FRED X 1R with HotSwap Forensic Drive Trays

Our Mission

At Digital Intelligence, we combine the knowledge gained from years of providing digital forensics and eDiscovery services with a deep understanding of digital technology to build and deliver solutions that *Give Voice to Digital Evidence™.*

USB 3.0 Hub (top), Forensic Card Reader (bottom)

FRED X™

SINGLE XEON FORENSIC RECOVERY OF EVIDENCE DEVICE

Power to Perform - FRED X™ Xeon Forensic Workstation

Digital Intelligence FRED X systems are purpose built forensic systems using the latest Intel® Xeon CPUs. New Xeon technology offer a greater density of cores and threads along with faster clocking, negating the need for multiple CPUs while providing improved heat management. Combined with exclusive, only available in FRED features and functions, FRED X remains one of the best forensic workstation money can buy.

FRED X - A Premium, Purpose Built Forensic Workstation

The base FRED X is built around an Intel® SW5-3435X 16 core / 32 thread processor with a maximum clock speed up to 4.7 GHz. Need more core density? Upgrades are available. FRED X ships with 128 GB ECC PC5-38500 4800 MHz of RAM. Up to nine (9) storage drive locations are available in the non-RAID FRED X:

- 500 GB M.2 NVMe SSD (OS drive location)
- 1 TB M.2 NVMe SSD (user defined internal drive)
- 1 TB M.2 NVMe SSD (user defined internal drive)
- 1 4 TB 7200 rpm SATA connected HotSwap drive
- 1 SATA connected HotSwap
- 4 USB 3.2 connected HotSwap drive bays (2.5”/3.5” SATA drives)

Many hard drive options are available. FREDs can be configured with one (“1R”) or two (“2R”) five-drive RAID chassis when fault-tolerant data storage capability is needed.

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

FRED systems gain additional forensic imaging capability through the innovative FRED HotSwap Forensic Drive Trays. Integrated using USB 3.2 technology, FRED Forensic Drive Trays support imaging of SATA or NVMe drives in a forensically sound manner. These trays are user-selectable read/write or read only, doubling their system utility. Using modern forensic imaging software, speeds in excess of 24 GB/min have been attained.

The venerable UltraBay 4d is a proven workhorse used to image SATA, SAS, USB, FireWire, IDE, and PCIe storage devices. The touchscreen UI displays device information independent of the OS. Using Tableau Imager, the UltraBay 4d supports simultaneous or sequential drive imaging when multiple devices are connected. For general purpose drive work, a front panel switch securely manages switching to and from read only to read/write mode.

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.

FEATURE	FRED X™ - Forensic Recovery of Evidence Device Technical Specifications
Processor	Intel® Xeon™ W5-3435X 16 core, up to 4.7 GHz clocking with 45 MB Cache Processor upgrades with more cores are available. Contact DI or see our website for details.
Memory	128 GB ECC Memory PC5 38500 DDR5-4800 MHz Memory capacity upgrades are available. Please contact DI or see our website for details.
Chipset	Intel® W790 chipset
Software	Microsoft Windows® 11 Professional 64-bit, openSUSE Linux 64-bit
Graphics	NVIDIA® GeForce™ GTX 1050Ti 4GB 128-bit DDR5, 768 CUDA cores. GPU upgrades are available. Contact DI for details.
Hard-drive Storage	Up to nine (9) storage drives in non-RAID FRED-DX systems, including three (3) internal M.2 NVMe storage locations: Operating System - 500 GB internal M.2 NVMe SSD User defined - 1 TB M.2/NVMe SSD User defined - 1 TB M.2/NVMe SSD User defined - 4 TB 7200 RPM SATA III hard drive Extra drive slots: One (1) SATA connected HotSwap, and four (4) USB 3.2 connected HotSwap drive bays. Many drive capacities/types are available.
Drive Bays	1 HotSwap SATA connected shock-mounted, keyless removable 3 HotSwap USB 3.2 connected, universal (SATA/IDE compatible), shock-mounted, keyless removable Optional IDE tray; 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 Touchscreen user interface supports on-screen access of: • Connected storage device information • LUN selection • Management of HDD protected regions • File system and partitions (independent of the FRED OS) 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 Port Intel X710-AT2 10GbE Ethernet (RJ45)
Connections and Expansion	1 USB 3.2 Gen 2x2 Type C 2 USB 3.2 Gen 2 Type C 5 USB 3.2 Gen 2 3 USB 3.2 Gen 1 2 USB 2.0 1 write blocked SATA port, front access, read/write switchable through the UltraBay 4d 1 write blocked SAS or SATA port, front access, read/write switchable through the UltraBay 4d 1 write blocked PCIe port, front access, read/write switchable through the UltraBay 4d 1 write blocked USB 3.0/2.0/1.1 port, front access, read/write switchable through the UltraBay 4d 1 write blocked IDE port, front access, read/write switchable through the UltraBay 4d 1 write blocked FireWire 1394 A/B port, front access, read/write switchable through the 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 (read/write or read only switchable), and 5) Forensic Media Card Reader.
Storage Controller	3 x M.2 slots (Key M), type 2242/2260/2280/22110 (2 slots: PCIe 5.0 x 4 mode, 1 slot: PCIe 4.0 x 4 mode); 2 x slimSAS slots; 8 x SATA 6 Gb/s ports
Audio	Realtek® S1220A 7.1 surround sound high definition audio CODEC
Keyboard / Mouse	Microsoft wireless desktop keyboard and mouse
Display	Option: 22" (21.5" Vis) ergonomic LED monitor, 1920 x 1080 full HD resolution, adjustable height, tilt and swivel, built-in speakers
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 and newer), server class PCIe SSD, SATA LIF, and MacBook Air Blade SSD Security screwdriver set: Assorted security bits for opening computer enclosures Restore DVD containing Windows 10 Pro & Linux OS images. Original OEM SW/HW installation manuals and disks

OPTION	FRED X™ - Optional Feature Technical Specifications
FRED 1R and 2R RAID Options	16 channel PCIe 12 Gb/s SAS/SATA RAID Controller 5 bay RAID chassis (Qty 1 - 1R, Qty 2 - 2R) 1R - Baseline 10 TB (8 TB RAID5); Maximum RAID capacity is 50 TB (40 TB RAID5) 2R - Baseline 20 TB (16 TB RAID5); Maximum RAID capacity is 100 TB (80 TB RAID5) Additional hard drive options available. Note that 1R and 2R RAID configurations will reduce the number of available drive bays

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