

VMMtm Family

A d v a n c e d M P E G E n c o d e r

Multi-channel compression boards for developers

VMM™ Family is the ideal solution where multiple cameras are used.

VMM™ Family is also well-suited for video streaming over IP and video servers.

VMM™ Family board can capture and compress 4 to 8 channels real time standard MJPEG, MPEG-1, MPEG-2 or MPEG-4.

Key features

- Up to 16 x video inputs,
- Up to 8 x encoding video channels,
- 1 trigger input per channel,
- 4 x stereo audio inputs,
- Audio and Video sync,
- MJPEG, MPEG-1, MPEG-2, MPEG-4,
- Multi-board feature is supported,
- Ethernet interface,
- RS232 interface (camera remote control for example)
- General Purpose IO per channel (1 input and 1 output),
- PCI interface.

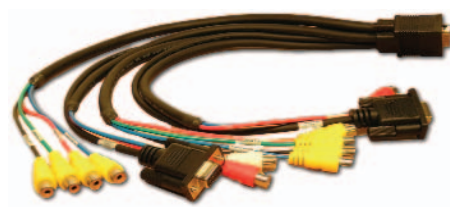
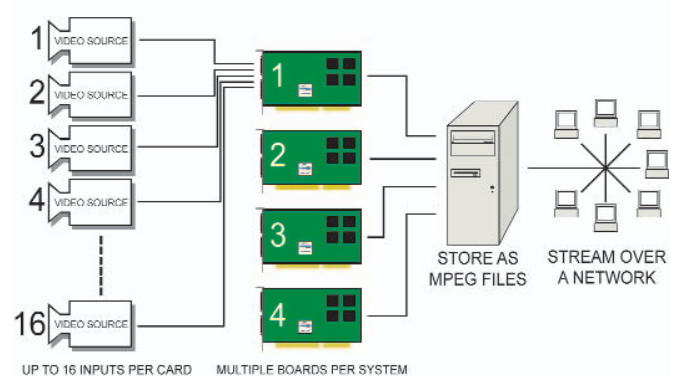
Applications

VMM™ Family is a multi-channel capture and compression PCI board dedicated to industrial and professional video applications like:

- Video surveillance,
- Digital video recorders,
- Video streaming...



