VTS AND COASTAL SURVEILLANCE RADAR

SBS-700 NON-COHERENT SENSOR SYSTEM



Kelvin Hughes Surveillance radar solutions for shore based applications have been specifically developed to meet the stringent operational requirements of port, harbour and river traffic operators as well as government agencies responsible for the protection of the coastal and littoral zones.

The SBS (Shore Based Sensors) radar sensor family comprises non-coherent and fully coherent solid state radar sensors available in multiple configurations to suit the specific application whether it's a single radar site or part of a radar sensor network. An important part of a VTS and coastal surveillance system integration is the ability to easily integrate subsystems such as radar sensors; our systems are specifically designed with this in mind using industrial standard protocols to make the integration work of the VTS/CSS system integrator as easy and low cost as possible.

SBS-700

The SBS-700 system is designed to complement the SBS-800 SharpEye™ solid state radar and utilises a magnetron transceiver. The SBS-700 is aimed at the *basic* and *standard capability* type as outlined in IALA V-128. The latest magnetron technology from Kelvin Hughes boasts the incorporation of a high dynamic range, a low noise front end and a FET modulator benefiting the operator with improved range discrimination.

SBS-700-1
25kW X-BAND TRANSCEIVER ASSEMBLY
DRIVE CONTROL UNIT
INSTALLATION KIT
CABLE KIT TRACK EXTRACTOR

SBS-700-2
25kW X-BAND DUAL TRANSCEIVER ASSEMBLY
RADAR DISTRIBUTION UNIT (RDU)
SUPPORT FRAME
INSTALLATION KIT
CABLE KIT TRACK EXTRACTOR

APPLICATIONS		
VESSEL TRAFFIC SERVICES	PORTS	HARBOURS
COASTLINES	OIL AND LNG TERMINALS	OIL AND GAS PLATFORMS

OUR SERVICES		
PROJECT MANAGEMENT	RADAR TRIALS DELIVERY	INTEGRATED LOGISTICS SUPPORT
SPARES AND SUPPORT	TRAINING	INCREMENTAL CAPABILITY

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SBS-700 NON-COHERENT SENSOR SYSTEM

DESCRIPTION

Available in single or dual redundant downmast transceiver configurations. The dual redundant system is provided with a Radar Distribution Unit (RDU). The RDU incorporates dual redundant power supplies and antenna drive control unit. The LRU configuration and quality of the sub-systems ensure an availability of 99.1% thus meeting the *basic* and *standard availability* requirements.

Control of the system is normally via the local authority track extractor. Connection to the Wide Area Network (WAN) is via the track extractor with system commands received by the extractor and passed onto the SBS-700 system for action. Return analogue radar and status information is received at the extractor to permit track extraction and is for output to the WAN.

A range of antennas are available which are specified according to performance requirements along with additional options such as wave guide air dryer, additional analogue outputs and remote boot power switch.

A Kelvin Hughes Service Display is available which enables the maintainer to control and display the radar locally for commissioning and maintenance purposes. The SBS-700-2 dual redundant system gives the benefit of live operation of the on-line transceiver whilst being able to carry out maintenance tasks on the off-line transceiver.

The RDU controls the switchover of the standby transceiver in the case of a problem with the transmit sensor or to balance the operating period between the magnetrons.

BENEFITS	FEATURES
DUAL REDUNDANCY	HIGH EFFICIENCY FET MODULATOR
LOW MAINTENANCE	LOW NOISE FRONT END
10K HRS MAGNETRON SERVICE LIFE	ASTERIX INTERFACE VIA LAN (OPTION SBS-700-2)
SEMI-RANDOM JITTER	INTERFACING TO THE TRACK EXTRACTOR
3 VIDEO OUTPUTS AVAILABLE	LOCAL CONTROL
PRE-PULSE OUTPUTS	REMOTE CONTROL (RS232/422)
CONTROLLABLE MAGNETRON HEATERS	BLANKING SECTORS
SAFETY CURRENT LOOP	HEALTH MONITOR & STATUS

SPECIFICATION

PEAK POWER	25kW	
MAINS POWER	SINGLE PHASE	115V OR 230V 50/60Hz
4 TX PULSE LENGTHS	0.04 / 0.08 / 0.25 / 1.0µS	4 SELECTABLE PULSE WIDTH AND PRF COMBINATIONS
SYSTEM ONF	3.5dB TYPICAL	
DRIVE UNIT	3 PHASE	380V TO 500V 50/60Hz
DIMENSIONS	TRANSCEIVER	650 (H) X 420 (W) X 266 (D) mm
	DRIVE CONTROL UNIT	450 (H) X 340 (W) X 194 (D) mm
	RDU	700 (H) X 400 (W) X 270 (D) mm
	ANTENNAS	STANDARD AND ADVANCED AVAILABLE IN A RANGE OF SIZES
		3.7m (12ft), 6.4m (21ft)
		POLARISED: HORIZONTAL OR CIRCULAR
		(PLEASE CONTACT FOR MORE INFORMATION)
FREQUENCY	X-BAND	9.375 GHz ± 0.03GHz
INSTRUMENTED RANGE	96nm MAX	
OUTPUT DATA	3 SETS OF RADAR DATA TO EXTERNAL SYSTEMS	
TRANSCEIVER WEIGHT	30kg	
ANTENNA WEIGHT	DEPENDANT ON ANTENNA	(PLEASE CONTACT FOR MORE INFORMATION)
COLOUR	DOWNMAST	ANTHRACITE GREY
	ANTENNA	SIGNAL WHITE OR SILVER GREY

All parameters are nominal and indicative based on a typical radar configuration.

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