highend card SSD PCIe, 1x 512 GB M.2 NVMe Highend card SSD PCIe, 1x 256 GB M.2 NVMe Highend card SSD PCIe, 1024 GB M.2 NVMe module SSD PCIe, 512 GB M.2 NVMe module SSD PCIe, 256 GB M.2 NVMe module SSD PCIe, 512 GB M.2 NVMe module, SED SSD PCIe, 2x 1024 GB M.2 NVMe card SSD PCIe, 2x 512 GB M.2 NVMe card SSD PCIe, 2x 256 GB M.2 NVMe card SSD PCIe, 1x 1024 GB M.2 NVMe card SSD PCIe, 1x 512 GB M.2 NVMe card SSD PCIe, 1x 256 GB M.2 NVMe card SSD SATA III, 1024 GB, 2.5-inch SSD SATA III, 512 GB, 2.5-inch SSD SATA III, 256 GB, 2.5-inch SSD SATA III, 512 GB, 2.5-inch, SED SSD SATA III, 256 GB, 2.5-inch, SED HDD SATA III, 7,200 rpm, 4,000 GB, 3.5-inch, business critical HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch, business critical HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch, business critical HDD SATA III, 7,200 rpm, 2,000 GB, 2.5-inch, business critical HDD SATA III, 7,200 rpm, 1,000 GB, 2.5-inch, business critical HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch HDD SATA III, 7,200 rpm, 500 GB, 3.5-inch	

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Hard disk notes	One Gigabyte equals one billion bytes, when referring to hard disk drive capacity. 24/7 ready (Business Critical HDDs or SAS HDDs or High Endurance SSDs required) Up to 20 GB of HDD space is reserved for system recovery SED (Self-Encrypting Drive) SSD (Solid State Disk)	
Optical drive	BD Triple Writer SATA ultra slim (tray) DVD-ROM DVD Super Multi DVD Super Multi ultra slim (tray) MultiCard Reader 24in1 USB 2.0 3.5"	
SCSI / SAS Controller	LSI RAID Ctrl SAS 1GB (D3216) RAID 5/6 Ctrl. 12 Gbit/s 8 ports int. LSI RAID Ctrl SAS (D3327) RAID 0/1 Ctrl. 12 Gbit/s 8 ports int. Intel VROC HW key Standard M.2 Flash Backup Unit (FBU + TFM) For RAID controller D3216	
Interface add on cards/components (optional)	eSATA Interface PLAN EM X557-T2 2x10GBASE-T PLAN EM 2x10Gb SFP+ Gigabit Ethernet PCIe x1 Dual 10 Gigabit Ethernet PCIe x8 Intel 2x1Gb Ethernet Adapter I350-T2 PLAN EP X550-T2 2x10GBASE-T WLAN 802.11ac (2x2) PCIe x1 and BT 5, SRD 5.8GHz (dedicated regions only) WLAN 802.11ac (2x2) PCIe x1, SRD 5.8GHz (dedicated regions only) Dual serial card PCIe x1	
Base unit	CELSIUS R970	CELSIUS R970 Power
Mainboard		
Mainboard type	D3488-A1X	D3488-A2X
Formfactor	Proprietary	
Chipset	Intel® C624	
Processor socket	Socket P	
Processor quantity maximum	2	
Support capacity RAM (max.)	1,024 GB	
Memory slots	16 (8 per processor) DIMM (DDR4) ECC	
Memory frequency	2,666 MT/s	2,933 MT/s
Memory notes	6 memory channels, thereof 2 channels supporting 2 DIMMs per channel. For optimized 6 channel performance, a minimum of 6 memory modules have to be ordered and the capacity per channel has to be the same. DDR4 2,666MHz may be clocked down to 2,400 or 2,133 depending on the processor. Supports up to 1TB of main memory (offered on request). This requires dual CPU usage with selected CPUs and 128GB DDR4 memory modules.	6 memory channels, thereof 2 channels supporting 2 DIMMs per channel. For optimized 6 channel performance, a minimum of 6 memory modules have to be ordered and the capacity per channel has to be the same. DDR4 2,933MHz may be clocked down to 2,666 or 2,400 or 2,133 depending on the processor. Supports up to 2TB of main memory (offered on request). This requires dual CPU usage with selected CPUs and 128GB DDR4 memory modules.
LAN	10/100/1,000 MBit/s Intel® I219LM and Intel® I210	
BIOS version	AMI Aptio V	
BIOS features	BIOS Flash EPROM update by software Recovery BIOS Unified Extensible Firmware Interface (UEFI)	
Audio type	On board	
Audio codec	Realtek ALC671	
Audio features	High Definition Audio	
I/O controller on board		
Serial ATA total	10	
Thereof SATA III	10	
Controller functions	Serial ATA III (6 bit)	
Controller functions	AHCI	

