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Short Range Certificate

Ein Skript für den SRC-Seefunkschein



WELL SAILING
SEGELSCHULE

Inhalt

THEORIE

- GMDSS (VHF, DSC, COSPAS/SARSAT, NAVTEX) und AIS
- Organisationen
- Identifikationsmerkmale
- Reichweiten

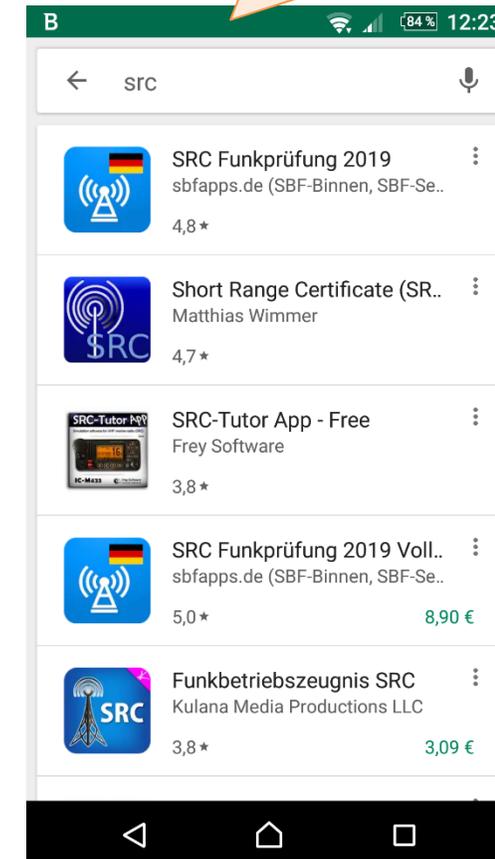
PRAXIS

- UKW und DSC
- Kanäle und Frequenzen
- Funkdisziplin
- Ablaufschema
- Gerätekunde
- Menüführung DSC
- Übungen

ERGÄNZUNG

- UBI

Der Fragebogen **Theorie** ist nicht vollständig
Inhalt des Kurses: *Nutze Apps zum Lernen!*



Bereite Dich auf die **Praxis** vor:

- *Internationales Alphabet*
- *Ablaufschema Funkverfahren*

Prüfungs-Richtlinien

Infos / Prüfungsausschüsse

- www.sportbootfuehrerscheine.org
- www.pa-bremen.de

Amtliche Theorie und Durchführungsverordnung:



ELWIS



- <https://www.elwis.de/DE/Schifffahrtsrecht/Sprechfunkzeugnisse/Sprechfunkzeugnisse-node.html>
- <https://www.elwis.de/DE/Schifffahrtsrecht/Sprechfunkzeugnisse/Durchfuehrungsrichtlinien-Funkbetriebszeugnisse/Durchfuehrungsrichtlinien-Funkbetriebszeugnisse-node.html>

Sprechfunk – The Box!

So einfach geht Sprechfunk:

| | |
|------------------------------|--|
| Titel (ggf.) | <i>Mayday, Pan Pan, Securite, leer</i> |
| Anruf Empfänger | <i>[Name, Call Sign] oder „All Stations“</i> |
| Identifikation Sender | <i>This is... [Name, Call Sign]</i> |
| Inhalt | <i>„Hallo Welt“</i> |
| Ende | <i>Over (oder Out)</i> |

IMO SMCP (IMO STANDARD MARINE COMMUNICATION PHRASES)

| IMO SMCP | | | |
|-------------------------|--------------------------|-------------------------|------------------------------|
| A <i>Alfa</i> | L <i>Lima</i> | W <i>Whiskey</i> | 0 <i>Zero</i> |
| B <i>Bravo</i> | M <i>Mike</i> | X <i>X-ray</i> | 1 <i>One</i> |
| C <i>Charlie</i> | N <i>November</i> | Y <i>Yankee</i> | 2 <i>Two</i> |
| D <i>Delta</i> | O <i>Oscar</i> | Z <i>Zulu</i> | 3 <i>Three [Tree]</i> |
| E <i>Echo</i> | P <i>Papa</i> | ° <i>Degrees</i> | 4 <i>Four [Fower]</i> |
| F <i>Foxtrot</i> | Q <i>Quebec</i> | ' <i>Minutes</i> | 5 <i>Five</i> |
| G <i>Golf</i> | R <i>Romeo</i> | - <i>Dash/Line</i> | 6 <i>Six</i> |
| H <i>Hotel</i> | S <i>Sierra</i> | , <i>Decimal</i> | 7 <i>Seven</i> |
| I <i>India</i> | T <i>Tango</i> | ; <i>Decimal</i> | 8 <i>Eight</i> |
| J <i>Juliatt</i> | U <i>Uniform</i> | . <i>Stop</i> | 9 <i>Nine [Niner]</i> |
| K <i>Kilo</i> | V <i>Victor</i> | <i>Full-Stop</i> | 1000 <i>Tousand</i> |

IMO SMCP (IMO STANDARD MARINE COMMUNICATION PHRASES)

Geographische Koordinaten und Peilungen

- Zahlen mit korrekter Anzahl führender Nullen sprechen: 09° (LAT) oder 009° (LON, Peilung)
- 1. LAT: *35 Degrees 05 Decimal 3 Minutes North* | 2. LON: *009 Degrees 55 Decimal 7 Minutes West*
- Peilungen immer rwN von eine Marke (Karte/Observationspunkt) zum Schiff/Havaristen

Date and Time - Stamp

- **UT / UTC / GMT** – Ist die Welt-Standardzeit; **LT** – ist die Local Time
- **Format DDHHMM UTC.** Der 21. September um 0815 GMT => **210815 UTC SEP**

Begriffe

| Message Markers | Wörter |
|---|--|
| <ul style="list-style-type: none"> • QUESTION • ANSWER • INTENTION • REQUEST • ADVICE • INSTRUCTION • WARNING • INFORMATION | <ul style="list-style-type: none"> • This is • I spell • I repeat • New Word • Correction • I do not understand • Say again • Over/Out |

List of Common Abbreviations for International NAVTEX Service

| | | | |
|----------|------------------------|---------|-----------------------|
| BACK | Backing | NC | No change |
| BECMG | Becoming | NM | Nautical miles |
| BLDN | Building | NOSIG | No significant change |
| C-FRONT | Cold Front | NXT | Next |
| DECR | Decreasing | OCNL | Occasionally |
| DPN | Deepening | O-FRONT | Occlusion Front |
| EXP | Expected | POSS | Possible |
| FCST | Forecast | PROB | Probability/Probable |
| FLN | Filling | QCKY | Quickly |
| FLW | Following | QSTNR | Quasi-Stationary |
| FM | From | QUAD | Quadrant |
| FRQ | Frequent | RPDY | Rapidly |
| HPA | Hectopascal | SCT | Scattered |
| HVY | Heavy | SEV | Severe |
| IMPR | Improving/Improve | SHWRS | Showers |
| INCR | Increasing | SIG | Significant |
| INTSF | Intensifying/Intensify | SLGT | Slight |
| ISOL | Isolated | SLWY | Slowly |
| KMH | km/h | STNR | Stationary |
| KT | Knots | STRG | Strong |
| LAT/LONG | Latitude/Longitude | TEMPO | Temporarily/Temporary |
| LOC | Locally | TEND | Further outlooks |
| M | Meters | VEER | Veering |
| MET | Meteo... | VIS | Visibility |
| MOD | Moderate | VRB | Variable |
| MOV | Moving/Move | W-FRONT | Warm Front |
| | | WKN | Weakening |

Wind direction

| | |
|----|-------------------------|
| N | North/Northerly |
| NE | Northeast/Northeasterly |
| E | East/Easterly |
| SE | Southeast/Southeasterly |
| S | South/Southerly |
| SW | Southwest/Southwesterly |
| W | West/Westerly |
| NW | Northwest/Northwesterly |

Global Maritime Distress Safety System (GMDSS)

Bestandteile

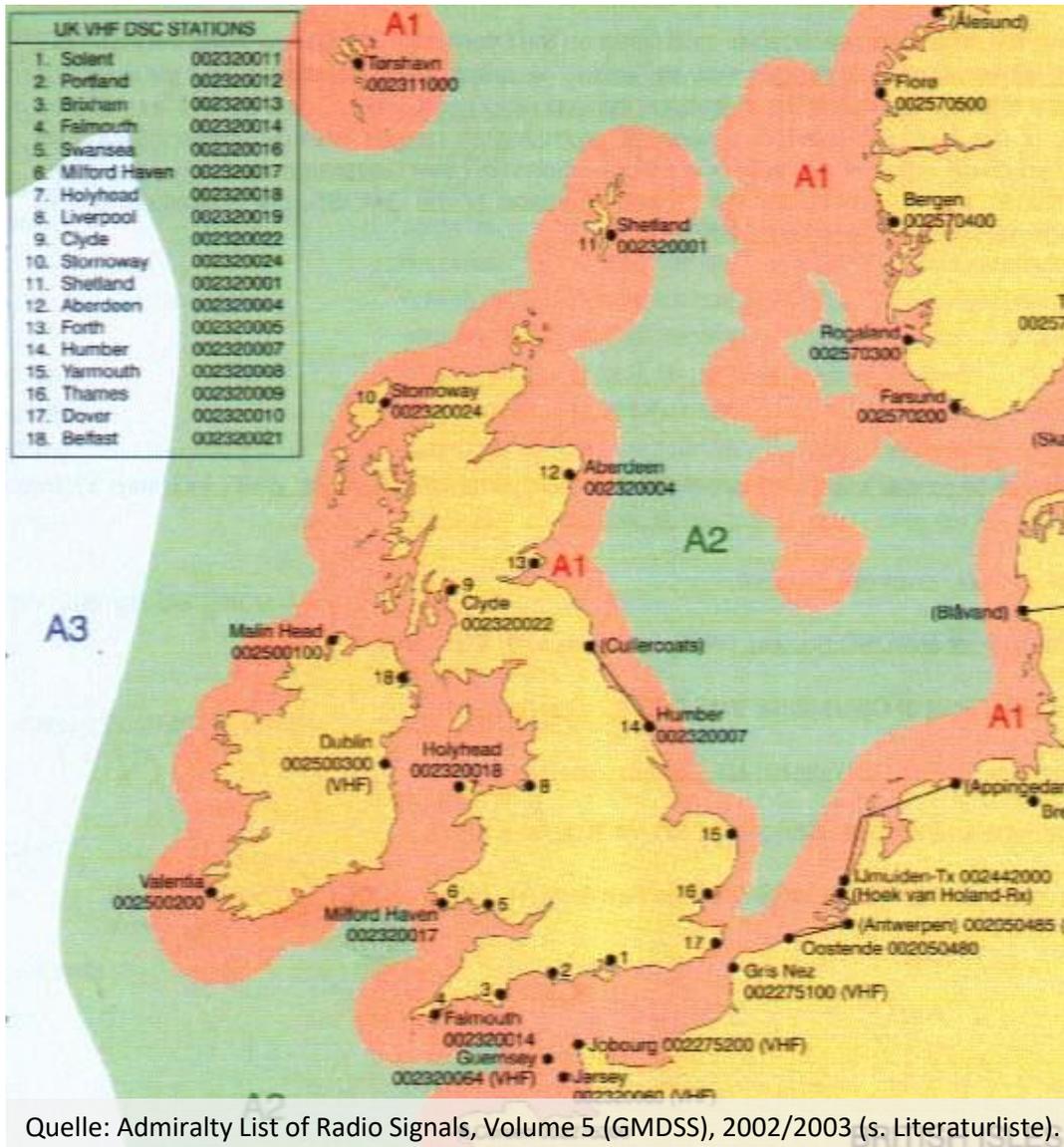
- DSC (Digital Selective Calling)
- VHF / HF (UKW / KW)
- COSPAS-SARSAT
- NAVTEX

Ausrüstungspflicht für
die kommerzielle und
gewerbliche Seefahrt

Seegebiete

- **A1** – Ununterbrochene Verfügbarkeit KüFst DSC/UKW
- **A2** - Ununterbrochene Verfügbarkeit KüFst DSC/Grenzwelle (ohne A1)
- **A3** - Ununterbrochene Verfügbarkeit Inmarsat (ohne A1, A2)
- **A4** – Außerhalb A1, A2 und A3

