



United Vision Solutions



10 Center St. , Chicopee, MA 01013, USA

Email: sales@unitedvisionsolutions.com

Sales Dept. 413-592-8477

Email: info@unitedvisionsolutions.com



Long Range Surveillance System

Vision Surveillance Camera System that Never Sleeps

EV3000 EMCCD

With its built-in night vision Electron Multiplying CCD the Eagle Vision has a light sensitivity that is more than 100 times better than average. The fact that this camera has been selected as the solution for the unmanned surveillance needs of military front lines proves its capability.

100 Times More Sensitive Than A Normal Camera

A new 1/2 inch EM-CCD with electron multiplication is used to achieve exceptional sensitivity.

Color in full motion mode: 0.009 lx
Color accumulation mode: 0.00015 lx

Monochrome in full motion mode: 0.0005 lx
Monochrome accumulation mode: 0.000008 lx



United Vision Solutions
A world without darkness

WWW.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA
info@unitedvisionsolutions.com



**Eagle Vision EV3000
EMCCD Camera System**

Pan/Tilt EMCCD Color and Starlight Cameras

- All Weather Stainless Steel Rugged Housing
Anti-corrosion, Anti Rust, resist high humidity and salt water.
Special Reflective paint to reduce heat by 15 degree.
- 128 preset positions for perimeter scanning, Panorama & Tour functions.
- Pelco-D protocols , can be integrated with any other CCTV system.
- Environmentally sealed and dry nitrogen filled
- Automatic-iris camera system with Backlight compensation to produce an optimum camera picture under a wide variation in light level
- The EV3000-S EMCCD colour night vision camera provides high resolution full colour images from full Sunlight down to quarter Moonlight, and thereafter monochrome images down to Starlight.



Day/Night Camera

- 1/2" High-Resolution EMCCD
- 0.0009 lx (color) / 0.000008 lx (B&W)
- Lens 50X,60X, and 100X **optical** zoom
- Reproduces full colour, full motion images in starlight conditions

Pan/Tilt resolution

High performance, brushless, maintenance-free step motors provide very precise, extremely effective motion control with preset and 0-360 degree Pan.

CCTV software with TCP/IP

- Full control of Thermal / Day-Night / Pan/Tilt
- Using standard Protocol Pelco-D

Sensor Platform

- Heavy Duty, Stabilized Pan/Tilt
- Stainless Steel Enclosure,

This product can be used in any marine applications, harsh environment. Anti-rust full sealed housing/ and Pan-Tilt. Great for shore, sea ports or ship due to its material Stainless Steel against corrosion.

Options

- * Digital real time video stabilization
- * Washer 5 or 10 ltr

PAN 0-360 Endless
Tour functions
Panorama functions

Special Reflective paint to reduce heat by 15 degree.

United Vision Solutions
A world without darkness

WWW.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA
info@unitedvisionsolutions.com



