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COLDSTORE

SURVEILLANCE STORAGE SYSTEM



The world's most
reliable surveillance
storage system
designed to perfectly
preserve the veracity
of your IP video

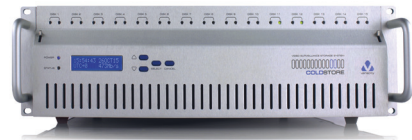
COLDSTORE's sequential recording system SFSTM writes to hard disk in a revolutionary way, offers extreme reliability and low total cost of ownership.

- | Massive 150TB capacity uses only 60 watts in 3U format
- | Networked storage system incorporating L.A.I.D.TM and S.F.S.TM technology for high disk reliability
- | No data loss on disk failure and no rebuild required
- | Uses almost any SATA drive make and model
- | Simple and straightforward end-user disk management
- | Instant evidence seizure by disk removal at any time
- | Individual disks playable on standard PC via USB
- | DISKPLAY option, custom USB disk docking station



COLDSTORE 3U is a unique sequential surveillance storage array designed from the ground up for surveillance

COLDSTORE 3U is ideal for projects requiring affordable high storage capacity, extended disk lifetimes, long file-retention and simple system management.



COLDSTORE 3U Front Panel includes LCD system info and disk status LEDs

Reliability assured

Our Linear Array of Idle Disks (L.A.I.D™) technology combined with unique Sequential disk Filing System (S.F.S™) produces a powerfully simple system which can provide generous storage capacity at low cost. Whilst simple in concept, this delivers a highly reliable storage system which dramatically extends disk lifetime even when using the lowest cost disks available.

Low power, low cost

COLDSTORE 3U uses only one tenth of the power of comparable systems, is resilient to disk failure, requires no disk rebuild process and reduces running costs.

It provides an easy way to instantly extract and transport critical evidential video data.

Extended Disk Lifetimes

Disks are used sequentially, with all of the disks not in use being switched off, saving power and thus greatly reducing temperature, vibration and wear – the three primary disk killers.

The system uses a unique mirrored overlapping-pair writing pattern to provide full data redundancy during the critical writing process. This delivers the redundancy of RAID1 on write, but unlike RAID1, does not require double the number of disks.

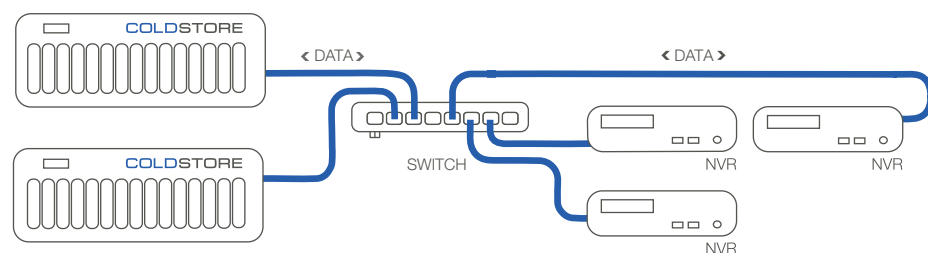
Within the disk, the sequential disk filing system eliminates vibration from the read/write head and lowers operating temperature. Within the array, the use of sequential overlapping mirrored writing pairs requires only two active disks at any one time

with the others switched off. This greatly reduces wear and further reduces array vibration and operating temperature. Thus every disk is off, on average, for 87% of the time. Disks automatically switch on for playback, but typically playback from non-writing disks is infrequent and hardly affects the average duty cycle.

Purpose-Designed System

COLDSTORE 3U is built around a custom designed main-board system with low-power CPU and directly connected SATA backplane.

Even a fully populated 150TB array will only use 60 watts. The low power system extends the electronic component lifetime, which, combined with the extended disk lifetimes results in a very low overall total cost of ownership.



NVRs write to COLDSTORE across the network. Multiple recorders can write to a single COLDSTORE, or one recorder can write to multiple COLDSTOREs if required.

In principle, individual video streams can be routed to any COLDSTORE on the network as required under the control of the third party recording system.

Low power and high capacity make COLDSTORE 3U an ideal system for long retention of 30 to 180 days or more

Removable drives containing specific time-spans enables rapid extraction of critical evidential data for law enforcement purposes

Configuration and Management

COLDSTORE 3U is simple to configure, manage and monitor through Veracity's universal site configuration tool, SITESCAPE. This Windows application allows automatic device discovery, configuration of settings, analysis of disks and a basic level of diagnostics.

Simple Disk Management

COLDSTORE can use almost any make, model and capacity of 3.5" SATA disk drives including any mix of drives. Disks may be added "on the fly" and will automatically be incorporated into the array. The physical location of specific time spans can be identified through SITESCAPE and disks may be extracted at any time. The disk status LEDs above each disk slot indicate

writing, selection, fault and removal readiness. These simple features, along with the user-friendliness of SITESCAPE, allow COLDSTORE and the disks to be easily managed by system integrators and end-users alike. In addition to the mirrored overlapping-pair mode, COLDSTORE can also operate in full mirrored pair mode if desired.

