

SITUATIONAL INTELLIGENCE

SOLID STATE RADOME

SHARP[™]Eye SCV
SMALL CRAFT VARIANT



Until recently, users of small craft had to resort to radar equipment designed for the leisure industry as a surveillance sensor. Our SharpEye[™] sensor technology used on warships is now available to the small boat user in the form of a radome X-Band radar. Built to advanced specifications, it delivers superior target detection in all weathers. The associated SeaCross display software was created with specialist missions in mind.

This smaller lightweight version of SharpEye[™] uses solid state power amplifier technology (no magnetron or modulator) to produce a coherent transmission that enables Doppler analysis of the returns. Armed with this additional information on the returning radar plots, the device is able to see targets that other radars miss as well as seeing smaller targets at greater ranges. This advantage is more marked in poor weather conditions such as heavy sea and rain clutter, when the traditional leisure radar is almost useless.

SHARPEYE[™] SCV

The radome is designed for easy installation on radar arches and masts. It has a flexible interface making it possible for the core high performance element of the radar system, the SharpEye[™] transceiver, to interface with other radar displays. We also offer a 15" or 19" fully waterproof ruggedised console display with a state-of-the-art solid state ruggedised processor.

SharpEye[™] SCV provides a robust, reliable solution to improve situational awareness for small watercraft, enabling autonomous vessel operation with informed, real time and local tactical decision making.

| RADOME | DISPLAY / PROCESSOR | OPTIONS |
|--|---|--|
| Ø585mm (24") SHARPEYE [™] SOLID STATE TRANSCIEVER & ANTENNA | LCD 15" / 19" SMALL BOAT WATERPROOF NAVIGATION DISPLAY | INTEGRATE WITH OTHER DISPLAYS THROUGH OPEN ARCHITECTURE FLEXIBLE INTERFACE |
| INTEGRATED GPS | LED 22" / 26" TACTICAL NAVIGATION & SURVEILLANCE DISPLAY (CABIN ONLY) | INTERCHANGEABLE COLOUR/PATTERN PULL OVER RADOME COVERS |
| AVAILABILITY - NO WARM UP | TRACKERBALL (PLUS KEYBOARD - CABIN ONLY) | REMOVEABLE ARMOUR LAYER FOR RADOME |
| POWER AMPLIFIER DUAL REDUNDANCY | SOLID STATE HARD DRIVE | |
| | OPEN ARCHITECTURE - INTERFACE WITH OTHER VESSEL SENSORS AND CAMERA | |

SharpEye[™] SCV uses pulse compression and Doppler processing to provide superior detection. The solid state electronics design requires no routine maintenance and, unlike normal small boat radars, has no components that degrade with time and so the high performance is available throughout the life of the unit.

Another advantage of the SharpEye[™] technology is the low peak power of the transmission which is 80W, compared to anything up to 10kW from an equivalent magnetron radar. This low power coupled with a precise use of frequency, makes it very difficult for ESM equipment to detect the transmission. The user can also select individual transmit frequencies, power modes and configure azimuth sector blanking to further improve the covert characteristics of the device.

SharpEye[™] SCV offers advanced sensor technology with low power consumption, ultra-high reliability, superior performance and reduced probability of transmissions being intercepted.



SOLID STATE RADOME

| SHARPEYE™ BENEFITS AND FEATURES | | SHARPEYE™ PERFORMANCE | |
|---------------------------------|--|----------------------------|--|
| RESILIENCE | RESISTANT TO JAMMING RESISTANT TO INTERFERENCE | INSTRUMENTED RANGE | UP TO 24 NM |
| CLUTTER SUPPRESSION | DOPPLER PROCESSING RF FREQUENCY VARIATION | RANGE RESOLUTION | 40m |
| RAPID DEPLOYMENT | INTEGRATED TRANSCEIVER INTEGRATED GPS RADAR STANDBY MODE SIMPLE MOUNTING | RANGE ACCURACY | 5m RMS |
| ULTRA HIGH RELIABILITY | SOLID STATE ELECTRONICS (NO MAGNETRON) POWER AMPLIFIER DUAL REDUNDANCY RUGGED DESIGN | AZIMUTH ACCURACY | 0.8° RMS |
| SCANNING IN AZIMUTH | SECTOR SCANNING 360° SCANNING | PROBABILITY OF FALSE ALARM | 10 ⁻⁴ Pfa |
| DETECTION | CONCURRENT LONG AND SHORT RANGE (TRANSMITS LONG, MEDIUM AND SHORT PULSE SIMULTANEOUSLY) | ENVIRONMENTAL | IP67 -25°C TO +55°C IEC 60945 BS EN 62252 (EMC, VIBRATION, CLIMATIC) |
| RADAR OUTPUT | GIGABIT LAN | FREQUENCY | X-BAND (I-BAND) 9.22-9.38 GHz |
| CONTINUOUS HEALTH MONITOR | BUILT IN SELF TEST SYSTEM STATUS MONITOR | FREQUENCY SELECTION | 9 USER SELECTABLE |
| RADOME SPECIFICATION | | DISPLAY SPECIFICATION | |
| PEAK POWER | 80W TYPICAL | DISPLAY | LCD 15" OR 19" LED 22" OR 26" |
| WAVEFORMS | PULSED, COHERENT | RESOLUTION | 1024 X 768 1920 X 1200 |
| SIGNAL PROCESSING | PULSE COMPRESSION PULSE DOPPLER ADAPTIVE CLUTTER SUPPRESSION | INSTRUMENTED RANGE | MIN 0.125 NM - MAX 24 NM |
| OUTPUT DATA | ASTERIX CAT 240 RADAR VIDEO | ENVIRONMENTAL | IP67 -25°C - +55°C |
| DIMENSIONS | Ø585mm X 262mm (NOT INCLUDING VIBRATION KIT) | POWER | BATTERY OPERATED >30W 9-36 VDC |
| POWER | BATTERY OPERATED 150W TYPICAL 19-32 VDC | DIMENSIONS | CONSOLE MOUNTING SPECIFICATION AVAILABLE ON REQUEST |
| WEIGHT | 20kg RADOME 2kg MOUNTING KIT | INTERFACES | SERIAL ETHERNET OPEN ARCHITECTURE VESSEL SENSORS CAMERA INTEGRATION |
| AZIMUTH BEAM WIDTH | <4° @ -3dB | USER INTERFACES | TRACKERBALL IP67 SUBMERSIBLE IP68 TRACKBALL SEALING |
| ELEVATION BEAM WIDTH | 25° | | |

The ruggedised display incorporates a fully customisable boat management system allowing the user to arrange the onscreen windows to show other sensors and engine data as well as the radar and chart.

Clever use of colours and customisation allows each user to have their own preferences saved for quick and easy activation of their preferred screen layout.

APPLICATIONS

| | | |
|---------------|-------------------|-------------------|
| RHIB | PATROL BOAT | LIFE BOAT |
| HOVERCRAFT | POLICE BOATS | SEARCH AND RESCUE |
| MILITARY BOAT | FAST ATTACK CRAFT | LANDING CRAFT |

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