

E-NETRA - LINE SCAN Under Vehicle Surveillance System

Technology and Brief System Design

The E-netra is world's most advanced and powerful technology in Under Vehicle Surveillance System. Our system incorporates Gigabit Ethernet, a revolutionary new interface technology. Thanks to use of Gig E interface, E netra allows fast data transfer (1000 Mbps) of data over very long length and allows seamless interoperations from different hardware and software over simple Ethernet connection and permits easy upgrades and future upgradability.

E netra system comprises of digital line scan camera for under carriage scan of vehicles, megapixel camera for under vehicle high resolution images and video, megapixel camera for driver images and high resolution camera for effective number plate recognition with redundant server configuration as an option.

Thanks to the Design & Engineering the product is robust with ease of installation and is available for fixed as well mobile installations. The modular and customized system allows client to select various options and decide for configurations which are most suitable for his project.

The line scan camera is placed in a mobile or fixed environmental housing with high bright LED array which scans the vehicle and provide complete crystal clear full length image. An additional megapixel camera is also installed which provides high resolution image and video to look into any hard to view suspected areas, hence it work in dual mode.

E-netra System also incorporates optional cameras for driver image capturing and number plate recognition system, all data is recorded in standard database. The entire process of image generation and storage of all data including images and video from various optional cameras takes seconds. System provides not only live inspection possibilities but also allows archiving of all data into a user friendly interface where at any point of time various analysis, comparisons and report generation can be done.

The E-netra data base can be integrated with any third party data base and can provide Information and alarms on receiving any suspect vehicle (stolen vehicle, number plate with different under carriage, crime vehicle etc.)



E-netra Features and Capabilities

- Robust system for rugged applications (Fixed and Mobile)
- View and store Crystal clear full length images of under carriage of any vehicle
- Good resolution and Great zoom capability for quick analysis
- High resolution megapixel images and video from auxiliary cameras
- High Quality bright led array for effective color image from line scan camera
- Complete IP system based on GigE interface providing much more flexibility in installations ,upgrades and integration with third party systems
- Integrated number plate recognition system
- Integrated driver image system
- State of art software with high accuracy for number plate recognition system
- Integration with third party databases and comparison of history records
- Easy user friendly GUI
- Time and Date Stamp on images
- Easy maintenances
- Multiple cameras (upto 20 auxiliary cameras can be installed)

Technical Specifications of E netra Scanning System:

Main Camera type:	Vista EnLS04: CCD with width greater than 4000 pixels
Power supply:	12VDC
Camera interface:	GigE/Camera Link(optional)
Presence sensors:	Photocell barrier / Inductive loop
Illumination system:	Hi bright LED array
Vehicle speed:	5 to 30 Km/h
Environmental:	IP67 under road enclosure with rust free top
Load capacity:	40 Tons
Operating temperature:	-5 to 55 °C
Expandability and Upgrading	Future upgrading is Possible

Technical Specifications of Auxiliary camera

The system uses EnVes series IP cameras which are of new generation and allows installations in complex situations with much ease.

