

In Focus: Samsung SNB-5000

Samsung's model SNB-5000 box camera is part of Samsung's 1.3-megapixel HD network camera series conform to ONVIF. The camera incorporates the newly developed WiseNet Digital Signal Processing, provides 1280x1024 resolution and includes an H.264, MPEG-4 and MJPEG triple codec with multiple simultaneous streaming. The camera supplies maximum 30 frames-per-second video at HD resolution and features an Intelligent Video Analytics (IVA) capability.



CAMERA TEST

Performance

Performance when used at 1,000 Lux

The camera delivers a clear picture with very neutral, but somewhat de-saturated colours. Overall the contrast can be evaluated as very good. However, because of the slightly restricted contrast range very dark colours are depicted somewhat too brightly. The image sharpness on stationary objects is good. Both the hairs on the test figure and the lines in the test image are sharply delineated. Slight blurring is detectable with moving objects. Image noise is minimal.

Performance when used under 1,000 Lux

The camera rapidly compensates for fluctuations in lighting. With reducing illumination the camera image becomes darker overall. The camera cannot fully compensate for the reduced illumination. As a result, with poor illumination not all colour gradations are clearly recognisable and the colours appear somewhat paler. The overall sharpness reduces somewhat and blurring effects are detectable with moving objects. Noticeable image noise only occurs at approx. 2 Lux. At 0.5 Lux the camera was manually switched to night mode. In this mode it delivers a very clear b/w image with a slightly reduced contrast range.

Performance when used in backlight situations

After the sudden occurrence of backlight the camera delivers the first b/w image after about 2 seconds with extreme blooming of the backlight source and definitely noticeable smearing. The image stabilises after a further 2 seconds. Background details are now recognisable. There is a little less blooming of the backlight source and the smearing reduces.

Performance in use: bandwidth measurement

On average, the camera requires a bandwidth of 6.85 MBit/s. The bandwidth graph is quite linear. Brief peak values of 10.6 MBit/s are reached during compensation.

Summary

The day/night fixed camera with a maximum resolution of 1.3 megapixels (HD ready 720p is supported) can deliver several MJPEG, MPEG4 and H.264 streams simultaneously. It provides adequate onboard image analysis, an SD slot and the power supply is via PoE.

Technical data for the camera test

Manufacturer	Samsung
Model	SNV-5000
Firmware version	2.00_110608
Distance to test chart	0.6 m
Lens used	Fujinon 1:1,2 / 2,8-8mm MP (DC)
*Focal length set	ca. 6 mm
*Compression method	H.264
*Resolution	1,280 x 720
*Compression	50%
I-Frame-interval	1 second
Max. stream bandwidth	unlimited
Measured frame rate	29 fps
Average bandwidth	6.85 Mbit/s

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

Assesment with differing illumination conditions

Criteria Lux values	1000 Lux	100 Lux	10 Lux	0,5 Lux	0 Lux + *BL1
Colours	1.5	2	2.5	b/w	–
Contrast	2	2.5	2.5	3	3.5
Focus	2	2	2.5	2.5	2
Motion sharpness	2.5	3	3	3	2.5
Image noise	2	2	2	2.5	2
Recovery from backlight	–	–	–	–	3.5
Performance against backlight	–	–	–	–	3

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.