

Robust and Reliable are terms that characterize Radiant's edge insertion and content delivery products.

Radiant's expertise and market leadership has proven itself with thousands of systems deployed within the US. Radiant is known as the best in class service and product supplier.

Radiant offers a wide array of equipment solutions to satisfy the most demanding challenges for edge insertion and delivery of content market.

The VLAN support on the transport stream port of the VL4500 allows the MSO to deploy the encoder without use of the service delivery switch, reducing equipment and service at the customer location.

The VL4520 offers a cost effective solution to encode and deliver all three Public, Education and Government programs to CATV facilities in 1RU rack space.

The VL4500 encoders can deliver superior standard and high definition video quality at low bitrates while maintaining low product and operational cost.

Product Highlights

- Multi-program encoder capable of MPEG-2 or AVC encoding of SD and HD video
- Dual stream Encoding, HD and SD down conversion.
- Capable of streaming HD as h.264 and SD as MPEG2 for legacy applications.
- Superior HD Quality at Low Bitrates with Multi-pass Encoding.
- Subtitles delivery on all streams via EIA708 Closed Caption
- ASI, IP and QAM Outputs
- TS out with VLAN support
- File Input via USB or SATA
- Remote system reboot capability
- Low power consumption and heat dissipation, in a compact and light weight 1RU packaging
- SNMP, API, Front Panel and Standalone web user interface
- Continuous quality and feature upgrades via firmware releases without service plans
- 24/7 Support and 24 RMA Hour Process



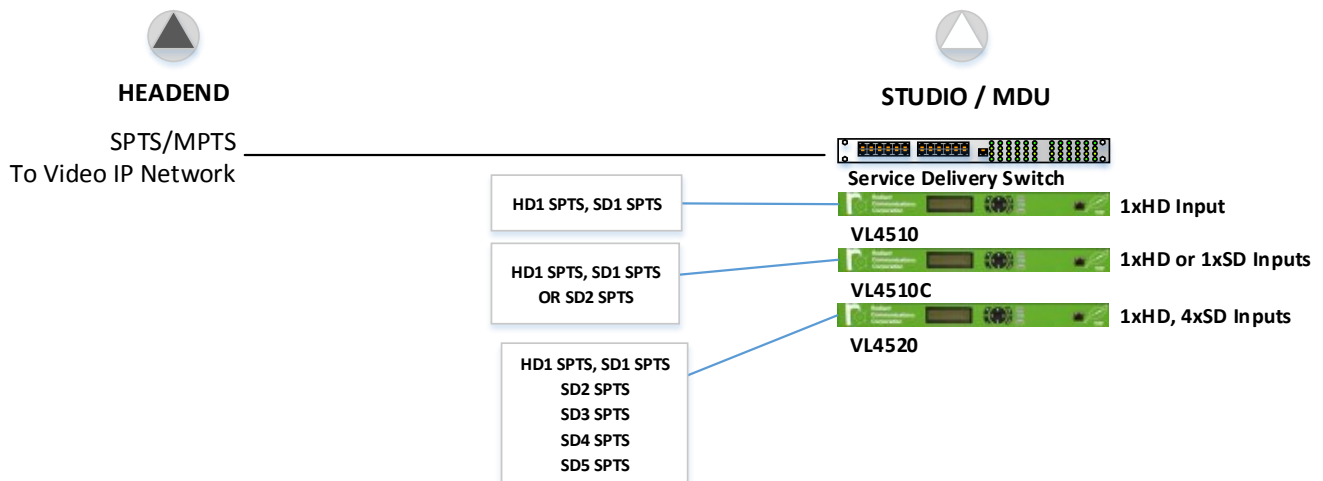
Product Benefits

Economical Form Factor.

With less than 24W of power the VL4500 can deliver one 1080p stream and 480i down convert stream. The efficient MPEG2 and AVC codecs combined with Radiant's thermal design, the unit dissipates very low amount of heat. Combined with the wide operational temperature range and compact design and light weight, the VL4500 can be deployed in various locations not suitable for broadcast encoding equipment.

Applications

VL4500 Series of products allows the MSO to replace the legacy analog audio and video fiber transmitters with cost effective HD capable multi channel encoder. That transport eliminates fiber receiver, encoder and groomer from the headend, thus way reducing rack space, power consumption and heat dissipation. The product allows the encoding and transporting over GigE multiple CableLabs compliant streams, providing a solution for most of the PEG and local insertion channel loading scenarios.



