

In Focus: Arecont Vision AV 2805 DN

The Arecont Vision AV2805DN series network camera is a true day/night camera and part of Arecont's full line of H.264 megapixel cameras. This fully compliant implementation of H.264 (MPEG 4, Part 10) is capable of sustaining over 80 billion operations per second and maintaining full motion progressive scan 1920 x 1080 (2 Megapixel) video at 30fps. This allows the Arecont AV2805DN to perform at 6 times the resolution of a traditional VGA camera. Part of the Mega Video line of cameras, it offers bandwidth and storage efficiency of ten times greater on average over traditional megapixel counterparts.



CAMERA TEST

Performance

Performance when used at 1,000 Lux

With good illumination the camera delivers a clear image with good contrast. In general, color reproduction is good, however the colors are somewhat pale (especially yellow tones). Objects in the image are sharply depicted and details (fine lines) in the background test image are also clearly recognisable. Motion blur and image noise are scarcely apparent.

Performance when used under 1,000 Lux

Overall, the camera produces good images, even under poor lighting conditions. Down to 10 Lux it provides good colour images of almost constant quality. At 10 Lux the camera switches to night mode – in comparison with other manufacturers the switch is made relatively early, however the monochrome image is clear and shows good contrast. With further reduction of illumination, image noise increases continuously, however this only becomes pronounced, in combination with blurring of moving objects, at extremely low levels of illumination (0.5 Lux).

Performance when used in backlight situations

On the sudden occurrence of a backlight source against a dark background the camera requires approximately 2.5 seconds before it produces a stable image. The image stream is initially shown in night mode. Here, the backlight source produces considerable glare, and background details are apparent. However, the camera switches to color mode after a short time, which results in a very low contrast image, especially in the background. With stronger ambient lighting the background is shown with considerably greater contrast.

Performance in use: bandwidth measurement

With reducing illumination, the required bandwidth increases from 5.13 MBit/sec at 1,000Lux to an extreme value of about 25 MBit/sec at 5 Lux, before it once again reduces in the weak illumination range (here the image rate also reduces to 16 images/Second). Due to the compensation characteristics of the camera the bandwidth curve is somewhat stepped.

Summary

The network camera features Full HD resolution, good image quality, and thanks to early switchover from day to night mode it provides good images in the weak illumination range. It is equipped with a range of additional functions such as motion detection, multi-streaming, definition of private zones and cropping. The power supply is via PoE.

Technical data for the camera test

Manufacturer	Arecont Vision
Model	AV 2805 DN
Firmware version	65192
Distance to test chart	0.70 m
Lens used	Tamron 4 – 12mm 1:1,4 1/2 CCTV MP
*Chosen focal length	6 mm
*Compression method	H.264
*Resolution	1,920 x 1,080
*Compression	50%
Max. stream bandwidth	unlimited
Measured frame rate	16–29 fps
Average bandwidth	11.1 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	2.5	2.5	2.5 b/w	–	–
Contrast	2	2	2	2.5	3.5
Focus	2.5	2.5	2.5	3	3
Motion sharpness	2	2	2	3	2.5
Image noise	2	2	2.5	3	2
Recovery from backlight	–	–	–	–	3
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.