GV-Fisheye Camera Integration Notes

Article ID: GV1-15-01-27-t

Release Date: 01/27/2015

Applied to

GV-Fisheye Cameras firmware V2.14 or earlier

System Requirements

Operating System	64-bit Windows 7 / 8 / 8.1 / Server 2008 R2 / Server 2012 R2
GV-VMS Version	GV-VMS V14.10 or later
Note: To support GPU dewarping of fisheye views, the graphics card must support DirectX 10.1 or above.	

1. Total Frame Rate Supported by GV-VMS

The table below lists the total frame rates supported by GV-VMS V14.10 for fisheye dewarping based on CPU capacity. The number of frames supported by GV-VMS is increased when a high-end CPU such as Core i7 is used.

The table is based on the following resolutions and frame rates:

- 1 MP at 15 fps (1280 x 1200)
- 2 MP at 15 fps (1440 x 1376)
- 4 MP at 15 fps (2048 x 1944)
- 5 MP at 10 fps (2560 x 1920)

Total FPS supported

Codec	CPU	1 MP	2 MP	4 MP	5 MP
H.264	i7 - 4770	210	165	75	60
	i5 - 4670	195	150	75	60
	i3 - 4130	180	150	75	60
MJPEG	i7 - 4770	240	150	60	60
	i5 - 4670	210	135	60	50
	i3 - 4130	180	120	60	40

Note: The test data is obtained using the following conditions:

- Built-in VGA
- CPU usage at around 70%
- 360 Degree view mode with “Auto Pan” function disabled
- 32-screen divisions with GV-VMS’s panel resolution set to 1600 x 1200

2. Maximum Number of Channels Supported by GV-VMS V14.10

The following table lists the maximum number of fisheye channels that can be supported by GV-VMS V14.10 with the frame rate set to 2 fps per channel. If you wish to increase the frame rate for each fisheye channel, you can decrease the number of GV-Fisheye Cameras connected.

Resolution	Codec	Total channels supported (CH)
1 MP (1280 x 1200)	H.264	50
	MJPEG	64
2 MP (1440 x 1376)	H.264	48
	MJPEG	46
4 MP (2048 x 1944)	H.264	41
	MJPEG	41
5 MP (2560 x 1920)	H.264	39
	MJPEG	39

Note: The test data is obtained using the following conditions:

- Built-in VGA
- Frame rate limited to 2 fps per channel
- 360 Degree view mode with “Auto Pan” function disabled
- 64-screen divisions with GV-VMS’s panel resolution set to 1920 x 1080

3. Testing Environment

The data is obtained using the following bitrate.

	H.264	MJPEG
1 MP (1280 x 1200)	3.59 Mbit/s	15.60 Mbit/s
2 MP (1920 x 1080)	4.27 Mbit/s	20.88 Mbit/s
4 MP (2048 x 1944)	11.65 Mbit/s	33.47 Mbit/s
5 MP (2560 x 1920)	13.37 Mbit/s	35.70 Mbit/s

The PC specifications used for testing GV-VMS V14.10 are listed below:

Core i7 – 4770

OS	64-bit Windows 7
Motherboard	ASUS H87-Pro
CPU	i7 4770 3.4GHz
Chipset	Intel H87
RAM	DDR3 4GB x 2
Built-in VGA & Driver	Intel HD4600, Driver: 10.18.10.3960
GV-VMS	V14.10

Core i5 – 4670

OS	64-bit Windows 7
Motherboard	ASUS H87-Pro
CPU	i5 4670 3.4GHz
Chipset	Intel H87
RAM	DDR3 4GB x 2
Built-in VGA & Driver	Intel HD4600, Driver: 10.18.10.3960
GV-VMS	V14.10

Core i3 – 4130

OS	64-bit Windows 7
Motherboard	ASUS H87-Pro
CPU	i3 4130 3.4GHz
Chipset	Intel H87
RAM	DDR3 4GB x 2
Built-in VGA & Driver	Intel HD4400, Driver: 10.18.10.3621
GV-VMS	V14.10