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RAID 0/1/5/10		
CELSIUS R970		
Audio: in (rear)	1	
Audio: out (rear)	1	
Audio: in	1	
Audio: out	1	
Internal speakers	1	
USB 2.0 total	9	
USB 3.1 Gen1 (USB 3.0) total	4	
USB 3.1 Gen2 total	Optional via add on card	
USB front	2x USB 2.0; 2x USB 3.1 (Gen1); optional: 1x USB 3.1 Type-C (Gen2) via add on card and front adapter bay	
USB rear	6	
USB internal	3, thereof 1 type A	
Ethernet (RJ-45)	2	
eSATA	1 (optional)	
Interface Module notes	Anytime USB charge functionality	
Input devices (optional)	Keyboard Optical USB wheel mouse	
Drive bays		
Drive bays total	12	
2.5-inch internal bays	8	
3.5-inch internal bays	4	
3.5-inch external bays	2	
5.25-inch external bays	1	
Drive bay notes	Up to 8x 2.5-inch HDDs (cold plug) and 1x 2.5-inch SSD or Up to 4x 3.5-inch HDDs (cold plug) and 1x 2.5-inch SSD or Up to 2x 2.5-inch and 2x 3.5-inch HDDs (cold plug) and 1x 2.5-inch SSD	
M.2-2280	1 x on mainboard (for PCIe SSD modules)	
Slots		
PCI-Express 3.0 x8	2 x (200 mm) Full height (1x PCIe 3.0x8 per processor)	
PCI-Express 3.0 x16	4 x (340 mm / 13.39 inch) Full height (2x PCIe 3.0x16 per processor)	
PCI (32-bit / 33 MHz)	1 x (312 mm / 12.29 inch) Full height	
PCI-Express 3.0 x8 (internal)	1 x (170 mm / 6.69 inch) Full height (available with 2nd CPU)	
Graphics brand name		
Graphics notes	NVIDIA® Quadro® RTX 5000, RTX 8000 support NVLink	
Electrical values		
Power consumptions note	500 W depending on configuration	
Rated voltage range	100 V – 240 V	
Rated frequency range	50 Hz – 60 Hz	
Operating voltage range	90 V – 264 V	
Operating line frequency range	47 Hz – 63 Hz	
Max. output of single power supply	1000 W up to 90% efficiency	
Power factor correction/active power	Active	
Power supply output	2 graphics power rails (8pin connector / 18.5A@12V)	
Noise for standard configuration (HDD, ODD)		
Related Processors for noise	Intel® Xeon® Gold processor 6128	Intel® Xeon® Gold processor 6240
Standard noise emission	8x4 GB, HDD, ODD, Windows According to ISO9296 (LpAm at bystander position)	8x4 GB, HDD, ODD, Windows According to ISO9296 (LpAm at bystander position)
Standard noise notes / description	A-weighted sound power level Lwad (in B) / Workplace related A-weighted sound pressure level LpAm (in dB(A))	A-weighted sound power level Lwad (in B) / Workplace related A-weighted sound pressure level LpAm (in dB(A))
Standard noise operation mode: CPU 50% Load	4.0 B / 24 dB(A) Bystander position	4.7 B / 30 dB(A) Bystander position
Noise for standard configuration (HDD, ODD)		
Standard noise operation mode: CPU 90% load	4.0 B / 24 dB(A) Bystander position	4.7 B / 30 dB(A) Bystander position
Standard noise operation mode: HDD Load	4.0 B / 24 dB(A) Bystander position	3.9 B / 23 dB(A) Bystander position

Fujitsu recommends Windows 10 Pro

Standard noise operation mode: Idle Mode	4.0 B / 23 dB(A) Bystander position	3.9 B / 22 dB(A) Bystander position
Standard noise operation model: ODD Load	4.5 B / 28 dB(A) Bystander position	4.5 B / 28 dB(A) Bystander position
Standard noise operation mode: Office applications 2.0	4.0 B / 23 dB(A) Bystander position	3.9B / 22 dB(A) Bystander position

Dimensions / Weight / Environmental

Dimensions (W x D x H)	186 x 618 x 430 mm 7.32 x 24.3 x 16.9 inch
Operating position	Vertical / horizontal
Weight	Approx. 20 kg
Weight (lbs)	Approx. 44.8 lbs
Weight notes	Actual weight may vary depending on configuration
Operating ambient temperature	10 – 35 °C (50 – 95 °F)
Operating relative humidity	5 – 85 % (relative humidity)

