GRUNDIG'S LATEST PRODUCT NEWS

09/2015

INCLUDING THE GRUNDIG 4K CAMERA RANGE

FOR A GOOD REASON

GRUNDIG

THINGS TO KNOW:

LATEST GRUNDIG TECHNOLOGY NEWS

4K (8 MP) ULTRA HIGH DEFINITION

The term 4K, shortened from 4K2K, simply refers to the number of pixels produced in a 4K video stream, which is a massive 3840 x 2160 pixels (approximately 4K x 2K) or 8 megapixels. 4K provides four times the resolution of the current Full HD standard, which is 1920 x 1080 pixels, or 2MP, in comparison.

Just like Full HD before it, 4K technology has been derived from the TV broadcast industry. Its rapid acceptance by the consumer market has helped to drive down component costs and increase their availability. 4K delivers exceptional scene coverage, clarity and detail. 4K cameras achieve greater site coverage than Full HD cameras, so the end user can be assured that fewer site incidents are missed with 4K.

The bandwidth required to transmit a 4K, 8MP video stream at 25 FPS is between 8 and 20 Mbit/sec, using H.264 compression. However, the number of cameras used in an Ultra HD security system is far less than in a Full HD one, helping ease bandwidth demands. H.265, with twice the data compression capability of H.264, is expected to be commonly available later this year. Until the wide availability of H.265, many manufacturers have developed specialist compression technologies, like Grundig's "High Profile" compression, which offer extremely efficient compression and transmission benefits and significantly reduce bandwidth use with 4K technology.

NEW EXMOR® CMOS SENSOR

For the security camera industry, high picture quality at low illumination is increasingly demanded.

Responding to this demand, Sony improved their Exmor* technology for the CMOS image sensor, which provides detailed, sharp and natural images, even in poor lighting conditions with better noise reduction. Sony developed 3.75 µm unit pixel (from the previous 2.80 µm) and improved the sensitivity both in the visible light and the near infrared light. The near infrared sensitivity improved approximately 1.8 times compared to the previous products. This enables to identify objects clear enough in poor lighting conditions. Even in the case of near infrared light LED used as supportive light, high picture quality imaging is possible.

(*Exmor is a SONY registered trademark)

PANOMORPH LENS TECHNOLOGY

The panomorph optical and software technology is a leading innovation in 360-degree panoramic imaging patented by ImmerVision.

The ImmerVision Enables SDK allows integration of patented panomorph dewarping functionality within any computing device. PC Based Server/Client, Web browser or Hardware embedded, the comprehensive ImmerVision Enables SDK is easily adaptable to many platforms.

Different customizable views:
- Single, Quad (4 singles), Perimeter, etc.

4K ULTRA HIGH DEFINITION

GRUNDIG'S NEXT GENERATION OF VIDEO SECURITY.
UHD OR 4K MEANS 4 TIMES THE RESOLUTION OF
FULL HD WITH 8 INSTEAD OF 2 MEGAPIXEL.

ULTRA HD TECHNOLOGY
BRILLIANT IMAGE QUALITY

Full HD is making way for Ultra High Definition (Ultra HD), 4K technology, a new resolution standard which provides 8MP video streaming.

4K delivers exceptional scene coverage, clarity and detail, with four times the resolution of Full HD. The cost savings come from the need for fewer cameras on site and the associated reduction in cabling, configuration, recording channels, VMS software licenses and more.

Typical applications where 4K has been embraced include city centre surveillance systems, traffic control and management, airports, car dealerships, parking, sports stadiums and retail parks, where large areas must be viewed simultaneously and a high level of detail is required for evidence.

8 Megapixel Zoom

2 Megapixel Zoom

Example: Full HD Camera and 4K IP Camera with 4Mbit/sec Streaming

ARE 4K NETWORK-CAMERAS LESS LIGHT-SENSITIVE THAN CONVENTIONAL FULL HD CAMERAS?

Although low light sensitivity reduces with 4K sensors, Grundig uses exceptionally sensitive 4K sensors to get the best possible results in low light conditions. For night-time surveillance, Grundig also uses 'High Power IR LEDs'. Scene illumination is further and wider than standard LEDs, matching the increased scene coverage and range of 4K surveillance cameras.

