WOLFPACK
Networked Tactical ISR™

Eomax Corp.
Tel: 416-628-1573
Fax: 416-628-4897
Email: info@eomax.net
www.eomax.com

CK Series / HD Colour Cameras

Features:

- High definition (HD) megapixel imaging.
- Low-light optimized colour CMOS sensor.
- High resolution video in zero-light environments using built-in white light illuminator.
- Advanced image processing for exceptional low-noise image quality.
- Five available camera focal lengths.
- Built for the future with Wolf Pack Digital Evolution (DEvo) technology.

The CK-HD series is a new family of high definition colour megapixel cameras. Incorporating a low-light optimized sensor, the CK-HD cameras bring high resolution colour imaging capabilities to a variety of missions. Built-in white light illumination and a range of lens focal lengths allow users to view detail at distance as well as large confined spaces with ease. All this in the compact, high mobility, rapid deployment package that users have come to expect from Wolf Pack.

Specifications:

Camera Type:	Low-light optimized colour CMOS sensor
Sensitivity:	0.002 lux
Resolution:	1920 (H) x 1080 (V) pixels
Field-of-View (diagonal):	13º, 21º, 37º, 55º, 98º
Illumination:	White light w/8 high intensity LEDs
Connector:	Eomax CA-X waterproof quick-release - rotatable 280º for camera orientation
Pressure Rating:	10 ATMA (300' / 90m)
Dimensions:	120mm x 41mm x 48mm
Weight:	230g
Operating Temperature:	-20ºC to +50ºC
Storage Temperature:	-30ºC to +70ºC

Models:

EW-CK10Hd13
Field-of-View (diagonal):
13º

EW-CK10Hd21
Field-of-View (diagonal):
21º

EW-CK10Hd37
Field-of-View (diagonal):
37º

EW-CK10Hd55
Field-of-View (diagonal):
55º

EW-CK10Hd98
Field-of-View (diagonal):
98º

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CL Series / HD Active Night Vision Cameras

α system

Features:

- High definition (HD) megapixel imaging
- Ultra-low-light imaging with Sony STARVIS sensor technology
- Active night vision in zero-light environments with built-in NIR illuminator.
- Advanced image processing for exceptional low-noise image quality.
- Five available camera focal lengths.
- Built for the future with Wolf Pack Digital Evolution (DEvo) technology.

The CL-HD series is a new family of high definition active night vision megapixel cameras. Incorporating a Sony STARVIS ultra-low-light sensor, CL-HD series cameras bring remarkable night vision capabilities to tactical ISR missions. Built-in near infrared illumination and super-wide optics enable operators to view large confined spaces with ease. All this in the compact, high mobility, rapid deployment package that users have come to expect from Wolf Pack. Like all Wolf Pack system components, the CL-HD series is engineered to MIL-SPEC levels of durability and designed for real world operations.

Specifications:

Camera Type:	Ultra-low-light STARVIS back-illuminated CMOS sensor
Sensitivity:	0.0001 lux
Resolution:	1920 (H) x 1080 (V) pixels
Field-of-View (diagonal):	13º, 21º, 37º, 55º, 98º
Illumination:	940nm Near Infrared (NIR) w/8 high intensity LEDs
Connector:	Eomax CA-X waterproof quick-release - rotatable 280º for camera orientation
Pressure Rating:	10 ATMA (300' / 90m)
Dimensions:	120mm x 41mm x 48mm
Weight:	230g
Operating Temperature:	-20ºC to +50ºC
Storage Temperature:	-30ºC to +70ºC

Models:

EW-CL10Hd13
Field-of-View (diagonal):
13º

EW-CL10Hd21
Field-of-View (diagonal):
21º

EW-CL10Hd37
Field-of-View (diagonal):
37º

EW-CL10Hd55
Field-of-View (diagonal):
55º

EW-CL10Hd98
Field-of-View (diagonal):
98º

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CS Series / Amarok™ sniper camera

α system

Specifications:

EW-CS1d

Camera Type:
Low-Light Colour CMOS
Resolution:
1984 (H) x 1105 (V) pixels
Sensitivity:
0.1 LUX
Current Consumption:
1.3 Watts
Operating Temp:
-20°C to +50°C
Storage Temp:
-30°C to +70°C

Riflescopes Supported:

Leupold
Nightforce
Schmidt-Bender
Swarovski
*Contact Eomax for additional fit information.

Features:

- High definition (HD) megapixel image sensor.
- High durability environmentally sealed design for all-weather operation.
- No interference with riflescope optical properties and operation.
- Rapid deployment in any Wolf Pack configuration.
- Light-weight on the riflescope; 114g (4oz).
- Compact low-volume design supports good peripheral vision.
- Tool-less adaptation and set up with a wide range of available riflescopes.

