

MILLENNIA HD™

Real Time, Portable, High Definition, Digital Disk Recorder with Native H.264 Codec Providing Long-Time Recording of 1080i or 720p Content from HD Cameras onto Inexpensive Removable Flash Drives. This Product is Designed for Anyone Seeking a Small, Portable, and Rugged DDR. Additional Capabilities Include H.264 Encoding/Decoding to or from DVB-ASI. Supports LTC.



Features

- Video Codec: Full HD (1920 x 1080) H.264/AVC High Profile Level 4
- MPEG-1 Layer-II audio encoding
- Supports HD-SDI in and DVB-ASI out
- Standards: 1920x1080i/59.94, 1920x1080/50, 720p/59.94, 720p/50, 480i/59.94, 576i/50
- Recording Rate: 4 Mbps to 20 Mbps H.264
- HD-SDI input signal synchronizes with ref input signal by means of internal frame synchronizer
- Encodes HD-SDI signal and records it onto the removable HDD or Flash disk (SSD)
- Decodes HDD recordings and sends them out as HD-SDI signal
- Also works as a real time H.264/AVC decoder
- The input TS signal can be recorded onto HDD
- Supports simultaneous ASI and HD-SDI playback from hard drive
- HD-SDI output is synchronized with REF (sync) signal
- Rugged design for mounting next to cameras
- Time code support
- 12 or 120/240 volt operation
- Familiar VTR-like buttons for front panel

Applications

- Military
- Sports broadcasting
- Reality TV
- HD “dailies” support
- Portable journalist back packs

Overview

The Millennium HD™ is a real time, hardware based, ultra small, multi-function, 1920 x 1080i H.264/AVC recorder in an 8” x 6” x 3” package with both removable 120 GB hard drive and CF card storage – it records and encodes simultaneously. It is designed to provide a rugged recorder/ encoder for cameras that support the professional HD-SDI standard.

H.264 is the latest manifestation of video codecs as they evolve from MPEG-1 and MPEG-2. H.264 is a more advanced codec and requires half the bandwidth of MPEG-2 for similar resolution and quality. H.264 is not widely used in the USA inasmuch as MPEG-2 is the standard for digital television. Interestingly, H.264 has recently been adopted by ATSC as the codec standard for ATSC-M/H (Mobile Handheld).

The Millennium HD supports simultaneous DVB-ASI output and storage to either a removable 120 GB Hard or Flash Drive or CF Card Storage. This product is designed to provide compact and long term recording from new generation HD cameras that output HD-SDI (SMPTE 292M) in 1920 1080i/59.94, 720p/59.94, and 480i/59.94 formats. It is designed to provide high definition encoding and storage in rugged applications such as military hardware, HD “dailies” support, in-place sports broadcasts, reality TV, and anywhere else where size and weight are important, along with inexpensive removable media.



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Recording Time

Rate	IVDR Recording Time (120GB HDD)	CF Card Recording Time (32 GB)
20 Mbps	11 hours	Approx. 3 hours
12 Mbps	17 hours and 30 mins.	5 hours and 27 mins.
10 Mbps	20 hours and 30 mins.	6 hours and 32 mins.
6 Mbps	30 hours and 30 mins.	10 hours and 54 mins.

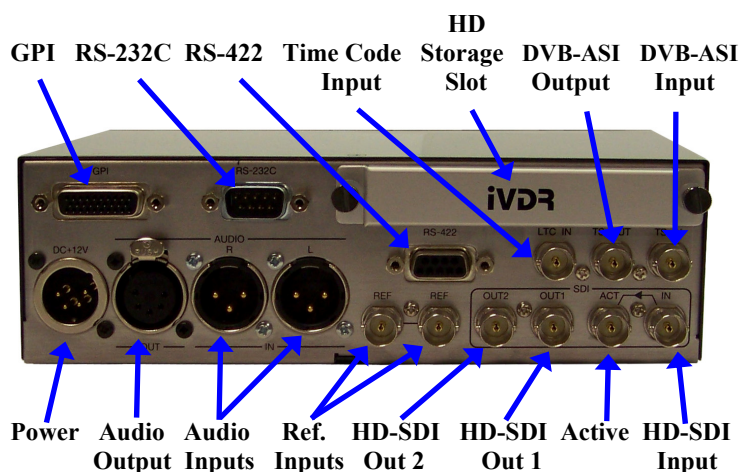
Encoder Features

- (1920x1080) H.264/AVC High Profile Level 4
- 4:2:0 sampling at 8 bits

Front Panel Controls

Slow Motion
Play
Stop
Record
FF
FFS

Rear View



Ordering Information

Millennia HD

SSD – Solid State Drive Option

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Specifications

Inputs/Outputs

Video Input:	HD-SDI x 1	HD-SDI (SMPTE 292M) BTA-S004B, BTA-S006B
TC In:	1 input	BNC LTC input SMPTE 12M-1999 compliance
External Clock In:	Loop through	BB as well as Tri Sync (Black Burst)
Audio In:	Analog Audio	XLR-3Px2 (L, R) 600Ω Equilibrium +4dB/0dB
	Adjustable level	±6 dB at 0dB input
	Sampling Rate/bit	48 KHz / 16 bit
TS Signal:	In & out 1 each	DVB-ASI signal MPEG2 TS ISO/IEC13818-1
Video Out:	2 HD/SD-SDI outs	SMPTE 292M, BTA-S004B
	Color Characters Display	Two rows of color characters with ON/OFF settings
Audio Out:	Analog Audio	XLR-5Px1 (L, R) 600Ω Equilibrium +4dB/0dB
	Level Adjustment	±6 dB at 0dB input
	Sampling Rate/bit	48 KHz / 16 bit
Control:	RS-232C	External Control D-SUB 9
	GPI, Contact input	12 inputs 2 outputs
	USB 2.0	USB mini B connector (Device mode) For offloading HDD

Physical & Power

Power Consumption:	DC12V±10% less than 2.0A 24W AC Adaptor (12V/4A 48W)
Operating Temperature:	32 to 104° F (without humidity consideration) 0 to 40° C (without humidity consideration)
Dimensions:	W: 7.7" x H: 2.36" x D: 5.9" W: 196 mm x H: 60 mm x D: 150 mm
Weight:	4 lbs. (without AC adaptor) 1.8 Kg (without AC adaptor)

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Broadcast Division

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