

SURVEILLANCE STORAGE SYSTEM

COLDSTORE<sup>®</sup>  
2U

Application | COLDSTORE 2U is used in city and building systems for medium-scale storage

The world's most  
reliable surveillance  
storage system  
with increased  
throughput and  
performance

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



- | Network attached sequential storage system designed for video
- | Incorporates SFS™ and Laid™ for high disk reliability
- | 8-bay system with up to 160TB capacity
- | Immediate compatibility with future larger disks
- | Only 40 watts power consumption
- | Embedded NVR option
- | Direct ONVIF Profile S and Profile G support





## COLDSTORE 2U is a low cost option with the same unique COLDSTORE sequential video storage technology

COLDSTORE 2U is ideal for smaller projects requiring affordable high storage capacity, extended disk lifetimes, long file-retention and simple system management.

### 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 2U is designed to provide all the key features and reliability of COLDSTORE technology at a lower cost and in a smaller rackmount format. It is aimed at small to medium-sized projects with camera counts up to 100 channels with typical bit-rates. With a Gigabit Ethernet port, the system can handle up to 920Mbps of video traffic, depending upon integration.

### 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.

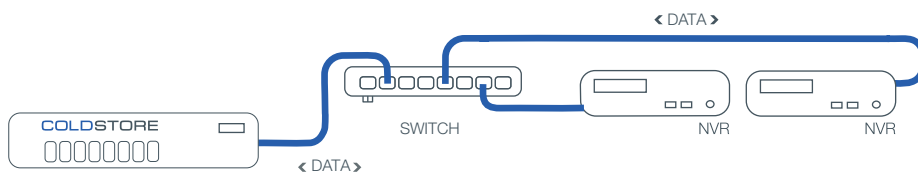
Within the disk, the sequential disk filing system eliminates vibration from the read/write head and lowers operating temperature. Within the array, the use of sequential overlapping mirrored writing pairs requires only two active disks at any one time with the others switched off.

This greatly reduces wear and further reduces array vibration and operating temperature. Thus every disk is off, on average, for 75% 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 2U is built around an industry standard main-board system with a power-efficient CPU and standard disk backplanes.

Even a fully populated 160TB array will use around 40 watts. This low power consumption extends the electronic component lifetime, which, combined with extended disk lifetimes, reduced cooling costs and lower UPS purchase cost, 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.*

## The 2U model provides advanced COLDSTORE<sup>®</sup> technology benefits, including high disk reliability, at lower cost

The compact 2U version of COLDSTORE delivers up to 160TB of storage capacity at an even lower power level of 40W, even when fully populated.

### Configuration + Management

COLDSTORE 2U 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 2U 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.

Despite being only 2U high, this COLDSTORE can provide up to 160TB of disk capacity (140TB effective) at

a very low power consumption. For example, 160TB is sufficient for up to 90 cameras at 3Mbps per camera for 30 days. Veracity's configuration tool SITESCAPE, combined with the COLDSTORE storage system is user friendly and the hard disks are easy to manage by system integrators and end-users alike.

### Integration

Veracity works very closely with a number of Video Management System (VMS) suppliers worldwide to ensure that their VMS systems are compatible with COLDSTORE 2U.

Please visit the storage section of Veracity website for the latest VMS compatibility status information.

Veracity also provides a comprehensive SDK for VMS manufacturers who wish to develop support for COLDSTORE.

### Embedded NVR System Options

All current COLDSTORE platforms provide two embedded NVR options for different surveillance applications.

The first is Veracity's COLDSTREAM NVR, recording up to 64 RTSP or ONVIF Profile S compatible IP camera channels in the 2U model. (100ch in the 3U and 4U models). It is fully scalable and compatible with Veracity's VIEWSCAPE and VIEWSCAPE Core integrated security management systems. It also supports any third-party client application which supports ONVIF Profile G (recording and playback).

The second is the embedded Nx Witness VMS and client application from Network Optix (as supplied by Veracity). For details on this option, see the COLDSTORE NX datasheets.



COLDSTORE Disk Capacity is subject to change. Please check our website for the most up to date disk capacities.  
[www.veracityglobal.com](http://www.veracityglobal.com)



## TECHNICAL SPECIFICATION

COLDSTORE<sup>®</sup>  
2U

<b>GENERAL</b>	
Storage array type	Networked attached sequential array running L.A.I.D.™ with S.F.S.™ disk filing system
Drive bays	8 x 3.5" (lockable drive trays included)
Interface	Gigabit Ethernet
Data throughput	920Mbps (unlimited scalability with multiple COLDSTORE units)
<b>SYSTEM</b>	
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	Over LAN via Veracity's SITESCAPE application.
Compatibility	Compatible with supported third-party VMS systems. (Check <a href="http://www.veracityglobal.com">www.veracityglobal.com</a> for list of manufacturers). Optional Veracity embedded NVR system. Veracity supports ONVIF Profile S for IP camera compatibility and ONVIF Profile G for recording and storage.
<b>CAPACITY</b>	
Disk capacity	SATA disks of any capacity and almost all makes and models are supported. COLDSTORE supports 20TB disks and has forward compatibility for future larger disks. (Check <a href="http://www.veracityglobal.com">www.veracityglobal.com</a> for up to date disk capacities)
Array capacity	Maximum array capacity is currently - 160TB (with current max available 20TB disks) Effective capacity - Mirrored Overlapping Pair - 140TB
<b>POWER</b>	
Power supply type	Single fixed PSU
Power supply rating	110-240V AC Input (Auto sensing)
Power consumption	40 watts typical maximum (PSU rated at 300W)
<b>PHYSICAL/ENVIRONMENTAL</b>	
Dimensions	19" rack width, 2U high, 573mm deep (W 442mm x D 573mm x H 90mm)
Weight	11.7kg (26lbs) (without disks)
Operating temperature	5°C to 50°C (41°F to 122°F)
Relative humidity	Up to 85%, non-condensing.
Compliance	CE, FCC, UKCA, RoHS, BIS.
<b>PRODUCT CODES</b>	
CSTORE8-2U-UK	COLDSTORE 8-bay 2U unit, with UK power cables
CSTORE8-2U-EU	COLDSTORE 8-bay 2U unit, with EU power cables
CSTORE8-2U-US	COLDSTORE 8-bay 2U unit, with USA power cables
CSTREAM-KEY	COLDSTREAM embedded NVR channel key



COLDSTORE 3U Pro 16 is also available with 16 x 20TB x 3.5" drives offering up to 320TB storage capacity.



COLDSTORE Colossus is also available with 45 x 20TB x 3.5" drives offering up to 900TB storage capacity.



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