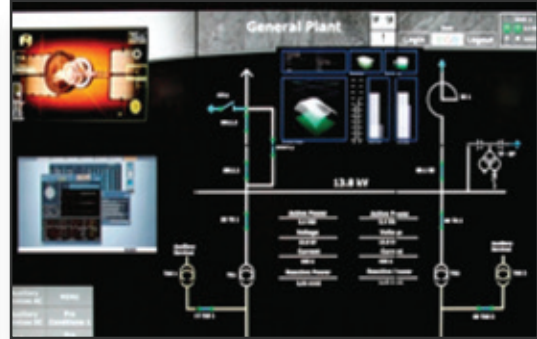# H.264 Recording and Streaming

Control Rooms

Remote Monitoring

Medical

Distance Learning

Highest Fidelity Encoding using H.264 Compression

Concurrent Recording and Streaming

Recording to Local and Network Storage Devices

Graphics and HD video up to 1920 x 1200

Multi Channel Operation

Variable Speed Playback

Event Marking

RGB SPECTRUM®

DSx H.264 Graphics and Video Codec

Best-in-Class Image Quality

- H.264 *high* profile compression delivers superior image quality

Concurrent Recording and Streaming

- Exclusive ability to record while streaming

Highest Resolution Encoding

- Industry-leading resolution up to 1920x1200

The DSx™ 264 codec's advanced H.264 compression provides an unmatched combination of best-in-class image quality and features for the streaming and recording of graphics and video over IP networks. The unit encodes, records, streams, and replays signals at up to 1920x1200 and 1600x1200 resolution. H.264 high profile compression delivers the industry's highest image quality.

The codec offers optional recording to locally connected USB storage devices, including memory sticks, and to external network storage devices such as RAIDs or servers. The recording option supports concurrent streaming and recording – a DSx exclusive.

IP streams can be decoded with commercial off-the-shelf PC software or, where very low latency is required, with DSx codecs. The unit can display one graphics/HD image or four SD images. For configurations requiring decode-only functionality, the DSx 264D model offers a lower price point.

Leading-edge features include on-screen display (OSD), external time code synchronization, event marking, variable speed playback, random access, confidence monitoring, and a failsafe recording feature which protects recordings-in-process in case of a catastrophic system failure, another RGB Spectrum exclusive.

To assist integration, DSx 264 codecs offer the choice of an external power module or Power-over-Ethernet (PoE). Remote operation is simple using an embedded, web-based graphical user interface.
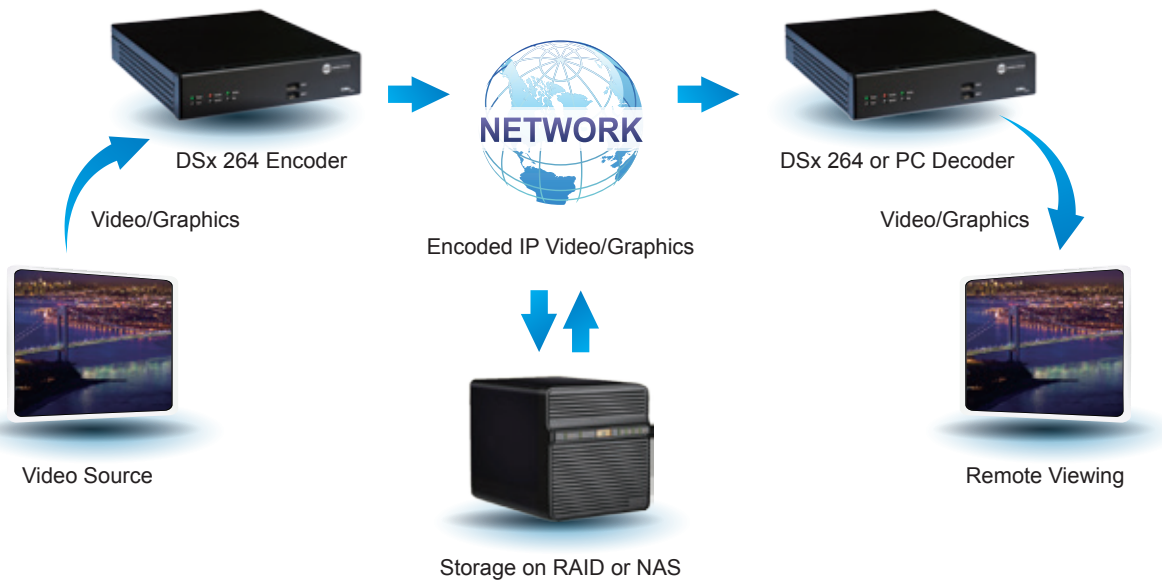
Why H.264 Compression?

- Ideal for Streaming and Recording

- Efficient, Low Bandwidth Encoding

- PC Decoding or Dedicated Decoder

Recording & Streaming

RGB Spectrum offers leading-edge H.264 codecs packed with unique capabilities for streaming and recording over IP networks. DSx™ 264 codecs provide an unmatched combination of superior image quality, high performance, and feature-packed capabilities, like concurrent recording and streaming.

RGB Spectrum's codecs are the ideal IP streaming and recording solution for mission-critical applications, control rooms, emergency operations centers, remote monitoring, command rooms, oil and gas exploration, medical and distance learning.

DSx 264 Encoder

Video/Graphics

NETWORK

Encoded IP Video/Graphics

DSx 264 or PC Decoder

Video/Graphics

Video Source

Remote Viewing

Storage on RAID or NAS

Multi-Channel Operation

DSx codecs can be interconnected to support multi-channel recording, streaming, and replay. The Multi-Channel Manager™ (MCM) is a stand-alone software package that simultaneously controls multiple codecs The MCM control panel offers an intuitive GUI, which is easy to use with minimal learning time.

