

Mandatory Requirements

VCAST Streaming Encoder 7100R (SAS) (VC-EN7100R)

General Features:

- Support high-quality video/audio broadcast at various bit-rates for multiple devices (PC, TV via VBOX or Windows Mobile)
- Support live and on-demand video / audio broadcasting via any TCP/IP networks
- Integrated HD & SD up, down and cross-conversion
- Ease of support and maintenance with remote management
- Support latest streaming technologies for best user experience over Internet, Intranet or Wireless
- Reliable for 7/24 operation with high availability and backup options
- Provided by **Certified Windows Media Hardware Product Vendor** (Integrated Capture/Encoding Solutions and Appliances) listed in http://www.microsoft.com/windows/windowsmedia/service_provider/Hardware/default.aspx#capture

Encoding Features:

- Professional turnkey streaming video encoder with video/audio inputs and streaming outputs
- Support real-time encoding in multiple bit-rates for each channel
- Support professional quality of audio and video encoding from HD & SD live input(s) and transcoding from archived media files
- Support conventional and professional audio and video interfaces (e.g. HD & SD SDI, HDMI Video, SDI, HDMI Embedded and AES Digital audio)
- Integrated professional video and audio processing (e.g. high performance scalars, audio processor, video processor, AV matrix switch, etc)
- Supports an extensive range of standard and optional codec formats
- Simultaneous output to mixture of codecs, formats, resolutions and bitrates from one input source lets you optimize for multiple distribution channels
- Live monitoring of video and audio with interactive control of hardware pre-processing capabilities
- Fully synchronized audio and video streaming
- Hardware based video pre-processing including de-interlacing and noise reduction
- Elastic Frame Buffer architecture for absolute reliability and high image quality
- RAID Stripping with Advanced Data Streaming™ (ADS)
- Fully compatible and managed by Vcast Streaming Server and Vcast Content Management Server

Encoding Specifications

Live Input Source:	Video:
	<ul style="list-style-type: none"> • HD & SD SDI • HDMI with embedded audio
Media File Input Source:	Audio:
	<ul style="list-style-type: none"> • Embedded audio with HD & SD SDI • Embedded audio with HDMI • AES digital Stereo audio
Live and Archive Streaming Output Format:	<ul style="list-style-type: none"> • AVI, MP3, MPEG1, MPEG2-PS, MPEG2-TS, MP4, Windows Media, Real Media v9,10 (rm), Real Media v9,10 (rmvb), Flash VP6, Flash H.264, Quicktime-3GPP2, Quicktime-3GPP, Quicktime-iPod, Quicktime-iTune and Quicktime-Sorenson • Windows Media 6, 7, 8, 9, WMV-HD • Microsoft Silverlight (VC-1/Windows Media WMV, IIS Smooth Streaming) • VC-1 Advanced Features (Closed Captioning, muxing with non-WMA audio formats) • Real, Real Helix 9, 10
	Optional Upgrades:
	<ul style="list-style-type: none"> • MPEG-2 in Transport Stream (UDP/RTP with RTSP) • H.264 (AVC) progressive with AAC/MP3 Audio (RTMP for Adobe Flash, RTP/RTSP)

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	<ul style="list-style-type: none"> • Adobe Flash 8 with On2 VP6 • 3GPP (H.263, H.264, MPEG-4 Part 2, AAC and AMR audio) • Dolby® Digital and Dolby® Digital Plus (stereo or surround) in Transport Stream
Archive Output Format	<ul style="list-style-type: none"> • QuickTime (MOV and MPEG4) • AVI • DivX support (codec not included) • WAV audio (multi-channel, RF64, Broadcast WAV) • AES3 audio (SMPTE 331M, AES3-2003) • MPEG-1 and MPEG-2 (4:2:0 and 4:2:2, compatible with CableLabs® VOD specifications)
	Optional Upgrades: <ul style="list-style-type: none"> • MPEG-4 Part 2 (via QuickTime®) • H.264 (AVC) – (Adobe® Flash®, Microsoft Silverlight; progressive FLV/F4V/MP4/MOV/ M4V/3GP file output; AAC and MP3 audio) • Avid DNxHD® in MXF (Requires MXF module, sold separately) • Omneon (MOV) (Container "wrapper" support. Additional codecs may be required for encoding or decoding the compressed essence within the container. • DVCPPro 25/50/100(HD) in AVI • AVC Encoder (AVC/H.264, MPEG4, AAC) • Sorenson ACE (MPEG4, AVC/H.264, Flash 7, MP3) • AC-3 Dolby Digital • MXF import
Encoding Resolution, Bit-rate & Frame Rate	<ul style="list-style-type: none"> • Up to 720p, 10Mbps @ 30fps
Concurrent Streams:	<ul style="list-style-type: none"> • 1 independent video stream in multiple bit-rates or format • Internal video/audio multiplexing • Up to 50 live streaming connections output
Supported Live Input Source Resolution & Frame Rates:	<ul style="list-style-type: none"> • Up to HD: 1080i, 1080p, 1080psf, 1035i, 720p • Up to SD: 720x480 (NTSC) or 720x576 (PAL) • Frame rates: 60Hz, 59.94Hz, 50Hz, 49.95 Hz, 30Hz, 29.97Hz, 25Hz, 24.975Hz, 24Hz, 23.976Hz
Hardware Specifications	
Processor:	<ul style="list-style-type: none"> • Quad Core Intel® XEON E5450A or above
Memory:	<ul style="list-style-type: none"> • 2 x 1GB ECC Fully Buffered DDR2 RAM
Video Input Interface:	<ul style="list-style-type: none"> • 1 x BNC multi-format HD-SDI and SD-SDI (SMPTE-292M and SMPTE-259M) • 1 x HDMI (Either one interface only)
Audio Input Interface:	<ul style="list-style-type: none"> • Embedded SDI audio (16 channels) • Embedded HDMI audio (8 channels)
Storage Capacity:	Main Storage: <ul style="list-style-type: none"> • 1 x 146GB SAS hot-plug HDD • 2 x 146GB SAS hot-plug HDD (RAID 0) • Support RAID stripping with Advanced Data Streaming™ technology • Optical Drive (DVD+/-DL, DVD+/-RW, DVD+/-R, DVD-RAM, CD-ROM, CD-RW) • Optical Drive (DVD+/-DL, DVD+/-RW, DVD+/-R, DVD-RAM, CD-ROM, CD-RW)
	Optional Upgrades: <ul style="list-style-type: none"> • External USB Floppy Disk Drive
Network Interface:	<ul style="list-style-type: none"> • 2 x 10/100/1000Mbps Ethernet (RJ45, Copper)

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Mandatory Requirements	
Power Input Voltage:	<ul style="list-style-type: none">• 115 VAC (90 to 132 VAC related input) or 230 VAC (180 to 264 VAC related input)
Output Power:	<ul style="list-style-type: none">• 510W
Keyboard & Mouse:	<ul style="list-style-type: none">• Wired keyboard and mouse
Chassis Enclosure and Dimension:	<ul style="list-style-type: none">• 3U 19' inch rack-mountable chassis 660 x 430 x 132 (D x W x H) mm
Preinstalled OS & Software:	<ul style="list-style-type: none">• Microsoft® Windows Embedded Standard (32bit)• Microsoft® Windows Media Encoder 9• Microsoft® Windows Media Player 11• Remote control tools for remote administration via TCP/IP