

SURVEILLANCE STORAGE SYSTEM

COLDSTORE
COLOSSUS



45-bay version
of COLDSTORE
surveillance storage
system for long video
retention applications

The sequential recording system and mirrored overlapping-pair writing pattern of COLDSTORE Colossus increases the lifetime and reliability of hard disks for long-term video storage.



- | Network attached sequential storage system designed for video
- | Incorporates SFS™ and LAID™ for high disk reliability
- | Massive 720TB capacity using 16TB disk drives
- | Immediate compatibility with future higher capacity disks
- | Only 80 watts power consumption
- | Uses any make/model of standard SATA drive
- | Simple and straightforward end-user disk management
- | Optional VIEWSTORE status monitor for large installations

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

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



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

This 45 disk bay version further enhances COLDSTORE's capabilities. Each individual disk is active for less than 5% of the time, thus extending the disk lifetime and reliability.

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

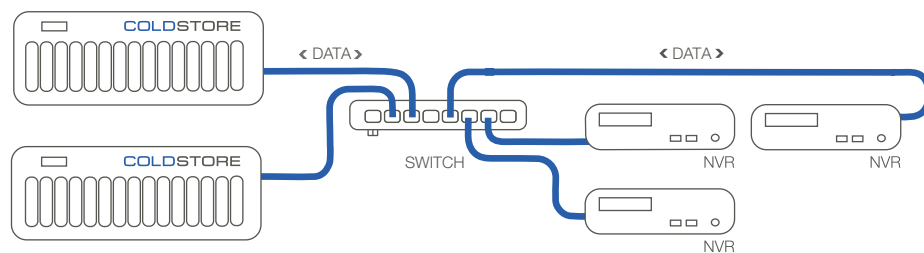
reduces array vibration and operating temperature. Thus every disk is off, on average, for 95% of the time. Disks automatically switch on for playback, but typically playback from non-writing disks is infrequent and hardly affects the average duty cycle.

Purpose-Designed System

COLDSTORE Colossus is built around a standard main-board system with low-power CPU and Veracity-designed SATA backplanes. Even a fully populated 720TB array will use less than 80 watts. The low power system extends the electronic component lifetime, which, combined with extended disk lifetimes results in a very low overall total cost of ownership.

Configuration + Management

COLDSTORE Colossus is simple to configure, manage and monitor through Veracity's universal site



NVRs write to COLDSTORE Colossus 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 Colossus an ideal system for long retention of 90 to 180 days or more

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

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 Colossus 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 Colossus.

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 Colossus 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 to support the COLDSTORE NVR system directly.



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

TECHNICAL SPECIFICATION

COLDSTORE™
COLOSSUS

GENERAL	Storage array type Drive bays Interface Data throughput	Networked attached sequential array running L.A.I.D.™ with S.F.S.™ disk filing system 45 x 3.5" Top-loading, toolless system Dual Gigabit Ethernet (additional options available) 1 Gbps (unlimited scalability with multiple COLDSTORE units)
SYSTEM	O.S. Time synchronization System integration Configuration Management Compatibility	Embedded Linux on solid state memory. Via NTP (recommended) Direct from 3rd party client application (SDK and network protocols available). Over LAN via Veracity's SITESCAPE application. By front panel, or over LAN via Veracity's SITESCAPE application. Optional Veracity embedded NVR system or TRINITY architecture. (See Veracity recording solutions datasheet).
CAPACITY	Disk Capacity Array capacity	SATA disks of any capacity and most makes and models are compatible. (Max is 16TB, likely to increase) Check our website for up to date disk capacities. www.veracityglobal.com Maximum array capacity is currently - 720TB (with current max available 16TB disks) Effective capacity in normal operation - Mirrored Overlapping Pair - 704TB Effective capacity - Full Mirrored Pair - 352TB
POWER	Power supply type Power supply rating Power consumption	Dual hot-swap PSU 110-240V AC Input (Auto sensing) 80 watts typical maximum (PSU rated at 320W)
PHYSICAL/ENVIRONMENTAL	Dimensions Weight Operating temperature Relative humidity Compliance	19" rack width, 4U high, 800mm deep (W 440mm x D 800mm x H 175mm) 30Kg (66lbs) excluding disks 5°C to 50°C (41°F to 122°F) Up to 85%, non-condensing. CE, FCC, RoHS.
PRODUCT CODES	CSTORE45-4U-UK CSTORE45-4U-EU CSTORE45-4U-US CSTREAM-KEY	COLDSTORE 45-bay 4U unit, with UK power cables COLDSTORE 45-bay 4U unit, with EU power cables COLDSTORE 45-bay 4U unit, with USA power cables COLDSTREAM embedded NVR Channel Key



COLDSTORE 3U Pro is also available with 15 x 16TB x 3.5" drives offering up to 240TB storage capacity - using only 60W.



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