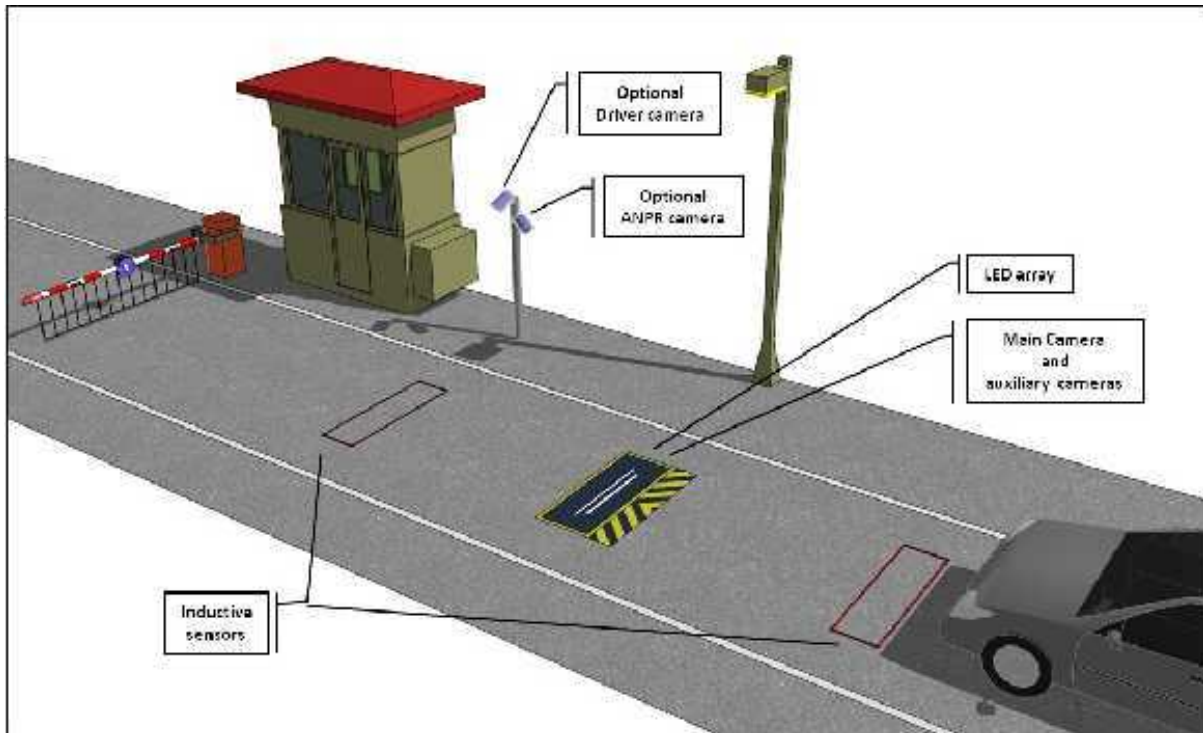
AUXILIARY CAMERA	
Image sensor:	Progressive scan RGB CMOS from 1/4" to 1/2.5" *
Video Compression:	H.264 (MPEG-4 Part 10/AVC), Motion JPEG
Resolutions:	1280X800(1MP) to 2560x1920 (5MP) *
Frame Rate:	Upto 30 fps
Programmable shutter speed	Higher to 1/5000 s
Video Streaming:	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264
Image Settings:	Compression, color, brightness, sharpness, contrast, white balance, exposure control, exposure zones, backlight compensation, fine tuning of behavior at low light, rotation Text and image overlay, privacy mask
Supported Network Protocols:	IPv4/v6, HTTP, QoS Layer 3 DiffServ, FTP, SMTP, Bonjour, UPnP, SNMPv1/ v2c/ v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS
PoE Camera Power:	Max. 6.4 W, PoE Class 2 on connector RJ-45 10BASE-T/100BASE-TX PoE
Weight:	2Kg

** Depending on configurations requested*

The main Vista EnLs04 (scan camera) and the Vista EnVes series auxiliary cameras can work in low light conditions and are able to automatically and dynamically adjust required parameters to ensure good results.

The system permits the recording and real time visualization of optional Context and Driver cameras:

- Optional ANPR Vista EnVes camera series with built in IR light (with resolutions up to 3Mp).
- Optional Context and Driver Vista EnVES camera series (with resolutions up to 3MP)



