



CamCast Professional High Definition HD-TX2000 Encoder

The CamCast Professional HD-TX2000 is a compact and versatile real-time HDTV/SDTV encoder & transmitter, providing greater efficiency and improved performance through next generation XVD technology.

Designed for mobile applications including DENG and other live events, its front-panel LCD display allows users to select amongst HDTV (1080i or 720p) and SDTV (NTSC or PAL) standards.

The HD-TX2000 provides DVB/ASI and TCP/IP network output for live streaming of XVD-HD/SD data packets over DVB satellite, COFDM microwave and broadband IP networks.



Realtime HDTV/SDTV Encoding

HD/SD-SDI Input

DVB/ASI & IP Network Outputs

Ultra-Small Size

Light Weight (< 3 Lbs)

Low Power Consumption

AC/DC Power Options

PRODUCT DESCRIPTION

The CamCast Professional High Definition HD-TX2000 Encoder is a state of the art DSP-based audio/video encoder and DVB/ASI + TCP/IP transmitter. It offers a new high level of efficiency and performance in real-time encoding and streaming of HDTV and SDTV content using XVD next generation codec technology.

The HD-TX2000 and its associated Decoders (DVB-RX500 & HD-RX1000) supports HD-SDI and SD-SDI as input and output, making it compatible with digital studio and post production facilities. It offers realtime compression of HDTV data at 3 - 10Mbps, and SDTV data at 500Kbps - 5.0Mbps. It supports a wide range of resolutions from 352x480 to 1920x1080 pixels. The DVB/ASI and TCP/IP outputs allow cost-effective transmission sources over DVB satellite, COFDM microwave, and broadband IP networks.

At 1/5th the size of conventional HD encoders, the highly efficient HD-TX2000 offers full D1 performance in SDTV (NTSC or PAL) at as low as 1Mbps for non-aggressive video, and 3Mbps for very aggressive content. Comparable data rates for HDTV (1080i or 720p) typically range from 3Mbps to 7Mbps.

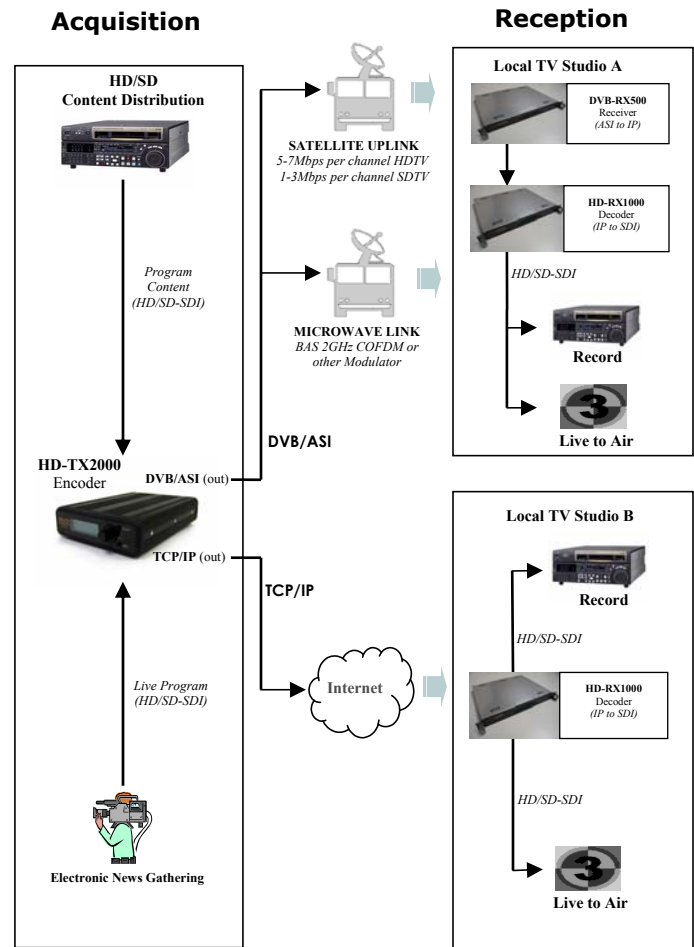
XVD TECHNOLOGY

Over 10 years of development and field testing supports the XVD codec design of the HD-TX2000, 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