Integration

Veracity works very closely with many Video Management System (VMS) suppliers worldwide to ensure that their VMS systems are compatible with COLDSTORE. Please visit the Veracity website for the latest VMS compatibility and status information. Veracity also provides a comprehensive SDK for VMS manufacturers who wish to develop support for COLDSTORE.

TRINITY™ Direct-To-Storage

COLDSTORE supports Veracity's TRINITY Direct-to-Storage system architecture. This alternative approach exploits the processing power of modern open-platform IP cameras. Veracity's COLDSTREAM™ application runs inside the cameras which then write directly to COLDSTORE 3U or COLDSTORE Compact arrays, thus eliminating the need for NVR server hardware and expensive VMS licences.

The TRINITY system also supports a choice of front-end client systems, ranging from Veracity's own simple player to fully-featured integrated Command and Control systems or PSIMs. For a list of currently supported IP cameras and client front end systems, visit the Veracity website.



Rear view (above) showing dual Gig-E ports, alarm/relay connections and the dual hot-swap PSU option. Note that the two cooling fans are software controlled and are normally switched off.



Access Extracted Disks Easily?

DISKPLAY Pro is a networked disk docking station for accessing extracted COLDSTORE disks. COLDSTORE disk cradles fit directly into DISKPLAY Pro, allowing read only access to all recorded data for playback, export and duplication.

TECHNICAL SPECIFICATION

COLDSTORE™

GENERAL	
Storage array type	Networked attached sequential array running L.A.I.D.™ with S.F.S.™ disk filing system
Drive bays	15 x 3.5" (lockable drive trays included)
Interface	Dual Gigabit Ethernet
Data throughput	400Mbit/sec (unlimited scalability with multiple COLDSTORE units)
SYSTEM	
O.S.	Embedded Linux on solid state memory.
System integration	Direct from 3rd party client application (SDK & network protocols available).
Configuration	Over LAN via Veracity's SITESCAPE application.
Management	By front panel, or over LAN via Veracity's SITESCAPE application.
Compatibility	All COLDSTORE supported VMS systems (see website for current list). Directly compatible with the Veracity TRINITY system architecture.
CAPACITY	
Disk Capacity	SATA disks of any capacity and almost all models are compatible (current maximum is 10TB, likely to increase in the future)
Array capacity	Maximum array capacity is currently - 150TB (with 10TB disks) Effective capacity - Mirrored Overlapping - 140TB Effective capacity - Mirrored Pair - 70TB
ALARMS	
Alarm relays	4 software configurable e.g. disk fail, disk inserted, disk extracted, etc.
Alarm inputs	4 software configurable e.g. UPS active, power down, etc.
POWER	
Power consumption	60 watts typical maximum
Power supply rating	Dual hot-swap PSU rated at 320W (See actual power consumption above)
Time synchronization	Via NTP (recommended)
PHYSICAL/ENVIRONMENTAL	
Dimensions	19" rack width, 3U high, 483mm deep (W 440mm x D 483mm x H 131mm)
Weight	17.8kg (39.2lbs)
Operating temperature	5°C to 50°C (41°F to 122°F)
Relative humidity	Up to 85%, non-condensing.
Compliance	CE, FCC, RoHS.
PRODUCT CODES	
CSTORE15-3U-DU-UK	COLDSTORE 15-bay 3U unit, with dual hot-swappable PSU, UK power cables
CSTORE15-3U-DU-EU	COLDSTORE 15-bay 3U unit, with dual hot-swappable PSU, EU power cables
CSTORE15-3U-DU-US	COLDSTORE 15-bay 3U unit, with dual hot-swappable PSU, USA power cables
CS-DP-PRO-UK	DISKPLAY Pro, networked disk player system for COLDSTORE, with UK power cable
CS-DP-PRO-EU	DISKPLAY Pro, networked disk player system for COLDSTORE, with EU power cable
CS-DP-PRO-US	DISKPLAY Pro, networked disk player system for COLDSTORE, with USA power cable



COLDSTORE Compact is also available with 8 x 2.5" drives offering up to 32TB storage capacity - using only 16W.



Americas Sales |
Veracity USA Inc.
17000 Preston Road
Suite 120
Dallas
TX 75248
USA
Tel: 1-800-679-1590
Fax: 1-800-679-0714
www.veracityglobal.com
sales@veracityusa.com

EMEA Sales |
Veracity UK Ltd
Prestwick International Aerospace Park
4 Dow Road
Prestwick
KA9 2TU
UK
Tel +44 (0) 1292 264967
Fax +44 (0) 845 528 1081
www.veracityglobal.com
sales@veracityuk.com