4000 C Series
4000 C Networked Video Recorders

The March Networks™ 4000 C NVRs are 'converged' video management platforms, providing analog and high-res IP camera support, outstanding video compression and storage, and R[5] Visual Intelligence applications for superior surveillance and operational efficiency.

Key Features

The 4000 C Series provides:

- 60 to 480 fps (CIF) of video capture across 16 BNC inputs, for up to 30 fps of high-quality recording per analog input
- 4 additional IP inputs, supporting up to eight 3.0 MPixel high-resolution cameras seamlessly[1]
- 16 alarm inputs, plus 6 two-way audio ports (optional)[2], for enhanced audio/video security coverage
- Programmable increase of capture rate on alarms for high-quality event records
- MPEG-4 compression with Adaptive Compression Technology[1], for the most advanced, efficient video processing
- High-capacity internal storage (up to 1.6 TB); disk mirroring[1] for added reliability and Smart Archiving for storage optimization
- External RAID[3] and Network Attached Storage (NAS)[1] options for further archiving
- Internal back-up battery for power brown-out protection
- Docking station architecture for easy installation and maintenance
- Advanced networking features for unlimited scalability and dependable remote access
- Advanced health management features for centralized support and maximum up-time

Exceptional performance, and IP cameras when you are ready

March Networks 4000 C NVRs are leading the charge to a next-generation of video management system. Up to 480 fps (CIF) of flexible analog recording provides clear video in almost any application. Support for up to 8 IP cameras[1] enables the capture of detailed, high-resolution images where appropriate. This hybrid approach will please security and IT departments in even the most demanding bank, retail or other organization.

The 4000 C Series combines MPEG-4 video compression with unique Adaptive Compression Technology[1], unrivaled for suppressing video 'noise'. Resulting records display with the highest quality, but are also incredibly bandwidth and storage efficient.

Storage is another differentiator. Up to 4 high-capacity (minimum 400 GB) hard-drives provide 1.6 TB of internal storage on these systems. A mirroring option[1] and SMART drive monitoring provide reliability. For external archiving, RAID-5 units and NAS[1] options are available. Video Aging, another unique feature, streamlines older stored video (that has not been tagged as important) to free up disk space automatically. Together with Adaptive Compression Technology, this provides as much as a 40% improvement in our already best-in-class storage capability. Without this level of storage performance, businesses could not meet recommendations like the SWGIT[4] guidelines cost-effectively.

4000 C NVRs also inherit several trademark March Networks features. A docking station makes installation simple, and provides direct access to hard drives and other components without disrupting cables or connectors. Audio, alarm, switch and serial data I/O (for ATM, POS or PTZ camera integration) are ordered as needed. The embedded Linux® operating system is optimized for resistance to attack. And an integrated back-up battery and intelligent hardware and software watchdog circuitry keep these recorders performing.

R[5] Visual Intelligence software gives these systems a dramatic step forward in task-specific functionality and intuitive interfaces, for administrators, investigators, security, loss prevention and other users anywhere on the network. Multi-site customers benefit from the efficiency of our Enterprise Management options. And all software promotes full control with minimal training.

R[5] VISUAL INTELLIGENCE

MARCH networks

Specifications

4000 C NVRs

Description: 4 models of high performance, networked video recorder, each with inputs for 16 analog cameras plus up to 8 IP cameras[1], optional alarm and audio I/O ports, support for a number of PCI and USB compatible devices, and high-capacity internal and external storage. In a diskless configuration, these units function as a video server.

