

# HDClone 3.9

Copy - Backup - Rescue



HDClone is the universal tool for copying hard disks and other mass storage media. Major areas of use are backup, data rescue, migration of system installations, creating file images, and mass copying.

### Self-booting or on Windows XP/Vista/7/Server

HDClone can be started either self-booting<sup>1)</sup> or under Windows<sup>2)</sup>, the latter allowing the familiar drive letters, dynamic volumes, RAIDs, and media requiring special Windows drivers to be used for copying. The self-booting application starts even without an OS from CD or USB key.

### File images - NEW: Compressed file images

Physical image files contain an exact image of the data source. Logical image files usually require only a fraction of space and time. HDClone accesses FAT and NTFS formatted media, under Windows also network drives, and it can optionally compress the file image data.

### HotCopy / LiveImage in Windows at runtime

In Windows, HDClone creates consistent copies and images at runtime ('live') - even of the system volume itself.

### NEW: defragmentation ('on the fly') for NTFS

HDClone can perform a perfect defragmentation on NTFS file system during copying - with only a minimum additional time required.

### NEW: command line version for automation

In Windows, HDClone can be called from scripts, by program links, or through the Task Scheduler for predefined, automated processes.

### Adjusting partition sizes - NEW: downsizing NTFS partitions

HDClone can expand NTFS, FAT, ext2-ext4 and downsize NTFS during copying. When migrating to larger hard disks, additional disk space is available immediately. NTFS can even be migrated to smaller media.

### Fault Tolerance

HDClone uses different strategies to rescue defective sectors. Moreover, defective sectors will not obstruct the copying process.

### SmartCopy / SmartImage - NEW: now for ext4 file systems

Creates logical images & copies of NTFS, FAT, and ext2-4 in a fraction of the time physical copies need. Perfect for backups and migrations.

### Areas of Use

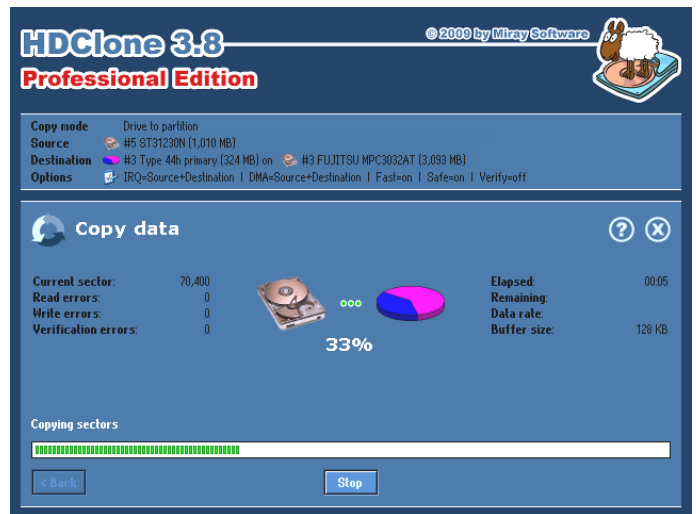
- migrating or duplicating entire system installations
- data backup / data rescue / system recovery
- mass installation of computer systems (roll-out, system builder)
- copy/backup/rescue 'exotic' and proprietary file systems
- copying between SCSI, IDE, USB, Firewire, SATA, SAS, and RAID
- forensics, rescuing and securing of evidence

### Applications from Private to Professional use

HDClone offers a cost-efficient solution for every purpose:

- **Free Edition (private use only):** Simple and free-of-charge solution for 1:1-copies, especially for one-time system migration.
- **Basic Edition (private use only):** For occasional operation on private computers for backup and system migration.
- **Standard Edition:** For regular application in home and small-office areas, as backup, migration, and data rescue solution.
- **Professional Edition:** Universal professional cloning solution with high performance, a multitude of supported devices, and special options.
- **Enterprise Edition:** Professional solution for mass-cloning to up to 16 targets at a time. Works with all supported device types.

A feature overview is to be found at [www.hdclone.com](http://www.hdclone.com). The Free Edition contains a **compatibility and speed test** and is available as free download at <http://www.miray.de/download/sat.hdclone.html>.



### SafeRescue Mode

Physical defects will spread over the whole medium during operation. SafeRescue mode minimizes stress for the hard disk as far as possible.

### Hardware Requirements <sup>3)</sup>

- PC, min 586/90 MHz/64 MB, VGA, keyboard & mouse (PS/2 or USB)
- bootable floppy disk or CD/DVD drive or USB medium

### Supported Media (also > 2 Terabyte and NEW: 4k alignment)

- IDE-, ATA-, SATA- and eSATA hard disks, CompactFlash via IDE <sup>4)</sup>
- SCSI hard disks
- USB hard disks (internal & external), USB keys <sup>5)</sup>
- SD/MMC <sup>6)</sup>, CompactFlash <sup>6)</sup>, MicroDrive <sup>6)</sup>, xD <sup>6)</sup>, Memory Stick <sup>6)</sup>
- Firewire/IEEE 1394 hard disks (internal & external)
- Dynamic Volumes, SAS, RAID and other <sup>7)</sup>

### Supported Controllers <sup>8)</sup>

- PCI IDE controller / Busmaster IDE controller
- SCSI host adapters <sup>9)</sup>
- SATA Controllers with IDE interface, SATA-II controllers with AHCI
- USB 1.1/2.0 controllers with UHCI/OHCI/EHCI
- Firewire/IEEE1394 controllers with OHCI

Edition Overview	Free	Basic	Standard	Professional	Enterprise
IDE, SATA, USB	●	●	●	●	●
media > 2 TB	○	○	○	●	●
SCSI support	○	○	○	●	●
Firewire / IEEE1394	○	○	○	●	●
max. copy rate MB/sec	18	36	40	100	1000+
Adjusting partitions	●	●	●	●	●
NEW: 4k alignment	●	●	●	●	●
HotCopy	●	●	●	●	●
SafeRescue mode	○	●	●	●	●
LiveImage	○	●	●	●	●
NEW: Defragmentation	○	○	●	●	●
Verification mode	○	○	●	●	●
SmartCopy mode	○	○	●	●	●
Smart file images	○	○	●	●	●
NEW: Automation	○	○	○	●	●
MultiCopy (4x, 8x, 16x)	○	○	○	○	●
private use	●	●	●	●	●
companies/institutes	○	○	●	●	●
technician license	○	○	○	●	●

1) SP = self-booting program 2) WP = Windows program 3) WP: the hardware requirements of Windows apply 4) media with TrueIDE support 5) using the USB-Mass-Storage-Class protocol 6) using a card reader (USB/Firewire) 7) WP only 8) WP: all controllers managed by a Windows driver 9) SP: Adaptec SCSI adapters only, see <http://www.miray.de/products/scsicompat.html>