Main Specifications

Imaging device	1/2-inch interline EM-CCD
Total pixels	680(H) x 500(V)
Effective pixels	658(H) x 489(V)
Imaging area	6.58(H) x 4.89(V) mm
Pixel pitch	10.0(H) x 10.0(V) μm (Square pixel)
Scanning system	2 : 1 Interlace
Scanning frequency	Horizontal 15.734 kHz Vertical 59.94 Hz
Synchronization	Internal
Video output	
VBS output	Video 0.7 Vp-p Plus terminal nature
Sync	0.3 Vp-p Negative polarity
Burst	0.3 Vp-p, More than 8 cycles
Impedance	75 Ω Un-balancing.
Signal-processing system	Digital processing (Input 10 bit)
Signal to noise ratio (S/N)	50 dB or more (luminosity signal, Gamma OFF, minimum gain, without detail boost)
Resolution	Horizontal: 480 lines Vertical: 350 lines (In the central part)
Minimum photographic subject illumination	0.009 lx (Color in full motion, maximum sensitivity setup, F1.4, 50 IRE) 0.0005 lx (Monochrome in full motion, maximum sensitivity setup, F1.4, 50 IRE) 0.00015 lx (Color 64 time accumulation, maximum sensitivity setup, F1.4, 50 IRE) 0.000008 lx (Monochrome 64 time accumulation, maximum sensitivity setup, F1.4, 50 IRE)
Sensitivity (Gain) setup	Auto or a manual (factory set-AUTO)
Electronic shutter	Shutter: 7 steps /AES (factory set-OFF) OFF(1/60), 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec
Accumulation magnification setup	Auto or a fixed change is possible. (factory set-OFF) 2, 4, 6, 8, 10, 16, 32, 64 times
Backlight compensation	An ON/OFF change is possible (factory set-OFF) Light-measurement area: Nine area to selection is possible.
The output for auto iris lenses	(Square shape 4 pin, JEITA conformity) A galvanometer system/video signal
White balance control	From the following three modes to selection (factory set-ATW) ATW: The mode which follows automatically AWC: The mode which holds a white balance after an automatic setup MANUAL: They are red and the mode which carries out blue gain adjustment and unites a white with manual operation
Camera title character display	A display is possible to 22 characters in an alphanumeric character and a sign A setup to either of two upper and lower sides of a screen is possible in the position of a character.
B/W Mode	OFF: The mode of fixation on a color image On: In high sensitivity monochrome image mode AUTO: With luminous intensity OFF of high sensitivity monochrome image, the mode where ON changes automatically In addition, it changes, as for luminous intensity from 3 stages of the HI, the MID and the LOW selective possibility
Picture quality adjustment menu	Following to the menu indication of the picture, various picture quality adjustments and mode selection are possible
DNR	Change of AUTO / MANU (8 steps) (factory set-AUTO)

Video encoder

Video compression	MPEG-4 Part 2 (ISO/IEC 14496-2) Motion JPEG
Resolutions	160x120 to 704x576
Frame rate MPEG-4	Up to 30/25 (NTSC/PAL) fps at 2CIF, 21/17 fps at 4CIF
Frame rate Motion JPEG	Up to 30/25 (NTSC/PAL) fps at 4CIF
Video streaming	Simultaneous MPEG-4 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR MPEG-4
Image settings	Compression, color, rotation, aspect ratio correction, mirroring Text and image overlay Privacy mask De-interlace filter
Pan/Tilt/Zoom	Wide range of analog PTZ cameras supported (drivers available for download at www.axis.com) 20 presets/camera Guard tour PTZ control queue Supports Windows compatible joysticks

Network

Security	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
Supported protocols	IPv4/v6, HTTP, HTTPS, QoS layer 3 DiffServ, FTP, SMTP, Bonjour, UPnP, SNMPv1/v2c/v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS

Pan / Tilt

Pan	angle	0-360 (Endless)
	speed	0.1° ~ 60°/sec
Tilt	angle	-60° ~ +30°
	speed	0.1° ~ 30°/sec
Electric Power	240W	
Input Power	AC100~240V Free Voltage	
Temperature	-25 ~ +60 ° C	

IR Day-Night Motorized Zoom Lenses

	EV3000-S-500			EV3000-S-750			EV3000-S-1000		
Lenses:	23° 42'	17° 74'	(WIDE)	28° 43'	21° 44'	(WIDE)	43° 6'	35° 5'	(WIDE)
Field of View	0° 74'	0° 55'	(TELE)	14° 35'	10° 58'	(WIDE 2X)	22° 6'	18° 2'	(WIDE 2X)
				0° 29'	0° 22'	(TELE)	0° 46'	0° 37'	(TELE)
				0° 15'	0° 11'	(TELE 2X)	0° 23'	0° 18'	(TELE 2X)
	Optical: 50X 10-500/10-1000mm			Optical: 60X 12.5-750mm-25-1500mm			Optical: 100X 10-1000mm/20-2000mm		

United Vision Solutions
A world without darkness

WWW.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA
info@unitedvisionsolutions.com



JUN 30 2010
9:44:04PM

CCD VISIBLE



JUN 30 2010
9:44:05PM

EMCCD



VISIBLE



EMCCD

United Vision Solutions
A world without darkness.