Analog Recording: Based on model: (4216 C) 60 fps NTSC/50 fps PAL; (4316 C) 120 fps NTSC/100 fps PAL; (4416 C) 240 fps NTSC/200 fps PAL; (4516 C) 480 fps NTSC/400 fps PAL

CIF and 4CIF resolution supported; the following example for 4416 C at CIF setting:

NTSC Inputs	PAL Inputs
240 fps across 16 inputs (15 fps per input, 30 fps on 8 inputs)	200 fps across 16 inputs (12.5 fps per input, 25 fps on 8 inputs)

MPEG-4 video compression, with Adaptive Compression Technology[1]; up to 5 quality settings; average image size <2 KB/frame; video signal loss detection; all configurable per camera

IP Recording: Up to 8 IP cameras[5] supported in addition to 16 analog devices[1]; direct LAN/WAN connect; PCI card interface; high-resolution (3.0 MPixel) images supported; aggregate 8.0 MPixels/second performance across all IP cameras (<1 - 15 fps CIF per, based on images resolution)

Video (Monitor) Output: BNC-terminated NTSC or PAL output; event-driven video switcher functionality, selectable 16:1 composite with dwell; controlled/overridden by time/VMD/alarm video, from any camera; all inputs also offer 75Ω/hi-Z switch for loop-through capability

Alarms/Relays: Optional module[6]; 16 current loop inputs, supporting open/closed/cut detection; 4 relay switch outputs (30 VDC, 1 Amp); programmable event driven; programmable increase of frame rate on event, to maximum available per camera

Audio Channels: Optional PCI card[7]; 6 line-level I/O channels; two-way half-duplex communication, synched to video; 4 quality settings per channel

Data Connectivity: Optional PCI card[7]; 4 RS-232 ports or 2 RS-485 ports per card, for ATM/POS transaction data integration[8] or PTZ camera support (on-screen)

Network Interface: Ethernet: RJ-45 10/100 BaseT main connection; PSTN via optional USB modem/terminal adapter; DHCP enabled; optional SNMP configuration; NTP time synchronization

Recording Modes: Continuous, scheduled or driven by external event - alarm, motion detection (full view or masked, with sensitivity control), ATM transaction[8], POS transaction[8]; configurable pre- and post-alarm recording

Video Streaming: Unlimited streams; bandwidth limiting at global or camera-specific bit or frame rates; unique adaptive stream for low-bandwidth networks

Video Storage: Up to 4 high-capacity (minimum 400 GB), easily removed, internal IDE hard-drives; internal mirroring option[1]

Video Archiving: Extensive, fault-tolerant, external RAID[3] storage through optional SCSI PCI adaptor[7]; Network Attached Storage (NAS) also supported[1] through optional Giga-bit Ethernet PCI adaptor[7]

Audit Trail: Configuration, database searches, communications activity, live and recorded video requests, problem acknowledgement; 6 month capacity with circular logging

Dimensions: 3.5 in. (h) x 17.5 in. (w) x 20 in. (d) / 8.9 cm (h) x 44.5 cm (w) x 50.8 cm (d); Rack (2U high), wall or desk mount

Weight: 27 lbs / 12.2 kg shipping weight (unit plus docking station); 1.25 lbs / 0.6 kg each hard-drive

Operating Temperature: 50-105 °F / 10-40 °C; maximum 255 BTU generated per hour (system plus 4 hard-drives)

Electromagnetic: FCC Part 15 Class A; EN55022 Class A Emissions; EN55024, EN50130-4, EN61000 Immunity compatibility

Power Supply: Internal 115/230 VAC (auto-sensing); consumption 75 W maximum (system plus 4 hard-drives)

Safety: UL 60950; CSA C22.2 No.950; EN60950 LVD

Notes:
[1] Consult your March Networks representative for details on 4516 C NVR performance.
[2] If IP cameras not used, capacity can double.
[3] Random Array of Independent Disks. See Price List or 'Storage On-line' service on our Partner Extranet for more details.
[4] Scientific Working Group for Image Technology.
[5] Consult your March Networks representative for compatible vendors/models.
[6] One module per NVR.
[7] Single PCI slot available. 2 slots if IP cameras not used. See Price List for more details on Options.
[8] Added hardware/software may be required. Consult your March Networks representative.

North America:	1 800 563 5564
Latin America:	613 591 8181
Europe, Middle East and Africa:	+44 1 291 436027
Asia Pacific:	+852 2508 9780

w w w . m a r c h n e t w o r k s . c o m

MARCH networks