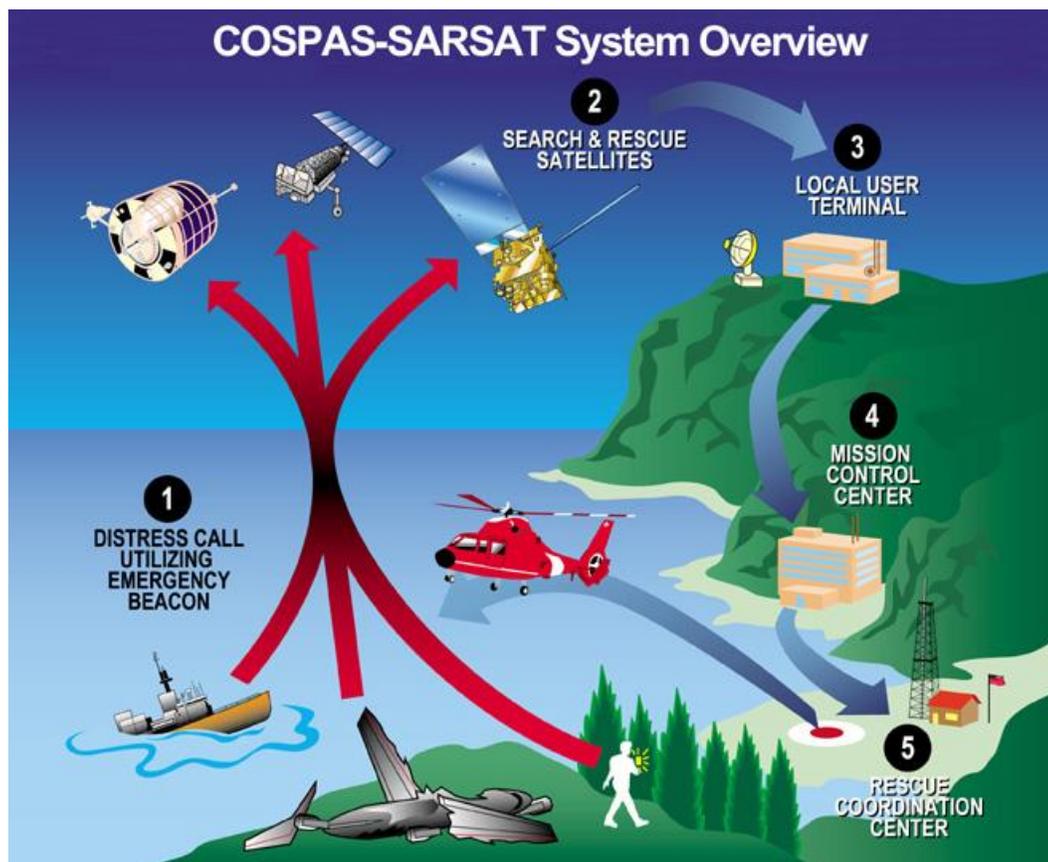
GMDSS Gebiete



Quelle: Admiralty List of Radio Signals, Volume 5 (GMDSS), 2002/2003 (s. Literaturliste). Dieser Dienstbehelf enthält Abbildungen aller GMDSS-Gebiete weltweit inklusive einer Weltkarte

GMDSS - Emergency Position-Indicating Radio Beacon (EPIRB)

Ein Not-Signal wird von polumlaufenden oder geostationären Satelliten des COSPAS/SARSAT-Systems empfangen und weitergeleitet.



Kategorie I/II

Frequenz 406,025 MHz und 406,028 MHz

- Kategorie 1: Automatisch und manuelle Auslösung
- Kategorie 2: Nur manuelle Auslösung

Alle Abbildungen:
 Wikipedia, <https://upload.wikimedia.org/>
 Wikimedia, <https://commons.wikimedia.org/>

AIS - Beacon



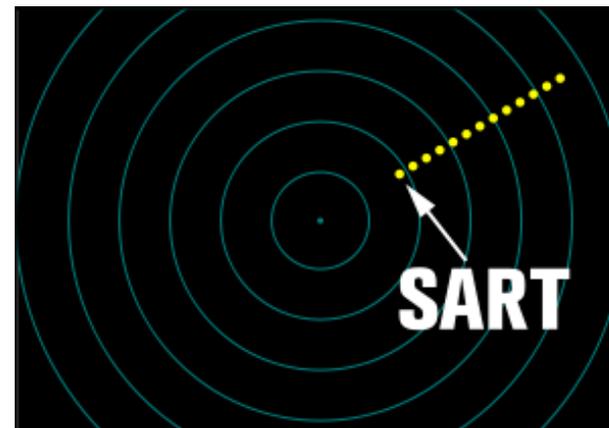
Auch mit integriertem GPS und AIS-Sender verfügbar

https://upload.wikimedia.org/wikipedia/commons/thumb/d/d9/EasyRescue-AA_AIS-Klasse-B_S.A.R.T.%2C_Water_Activation.JPG/800px-EasyRescue-AA_AIS-Klasse-B_S.A.R.T.%2C_Water_Activation.JPG

GMDSS - Search and Rescue Transponder (SART)

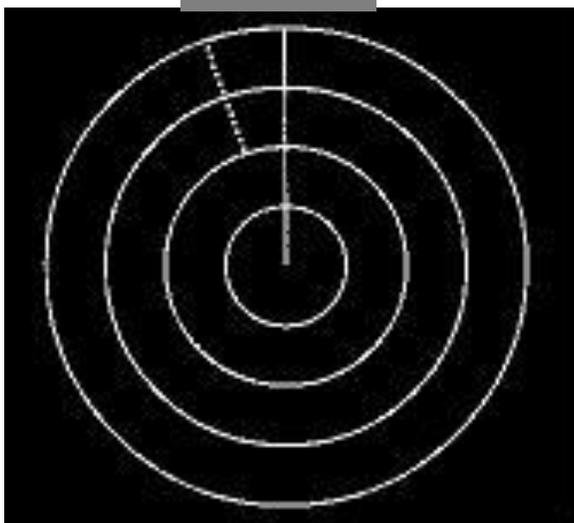
Radar-Transceiver 9 GHz, X-Band

Bei suchenden Schiffen sollte das Radargerät auf eine Reichweite von 6 bis 12 Seemeilen eingestellt sein.

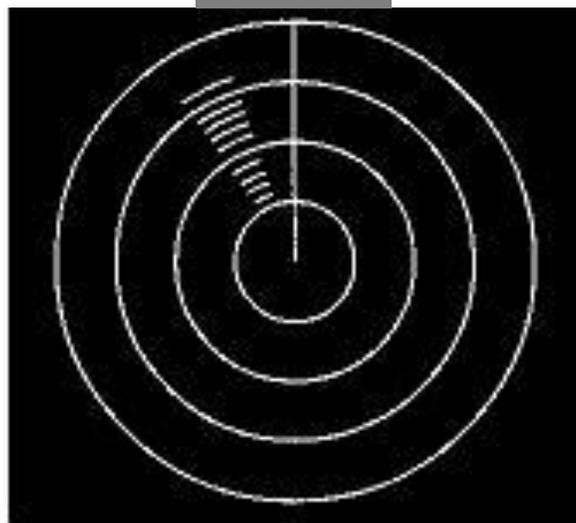


Quelle: https://de.wikipedia.org/wiki/Search_and_Rescue_Radar_Transponder

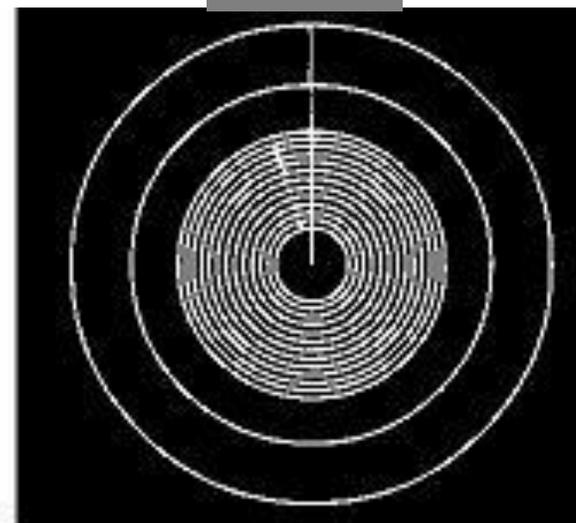
> 5 nm



1-5 nm



< 1 nm



Quelle: <http://www.sartech.co.uk/image/SART%20display%281%29.jpg>

NAVTEX (NAVigational TEXt Messages)

GMDSS

Verbreiten von Sicherheits- und Wetterinformationen (Maritime Safety Information)

| Meldungsarten | |
|---------------|--|
| A | Navigationenwarnungen |
| B | Meteorologische Warnungen |
| C | Eisberichte |
| D | SAR-Meldungen |
| E | Wettervorhersagen |
| F | Lotseninformationen |
| G | AIS-Informationen (früher Decca-Warnungen) |
| H | LORAN Warnungen |
| I | OMEGA Warnungen |
| J | Satellitennavigations-Warnungen, z. B. GPS-Warnungen |
| K | Warnungen für andere elektronische Navigationssysteme |
| L | weitere Navigationswarnungen |
| V bis Y | Spezialdienste |
| Z | Es liegen keine Meldungen vor |

❖ **518 KHz – International**

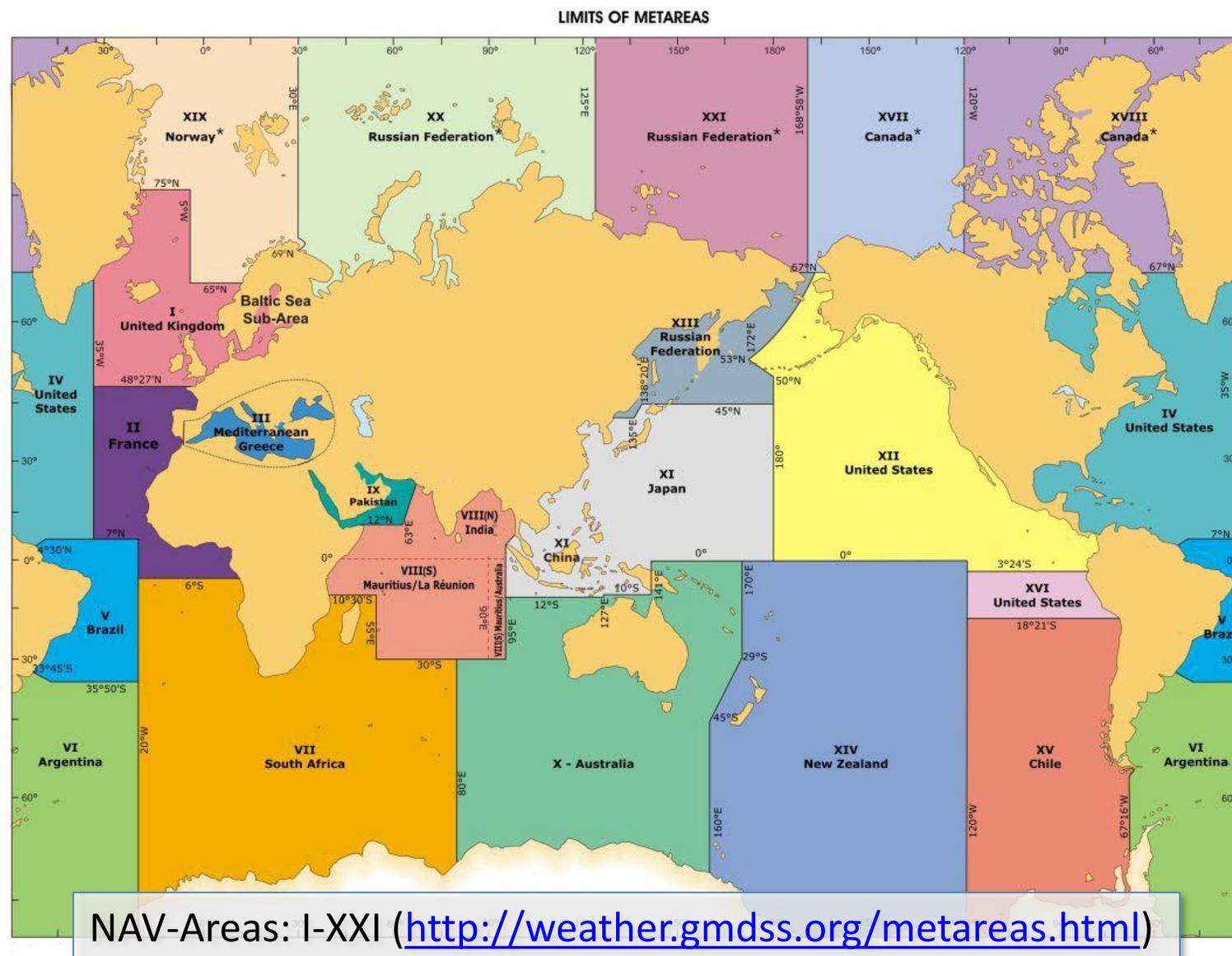
❖ **490 KHz – National**



➤ **Auto** empfängt alle Meldungsarten

<https://upload.wikimedia.org/wikipedia/commons/4/49/NavtexAntenne.jpg>

NAVAREAS / METAREAS



NAVAERA I – Stationen 518 KHz

- Die **Reichweite** beträgt bis zu **600 sm**.
- **Auto** empfängt alle Stationen in Reichweite

