

## GVS1000 Pan-Tilt-Zoom Imaging system

### 1. GENERAL

- 1.1 The imaging system shall be a turnkey, high performance pan-tilt zoom system for long-range recognition and identification level surveillance.
- 1.2 The imaging system shall provide outstanding situation awareness capabilities for critical applications including Homeland Security, force protection and critical infrastructure.
- 1.3 The imaging system shall be able to resolve alphanumeric lettering and other identifying markings in both bright light and totally dark conditions.
- 1.4 The imaging system shall provide daytime color performance.
- 1.5 The imaging system shall utilize active-infrared illumination to enable high resolution night vision performance.
- 1.6 The imaging system shall provide up to 1,200m (3,900ft) of night-time classification level surveillance from which a target can be distinguished between human and animal (ie: an upright human or animal on all fours).
- 1.7 The imaging system shall provide up to 1000m (3,300ft) of night time recognition level surveillance from which a human target is determined to be a threat by the type of clothing and/or equipment being carried (ie: friend or foe).
- 1.8 The imaging system shall provide up to 500m (1,650ft) of night time identification level surveillance from which a human target can be identified as a specific individual (ie: a specific person).
- 1.9 The imaging system shall be operated by a single integrated PTZ joystick keyboard controller supporting Pelco P.
- 1.10 The imaging system shall operate with high reliability.
- 1.11 The imaging system shall be operable in harsh outdoor weather conditions.
- 1.12 The camera shall have been rigorously tested and proven for use by the manufacturer.
- 1.13 The camera shall be supported by a toll-free (U.S. and Canada) technical assistance program from the manufacturer.



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### 2. PERFORMANCE

#### Camera

- 2.1 The camera shall be a full size box type for CCTV surveillance.
- 2.2 The camera shall have 1/2" LXR CCD sensor to provide excellent IR sensitivity, low smear, low streak and excellent anti-blooming characteristics.
- 2.3 The camera shall use DSP signal processing for enhanced edge definition and detail reproduction.
- 2.4 The camera shall have a 2:1 interlaced scanning system.
- 2.5 The camera shall produce outstanding contrast characteristics for reduced glare and streaking.
- 2.6 The camera shall have 811 x 508 effective pixels NTSC (or 795 x 596 PAL).
- 2.7 The camera shall have a motorized mechanical infrared cut filter to ensure accurate color reproduction during day and effective imaging under infrared illumination by night.
- 2.8 The camera shall have a motorized mechanical filter with internal video signal control.
- 2.9 The camera shall have daytime color mode.
- 2.10 The camera shall have daytime color resolution of 500 horizontal lines.
- 2.11 The camera shall have a daytime sensitivity of 0.1 Lux at F1.2.
- 2.12 The camera shall have night-time monochrome mode.
- 2.13 The camera shall have night-time monochrome resolution of 540 horizontal lines.
- 2.14 The camera shall have a night-time sensitivity of 0.05 Lux at F1.2.
- 2.15 The camera shall have day/night switching controlled internally by video signal and controlled manually via keyboard.
- 2.16 The camera shall have spectral response to infrared wavelengths between 700nm to 1100nm.
- 2.17 The camera shall produce accurate color representation by eliminating IR bleed and/or other color distortions.
- 2.18 The camera shall produce minimum S/N ratio of 50dB.



- 2.19 The camera shall have wide dynamic range capability to produce effective images from high contrast scenes.
- 2.20 The camera shall have 225 area auto detect backlight compensation for properly exposed images under difficult lighting conditions.
- 2.21 The camera shall use automatic gain control (AGC) to produce clear images by minimizing the fluctuations caused by video signals that are too strong or too weak.
- 2.22 The camera shall have OSD (on-screen display) control functions accessible during setup for ease of installation.
- 2.23 The camera shall be adjustable through 11 OSD functions.

**Lens**

- 2.24 The lens shall be IR-corrected, producing outstanding imaging results in both visible and active-infrared spectra.
- 2.25 The lens shall use electronic IR correction to maintain focus under visible and IR conditions, from wide through telephoto focal lengths.
- 2.26 The lens shall be a motorized zoom lens with focal length 12.5mm to 750mm or 25mm to 1500 when the doubler function is activated from keyboard controller.
- 2.27 The lens shall have motor-driven 60x zoom.
- 2.28 The lens shall have motor-driven manual focus.
- 2.29 The lens shall have wide field of view of 28.4° horizontal x 21.4° vertical and telephoto field of view of 0.29° horizontal x 0.22° vertical.
- 2.30 The lens shall have automatic iris operation.
- 2.31 The lens shall be able to focus on objects as close as 5 meters (~16 feet).

