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## **VITEK INFRARED BULLET CAMERA**

### **DIVISION 28 – ELECTRONIC SAFETY AND SECURITY**

#### **28 20 00 ELECTRONIC SURVEILLANCE**

#### **28 23 00 VIDEO SURVEILLANCE**

#### **28 23 29 VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS**

*This specification is intended for use by the design/constructing professional and any user of Vitek security products to assist in developing project specifications for security and video surveillance systems.*

*This specification can and should be modified as necessary to accommodate individual project conditions.*

#### **PART 1 GENERAL**

##### **1.01 SUMMARY** **1.02 WARRANTY**

- A. Provide manufacturer's standard warranty

#### **PART 2 PRODUCTS**

##### **2.01 MANUFACTURERS**

- A. Vitek Industrial Video Products, Inc.
- B. Provide Video Surveillance Camera from single source manufacturer.

##### **2.02 INFRARED BULLET CAMERA**

###### **A. General**

- (1) Product specifically designed for closed circuit television viewing.
- (2) The unitized camera assembly shall be a self-contained unit that incorporates an integral lens, on-screen display controller and zoom and focus controller.
- (3) The unitized camera shall consist of polycarbonate and cast aluminum body.
- (4) The unitized camera shall provide night vision up to three hundred (300) feet in zero (0) lux outdoor environment.



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#### B. Camera Module

- (1) The Image Sensor shall be a third inch (1/3") Sony SuperHAD II CCD.
- (2) The resolution shall be seven-hundred-sixty-eight (768) by four-hundred-ninety-four (494) pixels.
- (3) The horizontal resolution shall be five-hundred sixty (560) TV lines.
- (4) The Minimum Illumination shall be zero-point-three-five (0.35) lux in color, zero-point-zero-four (0.04) lux in black and white, zero-point-zero-zero-three-five (0.0035) lux with Sense-up feature activated and zero (0) lux with seventy (70) infrared light emitting diodes (LED) activated.
- (5) The synchronization system shall be internal.
- (6) The Scanning System shall be two-to-one ratio (2:1) interlaced.
- (7) The Scanning Frequency shall be fifty-nine-point-nine-four (59.94) vertical hertz and fifteen-point-seven-three-four (15.734) kilohertz horizontal.
- (8) The signal-to-Noise ratio shall be more than fifty (50) decibels (dB) with Automatic Gain Control turned off at fifty (50) percent on the Institute of Radio Engineers (IRE) scale.
- (9) The video output shall consist of one (1) volt peak-to-peak composite signal at seventy-five (75) Ohms.

#### C. Day and Night

- (1) The module shall include Infrared Cut-Filter Removable based day & night mode (true day & night).
- (2) The Day & Night mode shall consist of Automatic mode, forced day mode, forced night mode.
- (3) The delay in Day & Night mode shall range from one (1) to sixty-three (63) seconds.
- (4) The night mode shall be selectable forced color or black & white.
- (5) The camera shall include seventy (70) eight hundred forty (840) nanometer wavelength Infrared Light Emitting Diodes (IRLED).

#### D. Exposure Adjustment

- (1) The Exposure setting shall include adjustable Shutter Speed, Automatic Gain Control, Sense-Up, Backlight Compensation and Digital Wide Dynamic Range control.
- (2) The Shutter Speed shall be selectable automatic or manual control.
- (3) The Electronic Iris shall range from one-sixtieth (1/60) of a second to one-one-hundred-thousandth (1/100,000) of a second.
- (4) The Manual Shutter Speed shall be two hundred fifty-six (256), one hundred twenty-eight (128), sixty-four (64), thirty-two (32), sixteen (16), eight (8), four (4), two (2), Flicker, one-sixtieth (1/60), one-two-hundred-fiftieth (1/250), one-five-hundredth (1/500), one-two-thousandth (1/2000), one-five-thousandth (1/5000), one-ten-thousandth (1/10,000) and one-hundred-thousandth (1/100,000) of a second.
- (5) The shutter speed of two (2) to two hundred fifty-six (256) shall activate the digital slow shutter.
- (6) The Flicker mode shall be at about 30% of normal sensitivity at low light.
- (7) The Automatic Gain Control shall include Low, Medium and High settings or Off.
- (8) The Sense-Up feature shall be activated when the Automatic Gain Control is activated.
- (9) The Sense-up feature shall include selectable automatic mode or Off.
- (10) The Sense-up shall range from two (2) times normal amplification to two hundred fifty-six (256) times normal amplification.
- (11) The Backlight Compensation shall include adjustable Backlight Compensation (BLC) and Highlight Suppression Backlight Compensation (HSBLC).
- (12) The Backlight Compensation shall include adjustable Gain, Horizontal Position and Size, Vertical Position and Size or reverting back to default.



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- (13) The Highlight Suppression Backlight Compensation shall include adjustable level, horizontal movement, width, vertical movement, height and reverting back to default.

E. Three Dimensional Digital Noise Reduction

- (1) The Digital Wide Dynamic Range shall include Highlight priority and adjustable Low Light Compensation and Highlight Suppression of one (1) to one hundred (100).
- (2) The Digital Noise Reduction shall be three dimensional (3D).
- (3) The level of Digital Noise Reduction shall be adjustable from one (1) to one hundred (100).

