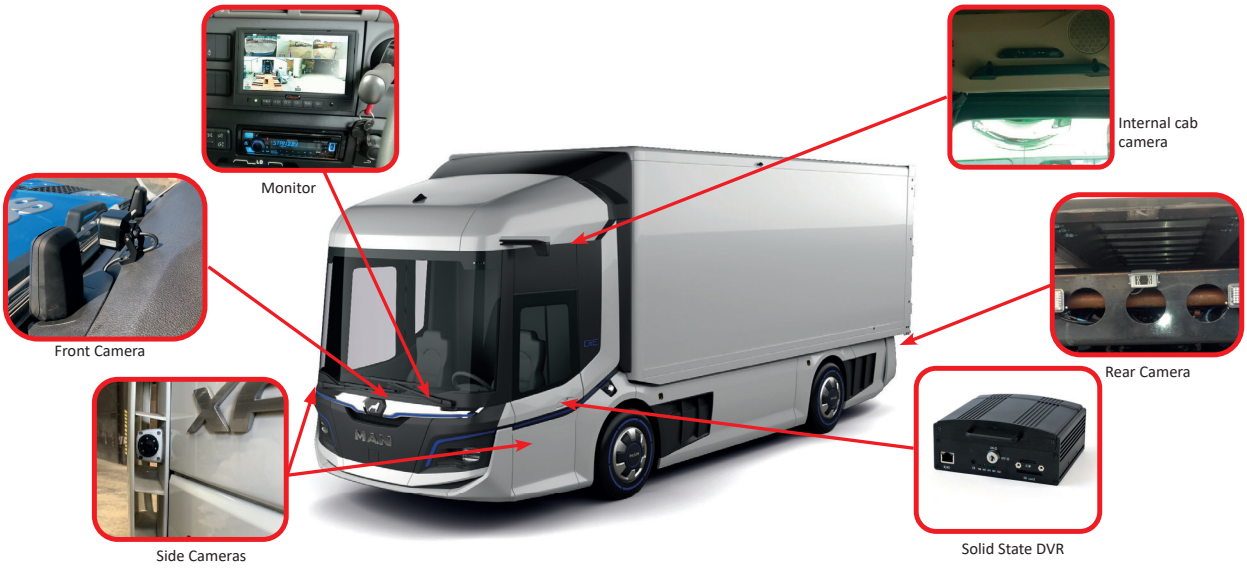
2024 DVR Systems

DVR System Specification and Options



KEY FEATURES

- Choice of 4 and 8 camera Solid State DVRs
- SD or SSD Primary Storage Medium
- Key locked removable storage that provides security and easy removal of the drive
- Recorded video only viewable through our proprietary software
- Integration with monitor providing full control of the displayed driver information
- Integrates with Close Proximity Detection and Pedestrian Detection Systems
- Built in 3 axis G-sensor, providing analysis of driving behaviour and excessive G-Force alarms
- GPS providing location, speed and speed activated control output
- GPS and trigger alarm control of camera images
- Embedded icons showing use of Indicators and Brakes
- Innovative UPS Technology ensures the integrity of recording in event of power failure
- Exclusive pre-allocate File System minimises data loss
- Advanced Image Recognition Functionality (DVR-2380 only)
- Comprehensive 4G Live View and Wi-Fi functionality available, including...
    - Automatic e-mail notification of alarm events
    - Option to automatically upload video of alarm events
    - Real time video tracking and driven route reports
    - Speed and G-Force Reports

