



## In Focus: Sanyo VCC-HD2500

With the VCC-HD2500P, since autumn 2009 the Sanyo range has included a 4 megapixel Full HD day/night camera equipped with a 1/3 inch Progressive Scan CMOS sensor. The camera is part of the new Sanyo range of state-of-the-art IP cameras. The manufacturer has equipped the camera with a whole series of functions, e.g. movement sensor, face recognition and private zone masking. The image data can also be saved on an SD memory card inside the camera.

# Test the Best!

## GIT SECURITY Camera Test in Cooperation with SeeTec



### Performance

#### Performance assessment when used with 1,000 Lux

In comparison with the reference image, at the maximum resolution tested, the Sanyo VCC-HD2500P showed a brilliant colour range and good to very good sharpness. In addition, the device showed a very good contrast ratio.

#### Performance assessment when used with less than 1,000 Lux

At a Lux value of 100, unsharpness was detected for moving objects in the lower half of the sequence. This did not deteriorate significantly down to 10 Lux and resulted in a slight loss of recognition of moving objects at approx. 2.5 Lux. At 0.5 Lux there is slight image noise, although this is only noticeable after switchover from day to night mode.

#### Performance assessment in backlight situations

The compensation time with backlight is approx. 2-3 seconds and shows adequate dynamic characteristics. The size of the cone of illumination extends from the edge of the backlight to just over the edge of the backlight and shows no traces or only slight traces of blooming.

#### Performance assessment in use: Bandwidth measurement

On closer examination of the characteristic curve, the H.264 codec becomes clearly apparent. Depending on the lighting conditions and the movement in the image, a slight increase or tendency was detected. The codec was used with a variable bit rate, which achieves a higher quality with overall less memory space. An MJPEG stream produces an average data quantity of approx. 20 Mbps with comparable quality. For the H.264 stream a bandwidth of 5.72 Mbps was measured, corresponding to a reduction of over 70%.

\*Average value.

### Technical data for the camera test

Manufacturer	Sanyo
Model	VCC-HD2500P
Firmware version	CAM MAIN Ver. 1.00-06 (091120-06) CAM SUB Ver. 1.00-00 (090910-00) NET MAIN Ver. 1.00-03 (091110-00) NET SUB Ver. 0.00-00 (090722-00)
Distance from test chart	1.00 m
Lens used	4–10 mm; F1.8; P-Iris; Tamron
*Focal length set	approx. 6 mm
*Compression method	H.264
*Resolution	1,920 x 1,080 (16 : 9)
*Compression	50 %
I-frame interval:	1 second
Max. stream bandwidth	Unlimited
Measured frame rate	25 fps
Average bandwidth	5.72 Mbit/s

#### Comments:

– Day/night switchover was carried out manually at 2 Lux

\*The camera was integrated into the test system with the "default" settings. The settings were modified according to the test criteria listed above.

### Assessment for various lighting conditions

Criteria   Lux values	1000 Lux	100 Lux	10 Lux	0,5 Lux	0 Lux + *BL1
Colours	2.5	2.5	2.5	b/w	b/w
Contrast	2	2	2.5	3.5	b/w
Sharpness	2	2	2	3	2.5
Motion blur	2	2	2.5	3	2.5
Image noise	2	2	2	4	2
Compensation time with backlight	–	–	–	–	3
Behaviour with backlight	–	–	–	–	4

Assessment was performed according to the rating system of 1 (very good) to 6 (unsatisfactory). By setting various parameters on the camera interface itself, it is possible to obtain an improved image quality.

### Conclusion

The Sanyo VCC-HD2500 is a high-performance megapixel IP camera which delivers up to 30 images per second with H.264 compression. The HD camera enables flexible installation thanks to the Focus Assistant, test monitor output and many configuration options. As with the VCC-HD2100 / VCC-HD2300 models there are many image processing functions such as 3D-DNR, Slow Shutter, AGC and white balance. Further features of the VCC-HD2500 include the possibility of data storage on an SD memory card (SDHC) and integrated video/movement analysis. Possible fields of use of the Sanyo high performance camera include e.g. airports, casinos, banks or department stores, in which high quality images are required.