413-592-8477

info@unitedvisionsolutions.com

WWW.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA

Eagle Vision EV3000
Camera System
Color EMCCD



United Vision Solutions
A world without darkness

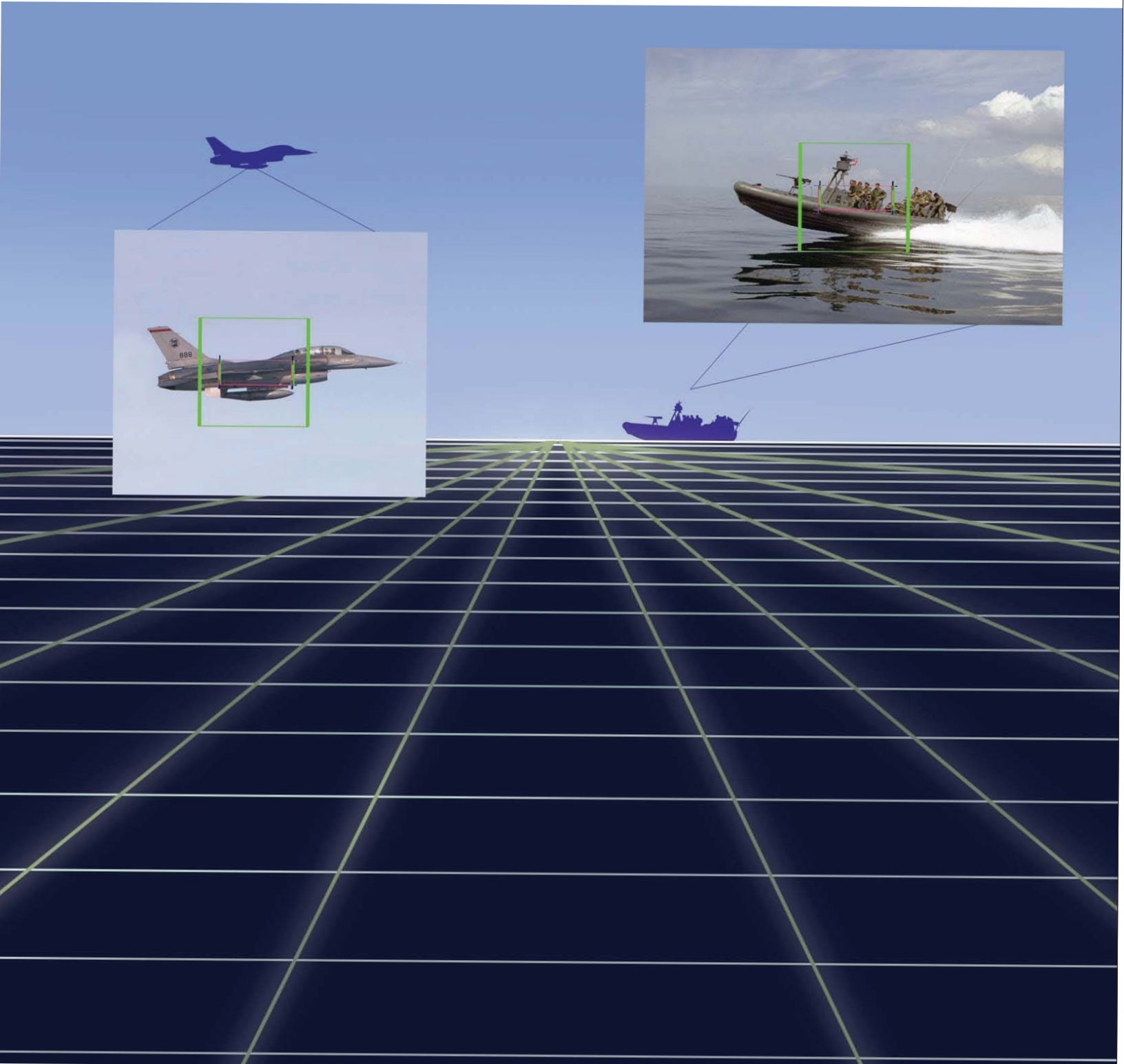
www.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA
info@unitedvisionsolutions.com



