SURVEILLANCE STORAGE SYSTEM

COLDSTORE™
3U PRO

COLDSTORE Pro is used in large city systems with high camera count for large-scale storage

HIGH PERFORMANCE

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 240TB capacity using 16TB disk drives

| Immediate compatibility with future larger disks

| Only 60 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

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

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

COLDSTORE 3U Pro 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 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 version of COLDSTORE provides higher performance over the standard 3U system 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.
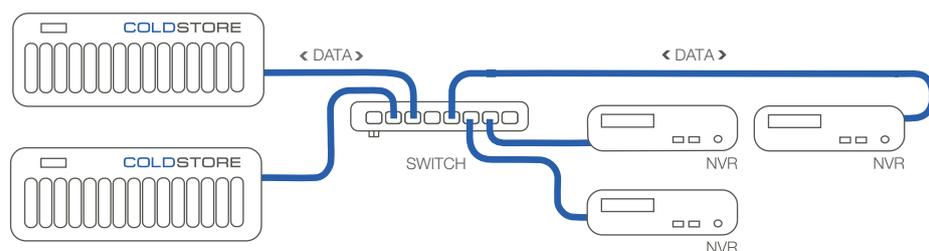
Within the disk, the sequential disk filing system eliminates vibration from the read/write head and lowers operating temperature. Within the array, the use of sequential overlapping mirrored writing pairs requires only two active disks at any one time with the others switched off.

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 Pro is built around an industry standard main-board system with a power-efficient CPU and Veracity designed backplanes.

Even a fully populated 240TB array will use less than 60 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 3U Pro across the network. Multiple recorders can write to a single COLDSTORE 3U Pro, or one recorder can write to multiple COLDSTORE 3U Pros if required.

In principle, individual video streams can be routed to any COLDSTORE 3U Pro on the network as required under the control of the third party recording system.

Low power and high capacity
make COLDSTORE 3U PRO
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 3U Pro 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 3U Pro 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 next to 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 3U Pro.

Please visit the 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 Option

COLDSTORE 3U Pro includes a new
embedded NVR option. This provides
continuous recording of all RTSP
and ONVIF Profile S compatible
IP cameras. The NVR can co-exist
(on the same COLDSTORE) with
Veracity's direct-to-storage TRINITY
system which uses COLDSTREAM
software on open platform IP cameras
to write directly to COLDSTORE.

The COLDSTORE NVR can use
Veracity's VIEWPOINT simple player
application for Windows and is also
fully compatible with the high-end
VIEWSCAPE integrated security
system Command & Control platform
for larger control rooms.

Alternatively, third-party client
applications can use Veracity's SDK
or ONVIF Profile G to support the
COLDSTORE NVR system directly.

*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.*

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

Access Extracted Disks Easily

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

www.veracityglobal.com

[TECHNICAL **SPECIFICATION**]

COLDSTORE™ 3U PRO

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	1Gbps (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	Compatible with supported third-party VMS systems. (Check **www.veracityglobal.com** for list of manufacturers). Optional Veracity embedded NVR system or Veracity TRINITY architecture 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 16TB disks and has forward compatibility for future larger disks. (Check **www.veracityglobal.com** for up to date disk capacities)
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 - Full Mirrored Pair - 112TB

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, 513mm deep (W 440mm x D 513mm x H 131mm)
Weight	19.2kg (42.3lbs)
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-PRO-UK	COLDSTORE 15-bay 3U Pro unit, with UK power cables
CSTORE15-3U-PRO-EU	COLDSTORE 15-bay 3U Pro unit, with EU power cables
CSTORE15-3U-PRO-US	COLDSTORE 15-bay 3U Pro unit, with USA power cables
CSTREAM-KEY	COLDSTREAM embedded NVR channel key

COLDSTORE Colossus is also available with 45 x 16TB x 3.5" drives offering up to 720TB storage capacity - using only 80W.

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