| Kennung | Station | Breite | Länge | Sendezeiten (UTC) | Dist |
|---------|--|--------------|---------------|--|------|
| A | Svalbard (NOR) | 78° 3' 25" N | 13° 36' 35" E | 00:00, 04:00, 08:00, 12:00, 16:00, 20:00 | 450 |
| B | Bodø (NOR) | 67° 16' 0" N | 14° 23' 0" E | 00:10, 04:10, 08:10, 12:10, 16:10, 20:10 | 450 |
| D | Tórshavn (FRO) | 62° 1' 0" N | 6° 48' 0" W | 00:30, 04:40, 08:30, 12:30, 16:30, 20:30 | 250 |
| E | Niton (GBR) | 50° 35' 0" N | 1° 18' 0" W | 00:40, 04:40, 08:40, 12:40, 16:40, 20:40 | 270 |
| G | Cullercoats (GBR) | 55° 2' 0" N | 1° 26' 0" W | 01:00, 05:00, 09:00, 13:00, 17:00, 21:00 | 270 |
| H | Bjuröklubb (SWE) | 64° 28' 0" N | 21° 36' 0" E | 01:10, 05:10, 09:10, 13:10, 17:10, 21:10 | 300 |
| I | Grimeton (SWE) | 57° 6' 0" N | 12° 23' 0" E | 01:20, 05:20, 09:20, 13:20, 17:20, 21:20 | 300 |
| J | Gislövshammar (SWE) | 55° 29' 0" N | 14° 19' 0" E | 01:30, 05:30, 09:30, 13:30, 17:30, 21:30 | 300 |
| K | Niton (FRA) | 50° 35' 0" N | 1° 18' 0" W | 01:40, 05:40, 09:40, 13:40, 17:40, 21:40 | 270 |
| L | Rogaland (NOR) | 58° 39' 0" N | 5° 36' 0" E | 01:50, 05:50, 09:50, 13:50, 17:50, 21:50 | 450 |
| M | Oostende (GBR) | 51° 11' 0" N | 2° 48' 0" E | 02:00, 06:00, 10:00, 14:00, 18:00, 22:00 | 150 |
| N | Ørlandet (NOR) | 63° 40' 0" N | 9° 33' 0" E | 02:10, 06:10, 10:10, 14:10, 18:10, 22:10 | 450 |
| O | Portpatrick (GBR) | 54° 51' 0" N | 5° 7' 0" W | 02:20, 06:20, 10:20, 14:20, 18:20, 22:20 | 270 |
| P | Netherlands Coastguard (NLD) | 52° 5' 25" N | 4° 15' 16" E | 02:30, 06:30, 10:30, 14:30, 18:30, 22:30 | 110 |
| Q | Malin Head (IRL) | 55° 22' 0" N | 7° 21' 0" W | 02:40, 06:40, 10:40, 14:40, 18:40, 22:40 | 400 |
| R | Reykjavík (ISL) via Saudanes | 66° 15' 0" N | 15° 16' 0" W | 02:50, 06:50, 10:50, 14:50, 18:50, 22:50 | 550 |
| S | Pinneberg (DEU) | 53° 40' 0" N | 9° 48' 0" E | 03:00, 07:00, 11:00, 15:00, 19:00, 23:00 | 300 |
| T | Oostende (BEL) | 51° 11' 0" N | 2° 48' 0" E | 03:10, 07:10, 11:10, 15:10, 19:10, 23:10 | 55 |
| U | Tallinn (EST) | 59° 30' 0" N | 24° 30' 0" E | 03:20, 07:20, 11:20, 15:20, 19:20, 23:20 | 250 |
| V | Vardø (NOR) | 70° 22' 0" N | 31° 6' 0" E | 03:30, 07:30, 11:30, 15:30, 19:30, 23:30 | 450 |
| W | Valentia () | 51° 27' 0" N | 9° 49' 0" W | 03:40, 07:40, 11:40, 15:40, 19:40, 23:40 | 400 |
| X | Reykjavík (ISL) via Grindavik | 63° 51' 0" N | 22° 28' 0" W | 03:50, 07:50, 11:50, 15:50, 19:50, 23:50 | 550 |

METAREA I – Subareas (Germany)

METAREA I - Sub areas

Germany- Allemagne

Forecast Areas

KEY:

ATLANTIC

- A1 Western Gibraltar
- A2 Portuguese coast
- A3 Finisterre
- A4 Bay of Biscay
- A5 English Channel Eastern Part
- A6 English Channel Western Part
- A7 Southern Ireland
- A8 Irish Sea
- A9 Hebrides
- A10 Pentlands
- A11 Svinoy
- A20 Shetlands
- A21 Faeroes
- A26 Dohrn bank

NORTH SEA

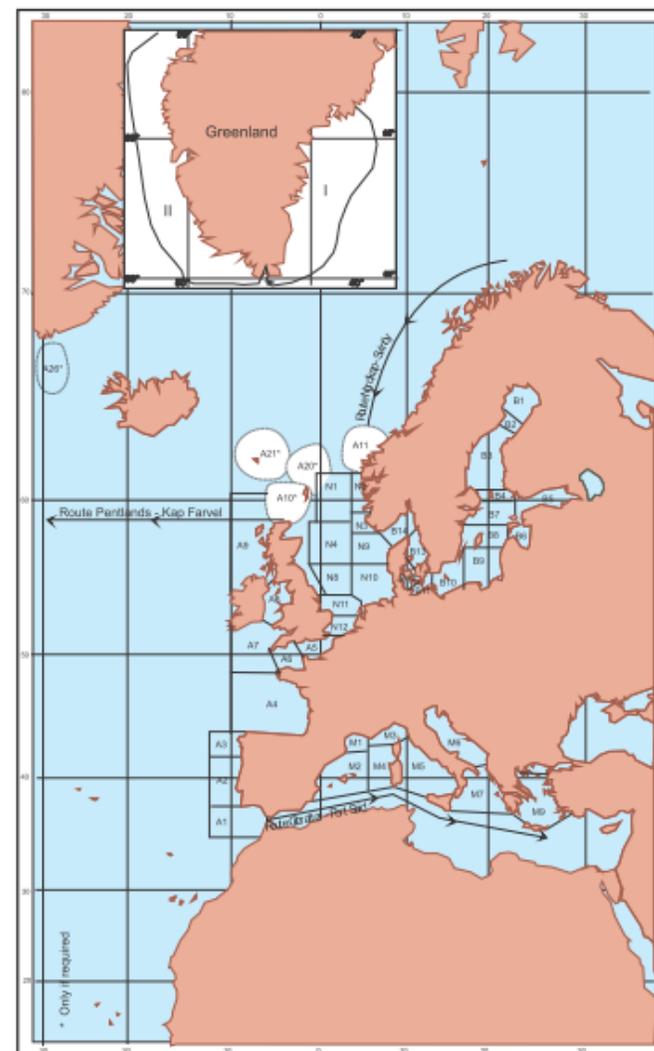
- N1 Viking
- N2 North Utsire) Utsire
- N3 South Utsire) Utsire
- N4 Forties
- N8 Dogger
- N9 Fisher
- N10 German Bight
- N11 Humber) South-west North Sea
- N12 Thames) South-west North Sea

BALTIC SEA

- B1 Bay of Bothnia
- B2 The Quark
- B3 Sea of Bothnia
- B4 Sea of Aaland and Archipelago
- B5 Gulf of Finland
- B6 Gulf of Riga
- B7 Northern part of Baltic Sea
- B8 Central part of Baltic Sea
- B9 South eastern part of Baltic Sea
- B10 Southern part of Baltic Sea
- B11 Western part of Baltic Sea
- B12 Belts and Sound
- B13 Kattegat
- B14 Skagerrak

MEDITERRANEAN:

- M1 Golfe du Lion
- M2 Balearic Islands
- M3 Ligurian Sea
- M4 West Corsica - Sardinia
- M5 Tyrrhenian Sea
- M6 Adria
- M7 Ionian Sea
- M9 Aegean sea
- I Southeastern Greenland
- II Southwestern Greenland



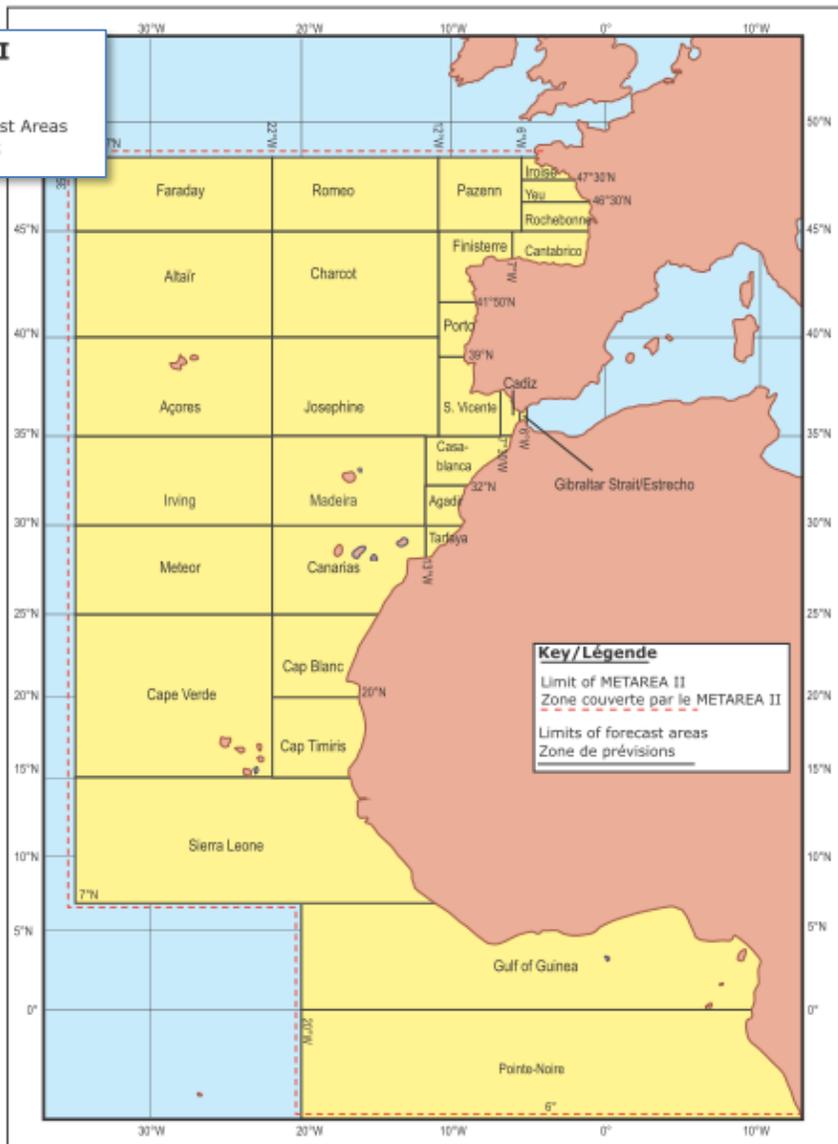
The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of WMO concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