- Control multiple codecs for multi-channel recording, playback & streaming

- Operate up to 32 interconnected codecs from a single control panel

- Record and replay to/from remote NAS storage devices

- Place and randomly access event marks

Specifications

Graphics & HD Video Input

Signal type	DVI or RGB
Connector	DVI-I
Signal formats	Non-Interlaced
Resolution	1920x1200 to 640x480

Audio

Analog Input:	
Sample rate	Up to 48kHz, 2 channel stereo
Connector	3.5mm Audio Mini-Jack
Digital Input:	
Sample rate	Up to 48kHz, 2 channel stereo
Connector	DVI-I
Analog Output:	
Channels	2 channel stereo
Connector	3.5mm Audio Mini-Jack

Encoding / Recording / Streaming

Format	H.264, RTSP / RTP
Profiles	High, Baseline, & Main (Level 4.1)
Bit stream bandwidth	User selectable from 96kbps to 10Mbps
Time code synchronization	Network Time Server (NTS / NTP)
Audio compression	AAC LC (low complexity)

Video Output & Monitoring

Format	Unprocessed or encoded/decoded image
Signal type	DVI
Connector	DVI-I (digital only)
Frame rate	HD, 1920x1080 up to 30 fps, 1920x1200 up to 24 fps

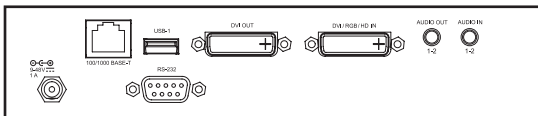## Recording (Option)

Local codec storage	(3) USB Type-A ports
External remote storage	Network Attached Storage (NAS) devices; Linux Network File System (NFS)

Control

Network:	
Type	10/100/1000 Base-T Ethernet
Connector	RJ-45
Command line	Internal telnet server
Graphical interface	Internal web server for browser based control
RS-232 Serial:	
Connector	9 pin D sub female
Function	Command line control

Physical

Power	Power over Ethernet (PoE) (802.3af) or external 12-40 VDC power supply
Size	8.0" W x 9.0" D x 1.67" H
	(203mm W x 229mm D x 42mm H)
Weight	3.5 lbs. (1.59 kg)

RGB Spectrum Products

MultiPoint Control Room Management Systems

A collaborative system to display and control shared computer and visual resources, MCMS integrates a state-of-the art multi-user KVM system with RGB Spectrum hardware, including video walls, multiviewers, codecs and switchers. Better decisions. Faster.

- Customizable work environment
- KVM access of controlled computers without software installed
- Unique operator GUI for both local and shared resource control
- Full bandwidth, uncompressed video
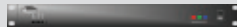- Integration with shared display walls

Multiviewers

For displaying multiple video and graphics on a single screen, the QuadView® and SuperView® product lines provide superb multiviewer functionality with the ability to move, resize and overlap images. Options include KVM control of sources, HDCP compliance, and annotation.

SuperView 4100 / 5000   **QuadView HDx**

- 4, 8, or 12 windows
- DVI, RGB, HD-SDI, SD/HD video inputs
- Resolutions to 1920x1200
- Smooth scaling, panning, and zooming

SuperView 4K

- 8 megapixel multiviewer
- Up to 8 windows
- DVI single-link or dual-link output
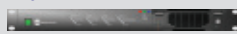- Smooth scaling, panning, and zooming

Codecs and Recorders

For streaming and recording video, graphics and audio with the highest fidelity, RGB Spectrum offers two codec families — the DSx™ with H.264 *high* profile compression and the DGy™ with JPEG 2000 compression.

DSx   **DGy**

- Up to 1920x1200 resolution
- Simultaneous recording and replay
- Event marking
- Variable speed playback
- Multi-unit synchronization
- Concurrent streaming and recording
- Recording to local and network storage devices

Digital Switchers

The Linx™ *Prime* and Opto™ series of DVI and fiber optic switchers enable transmission without signal degradation, providing superb tools for A/D conversion, routing and control, with HDCP compliance.

Linx *Prime*

- Single-link and dual-link DVI, RGB, 3G/HD-SDI inputs
- Single and dual-link DVI and scaled DVI outputs
- Fiber and copper I/O
- Chassis I/O up to 32x32

Opto

- Industry highest bandwidth - 6.22 GHz
- Chassis I/O up to a giant 320x320
- Simplex or duplex operation
- Single mode or multimode fiber
- Single and dual-link DVI, RGB and 3G/HD-SDI

MediaWall™ Video Processors

Simultaneously display multiple computer and video signals across an array of high definition monitors or projectors, with the ability to interact with any source via KVM control. Windows can be custom sized, positioned and stretched across any combination of displays.

MediaWall

MediaWall 4200

MediaWall 2900

- Real-time operation, no dropped frames
- RGB/DVI, 3G/HD-SDI and analog inputs
- Smooth scaling, panning, and zooming
- Edge blending support and bezel compensation
- HDCP compliant

Extenders

For secure transmission of DVI signals over long distances, XtendView® FiberDVI signal extenders represent the state-of-the-art with the industry's smallest size housing.

- Up to 400M over a single fiber
- Resolutions to 2048x1152
- "All-in-the-headshell" design
- HDCP compliant

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RGB SPECTRUM®

VISUAL RESOURCE MANAGEMENT™

SWITCHERS ■ VIDEO WALLS ■ MULTIVIEWERS ■ CODECS ■ KVM