EASILY AND FAST DETECTION OF SUSPICIOUS BEHAVIOURS

Instek Digital VTrack Loitering video analytics feature detects and signalizes objects that remain within an area longer than a defined time. This allows video surveillance to be more effective and efficient for safety and security. Resulting in increasing of protecting infrastructure and facilities.

VTrack Loitering can help to prevent and detect of vandalism acts - such as graffiti painting, damage of monuments etc.

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

Key Features

- Full integration with Instek Digital VMS Command Center
- Real-time detection of objects left for a longer period of time
- 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
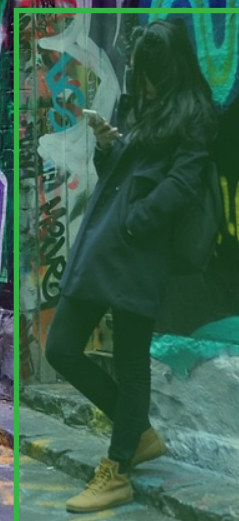
INSTEK DIGITAL

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 gates, of any shape and size

- Mono or bi-directional counting for each configured virtual gate

- 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 subjects of interest by size and dynamics

- 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

- Ability to process at resolution and frame rate different from the source ones

- Function GateFlowAggregator for the collection and management of the counting of several virtual gates configured on one or more cameras, with automatic and real time signaling of counting exceeding a certain configured threshold

- Web-based graphical and numerical visualization of the on-line and off-line counting data

- Manual or configurable reset for each configured counting function

- Scheduling and sending of automatic counting reports

- Export of counting data in csv format

- 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

- Counting data sending according to specific communication/protocol requirements customizable by project

- Automatic and real time GateFlowAggregator's alarms sending to:
  - VMS or NVR compatible platforms
  - I/O contacts, electrical devices, external DVR or NVR units, through Modbus I/O devices
  - e-mail
  - 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

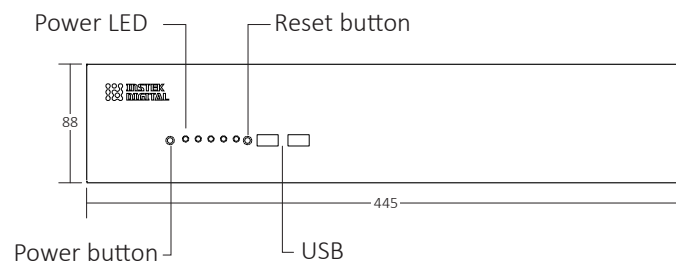| System		
	Operating system	Microsoft® Windows™ 10
	CPU	Intel® Core™ i7
	Resolution	CIF
	Frame rate	10
	Streaming protocol	RTSP / ONVIF
	CMS / NVR behavior	trigger, recording, live/map, popup, PTZ, DO
	Keyboard | mouse	PS/2 | USB
	Ethernet	1 x Gigabit
	USB	4 x USB3.0 + 4 x USB2.0
	Display port	1 x VGA / 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 10-15 continuous frames- minimum size: area of 100 pixels
  - maximum size: about 1/4 of the image
• Minimum frame rate: 8fps
• Suggested image resolution: CIF (352x288) or QVGA (320x240)
• Computational need:
  - CPU: up to 6 video flows in CIF/QVGA resolution at 8fps per single core 2.8GHz
  - RAM: about 80MB for each processed video flow
  - Intel® HD Graphics / NVIDIA® GT730 or higher graphics card
  - Windows (XP or next) or Linux, 64 bit operating system

Front View RV3900-2U

Power LED ——— ┌— Reset button

88

445

Power button ┘   └ USB

Rear View RV3900-2U

USB2.0   VGA   Ethernet

HDMI
PS/2   USB3.0   Audio
Power socket   DVI-D   USB2.0