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## CASPER - Digital Periscope Camera

NSM Surveillance has upgraded its line of small surveillance periscope cameras to include the latest in Digital Internet Protocol (IP) connectivity.

Now, view the versatile CASPER's video stream from most web-enabled appliances, while also controlling the system's pan, tilt & zoom functions.

CASPER is a compact -- weather resistant -- solution that fits both overt and covert surveillance needs. Its continuous rotation design provides 360-degree coverage of the area under surveillance.

With a built-in, state-of-the-art sealing system, and removal of the limit switch components, the unit is engineered to provide trouble free operation in all weather conditions. The integrated controller is a web-based server contained in a Digital Conversion Pack. The Pack (see illustration at upper right) can be rotated 90 degrees for different concealment requirements.

The unit is designed for low-power operation, a perfect solution for your tactical "drop and run" surveillance requirements.

Offered with either a visible 18x day/night or 36x day color camera system, or uncooled 320x240 thermal imager with a 50 mm fixed lens, the CASPER offers a perfect solution for both daytime and nighttime surveillance applications.

Drop it in plain view for area/agent protection; build it into your own concealment, or select from our line of quality concealments. Choose from our accessory kits or power options to design your own highly-dependable, quick deploy video system.

CASPER is designed to work with many of our receiver and relay units. Contact your sales representative to see how CASPER and NSMS can fulfill your surveillance requirements.



**Configuration A**

**Configuration B**



### Applications

#### Overt tactical surveillance

- SWAT, Special Forces, Sniper spotter

#### Overt long term surveillance

- Harbors, airports, bridges, power plants

#### Covert surveillance

- Urban and rural concealments available

#### Low-power operation for battery deployments

### Standard Features

- Pan -- Continuous rotation
- Tilt -- +/- 30 degrees - typical (lens dependent)
- IP, MPEG4, MJPEG & H.264
- Zoom -- 18x or 36x day color camera system (Thermal - consult sales department)
- Field Proven -- ultimate reliability
- Available in day or low-light color or with thermal imager for no-light applications

## CASPER-480 Day/Night Model

### Image Sensor

1/4 type EXview HAD CCD

### Lens

18x zoom

f = 4.1 mm (wide) to 73.8 mm (tele)

F1.4 to F3.0

### Digital Zoom

12x (216x with optical zoom)

### Angle of View

48° (wide end) to 2.8° (tele end)

### Minimum Illumination

0.7 lux (typical) (50 IRE)

### S/N Ratio

more than 50 dB

### Electronic Shutter

1/1 to 1/10,000s, 22 steps

### Gain

Auto/Manual (-3 to 28 dB, 2 dB steps)

### Video Output

VBS: 1.0 Vp-p (syn negative),  
Y/C output

## CASPER-1000 Day Model

### Image Sensor

1/4 type EXview HAD CCD

### Lens

36x zoom

f = 3.4 mm (wide) to 122.4 mm (tele)

F1.6 to F4.5

### Digital Zoom

12x (432x with optical zoom)

### Angle of View

57.8° (wide end) to 1.7° (tele end)

### Minimum Illumination

1.4 lux typical (50 IRE)

### S/N Ratio

more than 50 dB

### Electronic Shutter

1/1 to 1/10,000s, 22 steps

### Gain

Auto/Manual (-3 to 28 dB, 2 dB steps)

### Video Output

VBS: 1.0 Vp-p (syn negative),  
Y/C output

## CASPER-50T Thermal Model

### Detector

Uncooled Microbolometer

Vandium Oxide

### Array format

320 x 240

### Pixel Size

38um

### Spectral Response

7.5-13.5 um

### Video output

NTSC

### NEdT

< 85 mK @ f/1.6

### Normalize source

Internal shutter

### Time to image

~ 2 seconds

### Image control

Revert, Invert, 2x digital zoom

### Lens

50.0mm f 2.0 14 degree HFOV

## CASPER Physical Specifications

### MECHANICAL

#### Weight

3 lbs

#### Rotation

360° continuous

#### Tilt

+/- 30°

#### Speed

Rotation: 0.87 - 6 degrees/second

Tilt: 0.65 - 17.5 degrees/second

#### Precision

0.1° resolution, ± 0.1° repeatability

### ELECTRICAL

#### Power Consumption

CASPER 480: 5.7 watt

CASPER 1000: 7.0 watt

CASPER 50T: 4.5 watt

#### Control

RS-232, DTMF

### ENVIRONMENTAL

#### Temperature Range

-30°F to +125°F

#### Humidity

100%

Product specifications are subject to change.

