

# CNMatrix™

**Broadcast Quality, 2 RU, 1080i and 720p JPEG 2000 Based HD Recorder and Player with Over Four Hours Record Time in Lossless Mode and Up to 20 Hours in DVCAM (Low Loss) Mode. Includes LCD Display for Time Code and Manual Jog + Shuttle Control with Full Support for VANC Remote Control.**



## Features

- Uncompressed picture quality in Lossless mode
- VTR-like front panel controls
- Raid 1 Mirroring
- Simultaneous record and play
- Time lapse recording ability
- LTC and VTC time code support
- Typical bit rate is 50-100 Mbps
- INSERT and ASSEMBLE editing
- 40-50 milliseconds latency
- Remote control by RS-422, GPI, and Ethernet
- HD-SDI input and output
- 8 channels of digital audio
- VANC (Vertical ancillary data) Meta data
- Compact 2 RU unit
- Includes one removable 900 GB HDD (hard disk drive) cassette
- Optional removable 1.5 TB HDD cassette with up to 48 hours of studio quality recording, or...
- Optional removable 3 TB HDD cassette with up to 96 hours of studio quality recording

## Applications

- Broadcast studio recorder
- Sports and events shoots
- Geospatial archiving
- HD medical image archiving
- External storage for non-linear editing
- Security (time lapse recording)
- Digital cinema (24p, 720p)

## Overview

JPEG 2000 is a new compression standard extended by the JPEG committee ([www.jpeg.org](http://www.jpeg.org)). It is an advanced version of the JPEG standard originally used to compress photos for websites and graphics artwork. Today's JPEG 2000 uses wavelet compression and has been adapted for use by the broadcast and digital cinema industries.

The CNMatrix™ is a professional HDTV disk recorder that uses JPEG 2000 to record and play broadcast quality HDTV. The high-resolution video quality makes this an ideal recorder for HDTV broadcasting and digital cinema.

JPEG 2000 video compression can be lossless, where no data is lost, or lossy, where some data is lost but the data is compressed to a smaller size. The CNMatrix records up to four hours in lossless mode and up to 20 hours in DVCAM (low loss) mode. The low loss mode features the ability to simultaneously record and play.

The unit includes one 900 GB removable cassette for archiving or storage. An optional 1.5 TB cassette is available, offering up to 48 hours of recording time.

JPEG 2000 is an international standard. With an additional Ethernet Gigabit option, you can transfer files between host computers and CNMatrix recorders.

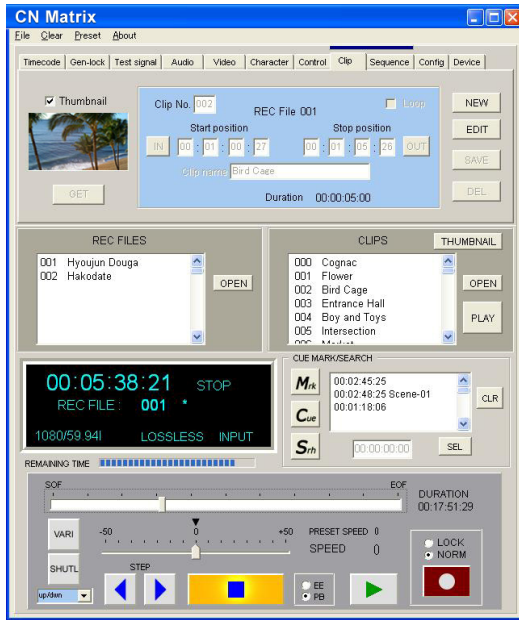
The CNMatrix also offers time lapse recording ability, making it suitable for geospatial and HD medical image archiving, where little or no image quality loss is required.



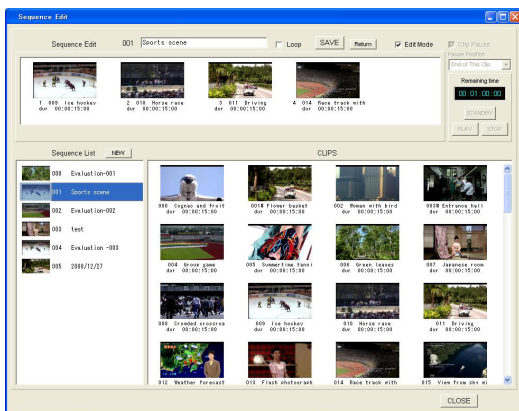
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**Main GUI**



**Sequence Play GUI**

## Optional HDD Cassette



## Ordering Information

- CNMatrix
- CNMatrix with 2K Option
- CNMatrix with Optional SSD cassette
- CNMatrix with Optional 1.5 TB HDD cassette
- CNMatrix with Optional 3 TB HDD cassette
- CNMatrix with Optional Gigabit Ethernet

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## Specifications

Video Input/Output	Input: HD-SDI 1 BNC Active through OUT 1 BNC Output: HD-SDI 3 BNC Monitor OUT 3 BNC
Video Standards	1080i/50, 1080i/59.94, 1080i/60 10 bit 1080psf/23.98, 1080psf/24, 1080psf/25, 1080psf/29.97, 1080psf/30 10 bit, 720p/59.94, 720p/60 10 bit Optional 2K, 2048x1080p/24 or 23.98
Audio Input/Output	Input: AES3 digital audio input 2 BNC (4 channels) Output: AES3 digital audio output 2 BNC (4 channels) HD-SDI embedded audio output (8 channels)
Time Code Input/Output	Input: LTC IN 1 BNC, VITC IN (Embedded in HD-SDI) Output: LTC OUT 1 BNC, VITC OUT (Embedded in HD-SDI)
Test Signals	Video: CD, RAMP, or BLACK Audio: 1 kHz tone
VANC Data	Conforms to ARIB TR-B23
PB REF IN	Tri-level SYNC or BB 1 BNC Through OUT 1 BNC (with 75-Ohm termination SW)
Recording Media	Hard Disk (HDD) or Optional Solid State Drive (SSD)
Recording Capacity	900 GB or 1.5 TB (OPTION) or 3 TB (OPTION)
Intermittent Recording	1/2 frames to 1/999 frames
Remote Control	<ul style="list-style-type: none"> <li>• RS-422 (VTR-like controller/slow-motion controller connective)</li> <li>• GPI D-SUB 15 pin (In 8, Out 5)</li> <li>• RS-232C</li> <li>• Ethernet 10/100 Base-T (OPTION)</li> </ul>
IP Transmission (OPTION)	Gigabit Ethernet (10/100/1000 Base-T)
Character Display	Time code, current modes, audio levels, etc. can be displayed on the HD-SDI monitor output
Power	AC 100-240V +/- 10% 50/860 Hz, 150VA
Operating Environment	41 to 104° F (5 to 40° C); 10-90% humidity, non-condensing
Dimensions	17" wide x 3.46" high x 22" deep (432 x 88 x 560 mm)
Weight	Approximately 30-1/2 lbs. (14 kilograms)

## Quality and Recording Time

Compression Mode	Picture Quality	Recording Time	
		900 GB HDD	3 TB HDD
Lossless	Uncompressed	Approx. <b>4.8 hrs</b>	Approx. <b>16 hrs</b>
High Quality	Visually Lossless	Approx. <b>14 hrs</b>	Approx. <b>48 hrs</b>
Long Play 1	HD-D5 Class	Approx. <b>21 hrs</b>	Approx. <b>72 hrs</b>
Long Play 2	HD Cam Class	Approx. <b>28 hrs</b>	Approx. <b>96 hrs</b>

## Rear View



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