**New GMDSS SOLAS Carriage Requirements**

| **Equipment** | **IMO Performance Standard** | **IEC Certification Standard** | **Installed on or after** | **FCC rule** |
| --- | --- | --- | --- | --- |
| Integrated Communication System a. | MSC.517(105) | IEC 62940 c. | 1 January 2024 | 80.1083(d) |
| Aeronautical VHF handheld b. | MSC.516(105) | - | 1 January 2024 | 80.1085(d) |
| Survival craft VHF handheld | MSC.515(105) | IEC 61097-12 Ed.1 Amd.2 | 1 January 2024 | 80.1095 |
| Inmarsat-C | MSC.513(105) | IEC 61097-4 e. | 1 January 2028 d. | 80.1091(a)(1) |
| MF/HF Radio | MSC.512(105) | IEC 61097-9 e. | 1 January 2028 d. | 80.1089, 80.1091, 80.1093 |
| VHF radio | MSC.511(105) | IEC 61097-7 e. | 1 January 2028 d. | 80.1085(a-b) |
| Radar SART | MSC.510(105) | IEC 61097-1 c. | 1 January 2024 | 80.1085(a)(3) |
| NAVTEX | MSC.508(105) | IEC 61097-6 Ed.2.2 | 1 January 2024 | 80.1085(a)(5) |
| 406 MHz EPIRBs | MSC.471(101) | IEC 61097-2 Ed.4 | 1 July 2022 | 80.1085(a)(6) |
|  |  |  |  |  |
| 1. Equipment is optional, requirements apply only if carried.
2. Applicable only to passenger ships.
3. IEC standard not updated, no update scheduled. Stability date 2026.
4. MSC.1/Circ.1676.
5. IEC standard update in process.

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**Summary Impact of Requirements in effect on 1 January 2024:**

1. **Integrated Communication System.**

IMO Res. MSC.517(105) replaced IMO Res A.811(19), which is currently required in 80.1083(d). There are a large number of requirements summarized at the end of this document. IEC 62940:2016 includes many but not all of these new requirements and no plans currently exist to updated it.

1. **Aeronautical VHF handheld**

IMO Res. MSC.516(105) added just two requirements:

* Have a color which distinguishes it from the portable survival craft two-way VHF, and
* comply with volume III, part II, chapter 2 of annex 10 to the ICAO Convention (Aeronautical Mobile Service). Those requirements don’t seem onerous and is presumably essentially met in Part 87. (Bob Markle provided me a copy if you are interested)
1. **Survival craft VHF handheld**

Only change is requirement for Battery expiry date determination and marking, which is addressed in the new IEC 61097-12:2023 amendment.

1. **Radar SART**

MSC.510(105) requirements are fully addressed by IEC 61097-1:2007. That second edition was incorporated in Nov 2011. USCG plans to petition FCC to remove this device from Part 80.

1. **NAVTEX**

The only significant new requirement I could find was an interface to the ship’s Bridge Alert Management, included in MSC.508(105) and in the latest amendment to IEC 61097-6 Ed2.2.

Note: MSC.508(105) requirements for HF MSI came into effect 1 January 2024, but IEC is implementing them into its HF standard IEC 61097-9, which has its own deadline of 1 January 2028. Work is not yet been completed.

1. **406 MHz EPIRBs**

 Previously addressed in FCC waivers granted in 2023.

**Notes from Bob Markle’s review of the IMO Resolutions**

 **VHF radio capable of transmitting and receiving DSC and radiotelephony
VHF DSC watch-keeping receiver**

IMO Res. MSC.511(105) replaces IMO Res A.803(19). IEC 61097-3:2017, IEC 61097-7:2018, ETSI EN 300 338-1 V1.6.1 and ETSI EN 301 925 V1.6.1 are based on IMO Res. A.803(19). IMO Res. MSC.511(105) introduces the following new requirements:

* Arrangement and operation of distress button
* Interface(s) for operation with integrated communication system (ICS), integrated

navigation system (INS), integrated bridge system (IBS), bridge alert management (BAM) and others

* Human-machine interface (HMI) with visual indications and visual presentations conforming to resolution MSC.191(79)
* Transmitter and receiver frequency tolerance not exceeding 10 parts in 106
* Manual non-locking push-to-talk switch to with visual indication that the transmitter is activated and facilities to limit the transmission time to a maximum of five minutes
* If standing wave ratio (SWR) becomes too high, transmitter power can be automatically reduced without stopping the transmission and an appropriate alert should be initiated
* Sensitivity of the receiver
* Receiver suitable for use with a loudspeaker and a telephone handset capable of providing power of at least 2 W to loudspeaker and at least 1 mW to the handset
* Automatic updating of the ship's position and the time now required
* Means to activate an alert when no position data is received
* Erasure of received distress messages after 48 hours

The IEC and ETSI standards will need to be reviewed and revised to cover these new provisions.

