



# COMINO GRANDO FORENSIC DPR 4090-FT/8

ENGINEERED FOR STABLE 24/7 OPERATION

## KEY ADVANTAGES

### TOP OF THE LINE SOLUTION FOR PASSWORD RECOVERY

We produce high-end performance systems, based on the quality components, provided by world's top manufacturers. Each system is made to be the leader in its class, showing unmatched performance in password recovery.

### CONFIDENCE AND STABILITY.

#### RESULTS DELIVERED

We don't just liquid-cool chips, like many other manufacturers do. We liquid-cool all the critical components, such as CPU, GPU, and GPU-related components, allowing them to operate in comfortable conditions, which results in long life of our devices. When it comes to quality builds, look no further.

### SILENTLY OUTPERFORMS ANY SIMILAR AIR-COOLED SOLUTION

We work closely with manufacturers of every component which we use in our device, to fine-tune the system for the high performance, silent operation and low power consumption. Simply saying, our systems are fast, silent and effective.



Ultra-compact liquid-cooled GPU accelerated devices for password recovery and decryption

Powered by



# FEATURES

**DATASHEET**  
**COMINO GRANDO FORENSIC**  
**DPR 4090-FT/8**



## LIQUID COOLED

Comino liquid cooling system unleashes the full performance potential of modern top-tier GPUs and CPUs, allows to prolong lifespan of the hardware and ensures 24/7 operation even in harsh environment with no thermal throttling.

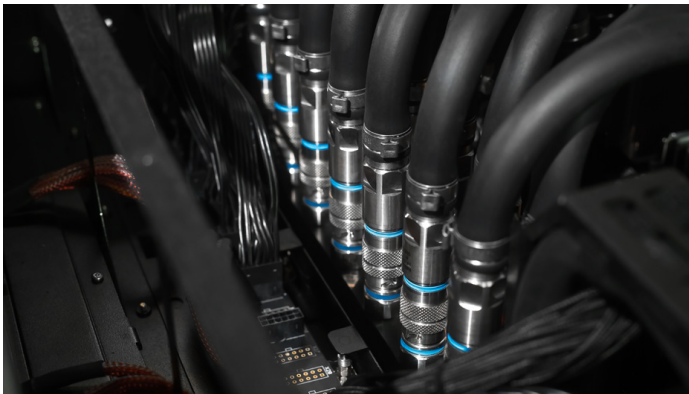
## REMOTE MANAGEMENT

Our servers come equipped with an IPMI interface for seamless remote management. Enjoy features like remote KVM access, OS installation, and comprehensive server monitoring. Ensure peak performance and minimal downtime anytime, anywhere.

## 8 GPUs



8x NVIDIA RTX 4090 in 4090-FT/8 configuration.  
Suitable GPUs for acceleration in forensic tasks.



## QUICK-DISCONNECT COUPLINGS

Quick release coupling on each GPU and CPU allows to simplify maintaining and reduce maintenance time to increase system availability in case of GPUs failure. Moreover all hardware components and cooling system controller board are easily accessible after top lid is unmounted. All water cooled components and coolant are tested for compatibility in a chemical laboratory.

## HOT SWAP REDUNDANT POWER SUPPLY

Designed for use in critical IT infrastructure. It provides reliable power for your system without imitation. PSU work at whole spectrum voltage 100-240VAC and 240VDC and provide N+M redundancy.



**SIMPLE MAINTENANCE.**  
**FAST. RELIABLE. ENERGY EFFICIENT.**

# PASSWARE 2024v3 BENCHMARK RESULTS\*

DATASHEET  
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| Encryption                      | Passwords / second |
|---------------------------------|--------------------|
| MS Office 2013+                 | 513 900            |
| RAR 5.x                         | 2 141 200          |
| APFS (encrypted)                | 1 197 200          |
| Apple iTunes Backup / iOS 10.x+ | 6 600              |
| MS Windows / BitLocker          | 79 400             |
| Blockchain wallet version 3     | 6 982 000          |
| Cryptocurrency wallet           | 186 000            |

