# Digital Intelligence®

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# FRED™ AMD

## FORENSIC RECOVERY OF EVIDENCE DEVICE

### Sets the Bar for Digital Forensic Workstations

Digital Intelligence FRED systems are specifically engineered to support the demands of digital forensics. Regardless of forensic task - acquisition, analysis, reporting, or archiving - FRED systems are unmatched in features, capabilities, and performance.

### FRED AMD - Now with Threadripper Power

As modern digital forensic software evolves to better utilize multi-core processing, forensic investigators need workstations that can handle demanding tasks efficiently. Examiners requiring high-performance, core-dense, single-CPU systems can now configure their FREDs with AMD processors as a powerful solution. The entry-level FRED AMD ships with a 24-core Threadripper PRO 7965WX (4.2/5.3 GHz clock, 128 MB cache), 64 GB PC5-38400 RAM, and a RTX 3050 GPU, providing a solid foundation for digital forensic workflows. Additionally, FRED systems offer flexibility with a wide range of processor, RAM, and GPU upgrades, allowing examiners to tailor workstations to their specific needs for custom-built performance.

### HotSwap and RAID Storage Options for Effective Processing

Non-RAID FREDs offer up to ten drive locations: four internal M.2/NVMe, two SATA III connected HotSwap, and four USB 3.2 connected SATA HotSwap. Exclusive to FRED, the USB 3.2-connected drives are switchable read-only / read/write for additional forensic imaging capability.

FRED single (1R) and dual (2R) RAID systems provide extensive local, fault-tolerant data storage for security and application processing speed. Built with ultra-high speed Areca hardware RAID controllers, all FRED RAID systems deliver optimum performance. RAID options now include internal PCIe-connected M.2/NVMe cards (supporting 4 or 6 drives) as well as externally accessible drive chassis with 5 or 10 drives.

### Unmatched Forensic Imaging: UltraBay 4d and Forensic Drive Trays

The UltraBay 4d is the forensic imaging focal point on FRED. Proven, efficient, and recognized by all leading forensic imaging software, the UltraBay 4d supports fast forensic acquisition of SATA, SAS, USB, PCIe, and FireWire devices. It's unique touchscreen allows for independent device information access [or independent access of device information], bypassing the OS. Multiple devices can be imaged simultaneously, and it can be safely switched to read-write mode for general purpose drive maintenance.

Need more write-blocking capacity? Switch a USB 3.2-connected drive tray to read-only, insert a drive, and start imaging. This capability is available only on a FRED.

### Change Features On the Fly with the Drive Tray Ecosystem

FRED's USB 3.2-connected HotSwap drive trays support interchanging features by simply swapping out a drive tray. All FRED systems ship with the USB 3.2-integrated SATA tray (read/write or write-blocked switchable). See the tech specs section for additional tray information.



FRED 1R with HotSwap Forensic Drive Trays

FRED PCIe NVMe RAID adapter



PCIe RAID adapter (cover on)