GCI-N0586V TOP LINE

4K (8 MP) UHD IP CAMERA WITH POWER LEDS AND ICR

3.5 ~ 8 MM P-IRIS MOTORIZED LENS FOR EASY ADJUSTMENT

- 8 Megapixel IP camera with UHD real time video streaming, 25/30 fps
- 0 Lux: Integrated "Power LEDs" to see even in total darkness (up to 50 meters)
- Motorized vario lens 3.5~8 mm with auto-back focus
- H.264 & MJPEG compression modes
- Day/night functionality with removable IR cut filter (ICR), for higher sensitivity and vibrant colors
- SD/SDHC/SDXC memory card slot for alarm and schedule image recording
- Onvif Profile S support for maximum compatibility with VMS
- Operating temperature -25°C~+55°C
- Weatherproof outdoor installation (IP66)

GCI-N0586T TOP LINE

4K (8MP) UHD INTEGRATED IP CAMERA WITH POWER LEDS AND ICR

3.5 ~ 8 MM P-IRIS MOTORIZED LENS FOR EASY ADJUSTMENT

- 8 Megapixel IP camera with UHD real time video streaming, 25/30 fps
- 0 Lux: Integrated "Power LEDs" to see even in total darkness (up to 50 meters)
- Motorized vario lens 3.5~8 mm with auto-back focus
- H.264 & MJPEG compression modes
- Day/night functionality with removable IR cut filter (ICR), for higher sensitivity and vibrant colors
- SD/SDHC/SDXC memory card slot for alarm and schedule image recording
- Onvif Profile S support for maximum compatibility with VMS
- Operating temperature -25°C~+55°C
- Weatherproof outdoor installation (IP66)

GCI-N0503B TOP LINE

4K (8MP) UHD IP CAMERA WITH AUTO-BACK FOCUS AND ICR

ULTRA HIGH DEFINITION BOX CAMERA WITH OUTSTANDING IMAGE QUALITY

- 8 Megapixel IP camera with UHD real time video streaming, 25/30 fps
- H.264 & MJPEG compression modes
- Day/night functionality with removable IR cut filter (ICR), for higher sensitivity and vibrant colors
- SD/SDHC/SDXC memory card slot for alarm and schedule image recording
- Onvif Profile S support for maximum compatibility with VMS
- Operating temperature -10°C~+50°C
- Power input 24VAC/12VDC/PoE (IEEE802.3af)

4K MEANS LESS CAMERAS ARE NEEDED, REDUCING COSTS

■ **IS IT DIFFICULT TO ADJUST IMAGE SHARPNESS AT A HIGH RESOLUTION?**
Correct focus and set up can be a problem with 4K cameras. Grundig overcomes this issue by offering Auto-Focus Technology (AFT) and motorised zoom lenses to allow remote set up of cameras over the internet. Grundig 4K cameras have a test monitor connection for installers to view the camera image and verify the correct camera configuration.

■ **IS IT POSSIBLE TO VIEW 4K VIDEOS ON SMART PHONES OR TABLETS?**
Yes, this is possible, but tablets and smartphones do not offer 4K resolution displays, so will only allow lower resolution viewing. Tablets and smartphones can be used for detailed viewing in live and search modes.

ULTRA LOW LIGHT

WELL MATCHED COMPONENTS FOR OUTSTANDING LOW LIGHT PERFORMANCE. ALSO WITH INTEGRATED POWER LED'S FOR LONGER LIGHTING DISTANCE AND WIDER ANGLE.

ADVANTAGES OF GRUNDIG'S ULTRA LOW LIGHT CAMERAS

IMPROVED SENSITIVITY IN VISIBLE LIGHT AND THE NEAR INFRARED LIGHT

If additional illumination is not possible low light cameras can capture images where conventional cameras see almost nothing. Grundig offers ultra low light integrated cameras where lens, IR illumination and camera are matched perfectly. High **Power LED's** provide a clear and well-balanced image even over longer distances.

