



Marine & Offshore  
Division

Certificate number: 13748/D0 EC

File number: NAV 01/55689/01

Annex A1 Item number: A.1/4.18

This certificate is not valid when presented without the full  
attached schedule composed of 7 sections  
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Notified Body 0062 - MARINE EQUIPMENT DIRECTIVE 96/98/EC

## EC TYPE EXAMINATION CERTIFICATE

as per Module B of European Union Council Directive 96/98/EC on marine equipment  
as amended by Commission Directive 2014/93/EU

This certificate is issued to

**SEVENSTAR ELECTRONICS LTD.**

Wootton Bassett - UNITED KINGDOM

for the type of product

**9GHZ SAR TRANSPONDER (SART)**

Type: S.701.

### Requirements:

SOLAS 74 Convention as amended, Regulations III/4, III/6, IV/7, IV/14, V/18 and X/3  
IMO Res. MSC.36(63) -(1994 HSC Code)- as amended, 8, 13 and 14  
IMO Res. MSC.97(73) -(2000 HSC Code)- as amended, 8, 13 and 14  
IMO Res. A.694(17)  
IMO Res. A.530(13)  
IMO Res. A.802(19) amended by MSC.247(83)  
ITU-R M.628-5 (03/12) (supersedes ITU-R M.628-3 (11/93))  
IEC 60945 Ed. 4.0 (2002) + /Corr.1 (2008)  
IEC 61097-1 Ed. 2.0 (2007)

This certificate is issued on behalf of the French Maritime Authorities to attest that BUREAU VERITAS did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Council Directive 96/98/EC of 20 December 1996 as amended.

**This certificate will expire on: 18 Sep 2020**

For BUREAU VERITAS Notified Body 0062,

At BV LONDON, on 18 Sep 2015,

Spencer Yule



This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark ) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. BUREAU VERITAS is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

The **S.701** Search and Rescue Transponder (SART) is a 9 GHz receiver/transmitter.

The unit is supplied with a bracket for mounting on the bulkhead of the ship. When required, the SART can be removed from the bracket and carried in one hand to the lifeboat or liferaft.

### Technical Characteristics

Frequency:	9.2 - 9.5 GHz
Polarization:	horizontal
Horizontal beam width:	360 degrees $< \pm 2$ dB
Vertical beam width:	$\pm 12.5$ degrees
Transmitted power:	400 mW EIRP (+26 dBm) minimum
Response signal:	12 sweeps forward sweep time 7.5 $\mu$ s. return sweep time 0.4 $\mu$ s.
Nominal transmit duration:	100 $\mu$ s.
Receiver sensitivity:	better than -50 dBm
Recovery time:	below 10 $\mu$ s. or less
Response delay:	0.5 $\mu$ s. or less
Battery capacity:	standby - 96 hrs. (minimum) followed by: active mode - 8 hrs (minimum) at 1 KHz duty factor.
Temperature range:	Operating -20°C to +55°C Storage -30°C to +65°C

### Physical characteristics

Dimensions:	332 mm x 80 mm x 40 mm incl. battery
Effective antenna height:	1 metre (with mast fitted)
Weight:	400g incl. battery.
Mounting bracket:	414 mm x 110 mm x 66 mm, UV resistant ABS
Mounting pole (option):	3 section telescopic, glass fibre
SART body:	UV-stabilised, impact modified polystyrene, bright yellow

### 2. DOCUMENTS AND DRAWINGS :

As per manufacturer's controlled document list reference:

2 circuit diagrams ref.:

- DOC.701 / CD1/9104 issue 4.

Bill of material ref. DOC.701/PL1/21103 issue 4.

S.701 SART User Guide.

2003 Technical manual ref. DOC.701/TF1/220703.

Documents are to be stamped and endorsed by Bureau Veritas.

Nb: This list can be revised to show changes to drawing issue status.

Before changes can be implemented, new drawings must be provided to Bureau Veritas for review and acceptance.

The new drawing list will be stamped and endorsed accordingly.

### 3. TEST REPORTS :

3.1 - Test report N° 04/22 issued by PUBLIC ENTERPRISE TESTING CENTER "OMEGA" SEVASTOPOL.

3.2 - Test report N° 09/565 issued by PUBLIC ENTERPRISE TESTING CENTER "OMEGA" SEVASTOPOL on 28/Oct./2009.

3.3 - Test report N° 15/110 issued by PUBLIC ENTERPRISE TESTING CENTER "OMEGA", SEVASTOPOL, on 25/March/2015

### 4. APPLICATION / LIMITATION :

4.1 - As per requirements of Regulations stated on front page of this certificate.

4.2 - <b>Internal batteries</b>	<b>Cell type</b>	<b>IEC Desig'tn</b>
Seven Star S.701B (pack of 4)	CR/DL 123A	CR 17345

**5. PRODUCTION SURVEY REQUIREMENTS :**

This certificate does not allow the applicant to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module D "Production Quality Assurance" or E "Product Quality Assurance" or F "Product Verification" of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.

**6. MARKING OF PRODUCT :**

6.1 - The Equipment, must be marked in accordance with the Directive requirements i.e.:

- Maker's name or trade mark
- Serial number
- Name of approving authority
- Date of next servicing
- Date of battery replacement
- Name of the ship / call sign
- Instructions for emergency use and testing

6.2 - Markings as per MED 96/98/EC:

☒ YYYY/XX where YYYY is the number of the Notified Body undertaking surveillance module (when BV, 0062) and where XX are the last two digits of year mark affixed.

**7. OTHERS :**

7.1 - This approval is given with the understanding that the Society reserves the right to require check tests to be carried out on the SART(s) at any time, and that, **Sevenstar Electronics Ltd., Wootton Bassett - U.K.** will accept the responsibility for informing shipbuilders or their sub-contractors of the proper methods of use and general maintenance of the SART(s) and of the conditions of this approval.

7.2 - This certificate supersedes EC Type Examination Certificate N° 13748/CO EC issued on 22/01/2010 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*