Dual Camera System
Thermal and
Color EMCCD

TARGET TRACKING

Automatic Target Tracking



Auto Real-Time Target Tracking

Automated Tracking Software enables you to track an object in motion with an adaptable camera (Pan-Tilt) as it moves within a fixed camera scene.

When the system senses a target in motion within the fixed camera scene, the adaptable camera tracks the target as it moves within the scene.

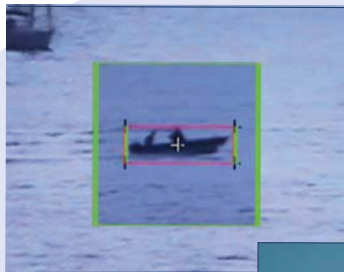
The technology is based on acquiring an object in motion. It is automated by being able to run independently and automatically, acquiring objects in motion, and tracking without user intervention once the software is set and calibrated. In situations where there are multiple potential targets, the user can select the one of greatest interest.

The software enables an adaptable camera to track and zoom in on an object of interest, ultimately producing high-resolution imagery of the target.

USES FOR AMT

Security and Surveillance:

- Tracking Cars/People in Parking Lots/Public Places
- After-Hours Surveillance
- Perimeter Security and Defense
- Port Security





Eagle Vision EV3000
Dual Camera System
Thermal and
Color CCD

PAN/TILT THERMAL & COLOR CAMERAS

HARDWARE SPECIFICATIONS

computer with Linux Fedora Core 2 and a frame grabber board includes the following:

The 1U rack-mount chassis

- 2.8 Gigahertz INTEL Pentium CPU
- 533 Megahertz front side bus
- 40 gigabyte hard drive
- 512 megabytes of RAM
- 32 bit PCI Frame Grabber with 4 NTSC inputs
- NTSC and VGA output.
- RS232 serial port
- Four USB 2.0 ports
- Length 16.8" width 14.6" height 1.75"
- Shipping Weight 18 lbs
- 110-220 VAC , 180 watts



PERFORMANCE SPECIFICATION

Target to boresight update rate	30Hz
Target to boresight update latency (depends on algorithm)B	etween 5 and 14ms
Minimum target contrast5%	
Minimum Target Size.	2x2 pixels
Maximum Target Size	450x350 pixels

SYSTEM CONTROL

The tracker software is designed to be controlled via any of the following inputs:

- An off-the-shelf joystick controller
- TCP/IP – 100/10 mbs
- RS232/RS422
- PC Keyboard



United Vision Solutions
A world without darkness

WWW.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA
info@unitedvisionsolutions.com

