

GV-LPR

License Plate Recognition

- Parking lot management
- Automatic toll collection enforcement
- Traffic enforcement statistics
- Border surveillance
- Stolen vehicle search



Camera Requirements

Illumination	0.05 LUX or lower
Minimum Resolution	480 Horizontal Line
Auto Electronic Shutter	1/60 ~ 1/100,000 sec
Auto White Balance Compensation	Required
Backlight Compensation	Required

Specifications

Models	GV-LPR-1	GV-LPR-2	GV-LPR-4
Number of Lanes	1	2	4
Total FPS	30fps	60fps	120fps
FPS / Camera	30fps	30fps	30fps
Image Format	JPEG	JPEG	JPEG
CPU	Pentium 4 1.8GHz	Pentium 4 2.4GHz	Pentium 4 3.0GHz
OS	Win 2000 / XP	Win 2000 / XP	Win 2000 / XP
HDD	40GB	40GB	80GB
RAM	256MB	256MB	512MB



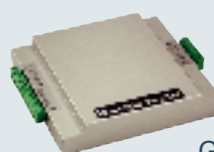
GV-NET

Specification	
Interface	RS-232 to PC 9 pin male-female cable
Communication	1200~19200 bps
DC In	Power Adaptor DC 5V
Dimension	103 (W) X 32 (H) X 64 (D) mm



GV-IO

Specification	
Communication	RS485, 2400~9600 bps
Output	Output 16
Input	Input 8
	Input Signal 0 - 5 V DC (floating)
	High State 5V
	Low State 0V
Dimension	202 (W) X 39 (H) X 166 (D) mm



GV-RELAY

Specification	
Relay Output	8
Relay Status	Normal Open
Power Consumption	5VDC , 350mA (MAX)
Relay Capacitance	6A/250V AC; 10/125V AC; 5A/28V DC
Relay On Time	8 ms
Relay Off Time	5 ms
Dimension	202 (W) X 39 (H) X 166 (D) mm



GV-NET/IO Card
GV-NET Card (without IO function)

Specification	
Communication	1200~19200 bps
Relay Output	4, off time 4ms
Input	4
DC-IN	DC 5V, 1A



★ All specifications may change without prior notification.



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GV-LPR

License Plate Recognition

INTRODUCTION

GV-LPR is a digital license plate recognition system that utilizes Neural Network Technology of artificial intelligence to identify vehicle license plates. It comprises a video capture card to acquire images, a software-based engine to recognize characters, a set of I/O modules to integrate with alarm and sensors, and a database to store images for event retrieval or analysis. 1, 2, or 4-lane real-time recording are available.

THE RECOGNITION

GV-LPR activates recognition process in two ways. One is by software motion detection, which detects vehicles passing through the camera and illuminator zone. Second is by I/O activation, which the action triggers recognition and recording on I/O activation. For example, a GV-LPR may be connected to a sensor such as magnetic loop detector, overhead laser scanner, or infrared sensor. When these devices are triggered, the system starts the recognition and sends the output signals to trigger devices like gate controller. The system supports two view modes including Camera Overview and Picture-in-Picture with ease of monitoring.

THE INTEGRATION

The system provides multiple I/O points for connection to devices such as gate controller, infrared detector, loop detection system, or alarms. By exporting the database that logs the captured license plate numbers, GV-LPR can be integrated to systems such as GV-series DVR to retrieve video footage or a ticketing system.

INSTALLATIONS

The GV-LPR software currently recognizes license plates of these countries: UK, Italy, Spain, Taiwan and Japan. More are to be implemented.