The Wolf Pack Amarok™ sniper camera allows eyes-on visual intelligence to the sniper observer and command elements in the field while maintaining an unimpeded optical view through the riflescope. Amarok is fully integrated with the modular system capabilities of Wolf Pack including SuperMesh+ tactical mesh networks, close range WiFi capabilities, MIL-STD video displays and image capture devices, giving operators ultimate mission flexibility.

Whether it's local display connectivity with standard Android smartphones and tablets, connectivity with existing backhaul network infrastructure, or point-to-point transmission to command elements over distances of several kilometers, there is likely a Wolf Pack wireless solution to suit your needs.

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CT Series / Thermal Cameras

Features:

- Super-compact design.
- Advanced 12µ sensor technology.
- Seven available lens focal lengths.
- Engineered in accordance with MIL-STD-810G.
- Built for the future with Wolf Pack Digital Evolution (DEvo) technology.

Wolf Pack CT5 series thermal cameras provide military, law enforcement and SAR personnel with enhanced detection capabilities in EOD, contraband interdiction, intruder detection, urban search, and tactical operations. Because thermal imaging is a passive night vision technology, CT5 thermal cameras enhance operator safety in high risk environments – no need for IR illuminators as these cameras rely on the relative temperatures (heat signature) of objects in the visual field.

Compact, high resolution CT5 cameras feature leading edge 640 x 480 pixel 12µ sensor technology making these among the most advanced thermal cameras available in this class. The outstanding spatial and temperature resolution of CT5 cameras combined with an adaptive dynamic range algorithm produce images with outstanding detail.

Specifications:

Camera Type:	8µ - 12µ long wave infrared (LWIR)
Sensor:	uncooled VOx microbolometer
Pixel Size:	12µ
Resolution:	640x512 pixels
Thermal Sensitivity (NETD):	<40 mK, <50mK, <60mK models available
Lens HFoV:	95°, 50°, 32°, 24°, 18°, 12°, 8° lens options available
Frame Rate:	Up to 60Hz (full frame)
Time to Image:	< 3 sec.

Mechanical / Environmental

Camera Body:	Waterproof and pressure-proof (7 ATMA / 60mSW)
Connectors:	Eomax CA-X waterproof quick-release
Operating Temperature:	-40°C to +80°C
Storage Temperature:	-50°C to +105°C
Dimensions (LWH):	128 mm x 48 mm x 49 mm (w/ 32° HFoV lens illustrated)
Weight:	210 g (w/ 32° HFoV lens)

Models:

EW-CT5d95
Field-of-View (H):
95º

EW-CT5d50
Field-of-View (H):
50º

EW-CT5d32
Field-of-View (H):
32º

EW-CT5d24
Field-of-View (H):
24º

EW-CT5d18
Field-of-View (H):
18º

EW-CT5d12
Field-of-View (H):
12º

EW-CT5d8
Field-of-View (H):
8º

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DF3d / Flat Panel Display

α system

Features:

- Hinged connection point for optimal display positioning.
- Image flip to optimize viewing orientation.
- Push button display controls for contrast, brightness and colour are accessible with gloved hands.
- Automatic screen brightness sensor for viewing in full daylight or zero light.
- Low power consumption maximizes operating time in Wolf Pack system assemblies.
- MIL-STD-810G durability in a compact light-weight design.

Building on Eomax display engineering experience over the last 15 years, the DF3d Flat Panel Display is a balance of operational simplicity, advanced features, light weight, and durability. The DF3d displays video imagery from any Wolf Pack Alpha camera module. The DF3d is equipped with a hinged connection point to optimize screen orientation for body mount, positioning on flat surfaces, and in hard-mount applications in vehicles, aircraft and on marine vessels. An optional accessory connector supports the attachment of a DH2d Head Mounted Display in a dual display configuration.

Specifications:

EW-DF3d

Display Type:
7” trans-reflective IPS colour LCD

Resolution:
1920x1080 pixels

Display Controls:
contrast, brightness, colour, image flip using recessed push-buttons

Connector:
articulating waterproof one-way fit locking connector w/ alignment pins

Accessory Connector (Optional):
Press-lock cable connector

Pressure Rating:
IP68 (1 m water for 1 hour)

Dimensions:
202mm x 135mm x 45mm

Weight:
1.2 Kg (2.64 lbs)

Operating Temperature:
-20°C to +50°C

Storage Temperature:
-30°C to +70°C

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DH2d / Head Mounted Display (HMD)

Features:

- Colour or B&W display depending on camera input
- Clip-on display control unit enables on/off, brightness and image flip
- Helmet and tactical glasses mounting options
- Waterproof, dust-proof, shock resistant design
- High resolution OLED display technology ensures outstanding picture quality

The DH2d head mounted display (HMD) uses high resolution OLED technology to provide outstanding imaging capability in a package weighting less than 2 oz (50 g). A complete Wolf Pack system with camera, HMD, power source and weapon mount can have a fully configured weight of less than 3 lbs (1.4 Kg).