F. Picture Optimization

- (1) The Picture Optimization shall include adjustable Sharpness Control, Blue and Red color level, Gamma Correction and White Balance modes.
- (2) The Sharpness shall range from one (1) to thirty-one (31).
- (3) The Blue and Red color level shall range from one (1) to one hundred (100).
- (4) The Gamma Correction shall range from zero-point-zero-five (0.05) to one-point-zero-zero (1.00) in the increment of zero-point-zero-five (0.05).
- (5) The White Balance modes shall include Automatic Tracking White, Push & Set, Manual, Indoor and Outdoor modes.
- (6) The White Balance in automatic mode shall range from two thousand (2000) degrees Kelvin to eight thousand (8000) degrees Kelvin.
- (7) Manual White Balance mode shall range adjustable Blue and Red color levels of one (1) to one hundred (100).

G. Lens

- (1) The lens shall be infrared corrected F stop one-point-four (F1.4) six (6) millimeters to fifty (50) millimeters with automatic iris control.
- (2) The DC level range shall be one (1) to one hundred (100).
- (3) The lens shall include a focus adjustment function with adjustable switch delay time of one (1) to fifteen (15) seconds.

H. Digital Enhancements

- (1) The camera shall include a customizable fifteen (15) alpha numeric title.
- (2) The Digital Effect shall include Freeze, Flip, Digital Zoom and Negative Image.
- (3) The Flip shall include Horizontal Flip, Vertical Flip and Rotate (Horizontal and Vertical Flip).
- (4) The Digital Zoom shall range from one (1) time to thirty-two (32) times, adjustable in increments of zero-point-one (0.1) from one (1) to four (4) times, in increments of zero-point-five (0.5) from four (4) to eight (8) times and in increments of one (1) from eight (8) to thirty-two (32) zoom ratios.
- (5) The Digital Zoom shall include digital Pan and Tilt ranging from negative one hundred (-100) to one hundred (100).
- (6) The camera shall include four (4) adjustable motion detection areas.
- (7) Each area shall include adjustable Display Area, Horizontal Position and Size, Vertical Position and Size, Sensitivity and Motion Detection display.
- (8) Motion Detection Horizontal Positions shall range from five (5) to ninety-eight (98).
- (9) Motion Detection Horizontal Size shall range from zero (0) to ninety-three (93).
- (10) Motion Detection Vertical Position shall range from one (1) to sixty-one (61).
- (11) Motion Detection Vertical Size shall range from zero (0) to sixty (60).
- (12) Motion Detection Sensitivity Area shall range from one (1) to forty (40).
- (13) Motion Detection Area shall include selectable On or Off setting.
- (14) The camera shall include eight (8) adjustable privacy zones.
- (15) Each Privacy Zone shall include selectable On or Off setting.



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- (16) Privacy Zone Horizontal Position shall range from six (6) to ninety-nine (99).
- (17) Privacy Zone Size shall range from zero (0) to ninety-three (93)
- (18) Privacy Zone Vertical Position shall range from zero (0) to sixty-one (61).
- (19) Privacy Zone Vertical Size shall range from zero (0) to sixty-one (61).
- (20) Privacy Zone shall include sixteen (16) selectable colors.
- (21) The On Screen Display Language shall include English, Korean, Japanese and two versions of Chinese.
- (22) The On Screen Display Color shall include sixteen (16) selectable colors.

I. Environmental

- (1) The operating temperature shall be between negative four (-4) degrees to one hundred twenty-two (122) degrees in Fahrenheit.
- (2) The operating humidity shall be between zero (0) to eighty-five percent non-condensing humidity.
- (3) The unitized camera's environmental protection rating shall be Ingress Protection rating of sixty-eight (IP68).

J. Electrical

- (1) The operating voltage shall be twelve (12) volts Direct Current or twenty-four (24) volts alternating current.
- (2) The power consumption shall be one hundred twenty milliamperes with the Infrared Light Emitting Diodes off, eight hundred (800) milliamperes with Infrared Light Emitting Diodes on at twelve (12) volts direct current, or five seventy (70) milliamperes with Infrared Light Emitting Diodes off and five hundred (500) milliamperes with Infrared Light Emitting Diodes on at twenty-four (24) volts alternating current.

K. Dimensions and weight

- (1) The dimensions shall be four-point-five-two (4.52) inches wide and nine (9) inches in length.
- (2) The weight shall be approximately four-point-five (4.5) pounds (lbs).

L. Convenience

- (1) The unitized camera shall include a mounting plate adaptor capable of fifteen (15) degrees of roll in each direction.
- (2) The unitized camera shall include a secondary video output and its connector with a video output of one (1) volt peak-to-peak composite signal at seventy-five (75) Ohms.

**2.03 SUGGESTED PRODUCT**

- A. The camera shall be a Vitek infrared bullet camera VTC-IRH70/650.

**PART 3 EXECUTION**

**3.01 ACCEPTABLE INTEGRATORS**  
**3.02 INSTALLATION**