XVD™

CamCast
SD-TX100 Encoder

The XVD CamCast™ SD-TX100 is a highly integrated A/V encoder and transmitter for delivering high-resolution, full-speed video across IP-based networks.

Compact and economical, the SD-TX100 is powered by the patented XVD video compression technology; the SD-TX100 provides the highest quality (full-D1) resolution video possible at any given bandwidth. Perhaps even more important, because of the compression efficiency of the XVD codec, the SD-TX100 can send lifelike video at a full 30 frames per second (fps) over an IP-connection where a comparable M-JPEG video system can only send 2-5 fps!

Realtime SD Encoding

Analog (NTSC & PAL) Input

TCP/IP and RTP/FEC

Compact mini-server

Ultra-Small Size

Light Weight (<1 Lb)

Low Power Consumption

PRODUCT DESCRIPTION

The CamCast SD-TX100 captures and compresses analog video data (NTSC & PAL) from a camera to a high resolution XVD data stream (at 32Kbps – 2.2Mbps) in realtime. At the heart of this solution is the powerful SD-TX100 Transmitter, a compact DSP powered mini-server that connects directly to almost any video camera and IP-based network.

XVD CamCast SD-TX100's mini-server mode allows the encoder to transmit the compressed A/V stream to multiple destination receivers using a variety of transmission options. Using TCP/IP the stream can be directly transmitted to an SD-RX100 Receiver, and/or to an SD-SS1000 Streaming Server for retransmission in an Enterprise environment. Additionally, using RTP with XVD's internal FEC algorithms the stream can also be transmitted to multiple PC based RTP receiver/players using IP Multicast protocols providing very low latency to the receiving devices.

Configuration of the SD-TX100 couldn't be easier; using a standard PC browser any SD-TX100 device located on the local subnet can be easily and securely configured for the type of performance and options required for the application.
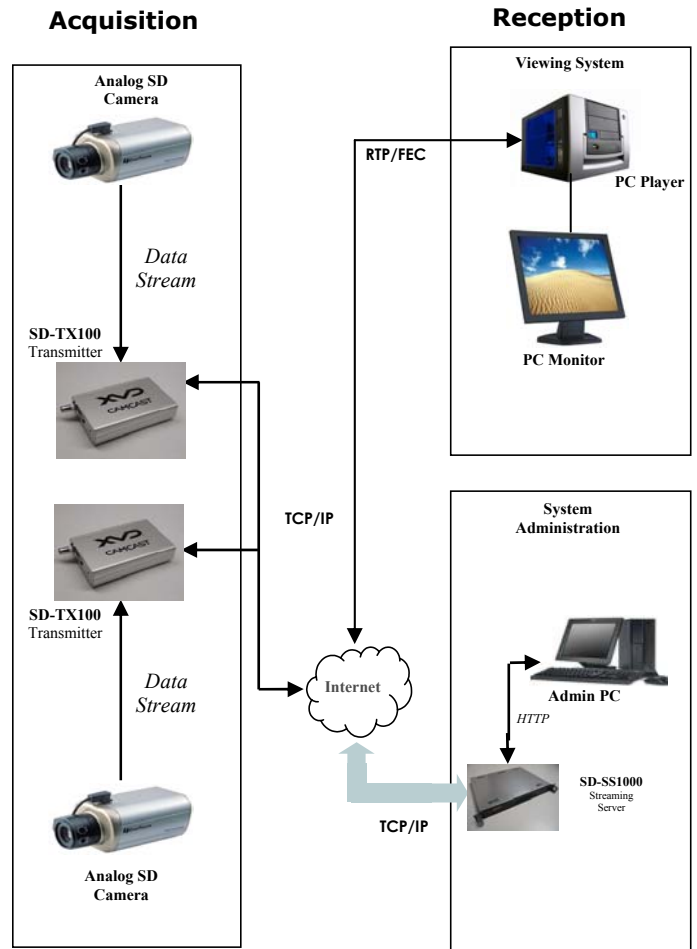
XVD TECHNOLOGY

Over 10 years of development and field testing supports the XVD codec design of the SD-TX100, 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

Analog SD Camera

Data Stream

SD-TX100 Transmitter

SD-TX100 Transmitter

Data Stream

Analog SD Camera

Viewing System

RTP/FEC

PC Player

PC Monitor

System Administration

TCP/IP

Internet

Admin PC

HTTP

TCP/IP

SD-SS1000 Streaming Server

CamCast SD-TX100 Transmitter

Feature	Specification
Input/Output	
Video Inputs	S-Video Composite (BNC)
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
Audio Input	3.5 mm mini phone jack
Audio Encoding	Proprietary XVD audio codec
Audio Bit-Rate	16 Kbps-64 Kbps
Network Interface	One 10/100Mbps Ethernet Port (RJ45)
Network Protocol Output	XVD-SD over TCP, RTP, RTP Multicast
Video Signal	NTSC or PAL
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
Reset Button	Pin-Hole

Video Performance

Source Format	Encoding		Bit-rate Range	Typical User Bit-rate
	Resolution	**Frame Rate**		
NTSC	D1: 720x480 ½ D1: 352x480 ¼ D1: 192x128	30Fps 30Fps 30Fps	32Kbps – 2.2Mbps 32Kbps – 2.2Mbps 32Kbps – 2.2Mbps	1.0Mbps - 1.5Mbps 1.0Mbps - 1.5Mbps 100Kbps - 300Kbps
PAL	D1: 720x576 ½ D1: 352x576 ¼ D1: 192x144	25Fps 25Fps 25Fps	32Kbps – 2.2Mbps 32Kbps – 2.2Mbps 32Kbps – 2.2Mbps	1.0Mbps - 1.5Mbps 1.0Mbps - 1.5Mbps 100Kbps - 300Kbps

Feature	Specification
Environmental/Physical	
Operating Temperature	0°C to 113°F (0°C to 45°C)
Cooling	Heat sink only (fanless)
Operating Humidity	10-95%, RHG non-condensing
Storage Temperature	-4 to + 158°F (-20°C to 70°C)
Weight (Installed)	<1 lb (<1 Kg)
Dimensions (W x D x H)	4.8 x 3.1 x 1.0 inches (123 x 78 x 25.6 mm)
Warranty	1 year limited warranty—Includes up to two firmware upgrades
Power (AC adaptor)	110-220VAC @ 50/60 Hz, auto-sensing
Power Consumption (typical)	<5 Watts (typical)