CamCast Professional HD-TX2000 Encoder Specifications

Feature	Specification																																																
Input/Output																																																	
Video Inputs	HD-SDI: SMPTE 292M, BNC SD-SDI: supports 625 lines (@ 50 Hz) and 525 lines (@60Hz) (SMPTE 259M)																																																
Video Pre-processing	Noise Reduction, Adaptive Spatial Filtering, Adaptive Motion-Compensated Temporal Filtering																																																
Video Encoding	Proprietary XVD video codec; Automatic Scene Change Detection; Object Motion Estimation; CBR/VBR bit-rate control with configurable window size																																																
Audio Input	2 channels via analog balanced 600 ohm SDI Embedded, 4 channels																																																
Audio Encoding	Proprietary XVD audio codec																																																
Audio Bit-Rate	32 Kbps-128 Kbps for each stereo pair																																																
Network Interface	One 10/100Mbps Ethernet Port (RJ45 - lockable)																																																
Network Protocol Output	XVD-HD/SD over TCP, RTP; Multicast support; Forward Error Correction (5%-25% redundancy)																																																
DVB/ASI Output	DVB/ASI stream compliant (BNC - female); Configurable PID; packet size; stuffing mode																																																
Power connector	12-24VDC (XLR 4 pin x 1)																																																
Video Signal	1080i or 720p																																																
Adaptive Performance Control (APC)	Improves display smoothness over complex frame sequences																																																
Power (AC adaptor)	110-220VAC @ 50/60 Hz, auto-sensing, 12V output																																																
Power Consumption (typical)	12 Watts (typical)																																																
User Interface																																																	
Power Indicator	LED																																																
Web-Browser Control	Interface to a complete set of HTML pages for all parameters and controlling unit																																																
System Management	Software upgrade via Ethernet																																																
Front Panel Display: 2 line/16character LCD	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> USER CONFIGURATIONS: - Video Resolution - Video Bit Rate - Audio Bit Rate - Source Format - Other Advanced Configurations </td> <td style="width: 50%; vertical-align: top;"> STATUS DISPLAY: - Video Format - Current Bit Rates - Power Supply Voltage </td> </tr> </table>	USER CONFIGURATIONS: - Video Resolution - Video Bit Rate - Audio Bit Rate - Source Format - Other Advanced Configurations	STATUS DISPLAY: - Video Format - Current Bit Rates - Power Supply Voltage																																														
USER CONFIGURATIONS: - Video Resolution - Video Bit Rate - Audio Bit Rate - Source Format - Other Advanced Configurations	STATUS DISPLAY: - Video Format - Current Bit Rates - Power Supply Voltage																																																
Video Performance																																																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Source Format</th> <th colspan="2">Encoding</th> <th rowspan="2">Bit-rate Range</th> <th rowspan="2">Typical User Bit-rate</th> </tr> <tr> <th>Resolution</th> <th>Frame Rate</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center;">Standard Definition (SD)</td> <td style="text-align: center;">NTSC</td> <td>D1: 720x480 ½ D1: 352x480</td> <td style="text-align: center;">30Fps 30Fps</td> <td style="text-align: center;">500Kbps - 5.0Mbps 300Kbps - 3.0Mbps</td> <td style="text-align: center;">1.0 – 3.0Mbps 700Kbps - 1.5Mbps</td> </tr> <tr> <td style="text-align: center;">PAL</td> <td>D1: 720x576 ½ D1: 352x576</td> <td style="text-align: center;">25Fps 25Fps</td> <td style="text-align: center;">500Kbps - 5.0Mbps 300Kbps - 3.0Mbps</td> <td style="text-align: center;">1.0 – 3.0Mbps 700Kbps - 1.5Mbps</td> </tr> <tr> <td rowspan="4" style="text-align: center;">High Definition (HD)</td> <td style="text-align: center;">1080i 59.94fps</td> <td style="text-align: center;">960x1080</td> <td style="text-align: