SLOVENSKI STANDARD
SIST ETS 300 066 E1:2003

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Radijska oprema in sistemi (RES) ï Prosto plavajoļ i pomorski satelitski radijski javljalniki kraja nuje, ki delujejo na 406,025 MHz ï Tehniļ ne karakteristike in merilne metode

Radio Equipment and Systems (RES); Float-free maritime satellite Emergency Position Indicating Radio Beacons (EPIRBs) operating on 406,025 MHz; Technical characteristics and methods of measurement

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ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Radio Equipment and Systems (RES) Technical Committee of the European Telecommunications Standards Institute (ETSI) and has undergone the ETSI standards approval procedure in Public Enquiry 13 and Vote 20.

This ETS sets out the minimum requirements for float-free maritime satellite Emergency Position-Indicating Radio Beacons (EPIRBs), used for maritime search-and-rescue. The requirements include the arrangements for the operation of EPIRBs on the 406,025 MHz frequency (and for the operation of optional homing devices on other frequencies), and for the operation of the release mechanism which allows EPIRBs to float freely in the water.

EPIRBs operate under the COSPAS-SARSAT satellite system, and this ETS incorporates the requirements of COSPAS-SARSAT specification C/S T001 [5]. This ETS incorporates the recommendations of the International Maritime Organisation (IMO) Assembly Resolutions A695(17) [1] and A662(16) [2], SOLAS Amendments and the relevant requirements of the International Radio Regulations [3], and of CCIR Recommendation 633 [4]. Signals from individual EPIRBs are coded in accordance with IMO requirements.

Descriptions of the environmental testing arrangements are laid down in Annex VI to CEPT Recommendation T/R 34-01 [6].

Every ETS prepared by ETSI is a voluntary standard. This ETS contains text concerning conformance testing of the equipment to which it relates. This text should be considered only as guidance and does not make this ETS mandatory.

The subject matter of this ETS is covered by a recent repartition agreement between ETSI and CENELEC. Adopted and proposed ETSs in the field of maritime radio may be subject to revision to harmonise requirements as fully as possible with those of the International Electrotechnical Committee (IEC).

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1 Scope

This ETS states the minimum requirements for maritime float-free satellite Emergency Position-Indicating Radio Beacons (EPIRBs) operating on 406,025 MHz, with release mechanism, operating in the COSPAS-SARSAT system. This ETS incorporates the recommendations of IMO assembly resolutions A 695(17) [1] and A 662(16) [2], the relevant requirements of the International Telecommunications Union (ITU) Radio Regulations [3], CCIR Recommendation 633 [4], and the COSPAS-SARSAT specification C/S T001 [5].

Descriptions of the environmental testing arrangements are laid down in Annex VI to CEPT Recommendation T/R 34-01 [6].

2 Normative references

This ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] A 695(17): "Performance standards for float free satellite emergency position indicating radio beacons operating on 406 MHz".

[2] A 662(16): "Performance standards for float free release and activation arrangements for emergency radio equipment".

[3] International Telecommunication Union: "Radio Regulations".

[4] CCIR Recommendation 663: "Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band".

[5] C/S T001: "Specification for COSPAS-SARSAT 406 MHz distress beacons".

[6] CEPT Recommendation T/R 34-01: "Specifications for maritime mobile radio equipment".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the following definitions shall apply:

Satellite EPIRBs: earth stations in the Mobile Satellite Service the emissions of which are intended to facilitate search and rescue operations. Class 1 Satellite EPIRBs operate over the temperature range of - 40 °C to + 55 °C. Class 2 satellite EPIRBs operate over the temperature range of - 20 °C to + 55 °C.

Release Mechanisms: a mounting which automatically allows the EPIRB to float free.

Equipment: an EPIRB and its release mechanism.

3.2 Abbreviations

e.i.r.p.	equivalent isotropically radiated power
EPIRB	Emergency Position Indicating Radio Beacon

ID	Identification
IMO	International Maritime Organisation
MID	Maritime Identification Digits
VSWR	Voltage Standing Wave Ratio

4 General requirements

4.1 Construction

The satellite EPIRB shall be mounted in a release mechanism (see Clause 13) which automatically releases the EPIRB when submerged in water. When so released, the EPIRB shall float to the surface and start transmitting automatically.

The satellite EPIRB shall be designed to operate when floating in the sea, but shall also operate satisfactorily on board a ship and in a survival craft.

The equipment may include a homing function, operating on the frequency 121,5 MHz, or a 9 GHz radar transponder. Such a facility shall be approved to the appropriate standard. Where such a facility exists, all measurements shall be performed during combined operation.

In all respects the mechanical and electrical construction and finish of the equipment shall conform with good engineering practice.

The equipment shall be designed to minimise the risk of internal and external damage during use or stowage.

The exterior of the satellite EPIRB shall have no sharp edges or projections which could easily damage inflatable rafts or injure personnel.

The general construction and method of operation shall provide a high degree of proof against inadvertent operation, whilst still providing a simple means of operation in an emergency.

The satellite EPIRB shall be capable of being carried by one person and be designed as one integral unit. It shall derive its energy from a battery forming a part of the equipment and incorporate a permanently attached antenna.

It shall be possible to release and operate the satellite EPIRB manually.

The satellite EPIRB shall be watertight, be capable of floating upright in calm water and have positive stability and sufficient buoyancy in all sea conditions.

The satellite EPIRB shall be provided with either an audible or a visual indication that alerting signals are being emitted. The visual indication shall be clearly discernible at a distance of 1 metre (m) under light conditions ranging from darkness to direct sunlight. The audible indication shall produce a sound level of at least 80 dBA at a distance of 1 m.

The satellite EPIRB shall be provided with a firmly attached line in order that the equipment may be tethered in use. The line shall have a length of at least 20 m and be capable of floating in sea water and should be arranged so as to prevent it being trapped in the ship's structure when floating free.

The satellite EPIRB shall be finished with a highly visible yellow or orange colour and shall be fitted with a band of retroflective material, at least 25 mm wide, encircling that part of the satellite EPIRB's surface which is normally protruding above the waterline.