ECRIN Systems

µOPALE V2

Space Saver 1U rack mount Server

READY FOR OEM WITH MODIFIED COTS SERVICES

As processing performance continues to advance, ECRIN Systems remains focused on minimizing the SWaP (Size, Weight, and Power) constraints of the OPALE V2 series. The new µOPALE V2 delivers high-end Multi-core 13th Gen Intel® Core™ processor computing performance in a compact 1U rackmount chassis with a shallow depth of 17.8″ (450 mm), making it ideal for a wide range of applications.

It is particularly suited for environments where footprint, performance, reliability, and longevity are critical: military shelter base stations, rugged servers for harsh environments, simulators, telemetry systems, telecom, medical imaging, infotainment, command & control stations, test benches, and Internet appliances.

Thanks to our in-house design center, ECRIN Systems can help you customize your computer, providing a competitive advantage in industrial applications. We handle full system development, even for small quantities, and guarantee long-term availability, so you can focus on your core value-added activities.

Customization options include:

- Mechanical and industrial design
- Front and remote user interfaces
- Custom LEDs and I/O
- Tailored front and rear connectors
- Specific faceplate color and design
- Lexan polycarbonate panels with your logo and branding

This ensures a unique, branded solution that strengthens your image and supports your sales efforts.

- Modified COTS with easy brand naming, configuration and customization for competition advantage
- Local and remote active management to detect errors before they occur
- MIL-STD tests passed (for T°C, shock & vibration, humidity, noise)
- Efficient thermal concept to get higher MTBF
- Reduced TCO with reporting log file and downtime in harsh environments
- Long life management: up to 7 years with revision control
- Advanced Multi-Core "Raptor Lake" boosted computing performance with DDR5 speeds and timings
- Expandability with 1 full-height and full-length PCIe Gen5 16x I/O cards
- Rear rugged MIL SPEC I/O connectors on demand
- Single or mini redundant PSU, AC or DC versions
- Optional front door lockable for security control
- TPM header for SSI

FRENCH MANUFACTURER

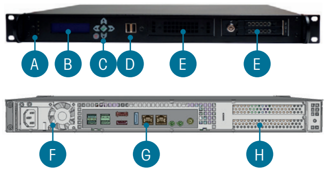
ECRIN Systems

µOPALE V2

Space Saver 1U rack mount Server

RACK SPECIFICATIONS

Construction	Anti-corrosion and long term heavy-duty steel
Dimensions (W x H x D)	19" / 1U with 17.8 inch depth (483x44x450mm)
Weight	7.5 kg (standard configuration)
Color	Black
Cooling	Up to three 40mm ball bearing fans Fan speed regulation and monitoring
Power supply	Flex ATX form factor
Drive bays	Two 3"1/2 front accessible drive bay
Motherboard	Thin Mini-ITX : 170 mm x 170 mm 2x slots for full length I/O boards (riser)
Front panel	Drives bays and USB access Mini-IHM, 4 LEDs with I/O capabilities
Carton size (W x H x D)	620 x 600 x 199 mm

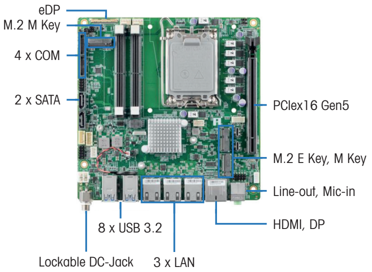


A: 4x tri-color LEDs
B: LCD 2x16 characters
C: Keyboard (Power & Reset)
D: 2x USB 2.0
E: 3"1/2 drive bay
F: PSU
G: motherboard rear I/O
H: 2x PCIe x8 slots