METAREA II

METAREA II

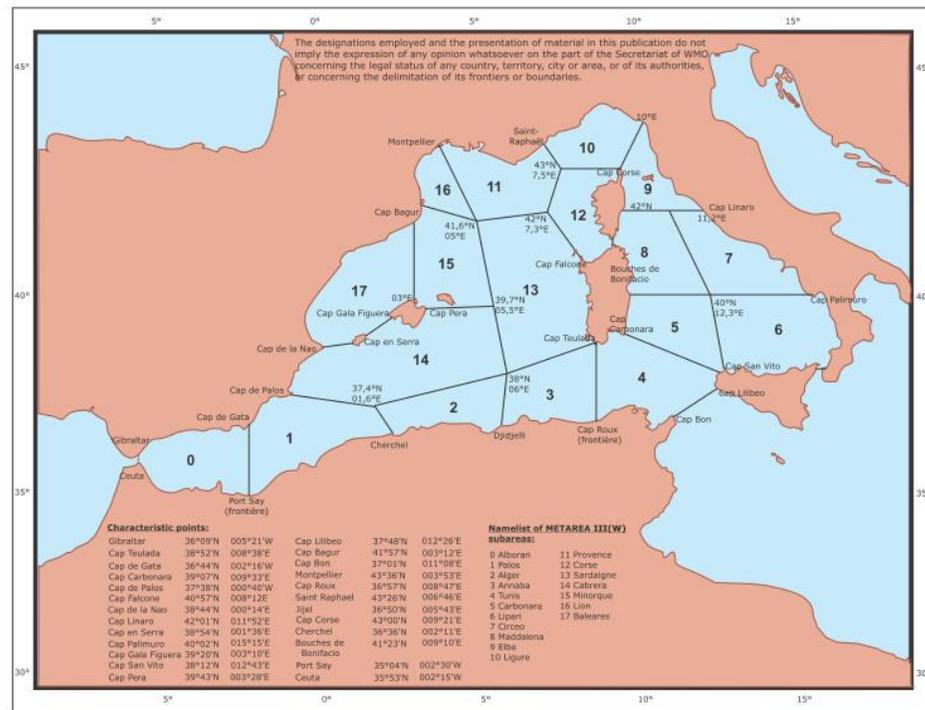
France

SafetyNET Forecast Areas
02 February 2015



METAREA III(W) subareas:

France
 SafetyNET forecast areas
 2 February 2015



NAVTEX Meldungsinhalt

Startsignal: ZCZC

STATION | MELDUNGSART | #NR

ZCZC JE92
170500 UTC MAY
SWEDISH WEATHER SHIPPING

Date/Time-Stamp: *ddhhmm UTC MMM*

WEATHER SUMMARY
FROM HIGH IN GREENLAND RIDGE OF HIGH SOUTHEASTWARDS TO SWEDEN,
WEAK AREA OF LOW OVER WEST_EUROPE: LOW NORTHWEST OF LOFOTEN
ISLANDS LATER TODAY DEEPENING.

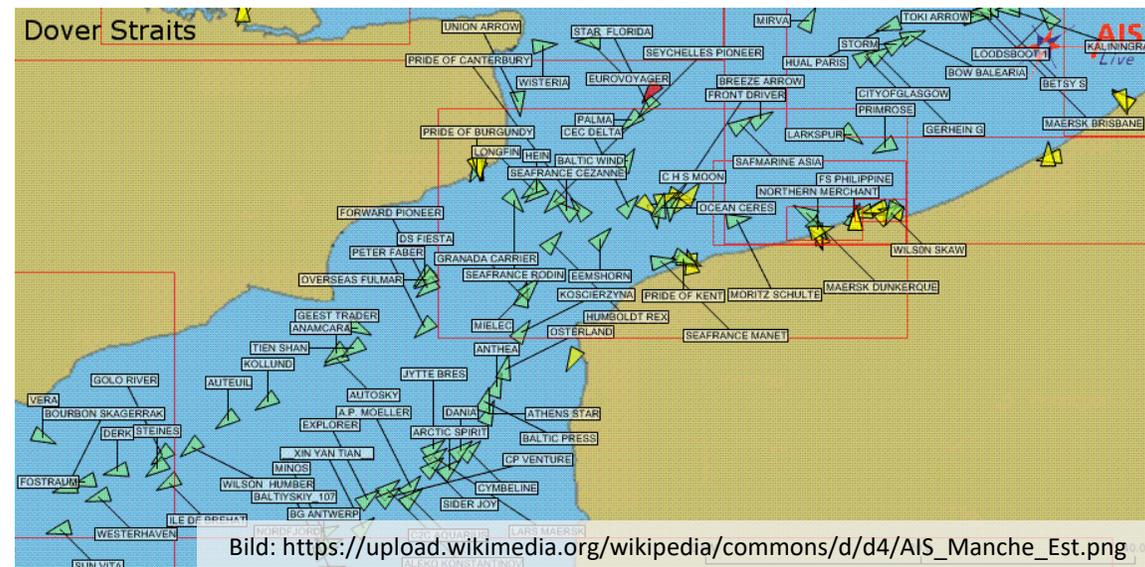
GALEWARNINGS NIL

FORECAST VALID 24 HOURS
SKAGERRAK; KATTEGAT; THE SOUND: AROUND EAST 3-7 M/S SOMEWHAT
INCREASING; IN WESTERN PART OF SKAGERRAK DURING DAY AROUND 10.
MAINLY GOOD VIS, IN SKAGERRAK AT TIMES SOME RAIN. THE BELTS;
WESTERN BALTIC: Belt, EASTERLY 7-11. GOOD VIS.

NNNN

Endsignal: NNNN

Automatic Identification System (AIS)



Informationssystem zum funkgestützten Austausch von schiffsbezogenen Daten

Zweck, gemäß IMO:

- Kollisionsverhütung zwischen Schiffen
- Mittel für Küstenstaaten, Informationen über Schiffe und ihre Ladung zu erlangen
- Hilfsmittel für die landseitige Überwachung und Lenkung des Verkehrs (VTS).

AIS - Inhalt der Meldung

- **Statische Daten:** IMO-Nummer, MMSI, Schiffsname, Rufzeichen, Schiffstyp (Frachter, Tanker, Schlepper, Passagierschiff, SAR, Sportboot u. a.), Abmessungen des Schiffes (Abstand der GPS-Antenne von Bug, Heck, Backbord- und Steuerbordseite), etc.
- **Reisedaten:** Aktueller maximaler statischer Tiefgang in dm, Gefahrgutklasse der Ladung (IMO), Reiseziel (UN/LOCODE), geschätzte Ankunftszeit (ETA)
- **Dynamische Daten:** Navigationsstatus (unter Maschine, unter Segeln, vor Anker, festgemacht, manövrierunfähig u. a.), Schiffsposition (LAT, LON), Zeit der Schiffsposition (nur Sekunden), COG, SOG, HDG, ROT, etc.

AIS - Gerätetypen

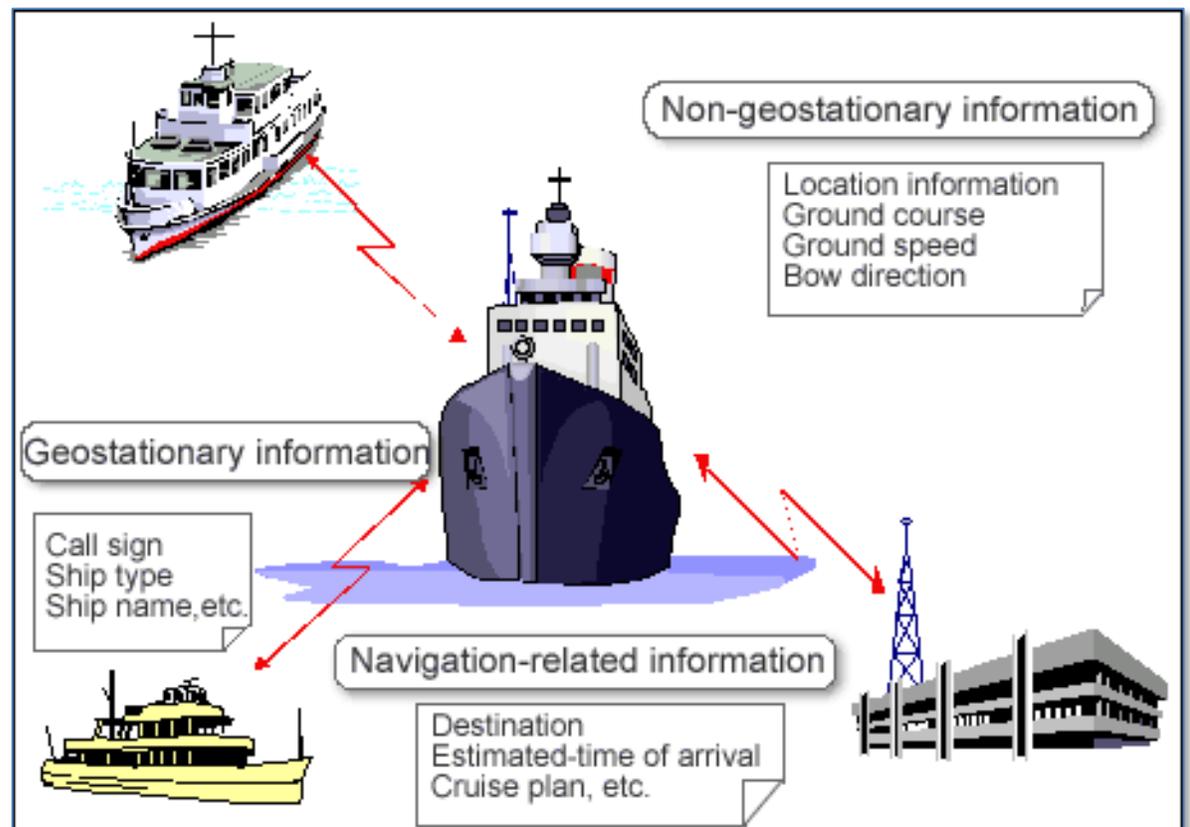
Klasse-A-Transceiver für Berufsschifffahrt:

- Vorgeschrieben auf allen Fahrzeugen gemäß SOLAS-Übereinkommen:
 - über 300 BRZ in internationaler Fahrt,
 - über 500 BRZ in nationaler Fahrt und
 - bei Passagierschiffen > 20m und > 50 Passagiere
- Übertragen mit höherer VHF-Signalstärke als Klasse-B-Transceiver
- Senden häufiger. Der Sender passt die Wiederholfrequenz der Aussendung der Fahrtgeschwindigkeit und dem Manöverstatus an.

Klasse-B-Transceiver sind aufgrund weniger strikter Leistungsanforderungen in der Regel kostengünstiger:

- Sie können von allen nicht ausrüstungspflichtigen Schiffen z. B. im Freizeitbereich und in der Fischerei verwendet werden.
- Übertragen mit einer niedrigeren Signalstärke und einer niedrigeren Melderate.
- Können von Klasse A ausgeblendet werden!

