



Unit 109-110, No. 5 Science Park West Avenue Hong Kong Science Park, Shatin, N.T., Hong Kong Tel: (852) 2121-8899 Fax: (852) 2121-8898

E-mail: enquiry@vcast.net
Homepage: http://www.vcast.net

### **Mandatory Requirements**

### VCAST All-In-One Server 4210MER (VC-AIO4210MER)

#### **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
- Support ease-of-use web-based user interface for centralized content management
- Highly scalable and expandable from small to large scale of streaming
- 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
- Support publishing, re-broadcasting and content delivery via Vcast Network for global broadcasting (optional at charge-basis)
- 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
- Provided by Certified Windows Media Software Product Vendor (Software/Content Management) listed in
  - http://www.microsoft.com/windows/windowsmedia/service provider/Software/default.aspx#content

### **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 live input(s) and transcoding from archived media files
- Support conventional and professional audio and video interfaces (e.g. s-video, composite video, Unbalanced and balanced XLR audio)
- Integrated professional video and audio processing (e.g. high performance scalars, audio processor, video processor, AV matrix switch, etc)
- 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 deinterlacing and noise reduction
- Elastic Frame Buffer architecture for absolute reliability and high image quality
- Fully compatible and managed by Vcast Content Management Server

### **Streaming Features:**

- Support and compatible with Windows Media 6, 7, 8, 9, SMPTE VC-1, MP3 formats
- Support unlimited\* no. of broadcasting channels
- Support "Fast Streaming" capabilities which can effectively eliminate buffering time, and reduce the
  playback interruptions due to network conditions. Features like Fast Start, Fast Cache, Fast
  Recovery, and Fast Reconnect provide an always-on viewing experience by streaming content with
  minimal buffering and down-time, even over high latency network connections such as wireless and
  satellite.
- Support instant-on/always-on playback which can dramatically improves streaming reliability, responsiveness user experience and virtually eliminating annoying buffering delays and interruptions when playing digital media content
- Support Advanced Fast Start, Advanced FF/RW, and Play While Archiving (for Windows Media Player v10 or above only)
- Support Unicast / Multicast streaming and rollover from multicast to unicast automatically
- · Provides simplified, flexible administration with increased reliability, security and scalability
- Support multiple streams failover and redundancy
- Support Internet authentication method (Digest, Kerberos or NTLM, NTFS ACL, Anonymous access
  or IP Address) and Vcast authentication plug-in(s) for integration with 3<sup>rd</sup> parties

www.vcast.net Page 1 of 5





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# **Mandatory Requirements**

- Support traffic management and logging
- Support wireless adaptive streaming with enabled forward error correction (FEC)
- Support redistribution via Vcast Streaming Server, Vcast Network or Content Delivery Network (CDN) model using Vcast CDN add-on module (optional)

VCAST Conten	t Management	(VCM	) Lite Features:
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Video search and brow	wsing
General features:	<ul> <li>Each video clip should contains at least the following information in their profile:</li> </ul>
	- Title
	- Description
	- Keywords
	- Author
	- Copyright
	- Bandwidth
	- Duration
	- File size
	<ul> <li>Video duration can be auto-detected by the VCM</li> </ul>
	Local Database (Size up to 4GB limit)
Upload video:	Support at least 100 MB file size or above using web-based
opioau video.	interface by HTTP protocol (TCP port 80 or 8080)
	<ul> <li>Progress status bar shows during file upload for the uploading statu</li> </ul>
	<ul> <li>Video clips will not be published to public until the approval of authorized users</li> </ul>
Search video:	
Search video.	<ul> <li>Support multiple criteria searching of video clips by the fields of video profile including title, description, keywords, author, copyright,</li> </ul>
	bandwidth, duration and file size
	Support video preview by unicast on-demand streaming model  Support sorting in and a for according resoults (a.g. but title duration).
	<ul> <li>Support sorting in order for searching results (e.g. by title, duration, etc.)</li> </ul>
Delete video:	Video clips can be selected and deleted by authorized users
	<ul> <li>Video clips can be deleted in batch mode (i.e. delete multiple video</li> </ul>
	by a simple click)
Channel	
General features:	Support unlimited* of channels
	Support Unicast streaming*
Create channel:	Administrator can create channel(s) which contains live or on-
	demand video streams
Edit channel:	<ul> <li>Information and the scheduled content of the channel can be edited</li> </ul>
	by authorized users
Delete channel:	Channels can be deleted by authorized users

