RECOGNIZE LICENSE PLATE EASILY

Instek Digital™ VTrack License Plate Recognition allows to recognize and read automatically and in real-time the license plates of vehicles for access control managment.

- *real-time visualization by web interface of the recognized license plates*
- *white / black lists management, with automatic signaling of the recognition of an included license plate to an external output*
- *off-line search and visualization by web interface of the stored detected license plates within a given timeframe*

This allows video surveillance to be more effective and efficient for safety and security. Resulting in increasing of protecting infrastructure and facilities.

VTrack License Plate Recognition can be utilized for two general purposes:

- optimization of services and management
  - increasing of the efficiency of personnel and facilities
  - significant reduction of management costs
  - monitoring of the utilization of services and facilities through managing automatically the scheduling of accesses of vehicles to builidings, private estates, commercial areas, for parking enforcement and inventory or for the automatzation of services or procedures
- more effective access monitoring for the protection of sensitive areas and properties
  - toll areas managment
  - prevention of critical situations for structures and facilities through preventing the access to unauthorized vehicles in private areas, or areas with limited accessibility, or toll areas, or through estimating the number of vehicles present inside sensitive areas

Vertical markets:

- industrial areas and critical infrastructures
- commercial centres, chain stores, supermarkets
- banks
- ports, airports, railways, highways
- stadiums, museums, schools, prisons, hospitals, police stations

Key Features

- Full integration with Instek Digital™ VMS Command Center
- Real-time detection of unattendent objects
- Windows based software architecture
- Unlimited configurable virtual zones of any shape of interest in the scene
- Filtering objects by size, type and dynamics
- Ability to select several active points of the detected object
- Filtering of object of interest with specific size for each configured alarm zone
- Calender functionality: for scheduling of different configurations in different time-frames
- Ability to process at resolution and frame rate different from the source ones
- Watchdog functionality: for automatic restart of the module in case of critical errors or hardware unit restart
- Automatic and real-time alarm notifications

INSTEK DIGITAL

Instek Digital is a video surveillance business unit of Good Will Instrument Co., Ltd. and focus on the development of high quality digital surveillance solutions. The company inherited over 20-years of surveillance experience. Instek Digital has the luxury of a strong financial background supported by Good Will Instrument Co., Ltd. – has over 40-years of electronics R&D and manufacturing experience. And Good Will Instrument Co., Ltd. is also listed on the Taiwan Stock Exchange.

Instek Digital offers a wide array of video surveillance software and hardware – under the brand of Instek Digital. The core design are based on the following principles; "User-Friendliness", "Scalability" and "Reliability". Instek Digital's solutions are based on an open platform – creating seamless third party integration. With this concept Instek Digital has created a business model that can meet every aspect in today's surveillance demand. The results speak for themselves – based on small and large projects that we have deployed around the world.

Functional Specifications

- Integrate within Instek Digital VMS Command Center
- Modular, scalable and flexible software architecture, available for Windows/Linux o.s. 32/64bit
- Unlimited configurable virtual zones, of any shape and size
- Detection and tracking of unlimited subjects of interest in the scene
- Robust and reliable in filtering false alarms due to atmospheric phenomena, changing of environmental conditions, vegetation, thanks to the most advanced self-adaptive algorithms based on Self Learning Background Modelling, Foreground Filtering and Multitarget Tracking
- Specific algorithms for filtering shadows and lighting changes
- Filtering of objects by size, type and dynamics
- Morphological filtering for improving the efficiency of the detection and separation of subjects by shape enhancement
- Ability to select several active points of the detected subjects (ex. baricenter and/or ground point and/or left upper point ...)
- Filtering of subjects of interest with specific size for each configured alarm zone (ex. Zone1: alarm only on little objects detection, Zone2: allarm only on big objects detection, ...)
- 3D perspective management by linear interpolation on image, or by image calibration
- Unlimited configurable no-processing virtual zones, to inhibit not-of-interest areas in the image
- Unlimited configurable crops of the image, each one processed as separate video source
- Enabling/disabling of the module by external input or time scheduling
- Calendar function, for the scheduling of different configurations in different timeframes
- Ability to process at resolution and frame rate different from the source ones
- VirtualAlertRule function, for the generation of alarms by correlating in AND within a certain time the occurring of multiple configured alarms
- Visualization on a centralized graphic map of the position and trajectory of the detected subjects
- Interface for the simulation of the processing results, to verify the correctness of the configuration
- VTClient interface for the real time visualization of live and alarms, with bounding boxes and trajectories overlays
- Watchdog function, for the automatic restart of the module in case of critical error or hw unit restart
- Automatic and real time alarms sending to:
  - VMS or NVR compatible platforms
  - I/O contacts, electrical devices, external DVR or NVR units, through Modbus I/O units
  - e-mail, with in attachment the image related to the generated alarm
  - FTP server
  - serial port, PLC
  - unit connected in web through http/TCP call, customizable
- VTrack-Recorder function, for the storage in local directories of continuous or event-based videos
- Supported countries: Australia, Belgium, Bolivia, Brazil, Bulgaria, Chile, Colombia, Costa Rica, Croatia, Czech Republic, Denmark, Ecuador, El Salvador, France, Germany, Greece, Guatemala, Honduras, Hungary, India, Ireland, Israel, Italy, Latvia, Malaysia, Netherlands, Norway, Peru, Poland, Portugal, Romania, Singapore, Slovakia, Spain, Sweden, Turkey, United Kingdom and Vietnam