Typical system setup and operation



TECHNICAL SPECIFICATIONS

VMM boards		VMM-2000 MJPEG FD1, SIF	VMM-2100 MPEG-1 SIF	VMM-2200 MPEG-2-1 FD1, SIF	VMM-2300 MPEG-4-2-1 FD1, SIF
Inputs / Outputs	Video Formats	NTSC/PAL/SECAM	NTSC/PAL/SECAM	NTSC/PAL/SECAM	NTSC/PAL/SECAM
	Video Inputs	Up to 16 composite, 8Y/C	Up to 16 composite, 8Y/C	Up to 16 composite, 8Y/C	Up to 16 composite, 8Y/C
	Encoded Video Inputs	8 Y/C, 8 composite	8 Y/C, 8 composite	4 Y/C, 4 composite	4 Y/C, 4 composite
	Audio Inputs	4 stereo RCA	4 stereo RCA	4 stereo RCA	4 stereo RCA
Video Encoding	MPEG-1	-	SIF, QSIF	SIF, QSIF	SIF, QSIF
	MPEG-2	-	-	FD1, 2/3D1, HD1, SIF, QSIF	FD1, 2/3D1, HD1, SIF, QSIF
	MPEG-4	-	-	-	FD1, 2/3D1, HD1, CIF, QCIF
	MPEG-4 Profile	-	-	-	SP
	MJPEG	FD1, 2/3D1, HD1, SIF	FD1, 2/3D1, HD1, SIF	FD1, 2/3D1, HD1, SIF	FD1, 2/3D1, HD1, SIF
	Elementary streams MPEG-1 & 2	-	yes	yes	yes
	Elementary streams MPEG-4	-	-	-	yes
	MPEG-1 System Stream	-	yes	yes	yes
	MPEG-2 Program Stream	-	-	yes	yes
	MPEG-4 System Stream	-	-	-	yes
	Frame rate	29.97 (NTSC) 25 (PAL/SECAM)	29.97 (NTSC) 25 (PAL/SECAM)	29.97 (NTSC) 25 (PAL/SECAM)	29.97 (NTSC) 25 (PAL/SECAM)
	Adjustable frame rate	yes (skip N frames)	yes (skip N frames)	yes (skip N frames)	yes (skip N frames)
	Bitrate MPEG-1	-	128 Kbit/s to 3 Mbit/s	128 Kbit/s to 3 Mbit/s	128 Kbit/s to 3 Mbit/s
	Bitrate MPEG-2	-	-	1 to 15 Mbit/s	1 to 15 Mbit/s
	Bitrate MPEG-4	-	-	-	64 Kbit/s to 6 Mbit/s
	Bitrate regulation mode	-	CBR, VBR	CBR, VBR	CBR, VBR
	VBR with Average and Max settings	yes	yes	yes	yes
VBR with Fixed Quantizer	yes	yes	yes	yes	
GOP definition	-	IIII, IP, IBP, IBBP, ...	IIII, IP, IBP, IBBP, ...	IIII, IP, IBP, IBBP, ...	
IBP distance settings	yes	yes	yes	yes	
Audio Encoding	MPEG-1 layer 2	-	yes	yes	yes
	PCM	yes	yes	yes	yes
	AC-3	-	-	yes	yes
	AAC Low Complexity	-	-	-	yes
	Sample rate	48 KHz	48 KHz	48 KHz	48 KHz
	Bits per sample	16 bits	16 bits	16 bits	16 bits
	Bitrate MPEG-1 audio	-	64 to 384 Kbit/s	64 to 384 Kbit/s	64 to 384 Kbit/s
	Bitrate AC-3	-	-	96 to 640 Kbit/s	96 to 640 Kbit/s
	Bitrate AAC-LC	-	-	-	6 Kbits to 256 Kbits
Audio Mode	Mono, Stereo, Dual Stereo Joint Stereo	Mono, Stereo, Dual Stereo Joint Stereo	Mono, Stereo, Dual Stereo Joint Stereo	Mono, Stereo, Dual Stereo Joint Stereo	
Signal Calibration	Brightness, Contrast, Saturation, Hue Adjustments	yes	yes	yes	yes
	Audio Level Adjustment	yes	yes	yes	yes
Advancedm features	Still image capture while encoding	yes (SIF)	yes (SIF)	yes (SIF)	yes (SIF)
	Audiometer overlaid on preview	yes	yes	yes	yes
	Status overlay on preview window	yes	yes	yes	yes
	Pause / Resume mode	yes	yes	yes	yes
	Uncompressed Capture Mode	yes (SIF)	yes (SIF)	yes (SIF)	yes (SIF)
24/7 Very Long Encoding	yes	yes	yes	yes	
Still image : resolution	352x288 (PAL/S) 352x240 (NTSC)	352x288 (PAL/S) 352x240 (NTSC)	352x288 (PAL/S) 352x240 (NTSC)	352x288 (PAL/S) 352x240 (NTSC)	
Other Features	Operating Systems	Windows XP, 2000	Windows XP, 2000	Windows XP, 2000	Windows XP, 2000
	Development Kits	LiveWire framework Demo applic. source code	LiveWire framework Demo applic. source code	LiveWire framework Demo applic. source code	LiveWire framework Demo applic. source code
	Recommended Configuration	P4 - 2.6 GHz, 256 MB RAM	P4 - 2.6 GHz, 256 MB RAM	P4 - 2.6 GHz, 256 MB RAM	P4 - 2.6 GHz, 256 MB RAM
	Size	193 mm x 107 mm	193 mm x 107 mm	193 mm x 107 mm	193 mm x 107 mm
	Power	12 W	12 W	12 W	12 W

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Specifications subject to change without prior notice - Jan 2007

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