The DH2d can be used as a stand-alone display in a Wolf Pack system assembly, or in a dual display configuration with a back-mounted DF3d flat panel display.

Specifications:

EW-DH2d

Display Type:
active matrix OLED

Resolution:
800x600 pixels

Apparent Image Size:
21" / 54 cm @ virtual 3' / 92 cm viewing distance

Eye Relief:
0.6" / 15 mm

Connector:
Wolf Pack in-line press-lock

Mounting Options:
tactical glasses (clip-on) / helmet mount

Weight:
< 2 oz / 50 g

Operating Temperature:
-40°C to +50°C

Storage Temperature:
-45 °C to +70 °C

Pressure Rating:
IP68 (1 m water for 1 hour)

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PB3d / Intelligent Power Module

Features:

- Compatible w/ AN/PRC-148 (MBITR) and AN/PRC-152 (Falcon III) radio batteries.
- Uninterruptable power supply mode when connected to AC power or solar cell.
- Field interchangeable in any weather conditions.
- Trans-reflective LCD display provides high resolution charge condition in 1% increments.
- Serial control interface for remote runtime monitoring and battery configuration.

Power is a key component in every electronic system, and a major operational consideration in most environments. Availability and commonality of batteries, required system operating times, as well as size and weight present a variety of challenges for operators in the field. Wolf Pack system architecture has been optimized to address these challenges with a range of power options designed to easily connect to every system configuration using quick-release connectors.

Using AN/PRC-148 (MBITR) or AN/PRC-152 (Harris Falcon III) rechargeable radio batteries, the PB3d power supply has been designed to address the realities of many field operations. These rechargeable Li-Ion radio batteries provide extremely high power density leading to long PB3d operating times of up to 20 hours. As with all other components in the Wolf Pack system, the PB3d is fully interchangeable in any weather condition, including heavy rain.

Specifications:

EW-PB3d

Battery Cells Type Supported:
Li-Ion rechargeable AN/PRC-148 and AN/PRC-152

Operating time:
Up to 20 hours @21C (system configuration dependent)

Charge Display:
Trans-reflective LCD in 1% increments

Power Regulation:
15v DC constant (60w)

Environmental Rating:
IP68

Dimensions:
149mm x 90mm x 50mm

Weight:
835g (w/ Li-Ion cell) 475g (w/o Li-Ion cell)

Operating Temperature:
-40ºC - +60ºC (cell dependent)

Storage Temperature:
-40ºC - +60ºC

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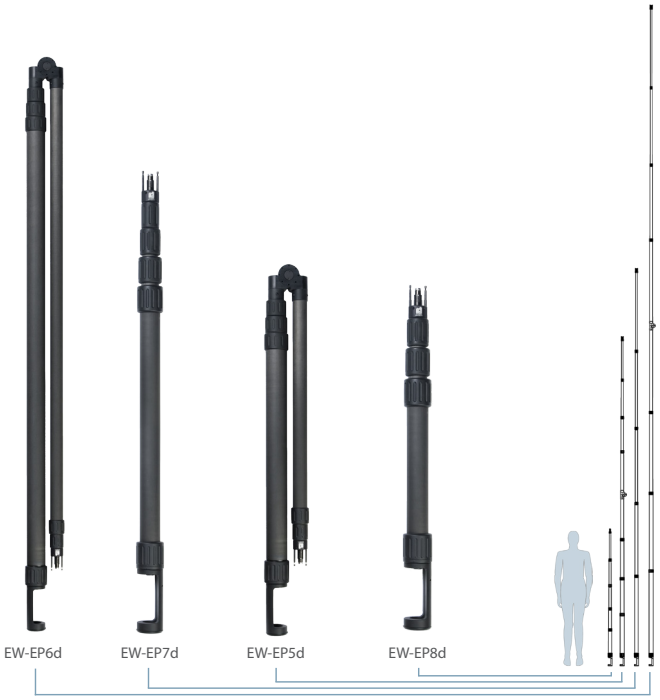
EP Series / System Poles