DVR SPECIFICATION

MODEL		DVR-2440/ 2480	DVR-2340/ 2380
OPERATING SYSTEM		LINUX	LINUX
PROCESSOR		Novatek NT98323	Novatek NT98323
CONFIGURATION		Through Remote Control, Mouse, over 4G or Smart Phone	Through Remote Control, Mouse, over 4G or Smart Phone
FIRMWARE UPDATE		Firmware update using an SD card or remotely through 4G or Wi-Fi if enabled	Firmware update using an SD card or remotely through 4G or Wi-Fi if enabled
SECURITY		Key lock on storage media. Video footage saved in hidden partition. Video encoded with propitiatory algorithm. Configuration Password protected.	Key lock on storage media. Video footage saved in hidden partition. Video encoded with proprietary algorithm. Configuration Password protected.
VIDEO	Video Inputs	4 or 8 AV inputs that can be individually configured for CVBS, 720P and 1080P video formats	8 AV inputs that individually auto-detect and configure to CVBS, 720P and 1080P video formats
	OSD	Date, Time, Vehicle ID, GPS, Speed and Alarm Events can be embedded into the recorded video.	Date, Time, Vehicle ID, GPS, Speed and Alarm Events can be embedded into the recorded video.
	Video Compression	H.264/ H.265 compression with HiSilicon Technology: Codec ffmpeg.	H.264/ H.265 compression with Novak Technology: Codec ffmpeg.
	FPS	PAL:25Frame/s	PAL: 25Frame/s
	Resolution	1080P/720P/ D1	1080P/720P/ D1
	Quality	1-8 levels	1-8 levels
	Bit Rate (Max)	8Mbps (DVR-1080i)	8Mbps (DVR-1080i)
	Video Output	CVBS/ HD (720P)	CVBS/ HD (720P)
AUDIO	Audio Inputs	Available all AV channels	Available all AV channels
	Audio Compression	AAC (16bit ,48KHz)	AAC (16bit ,48KHz)
STORAGE	Storage	128 Gbyte – 2TByte SD card/ Internal SSD optional	128 Gbyte – 2TByte SSD/ HDD drive
	File Format	H.264/H.265 FAT32	H.264/H.265 FAT32
	Recording Mode	Default auto recording after power on, timed recording and alarm recording modes. Configurable r4ecording run on time after ignition off.	Default auto recording after power on, timed recording and alarm recording modes. Configurable r4ecording run on time after ignition off.
ALARMS	Alarm inputs	Support up to 4 channels alarm i/o inputs. Suitable for connecting direct to indicators (+3V Threshold)	Support up to 6 alarm i/o inputs. Suitable for connecting direct to indicators (+3V Threshold0
	G Sensor	A 3 axis accelerometer is integrated into the device and individual alarm threshold levels can be user configured.	A 3 axis accelerometer is integrated into the device and individual alarm threshold levels can be user configured.
	Alarm record	Up to 30 seconds prior to and 120 seconds after an alarm event can be recorded	Up to 30 seconds prior to and 120 seconds after an alarm event can be recorded
	Alarm File Protection	Alarm Files are protected and will not be automatically overwritten within a specified time period	Alarm Files are protected and will not be automatically overwritten within a specified time period
	Video Loss	OSD and remote monitoring alarm in event of failure	OSD and remote monitoring alarm in event of failure
	Storage Loss	OSD and remote monitoring alarm in event of failure	OSD and remote monitoring alarm in event of failure
	Alarm Output	2 individually controllable alarm outputs	2 individually controllable alarm outputs
	GPS Speed Output	Provides high and low speed alarms	Provides high and low speed alarms
GPS		External GPS Receiver can be connected to record position and speed of the device	External GPS Receiver can be connected to record position and speed of the device
REMOTE ACCESS		3/4/5 G and Wi-Fi options for remote access, tracking, video retrieval and live viewing of video from the device	3/4/5 G and Wi-Fi options for remote access, tracking, video retrieval and live viewing of video from the device
AI FUNCTIONALITY		VRU Detection and Driver Analysis (optional)	VRU Detection and Driver Analysis (optional)
	Power Management	1. ACC ON/OFF 2. Configurable shut down time after ignition OFF 3. Configurable pre-set time ON/OFF	1. ACC ON/OFF 2. Configurable Shut down time after ignition OFF 3. Configurable pre-set time ON/OFF
	Power Input	DC:+8V to +36V: Overload, Low Voltage and Short Circuit Protection	DC:+8V to +36V: Overload, Low Voltage and Short Circuit Protection
	Power Consumption	Working 10W, Standby 0.1W	Working 10W, Standby 0.1W
	Power Output	+12V (5 x 0.5 Amps)	+12V (5 x 0.5 Amps)
OPERATING ENVIRONMENT		-25 deg C to +80 deg C, 5% to 95% Humidity	-25 deg C to +80 deg C, 5% to 95% Humidity
DIMENSIONS		142(W) x62(H) x123(D) mm, 1.1 KG	142(W) x62(H) x123(D) mm, 1.1 KG

IMAGE RECOGNITION FUNCTIONALITY (DVR-2380)

The DVR-2380 DVR features integrated Pedestrian Detection capability and Driver Monitoring Capability.