*{{Note: IEC is currently updating IEC 61097-7 to accommodate these changes. It will replace IEC 61097-3}}*

**MF radio capable of transmitting and receiving DSC and radiotelephony
MF DSC watch-keeping receiver
MF/HF radio capable of transmitting and receiving DSC, NBDP and radiotelephony
MF/HF DSC scanning watch keeping receiver**

IMO Res. MSC.512(105) replaces IMO Res A.804(19) and IMO Res A.806(19). IEC 61097-3:2017, IEC 61097-8:1998, IEC 61097-9:1997, ETSI EN 300 338-1 V1.6.1, and ETSI EN 300 373-1 V1.4.1 are based on IMO Res. A.804(19) and/or Res. A.806(19). IMO Res. MSC.512(105) introduces the following new requirements:

* Arrangement and operation of distress button
* Interface(s) for operation with integrated communication system (ICS), integrated

navigation system (INS), integrated bridge system (IBS), bridge alert management (BAM) and others

* Valid GNSS position and timing data from either an internal or external source should

be available to the equipment at all times.

* Human-machine interface (HMI) with visual indications and visual presentations conforming to resolution MSC.191(79)
* Ready accessibility of DSC routine calling frequencies added
* Automatic modulation, modulation level, and class of emission for frequency selected
* Continuous transmission limited to five minutes
* In case SWR becomes too high, transmitter power can be automatically reduced without stopping the transmission and an appropriate alert should be initiated.
* Automatic updating of the ship's position and the time now required
* Means to activate an alert when no position data is received
* Transmitter and receiver provided with automatic DSC connection system

The IEC and ETSI standards will need to be reviewed and revised to cover these new provisions.

*{{Note: IEC is currently updating IEC 61097-9 to accommodate these changes. It will replace IEC 61097-3 and 61097-8, and will accommodate the HF MSI requirements in MSC.508(105)}}*

**Inmarsat-C SES**

IMO Res. MSC.513(105) replaces IMO Res A.807(19). IEC 61097-4:2019 is based on IMO Res. A.807(19). IMO Res. MSC.513(105) introduces the following new requirements:

* Receiver capable of operating in the presence of an interfering signal with the following characteristics: a wideband signal of bandwidth 5 MHz, occupying the band 1 512-1 517 MHz, at a power level of -30 dBm measured at the receiver input
* Arrangement and operation of distress button
* Status of position update displayed to operator, with provisions for cautions

The IEC and ETSI standards will need to be reviewed and revised to cover these new provisions.

*{{Note: IEC has already accommodated these changes in IEC 61097-4:2024, adopted and expected to be available by the spring}}*

 **Aeronautical two-way VHF radio telephone apparatus**

IMO Res. MSC.516(105) revises MSC.80(70) for equipment installed on or after 1 January 2024. There is no relevant IEC standard, however ETSI EN 301 688 V1.2.1 is applied in Europe. The following changes are introduced:

* Portable equipment should have a color which distinguishes it from the portable equipment specified in resolution MSC.515(105) (Portable survival craft two-way VHF radiotelephone apparatus**)**
* The equipment should comply with the applicable requirements of volume III, part II, chapter 2 of annex 10 to the ICAO Convention (*Aeronautical Mobile Service*)

**Portable survival craft two-way VHF radiotelephone apparatus**

IMO Res. MSC.515(105) replaces IMO Res MSC.149(77). IEC 61097-12:2017 is based on IMO Res. MSC.149(77). IMO Res. MSC.515(105) introduces the following new requirements:

* Battery expiry date determination and marking

The IEC standard will need to be reviewed and revised to cover these new provisions.

{{Note: IEC has already included this change in IEC 61097-12:2023}}

**Fixed survival craft two-way VHF radiotelephone apparatus**

**Fire-fighter's two-way radiotelephone apparatus**

(No new IMO resolutions becoming effective 1 January 2024.)

**NAVTEX receiver
HF marine safety information (MSI) equipment (HF NBDP receiver)**

IMO Res. MSC.508(105) replaces IMO Res MSC.148(77) (NAVTEX receiving equipment) and also IMO Res. A.700(17) (HF NBDP MSI receiving equipment). Res. MSC.508(105) includes both functions.