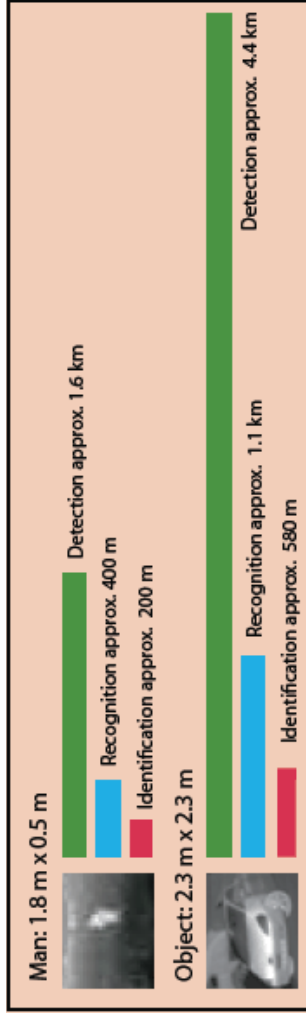
Long Range Surveillance System

Option A

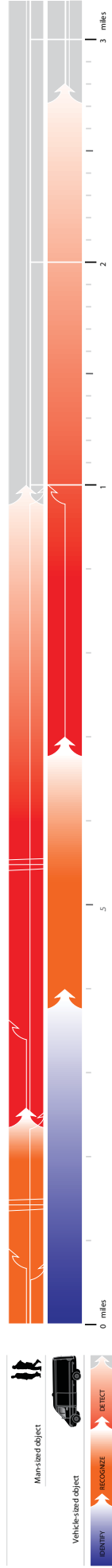
IR Thermal Camera

Camera Performance

Sensor Type	640x480 Uncooled Microbolometer
Spectral Range	7.5-13.5µ
Lens Focal Length	100mm
Field-of-View	7° x 5°
Image Processing	AGC & DDE
Requirement	14-32VDC or 24VAC ±10%
Consumption	8W nominal, 36W peak



Range Chart This chart shows how far away the different SR-Series cameras can detect, recognize and identify human and vehicle targets.



Why IR Thermal Option is important to night operations?

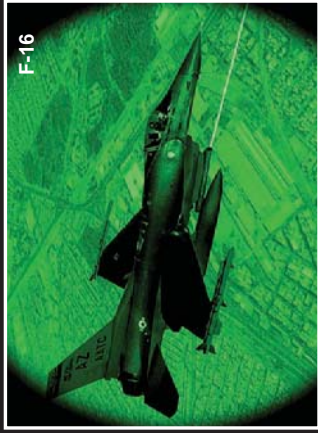
They turn night into day, allowing you to see intruders invisible to the naked eye.

- Creates video images from heat, night and day, in good weather and bad
- High-quality 24/7 thermal video security coverage
- Digital Detail Enhancement (DDE) for optimal image quality
- High contrast imagery optimized to get the most out of video analytics software to create virtual perimeters
- No need for the expense and complication of added lighting infrastructure
- Clear vision in challenging conditions (lowlight, no light, backlight, haze, smoke, fog, etc)



United Vision Solutions
A world without darkness

WWW.LongRangeCamera.com
10 Center St., Suite 401 & 402
Chicopee MA 01013 USA
info@unitedvisionsolutions.com



