

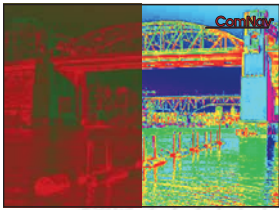
# ComNav<sup>®</sup>



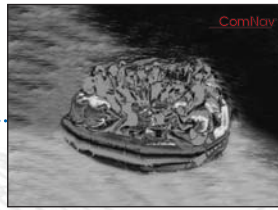
## V2 Thermal Night Vision & Low Light Camera Systems

### Gyro Stabilized Crystal Clear Vision

- Crisp thermal images in Black Hot, White Hot, Rainbow, Iron
- TEC Cooled Thermal detector
- Unbeatable 60Hz frame rate with unmatched sensitivity of <40 mK
- Available in 9Hz
- 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, 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
- 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>	35mm	50mm
<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>	2.3Km	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>	57.8° (@1x), 1.7° (@36 x)
<b>Optical Zoom:</b>	36 x (maximum zoom 432 x)
<b>Digital Zoom:</b>	12 x (maximum zoom 432 x)

### Specifications:

<b>Stabilization:</b>	Gyro compensated 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 Salt mist & humidity
<b>Shock Resistance:</b>	15 g vertical; 9 g horizontal
<b>Additional built-in features:</b>	Auto window de-icing & defrost, Lightning & surge protection
<b>Compliance</b>	CE, FCC, RoHS

### JOYSTICK KEYPAD



### OPTIONAL DECODER UNIT



### OPTIONAL EXTRA STATIONS

### V2 THERMAL & LOW LIGHT CAMERA



### OPTIONAL LCD

### Dimensions:

**Camera:** 23.4cm/9.21 inches in diameter  
39.7cm/15.6 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

# ComNav®



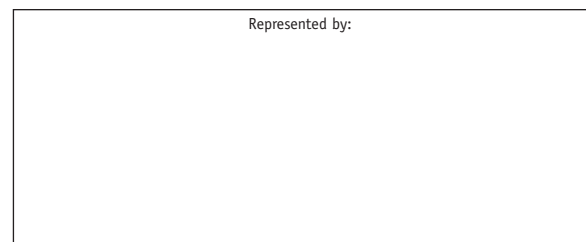
**ComNav Marine Ltd.**  
#15-13511 Crestwood Place,  
Richmond, British Columbia • Canada • V6V 2G1  
Phone: 604-207-1600 • Fax: 604-207-8008  
E-mail: sales@comnav.com

[www.comnav.com](http://www.comnav.com)

**Worldwide Service**

Printed in Canada

Represented by:



Specifications subject to change without notice