center;">59.94fps</td> <td rowspan="3" style="text-align: center;">3.0-10.0 Mbps</td> <td rowspan="3" style="text-align: center;">5.0-7.0 Mbps</td> </tr> <tr> <td style="text-align: center;">1080i 60fps</td> <td style="text-align: center;">960x1080</td> <td style="text-align: center;">60.00fps</td> </tr> <tr> <td style="text-align: center;">1080i 50fps</td> <td style="text-align: center;">960x1080</td> <td style="text-align: center;">50.00fps</td> </tr> <tr> <td style="text-align: center;">720p 59.94Fps</td> <td style="text-align: center;">1280x720</td> <td style="text-align: center;">29.97Fps</td> <td rowspan="3" style="text-align: center;">3.0-10.0 Mbps</td> <td rowspan="3" style="text-align: center;">5.0-7.0 Mbps</td> </tr> <tr> <td style="text-align: center;">720p 60.00Fps</td> <td style="text-align: center;">1280x720</td> <td style="text-align: center;">30.00Fps</td> </tr> <tr> <td style="text-align: center;">720p 59.94Fps</td> <td style="text-align: center;">640x720</td> <td style="text-align: center;">59.94Fps</td> </tr> <tr> <td></td> <td style="text-align: center;">720p 60.00Fps</td> <td style="text-align: center;">640x720</td> <td style="text-align: center;">60.00Fps</td> <td></td> <td></td> </tr> </tbody> </table>		Source Format	Encoding		Bit-rate Range	Typical User Bit-rate	Resolution	Frame Rate	Standard Definition (SD)	NTSC	D1: 720x480 ½ D1: 352x480	30Fps 30Fps	500Kbps - 5.0Mbps 300Kbps - 3.0Mbps	1.0 – 3.0Mbps 700Kbps - 1.5Mbps	PAL	D1: 720x576 ½ D1: 352x576	25Fps 25Fps	500Kbps - 5.0Mbps 300Kbps - 3.0Mbps	1.0 – 3.0Mbps 700Kbps - 1.5Mbps	High Definition (HD)	1080i 59.94fps	960x1080	59.94fps	3.0-10.0 Mbps	5.0-7.0 Mbps	1080i 60fps	960x1080	60.00fps	1080i 50fps	960x1080	50.00fps	720p 59.94Fps	1280x720	29.97Fps	3.0-10.0 Mbps	5.0-7.0 Mbps	720p 60.00Fps	1280x720	30.00Fps	720p 59.94Fps	640x720	59.94Fps		720p 60.00Fps	640x720	60.00Fps		
	Source Format			Encoding				Bit-rate Range	Typical User Bit-rate																																								
		Resolution	Frame Rate																																														
Standard Definition (SD)	NTSC	D1: 720x480 ½ D1: 352x480	30Fps 30Fps	500Kbps - 5.0Mbps 300Kbps - 3.0Mbps	1.0 – 3.0Mbps 700Kbps - 1.5Mbps																																												
	PAL	D1: 720x576 ½ D1: 352x576	25Fps 25Fps	500Kbps - 5.0Mbps 300Kbps - 3.0Mbps	1.0 – 3.0Mbps 700Kbps - 1.5Mbps																																												
High Definition (HD)	1080i 59.94fps	960x1080	59.94fps	3.0-10.0 Mbps	5.0-7.0 Mbps																																												
	1080i 60fps	960x1080	60.00fps																																														
	1080i 50fps	960x1080	50.00fps																																														
	720p 59.94Fps	1280x720	29.97Fps	3.0-10.0 Mbps	5.0-7.0 Mbps																																												
720p 60.00Fps	1280x720	30.00Fps																																															
720p 59.94Fps	640x720	59.94Fps																																															
	720p 60.00Fps	640x720	60.00Fps																																														
Environmental/Physical																																																	
Operating Temperature	32 to 140°F (0°C to 60°C)																																																
Cooling	Heat sink only (fanless)																																																
Operating Humidity	0-95%, RHG non-condensing																																																
Storage Temperature	-4 to + 158°F (-20°C to 70°C)																																																
Weight (Installed)	2.66 lb (1.2 Kg)																																																
Dimensions (W x D x H)	6.3 x 8.3 x 1.8 inches (160 x 210 x 46 mm)																																																
Warranty	1 year limited warranty—Includes up to two firmware upgrades																																																



XVD Corporation
 71A Vista Montana
 San Jose, CA 95134

Phone: (408) 325-8800
 Fax: (408) 325-8838
 Email: info@xvdcorp.com
 www.xvdcorp.com

2006 XVD Corporation. All rights reserved. XVD, the XVD logo, CamCast Professional are registered trademarks or service marks of XVD Corporation, Inc. in the U.S. and other countries. Other company, product or service names mentioned herein may be the trademarks of their respective companies. All product and application features and specifications are subject to change at XVD Corporation's sole discretion at any time without notice.