PCIe RAID adapter (cover off) with 6 NVMe solid state drives

| FEATURE | FRED™ AMD - Forensic Recovery of Evidence Device Technical Specifications |
|---|---|
| Processors | Standard CPU: AMD® Ryzen Threadripper PRO 7965WX, 24 core, 4.2/5.3 GHz, 128 MB cache<br>CPU upgrades available.  Contact us for details. |
| Memory | 64 GB PC5-38400 DDR5 4800 MHz standard.  Upgrades to 512 GB |
| Chipset | AMD WRX90 |
| Software | Microsoft Windows® 11 Professional 64-bit, openSUSE Linux 64-bit, Symantec® Ghost |
| Graphics | NVIDIA® GeForce™ RTX 3050 8 GB 128-bit GDDR6, 2560 CUDA cores.  GPU upgrades available. |
| Hard Drive Storage | Up to ten (10) storage drives in non-RAID FRED systems, including four (4) internal M.2 NVMe storage locations:<br>  Operating System - 1 TB internal M.2 NVMe PCIe SSD<br>  Database/Cache/Temp/user defined - 1 TB internal M.2 NVMe PCIe SSD<br>  Case/DATA/user defined - 4 TB 7200 RPM SATA III hard drive<br>Extra drive slots:  One (1) SATA connected HotSwap, four (4) USB 3.2 connected SATA HotSwap drive bays, two (2) M.2 NVMe. Many drive capacities/types are available |
| Drive Bays | 2 native SATA, shock-mounted, keyless, removable<br>4 HotSwap universal USB 3.2 (SATA/IDE compatible), shock-mounted, keyless, removable<br>Hard drive options: rotational or SSD in various capacities |
| DVD/CD/Blu-ray | BD-R/BD-RE/DVD±RW/CD±RW Blu-ray burner, dual-layer combo drive |
| Forensic Imaging / Write Blocking | DI UltraBay 4d™ forensic bridge - write blocks SATA, SAS, USB 3.0/2.0/1.1, IDE, FireWire and PCIe SSD storage devices<br>Touchscreen user interface supports on-screen access of:<br>  • Connected storage device information<br>  • LUN selection<br>  • Management of HDD protected regions<br>  • File system and partitions (independent of the FRED OS)<br>Supports simultaneous or sequential drive imaging of multiple storage devices, supports HotSwap device connection, available exclusively from DI on FRED systems |
| Hard Drive Cooler Shelf | DI exclusive extendable/retractable imaging work shelf with integrated ventilation for drive cooling |
| Media Card Reader | DI Forensic Media Card Reader - user-selectable read/write or read only access |
| Networking | Dual Intel 10/100/1000 Mbps gigabit Ethernet adapters  (1 or 2 port Intel 10 Gb Ethernet adapter options available) |
| Connections & Expansion | 2 USB4 Type C ports - rear access<br>9 USB 3.2 Gen2 Type-A ports - 2 front access / 7 rear access<br>3 USB 3.2 Gen2 Type-C port - 2 front access / 1 rear access<br>1 USB 2.0 Type-A port - rear access<br>1 write blocked USB 3.0/2.0 port - front access, read/write switchable through UltraBay 4d<br>1 write blocked FireWire 1394b port - front access, read/write switchable through UltraBay 4d<br>1 write blocked SATA port - front access, read/write switchable through UltraBay 4d<br>1 write blocked SATA/SAS port - front access, read/write switchable through UltraBay 4d<br>1 write blocked PCIe port - front access, read/write switchable through UltraBay 4d<br>1 write blocked IDE port - front access, read/write switchable through UltraBay 4d |
| Drive Tray Ecosystem | Five (5) unique USB 3.2 connected HotSwap forensic drive trays:  1) 3.5"/2.5" SATA drive tray (read/write or read only switchable), 2) 3-port, USB 3.0 general purpose hub, 3) 5-port *Dongle Vault* for software license dongles, 4) NVMe/M.2 PCIe SSD (write blocked switchable), and (5) Forensic Media Card Reader. |
| Storage Controller | 4 x M.2 slots (Key M), type 2242/2260/2280/22110 (supports PCIe 5.0 x4, SATA modes); 4 x SATA 6 Gb/s ports; 2 x slimSAS slots |
| Audio | Realtek® ALC1220P Surround Sound high definition audio CODEC |
| Keyboard / Mouse | Microsoft wireless desktop keyboard and mouse |
| Display | Optional: 22" (21.5" Vis) ergonomic LED monitor, 1920 x 1080 full HD resolution, adjustable height, tilt and swivel, built-in speakers, 1 VGA port, 2 mini DisplayPort inputs |
| Power | 1200 watt modular power supply |
| Warranty and Support | 36 months from date of purchase, extended warranty options available,  lifetime technical support |
| Dimensions and Weight | 24" High x 8" Wide x 25" Deep, 80 lbs |
| Accessory Toolbox | Adapters and cables - SAS, SATA, IDE, microSATA, PCIe SSD M.2 NVMe, PCIe SSD MacBook Pro (2013+), server class PCIe SSD<br>Security screwdriver set: Assorted security bits for opening computer enclosures<br>Restore DVD containing Windows 11 Pro & Linux OS images.  Original OEM SW/HW installation manuals and disks |

| OPTIONS | FRED AMD - Forensic Recovery of Evidence Device Optional Feature Technical Specifications |
|---|---|
| FRED RAID Capacities | 12 channel PCIe 12 Gb/s SAS/SATA RAID Controller;  Capacity of RAID systems:<br>A. "1R" has 5 drive single RAID for 110 TB raw, 88 TB RAID5 using 22 TB hard drives<br>B. "2R" as 10 drives in dual RAID for 220 TB raw, 176 TB RAID 5 using 22 TB hard drives<br>C. **PCIe-connected M.2 NVMe RAID internal adapter** with 4 or 6 NVMe solid state drives for 24 or 48 TB raw using 8 TB drives<br>Additional RAID configurations and drive options are available. |