

Television Outstation (TVOS)

Chubb Systems



The TVOS unit comprises of three key elements: a long-range, high-resolution camera with optical zoom and back light compensation; an infrared array with 500m range; and a Television Base Unit (TVBU) which serves as the outstation element in the Highways England CCTV network.

Alongside the TVOS technological benefits are significant cost reductions and energy efficiency. Capital costs are reduced with no additional brackets required to hold the IR unit in place, while the unit's ongoing costs are minimal as power consumption has been significantly reduced.

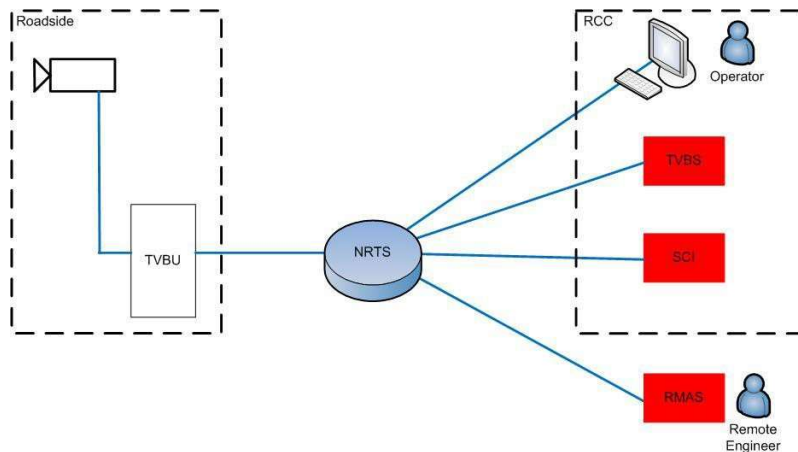
Video images from the TVOS camera can be viewed by an operator located within an RCC on an OIF. The TVOS also supports signal inputs and outputs to collect data and perform control functions on the TVOS, such as camera PTZ telemetry or turning IR lighting on/off.

All control and signaling functions are managed by a Television Base Station (TVBS) system located in the regional control center (RCC).

The TVOS unit connects to the National Roads Telecommunication System (NRTS) network to transmit video and control data between the RCC devices and the roadside TVOS units.

The integrated wiper unit cleans both camera lens and IR array. Various camera bracket options (Design and Check certified) are available for use on existing or new masts. Existing camera cables can be used dependent on previous technology type and condition.

A summary overview of the system architecture is shown below.



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Camera Technical Data

Key Features

- 1/1.9" HD CMOS sensor
- 36X Optical Zoom
- 1920*1080P Full HD IP output
- 1V P-P analogue output
- Digital Wide Dynamic Range
- Image Stabilisation
- 500m IR distance
- 24VAC power supply or Power over Ethernet (Hi-PoE)
- Support for Smart Video Analytics (e.g. line crossing, region entrance/exit)
- Integrated wiper
- Dimensions - $\Phi 266.6\text{mm} \times 410\text{mm}$

Camera Functions

- F1.5 ~ F4.5 lens range
- 5.7mm – 205.2mm focal length (30x zoom)
- Auto Iris
- Auto Focus
- Auto White Balance
- Back light compensation
- Auto Day/Night switch
- Minimum illumination 0.002lux (colour)
- Minimum illumination 0.0002lux (mono)
- PTZ continuous 360° pan
- PTZ +20° to -90° tilt
- Up to 210° / second pan speed
- Up to 150° / second tilt speed
- Proportional zoom control

IR Functions

- Up to 500m IR distance
- Proportional IR power (dependent on zoom)

Environmental Functions

- Temperature: -40°C ~ 65°C
- Humidity: 90% or less
- Weight: 8kg
- IP rating: IP66
- Protection: TVS 6000V lightning protection

Network Functions

- 10/100 BaseT, RJ45 Ethernet connector
- Support for H.265 and H.264 compression

Complete TVOS Technical Data

Environmental Functions

- Typical day time power usage 30W
- Maximum night time power usage 72W

Accreditations

- Full Code of Connection Approval
- Highways England EMC and Environmental requirements (MCE2245B and MCE2241F)

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