## In Focus: Axis P1346

The Axis P1346 is a 3 megapixel HDTV camera with day/night functionality, which can produce several H.264 video streams. Streaming with several views enables several separate video streams from zoomed sections to be transferred together with a scaled-down complete overview. The camera is equipped with the precise aperture control function "P-Iris", which is intended to achieve higher contrast, better clarity, higher resolution and greater depth of field. Intelligent functions such as extended video movement detection and detection of attempts to tamper with the camera, e.g. obstruction or spraying, complete the range of functions.



CAMERA TEST

# Test the Best!

**GIT SECURITY Camera Test  
in Cooperation with SeeTec**



## Performance

### Performance assessment when used with 1,000 Lux

In comparison with the reference image, at the maximum resolution tested, the Axis P1346 showed a brilliant colour range and good sharpness. In addition, the device showed a very good, slightly amplified contrast ratio.

### Performance assessment when used with less than 1,000 Lux

Even at a Lux value of 250, unsharpness was detected for moving objects in the lower half of the sequence. This did not deteriorate significantly down to 10 Lux and resulted in a slight loss of recognition of moving objects at approx. 2.5 Lux. Image noise, which among other things depends on the compression, occurs at 40 Lux.

### Performance assessment in backlight situations

The compensation time with backlight is approx. 2 seconds and shows adequate dynamic characteristics. The size of the cone of illumination extends from the edge of the backlight to over the text of the test chart and shows slight traces of blooming.

### Performance assessment in use: Bandwidth measurement

On closer examination of the characteristic curve, the H.264 codec becomes clearly apparent. Depending on the lighting conditions and the movement in the image, a slight to large increase or decrease was detected. The codec was used with a variable bit rate, which achieves a higher quality with overall less memory space. An MJPEG stream produces an average data quantity of approx. 38 Mbps with comparable quality. For the H.264 stream a bandwidth of 2.99 Mbps was measured, corresponding to a reduction of over 90%.

\*Average value.

## Technical data for the camera test

Manufacturer	Axis
Model	P1346
Firmware version	5.06
*Distance from test chart	1.00 m
Lens used	2.4–6 mm; F1.2; 1/3" megapixel
*Focal length set	approx. 6 mm
*Compression method	H.264
*Resolution	2.048 x 1.536 (4 : 3)
Compression	30%
I-frame interval:	1 second
*Set stream bandwidth	unlimited
Measured frame rate	20 fps
Average bandwidth measurement	2.99 Mbit/s

– Day/night switchover was carried out manually at 2 Lux  
– Maximum frame rate of 20 images/sec at full resolution (3MP)

\*The camera was integrated into the test system with the "default" settings. The settings were modified according to the test criteria listed above.

## Assessment for various lighting conditions

Criteria   Lux values	1000 Lux	100 Lux	10 Lux	0,5 Lux	0 Lux + *BL1
Colours	2	2.5	2.5	b/w	b/w
Contrast	2	2.5	3	3	b/w
Sharpness	2	2	2.5	3	2.5
Motion blur	2.5	3	3	4.5	2
Image noise	2	2	2	2.5	2
Compensation time with backlight	–	–	–	–	3.5
Behaviour with backlight	–	–	–	–	4

Assessment was performed according to the rating system of 1 (very good) to 6 (unsatisfactory). By setting various parameters on the camera interface itself, it is possible to obtain an improved image quality.

## Conclusion

The Axis P1346 is a network camera for fixed installation, offering excellent H.264 performance and featuring a robust design. It provides video quality of up to 3 megapixels with progressive scanning into several individual H.264 and Motion JPEG video streams. Installation is simplified with the use of the focus assistant, remote control of the image size and the pixel counter. With the aid of the Remote Focus function, the camera can be conveniently focussed with the software during installation. The Axis P1346 provides high performance video surveillance both indoors and outdoors. It is a good solution for the surveillance of retail shops, airports, stations, schools and universities, as well as government and industrial buildings.