- In security systems it's very important to get a clear image (mug shot) of a person. Conventional cameras increase shutter time to catch more light for the image sensor. The result is quite often an image littered with noise where moving objects can't be captured and become blurred, which is not good for identification.
- Conventional cameras use electronic assistance to get acceptable images under low light conditions. Of course Grundig's ultra low light cameras also have electronic enhancements such as gain control, digital noise reduction and sensitivity. But with Grundig low light cameras you will not need them under reasonable low light conditions.
- For NPR (Number Plate Recognition) cameras the sensitivity, especially in infrared light is very important. With ultra low light cameras a high speed shutter setting is capable of capturing number plates. With high resolution, ultra low light sensitivity for observation under IR illumination the Grundig cameras are now a leading product for all NPR applications.
- Grundig's ultra low light integrated cameras consume much less power than conventional cameras. The sensor was designed for low power consumption and due to the use of highly efficiency **Power LED's** the total number of LED's can be reduced, so that the total rated power of the camera is considerably less.
- Low light cameras could make additional illumination obsolete, reducing energy costs.

GCI-K1577TH

TOP LINE

2 MP (FULL HD) ULTRA LOW LIGHT IP CAMERA WITH ICR AND WDR

3 ~ 8 MM MOTORIZED ZOOM, ULTRA SENSITIVITY IN THE VISIBLE LIGHT AND THE NEAR INFRARED LIGHT

- EXMOR™ sensor for ultra low light sensitivity
- XARINA™ DSP for advanced features
- Varifocal motorized lens with auto focus
- WDR (Wide Dynamic Range) for extreme back light situations
- Facial detection
- H.264 & MJPEG compression modes
- Day/night functionality with removable IR cut filter (ICR), for higher sensitivity and vibrant colors
- 0 Lux integrated LED IR illuminators
- Onvif Profile S support for maximum compatibility
- Weatherproof outdoor installation (IP66)
- Power input 24VAC/12VDC/PoE (IEEE802.3at)

GCI-K1505B

TOP LINE

2 MP (FULL HD) ULTRA LOW LIGHT IP CAMERA WITH ICR AND WDR

ULTRA SENSITIVITY IN THE VISIBLE LIGHT AND THE NEAR INFRARED LIGHT

- EXMOR™ sensor for ultra low light sensitivity
- XARINA™ DSP for advanced features
- WDR (Wide Dynamic Range) for extreme back light situations
- Facial detection
- H.264 & MJPEG compression modes
- Day/night functionality with removable IR cut filter (ICR), for higher sensitivity and vibrant colors
- SD/SDHC/SDXC memory card slot for alarm and scheduled image recording
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- Power input 24VAC/12VDC/PoE (IEEE802.3af)

COMPARISON BETWEEN STANDARD AND GRUNDIG ULTRA LOW LIGHT CAMERA

Standard camera

Grundig ultra low light camera

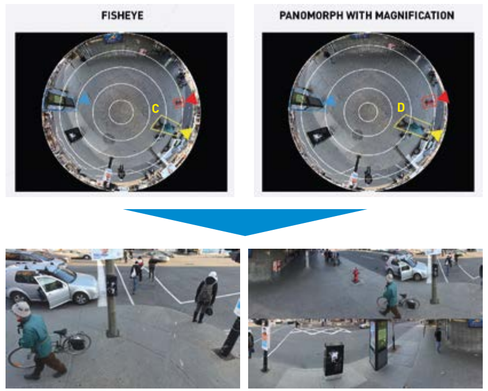
360° PANORAMIC VIEW WITH ONE CAMERA

THE GRUNDIG ULTRA-HD IMMERVISION ENABLES CERTIFIED PANOMORPH CAMERA WITH BUILT-IN DEWARPING AND IR ILLUMINATION.

MORE PIXELS WITH LESS BLIND SPOTS

Panomorph lenses are developed using patented anamorphosis or/and targeted distortion technology. This means that either one or both patented feature can be utilized during the optical design to achieve optimal 360-degree performance for the specific application. In comparison to a standard fisheye camera, the panomorph camera lens is designed with more pixels in the periphery of the lens, for a better view of critical areas furthest away from the camera, such as those containing people or vehicles.

