



**MSI Cyborg 15 Intel® Core™ i5 i5-13420H Laptop 39.6 cm (15.6")
Full HD 16 GB DDR5-SDRAM 512 GB SSD NVIDIA GeForce RTX 4050
Wi-Fi 6E (802.11ax) FreeDOS German Black**



Brand : MSI

Product code: A13VE-1005

Product name : Cyborg 15

MSI Cyborg 15. Product type: Laptop, Form factor: Clamshell. Processor family: Intel® Core™ i5, Processor model: i5-13420H, Processor frequency: 4.6 GHz. Display diagonal: 39.6 cm (15.6"), HD type: Full HD, Display resolution: 1920 x 1080 pixels. Internal memory: 16 GB, Internal memory type: DDR5-SDRAM. Total storage capacity: 512 GB, Storage media: SSD. On-board graphics card model: Intel® UHD Graphics. Operating system installed: FreeDOS. Product colour: Black

Design		Graphics	
Product type *	Laptop	On-board graphics card model *	Intel® UHD Graphics
Product colour *	Black	Audio	
Form factor *	Clamshell	Audio chip	Nahimic
Market positioning	Gaming	Audio system	Nahimic 3
Display		Number of built-in speakers	2
Display diagonal *	39.6 cm (15.6")	Speaker power	2 W
Display resolution *	1920 x 1080 pixels	Camera	
HD type	Full HD	Front camera	✓
Panel type	IPS-Level	Front camera HD type	HD
Anti-glare screen	✓	Video capturing speed	30 fps
Display diagonal (metric)	39.6 cm	Network	
Maximum refresh rate	144 Hz	Top Wi-Fi standard *	Wi-Fi 6E (802.11ax)
Processor		Wi-Fi standards	Wi-Fi 6E (802.11ax)
Processor manufacturer *	Intel	Ethernet LAN	✓
Processor family *	Intel® Core™ i5	Ethernet LAN data rates	10,100,1000 Mbit/s
Processor generation	13th gen Intel® Core™ i5	Bluetooth	✓
Processor model *	i5-13420H	Bluetooth version	5.3
Processor cores	8	Ports & interfaces	
Processor threads	12	USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity *	2
Processor frequency *	4.6 GHz	USB 3.2 Gen 1 (3.1 Gen 1) Type-C ports quantity *	1
Performance cores	4	HDMI ports quantity *	1
Efficient cores	4	HDMI version	2.1
Performance-core Max Turbo Frequency	4.6 GHz	DisplayPorts quantity	1
Efficient-core Max Turbo Frequency	3.4 GHz	Headphone outputs	1
Processor cache	12 MB	Microphone in	✓
Processor cache type	Smart Cache	Combo headphone/mic port	✓
Processor base power	45 W	Keyboard	
Maximum turbo power	115 W	Pointing device	Touchpad
Neural processor unit (NPU)		Numeric keypad *	✓
GPU performance up to	194 TOPs	Keyboard backlit	✓
Memory		Keyboard backlit colour	Blue
Internal memory *	16 GB		
Internal memory type	DDR5-SDRAM		
Memory layout (slots x size)	2 x 8 GB		

Memory		Keyboard	
Memory slots	2x SO-DIMM	Keyboard number of keys	99
Maximum internal memory *	64 GB	Keyboard layout	QWERTZ
Memory data transfer rate	5200 MT/s	Keyboard language	German
Storage		Software	
Total storage capacity *	512 GB	Operating system installed *	FreeDOS
Storage media *	SSD	Battery	
SSD capacity	512 GB	Battery technology	Lithium Polymer (LiPo)
SSD interface	PCI Express 4.0	Number of battery cells	3
NVMe	✓	Battery capacity *	53.5 Wh
SSD form factor	M.2	Power	
Graphics		AC adapter power	120 W
Discrete GPU manufacturer	NVIDIA	Security	
Discrete graphics card model *	NVIDIA GeForce RTX 4050	Cable lock slot	✓
Discrete graphics card memory	6 GB	Cable lock slot type	Kensington
Discrete graphics memory type	GDDR6	Trusted Platform Module (TPM)	✓
On-board graphics card *	✓	Trusted Platform Module (TPM) version	2.0
On-board GPU manufacturer	Intel	Weight & dimensions	
Discrete graphics card *	✓	Width	359 mm
On-board graphics card family	Intel® UHD Graphics	Depth	250 mm
		Height	22.9 mm
		Weight *	1.98 kg
		Other features	
		Warranty period	2 year(s)



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