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Another unique feature of the VL4500 is the ability to stream the HD programs in h.264, while encoding the SD versions at MPEG2, allowing the MSO to deploy newer IP delivery platforms to the customer and legacy SD set-top boxes.





Codecs Specifications

	MPEG2	AVC
PROFILE	MPEG-2 MP@HL ISO/IEC 13818-2	AVC H.264 high profile levels 4.1 and 4.2
CHROMA	4:2:0	4:2:0
RESOLUTION	480i, 480p, 720p, 1080i and 1080p	480i, 480p, 720p, 1080i and 1080p
FRAME RATE	24, 25, 29.97, 30, 59.94 and 60fps	24, 25, 29.97, 30, 59.94 and 60fps
ASPECT RATIO	4:3 and 16:9	4:3 and 16:9
PICTURE TYPE	IP, IPB, IPBB	IP, IPB, IPBB
GOP SIZE	10-60 frames	10-240 frames
GOP STRUCTURE	IBB or BBI	IBB or BBI
VIDEO BITRATE	CBR 2-24M	CBR/VBR 500k-24M
VIDEO SCALING	UP and DOWN Conversion	UP and DOWN Conversion
AUDIO ENCODING	AC3, MPEG Layer 2 and AAC	AC3, MPEG Layer 2 and AAC
AUDIO SAMPLING RATE	48kHz	48kHz
AUDIO BIT RATE	96-384KB	96-384KB

Inputs and Outputs

Video Input	SDI SMPTE 259M/292M/424M and Composite Video
Audio Input	10k Unbalanced Stereo, SDI Embedded
ASI Output	SPTS/MPTS, Max 54M transport stream
TS Output	ISO/IEC 13818 SPTS/MPTS MPEG TS, Copper or Optical SFP GigE
QAM output	QAM 64/256 Annex B, 54Mhz—1GHz, MER <40
File Input	USB2.0 and SATA inputs for external storage with Scheduler

Processing

Multi-Pass Encoding with temporal filter, HD to SD down-conversion on a second stream, De-Interlacing and Scaling, EIA708 Closed Captions, User defined PID tables, Automatic video input format detection and switching.

Management Interfaces

Front Panel Interface, Standalone web user interface with Radius Security, Console port, SNMP

Environmental and Power

Power	35W @ 90 to 240VAC (DC Power Brick)
Dimensions	1RU 17.0" W x 9.0"D x 1.75" H
Weight	5lb
Operational Temperature	0° to 50° C
Storage Temperature	-10° to 60° C





PRODUCT MATRIX

	MPEG2 Video	h.264	Outputs	Inputs	USB/SATA File Streaming	Out Of Band Management	In Band Management	HD to SD Down-conversion	SD to HD Up-Conversion	AC3 Audio	Closed Caption
VL4510	•	•	IP/ASI	SDI	•	•	•	•		•	•
VL4510Q	•	•	IP/QAM	SDI	•	•	•	•		•	•
VL4510C	•	•	IP/QAM	SDI or CVBS	•	•	•	•		•	•
VL4510CQ	•	•	IP/QAM	SDI or CVBS	•	•	•	•		•	•
VL4520	•	•	IP/ASI	SDI(1HD+4 SD)	•	•	•	•	•	•	•
VL4520Q	•	•	IP/QAM	SDI(1HD+4 SD)	•	•	•	•	•	•	•

ORDERING INFORMATION

VL4510	SD/HD Encoder; SDI Input; Dual Stream; File, IP and ASI Output
VL4510Q	SD/HD Encoder; SDI Input; Dual Stream; File, IP and QAM Output
VL4510C	SD/HD Encoder; CVBS or SDI Input; Dual Stream; File, IP and ASI Output
VL4510CQ	SD/HD Encoder; CVBS or SDI Input; Dual Stream; File, IP and QAM Output
VL4520	SD/HD Encoder; 1HD+4 SD SDI Inputs; Multi Stream; File, ASI, and IP Output
VL4520Q	SD/HD Encoder; 1HD+4 SD SDI Inputs; Multi Stream; File, QAM, and IP Output
SFP Modules	1000BaseT Copper, 1310nm, 1550nm, CWDM, DWDM and 1300nm Multi Mode

