LICENSE PLATE RECOGNITION
S Y S T E M S

InSignia4

L P R • A N P R

Long-life Illumination • Virtual Vehicle Detector™ • Special Designed Enclosure
Continuous Image Capture • Revolutionary DynaCapture™ Technology

INEX/ZAMIR

Used to seeing LPR systems with a long list of components and complicated cabling requirements?

■ Our LPR concept

InSignia 4 DTE All-in-One revolutionizes LPR technology. Forget about installing cameras, external lighting, loop detectors, controllers, I/O units and PC's and all the cabling needed to connect them together. InSignia 4's unified architecture eliminates the need for heavy investment in infrastructure by incorporating the entire LPR system in a single, compact housing. Simply add power and a network cable, and you are done!

An InSignia 4 LPR System consists of one or more InSignia Lane Controllers networked for easy control and management.

InSignia 4 comes in four basic hardware modules:

InSignia 4 DTE-AiO Each Lane Controller includes Data Processing Unit (DPU), imaging hardware, long-life LED illumination, Zamir's proprietary Virtual Vehicle Detector™ software and LPRware™, all in one convenient, unified housing.

InSignia 4 DTE-IU A ground mounted imaging unit that communicates with our DPU or an additional InSignia 4 DTE-AiO.

InSignia 4 HY The aerial mounted LPR imaging unit that communicates with our DPU or an additional InSignia 4 DTE-AiO.

InSignia 4 DPU A designated Data Processing Unit (DPU) that can be delivered in various configurations, including hard-duty rackmount or small form factor chassis.

All InSignia 4 processors can become integral parts of the customer's network, easily integrating with third party applications, or can operate as stand-alone systems.

■ DynaCapture™ Technology

DynaCapture™ is our revolutionary microcontroller-based design that dynamically changes the parameters of image capturing including control of both the camera and the LED-based illumination matrix. DynaCapture™ can be used for a wide range of weather, ambient light and license plate types and conditions.

■ Continuous Image Capture

InSignia 4 continuous image capture generates multiple images for each event, boosting recognition rates and reliability over traditional one-shot LPR systems.

■ Long-life Illumination

InSignia 4 introduces its proprietary Intelligent Illumination Unit (IIU), a synchronized, long-life, LED-based illumination system. The standard illumination unit is supplied in an IR version.

■ Virtual Vehicle Detector™

InSignia 4's revolutionary Virtual Vehicle Detector™ detects vehicles typically without the need for external detectors — operating with equal effectiveness for front or rear image capture. Our Virtual Vehicle Detector™ saves infrastructure costs, whereas InSignia 4 also supports both additional external hardware and software triggers where required.

■ LPR Recognition and Processing Power

At the heart of InSignia 4 Lane Controller is our proprietary array of algorithms that combine template matching and structural analysis to achieve the highest recognition accuracy. InSignia 4's built-in processing is powered by an Intel processor and WIN XP Pro®.

■ Making LPR Smart

The InSignia 4 Lane Controller combines a new unified hardware architecture with expert license plate recognition algorithms. It captures, processes, interprets and records vehicle images for use in a variety of IT applications, incorporating continuous image capture.

InSignia 4 HY

InSignia 4 DTE

Transportable License Plate Recognition System

We offer a Transportable License Plate Recognition system for vehicle-based, roadside LPR capture for highway applications.

The InSignia MBL transportable license plate recognition system can be installed in a vehicle. Simply drive to the required location, point the camera unit at the traffic lane being monitored, and InSignia MBL does the rest. The unit features an integrated camera and day/night illumination unit, optional ruggedized PC, flat screen monitor and keyboard.

See special info sheet, InSignia MBL 4.

Color View Camera

We offer an optional view camera unit for capturing a color or B/W "scene view" image in addition to the picture used for the License Plate Recognition process. The additional view image is synchronized in the database with the primary recognition image.

See special info sheet, InSignia CVC.
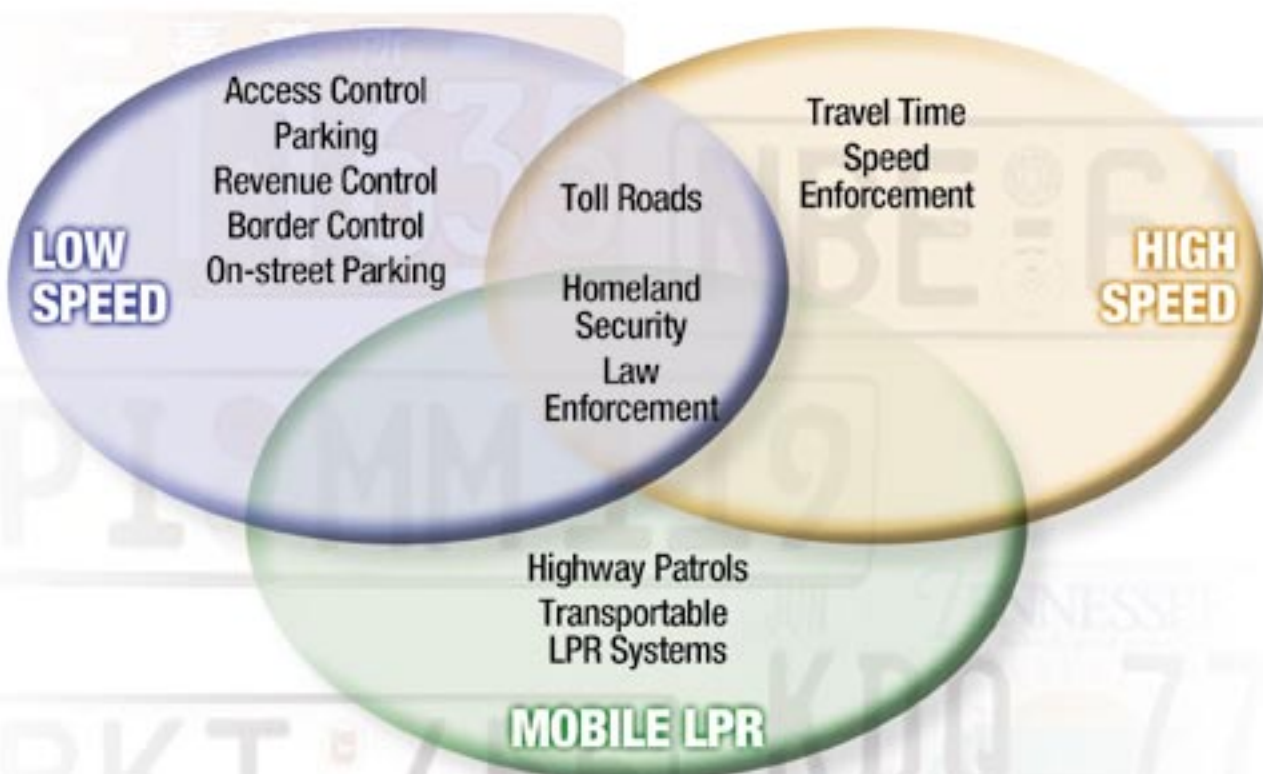
InSignia Console™ Management Software