<b>Encoding Specification</b>	ons
Live Input Source:	Video:
	S-Video (4-pin mini-DIN)
	Composite Video (BNC)
	Audio:
	RCA Unbalanced
	XLR Balanced
	<ul> <li>AVI, MP3, MPEG1, MPEG2-PS, MPEG2-TS, MP4, Windows</li> </ul>
Media File Input	Media, Real Media v9,10 (rm), Real Media v9,10 (rmvb), Flash
Source:	VP6, Flash H.264, Quicktime-3GPP2, Quicktime-3GPP,
	Quicktime-iPod, Quicktime-iTune and Quicktime-Sorenson
Live and Archive	Windows Media 6, 7, 8, 9, WMV-HD
Streaming Output	<ul> <li>Microsoft Silverlight (VC-1/Windows Media WMV, IIS Smooth</li> </ul>
Format:	Streaming)

www.vcast.net Page 2 of 5





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	Mandatory Requirements
	VC-1 Advanced Features (Closed Captioning, muxing with non-
	WMA audio formats)
	Real, Real Helix 9, 10
	MPEG-2 in Transport Stream (UDP/RTP with RTSP)
	Optional Upgrades:
	<ul> <li>H.264 (AVC) progressive with AAC/MP3 Audio (RTMP for Adobe Flash, RTP/RTSP)</li> </ul>
	Adobe Flash 8 with On2 VP6
	• 3GPP (H.263, H.264, MPEG-4 Part 2, AAC and AMR audio)
	<ul> <li>Dolby® Digital and Dolby® Digital Plus (stereo or surround) in Transport Stream</li> </ul>
	QuickTime (MOV and MPEG4)
	AVI
	DivX support (codec not included)     WAY audio (multi-channel, RE64, Breadcast WAY)
	WAV audio (multi-channel, RF64, Broadcast WAV)     AFS3 audio (SMRTE 331M, AFS3 3003)
	AES3 audio (SMPTE 331M, AES3-2003)  ADEC 1 and MPEC 2 (422) and 4222 appropriate with Cable at all all all all all all all all all
	MPEG-1 and MPEG-2 (4:2:0 and 4:2:2, compatible with CableLabs®     NOR are differenced.)
	VOD specifications)
	Optional Upgrades:
	MPEG-4 Part 2 (via QuickTime®)  H 204 (A)(C)
Archive Output Format:	<ul> <li>H.264 (AVC) – (Adobe® Flash®, Microsoft Silverlight; progressive FLV/F4V/MP4/MOV/ M4V/3GP file output; AAC and</li> </ul>
	MP3 audio)
	<ul> <li>Avid DNxHD® in MXF (Requires MXF module, sold separately)</li> </ul>
	• Omneon (MOV) (Container "wrapper" support. Additional codecs
	may be required for encoding or decoding the compressed
	essence within the container.
	<ul> <li>DVCPro 25/50/100(HD) in AVI</li> </ul>
	AVC Encoder (AVC/H.264, MPEG4, AAC)
	<ul> <li>Sorenson ACE (MPEG4, AVC/H.264, Flash 7, MP3)</li> </ul>
	AC-3 Dolby Digital
	MXF import
Encoding Bit-rate &	Up to 8Mbps@30fps
Frame Rate	· · · · · · · · · · · · · · · · · · ·
	1 independent video stream in multiple bit-rates or format
Concurrent Streams:	Internal video/audio multiplexing
	Up to 50 live streaming connections output
Contura Formati	Motion JPEG Compressed Video
Capture Format:	<ul> <li>Uncompressed Video (YUV4:2:2, YUV4:2:0, or RGB)</li> </ul>
Supported Live Input	<ul> <li>Up to 720x480@30 fps (NTSC) or 720x576@25 fps (PAL)</li> </ul>
Source Resolution &	,
Frame Rates:	

