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Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and methods of measurement for shipborne watchkeeping receivers for reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and VHF bands

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**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Technical characteristics and methods of measurement
for shipborne watchkeeping receivers
for reception of Digital Selective Calling (DSC)
in the maritime MF, MF/HF and VHF bands**

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document may be referenced in the Marine Equipment Directive [i.9], Annex A.1 ("*equipment for which detailed testing standards already exist in international instruments*").

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Date of adoption of this EN:	9 September 2013
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1 Scope

The present document states the minimum operational and performance requirements for shipborne receivers intended to be connected to an external installation, including a decoder for DSC, and used as receivers for watchkeeping DSC on board ships operating in the mobile MF, MF/HF and VHF band allocated in the ITU Radio Regulations [1] to the maritime mobile service, both in connection with distress and safety communication and in connection with general communication.

These requirements include the relevant provisions of the ITU Radio Regulations [1], Recommendation ITU-Rs M.493-13 [3], M.541-9 [9] and the IMO Resolutions A.803 (19) [i.5], A.804 (19) [i.6], A.806 (19) [i.7] and A.694 (17) [i.4].

The present document specifies also technical characteristics, methods of testing and required test results for dedicated watchkeeping receivers for use with radio installations in the GMDSS as required by chapter IV of the SOLAS [i.8].

DSC watchkeeping receivers may be a separate equipment or be integrated with a DSC or radiotelephone equipment.

For integrated equipment the present document specifies the requirements and methods of testing of the DSC watchkeeping receivers only.

DSC watchkeeping receivers can be either fixed-frequency receivers or, in MF/HF bands, scanning receivers.

Requirements for the DSC equipment or radiotelephone equipment are given in EN 300 338-2 [10], EN 301 925 [i.1] and EN 300 373-1 [i.3] respectively.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ITU Radio Regulations (2012).
- [2] Recommendation ITU-T E.161 (2001): "Arrangement of digits, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network".
- [3] Recommendation ITU-R M.493-13: "Digital selective-calling system for use in the maritime mobile service".
- [4] ISO 3791 (1976): "Office machines and data processing equipment -- Keyboard layouts for numeric applications".
- [5] IEC 61162-1 (2010): "Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners".
- [6] ETSI TR 100 028-1 (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1".
- [7] Recommendation ITU-T V.11 (10/1996): "Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbit/s".

- [8] IEC 60417: "Graphical symbols for use on equipment".
- [9] Recommendation ITU-R M.541-9 (2004): "Operational procedures for the use of digital selective-calling equipment in the maritime mobile service".
- [10] ETSI EN 300 338-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and methods of measurement for equipment for generation, transmission and reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and/or VHF mobile service; Part 2: Class A/B DSC".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EN 301 925: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands; Technical characteristics and methods of measurement".
- [i.2] Recommendation ITU-R SM.332-4 (1978): "Selectivity of receivers".
- [i.3] ETSI EN 300 373-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Maritime mobile transmitters and receivers for use in the MF and HF bands; Part 1: Technical characteristics and methods of measurement".
- [i.4] IMO Resolution A.694 (17): "General requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids".
- [i.5] IMO Resolution A.803 (19) amended by MSC.68 (68): "Performance standards for shipborne VHF radio installations capable of voice communication and digital selective calling".
- [i.6] IMO Resolution A.804 (19) as amended by MSC.68 (68): "Performance Standards for Shipborne MF Radio Installations capable of Voice Communications and Digital Selective Calling".
- [i.7] IMO Resolution A.806 (19) as amended by MSC.68 (68): "Performance standards for shipborne MF/HF radio installations capable of voice communication, narrow-band direct-printing and digital selective calling".
- [i.8] International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended.
- [i.9] Council Directive 96/98/EC of 20 December 1996 on marine equipment, as amended by Commission Directive 2011/75/EU.

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