InSignia Console™ (Operator Console) application offers database management, system performance and maintenance services, report generation, and special application features. InSignia Console™ can be installed on any networked PC and uses TCP/IP protocol to communicate with the Lane Controllers and other network nodes. InSignia Console™ easily integrates with external management systems.

Users with appropriate privileges can define, configure and control the vehicle database according to application requirements.

The system's manager can customize InSignia Console™ for each attendant's specific responsibilities, level of authority, and technical training.

InSignia Console™ offers an optional online intervention mode, allowing an operator to monitor vehicle events and view event images in real time. The operator may correct or override any event, thereby authorizing or preventing access, responding to alarms, controlling the operation of traffic lanes, and more.

InSignia 4 LPR/ANPR Applications

LOW SPEED

Access Control
Parking
Revenue Control
Border Control
On-street Parking

Toll Roads

Homeland
Security
Law
Enforcement

Travel Time
Speed
Enforcement

HIGH SPEED

Highway Patrols
Transportable
LPR Systems

MOBILE LPR

Technical Specifications

System Capabilities

Performance
Operates 24 hrs/day under diverse weather conditions

Responds to approaching vehicle in less than 30 ms.

Nominal Recognition Rate
Nominal accuracy: >93%
With recognition enhancement: >98%

Operation Specifications

Lane Size
3–5 meters (10–16 ft) wide (configurable)

Imaging Distances
From Lane Controller to Vehicle: 4–20 m (13–66 ft)
(reflective plates)
From Lane Controller to Vehicle: 6–15 m (20–49 ft)
(non-reflective plates)

Vector Settings
Angle of Elevation: <20°
Angle of Azimuth: 3°–40°
Angle of Roll: <10°

Vehicular Speed
Up to 180 km/hr (110 mph)

Environmental Conditions

Temperature
Operation: -10° C to 50° C (14° F to 120° F)
Storage: -10° C to 60° C (14° F to 140° F)

Relative Humidity
90% non-condensing

Processing Unit Specifications
Intel Pentium or Celeron 2.8 GHz processor or higher
RAM: 512 MB or higher
80 GB Hard Disk
Operating System: MS Windows XP Pro
Platform: InSignia 4.x

Communication Interface
10-base-T Ethernet: TCP/IP
Serial: RS232 (standard), RS485 or Wiegand (optional),
USB2
Wireless (optional): WiFi, GSM, SMS messaging,
Bluetooth, Firewire

Lane Controller (DTE)

Dimensions — Ground Level Unit
D x W x H: 30 x 32 x 90 cm (net)
            (0.98 x 1.05 x 2.95 ft net)
Weight: 30–38 kg (66–84 lbs)
(depending on configuration)

Relay Outputs (optional)
Proprietary Universal Interface Controller (UIC)
with 4 N/O or N/C relay connections

Power Supply
100–110 V or 220–240 V AC
Optional low-voltage power supply

Image Sensor
High-resolution CCD B/W (CCIR or EIA)
Optional high-resolution CCD color sensor (PAL or
NTSC)
Optional Megapixel GigaEthernet IP camera

Illumination
Proprietary LED-based Intelligent Illumination Unit (IIU)

InSignia 4 HY Aerial Unit

Dimensions – Aerial Unit
H x W x L: 140 x 210 x 460 mm (5.5 x 8.2 x 18.1 in)
Weight: 5–7 kg (11–15.5 lbs)
(depending on configuration)

Relay Outputs (optional)
Proprietary external Universal Interface Controller (UIC)
with 4 N/O or N/C relay connections

Power Supply
24 V DC
Optional external 110/220 V AC power supply is
available

Image Sensor
High-resolution CCD B/W (CCIR or EIA)
Optional high-resolution CCD color sensor (PAL or
NTSC)
Optional Megapixel GigaEthernet IP camera

Illumination
Proprietary LED-based Intelligent Illumination Unit (IIU)

Technical specifications are subject to changes without notice.

INEX Technologies LLC
10870 Murdock Road
Knoxville, TN 37932, USA
Tel: +1-865-671-1400 • Fax: +1-865-671-1416
www.inextek.com • info@inextek.com

Zamir Recognition Systems Ltd.
Manachat Technology Park, Building 1/22
IL-96 951 Jerusalem, Israel
Tel: +972 2 679 7460 • Fax: +972 2 679 7470
www.zamir.com • info@zamir.com

INEX/ZAMIR