This DVR can be used with standard cameras so can be retrofitted into existing installations – although performance can be improved by upgrading to cameras that are best optimised for the detection of pedestrians.

The Driver Behaviour Monitoring requires an additional camera to monitor the driver and can provide an in cab driver alarm and provide data for driver analysis.

PEDESTRIAN DETECTION CAPABILITY

This DVR can provide Pedestrian and Cyclist Detection capability on up to 4 cameras.

The pedestrian detection algorithm will work with any standard camera, although the performance will be much improved using cameras that are optimised to work with the pedestrian detection algorithm.

The detection zone and the vehicle speed range when the pedestrian detection is activated which can be individually configured for each camera. The DVR provides an on-monitor and in-cab audible warning when a Pedestrian or cyclist is detected.

DRIVER BEHAVIOUR MONITORING

This DVR can monitor the following Driver Behaviour Parameters, each parameter can be individually set to become active at specific speeds

Driving Tired	Using Phone when Driving	Driving Distracted
Driver Smoking	Camera Covered	

The DVR provides an on screen warning and audible message to alert the driver of their undesirable behaviour and providing management data for driver evaluation

VRUD Cameras

To supplement then Image Recognition capability of the DVR we offer cameras with a built in Vulnerable Road User Detection chip set.

The benefit of these cameras is that they identify VRU's extremely quickly and can alert the driver to the approach of even the fastest moving cyclists undertaking the vehicle. Furthermore, they reliably work under very low light conditions and have a long detection range so can detect vulnerable road users approaching the rear of the longest vehicles (including trailers).

The camera only detects pedestrians, cyclists and motorcyclists and will reliably detect VRU's filtering between traffic and, as they do not rely on movement, will alert the driver to the presence of pedestrians and cyclists in close proximity to the vehicle. So, for example, are ideal for use in construction sites.




MONITORS *(Specification indicates typical values)*

Standard Sizes: 5 -10"" (16:9 panel)
Resolution: 1024x3 (RGB) X 600
Brightness: 500cd/m^2
Contrast: 500:1
Power input: DC 9-36V
AV inputs: 2, 3 or 4 Cameras
DC input: 9-36V
Temp -30 to 85^{O}C
Trigger wires: For Individual cameras
Compatible with AHD-720P, 1080P and Analogue Video protocols
Viewing angle: Left: 70 Degree, Right: 70 degree, Up: 50 degree, Down: 50 degree



These DVR's can also be connected directly into a vehicle's infotainment system with adaptor leads available for many popular vehicles.

A Pillar Side Mirror Style Monitor

This Monitors features a 12.5" IPS (Inter Plane Switching) digital display panel that provide the driver with the highest possible clarity of vision.

The monitor can simultaneously shows two or three camera images

Video Retrieval, Analysis, Archiving and Exporting

The recorded video footage is normally retrieved from a vehicle by physically removing the storage device from the DVR and connecting it into a PC or Laptop in the office. Where a vehicle, or vehicles, are depot based this is a very simple, fast and reliable means of recovering video footage.

To facilitate removal of the drive (HDD or SSD) on the DVR-2380 the drive is located in a removable cassette that can be simply removed from the vehicle (secured and released by key lock). The SD card of the DVR-2040 is also secured by a key lock and can also be simply removed.

Watermarking of the vehicle registration number stays with the video footage so it does not matter which drive has been installed into a vehicle, the footage can always be identifiable.

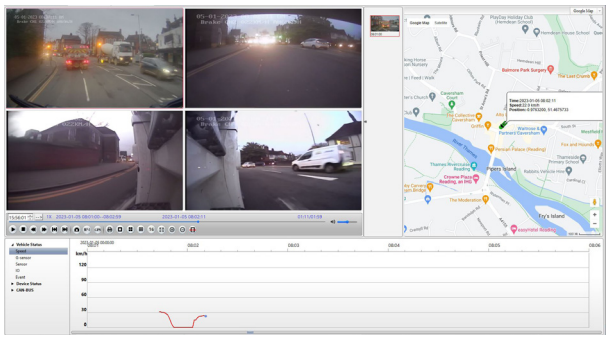
Removable drive cassette

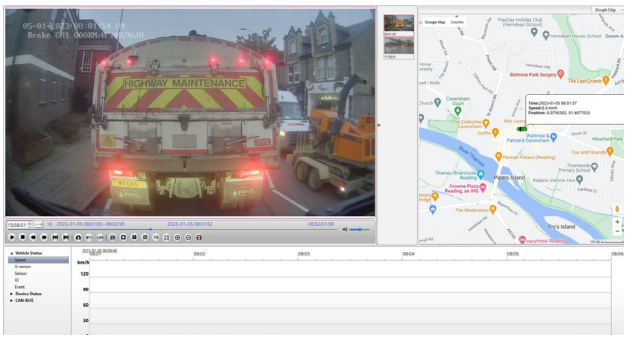
A drive can be removed and replaced with a spare drive, and the vehicle back in service, within 30 seconds.