AIS - Verbreitung



http://www.tele.soumu.go.jp/e/adm/system/satellit/ais/_icsFiles/artimage/2009/02/01/c_ais/sysp013_e.gif

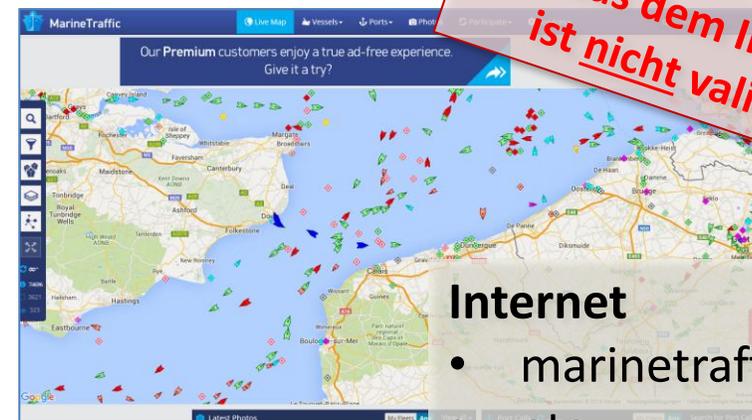
UKW-Seefunkkanäle

- AIS1: CH 87B (161,975 MHz)
- AIS2: CH 88B (162,025 MHz)

Reichweite

Abhängig von der Antennenhöhe (quasi-optisch).

- Schiff-zu-Schiff: circa 20 sm
- Küstenstationen und AIS-Basisstationen bis zu 40 sm



**AIS aus dem Internet
ist nicht valide!**

Internet

- marinetraffic.com
- etc.

AIS - Übertragung

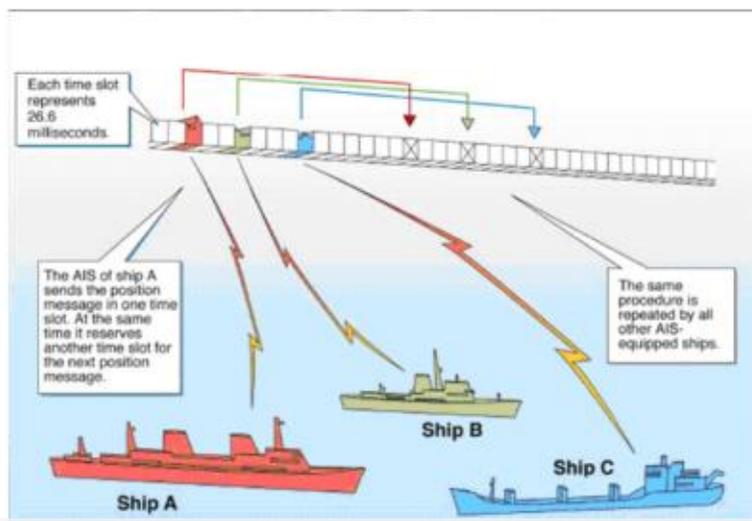


Bild: <https://upload.wikimedia.org/wikipedia/commons/e/e0/AIS-USCG-Overview.jpg>

Dynamische Daten werden vorrangig vor statischen Daten gesendet.

- ❖ **Klasse-A**-Transceiver stimmen die Slot-Belegung selbständig mit in Funkreichweite befindlichen anderen ab (SOTDMA = Self Organising Time Division Multiple Access)

- ❖ **Klasse-B**-Transceiver verwenden freie Zeitschlitz, um ihre Daten zu senden (CSTDMA = Carrier Sense Time Division Multiple Access).

AIS - Verwendung

- Schiffe
- Seezeichen (Aids to Navigation / AtoN)
- Pegel und Wetterstationen
- Landstationen der Verkehrsüberwachung (VTS)

- ECDIS (Electronic Chart Display and Information System)
- ARPA (Automatic Radar Plotting Aid)

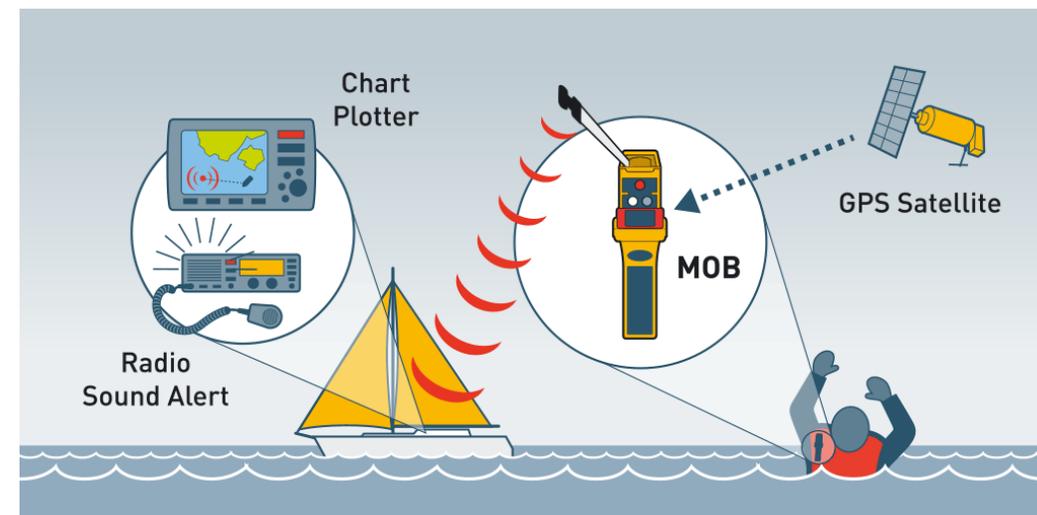
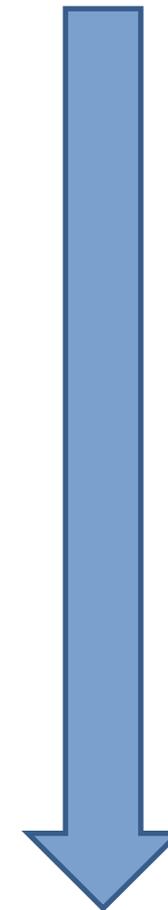


Bild: <http://oceansignal.com/wordpress/wp-content/uploads/rescueME-MOB-network-diagram.png>

- SAR-Luftfahrzeuge
- Seenotmarkierungssender (AIS SART – Search and Rescue Transmitter)

Organisationen / Rechtliches

- **ITU** (International Telecommunication Union)
 - + WRC (World Radio Conference)
 - = **RR** (Radio Regulations, alle 3-4 Jahre)
- **IMO** (International Maritime Organisation)
Ausrüstungsvorschriften, SOLAS, SMCP
- **National**: Gesetzgeber, **Bundesnetzagentur**, BSH
 - **TKG** (Telekommunikationsgesetz),
 - **VO Funk** (Vollzugsordnung für den Funkdienst)
 - **Frequenzzuteilungsurkunde** für eine Funkstelle



Identifikationsmerkmale See-Funk-Stelle

| Call Sign / Rufzeichen | Seeschiffe (Schiffsregister) | Sportboote (bis 15m), Binnenschiffe |
|------------------------|------------------------------|--|
| Zeichen | DAXX - DRXX | DA2001 – DK9999 |
| Aussteller | Schiffsregister, Kiellegung | BNetzA, Antrag |

| MMSI (<i>Maritime Mobile Service Identity</i>) | Format (MID...) | Bemerkung |
|--|--------------------------------------|---|
| Schiff | 211 XXXXX0 (GER) 218 XXXXX0 (GDR) | Seefunkkennzahl, Maritime Identification Digit (MID) |
| Gruppe | 0 211 XXXX0 | 021112340 |
| KüFuSt | 00 211 XXX0 | 002111240 |

| ATIS für „DC1234“ | Seefunkkennzahl DE | Rufzeichen Buchstabe | Rufzeichen Ziffern |
|-------------------|--------------------|---|--------------------|
| 9 | 218 | 03 („C“ ist 3. Buchstabe im Alphabet) | 1234 |

Identifikationsmerkmale Küsten-Funk-Stelle (Ruf)

NAME (ist häufig der Ort)
+ Funktion

➤ **Traffic, Controll, Radar, Pilot**
(Ruf: *Cuxhaven Elbe Traffic, CH 71*)

➤ **Port, Kanal, Lock, Bridge**
(Ruf: *Kiel Kanal 1, CH 13*)

➤ **Rescue**
(Ruf: *Bremen Rescue, CH 16*)

SAR Germany - Bremen Rescue

- **MRCC Bremen** (Maritime Rescue Coordination Center)
- **OSC** (On-Scene Coordinator)
- **Medico** (TMAS)

So erreichen Sie uns im Notfall

UKW-Kanal 16 und 70 (DSC) sowie **Grenzwelle 2187,5 kHz** (DSC) über BREMEN RESCUE RADIO (24 h), Rufname: **Bremen Rescue**

MMSI 00 211 1240

SEENOTLEITUNG (MRCC) BREMEN im Notfall (24 h):

Tel.: **+49 421 536 87 - 0**

Fax: **+49 421 536 87 - 14**

Telex: **2 46 466 mrcc d**

AFTN: **EDDWYYX** (via Flugsicherung Bremen)

Achtung: Eine E-Mail ist kein geeigneter Alarmierungsweg im Seenotfall!

<https://www.seenotretter.de/notfall/> (201701)

Funkdienst für die Klein- und Sportschifffahrt (BSH)

| Deutschland | | | Deutschland | | |
|---|-----------|-----------------------|--|-----------|---|
| Reviere | UKW-Kanal | Ruf/Dienstzeit in GZ | Jachthäfen/Marinas | UKW-Kanal | Telefon, Telefax, E-Mail, Internet Dienstzeit in GZ (während der Saison) |
| Kieler Förde | | | Neuendorf/Saal | | |
| Schiffsverkehrsdienst (VTS) | | | | | Tel. +49 (0) 3 82 24 8 03 51 1 73 8 90 54 23 |
| Anruf und Sicherheit | 22 | Ruf: Kiel Traffic | Neufeld | | |
| Lotsendienst | | | Sportbootclub Neufeld | | |
| Lotsenstation Kiel-Holtenuau | 14, 16 | Ruf: Kiel Pilot | Tel. +49 (0) 48 51 27 42 | | |
| Krückau | | | Neuhaus, Oste | | |
| Schleuse | 09 | Ruf: Krückau Lock | Hafenmeister | | |
| Lühe | | | Tel. +49 (0) 47 52 3 30 | | |
| Klappbrücke | | | Neuhof, Strelasund | | |
| Tel. +49 (0) 41 42 25 35 | | | Tel. +49 (0) 3 83 28 8 53 17 1 70 8 32 99 34 Fax +49 (0) 3 83 28 8 53 18 www.marinaneuhof.de | | |
| Mukran-Fahrwasser siehe Sassnitz und Mukran-Fahrwasser | | | Neustadt | | |
| Nord-Ostsee-Kanal (NOK) | | | Neustädter Segelverein | | |
| Schiffsverkehrsdienst (VTS) | | | 11 | | Tel. +49 (0) 1 71 8 68 86 61 Tel. +49 (0) 45 61 32 71 |
| Schleusenabfertigung | | | Neustädter Bucht | | |
| Brunsbüttel, Zufahrt, Vorhäfen | 13 | Ruf: Kiel Kanal 1 | Ancora Marina | | |
| und Schleusen | 02 | Ruf: Kiel Kanal 2 | 72 | | Tel. +49 (0) 45 61 5 17 13 33 Fax +49 (0) 45 61 5 17 13 03 admin@ancora-marina.com www.ancora-marina.com |
| Brunsbüttel – Breiholz | | | Niendorf | | |
| Sammelruf stündlich um h+15 und h+45 | | | Evers-Werft | | |
| Breiholz – Kiel-Holtenuau | 03 | Ruf: Kiel Kanal 3 | Jachtclub | | |
| Sammelruf stündlich um h+20 und h+50 | | | Tel. +49 (0) 45 03 3 12 17 Tel. +49 (0) 45 03 68 30 1 71 8 75 39 13 (mobil) | | |
| Schleusenabfertigung für | | | Kommunalhafen | | |
| Kiel-Holtenuau, Zufahrt, | | | Segelverein | | |
| Vorhäfen und Schleusen | 12 | Ruf: Kiel Kanal 4 | Tel. +49 (0) 45 03 8 67 69 Tel. +49 (0) 45 03 8 67 69 Fax +49 (0) 45 03 84 78 SVNO.Niendorf@t-online.de | | |
| Lotsendienst | | | Niendorf, Poel | | |
| Von der Elbe in den NOK | | | Poeler Forellenhof | | |
| Lotsenstation Brunsbüttel | 09, 16 | Ruf: Kiel Kanal Pilot | Tel. +49 (0) 3 84 25 42 00 1 72 3 02 02 57 Fax +49 (0) 3 84 25 4 20 11 www.poeler-forellenhof.de | | |
| Teilstreckenverkehr auf dem NOK | | | Norddeich | | |
| Lotsenstation Brunsbüttel | 09, 13 | Ruf: Kiel Kanal Pilot | Jachthafen | | |
| Lotsenstation Rüterbergen | 73 | Ruf: Breiholz Pilot | Tel. +49 (0) 49 31 80 60 | | |
| Lotsenstation Kiel-Holtenuau | 12 | Ruf: Holtenuau Pilot | Norderney | | |
| Aus dem NOK und aus der Kieler Förde nach Osten auslaufend | | | Jachthafen | | |
| Lotsenstation Kiel-Holtenuau | 12 | Ruf: Holtenuau Pilot | Tel. +49 (0) 49 32 8 35 45 | | |
| Von See in die Kieler Förde und vom Osten in den NOK | | | Nordfeld | | |
| Lotsenstation Kiel-Holtenuau | 14, 16 | Ruf: Kiel Pilot | Schleuse | | |
| | | | Tel. +49 (0) 48 81 3 95 1. 4.–31. 10. Montag bis Sonntag 0600–1900 | | |
| | | | Orth, Fehmarn | | |
| | | | Tel. +49 (0) 43 72 12 82 | | |

