Test **the Best**!

Together with Seetec, GIT SECURITY has tested both current and new video cameras in the test lab of the Hardware Competence Centers of Seetec under controlled conditions. The Hardware Competence Center was formed because manufacturer's own data and the features of network cameras were often established under different conditions and were not reliable facts when put into practice. These results provide a valid basis for the planning of IP video projectors and help to prevent unpleasant surprises. Video sequences are created for the tests under various defined light situations and then evaluated. Both movement in the picture and night or backlight situations are taken into account.

In Focus: Bosch NBN 832

Dinion HD 1080p Day/Night IP cameras are progressive scan CMOS cameras that use the Bosch-designed Dinion digital imaging technology. The Bosch NBN 832 camera uses the latest CMOS-based HD sensor for a sharper, more detailed picture with a 16:9 image format. Features such as multicasting, internet streaming and iSCSI recording are fully supported. The NBN 832 aims to deliver the highest standards of performance and reliability in any security and surveillance scenario, day or night.

Performance

Performance when used at 1,000 Lux
With optimum illumination the camera delivers a very clear image with a slightly restricted contrast range (black appears dark grey, white surfaces are slightly cloudy). Colours are reproduced clearly with natural saturation. Only a minimal yellow tinge is apparent. Even fine details in the image (hairs of the test figure, thin lines in the test chart) are sharply depicted. There are hardly any smearing effects on moving objects and image noise is also minimal.

Performance when used under 1,000 Lux
The camera takes a little time to adjust to changes in lighting. This is apparent in the compensation processes, which may take several seconds, during which however the image remains clearly visible. Colour saturation reduces with very poor illumination, at first insignificantly, but the clearly apparent below 5 Lux. The contrast only deteriorates slightly. Especially below 2 Lux the image becomes less sharp overall and increased smearing effects are noticeable with moving objects. At 0.5 Lux a manual switchover to night mode (b/w mode) was performed. Here, the camera delivers a comparatively high contrast image.

Performance when used in backlight situations
The camera rapidly compensates for the occurrence of sudden backlight in a dark environment the camera (approx. 2 seconds) and delivers a stable image in which background details are visible. There is some blooming of the backlight source and a slight smearing effect is apparent.

Performance in use: bandwidth measurement
The bandwidth use of the camera is largely linear at 4 MBit/s. The bandwidth only increases to 5.41 MBIt/s in extreme lighting situations and during compensation.

Summary

The day/night fixed camera with full HD resolution features good image and reaction characteristics even in difficult lighting situations (backlight, poor illumination). It provides simple image analysis algorithms (movement detection) directly in the camera as well as multi-streaming. The camera power supply is via PoE.

Technical data for the camera test

Manufacturer	Bosch
Model	NBN 832
Firmware version	66500500
Distance to test chart	0,4 m
Lens used	Bosch MP5 CS 9-30mm F 1.8
* Focal length set	9 mm
*Compression method	H.264
*Resolution	1,920 x 1,080
*Compression	–
I-Frame-interval	1 second
Max. stream bandwidth	4,096
Measured frame rate	29 fps
Average bandwidth	3.95 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	1.5	2	b/w	2.5
Contrast	2	2	2	2.5	3
Focus	1.5	2	2	2.5	2.5
Motion sharpness	2	2	2	3	2
Image noise	2	2	2	2.5	2
Recovery from backlight	–	–	–	–	2
Performance against backlight	–	–	–	–	2

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