Specifications:

EW-EP6d (Folding)

Retracted Length:
138cm
Extended Length:
8.20m
Sections:
7 / folding
Weight:
2.75Kg

EW-EP5d (Folding)

Retracted Length:
80cm
Extended Length:
3.95m
Sections:
7 / folding
Weight:
1.75Kg

EW-EP7d

Retracted Length:
147cm
Extended Length:
5.7m
Sections:
5
Weight:
1.45Kg

EW-EP8d

Retracted Length:
69cm
Extended Length:
1.88m
Sections:
4
Weight:
865g

Features:

- Strong, lightweight carbon fiber composite and advanced plastics.
- All-weather, corrosion-proof design.
- Quick-release connection points.
- High rigidity at maximum extension.
- Eomax designed no-thread self-cleaning section twist-locks.
- Internally wired for power, video, and data.
- Quick connecting tripod adapter[1] or guy wire kits available for all models.

Wolf Pack extendable system poles equipped with any Wolf Pack camera module, allow operators to view hard-to-reach or dangerous areas from a position of relative safety. Made of high strength carbon-fiber composite, these poles are remarkably light weight, strong and rigid relative to extended length. System poles are internally wired and are operational at any extended length or locked angle. All models are built for extreme durability and are corrosion-proof making them virtually maintenance-free[2] in normal operation.

Pole sections are secured using a unique self-cleaning, twist-lock mechanism developed by Eomax. A quick release structural connector at the base of these poles allows the attachment of a cable protector and several accessory modules depending on system configuration. A double interlock connector with alignment pins at the top of the pole ensures secure attachment of Wolf Pack pole mounted system modules. Folding models feature a lockable pivot section allowing a variety of deployment geometries as well as extremely compact storage.

1 Sold separately.
2 Special maintenance requirements in salt water environments.

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NW3d / SuperMesh+™ wireless Network

Features:

- 3000m line-of-sight transmission range node-to-node.
- View SuperMesh+ video streams on Wolf Pack displays and standard Android mobile devices.
- Compatible with every Wolf Pack camera and optical device.
- Modular, field configurable plug and play design supports rapid deployment.
- Flexible power options for operations from several hours to several days.
- Engineered in accordance with MIL-STD-810G.

Wolf Pack SuperMesh+™ is a mobile ad hoc mesh network that allows operators to quickly and easily deploy multiple Wolf Pack camera nodes in a variety of environments and stream video from these camera positions over standard Android™ mobile devices. SuperMesh+ employs a modular plug-and-play Wolf Pack radio* configuration ensuring rapid network setup anywhere and in any weather. SuperMesh+ modules are equipped with an Ethernet gateway that allows connection to IP standards-based backhaul network infrastructure as required. Wolf Pack tactical networks are compatible with ATAK and other geospatial SA software applications.

*US Patent # US 20110221907 A1

Specifications:

EW-NW3d

Mesh Radio Models:
NW3d9: 900MHz (ISM)
NW3d15: 1400MHz (L-Band licensed)
NW3d24: 2400MHz (S-Band ISM)

Radio Configuration:
2x2 MIMO

Tx Power:
1w

Bandwidth:
40MHz (100Mbps)
20MHz (80Mbps)
10MHz (40Mbps)

Transmission Range:
3000m typical line-of-sight w/ standard 3.5db omni-directional antennasww

Mesh Encryption[1]:
Hardware Layer: AES128 / 256 / 512 / 1024
Transport Layer: Optional special encryption

Access Point (AP) Radio:
802.11n WLAN (2.4GHz)

AP Radio Encryption:
AES128 w/ WPA-PSK access control

Ethernet Gateway:
100BaseT connection to IP standards-based external networks.

Antenna Ports:
Mesh, AP, GPS, Serial Data

Video Resolution:
Low / Medium / High (HD)

Video Recording (HD):
24 hours/32GB, 48 hours/64GB, 96 hours/128GB, 192 hours/256GB

Connectors:
Eomax press-lock w/ secondary interlock (1x male, 1x female)

Accessory Connectors:
Eomax press-lock (1x Ethernet, 1x USB)

Dimensions:
155mm x 93mm x 55mm

Weight:
575g

Environmental:
IP68 – engineered in accordance with MIL-STD-810G

1 May require export license.

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CU Series / Under-Door Viewer

α system

Features:

- High resolution CMOS image sensor
- High strength 5 mm titanium wedge
- Wide-field optical system with 30° viewing angle from floor
- MIL-SPEC environmentally sealed design for all-weather operation
- Eomax CA-X waterproof single-point quick connect for superior field interchangeability
- Compatible with a wide range of Wolf Pack wireless transmission components

The CU Series Under-Door Camera uses a state-of-the-art image sensor housed in a super-thin high strength titanium wedge. Built-in near IR illumination enables imaging in low-light or no-light conditions. To increase team safety, the CU Series Under-Door Camera can be used with a Wolf Pack extendable camera pole providing stand-off viewing distance well away from the camera position. In confined spaces the CU Series Under-Door Camera can be attached directly to a Wolf Pack display assembly using a coiled connecting cable.

