SLOVENSKI STANDARD
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Tehnične karakteristike in merilne metode za naprave, ki generirajo, oddajajo in sprejemajo digitalni selektivni klic (DSC) v pomorski mobilni storitvi, ki deluje v območju MF, MF/HF oziroma VHF - 3. del: Digitalni selektivni klic razreda D

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 3: Class D DSC

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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 3: Class D DSC

Reference

REN/ERM-TGMAR-595

Keywords

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Foreword

This draft European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI standards EN Approval Procedure.

The present document is part 3 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.2].

The present document covers the operator interfaces and operating system for Class D DSC equipment.

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	18 months after doa

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document states the minimum requirements for general communication for shipborne fixed installations using DSC - class D.

Class D DSC is intended be used in the Very High Frequency (VHF) band of the Maritime Mobile Service (MMS), for distress, urgency and safety communication and general communications using telephony for subsequent communications.

The present document is part 3 of a multi-part deliverable that covers the requirements to be fulfilled by equipment that is either integrated with a transmitter and/or a receiver or equipment that is a stand-alone DSC terminal.

These requirements include the relevant provisions and the guidelines of the IMO as detailed in MSC/Circ.803 [i.1] for non-SOLAS vessels participating in the GMDSS as well as Commission Decision of 4 September 2003 [i.5] (2004/71/EC).

2 References

2.1 Normative 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 referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://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.

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

[1] ITU Radio Regulations (2016).

[2] Recommendation ITU-R M.493-15 (01/2019): "Digital selective-calling system for use in the maritime mobile service".

2.2 Informative 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 referenced document (including any amendments) applies.

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

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] IMO Circular MSC/Circ-803: "Participation of non-SOLAS ships in the Global Maritime Distress and Safety System (GMDSS)".

[i.2] ETSI EN 300 338-1: "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 1: Common requirements".

[i.3] MSC 302(87): "Adoption of performance standards for bridge alert management".

[i.4] IEC 61924-2 (Edition 1 - including Corrigendum 1 November 2013): "Maritime navigation and radiocommunication equipment and systems - integrated navigation systems -- Part 2: Modular structure for INS -- Operational and performance requirements, methods of testing and required test results".

[i.5] 2004/71/EC: "Commission Decision of 4 September 2003 on essential requirements relating to marine radio communication equipment which is intended to be used on non-SOLAS vessels and to participate in the Global Maritime Distress and Safety System (GMDSS)".

[i.6] Recommendation ITU-R M.585-7: "Assignment and use of identities in the maritime mobile service".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI EN 300 338-1 [i.2] and the following apply:

acknowledged: automated procedure which indicates that the objective of the initial DSC message has been achieved

active: automated procedure which has control of the general receiver and transmitter and is thus able to engage in subsequent communications and receive DSC messages on both the watch receiver and general receiver

automated procedure: set of actions necessary to complete the objective of an initiating DSC message or non DSC communication event

NOTE 1: Four DSC automated procedures are designed to process these. They are the receiving of distress DSC messages, the receiving of non-distress DSC messages, the sending of distress DSC alert attempts and the sending of non-distress DSC messages. In addition a fifth procedure is designed to handle non DSC communication events.

NOTE 2: These automated procedures are called:

- received distress automated procedure;
- sending distress automated procedure;
- received non-distress automated procedure;
- sending non-distress automated procedure;
- communications automated procedure.

class D: class of DSC intended to provide minimum facilities for VHF DSC distress, urgency and safety as well as routine calling and reception, not necessarily in full accordance with IMO GMDSS carriage requirements for VHF installations

default: value selected or an action taken by the equipment software in the absence of any operator input

distress DSC message: DSC message or acknowledgement containing the distress information

distress event: unique distress situation identified by two parameters of the distress information; the MMSI of the vessel in distress and the nature of distress

engaged: equipment that is busy handling an automated procedure

factory default: default value that is set by the manufacturer such that the field or behaviour is defined prior to any operator intervention

general receiver: receiver part of the transceiver used for the reception of all subsequent communications

NOTE: It is important to distinguish this unit from the watch receiver.

information characters: set of symbols in a DSC message that contains the items of interest for the recipient and is used to compute the ECC symbol that terminates the message

NOTE: These symbols are repeated in the DX/RX time diversity pattern.

initial DSC message: DSC message that starts an automated procedure

non distress DSC message: DSC messages or acknowledgments that do not have the format specifier or category of "distress"

objective: intent of the DSC message either to establish subsequent communications or request information

operator options: any choices the operator can make while the automated procedure is engaged

pertinent to the automated procedure: DSC messages that have something to do with the procedure and are therefore 'handled' by the procedure

NOTE: A DSC message is pertinent to an automated procedure if the set of information characters in the DSC message has the correct values.

pertinent to the station: any DSC message that would start an automated procedure if the transceiver were in standby

self-terminating alarm: short alarm that stops by itself without operator intervention

NOTE: The purpose of this alarm is to inform the operator that a DSC message is received but it does not require his immediate attention.

symbol (as part of the DSC sentence): 7 binary bits of a 10 bit DSC word that have the information content

top level: items, buttons, or functions are present and visible without requiring any action by the operator (such as scrolling, opening up menus, or removing any obscuring covers, etc.)

two-tone alarm: alarm consisting of a repetition of the 2 200 Hz frequency for 250 ms followed by a 1 300 Hz frequency for 250 ms

NOTE: This alarm is used for the initiation of the received distress DSC automated procedure.

urgency alarm: alarm consisting of a repetition of the 2 200 Hz frequency for 250 ms followed by 250 ms period of silence

NOTE: This alarm is used for the initiation of the received non distress DSC automated procedure when the category of the initiating DSC message is "urgency".

watch receiver: separate receiver in DSC radios that continuously monitors VHF channel 70

word (as part of the DSC sentence): 10 binary bits that make up the coded entities of a transmitted DSC message

NOTE: The 10 bits consist of a 7 bit "symbol" that gives the information content and 3 bit error check that gives the number of 0 binary bits in the 7 bit symbol.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI EN 300 338-1 [i.2] apply.

4 Controls and indicators in Class D DSC equipment

4.1 Visual indication

4.1.0 General

Any visual display of the information content shall be clearly legible under all ambient light conditions.

4.1.1 DSC alphanumeric display

4.1.1.0 Primary display information

The display characters shall have a minimum height of 3,5 mm and a nominal character width/height ratio of 0,7.

The display shall have a minimum of 12 characters per line and a minimum of 32 characters total.

Any displayed information shall be static. Horizontal scrolling techniques are not permitted (see clause 4.1.3).

The display shall be capable of:

- prompting the operator if an incorrect operation is attempted;
- displaying error messages;
- displaying incoming and logged calls in plain language;
- displaying all the user programmable information content of a DSC call.

4.1.1.1 Additional display information

Additional display characters or symbols shall be capable of:

- showing the functions and options currently available;
- displaying that unread received DSC calls are present in memory;
- displaying other visual alarms;
- displaying whether the position and time information is automatically entered or manually entered.

For integrated equipment there shall be additional display characters and symbols as required for displaying channel designator and other radio parameters.

Where logic flows and procedural guidance, expressed by graphical symbols, have an advantage over text, this shall be allowed. Any graphical symbols shall be clearly defined in the operation manual.

4.1.2 Display requirements for additional controllers

Where the additional controller is a fixed installation, it shall have exactly the same characteristics as the primary controller, including the display.

Where the additional controller is a handheld device, it shall have exactly the same characteristics as the primary controller, except for the display, which may be scaled down for a minimum character height of 2 mm.