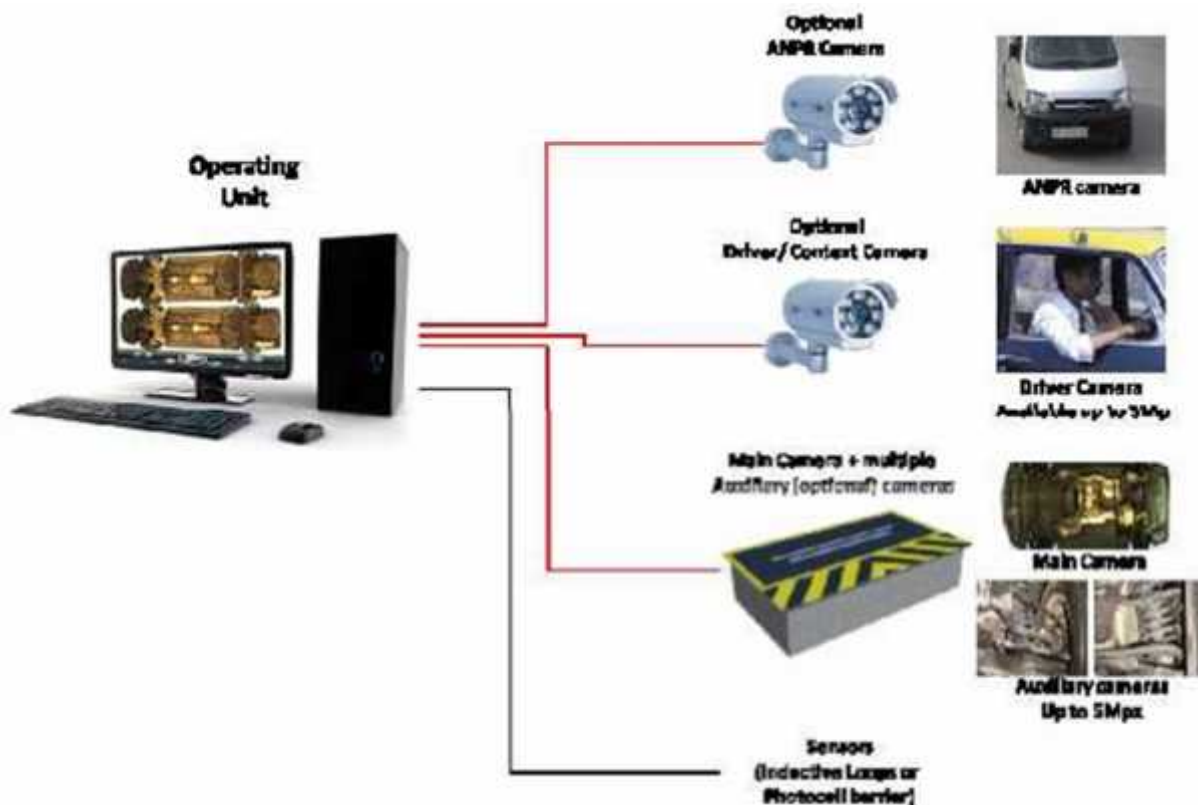
Example of an E netra system

THE PROCESSOR

Computer equipment rack-mounted 19" (1-Socket 1U rack server) that offers advanced management capabilities, low wattage power supply and external storage connectivity options in a very small chassis.

Technical Features (upto 8 lanes)

Processor	Intel® Xeon® X3440, 2.53Ghz, 8MB Cache, Turbo, HT
RAM	4GB Memory, DDR3, 1333MHz
HD	500GB, SATA, 3.5-in, 7.2K RPM Hard Drive
Base	PowerEdge R210 Chassis with up to 2 Cabled HDs and Quad-Pack LED Diagnostics
Chipset	Intel® 3420
RAID connectivity	C1 MST No Raid with On-board SATA Controller, Min. 1, Max. 2 SATA Only Drives
Power	Single cabled power supply (250W)
Power Cord	Rack Power Cord 2M (C13/C14 12A)
Front Panel	1U Rack Bezel
Optical Device	16X DVD-ROM Drive SATA with SATA Cable
Embedded Network Controller	Broadcom® NetXtreme II 5709 Dual Port 1GbE NIC with TOE, PCIe-4
Rack Chassis	42.6 H x 431 W x 393.7 D (mm)



Example of E netra system connections



Example of a car passing across the E netra system

Technical Features of optional cameras for ANPR and Driver/Context Acquisition

The E netra System is an integrated UVSS system with a high accuracy automatic number plate detection system. The system can automatically identify and store the number plates of the passing vehicles in predefined database which could be integrated with various databases with different Law and order authorities. The system would provide alarm once such vehicle (stolen, suspect, crime vehicle etc.) passes in front of the camera. The complete integrated database of existing systems (line scan camera image, number plate, driver image and various videos) provide ease of use and easy inspection and audit of any specific transit or multiple transits

	Vista EnVES Series Camera with infrared	Vista EnVES Series Camera without infrared
Image Sensor	Progressive scan RGB CMOS from 1/4" to 1/2.5" *	
Video Compression	H.264 (MPEG-4 Part 10/AVC), Motion JPEG	
Resolutions	From 1280x800 (1MP) to 2560x1920 (5MP) *	
Frame Rate	upto 30 fps	
Video Streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264	
Image Settings	Compression, color, brightness, sharpness, contrast, white balance, exposure control, exposure zones, backlight compensation, fine tuning of behavior at low light, rotation Text and image overlay, privacy mask	
Supported Network Protocols	IPv4/v6, HTTP, QoS Layer 3 DiffServ, FTP, SMTP, Bonjour, UPnP, SNMPv1/v2c/v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS	
PoE Camera Power	Max. 6.4 W, PoE Class 2 on connector RJ-45 10BASE-T/100BASE-TX PoE	
Housing and IR Power	AC 90 to 260V 32 Watt	-
IR wavelength	850 nm	-
IP Rating	IP65/ IP66/ IP68 enclosure depending on environment requirement	
Housing Construction	Aluminum	
Weight	4.4 Kg*	3 Kg*

** Depending on camera model*

All specifications are subjected to change without prior notice

Actual configuration of system supply would be based on our Techno commercial offer and all products mentioned in brochure are not part of standard supply.

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