**ZX700**

- 2.32 The ZX700 infrared illuminator shall be quartz halogen bulb type.
- 2.33 The ZX700 infrared illuminator shall be capable of high-output, long-range illumination.
- 2.34 The ZX700 infrared illuminator shall output a spot beam of 2.5°.
- 2.35 The ZX700 infrared illuminator shall output infrared illumination of wavelength 730nm and longer.
- 2.36 The ZX700 infrared illuminator shall utilize "Gold Optics" to maximize output efficiency.
- 2.37 The ZX700 infrared illuminator shall use high-efficiency, short filament quartz halogen bulbs.
- 2.38 The ZX700 infrared illuminator shall switch on and off automatically via a sensitivity-adjustable photocell, automatically via a dry-contact control relay, or manually via the keyboard controller.
- 2.39 The ZX700 infrared illuminator shall have a soft start mechanism to minimize thermal shock to the bulb.
- 2.40 The ZX700 infrared illuminator shall operate independently of any cooling fan or similar device, either internal or external.
- 2.41 The ZX700 infrared bulb filaments shall have resistance to shock and vibration.

**ZXLED (Optional)**

- 2.42 The ZXLED infrared illuminator shall be solid state LED type.
- 2.43 The ZXLED infrared illuminator shall be high power and energy efficient.
- 2.44 The ZXLED infrared illuminator shall operate with high reliability.
- 2.45 The ZXLED infrared illuminator shall have 560 solid state LEDs.
- 2.46 The ZXLED infrared illuminator shall operate in semi-covert mode at 850nm.
- 2.47 The ZXLED infrared illuminator shall output a 20° beam pattern.
- 2.48 The ZXLED infrared illuminator shall have a highly efficient integral heat sink for dissipating thermal energy.
- 2.49 The ZXLED infrared illuminator shall operate independently of any cooling fan or similar device, either internal or external.
- 2.50 The ZXLED infrared illuminator shall have a solid state design without any moving mechanical parts.

**Housing**

- 2.51 The housing shall enclose the camera, lens and optical control electronics.
- 2.52 The housing shall feature an integrated wiper, operated via keyboard joystick controller.
- 2.53 The housing shall be sealed for environmental performance complying to IP66.
- 2.54 The housing shall have a specially treated front window that optimizes active-infrared light transmission.

**Motor**

- 2.55 The pan-tilt motor shall be highly precise, capable of changes in position by as little as 0.1° tilt and 0.3° pan.
- 2.56 The pan-tilt motor shall be permanent magnet type.
- 2.57 The pan-tilt motor shall have drive train constructed of steel gear and worm, ball and tapered roller bearing.
- 2.58 The pan-tilt motor shall have internally adjustable "hard limit" switches and electronically adjustable "soft limit" switches.
- 2.59 The pan-tilt motor shall have adjustable backlash.
- 2.60 The pan-tilt motor shall have a pan range of ±215°.
- 2.61 The pan-tilt motor shall have a pan speed of 0.3° to 8° per second
- 2.62 The pan-tilt motor shall have a tilt range of ±90°.
- 2.63 The pan-tilt motor shall have a tilt speed 0.1° to 4.5° per second
- 2.64 The pan-tilt motor shall have preset repeatability of 0.25°.

Dealer / Distributor



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**System**

- 2.65 The imaging system shall have 32 configurable pan-tilt-zoom presets
- 2.66 The imaging system shall have 3 pan-tilt-zoom tours with 63 presets per tour.
- 2.67 The imaging system shall support Pelco P protocol.
- 2.68 The imaging system shall have an integrated variable speed pan / tilt / zoom with joystick keyboard controller.
- 2.69 The imaging system shall be cable managed.
- 2.70 The imaging system shall incorporate a 4" PCD mount.

**3. POWER REQUIREMENTS**

- 3.1 The imaging system shall operate on either 120VAC or 230VAC, 50/60 Hz.
- 3.2 The imaging system shall consume 800W with optional ZXLED infrared illuminators.
- 3.3 The imaging system shall include all required power supply units.

**4. ENVIRONMENTAL**

- 4.1 The imaging system shall be sealed to IP66 for reliable performance in harsh weather conditions.
- 4.2 The imaging system shall have an operating temperature range of -20°C to +50°C (-4°F to 122°F).
- 4.3 The imaging system shall have a weight (excluding power supply units) 110lbs or 50kg.
- 4.4 The imaging system shall include all required bracketry and fastening hardware for surface mount applications.

**5 MODEL NAMES**

- 5.1 The imaging system shall be Extreme CCTV models

<b>GVS1000-01N</b>	GVS1000 (NTSC) with optional ZXLED Infrared Illuminators
<b>GVS1000-01P</b>	GVS1000 (PAL) with optional ZXLED Infrared Illuminators
<b>GVS1000-02N</b>	GVS1000 (NTSC) without optional ZXLED Infrared Illuminators
<b>GVS1000-02P</b>	GVS1000 (PAL) without optional ZXLED Infrared Illuminators

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