INTERNATIONAL STANDARD

IEC 61209

First edition
1999-04

Maritime navigation and radiocommunication equipment and systems – Integrated bridge systems (IBS) – Operational and performance requirements, methods of testing and required test results

Matériels et systèmes de navigation et de radiocommunication maritimes – Systèmes intégrés de passerelle – Exigences d'exploitation et de fonctionnement, méthodes d'essai et résultats d'essai exigés

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site http://www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE XA

For price, see current catalogue

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –

Integrated bridge systems (IBS) – Operational and performance requirements, methods of testing and required test results

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61209 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

The text of this standard is based on the following documents:

FDIS	Report on voting
80/199/FDIS	80/221/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

Annexes A and D form an integral part of this standard.

Annexes B, C and E are for information only.

A bilingual version of this standard may be issued at a later date.

INTRODUCTION

In 1991, the International Electrotechnical Commission (IEC) technical committee 80 (TC 80) observed that, while considerable work was progressing to develop standards for the individual systems or subsystems of a modern ship's bridge, no international organization had yet assigned the task of integrating these individual systems or co-ordinating the individual standards.

The normal progression would be the development of an International Maritime Organization (IMO) safety-related circular or assembly resolution, to be followed by assignment for the development of the IEC standard to a TC working group (WG).

IEC TC 80 felt that the development of an integrated bridge system was so important that they should not wait any longer before embarking on the development of this International Standard. They therefore assigned the task to TC 80, WG 9, Integrated bridge systems (IBS) for ships, and informed IMO of this work programme.

WG 9 co-ordinated their work closely with similar activity within the IMO subcommittees on Safety of Navigation (NAV), Design and Equipment, Radiocommunications, Search and Rescue, and other working groups of TC 80, the activities of the International Association of Classification Societies (IACS), as well as individual classification societies, and national initiatives. Many of the working group members actively participated in one or more of these other groups.

IEC TC 80 submitted the material contained in the requirements section of this standard to IMO with a proposal that it could provide the basis for an international agreement on the subject of integrated bridges. The IMO Maritime Safety Committee (MSC), at its 67th session, agreed to the essence of this proposal and adopted resolution MSC.64(67), annex 1, performance standards for integrated bridge systems (IBS).

The aims of this standard are to provide recommendations for the design, manufacture, integration and testing of:

– stand-alone equipment;
– networks;
– integration units; and
– multifunction displays

in connection with the aspect of interaction (integration) within a bridge.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –

Integrated bridge systems (IBS) – Operational and performance requirements, methods of testing and required test results

1 Scope

This International Standard specifies the minimum requirements for the design, manufacture, integration and testing of integrated bridge systems (IBS) to comply with IMO resolution MSC.64(67), annex 1, of the International Maritime Organization (IMO), and other relevant IMO performance standards, in order to meet the functional requirements contained in applicable IMO instruments, not precluding multiple usage of equipment and modules on the need for duplication.

Reference is made, where appropriate, to IMO resolution MSC.64(67) annex 1, and text in this standard, the meaning of which is identical to that in the IMO resolution, is printed in *italics* and identified by the resolution paragraph numbers in brackets.

This standard aims to increase safe and efficient ship management by suitably qualified personnel taking care of, *inter alia*, uninterrupted functional availability of systems, and of human factors.

Operation of the IBS may conflict with the requirements for individual equipment. Such conflicts may imply modification to, or deviation from, individual equipment standards or the carriage of additional equipment. This standard highlights those deviations as well as their justification. Existing standards for individual equipment are not addressed.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, these publications do not apply. However parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative documents referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60945:1996, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61162 (all parts), *Maritime navigation and radiocommunication equipment and systems – Digital interfaces*

ISO 8468:1990, *Ship's bridge layout and associated equipment – Requirements and guidelines*

ISO 9000 (all parts), *Quality management and quality assurance standards*

ISO 9001:1994, *Quality systems – Model for quality assurance in design, development, production, installation and servicing*

ISO 9002:1994, *Quality systems – Model for quality assurance in production, installation and servicing*

IMO International Convention for the Safety of Life at Sea (SOLAS):1997, Consolidated edition

IMO A.686:1991, *Code on alarms and indicators*

IMO A.823:1995, *Performance standards for automatic radar plotting aids (ARPAs)*

IMO A.830:1995, *Code on alarms and indicators* (amendments to IMO 686: 1991)

IMO A.694:1991, *General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids*

IMO MSC.64(67):1996, Annex 1 – *Performance standards for integrated bridge systems (IBS)*

IMO MSC.64(67):1996, Annex 4 – Amendments to A.477:1981, *Performance standards for radar equipment*

IMO MSC/Circular 566:1991, *Provisional guidelines on the conduct of trials in which the officer of the navigational watch acts as the sole look-out in periods of darkness*

IACS UR N1:1992, *Unified requirements for one man bridge operated (OMBO) ships*

NOTE – Additional IMO requirements which may be applicable to IBS are listed in annex A.