

LAND BASED SECURITY

SECURITY AND SURVEILLANCE RADAR

SHARP[™]Eye SxV



A Kelvin Hughes Surveillance radar solution is the primary sensor for threat detection over land. SharpEye™ SxV ensures users have the best possible real time situational awareness. We provide fully coherent SharpEye™ radar technologies, developed specifically for on land applications capable of detecting the smallest of targets in the most challenging conditions.

The SharpEye™ SxV family of lightweight coherent radars utilising the core SharpEye™ Technology has been designed to meet the varied requirements of security, defence and paramilitary users. A modular, scalable and unique processing architecture packages our solid state technology for a wide range of portable, deployable and fixed applications. SharpEye™ SxV offers low cost, low power consumption, lightweight, ultra-high reliability and superior performance. Doppler processing enables the detection of extremely small and slow targets in inclement weather and difficult terrain.

SharpEye™ SxV

The SharpEye™ SxV high performance X-band radar radomes are designed for easy installation on a static mast or vehicle mounted mast and have a flexible interface making the system display independent. Incorporating SharpEye™ technology the SxV radar system provides situational awareness both at short and long range.

OPTIONS

MDS-SV	50W STANDARD RADOME ASSEMBLY, IP65 RATED, VEHICLE STORAGE KIT OPTION, MOUNTING KIT
MDS-SMV	50W STANDARD RADOME ASSEMBLY, IP65, MOUNTING KIT

SharpEye™ SxV is a lightweight, low cost, low power, environmentally sealed X-band surveillance and tracking system designed to bridge the gap between high end phased array battlefield ground surveillance radars and less capable FMCW and motion activated sensor solutions. Greatly reduced radar mass and reduced physical footprint of the SharpEye™ transceiver enables the SharpEye™ SxV to overcome the inherent performance limitations of other radars in cluttered environments day or night and in all weather conditions. It presents operators with a high quality radar picture via a chosen display option, detecting and tracking personnel, vehicle and airborne targets from approximately 30m to 15km. The system is capable of being operated autonomously or as part of an integrated sensor network, and will perform remote operation and/or the cueing of optical sensors.

APPLICATIONS

AREA RECONNAISSANCE	EXCLUSION ZONE MONITORING	RIOT CONTROL
BORDER MONITORING	MIGRATION MONITORING	TARGET INDICATION
CRITICAL ROUTE PROTECTION	MILITARY AIRPORT PROTECTION	UAV TRACKING & CONTROL
DRUG TRAFFICKING SURVEILLANCE	PALACE PROTECTION	USV TRACKING & CONTROL
EARLY WARNING	PEOPLE TRAFFICKING SURVEILLANCE	EXCISE / COMMODITIES TRAFFICKING SURVEILLANCE
SPECIAL EVENT SECURITY	PERIMETER PROTECTION	



SITUATIONAL INTELLIGENCE, THE WORLD OVER

BENEFITS		FEATURES	
ANTI-JAMMING	RESISTANT TO JAMMING RESISTANT TO INTERFERENCE	AUTOMATIC ACQUISITION	AIR TARGETS SURFACE TARGETS
HIGH ACCURACY	NARROW BEAMWIDTH WIDE BANDWIDTH	SURFACE & AERIAL TRACKING	AUTOMATIC DESIGNATION MANUAL DESIGNATION
CLUTTER INSUSCEPTIBILITY	MOVING TARGET INDICATION DOPPLER PROCESSING FAST FOURIER TRANSFORMATION RF FREQUENCY VARIATION	SCANNING IN AZIMUTH	SECTOR SCANNING 360 DEGREE SCANNING
RAPID DEPLOYMENT	INTEGRATED TRANSCEIVER INTEGRATED GPS SINGLE INTERCONNECT LOOM RADAR POWER UP - 15 SECONDS SIMPLE MOUNTING OPTIONS	TARGET CLASSIFICATION	AUTOMATIC
ULTRA-HIGH RELIABILITY	SOLID STATE ELECTRONICS GRACEFUL DEGRADATION	DETECTION TRACKING	CONCURRENT LONG & SHORT RANGE
CONCURRENT TRACKING & DETECTION	SHORT RANGE LONG RANGE	RADAR OUTPUT	GIGABIT ETHERNET
		CONTINUOUS HEALTH MONITOR	BUILT-IN SELF TEST SYSTEM STATUS MONITOR

SPECIFICATION		PERFORMANCE	
PEAK POWER	50W NOMINAL	DETECTION RANGE (INSTRUMENTED)	WALKING MAN 5km VEHICLE 15km
WAVEFORMS	PULSED, COHERENT AUTOMATIC POWER OPTIMISATION	RANGE RESOLUTION	40m
SIGNAL PROCESSING	PULSE COMPRESSION PULSE DOPPLER ADAPTIVE CLUTTER SUPPRESSION	RANGE ACCURACY	5m RMS
OUTPUT DATA	PLOT DATA VIA DIGITAL LAN	AZIMUTH ACCURACY	0.8 DEGREES RMS
DIMENSIONS	600mm x 220mm	NUMBER OF TRACKS	DEPENDENT ON DISPLAY OPTION
ANTENNA	530mm ROTATING ARRAY	PROBABILITY OF FALSE ALARM	10 ⁻⁴ Pfa
POWER CONSUMPTION	18V TO 32V DC 100 WATT TYP 150 WATT MAX	MOVING TARGET DETECTION	UP TO 1024 FILTERS
WEIGHT	10kg	MOVING TARGET INDICATION	YES
INSTRUMENTED RANGE	UP TO 48 km	CONSTANT FALSE ALARM RATE	YES
TARGET CLASSIFICATION	SURFACE & AIR	ENVIRONMENTAL	IP65
AZIMUTH BEAM WIDTH	<4.0 DEGREES	OPERATING TEMPERATURE	-25 DEG TO +55 DEG
ELEVATION BEAM WIDTH	25 DEGREES	RELIABILITY	UP TO 30,000 HOURS
		FREQUENCY	X-BAND 9.0 - 9.5 GHz
		FREQUENCY SELECTION	11 USER SELECTABLE

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