Specifications:

EW-CU3d

Camera Type:
IR optimized CMOS
Optical system:
IR optimized with 90° field-of-view, 30° direction of view
Resolution:
160,000 pixels
Articulation (with CA5d):
two-point with 360° range-of-motion
Dimensions:
wedge thickness: 5.7 mm
wedge length: 4.5” / 115 mm
wedge width: 1.6” / 41 mm (at tip)
Connector:
Eomax CA-X waterproof quick-release; rotatable 300°
Weight:
0.5 lbs (227 g)
Pressure Rating:
weather-proof environmental sealing
Operating Temperature:
-20 °C to +50 °C
Storage Temperature:
-30 °C to +70 °C

*Preliminary data

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BR Series / Nanoflex™ Borescopes

Features:

- High resolution image guide.
- 90° super wide-field optical system.
- Incredibly small 1.8 mm and 2.4 mm working diameters.
- Flexible, nearly unbreakable super-elastic titanium shaft.
- Built-in fiberoptic light guide for applications requiring illumination.
- Direct and side-view optical configurations.
- Fully integrated with Wolf Pack.

Nanoflex™ – the world's only tactical grade mini-borescope designed for real-world operations. Available in 1.8mm and 2.4mm diameters, Nanoflex probes produce remarkable high resolution wide-field images. Equipped with a super-elastic titanium sheath, Nanoflex shafts are abrasion resistant and can bend without breaking. In combination with Wolf Pack Alpha CB optical probe cameras, Nanoflex provides low-light imagery like nothing else. Turn on the built-in fiberoptic light source and Nanoflex becomes a fully illuminated confined space search tool. And, as with all Wolf Pack capabilities, Nanoflex probes seamlessly integrate with the entire Wolf Pack Alpha system.

Nanoflex with CB Series optical probe camera attached.

Model	Diameter	Working Length	Direction of View	Field of View
BR-1.8A12D87NFd	1.8mm	12cm	Direct	87°
BR-1.8A18D87NFd	1.8mm	18cm	Direct	87°
BR-1.8A30D87NFd	1.8mm	30cm	Direct	87°
BR-2.4A27D90NFd	2.4mm	27cm	Direct	90°
BR-2.4A58D90NFd	2.4mm	58cm	Direct	90°
BR-2.4A35S60NFd	2.4mm	35cm	Side	60°
BR-2.4A58S60NFd	2.4mm	58cm	Side	60°

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CB Series / Optical Probe Cameras

Features:

- High durability environmentally sealed design for all-weather operation.
- Excellent low-light imaging capability with minimum illumination as low as 0.0001 LUX.
- Integrated optical system for connection to the entire range of Wolf Pack Nanoflex probes.
- Hybrid opto-mechanical / electronic quick-connect system for superior field interchangeability.
- Colour, NIR enhanced black and white, models available.

The CB Series Optical Probe Cameras connect to BR Series optical probes, seamlessly integrating these specialized optical components with the Wolf Pack system. BR Series optical probes can be valuable tools for confined space search in forensic investigations, contraband interdiction, physical security, and EOD applications. They can also be extremely useful in covert surveillance and tactical operations. Like all Wolf Pack system components, CB Series Optical Probe Cameras are designed to withstand the rigours of real-world operations.

Specifications:

EW-CB10Hd

Camera Type:
Ultra-low-light STARVIS back illuminated CMOS
Resolution:
1920x1080 pixels (HD 1080p)
Sensitivity:
0.0001 LUX
Optical system:
Nanoflex optimized lens
Connector:
Hybrid opto-mechanical-electronic quick release
Operating Temperature:
-20 °C to +50 °C
Storage Temperature:
-30 °C to +70 °C

EW-CB11Hd

Camera Type:
Low-light optimized colour CMOS
Resolution:
1920x1080 pixels (HD 1080p)
Sensitivity:
0.002 LUX
Optical system:
Nanoflex optimized lens
Connector:
Hybrid opto-mechanical-electronic quick release
Operating Temperature:
-20 °C to +50 °C
Storage Temperature:
-30 °C to +70 °C

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