Option three 3"1/2 front accessible drive bay

INDUSTRIAL MOTHERBOARD SPECIFICATIONS

Form factor	Thin Mini-ITX: 170 mm x 170 mm
Processor	LGA1700 socket for 13th/12th Gen Intel® Core™ Processor
Chipset	Intel® Q670E Express Chipset
BIOS	AMI UEFI 256Mbit
Memory	Dual Channel DDR5 5600MHz, up to 64 GB in dual SODIMM sockets
Video	Intel® UHD Graphics 770 driven by Xe Architecture 1 x HDMI (up to 4K @ 60Hz 1 x DP up to 4K @ 60Hz
Ethernet	LAN1: Intel ® i219 LM, up to 1000Mbps LAN2: Intel ® i226, up to 2500Mbps LAN3: Intel ® i226, up to 2500Mbps
Storage	2x SATA 6Gb/s 1 x M.2 (Key M, 2280) with PCIe Gen3 x4 for SSD.
Audio	Line out, Mic in (by pin header)
USB	Rear: 2x USB 3.2 Gen.2, 2x USB 3.2 Gen.1 2 x USB 2.0 (2 x 2.54 pitch header)
TPM	TPM 2.0 onboard IC
I/O	Serial ports: 2x RS-232/422/485 Digital IO: 8 x GPIO
Expansion Slots	1 x PCIe x16 (Gen5, Support riser card x8/x8) 1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi for Wireless



ENVIRONMENTAL SPECIFICATIONS

Temperature	Operating: 0~45°C (MIL STD 810 G, method 502.5 / 501.5) - Storage: -20~80°C
Humidity	Operating: 5%-90% non-condensing
Altitude	0-3000m (0-10.000ft) operating
Shock & Vibrations	Operating: 20G @ 11ms / 15G @ 20ms - 6 axis (MIL STD 810 G, method. 516.6) Operating: 5~7Hz / 10mm, 10~2000Hz / 2G - 3 axis, 2 sweeps, 15min (MIL STD 810 G, method. 514.6)
Noise	TBD
CE certification	EMC : NF EN IEC 61000-3-2 :2019/A1 :2021/A2 :2024, NF EN 61000-3-3 :2014/A1 :2019/A2 :2021, NF EN IEC 61000-6-4 : 2019, NF EN 55032 :2015/A1 :2020, NF EN IEC 61000-6-2 :2019, NF EN 55035 : 2017/A11 : 2020. SAFETY : NF EN IEC 62368-1: 2024 / A11 :2024

SYSTEM MONITORING AND MANAGEMENT

- Local control with embedded HMI (Windows & Linux services)

> System & network information
> Watchdog & elapsed time counter
> User script launch form menu entry
> Easy configuration with .TXT file

OEM SERVICES

- Customization:

> Front panel design
> Specific I/O on front panel / rear panel
> Specific H/W configurations
> Specific S/W functionality

Call us for more information…

STANDARD CONFIGURATION

Power Supply Unit	Flex ATX 12V – 300W – High Efficiency 80 Plus Gold 90 ~ 264 VAC full range / 47~63 Hz 5V@14A, 12V@25A, -12V@0.3A, 3.3V@12A, 5VSB@3A	**Processor**	Core™ i9-13900TE (8P+16E Cores, 5.0GHz max., 36MB Cache, 35W TDP) Core™ i7-13700TE (8P+8E Cores, 4.8GHz max., 30MB Cache, 35W TDP) Core™ i5-13500TE (6P+8E Cores, 4.5GHz max., 24MB Cache, 35W TDP)
Drives	1 x 2"1/2 SATA Removable Drive Enclosure 1 x 3"1/2 front accessible drive bay free	**Memory**	DDR5-5600 - Up to 64GB (32GB per SO-DIMM)
Front I/O	2 x USB 2.0	**Disk**	Up to 4x hot swap 2"1/2 HDD/SSD with optional 2 in1 drive bays Up to 6x hot swap 2"1/2 HDD/SSD option three 3"1/2 front accessible drive bay
Rear I/O	1x Display Port + 1x HDMI + 2x 2.5GbE + 1x GbE 2x USB 3.2 Gen.2, 2x USB 3.2 Gen.1	**OS**	Microsoft® Windows® 11 64-bit Linux (Kernel 5.8 and up)

ecrin
SYSTEMS

143, rue Louis Neel
Parc Technologique du Pré Roux
38920 Crolles - France
Tel: +33 (0)4 76 92 20 01
sales@ecrin.com

Visit
www.ecrin.com

Follow us on