Compliance

Product	CELSIUS R970
Model	ETNA-L
Global	RoHS (EU & China) Microsoft Operating Systems (HCT / HCL entry / WHQL) WEEE (Waste electrical and electronic equipment)
China	CCC TPM 2.0 for China (optional)
Compliance notes	Product Name maybe followed by suffixes
Compliance link	https://sp.ts.fujitsu.com/sites/certificates

Additional Software

Additional Software (preinstalled)	Workplace Protect (secure authentication solution) McAfee® LiveSafe™ (provides award-winning antivirus protection for your PC and much more. 30 days trial preinstalled) Microsoft Office (1 month trial for new Microsoft® Office 365 customers. Buy Microsoft Office.)
Additional software (optional)	Recovery DVD for Windows® Drivers & Utilities DVD (DUDVD) CyberLink PowerDVD BD (playback software for Blu-ray Disc™) CyberLink PowerDVD DVD (playback software for DVD) Nero Essentials XL Microsoft® Office Professional 2019 Microsoft® Office Home and Business 2019 (A Microsoft Account is required to activate each copy of these products. For purchase and activation only in the region in which it was acquired.)

Security

Physical Security	Kensington Lock support Eye for padlock Intrusion switch Integrated cabinet lock (optional)
System and BIOS Security	Embedded security (TPM 2.0) EraseDisk Boot sector virus protection Write protect option for the Flash EPROM Control of all USB interfaces External USB ports can be disabled separately Control of external interfaces
User Security	User and supervisor BIOS password Hard disk password Access protection via external SmartCard reader (optional) Access protection via internal SmartCard reader (optional) Workplace Protect (secure authentication solution)
Workplace Embedded Tools	Auto BIOS Update via Fujitsu Server Auto BIOS Update via customer server (optional) Easy PC Protection (optional) Easy Restore (optional)

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Manageability	
Manageability technology	iAMT 11.6 (depending on processor) DeskUpdate Driver management PXE 2.1 Boot code Wake up from S5 (off mode) WoL (Wake on LAN)
Manageability software	DeskView Client DeskView Instant BIOS Management
DeskView components	Inventory Management BIOS Management Driver Management Security Management Alarm Management
Support standards	WMI (Windows Management Instrumentation) PXE (Preboot Execution Environment) DMI (Desktop Management Interface) SMBIOS (System Management BIOS) WBEM (Web Based Enterprise Management) CIM (Common Information Model)
Manageability link	https://www.fujitsu.com/fts/manageability
Miscellaneous	
	Rack mountable (5U)
Spare part availability	5 years
Packaging information	
Max. quantity / pallet	11
Packaging notes	Printed user documentation is bleached in chlorine free process
Warranty	
Warranty period	3 years (depending on country)
Warranty type	Bring-In / Onsite Service
Recommended Service	9x5, Onsite Response Time: Next Business day
Spare Parts availability	5 years after end of product life

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More information

Fujitsu OPTIMIZATION solutions

In addition to Fujitsu Desktop CELSIUS R970, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing Products

<https://www.fujitsu.com/hk/products/computing/pc/>
Software
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More information

To learn more about Fujitsu Desktop CELSIUS R970, please contact your Fujitsu sales representative, Fujitsu Business partner, or visit our website.

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 contribute to the creation of a sustainable environment for future generations through IT.

Please find further information at
<http://www.fujitsu.com/global/about/environment/>



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¹ Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. ² GB = 1 billion bytes. TB = 1 trillion bytes, when referring to hard disk drive capacity. Accessible capacity may vary, also depending on used software. Up to 20 GB of HDD space is reserved for system recovery. ³ Shared memory depending on main memory size and operating system. ⁴ WWAN module is optional and available in specific countries only. It requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors. Please contact our Fujitsu sales specialist for more information. ⁵ Interfaces depend on the configuration selected by customers. ⁶ Battery runtime information is based on worldwide acknowledged BAPCo® MobileMark® 2018 (office productivity). Refer to www.bapco.com for additional details. The BAPCo® MobileMark® Benchmark provides results that enable direct product comparisons between manufacturers. It does not guarantee any specific battery runtime which actually can be lower and may vary depending on product model, configuration, application and power management settings. The battery capacity decreases slightly with every re-charge and over its lifetime. 2-cell battery will only be available in specific countries/ regions. For more detail, please contact Fujitsu sales specialist. ⁷ The stated thickness does not include rubber feet.

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Last Update: 13th May 2021