## HASHCAT 6.2.6 BENCHMARK RESULTS\*

| Encryption                        | hashes / second |
|-----------------------------------|-----------------|
| 0 MD5                             | 1 212.6 GH/s    |
| 100 SHA1                          | 391.1 GH/s      |
| 1700 SHA2-512                     | 57 734.0 MH/s   |
| 6211 TrueCrypt RIPEMD160 + XTS512 | 14 966.9 kH/s   |
| 7100 macOS v10.8+                 | 23 437.9 kH/s   |
| 11300 Bitcoin/Litecoin wallet.dat | 261.9 kH/s      |
| 11600 7-ZIP                       | 18 786.9 kH/s   |

\* Maximum results achieved in Comino lab

# TECHNICAL SPECIFICATIONS

## COMINO GRANDO FORENSIC DPR 4090-FT/8

|                       |                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GPU                   | 8x NVIDIA RTX™ 4090 GPU Base Clock: 2235 MHz<br>GPU Boost Clock: 2520 MHz<br>CUDA cores: 16384<br>Memory Interface: 384-bit<br>Discrete graphics adapter memory: 24 GB GDDR6X<br>Memory speed: 1008 Gbit/s                                                                                                                          |
| CPU                   | AMD EPYC™ 9354<br>Socket: SP5. Lithography: 5 nm.<br>Number of Cores: 32. Number of Threads: 64.<br>Processor Base Frequency: 3.25 GHz. Max Turbo Frequency up to 3.80 GHz.<br>256MB L3 Cache<br>PCIe generation: PCIe 5.0 x 128 lines                                                                                              |
| Motherboard           | Motherboard Chipset: AMD EPYC 9004<br>CPU Socket support: SP5 (LGA-6096)<br>RAM Support: 8 x DIMM, RDIMM: 96GB (2R), RDIMM-3DS: 512GB (2S8Rx4)<br>DDR5 288-pin RDIMM, RDIMM-3DS<br>PCIe expansion slots: 7x PCIe 5.0 x16, 1x PCIe 5.0 x8<br>BMC controller: ASPEED AST2600<br>IPMI2.0 with iKVM and vMedia support<br>1x VGA output |
| RAM                   | 256 GB DDR5 4800 MT/s                                                                                                                                                                                                                                                                                                               |
| Storage               | NVMe Gen4 SSD 2TB                                                                                                                                                                                                                                                                                                                   |
| Power supply          | Hot Swap Redundant Power Supply System up to 4x 1000/1600W @ 110/220V CRPS                                                                                                                                                                                                                                                          |
| Max Power consumption | ~4.5 kW                                                                                                                                                                                                                                                                                                                             |
| Operation system      | Linux / Windows 10 Pro                                                                                                                                                                                                                                                                                                              |
| Liquid-cooling        | 8x fullcover waterblocks for 8x nVidia RTX 4090<br>1x fullcover waterblock for AMD EPYC™ 9354 CPU + VRM                                                                                                                                                                                                                             |

## COMINO GRANDO FORENSIC DPR 4090-FT/8

|                               |                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------|
| Dimensions                    | 442 x 690 x 177 mm (without rack-mounting handles)                                                   |
| Weight                        | Comino Grando Forensic DPR 4090-FT/8 with 4x CRPS and 8x GPUs — 47kg (net), 73kg (gross)             |
| Network Connectivity          | 2x RJ45 10 Gigabit Ethernet LAN ports<br>+ 2x RJ45 1 Gigabit Ethernet LAN ports optional             |
| Operating temperature         | Ambient Temperature Range 5-35°C (25°C – full load recommended operating temperature)                |
| Placement Recommendations     | 19" rack-mountable (4U) or standalone as a Workstation                                               |
| Rack AC Power Recommendations | 220-240V AC power source with 4x C19 or 4x Schuko power sockets for each device setup 5kW power line |
| Amount of heat                | 15 350 BTU per hour                                                                                  |
| Air flow rate                 | 400 CFM                                                                                              |



# PACKAGING CONTENT

**DATASHEET**  
**COMINO GRANDO FORENSIC**  
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- COMINO GRANDO FORENSIC DPR 4090-FT/8 is 19" rack-mountable (4U)
- 4x AC Power Cables (UK (BS 1363) / EU (CEE 7/7) / US (NEMA 5-15 (B)) plug type)
- USB stick with system settings
- Rack handles
- A bottle with additional coolant



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