System	Operating system	Microsoft® Windows™ 10
	CPU	Intel® Core™ i7
	Resolution	CIF
	Frame rate	10
	Streaming protocol	RTSP / ONVIF
	CMS / NVR behavior	trigger, recording, live/map, popup, PTZ, DO
	Keyboard | mouse	PS/2 | USB
	Ethernet	1 x Gigabit
	USB	4 x USB3.0 + 4 x USB2.0
	Display port	1 x VGA / 1 x DVI-D / 1 x HDMI
Environmental	Operating temperature	0 ~ 40°C
	Humidity	Max. 90%, non-condensing
Electrical	Power input	AC 100V ~ 240V
	PSU	300W
Mechanical	Form factor	2U
	Dimensions w / wo box (WxHxD mm)	570 x 535 x 245 / 445 x 402 x 88
	Weight w / wo box (kg)	12.2 / 8.6

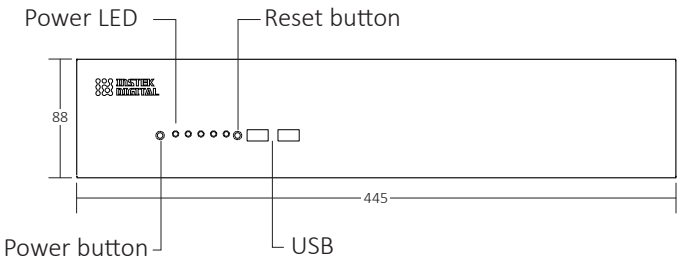
a) The actual video display performance may vary according to type of camera(s) and lighting condition.
b) Product specifications and availability are subject to change without notice.
c) Instek Digital is a registered trademark of Good Will Instrument Co., Ltd.

Models:	Description:	Models:	Description:
HR-RV3900-2U	Turnkey	**HR-RV30C5-SW**	License, 1 channel + 5 rule
HR-RV30S1-SW	Standard software	**HR-RV30C6-SW**	License, 1 channel + 6 rule
HR-RV30C1-SW	License, 1 channel + 1 rule	**HR-RV30C7-SW**	License, 1 channel + 7 rule
HR-RV30C2-SW	License, 1 channel + 2 rule	**HR-RV30C8-SW**	License, 1 channel + 8 rule
HR-RV30C3-SW	License, 1 channel + 3 rule	**HR-RV30C9-SW**	License, 1 channel + 9 rule
HR-RV30C4-SW	License, 1 channel + 4 rule	**HR-RV30CA-SW**	License, 1 channel + unlimited rules

Technical requirements for VTrack Software solution:

- Video flow acquisition from:
  - IP cameras (optical or thermal), through standard protocols rtp/rtsp, mjpeg or ONVIF
  - analogue cameras (optical or thermal), by IP video encoders through standard protocols rtp/rtsp, mjpeg or ONVIF, or by compatible frame grabber cards
  - NVR compatible or through standard protocols rtp/rtsp, mjpeg or ONVIF
  - off-line videos in all standard formats (avi, asf, mpg, mov, ...)
- Conditions of the subjects of interest in the image in order to be effectively detected:
  - clearly visible to the naked eye in the image, even in difficult environmental conditions (night, heavy rain, fog, glare from the sun or other sources of artificial light, snow, ...)
  - entirely visible in the image for at least 15-20 continuous frames- minimum size: each character higher than 20 pixels
  - maximum size: about 1/4 of the image
- Angle of inclination not larger tan 35° in horizontal or vertical
- Minimum frame rate: 5fps
- Suggested image resolution: 4CIF (704x576) or VGA (640 x 480)
- Computational need:
  - CPU: up to 3 video flows in 4CIF / VGA resolution at 5fps with single core 2.8GHz
  - about 100MB memory for each processed video flow

Front View RV3900-2U



Rear View RV3900-2U