APPLICATIONS

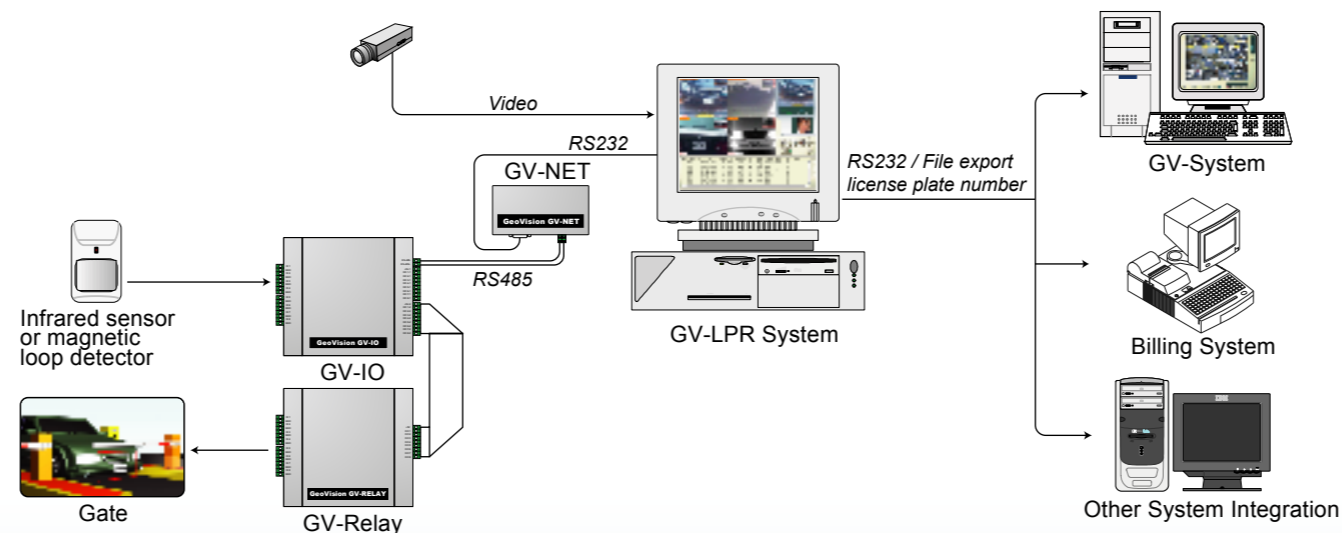
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MULTIPLE I/O INTEGRATION

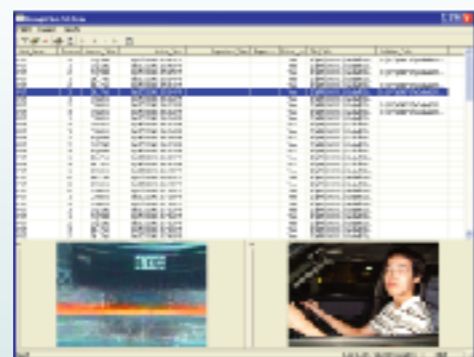
- The system can be used in conjunction with card reader, TITO (ticket-in/ticket-out system), and gate control system.
- Outputs license plate numbers through RS232 or by file for various integration.
- Hot Key Support can be used to manually activate I/O devices

KEY FEATURES

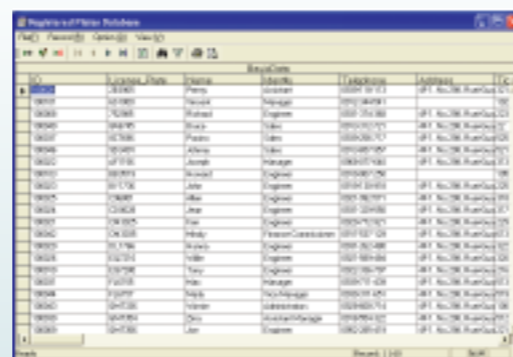
- High recognition rate: 99% (at best performance)
- High recognition speed: < 0.3 second
- Integrates with GV-series DVR to retrieve video footage by license plate number
- Vehicle counter feature tracks number of vehicles remaining in the parking lot by counting vehicles entering and exiting the gate
- Camera overview brings focuses on either the vehicle or the driver
- License plate recognition database are processed and stored in Microsoft Access Database for easy and multiple applications
- Multiple recognition technology is applied until a recognition result is reached
- Alarms will be triggered when an unauthorized or unrecognizable vehicle is spotted
- Picture-in-Picture window provides camera overview and the last recognized image
- Video or AVI file is used as recognition input source.
- Digital watermark technology is applied to verify authenticity of video clips
- Text overlay displays license plate numbers on recorded video image
- Activates recognition by sensor triggers, video motion detection or Hot Key
- Recognition result triggers I/O Relay or user-defined application
- Recognizes and displays license plate image registered in database
- Retrievable vehicle entry and exit records by license plate number
- JPEG format support: Allows approximately 10 million JPEG images to be saved in a 80GB HDD
- Auto recycle for image storage and database backup



GV-LPR Main Screen



Recognition Database



Registered Plates Database



Integration with DVR



Event View