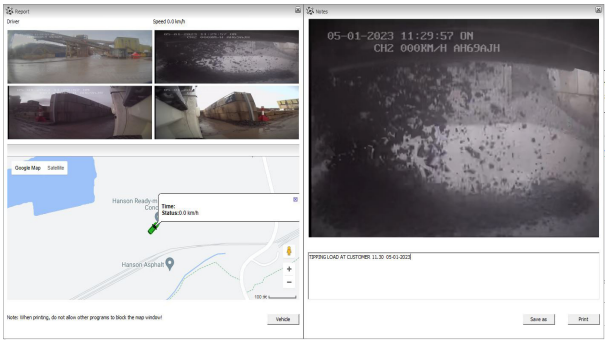
Once the drive is removed the video footage is secure and can not be inadvertently overwritten or deleted and can then be evaluated at a time convenient for video analysis.

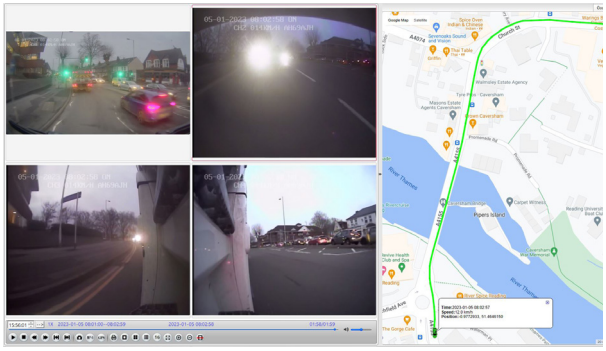
To view the recorded footage the drive cassette is connected to a PC or Laptop through our device specific USB cable, which provides fast data transfer, and the video is then viewed using our Vision Playback Software. SD cards can be inserted into any SD card reader.

As well as the video footage the drive also records vehicle location, journey history, speed, G forces and brake & indicator activation - and these are played back time synchronised on the playback software. The software also has features that help the user quickly identify footage of interest, even when an accurate time and date is not known.









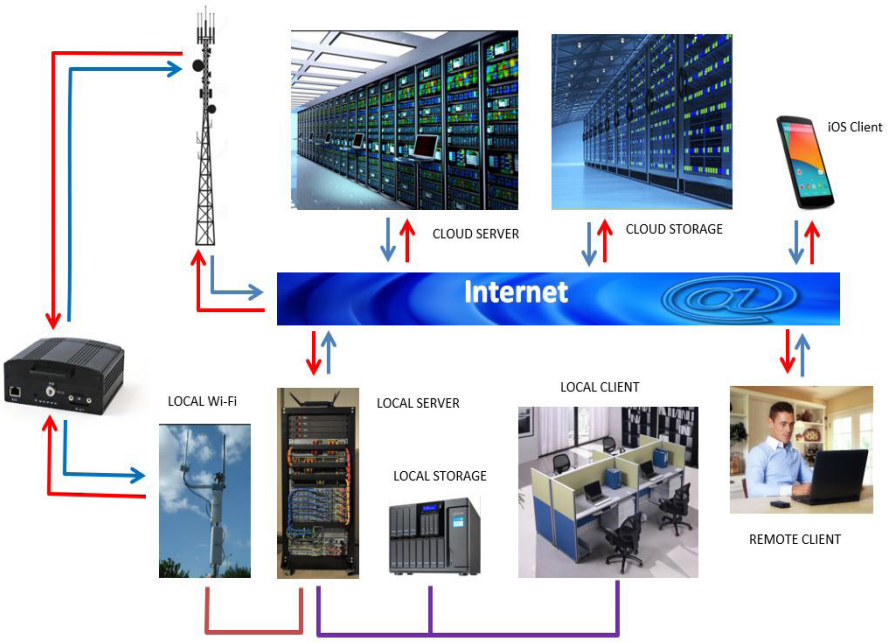
The software further provides archiving and export functions that allows the user to select specific footage to be archived, and export that footage in a format suitable for general distribution.

