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.

<table>
<thead>
<tr>
<th><strong>SBS-700-1</strong></th>
<th><strong>SBS-700-2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>25kW X-BAND TRANSCEIVER ASSEMBLY</td>
<td>25kW X-BAND DUAL TRANSCEIVER ASSEMBLY</td>
</tr>
<tr>
<td>DRIVE CONTROL UNIT</td>
<td>RADAR DISTRIBUTION UNIT (RDU)</td>
</tr>
<tr>
<td>INSTALLATION KIT</td>
<td>SUPPORT FRAME</td>
</tr>
<tr>
<td>CABLE KIT TRACK EXTRACTOR</td>
<td>INSTALLATION KIT</td>
</tr>
<tr>
<td></td>
<td>CABLE KIT TRACK EXTRACTOR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>APPLICATIONS</strong></th>
<th><strong>APPLICATIONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>VESSEL TRAFFIC SERVICES</td>
<td>PORTS</td>
</tr>
<tr>
<td>COASTLINES</td>
<td>OIL AND LNG TERMINALS</td>
</tr>
<tr>
<td></td>
<td>OIL AND GAS PLATFORMS</td>
</tr>
</tbody>
</table>

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

- DUAL REDUNDANCY
- LOW MAINTENANCE
- 10K HRS MAGNETRON SERVICE LIFE
- SEMI-RANDOM JITTER
- 3 VIDEO OUTPUTS AVAILABLE
- PRE-PULSE OUTPUTS
- CONTROLLABLE MAGNETRON HEATERS
- SAFETY CURRENT LOOP

**FEATURES**

- HIGH EFFICIENCY FET MODULATOR
- LOW NOISE FRONT END
- ASTERIX INTERFACE VIA LAN (OPTION SBS-700-2)
- INTERFACING TO THE TRACK EXTRACTOR
- LOCAL CONTROL
- REMOTE CONTROL (RS232/422)
- BLANKING SECTORS
- 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
- **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
  - ANTENNAS: 700 (H) X 400 (W) X 270 (D) mm
- **FREQUENCY**: X-BAND
  - 9.375 GHz ± 0.03GHz
- **INSTRUMENTED RANGE**: 96nm MAX
- **OUTPUT DATA**: 3 SETS OF RADAR DATA TO EXTERNAL SYSTEMS
- **TRANSCIEVER WEIGHT**: 30kg
- **ANTENNA WEIGHT**: DEPENDANT ON ANTENNA

**COLOUR**

- DOWNMAST: ANTHRACITE GREY
- ANTENNA: SIGNAL WHITE OR SILVER GREY

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