SONY

Benefits of ExwavePRO™ Technology

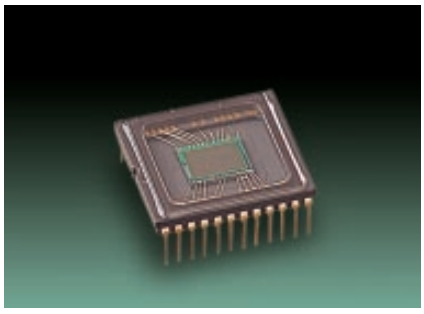
ExwavePRO is a cutting-edge technology that has been specially designed for use with network security cameras. ExwavePRO technology combines the high photoelectric conversion efficiency ratio of ExwaveHAD™ technology, high vertical resolution progressive scanning, and a complementary color filter with a high luminance signal-to-noise ratio. ExwaveHAD technology is fully utilized to achieve high sensitivity and high resolution simultaneously.

In security applications, color camera imagers employ color filters for each pixel – either primary color filters or complementary color filters. Light-colored complementary color filters such as yellow and cyan allow more light to reach the sensor through the filter than dark-colored primary color filters such as red and blue, which means more light is converted to electricity. Therefore, color imagers that use complementary color filters have a higher sensitivity than those using primary color filters. And, as a result, a higher luminance signal-to-noise ratio is achieved with complementary color filters. **(Fig. 1)**

Furthermore, compared with conventional imagers, an ExwaveHAD technology sensor has a high photoelectric conversion efficiency ratio. This means that even when the same amount of light hits this sensor, the electrical signals produced are stronger than with conventional imagers. **(Fig. 2)**

ExwaveHAD technology had been used with interlaced scanning imagers in the past. However, this combination produced a relatively low vertical resolution when used in network security cameras. By combining ExwaveHAD technology with progressive scanning imagers, higher resolution images are reproduced without sacrificing sensitivity, even when monitoring moving objects.

ExwavePRO technology achieves higher sensitivity and higher horizontal resolution simultaneously by combining ExwaveHAD technology with complementary color filters and progressive scanning. Cameras adopting ExwavePRO are optimized for 24/7 security applications.



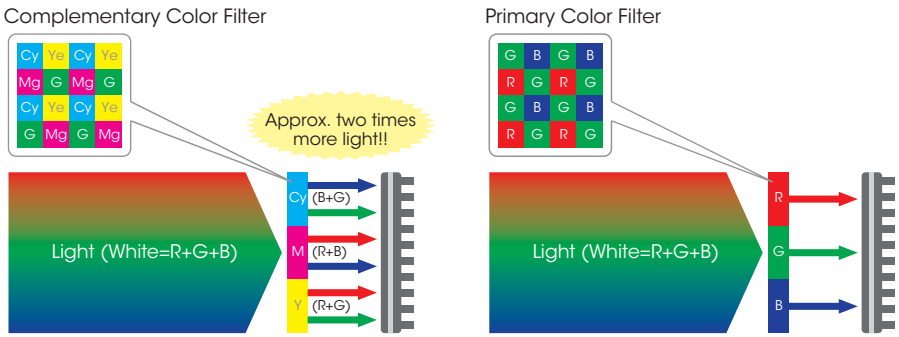


Fig. 1 Complementary Color Filter vs. Primary Color Filter

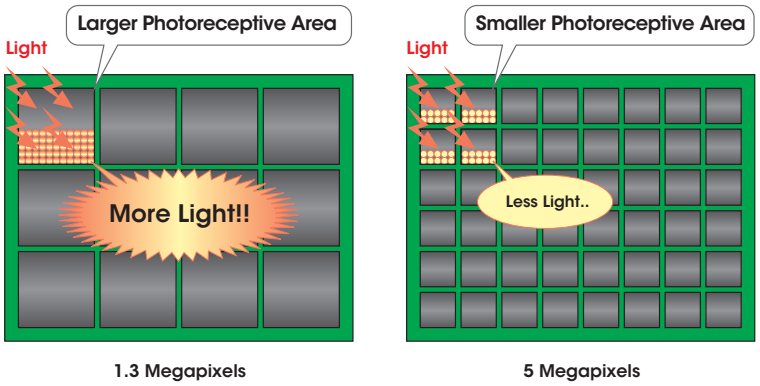
ExwavePRO Image

Conventional Camera Image

Fig. 2 Image Comparison Between the SNC-DS10 (ExwavePRO) and a Conventional Camera (Progressive scan CCD with a primary filter) in 0.7 lx Lighting Conditions (actual images)

The Relationship Between Number of Picture Elements and Sensitivity

Assuming two imagers are the same size, and one is 5 megapixels while the other is 1.3 megapixels, the photoreceptive area for the 1.3 megapixel imager is larger than that of the 5 megapixel imager, as shown in the illustration. As a result, each pixel of the 1.3 megapixel imager converts a greater amount of light collected into more electrons to produce a stronger electric signal, which in turn produces a brighter image on the monitor.
Sony's range of 1.3 megapixel network cameras has been designed for security applications to provide bright images even in dimly lit environments, which is a key requirement for surveillance monitoring.



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