



TRAFFIC SIGNALS & ACCESSORIES INTL

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Digital Speed and Red Light Enforcement System



D-COP Elements

The D-cop is made up of a head unit installed on a pole, approximately 3 meters in height. The head housing unit contains a colour camera equipped with a 14 mega-Pixel sensor, a 4 Mega-Pixel video camera for video clip recording, a control computer, an electronic interface unit, a traffic light monitor unit, later detectors and pan&tilt, communications interface and a WI-FI router.

Traffic violations are automatically detected by using either: Piezo electric sensors, loop detectors or laser based detectors.





D-COP Elements Continued...

All inter connections from the street equipment to the housing unit, are brought together in a control box located inside the mounting pole. No ladder is needed to check the state of the modules installed inside the cabinet as this operation is performed using a laptop computer connected through a small door mounted on the pole at a height of 1.5 meters.



All the D-cop elements, inside the head-housing unit, are in a modular configuration with each module fitted with its own cooling fan, therefore they can be exchanged from one cabinet to another or among the dummy installations with no hassle.



The camera module

The camera module supports a high quality colour camera which mounts a 14 megapixel sensor, capable of covering four lanes of traffic. In alternative a 24 megapixel sensor can be installed.

Ancillary video camera

As option the D-cop may install an ancillary 4 megapixel progressive video camera for recording a 15 second video clip at any time a violation occurred. The video clip is recorded in addition to the pictures captured by the megapixel camera. The video clip records a video footage of the road intersection 7.5 seconds before the violation to occur and 7.5 seconds after the violation has been detected.

Data Protection

The purpose of data protection is to ensure that D-COP violations cannot be tampered by anyone. The D-cop uses the same encryption methods, used by all major financial institutions (128 bit encryption coding).

Encryption transforms the image into a random data ensuring that the nature of the data is unrecognisable to unauthorised observers, rendering it impossible to selectively alter any part of the images.

Data Transmission

Violations are transmitted to Copland, which is the D-cop Installation software, either on demand or automatically at any time desired.

Access to the D-cop can be achieved via internet, wireless LAN, WAN or any other communication technology, since the D-cop uses a standard TCP/IP protocol to communicate with the Copland Installation software.

The Flash Module

To solve the problem of capturing reflective license plates, the flash is installed on an additional pole (side flash). The flash is power supplied at 12 volts and is designed to provide two variable power white light flashes in quick successions. The power of the flash is variable to meet the wide range of lighting conditions likely to be encountered.

Local Mass Storage Device

The internal hard disk works as a mass storage device, which stores up to 500 gigabytes. Storage requirements are approximately 2 megabytes per violation, which corresponds to 500 violations per GB



D-COP Specifications

Head Unit

Camera systems:	14 Mega-Pixel Colour camera sensor
Lens:	High quality zoom lens covering up to 4 lanes of traffic
Shutter:	Electronically controlled vertical-travel focal-plane shutter
Shutter Speed:	1/30 1/8.000 s in step of 1/3 or
Operating System:	Windows XP SP2 or Windows 7
Communication:	WI-FI, Internet, LAN, WAN, GPRS
Image Format:	Two images for speed and red light violations, covering a maximum of 4 lanes of traffic
Image size:	+/- 2 MB per violation
Side Flash:	White flash
Power requirements:	110/220 VAC
Housing:	IPX5, manufactured from stainless steel, is mounted on a pole 3 meters high.
Mounting:	Fixed mounting pole
Operating temp:	-20°C to +60°C
Weight:	60 kg
Humidity:	98% none condensing

Statistical Information retrieval includes:

- Total vehicle count
- Number of violations
- Speed Profiles (histogram of average vehicles over time period)
- Violation Profiles (histogram of violations over a given time period)

Speed and Application Options:

- Speed Enforcement:
- Piezo's (3 piezo's and 1 loop per lane covering up to 4 lanes)
 - Laser (1 laser per lane)

Red-Light Enforcement:

- Loops (2 loops per lane)
- Laser (1 laser detector per lane)

Speed & Red Light Enforcement:

- Piezo's (3 piezo's and 1 loop per lane covering up to 4 lanes)
- Laser (1 laser per lane)



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