COMPARISON BETWEEN FISHEYE AND PANOMORPH LENS



Panomorph Images original
Targeted Distortion
Object D bigger than Object C

BLUE AREA	+10%
RED AREA	+74%
YELOLLOW AREA	+42%

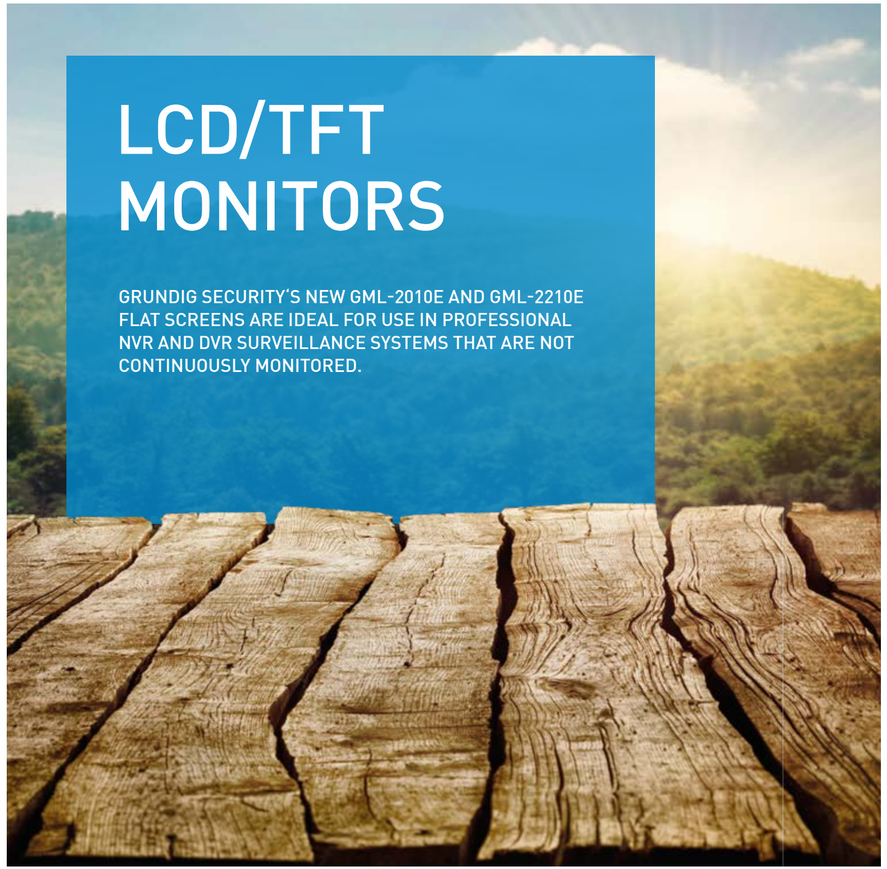
Image Projections (dewarped)

GCI-M0566F PROFESSIONAL

6 MP 360° PANOMORPH IP CAMERA WITH IR LED

360° PANORAMIC VIEW WITH BUILT-IN DE-WARPING FUNCTIONALITY

- 360° field of view
- 6 Megapixel CMOS day/night camera
- Ceiling and wall mount
- 360° stream and de-warped stream outputs
- H.264 & MJPEG compression modes
- 0 Lux integrated LED IR illuminators
- Day/night functionality with removable IR cut filter (ICR), for higher sensitivity and vibrant colors
- SD/SDHC/SDXC memory card slot for alarm and scheduled image recording
- Onvif Profile S support for maximum compatibility
- Power input 24VAC/12VDC/PoE (IEEE802.3af)



LCD/TFT MONITORS

GRUNDIG SECURITY'S NEW GML-2010E AND GML-2210E FLAT SCREENS ARE IDEAL FOR USE IN PROFESSIONAL NVR AND DVR SURVEILLANCE SYSTEMS THAT ARE NOT CONTINUOUSLY MONITORED.

MONITORS WITH LED BACKLIGHT TECHNOLOGY

Grundig Security's entry level, flat-screen, LED backlight monitors have been designed specifically for 16/7 operation. They are ideal for use in professional NVR and DVR surveillance systems that are not continuously monitored.

The 19.5" and 21.5" entry-line models both come in a 16:9 format. They feature Full HD resolution of 1920 x 1080 pixels, providing clear and detailed images. They have an efficient, high quality, built-in power supply, designed for 16/7 operation. This keeps energy consumption and manufacturing costs down.