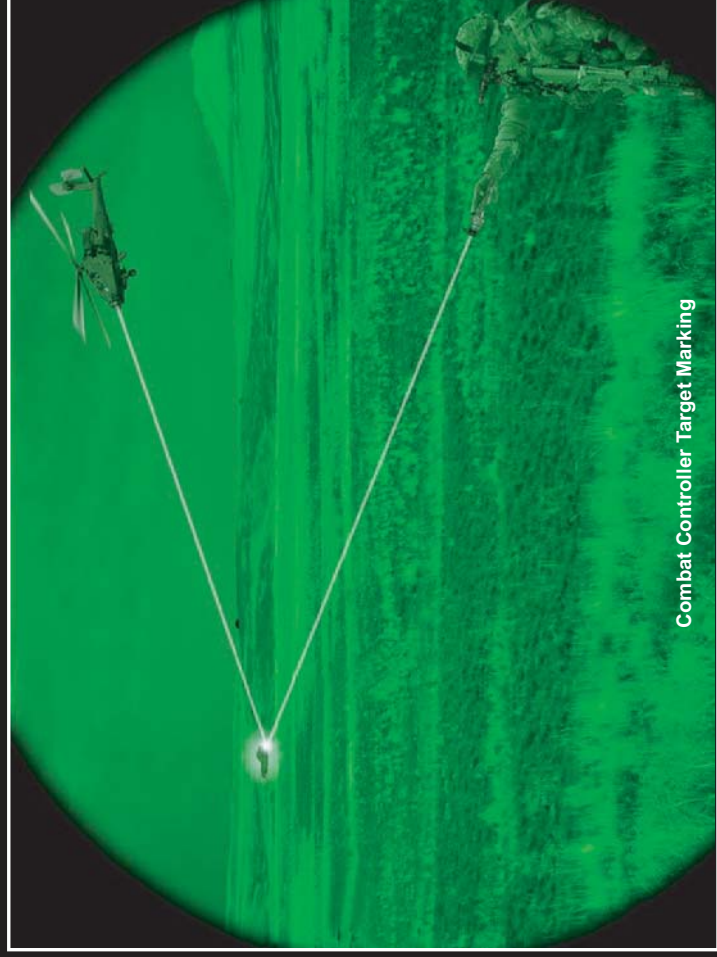
Laser Benefits

- Covert infrared pointers mark the exact location of ordnance delivery increasing mission effectiveness
- Infrared illuminators highlight the surrounding area for positive identification
- These lasers allow quick identification and marking of targets, resulting in reduced collateral damage and saving of lives
- Rugged high performance systems that provide the ultimate tactical advantage to war fighters
- Provides covert situational awareness for the war fighter, homeland security and other agencies

Airborne Lasers for Target Illumination

SOME OF THE PLATFORMS THESE LASERS ARE USED ON

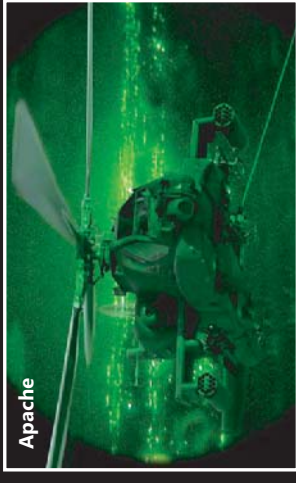
- UH-60
- A 10
- UAV Predator
- Apache
- F 16
- Cobra



IR Laser Specifications:
Output Power upto 3.6 Watt
Wavelength 860nm

Laser Features

- IR Light 2 km
- High, low and pulse modes of operation
- Designed and tested for high shock and vibration environments
- Compact size is ideal for gimbals and sensor suites
- Wide operating temperature range of - 40°C to +70°C
- Low power consumption (0.60W)
- 50mW – 4W output power available



Close the loop between combat controllers & aviators with precision marking lasers



United Vision Company Profile

Corporate Capabilities

United Vision Solutions, LLC is a Massachusetts company, with its office at 10 Center St., Chicopee, Massachusetts, USA.

United Vision Solutions, LLC provides across the board expertise in all aspects of CCTV Long Range Camera System, from the design phase to the delivery of complete turnkey solutions.

United Vision Solutions, LLC designs CCTV Camera systems with an emphasis on Long Range capabilities using EMCCD technology and IR thermal Technology. Our team works closely with FLIR , Hitachi, Axis and Raymax systems. We successfully integrate EV3000-D_IR Extreme Long Range Camera System in a Stainless Steel enclosure with precise Pan/Tilt features that function in diverse platforms such as Ports, Oil platforms, Airports and others locations throughout the world.

United Vision Solutions works closely with their partners to design advanced multi-sensor long range system using standard protocols to enable fast delivery, easy maintenance and end user friendly.

United Vision Solutions was the 1st company worldwide to integrate a 1000mm lens with EMCCD cameras in stainless Steel platform using fiber-optics for video and controls in a Mexican Navy port monitoring project.

United Vision Solutions was also the 1st company worldwide to integrate a 1500mm lens with EMCCD cameras, and interfaced the camera to a radar System using standard protocol (Finland Navy project).

CLIENT HIGHLIGHTS

US Coast Guard
US Air-force
US Center Command
US Army Corps of Engineers
Finland Navy
Mexico Navy
Pemex Oil Comapny



United Vision Company Profile

Mexican Navy Long Range Surveillance System

In December 2007, we were asked by Mexican military through local company to deploy a surveillance system that could have the potential to perform surveillance in Mexican ports for long range targets in low light conditions, the required system shall be able to obtain a clear image of targets located within a radius of 10 to 15 km, in addition to long range it was required system can handle harsh environment as it will be installed near ocean, where corrosion is an issue.

