XVD™

CamCast Professional High Definition
HD-RX1000 Decoder

The CamCast Professional HD-RX1000 is a real-time HD and SD receiver/decoder, providing greater efficiency and improved performance through next generation XVD technology.

The HD-RX1000 decodes the XVD-HD or SD data packets through one of two Ethernet ports from a LAN or IP broadband network, decoding the XVD data into the HD or SD-SDI format according to the original resolution and frame rate.

The second Ethernet port can provide an input to a second CamCast receiver, a CamCast Streaming Server, or an IP-to-ASI converter for a satellite or microwave turn-around feed.

Real-Time HD/SD Decoding

TCP/IP Ethernet Input

HD or SD-SDI Output

Adaptive Post-Filtering

Digital Turn-Around Capability

Multi-Patented Codec

PRODUCT DESCRIPTION

The CamCast Professional HD-RX1000 is a state-of-the-art decoder. It offers a high level of efficiency and performance in real-time decoding and digital turn-around of HD and SD content using multi-patented XVD next generation codec technology.

The HD-RX1000 decodes real-time XVD-HD or SD data packets in an IP format through an Ethernet port. When used in combination with the XVD DVB-RX500 digital receiver, it provides an ASI interface to DVB-compliant satellite or microwave links.

Special features of the HD-RX1000 include: Adaptive Post-Filtering for best possible video quality at all data rates, especially in low data rate applications; Selectable Network Buffer size for delivery over poor quality Internet channels; and Automatic Data Stream Error Detection and Recovery.

The XVD codec system comprises the HD-TX2000 encoder/transmitter, DVB-RX500 ASI to IP converter, and the HD-RX1000. This high performance system offers a substantial increase in bandwidth utilization of satellite or microwave links; and decreases the cost of digital media storage.
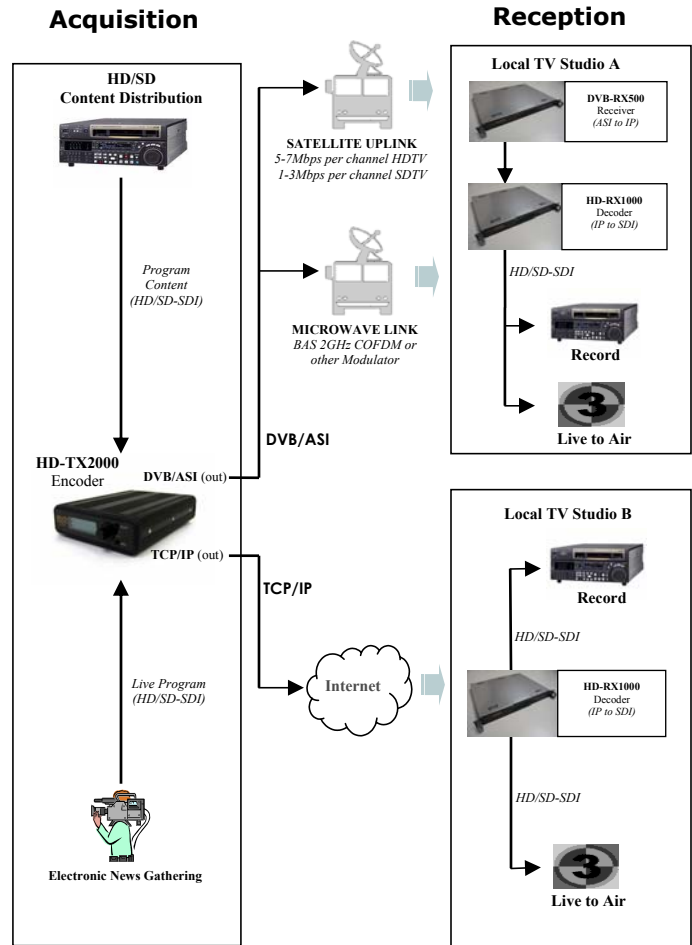
XVD TECHNOLOGY

Over 10 years of development and field testing supports the XVD codec design of the HD-RX1000, providing much higher performance and efficiency than other block-based realtime video compression systems.

XVD's patented video codec is optimized for the human visual system, and adds several unique features like: Automatic Scene Change Detection; Object Motion Detection/Estimation; plus CBR/VBR bit-rate control with configurable window size to improve perceived video quality at dramatically lower data rates.

The XVD audio codec also provides high performance at significantly lower data rates, allowing many more audio channels to be carried in any chosen bandwidth.

APPLICATION OVERVIEW

Acquisition

Reception

HD/SD Content Distribution

SATELLITE UPLINK
5-7Mbps per channel HDTV
1-3Mbps per channel SDTV

MICROWAVE LINK
BAS 2GHz COFDM or other Modulator

Program Content (HD/SD-SDI)

HD-TX2000 Encoder

DVB/ASI (out)

DVB/ASI

TCP/IP (out)

TCP/IP

Live Program (HD/SD-SDI)

Internet

Electronic News Gathering

Local TV Studio A

DVB-RX500
Receiver
(ASI to IP)

HD-RX1000
Decoder
(IP to SDI)

HD/SD-SDI

Record

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Live to Air

Local TV Studio B

Record

HD/SD-SDI

HD-RX1000
Decoder
(IP to SDI)

HD/SD-SDI

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Live to Air

CamCast Professional HD-RX1000 Decoder Specifications

Feature	Specification
Input/Output	
Video Output	HD-SDI (1080i and 720p), BNC (or) SD-SDI (PAL and NTSC), BNC with input for Genlock reference
Video decoding	XVD Video decoder with Adaptive Post-Filtering XVD-SD: up to 5 Mbps XVD-HD: up to 10 Mbps
Video Formats	1080i 50,59.94,60 720p 59.94, 60 525i 60 625i 50
Audio Output	SDI Embedded (2-4 channels) Digital AES/SPDIF
Audio decoding	XVD audio decoder 32-192kbps per stereo pair up to 4 channels
Network interface	10/100/1000BaseT (RJ45 x 2) Input: XVD-HD/SD stream over TCP/IP, RTP, RTP Multicast
Advanced features	User-selectable player buffer size (latency): 150 ms-5000 ms Automatic Stream Error Detection and Recovery
Digital Turnaround	Integrated stream forwarding to another XVD Decoder or Server Configurable IP address/Port TCP->TCP, RTP->TCP
User Interface	
System Management	Software upgrade via Ethernet
Power Switch	On/Off switch
Power Indicator	1 x LED
Reset Button	Hardware Reset
LAN Link Indicator	2 x LED
Hard Disk Indicator	1 x LED
Temperature Sensor Indicator	1 x LED
Front Panel: 2 line/16 character LCD	USER CONFIGURATIONS: STATUS DISPLAY: - Player Buffer - Video Format - Digital Turnaround - Bit-rate - Other Advanced Configurations - Streaming time
Environmental/Physical	
Operating Temperature	32° to 113°F (0°C to 60°C)
Cooling	Circulating fan
Operating Humidity	10-95%, RHG non-condensing
Storage Temperature	-4 to + 158°F (-20°C to 70°C)
Weight (Installed)	13.2 lb (6.0 Kg)
Dimensions (W x D x H)	21.1 x 14.0 x 1.74 in. (537 x 356 x 44.3 mm) 1U rack mount enclosure
Warranty	1 year limited warranty—Includes up to two firmware upgrades
AC Power Input	100-240VAC +/- 10% (auto sensing)
Power Consumption (typical)	150 watts