Each monitor has VGA and HDMI ports optimized for video display and compatible with most leading DVRs and NVRs. LED backlight technology helps to increase contrast levels and the intensity of black levels, creating natural and accurate screen images. Both models have built-in speakers.

Grundig Security has also revised its successful 19", 24/7 monitor, the GML-1931M. This contains similar features to its predecessor with the addition of high performance, low reflective, protective glass. The 19" monitor, designed for 24/7 operation, also features LED backlight technology, advanced image enhancement technology including a 3D comb filter and decoder, built-in de-interlacing and noise reduction. The monitor fits to standard VESA bracket sizes with HDMI, VGA, Audio, 2x BNC IN and 1x BNC loop video connection.

GML-2010E CONNECT

19.5" LCD/TFT MONITOR WITH LED BACKLIGHT

FULL HD LCD/TFT MONITOR DISPLAYING A FULL, FLAT 19.5" (50 CM) DIAGONAL IMAGE

- LED backpanel illumination
- 1 HDMI and 1 VGA input
- Built-in speaker
- Designed for professional 16/7 usage
- Multi language OSD
- Low power consumption
- Tilt range 85° – 105°

GML-2210E CONNECT

21.5" LCD/TFT MONITOR WITH LED BACKLIGHT

FULL HD LCD/TFT MONITOR DISPLAYING A FULL, FLAT 21,5" (54.6 CM) DIAGONAL IMAGE

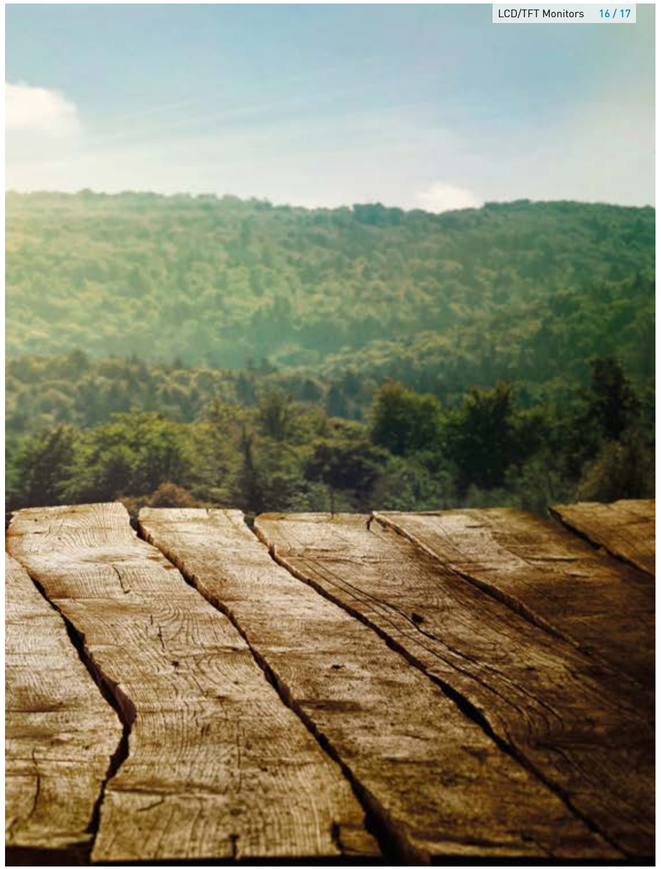
- LED backpanel illumination
- 1 HDMI and 1 VGA input
- Built-in speaker
- Designed for professional 16/7 usage
- Multi language OSD
- Low power consumption
- Tilt range 85° – 105°

