

SURVEILLANCE STORAGE SYSTEM  
**COLDSTORE®**  
 3U PRO | 16



COLDSTORE 3U Pro 16 is used in large city systems with high camera counts



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
- | Massive 320TB capacity using 20TB disk drives
- | Immediate compatibility with future larger disks
- | Only 90 watts power consumption
- | Uses any make/model of standard SATA drive
- | Direct ONVIF Profile S and Profile G support
- | Optional VIEWSTORE status monitor for large installations





# COLDSTORE 3U Pro 16 is a unique sequential storage array designed and developed specifically for video surveillance recording

COLDSTORE 3U Pro 16 is ideal for 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 COLDSTORE's 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 if using the lowest cost disks available.

## Low Power, Low Cost

This 3U Pro 16 version of COLDSTORE provides higher performance over the previous 15-bay unit but with the same high levels of reliability. It is aimed at the more demanding applications of high camera count and higher bit rates. With dual Gigabit Ethernet ports which can be bonded, the system can handle up to 1Gbps of video traffic.

## 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 mirrored overlapping writing pairs requires only two active disks at any one time with the others switched off.

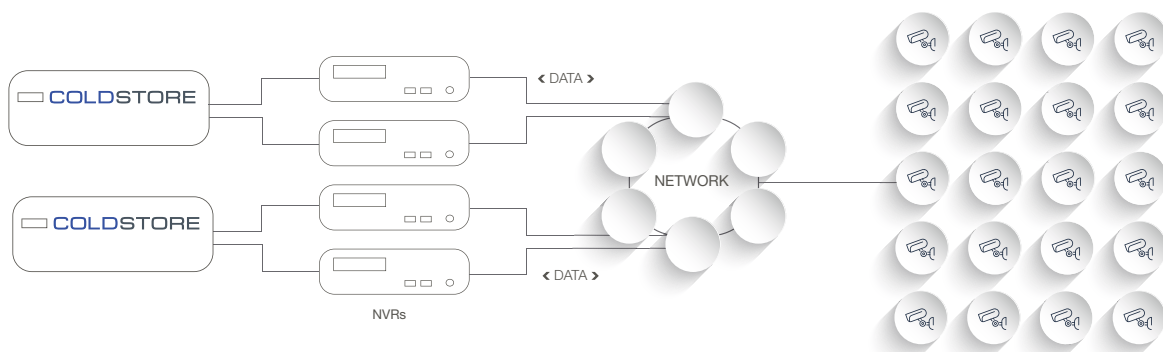
This greatly reduces wear and further reduces array vibration and operating temperature. Every disk is off, on average, for 87% of the time. Disks automatically switch on for playback, but typically playback from non-writing disks is infrequent and the effect on the average duty cycle are negligible.

## Purpose-Designed System

COLDSTORE 3U Pro 16 is built around industry standard system components powered by Veracity optimised and energy efficient software.

Even a fully populated 320TB array will use less than 90 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.

## COLDSTORE 3U PRO 16 APPLICATION DIAGRAM



NVRs write to COLDSTORE 3U Pro 16 across the network. Multiple recorders can write to a single COLDSTORE 3U Pro 16, or one recorder can write to multiple COLDSTORE 3U Pro 16s if required.

Individual video streams can be routed to any COLDSTORE 3U Pro 16 on the network as required under the control of the third-party recording system.

# ONLY 90W

Low power and high capacity make COLDSTORE 3U Pro 16 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 + Management

COLDSTORE 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 system diagnostics.

### Simple Disk Management

COLDSTORE 3U Pro 16 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 indicate which disks are active (i.e. recording,

playing back or downloading). 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 3U Pro 16.

Please contact your Veracity sales representative for the latest VMS compatibility status information.

Veracity also provides a comprehensive API for manufacturers who wish to integrate with 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 100 IP cameras (ONVIF Profile S or RTSP streams). It is fully scalable and compatible with Veracity's VIEWSCAPE 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 (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)



Rear view (above) showing the dual gigabit Ethernet ports, dual hot-swap power supplies and mirrored hot-swap solid state OS disks.

### Access Extracted Disks Easily

DISKPLAY Pro is a networked disk station for accessing extracted COLDSTORE disks. Disks recorded by COLDSTORE can be inserted into DISKPLAY Pro, allowing networked read only access to all recorded data for playback, export and duplication.

## TECHNICAL SPECIFICATION

**COLDSTORE®**  
 3U PRO | 16
**GENERAL**

Storage Array Type	Networked attached sequential array running L.A.I.D.™ with S.F.S.™ disk filing system
Drive Bays	16 x 3.5" (lockable drive bays included)
Interface	Dual Gigabit Ethernet
Data Throughput	1Gbps (unlimited scalability with multiple COLDSTORE units)

**SYSTEM**

O.S.	Linux OS on mirrored solid state disks
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	COLDSTORE via SITESCAPE on Client PC
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 recording solutions. Veracity supports ONVIF Profile S for IP camera compatibility and ONVIF Profile G for recording and storage

**CAPACITY**

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 - 320TB (with current max available 20TB disks) Effective capacity in normal operation - Mirrored Overlapping-Pair - 300TB

**POWER**

Power Supply Type	Dual redundant hot-swappable PSU
Power Supply Rating	110-240V AC Input (Auto sensing)
Power Consumption	90 watts typical maximum (PSU rated at dual 550W)

**PHYSICAL/ENVIRONMENTAL**

Dimensions	19" rack width, 3U high, 627mm deep (W 443mm x D 627mm x H 132mm)
Weight	23.2Kg (51.1lbs) including mounting rails but without disks
Operating Temperature	5°C to 40°C (41°F to 104°F)
Relative Humidity	Up to 85%, non-condensing
Compliance	CE, FCC, UKCA, RoHS, BIS

**PRODUCT CODES**

CSTORE16-3U-PRO-UK	COLDSTORE 3U Pro 16, storage array, with mounting rails and UK power cables
CSTORE16-3U-PRO-EU	COLDSTORE 3U Pro 16, storage array, with mounting rails and EU power cables
CSTORE16-3U-PRO-US	COLDSTORE 3U Pro 16, storage array, with mounting rails and US power cables
CSTREAM-KEY	COLDSTREAM embedded NVR channel key

Disk Size	TB	4	6	8	10	12	14	16	18	20
Raw Capacity	TB	64	96	128	160	192	224	256	288	320
Effective Capacity	TB	60	90	120	150	180	210	240	270	300

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