<http://www.bsh.de/de/Produkte/Buecher/Jachtfunkdienst/index.jsp>

Reichweite Funk

| Reichweite in sm | Dingi | Segelyacht | KüFuSt |
|------------------|-------|------------|--------|
| Dingi | 4 | 11 | 25 |
| Segelyacht | 11 | 18 | 31 |
| KüFuSt | 25 | 31 | - |

Sendeleistung



- 25 Watt : 60 sm
- 6 Watt (Handfunkgeräte): 15 sm
- 1 Watt: 4-8 sm

Ressourcen schonen. Eine Aussendung soll zunächst mit 1 Watt versucht werden, um die Frequenzen für andere nicht zu blockieren.

HIER BEGINNT DIE PRAXIS



Bildquelle: clipartist.info

Sprechfunk und DSC

- Alle Meldungen werden im Sprechfunk übermittelt.
- DSC ist lediglich eine Funktionalität die den Kanal 70 nutzt.

CH 70 DSC - Alarm („Klingeln“) mit Standardtextbenachrichtigung

Sprechfunk

Anruf und Meldung

(alle Kanäle, wie z.B. CH 16, 09, 77, ...)

Alarmierung und Anruf

DSC VHF CH 70

„Alarmierung“ / ALERT

Persönliche Nummer (MMSI) anrufen und es klingelt beim Empfänger, wie am Telefon.

Kanal zur Kommunikation kann im DSC-Verfahren gewählt werden.

Sprache VHF CH 16

„Anruf“ oder „Meldung“ / CALL

Rufen, wie mit Megafon.

Für den ersten/initialen Anruf gilt

- Station nicht ständig besetzt (SeeFuSt):

3x Empfänger, 2x Sender

- Station ist ständig besetzt (KüFuSt):

1x Empfänger, 2x Sender

Kanal zur Kommunikation wird per Sprache vereinbart.

Beachte für die Prüfung:
Das Wording!

Kanäle und Frequenzen

| VHF | | 30 MHz-300 MHz (FRQ 156-162 MHz / CH 01-28 / 66-88) | |
|------------------------------------|-------|--|-------------------|
| SIMPLEX | Ship | 06, 08 , 09, 10, 13, 15, 16, 17, 67, 69, 72 , 73, 77 | |
| | Admin | 09, 10, 11 , 12 , 13, 14 , 15, 16, 17, 18 , 67, 68 , 69, 71 , 73, 74 , 75 , 76 , 82, 83, 84, 85, 86, 87 , 88 | |
| DUPLEX | Admin | 01 , 02 , 03 , 04 , 05 , 07 , 18, 19 , 20 , 21 , 22 , 23 , 24 , 25 , 26 , 27 , 28 , 60 , 61 , 62 , 63 , 64 , 65 , 66 , 78 , 79 , 80 , 81 , 82, 83, 84, 85, 86 | |
| Priorität | MHz | CH | FRQ |
| Distress, Urgency, Safety, Calling | | 16 | 156,800 |
| Ship-Air: SAR + Helicopter | | 06 | 156,300 |
| Intership navigation safety | | 13 | 156,650 |
| On-board (max. 1 Watt) | | 15, 17 | 156,750 / 156,850 |
| Navigation only (max. 1 Watt) | | 75, 76 | 156,775 / 156,825 |
| Gesperrt (GMDSS-DSC) | | 70 | 156,525 |

- **Simplex:** Wechselsprechen auf einem Kanal
- **Duplex:** Gegensprechen auf zwei Kanälen.
KüFuSt – Schiff

Kanalwahl und Hörbereitschaft

Kanalwahl

- **Priorität** haben jeweils die lokaleren Kanäle gemäß Seekarte oder Revierführer
(*Revierzentrale VTS/Traffic/Controll, Port, ...*)

Hörbereitschaft

- Der **DSC**-Controller ist **automatisch** auf Hörbereitschaft (CH 70) und führt ein Logbuch (**LOG**) über eingehende Meldungen.
- Der **Sprechfunk** (CH 16 oder **VTS**) wird **manuell** abgehört (Lautstärke und Akzeptanz)

Logbuch

- **Generelle Eintragungspflicht** besteht nur für *ausrüstungspflichtige* Schiffe
- Minimale **Eintragung** ist jedoch für alle Schiffsführer *empfehlenswert*

Offizielle „Funkdokumente“ (Funksprüche RX/TX)

- *MAYDAY (Initial und Beendigung), MAYDAY RELAY*
- *Einklarieren (insbesondere, wenn keine Rückmeldung)*

Funkdisziplin

➤ **Rangfolge** im Funkverkehr beachten

1. *Distress*
2. *Urgency*
3. *Safety*
4. *Routine*

➤ **Aufbau** einer Meldung (The Box!):

- *Empfänger*
- *Sender*
- *Inhalt*

- ❖ **Notmeldungen** sollen so schnell wie möglich an Land gelangen
- ❖ **KüFuSt** haben die Hoheit über den allgemeinen Funkverkehr

- Gespräche **vorbereiten**
- **Erst hören, dann sprechen**
- **Langsam und deutlich sprechen** (wie im Diktat zum mitschreiben)
- **Ressourcen** schonen: *DSC nutzen, Sendeleistung reduzieren*

| DMYV PRÜFUNGS-AUSSCHUSS - SPRECHFUNKBEISPIELE SEEFUNK FÜR DIE VORBEREITUNG ZUR PRAKTISCHEN FUNKPRÜFUNG LRC+SRC | | | | | | | | |
|--|--|--|---|--|---|--|--|---|
| | EIGENER NOTVERKEHR | BESTÄTIGEN EINER EMPFANGENEN NOTMELDUNG | WEITERLEITEN EINER NOTMELDUNG | FUNKSTILLE IM NOTVERKEHR GEBIETEN | NOTVERKEHR BEENDEN | DSC-FEHLALARM STORNIEREN | DRINGLICHKEITS MELDUNG | SICHERHEITS MELDUNG |
| HINWEISE | DSC-NOTALARM zuerst über DISTRESS CALL (IC-M323) oder DISTRESS SETTINGS (DS-100/IC-M505) editieren. Danach auslösen mit roter Distress-Taste (5 Sekunden) | Bestätigung nur per Sprechfunk (nach Bestätigung einer KüFuSt oder Wartezeit [5 Min.]. Darf nur von Seefunkstellen gesendet werden, die Hilfe leisten können! | Nur per Sprechfunk (DSC-Controller der Klasse D können kein <i>Distress Alert Relay</i> aussenden) | Nur per Sprechfunk | Nur per Sprechfunk | DSC-Controller mit CLR-Taste zurücksetzen oder Funkanlage aus- und wieder einschalten, dann per Sprechfunk | DSC-ANKÜNDIGUNG ALL SHIPS CALL URGENCY | DSC-ANKÜNDIGUNG ALL SHIPS CALL SAFETY Sprachankündigung auf 16, danach Aussendung vorzugsweise auf einem Schiff-Schiff-Kanal (z.B. 06) |
| ANRUF | MAYDAY MAYDAY MAYDAY this is Columbus Columbus Columbus Call Sign DA2311 MMSI 211271430 | MAYDAY Columbus Call Sign DA2311 (Havarist) oder MMSI falls Schiffsname des Havaristen unbekannt this is Nora Call Sign DA2425 | MAYDAY RELAY MAYDAY RELAY MAYDAY RELAY ALL STATIONS ALL STATIONS ALL STATIONS this is Nora Nora Nora Call Sign DA2425 | <u>Als Havarist oder FuSt die den Notverkehr leitet:</u> MAYDAY ALL STATIONS (oder Name des Störers) SILENCE MAYDAY | MAYDAY ALL STATIONS ALL STATIONS ALL STATIONS this is Columbus Columbus Columbus Call Sign DA2311 MMSI 211271430 | ALL STATIONS ALL STATIONS ALL STATIONS this is Columbus Columbus Columbus Call Sign DA2311 MMSI 211271430 | PAN PAN PAN PAN PAN PAN ALL STATIONS ALL STATIONS ALL STATIONS this is Columbus Columbus Columbus Call Sign DA2311 MMSI 211271430 | SECURITE SECURITE SECURITE ALL STATIONS ALL STATIONS ALL STATIONS this is Columbus Columbus Columbus Call Sign DA2311 MMSI 211271430 |
| MELDUNG <small>blau gestrichelte bzw. blau gestrichelte Anreden wiederholen bzw. buchstabieren!</small> | MAYDAY Columbus Call Sign DA2311 MMSI 211271430 In Position 53-14 N 006-22 E Ship is sinking (Art des Notfalls) We are <u>8 Persons</u> on Board (Weitere wichtige Infos) Require immediate assistance OVER | RECEIVED MAYDAY | Beschreibung einer beobachteten Notlage (Position, Art der Notlage etc.) oder Received following Distress-Message on VHF-Channel <u>70 + 16</u> at <u>1245UTC</u>: Wiedergabe der empfangenen Notmeldung des Havaristen. Abschluss der wiedergegebenen Notmeldung z.B. mit End of received Distress-Message OVER | At <u>1430UTC</u> (Aktuelle UTC) Columbus Call Sign DA2311 MMSI 211271430 SILENCE FINI | At <u>1430UTC</u> (Aktuelle UTC) Columbus Call Sign DA2311 MMSI 211271430 SILENCE FINI | PLEASE CANCEL MY DISTRESS ALERT OF <u>2345UTC</u> (UTC des Fehlalarms) OUT | In Position 43-28 N 011-14 E Ship is aground Require Tug-Assistance by a pleasure craft OVER Dringlichkeitsmeldung zurücknehmen (ohne DSC-Ankündigung): PAN PAN (3x) - Sprachanruf wie oben to ALL STATIONS und die Meldung: PLEASE CANCEL MY URGENCY MESSAGE OF <u>1245UTC</u> (UTC der ursprünglichen PAN PAN-Message) OUT | In Position 51-18 N 014-22 E Observed several drifting Containers All Ships in Area please navigate with caution OUT |

