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Certificate N°:
13748/A0 EC
File Number : NAV 01/55689/01
MED item number : A.1/4.18
This Certificate is not valid where presented without the full attached Schedule, composed of 10 sections.



EUROPEAN COUNCIL DIRECTIVE 96/98 EC on MARINE EQUIPMENT (M.E.D.)

EC TYPE EXAMINATION CERTIFICATE (CERTIFICATE OF TYPE APPROVAL)

This is to certify that Bureau Veritas, acting within the scope of its notification, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the International Instruments and testing standards under the requirements of Council Directive 96/98/EC, as amended.

9GHz SAR TRANSPONDER (SART)

Type: S.701.

MANUFACTURED BY:

SEVENSTAR ELECTRONICS LTD.

Wootton Bassett - UNITED KINGDOM

REGULATIONS & STANDARDS in accordance with Council Directive 96/98/EC, as amended by Commission Directive 2002/75/EC : SOLAS 74 Convention, as amended by 2000 SOLAS Amendments, Regs. III/6.2.2 & IV/7.1.3 - 2000 HSC Code, IMO Resolution MSC.97(93) 14.7.1.3 - IMO Resolutions A530(13), A694(17), A802(19), A813(19) - IUT - R Rec. M628-3 - IEC 61097-1 (1992) - IEC 60945(1996).

Expiry date: 16/03/2009

Local Office : BUREAU VERITAS LONDON

At Paris la Défense, on : 16/03/2004



J.BENOIT

Marine Equipment Certification Manager
For BUREAU VERITAS, EC Notified Body N°0062



The Manufacturer is allowed to affix the MED Conformity Mark to approved equipment and issue a Declaration of Conformity, only when the production/product assessment module referred to in the Directive 96/98/EC, is fully complied with.

This Certificate remains valid until its date of expiry, unless cancelled or revoked, providing the conditions in the attached Schedule are complied with and the equipment remains satisfactory in service. This Certificate does not apply to equipment which has been varied or modified from the specimen tested.

Should the specified 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 standards apply.

This Certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant 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 judgment, 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.

Issued under the authority of the French Maritime Administration.



**BUREAU
VERITAS**
MARINE DIVISION

File Number : NAV 01/55689/01

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 μ s. return sweep time 0.4 μ s.
Nominal transmit duration:	100 μ s.
Receiver sensitivity:	better than -50 dBm
Recovery time:	below 10 μ s. or less
Response delay:	0.5 μ 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. DESIGN DRAWINGS and/or SPECIFICATIONS

2.1 - As per manufacturer's controlled document list reference:

- 2 circuit diagrams ref.:
- DOC.701 / CD1/9104 issue N° 2.
- Bill of material ref. DOC.701/PL1/21103 issue 2.
- 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.

2.2 - Manufacturing documentation.

To be approved by Bureau Veritas e.g. Manufacturing, test and inspection plan.

2.3 - Manual(s) for installation, use and maintenance are to be available in one of the IMO languages, in addition to ship's flag language.

3. TYPE TEST REPORTS / LABORATORY RECOGNITION STATUS

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

3.2 - Reviewed for validation by the Society.

4. MATERIALS or COMPONENTS REQUIRED TO BE TYPE APPROVED or TYPE TESTED

Nil.

5. OTHER MATERIALS and/or COMPONENTS

Additional part list is to be approved by the Society.

6. APPLICATION / LIMITATION OF USE

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

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

7. PRODUCTION SURVEY REQUIREMENTS

7.1 - Arrangements shall be made for a Society's Surveyor to carry out, on a periodic basis, visit of the manufacturer's premises and product audits.

7.2 - The Production Conformity Assessment Module shall be "D" Production Quality Assurance.

7.3 - Each manufactured equipment is to be the  mark and the Notified Body number undertaking surveillance module (for BV: 0062).

7.4 - Each SART intended to be fitted onboard a ship registered to a national register adhering to the directive shall be delivered with a Declaration of Conformity, which shall be signed by the manufacturer.

7.5 - Each equipment is to be supplied with Manual(s) for installation, use & maintenance (cf. 2 above).

8. ON BOARD INSTALLATION & MAINTENANCE REQUIREMENTS

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

- The fitting aboard to be the same as used for the test.

9. MARKING FOR IDENTIFICATION

9.1 - 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
-  mark and the Notified Body number (for BV: 0062) undertaking surveillance module
- Last two digits of year mark affixed.

9.2 - Markings as detailed in article 11 of the Directive, must not be applied until the relevant module 'D'

certificate has been issued to the manufacturing works by the notified body.

10. OTHERS

10.1 - 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 - UK**, 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.

10.2 - Issued by Bureau Veritas - Notified Body N° 0062.

***** Last page (End of Document) *****

BUREAU VERITAS LONDON

