FRED X 1R with HotSwap Forensic Drive Trays

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 workstations powered by the latest Intel® Xeon® CPUs. Xeon technology delivers enhanced core and thread density, along with faster clock speeds, negating the need for multiple processors while improving heat management. Combined with exclusive, FRED-only features, FRED X stands as one of the most powerful and reliable forensic systems available.

FRED X - A Premium, Purpose Built Forensic Workstation

The FRED X base model is built around an Intel Xeon 658X 24-core, 48-thread processor with a maximum clock speed up to 4.9 GHz. Need more core density? Upgrades are available. The base configuration ships equipped with 64 GB ECC PC5-38400 4800 MHz of RAM.

HotSwap and RAID Storage Options for Effective Processing

Non-RAID FRED X systems 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

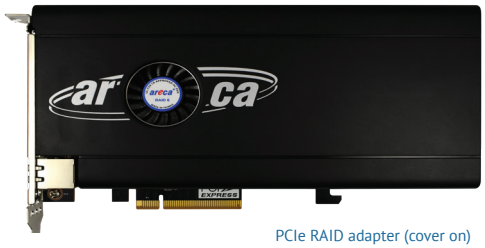
The UltraBay 4d is the forensic imaging focal point on FRED. Proven, efficient, and recognized by all leading forensic imaging software, the UltraBay 4d supports fast forensic acquisition of SATA, SAS, USB, PCIe, and FireWire devices. Its unique touchscreen allows for independent device information access [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.

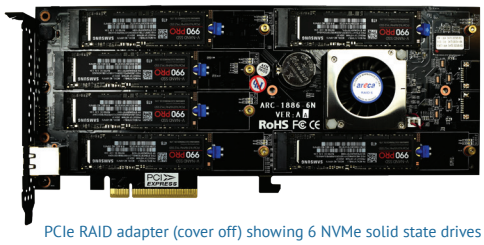
Change Features On the Fly with the Drive Tray Ecosystem

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 PCIe NVMe RAID adapter



PCIe RAID adapter (cover on)



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

FEATURE	FRED X™ - Forensic Recovery of Evidence Device Technical Specifications
Processor	Intel® Xeon® 658X, 24 cores, 48 threads, 3.0/4.9 GHz, 144 MB Cache. 28, 32, 48, 64, and 86 core CPU upgrades available. Contact DI or see our website for details.
Memory	64 GB ECC Memory PC5 38400 DDR5-4800 MHz Memory capacity upgrades are available. Please contact DI or see our website for details.
Chipset	Intel W890 chipset
Software	Microsoft Windows® 11 Professional 64-bit, Ubuntu Linux 64-bit
Graphics	NVIDIA® GeForce® RTX 3050 8GB 128-bit GDDR6, 2560 CUDA® cores. GPU upgrades are available. Contact DI for details.
Hard Drive Storage	Up to ten (10) storage drives in non-RAID FRED X systems, including four (4) internal M.2 NVMe storage locations: Operating System - 1 TB internal 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, four (4) USB 3.2-connected HotSwap drive bays, and two (2) M.2 NVMe. Many drive capacities/types are available.
Drive Bays	Two (2) HotSwap SATA-connected shock-mounted, keyless removable Four (4) 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
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	Two (2) Intel E610-XAT2 10 GbE ports (RJ45-copper); one (1) 1 GbE port (dedicated LAN for BMC and IPMI)
Connections & Expansion	2 USB4® (40 Gbps) Type-C ports - rear access 3 USB 3.2 Gen 2 (10 Gbps) Type-C port - 2 front access / 1 rear access 9 USB 3.2 Gen 2 (10 Gbps) Type-A ports - 2 front access / 7 rear access 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 1394b 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) M.2 NVMe PCIe SSD (read/write or read-only switchable), and 5) Forensic Media Card Reader.
Storage Controller	4 x M.2 slots (Key M), PCIe 5.0 x4 mode (2242/2260/2280/22110); 1 x MCIO connector; 2 x slimSAS slots; 4 x SATA 6 Gb/s ports
Audio	Realtek® ALC1220P 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, USB, microSATA, SATA III to M.2 / mSATA, PCIe M.2 NVMe SSD, FireWire Security screwdriver set: Assorted security bits for opening computer enclosures Restore media containing Windows 11 Pro & Linux OS images. OEM SW/HW installation manuals and disks

OPTION	FRED X - Optional Feature Technical Specifications
FRED RAID Capacities	12 channel PCIe 12 Gb/s SAS/SATA RAID Controller; Capacity of RAID systems: A. "1R" has 5 drive single RAID for 110 TB raw, 88 TB RAID5 using 22 TB hard drives B. "2R" has 10 drives in dual RAID for 220 TB raw, 176 TB RAID5 using 22 TB hard drives 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 Additional RAID configurations and drive options are available.

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