Skippermappe > Funkverfahren

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Funk

| FUNK > Procedure | Name | Call Sign | MMSI | AAIC | |
|---|---|---|---|---|--|
| Jedes Schiff hilft, wenn es kann! Der Notverkehr hat Vorrang! Die Notmeldung soll schnellstmöglich an Land! | | | | | |
| EVENT | Eigener Seenotfall Erste Meldung | Ich kann Helfen oder/und MRCC benachrichtigen (5 Minuten CH 16 hören) | Wenn offensichtlich noch kein MRCC erreicht wurde (5 Minuten CH 16 hören) | Laufender Seenotverkehr Alle Beteiligten | Laufenden Seenotverkehr beenden (durch MRCC oder Havarist) |
| DSC | DISTRESS ALERT | DISTRESS ACK | DISTRESS RELAY | - | DISTRESS END |
| ALERT | TX (DISTRESS) Check Distress-Settings: <i>Nature, Position, Time</i> | RX (All Stations) Nur durch MRCC! Beendet Autorepeat des Notalarms beim Sender | TX (Individual Call) To MRCC: MMSI VHF vor DSC versuchen | - | TX (Cancel) Nur wenn der Havarist für sich selbst beendet / In der Regel hat das MRCC zuvor ein DISTRESS ACK gesendet |
| VHF | DISTRESS CALL | DISTRESS ACK | DISTRESS RELAY | DISTRESS TRAFFIC | DISTRESS END |
| CALL | CH 16 MAYDAY (3x) | CH 16 MAYDAY | CH 16 MAYDAY RELAY (3x) | CH 16 MAYDAY | CH 16 MAYDAY |
| SENDER | Name (3x), Call Sign MMSI (bei DSC) | Name, Call Sign | Name (3x), Call Sign MMSI (bei DSC) | Name, Call Sign | Name (3x), Call Sign MMSI (bei DSC) |
| MESSAGE | MAYDAY Name, Call Sign, MMSI Position (repeat) Situation, Persons, etc. Require immediate Help! | Received Mayday! | At ____ UTC following received DSC + VHF wiedergeben /EO RCVD M | This is ... Eigene Position und Beobachtung | ____ UTC Name, Call Sign, MMSI (Ship in Distress) Silence Fini! |

TX = Senden | RX = Empfangen | MRCC = Maritime Rescue Coordination Center
Störer zur Ruhe rufen: Station! SILENCE MAYDAY!

| Erst hören - dann sprechen! KÜFSt steuern den Funkverkehr! | | | | | |
|--|--|--|--|--|--|
| EVENT | Aufhebung eines irrtümlich abgesetzten eigenen DSC-Notalarms | Dringlichkeitsmeldung Meldung: VHF/CH 16 Verkehr; auf Arbeitskanal | Beenden einer URGENCY Message auf VHF/CH 16 und Arbeitskanal | Sicherheitsmeldung Ankündigung: VHF/CH 16 Meldung; auf Arbeitskanal | Routine |
| DSC | CANCEL DISTRESS | URGENCY ALERT | - | SAFETY ALERT | ROUTINE ALERT |
| ALERT | TX Cancel beendet die automatische Wiederholung der Aussendung des Notalarms per DSC => CH 16 or VTS | TX (All Stations) No Position/Time transmitted => CH 16 or VTS | - | TX (All Stations) No Position/Time transmitted => CH 16 or VTS | TX - Individual Call Address: MMSI CH ____ |
| VHF | CANCEL DISTRESS | URGENCY CALL | URGENCY END | SAFETY CALL | ROUTINE CALL |
| CALL | CH 16 All Stations (3x) | CH 16 / CH XX PAN PAN (3x) All Stations (3x) | CH 16 / CH XX PAN PAN (3x) All Stations (3x) | CH 16 / CH XX SECURITE (3x) All Stations (3x) | CH 16 / CH XX KüFSt = 1x SeeFS = 3x Name (1-3x), Call Sign |
| SENDER | This is Name (3x), Call Sign MMSI (bei DSC) | This is Name (3x), Call Sign MMSI (bei DSC) | This is Name (3x), Call Sign MMSI (bei DSC) | This is Name (3x), Call Sign MMSI (bei DSC) | This is Name (1-3x), Call Sign MMSI (bei DSC) |
| MESSAGE | Please Cancel my Distress Alert of ____ UTC | Position Situation [Verkehr: auf AK wechseln] | Please Cancel my Urgency Alert of ____ UTC | > Ankündigung CH16/VTS > Wechsel auf AK > Meldung auf AK | |

TX = Senden | RX = Empfangen | MRCC = Maritime Rescue Coordination Center
Mit Out verlässt der Sender den laufenden Funkverkehr

| IMO SMCP | | | | | Channels and Frequencies | | | |
|------------------|-------------------|--------------------|-----------------------|--------------------|--|------------|--------------|--------------|
| A Alfa | L Lima | W Whiskey | 0 Zero | MSG Marker | Band | DSC | Radio | Telex |
| B Bravo | M Mike | X X-ray | 1 One | QUESTION | VHF CH | 70 | 16 | - |
| C Charlie | N November | Y Yankee | 2 Two | ANSWER | VHF MHz | 156,525 | 156,800 | - |
| D Delta | O Oscar | Z Zulu | 3 Three [Tree] | INTENTION | MF KHz | 2,187,5 | 2,182,0 | 2,174,5 |
| E Echo | P Papa | * Degrees | 4 Four [Fower] | REQUEST | MRCC Bremen Rescue: MMSI, Telefon | | | |
| F Foxtrot | Q Quebec | * Minutes | 5 Five | ADVICE | MMSI 002111240 | | | |
| G Golf | R Romeo | - Dash/Line | 6 Six | INSTRUCTION | Tel +49 421 53687-0 | | | |
| H Hotel | S Sierra | , Decimal | 7 Seven | WARNING | Mob 0XXX-124124 (eingestellt) | | | |
| I India | T Tango | ; Decimal | 8 Eight | INFORMATION | Date and Time 16. Februar 08:15 UTC | | | |
| J Juliett | U Uniform | - Stop | 9 Nine [Niner] | | ddhhmm UTC MM 160815 UTC FEB | | | |
| K Kilo | V Victor | Full-Stop | 1000 Tousand | | | | | |

Skippermappe.xdxfunk | Print 27.01.2019 15:53 | Copyright skippermappe.de, Hilmar Linse

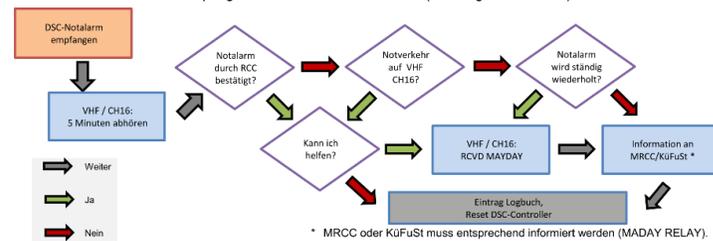
Seite 1 / 2

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Funk

| FUNK > Channels | Name | Call Sign | MMSI | AAIC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----------|-------------------|----------|---------------|-------|-------------------------|-------|--------------------------|-------|----------|---------|-----|--------------|-----------------|-----------|-----------------------------|--|-----|-----------------|-------|--------|----------------------------------|-----------|--------------------------|--|-------|-------|----------------------|-------------|-------------------------------|--|-------|-------|------------------------------|--|-------|-------|----------------------|-----------|--------------|-----------|---------------------|--|-----|-----------|
| VHF | 30 MHz-300 MHz (FRQ 156-162 MHz / CH 01-28 / 66-88) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Overview | <table border="1"> <tr><td>UHF > 300 MHz</td><td></td></tr> <tr><td>Radar X-Band (3cm-Band)</td><td>9 GHz</td></tr> <tr><td>Radar S-Band (10cm-Band)</td><td>3 GHz</td></tr> <tr><td>Immarsat</td><td>1,9 GHz</td></tr> <tr><td>GPS</td><td>1,575,42 MHz</td></tr> <tr><td>COSPAS / SARSAT</td><td>406,0 MHz</td></tr> <tr><td>VHF 30 MHz - 300 MHz</td><td></td></tr> <tr><td>AIS</td><td>161,975 162,025</td></tr> <tr><td>Radio</td><td>=> VHF</td></tr> <tr><td>SART Homing (Zielfahrt, -anflug)</td><td>121,5 MHz</td></tr> <tr><td>HF 3 MHz - 30 MHz</td><td></td></tr> <tr><td>Radio</td><td>=> HF</td></tr> <tr><td>Navtex International</td><td>4,209,5 KHz</td></tr> <tr><td>GW 1605 KHz - 4000 KHz</td><td></td></tr> <tr><td>Radio</td><td>=> MF</td></tr> <tr><td>MF 300 KHz - 3000 KHz</td><td></td></tr> <tr><td>Radio</td><td>=> MF</td></tr> <tr><td>Navtex International</td><td>518,0 KHz</td></tr> <tr><td>Navtex Local</td><td>490,0 KHz</td></tr> <tr><td>LF < 300 KHz</td><td></td></tr> <tr><td>DWD</td><td>147,3 KHz</td></tr> </table> | | | | UHF > 300 MHz | | Radar X-Band (3cm-Band) | 9 GHz | Radar S-Band (10cm-Band) | 3 GHz | Immarsat | 1,9 GHz | GPS | 1,575,42 MHz | COSPAS / SARSAT | 406,0 MHz | VHF 30 MHz - 300 MHz | | AIS | 161,975 162,025 | Radio | => VHF | SART Homing (Zielfahrt, -anflug) | 121,5 MHz | HF 3 MHz - 30 MHz | | Radio | => HF | Navtex International | 4,209,5 KHz | GW 1605 KHz - 4000 KHz | | Radio | => MF | MF 300 KHz - 3000 KHz | | Radio | => MF | Navtex International | 518,0 KHz | Navtex Local | 490,0 KHz | LF < 300 KHz | | DWD | 147,3 KHz |
| UHF > 300 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar X-Band (3cm-Band) | 9 GHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar S-Band (10cm-Band) | 3 GHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Immarsat | 1,9 GHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GPS | 1,575,42 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COSPAS / SARSAT | 406,0 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VHF 30 MHz - 300 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIS | 161,975 162,025 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radio | => VHF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SART Homing (Zielfahrt, -anflug) | 121,5 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HF 3 MHz - 30 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radio | => HF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Navtex International | 4,209,5 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GW 1605 KHz - 4000 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radio | => MF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MF 300 KHz - 3000 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radio | => MF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Navtex International | 518,0 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Navtex Local | 490,0 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LF < 300 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DWD | 147,3 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Priority | MHz | CH | FRQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distress, Urgency, Safety, Calling | 16 | | 156,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ship-Air: SAR + Helicopter | 06 | | 156,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intership navigation safety | 13 | | 156,650 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| On-board (max. 1 Watt) | 15, 17 | | 156,750 / 156,850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Navigation only (max. 1 Watt) | 75, 76 | | 156,775 / 156,825 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gesperrt (GMDSS-DSC) | 70 | | 156,525 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MF | 300-3000 KHz / GW 1605-4000 KHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Priority | KHz | DSC | Radio | Telex | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distress, Urgency, Safety | 2,187,5 | 2,182,0 | 2,174,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ship-Coast | 2,189,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ship-Ship | 2,177,0 | 3,194,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HF | 3-30 MHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| All | KHz | HF 04 | HF 06 | HF 08 | HF 12 | HF 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DSC | 4.207,5 | 6.312,0 | 8.414,5 | 12.577,0 | 16.804,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radio | 4.125,0 | 6.215,0 | 8.291,0 | 12.290,0 | 16.420,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Telex | 4.177,5 | 6.268,0 | 8.376,5 | 12.520,0 | 16.695,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stations (MRCC, Traffic, Weather, Ships) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name, Call Sign, MMSI, Telefon, CH, Frequenz, Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MRCC Bremen Rescue: MMSI 002111240; Tel. +49 421 53687-0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> 0 Zero 1 One 2 Two 3 Three [Tree] 4 Four [Fower] 5 Five 6 Six 7 Seven 8 Eight 9 Nine [Niner] ° Degrees ' Minutes - Dash/Line , Decimal ; Decimal . Stop / Full-Stop | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Maßnahmen des Schiffes beim Empfang eines DSC Notalarms auf UKW/GW (Flussdiagramm nach IMO)



