

#### **E.D.R. TOOLS SRL**

for Digital Forensics & Data Recovery
Head office: Viale Giacomo Leopardi, 24/2 - 33100 UDINE (ITALY)
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# **FLAME**

FLAME it's a hardware and software tool to recover data from damaged HDDs.

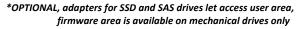


The system can recover data from the majority of damaged SATA storage, RAID, logically damaged USB Flash drives... FLAME Station let you quickly and easily diagnose practically any type of storage media devices, diagnose and repair the damage, create image files and recover as much data as possible, connect your storage media directly via the source ports and adapters: USB, SATA, PATA, PCIe.



Using our **SAS** adapter\* you can connect HDD and SSD with the SAS interface (Serial Attached SCSI).

Recover data from SSD devices using **NVme adapter\*** to connect: M.2 PCIe NVMe SSD/M.2 SATA SSD, PCIe NVMe/AHCI, U.2 SSD and USB flash drives.





The software to access/repair firmware of mechanical disks is included, letting the operator to diagnose, repair and copy defective drives, or to modify firmware settings to improve reading after changing heads on mechanical drives with specialized utilities for disk repair and data explore on HDDs from various vendors, architectures and families. Through the advanced hardware and software technology, the repair of HDDs, recovery of firmware can be conducted at factory mode where firmware and microcode is accessible and also user data can be retrieved. Installed inside the workstation there's our PCI-Express Interface with two native SATA ports, power-controlled to prevent short circuits.

#### FIRMWARE TOOL HARDWARE AND SOFTWARE KEY FEATURE:

- ✓ Supported interfaces: SATA, M.2. SATA, SAS, NVME, U.2, USB (with adapters)
- ✓ Supports 2.5 inch, and 3.5 HDDs, NVME
- ✓ Efficient USB terminal that can work with TTL serial HDD ports
- ✓ Supports the recovery of corrupted firmware in mechanical HDDs.
- ✓ Supports the ability to unlock hard drive password (ATA password)
- ✓ Support virtual head map technology.
- ✓ Support copy of HDDs with physically damaged sectors.
- ✓ Support disk imaging, imaging by selective head, file recovery.
- ✓ Review defect tables (P-list, G-list, T-list, etc.)
- ✓ Load service information access program LDR



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✓ Forward and reverse scan and directly recover data from bad sectors

# DATA EXTRACTION SOFTWARE KEY FEATURE (OPTIONAL EXTRACTION SOFTWARE): Supported file systems:

✓ NTFS, FAT, FAT32, exFAT, ReFS/ReFS3, HFS+, APFS, Ext2, Ext3, Ext4, XFS, Extended format XFS, JFS, ReiserFS, UFS, UFS2, Adaptec UFS, big-endian UFS, Btrfs, F2FS, ZFS volumes, VMware VMFS and VMFS6, Novell NWFS, NSS and NSS64, HPFS.

### **RAID volumes:**

- ✓ Automatic recognition of known RAID metadata, saving and editing RAID configurations like mdadm, LVM, Apple Software RAID, Intel Matrix, etc.
- ✓ Support of most popular standard RAID patterns for RAID 0, RAID 1E, RAID 3, RAID 5, RAID 6, RAID 7, etc.

## **RAID-on-RAID support:**

- ✓ RAID level 10, 50, 60, 50E, etc.
- ✓ Support of custom RAID patterns via RDL or Runtime VIM
- ✓ Support of "stripe"-volumes with ZFS and RAID-Z (RAID-Z, RAID-Z2, RAID-Z3)
- ✓ Adaptive reconstruction of RAID 5, RAID 6, RAID 5E, RAID 1, RAID 10, RAID 0+1 and nested RAID (levels 50, 51, 60, 61, etc.)
- ✓ Support of Drobo BeyondRAID, Synology Hybrid RAID, Btrfs-RAID
- ✓ Recovery from Dell EqualLogic Storage Arrays with degraded RAID 5, RAID 10, etc. and up to double-degraded RAID 6, RAID 60; volume data recovery

### Supported encryption techniques (with known password/key):

- ✓ Full-disk encryption
- ✓ LUKS encryption
- ✓ Apple FileVault 2 encryption
- ✓ Encryption of Apple APFS volumes
- ✓ File system conversion (eCryptFS)
- ✓ BitLocker and BitLocker To Go encryption

### **Supported virtual technologies:**

- ✓ VMware VMDK, Hyper-V VHD/VHDX, QEMU/XEN QCOW/QCOW2, VirtualBox VDI, Apple DMG, Paralles, EnCase E01 and Ex01 non-encrypted files, simple disk images
- ✓ Internal sparse format
- ✓ Support of drive as a disk image (for XEN and others)
- ✓ Synology Sparse iSCSI
- ✓ Opening a partition/file within a storage as a virtual disk
- ✓ Support of split DeepSpar DDI images
- ✓ Custom "virtual image" files of Runtime Software



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License type: perpetual

Connect at the same time: ≥ 2 HDD

Write block: Yes Max speed:384 MB/s

HDD firmware repair: Supports SATA and USB (converted to SATA) mechanical drives

Recover data from SSD: Supports SATA, mSATA, M.2, NVME, U.2

Recover data from RAID: Supports different RAID levels standard and custom

## What's included with FLAME:

PCI-express card
SATA cables with power cables
5.25" bay Box including 2 Serial port adapter for TTL
hdd com port

## **Optionals:**

SAS adapter NVME and USB adapter Data extraction software