Remote Access, Live-View, Alerts and Video Retrieval

Increasingly all Vision DVRs are being supplied with a 4G modem to enable remote access to the system.

Remote access provides range of features that enable the customer to get the maximum benefit out of their system.

Remote Access options provide everything from a basic tracking all the way through to a fully managed service that provide the customer with comprehensive reports, recovery of video and full maintenance package.

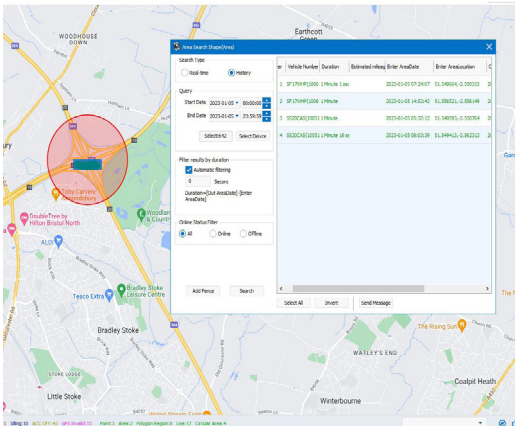


The Remote Access capabilities include

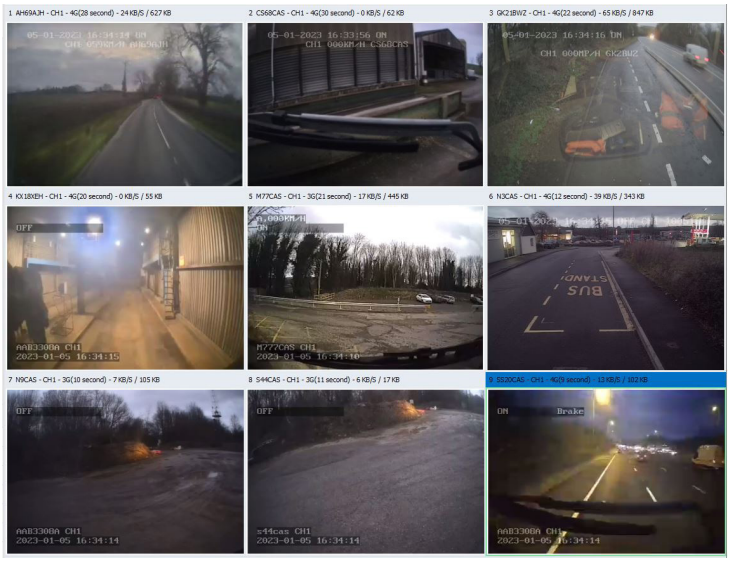
Live vehicle tracking
Live search of historic vehicle location
Live view of vehicle cameras
Real time notifications of alarm events
Remote retrieval of video footage off vehicle
Driven route reports
Individual alarm event reports
Statistical reports on key vehicle and driver parameters
Automatic video upload to server of an alarm event
Customisable alerts ad reports for...
- *Driver fatigue alerts (Hours and rest time)*
- *Speeding within an area and specific routes*
- *Deviation from specified route (within specified hours)*
- *GEO Fence Specific locations and times*
- *Vehicle Stopped too long within specified times*

Alerts for issues such as video loss, drive errors and GPS faults

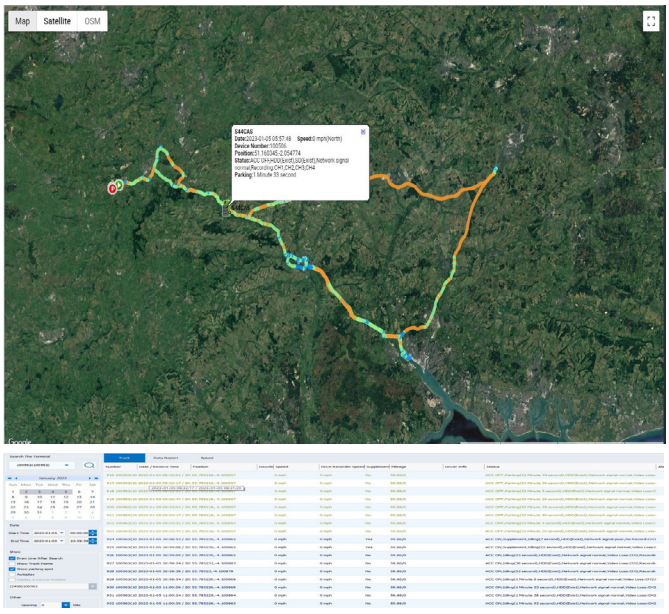
Dynamic Live and Historic search of vehicle location by geographic area