The accepted system was based on the technology supplied by United Vision Solutions to install both the camera & the lens within a high grade stainless steel vandalism resistant Pan-Tilt & Zoom (PTZ) unit for marine use manufactured by United Vision, which allows end-user not only to control the Pan/Tilt/Zoom/Focus of the camera but also all the functionality of both the camera & the lens either in operation control room or inside main control room.

The first Long Range Surveillance System was successfully installed in May 2008. The last 3 systems were installed between November 2008 & January 2009. These systems are installed and fully operational today by Mexican Navy personal in 4 separate geographic locations in Mexico, two systems are in different ports in the Pacific coast and other two monitoring ports in the Atlantic coast.

Each system is controlled locally using computer via TCP/IP, in addition to control camera the computer is working as DVR for 30 days, an CCTV software installed in each operation control room allows only authorized hosts to view & control the system, and then each system is linked via a digital connection (fiber-optics) to central headquarters in Mexico City, where images received are displayed in a central control room, and authorized end users can control any of the systems & record the images obtained for further analysis.

This solution had two additional challenges: first, in the last 3 installations the systems had to be installed in facilities where the existing buildings did not have the necessary height to obtain a satisfactory surveillance of the ports; and second, in the proposed locations where a future system would be installed there were no TCP/IP connectivity.

