DATASHEET

OOOOOOOOOOOOOO™
COLDSTORE
SURVEILLANCE STORAGE SYSTEM

RELIABLY LONG LIFE

Application | COLDSTORE is used in large city systems for long retention of IP video surveillance

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

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

| Massive 240TB capacity uses only 60 watts in 3U format

| Networked sequential storage system incorporating L.A.I.D.™ and S.F.S.™ 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 straight-forward end-user disk management

| Instant evidence seizure by disk removal at any time

| DISKPLAY Pro option, for playback of extracted disks

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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.
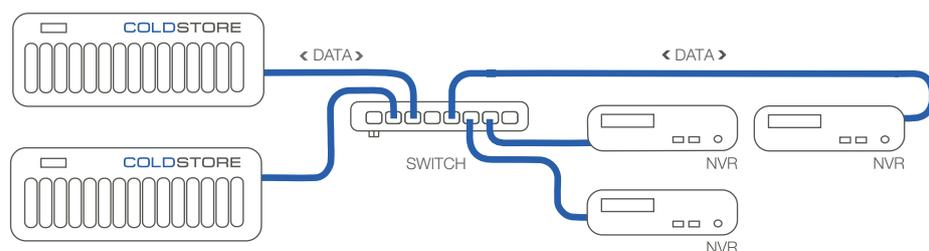
Within the disk, the sequential disk filing system eliminates vibration from the read/write head and lowers operating temperature. Within the array, the use of sequential overlapping mirrored writing pairs requires only two active disks at any one time with the others switched off. This greatly reduces 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 240TB 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.

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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.

COLDSTORE Disk Capacity is subject to change. Please check our website for the most up to date disk capacities. **www.veracityglobal.com**

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.

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TECHNICAL **SPECIFICATION**

COLD**STORE**™

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.
Time synchronization	Via NTP (recommended)
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 most makes and models are compatible.
	See our HDD list for recommended, tested drives at www.veracitydownloads.com
	(Max is 16TB, likely to increase) Check our website for up to date disk capacities.
	www.veracityglobal.com
Array capacity	Maximum array capacity is currently - 240TB (with current max available 16TB disks)
	Effective capacity in normal operation - Mirrored Overlapping Pair - 224TB
	Effective capacity - Mirrored Pair - 112TB

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 supply type	Dual hot-swap PSU
Power supply rating	110-240V AC Input (Auto sensing)
Power consumption	60 watts typical maximum (PSU rated at 320W)

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 UK power cables *(VMS CTO partcode required)*
CSTORE15-3U-DU-EU*	COLDSTORE 15-bay 3U unit, with EU power cables *(VMS CTO partcode required)*
CSTORE15-3U-DU-US*	COLDSTORE 15-bay 3U unit, with USA power cables *(VMS CTO partcode required)*
CSTORE-DP-PRO-UK	DISKPLAY Pro, networked disk player for COLDSTORE, with UK power cable
CSTORE-DP-PRO-EU	DISKPLAY Pro, networked disk player for COLDSTORE, with EU power cable
CSTORE-DP-PRO-US	DISKPLAY Pro, networked disk player for COLDSTORE, with USA power cable

The CTO (Configure To Order) part codes are required for certain VMS integrations. Ask your Veracity sales contact for further information on order specifications.

COLDSTORE Compact is also available with 8 x 5TB x 2.5" drives offering up to 40TB storage capacity - using only 16W.

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