

# ComNav<sup>®</sup>

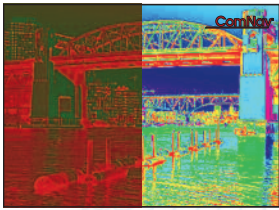


## V2 Thermal Night Vision & Low Light Camera Systems

### Gyro Stabilized Crystal Clear Vision

For U.S. Sales: This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

- Crisp thermal images – 320 x 240 pixels
- TEC Cooled Thermal detector
- Unbeatable 60Hz frame rate with unmatched sensitivity of <40 mK
- ComNav image enhancement provides superior high resolution in absolute darkness, light fog, smog or low light environments
- Easy touch 4x electronic zoom in 0.1 step increments
- Rugged construction exceeds military standards to operate in challenging navigation environments with lightweight aluminum design with mono-crystalline germanium tempered glass weatherproof to IP67
- 360 degrees continuous pan and +/-90° tilt provides seamless view coverage
- Low-Lux, high resolution integrated camera with 36x optical zoom coupled with 12x digital zoom, giving sharp magnification of up to 432x
- LowLight window with built-in heater for auto defrost in freezing environments
- Wide angle and narrow angle thermal imagers available
- Thermal Display Modes: Black Hot, White Hot, Rainbow, Iron
- Scene Selection Modes: Auto, Day, Night
- Flexible mounting gimbal sphere up or down
- Watch thermal and low light video simultaneously on single or multiple displays
- Home position and auto scan sweeps can be easily programmed. Camera system can be parked and protected when not in use
- LCD and keypad backlighting adjustable for night applications
- Optional up to four station remote joystick control units and up to four cameras in multiple configurations
- Compass data input with on screen heading display
- IP Network Control interface capability
- NMEA0183 and NMEA2000 compatible
- CE, FCC certified and RoHS compliance



**Easy Navigation – Various Colors**  
Assists by enhanced visual capability in darkest environments, allows for increased manoeuvring when twilight docking; long range distance awareness in low light conditions;



**Man Overboard Rescue**  
Can assist with faster response times in man overboard search and rescue applications;



**Security**  
Helps to identify and track vessels or objects on perimeter security; collision avoidance; vessel and crew protection;



**Situational Awareness**  
Anti-piracy security tool; allows for comprehensive multi-zone monitoring, long range viewing and greater night vision; iceberg detection; fire detection;

### Thermal Imaging Performance:

<b>Focal Plane Array Detector:</b>	Uncooled Vanadium Oxide (VOx) Microbolometer	
<b>Pixel:</b>	320 x 240	
<b>Field of View:</b>	20° (H)	8.6° (H)
<b>Lens:</b>	35 mm 50 mm	
<b>Electronic Zoom:</b>	1 - 4 x	
<b>Thermal Sensitivity:</b>	<40 mK @ f/1.0 @ 25°C	
<b>Spectral Range:</b>	8 - 14 μm	
<b>Focus:</b>	Fixed	
<b>Detection Range:</b>	2.3 Km	3.4Km

### Low Light Camera:

<b>Detector Type:</b>	1/4" HAD CCD
<b>Lines of Resolution:</b>	752 (H) x 582 (V)
<b>Minimum Illumination:</b>	0.01 LUX / F1.4
<b>Field of Pan View:</b>	48° (@1x), 2.3° (@36 x)
<b>Optical Zoom:</b>	36 x (maximum zoom 432 x)
<b>Digital Zoom:</b>	12 x (maximum zoom 432 x)
<b>Stabilization:</b>	Gyro compensated (2 axis) optimized for high speed vessels
<b>Operating Voltage:</b>	10 to 30 VDC
<b>Power Consumption:</b>	10 W standby 25 W nominal 50 W max with heaters operating
<b>Operating Temperature:</b>	-25°C to +55°C
<b>Storage Temperature:</b>	-40°C to +85°C
<b>Waterproof:</b>	Sealed to IP67 standards; marine cables & corrosion resistant connectors
<b>Wind Resistance:</b>	100 Knots
<b>Encapsulation:</b>	Sand & dust proof to Mil-Std-810E Salt mist & humidity to IEC60945
<b>Shock Resistance:</b>	15 g vertical; 9 g horizontal
<b>Vibration Resistance:</b>	Mil-Std-810E
<b>Additional built-in features:</b>	Auto window de-icing & defrost, Lightning & surge protection
<b>Compliance</b>	CE, FCC, RoHS

### JOYSTICK KEYPAD



### V2 THERMAL & LOW LUX CAMERA

### OPTIONAL DECODER UNIT



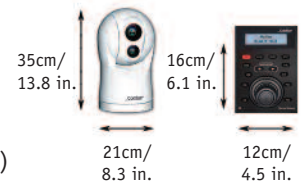
### OPTIONAL EXTRA STATIONS



### OPTIONAL LCD

### DIMENSIONS:

**Camera:** 21cm / 8.3 inches in diameter  
35cm / 13.8 inches in height  
**Joystick Keypad:**  
16cm (6.1 inches) x 12cm (4.5 inches)  
**Weight:** camera: 10 kg



### ADDITIONAL FEATURES:

- LED backlit 12", 15" and 19" sunlight LCD display options
- Multi-function joystick control keypad remote
- Multiple Thermal Display Modes
- Multi-protocol decoder: PELCO-P/D, RS422
- Power-off memory function and programmable home position
- Auto scan function; preset positioning tour
- On Screen Display password protection
- Park Mode camera protection when not in use
- Auto internal heater for cold temperatures
- Joystick controller can be surface or flush mounted
- Auto or fixed focus lens options
- Extra remote station capability
- Accurate on screen heading information via NMEA0183/NMEA2000 interface to vessels compass

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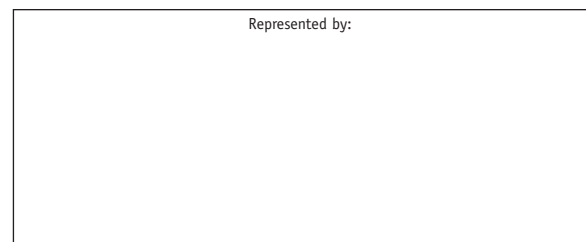
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