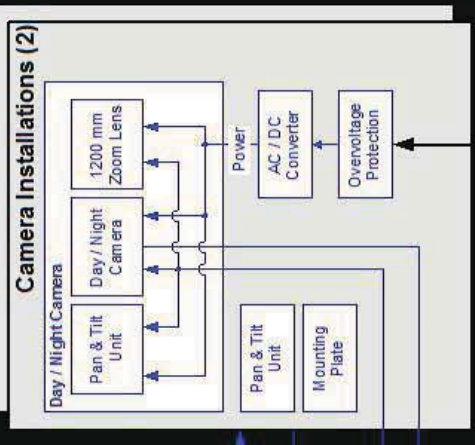
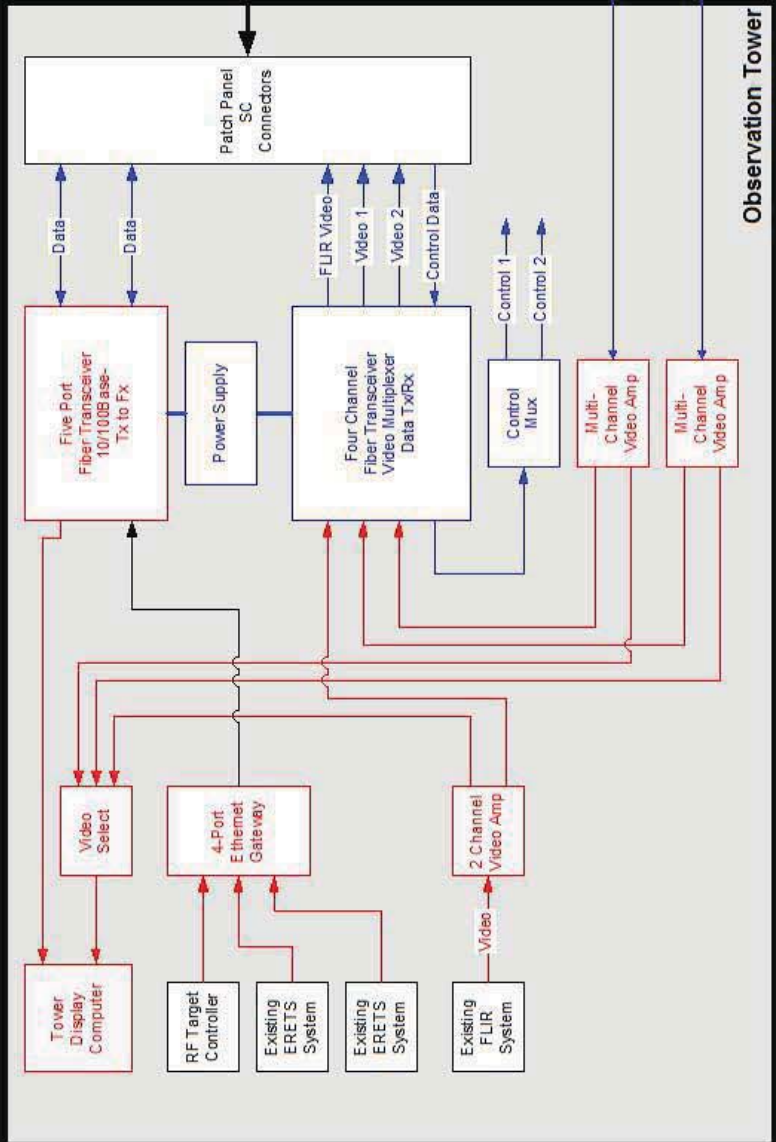
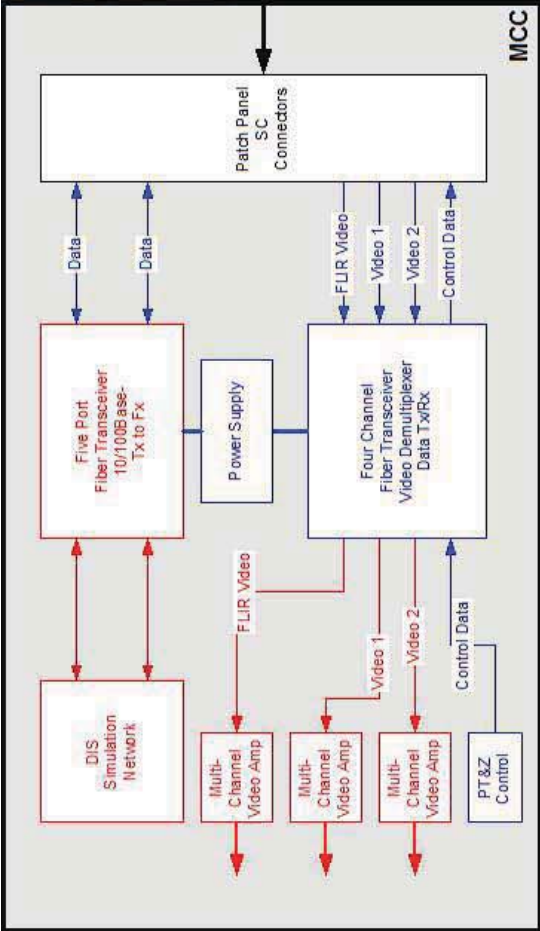
The height challenge was solved by the construction of 2 stainless steel towers in the chosen location in 2 sites, at the top of which the full systems were installed and the 3rd installation the system was installed at the top of a water tank that had both the height & surface needed to support it. Actual heights of stainless steel towers are 35 and 35 meters (114 & 147 feet).

We provided a special mounting to reduce vibration effect when tele-zooming and system is very stable even operate during high wind weather, in addition to special mounting we are using Video stabilizer to illuminate vibration effects.

For the site where fiber optics was not available, we used TCP/IP wireless links to connect the Long Range Surveillance Systems to nearest fiber-optics point, In the last installation the distance between the System & nearest fiber-optics location where 24 km LOS.



United Vision Solution, LLC
www.longrangecamera.com
 US Airforce Long range Camera system
 Using Fiber Optics for communication and
 Integrated with FLIR Thermal Camera System



Control 2
 Control 1

Observation Tower











Long Range Camera
1000mm PTZ
EV3000-P-EMCCD 1000









Copyright © United vision solutions, 2007

Coastal, Ports, offshore, and Marine applications