Streaming Specification	ns
Supported Streaming Protocol & Broadcasting Method:	<ul> <li>RTSP, HTTP</li> <li>Unicast, Multicast (Support Rollover to Unicast)</li> <li>Streaming Cache and Proxy</li> <li>Wireless adaptive streaming</li> <li>Re-broadcast from Vcast Streaming Servers or Vcast Streaming Encoders</li> <li>Optional Add-on Module:</li> </ul>
Max. Concurrent	<ul> <li>Vcast CDN (Content Delivery Network)</li> <li>500 live concurrent streams for up to 150Mbps throughput</li> </ul>
Streams:	150 on-demand streams for up to 50Mbps throughput
Support Broadcasting	Unlimited*

www.vcast.net Page 3 of 5



## **Vcast (Asia) Limited**



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	Mandatory Requirements
Channel:	
Support Streaming Format:	Windows Media 6, 7, 8, 9, SMPTE VC-1 and MP3
Advanced Streaming Technology:	<ul> <li>Fast Start, Fast Cache, Fast Recovery, Fast Reconnect, Instant- on/Always-on, Advanced Fast Start, Advanced FF/RW and Play While Archiving</li> </ul>
Security Authentication	Digest, Kerberos or NTLM, NTFS ACL, Anonymous access or IP Address     Address     Address
Failover and Redundancy	<ul> <li>Vcast authentication plug-in(s) for integration with 3<sup>rd</sup> parties</li> <li>Support multiple sources from Vcast Streaming Encoder and switch over automatically</li> <li>Support resilience and failover</li> </ul>
Activity Logging and Reporting	<ul> <li>Support Unicode or ANSI characters</li> <li>Support specified logging cycle period</li> </ul>
Bandwidth and Traffic Management	<ul> <li>Player connections</li> <li>Outgoing distribution connections</li> <li>Aggregate player bandwidth</li> <li>Aggregate outgoing distribution bandwidth</li> <li>Bandwidth per stream per player</li> <li>Bandwidth per outgoing distribution stream</li> <li>Connection rate</li> <li>Player timeout inactivity</li> <li>Connection acknowledgement</li> <li>Incoming bandwidth</li> <li>Fast Start bandwidth per player</li> <li>Fast Cache content delivery rate</li> </ul>

Hardware Specification	S
Processor:	Dual Core Intel® Core2Duo E8500 or above
Memory:	1 x 2GB Unbuffered DDR2 ECC RAM
Video Input Interface:	1 x S-Video (4-pin mini-DIN)
	1 x Composite Video (BNC)
Audio Input Interface:	<ul> <li>1 x Unbalanced Stereo Audio (L+R) on RCA</li> </ul>
	<ul> <li>1 x Balanced Stereo Audio (L+R) on XLR</li> </ul>
	Main Storage:
	• 2 x 500GB SATA2 HDD
	(Support H/W RAID 0, 1, 5, 10)
Storage Capacity:	Optical Drive
	(DVD+/-DL, DVD+/-RW, DVD+/-R, DVD-RAM, CD-ROM, CD-RW)
	Optional Upgrades:
	External USB Floppy Disk Drive
Network Interface:	<ul> <li>2 x 10/100/1000Mbps Ethernet (RJ45, Copper)</li> </ul>
Power Input Voltage:	<ul> <li>115 VAC (90 to 132 VAC related input) or 230 VAC (180 to 264</li> </ul>
	VAC related input)
Output Power:	• 510W
Keyboard & Mouse:	Wired keyboard and mouse
Chassis Enclosure and	3U 19' inch rack-mountable chassis
Dimension:	660 x 430 x 132 (D x W x H) mm
	Microsoft® Windows Server 2003 Enterprise Edition (32 bits)
	Microsoft® Windows Media Services 9
Preinstalled OS &	Microsoft® Windows Media Encoder 9
Software:	Microsoft® Windows Media Player 11
	Microsoft® SQL Server 2008 Expression Edition
	Vcast Content Management (VCM) Lite Version

www.vcast.net Page 4 of 5



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## **Mandatory Requirements**

• Remote control tools for remote administration via TCP/IP

\* Limited by the hardware capability

www.vcast.net Page 5 of 5