GML-1912M PROFESSIONAL

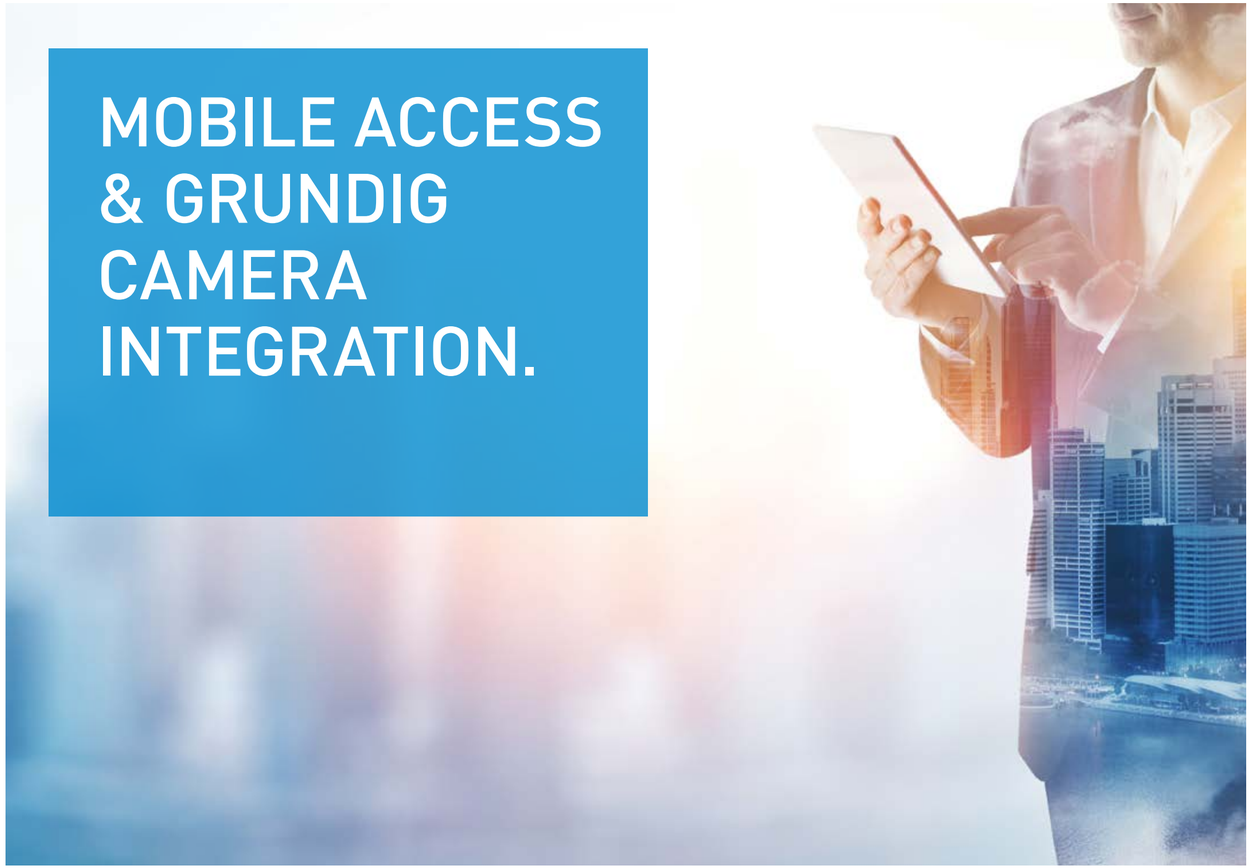
19" LCD/TFT MONITOR WITH LED BACKLIGHT

LCD/TFT MONITOR DISPLAYING A FULL, FLAT 19" (48 CM) DIAGONAL IMAGE

- LED backpanel illumination
- 2 CVBS (1 looped) inputs , 1 HDMI and 1 VGA input
- Built-in speaker
- Scratch protection glass with anti-reflection coating
- Designed for professional 24/7 usage
- Multi language OSD
- Low power consumption
- Tilt range 80° – 110°



MOBILE ACCESS & GRUNDIG CAMERA INTEGRATION.



MOBILE PHONE AND TABLET ACCESS

Thanks to a built-in webserver it is possible for designated users to access, view, monitor and control Grundig IP cameras from anywhere in the world, at any time.

Images can be viewed via a web-enabled mobile phone, smartphone (iOS and Android), or tablet.

Users are also immediately alerted to alarms, enabling them to act quickly, wherever they are.

GRUNDIG CAMERA INTEGRATION

Grundig cameras are compatible with most VMS systems.

SYSTEM SECURITY AND SAFETY

Grundig network cameras contain built-in security features for comprehensive data and network protection. In addition to a login, the cameras provide several security features for authorized user access. These include image transmission protection options and the ability to create certified access levels to both specific cameras and the data stored within a system.

Errors excepted
Grundig reserves the right to change specifications without notice
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