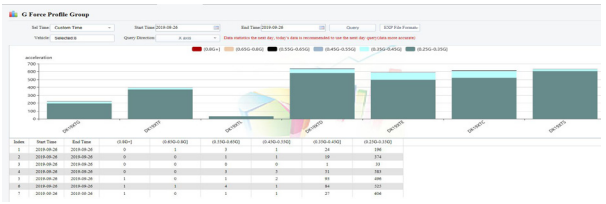
Journey Review shows vehicle journey history and significant changes in vehicle status during the journey



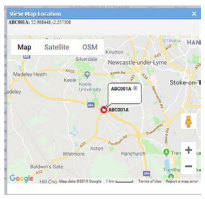
Multi-camera live view of cameras from multiple vehicles

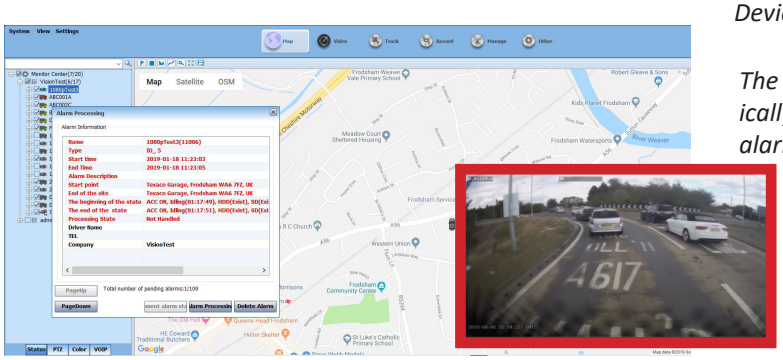


Statistical Analysis of Driving Styles



Report on - and send Real Time Notifications - of events such as High G Forces, Speeding etc. and system issues such as Storage Device Errors and Loss of Video.





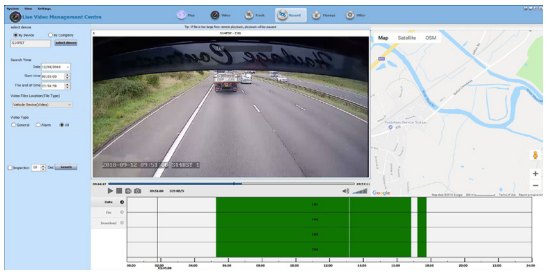
The Live Platform can also be configured to automatically open a Live Video Portal to a vehicle when an alarm event occurs.

This feature is most often used by customers transporting high value goods where the driver wants a Control Centre to be immediately notified of an issue and observe the situation.

Vision UK can also offer bespoke support packages to meet practically any user requirement.

This can include packages where we prepare and issue vehicle and driver reports to customer requirement.

However, we can also pro-actively monitor the systems and advise the customer of any precautionary or necessary maintenance issues that arise; or we can provide a fully managed service where in addition to the above we can also manage the maintenance of the systems.



Remote Review and Download of Video stored on the in the vehicle device

Local Wi-Fi Remote Access

All the remote access features can be also accessed by Wi-Fi Remote Access.

The benefit of Wi-Fi remote access is it incurs no data charges so the transfer of data between vehicle and the local network is “free”, and allows the site to automatically download video files when ever the vehicle returns to site.

A disadvantage of Wi-Fi download is that the device is only available when the vehicle is in Wi-Fi range and the DVR is turned on. To facilitate this the DVR has a configurable power turn off delay so the customer has the time to recover the information they need.

The DVR’s can also be furnished with both 4G and Wi-Fi cards so the device can be accessed when remote from site. Whenever the device is in range of the Wi-Fi network, the Wi-Fi link takes priority and communication through the 4G network disabled.

The final consideration is that the local site Wi-Fi network must have coverage, bandwidth and storage, to deal with the level of data that the customer is expecting to retrieve.

Vision UK

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