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Seite 2 / 2

Sprechfunktafel: Ablaufschema DISTRESS/MAYDAY

| Jedes Schiff hilft, wenn es kann! Der Notverkehr hat Vorrang! Die Notmeldung soll schnellstmöglich an Land! | | | | | |
|---|--|--|--|---|--|
| EVENT | Eigener Seenotfall Erste Meldung | Ich kann Helfen oder/und MRCC benachrichtigen (5 Minuten CH 16 hören) | Wenn offensichtlich noch kein MRCC erreicht wurde (5 Minuten CH 16 hören) | Laufender Seenotverkehr Alle Beteiligten | Laufenden Seenotverkehr beenden (durch MRCC oder Havarist) |
| DSC | DISTRESS ALERT | DISTRESS ACK | DISTRESS RELAY | - | DISTRESS END |
| ALERT | TX (DISTRESS) Check Distress-Settings: <i>Nature, Position, Time</i> | RX (All Stations) Nur durch MRCC! Beendet Autorepeat des Notalarms beim Sender | TX (Individual Call) To MRCC: <i>MMSI</i> VHF vor DSC versuchen | - - - | TX (Cancel) Nur wenn der Havarist für sich selbst beendet / In der Regel hat das MRCC zuvor ein DISTRESS ACK gesendet |
| VHF | DISTRESS CALL | DISTRESS ACK | DISTRESS RELAY | DISTRESS TRAFFIC | DISTRESS END |
| CALL | CH 16 <i>MAYDAY (3x)</i> - | CH 16 <i>MAYDAY</i> <i>Name, Call Sign (or MMSI)</i> | CH 16 <i>MAYDAY RELAY (3x)</i> <i>MRCC (3x)</i> | CH 16 <i>MAYDAY</i> <i>Name, Call Sign</i> | CH 16 <i>MAYDAY</i> <i>All Stations (3x)</i> |
| SENDER | <i>This is</i> <i>Name (3x), Call Sign</i> <i>MMSI</i> (bei DSC) | <i>This is</i> <i>Name, Call Sign</i> - | <i>This is</i> <i>Name (3x), Call Sign</i> <i>MMSI</i> (bei DSC) | <i>This is</i> <i>Name, Call Sign</i> - | <i>This is</i> <i>Name (3x), Call Sign</i> <i>MMSI</i> (bei DSC) |
| MESSAGE | <i>MAYDAY</i> <i>Name, Call Sign, MMSI</i> <i>Position (repeat)</i> <i>Situation, Persons, etc.</i> <i>Require immediate Help!</i> | <i>Received Mayday!</i> | <i>At ____ UTC following</i> <i>received</i> <i>observed</i> <i>on CH 70/16</i> <i>in Position</i> DSC + VHF Eigene Position wiedergeben und /EO RCVD M Beobachtung | ... | <i>____ UTC</i> <i>Name, Call Sign, MMSI</i> <i>(Ship in Distress)</i> <i>Silence Fini!</i> |
| | Over | Over | Over | Over | Out |

TX = Senden | RX = Empfangen | MRCC = Maritime Rescue Coordination Center

Störer zur Ruhe rufen: *Station! SILENCE MAYDAY!*

Sprechfunktafel: Ablaufschema URGENCY, SAFETY, ROUTINE

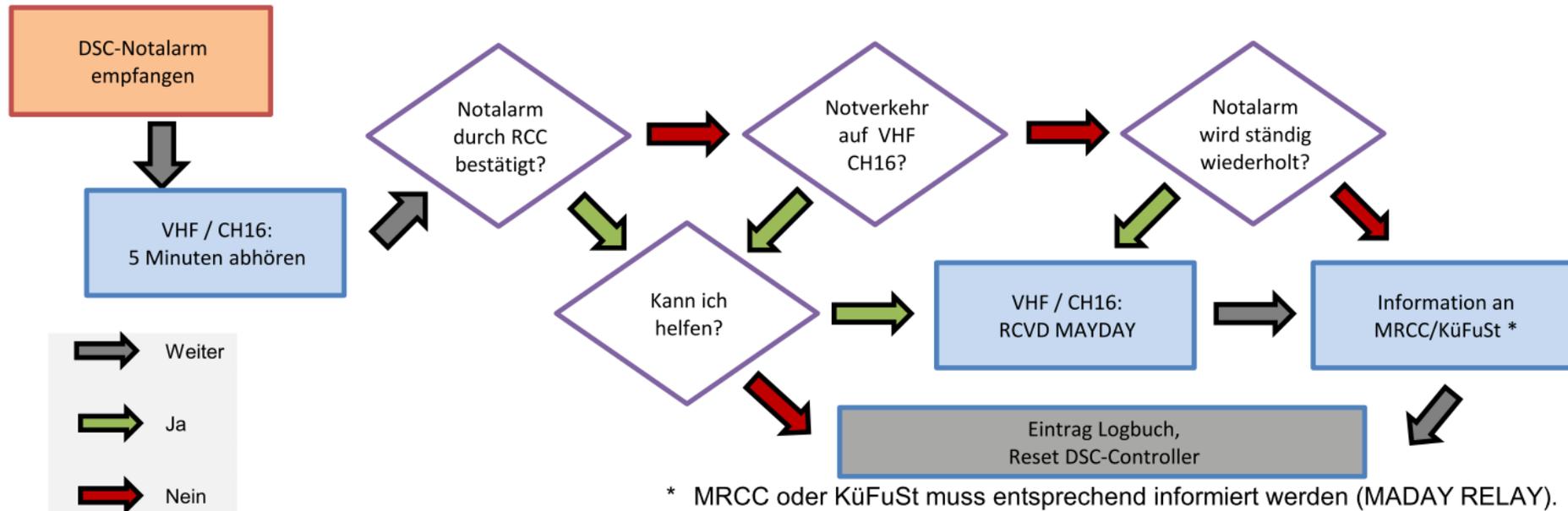
| Erst hören - dann sprechen! KüFSt steuern den Funkverkehr! | | | | | |
|--|---|--|--|--|---|
| EVENT | Aufhebung eines irrtümlich abgesetzten eigenen DSC-Notalarms | Dringlichkeitsmeldung Meldung: VHF/CH 16 Verkehr: auf Arbeitskanal | Beenden einer URGENCY Message auf VHF/CH 16 und Arbeitskanal | Sicherheitsmeldung Ankündigung: VHF/CH 16 Meldung: auf Arbeitskanal | Routine |
| DSC | CANCEL DISTRESS | URGENCY ALERT | - | SAFETY ALERT | ROUTINE ALERT |
| ALERT | TX Cancel beendet die automatische Wiederholung der Aussendung des Notalarms per DSC | TX (All Stations) <i>No Position/Time transmitted</i> => CH <u>16</u> or VTS | - - - | TX (All Stations) <i>No Position/Time transmitted</i> => CH <u>16</u> or VTS | TX - Individual Call Address: MMSI CH __ |
| VHF | CANCEL DISTRESS | URGENCY CALL | URGENCY END | SAFETY CALL | ROUTINE CALL |
| CALL | CH 16 - All Stations (3x) | CH 16 / CH XX PAN PAN (3x) All Stations (3x) | CH 16 / CH XX PAN PAN (3x) All Stations (3x) | CH 16 / CH XX SECURITE (3x) All Stations (3x) | CH 16 / CH XX KüFSt = 1x SeeFSt = 3x Name (1-3x), Call Sign |
| SENDER | This is Name (3x), Call Sign MMSI | This is Name (3x), Call Sign MMSI (bei DSC) | This is Name (3x), Call Sign - | This is Name (3x), Call Sign MMSI (bei DSC) | This is Name (1-3x), Call Sign MMSI (bei DSC) |
| MESSAGE | Please Cancel my Distress Alert of ____ UTC Out | Position Situation [Verkehr: auf AK wechseln] | Please Cancel my Urgency Alert of ____ UTC Out | > Ankündigung CH16/VTS > Wechsel auf AK > Meldung auf AK Out | Over/Out |

TX = Senden | RX = Empfangen | MRCC = Maritime Rescue Coordination Center

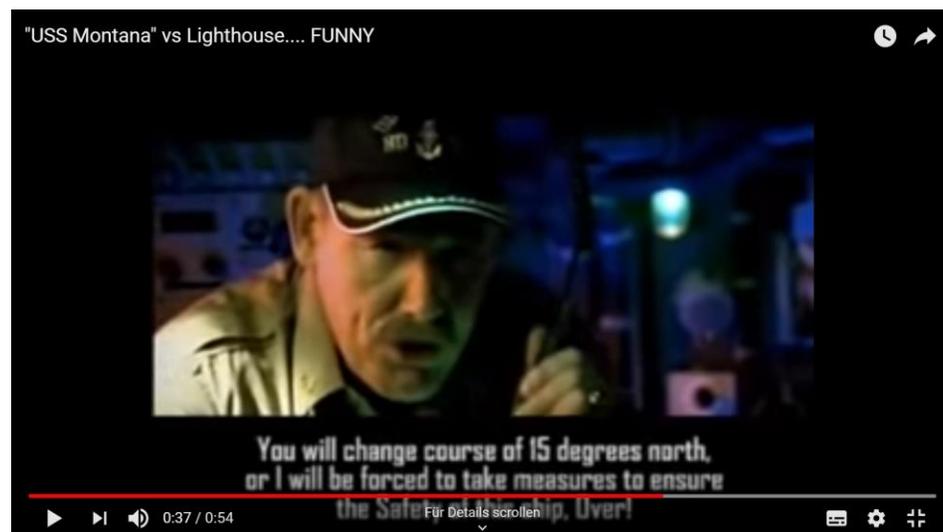
Mit *Out* verlässt der Sender den laufenden Funkverkehr

Flussdiagramm nach IMO

Maßnahmen des Schiffes beim Empfang eines DSC Notalarms auf UKW/GW



Radio FAILS



ICOM IC-M323 und IC-M423



[DSC-Trainer III, Frey Software](#)

Geräteinformation IC-M323

ICOM

INSTRUCTION MANUAL

VHF MARINE TRANSCEIVER
IC-M423

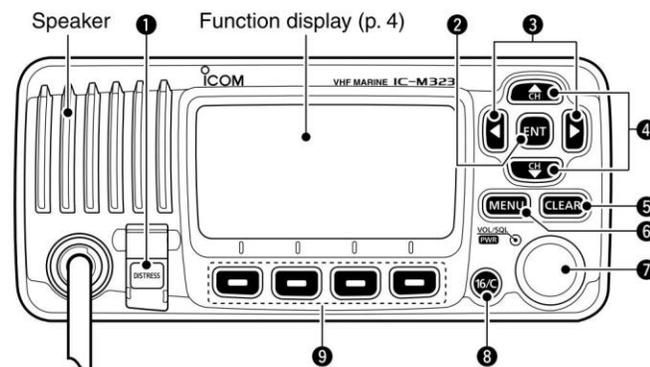
Icom Inc.



2

PANEL DESCRIPTION

■ Front panel



1 DISTRESS KEY [DISTRESS] (pp. 23, 24)

Hold down for 3 seconds to transmit a Distress call.

2 ENTER KEY [ENT] (pp. 7, 10, 66)

Push to set the input data, selected item, and so on.

3 LEFT AND RIGHT KEYS [◀]/[▶]

- ➔ Push to switch to the previous or next key function that is assigned to the softkeys. (p. 6)
- ➔ Push to select the desired character or number in the table while in the channel name, position, MMSI code programming mode, and so on. (pp. 7, 12, 22)

4 UP AND DOWN/CHANNEL SELECT KEYS [▲•CH]/[▼•CH]

- ➔ Push to select the operating channels, Menu items, Menu settings, and so on. (pp. 11, 66)
- ➔ Push to check Favorite channels, change the scanning direction or manually resume a scan. (p. 17)

5 CLEAR KEY [CLEAR] (pp. 7, 12, 66)

Push to cancel the entered data, or to return to the previous screen.

6 MENU KEY [MENU] (p. 66)

Push to enter or exit the Menu screen.

7 VOLUME AND SQUELCH SWITCH/POWER SWITCH [VOL/SQL•PWR]

- ➔ When the power is OFF, hold down for 1 second to turn ON power. (p. 11)
- ➔ Hold down for 1 second to turn OFF power.
- ➔ When the power is ON, push to enter the volume level adjustment mode.* (p. 14)
 - Each push of this switch toggles the mode between the volume level adjustment, squelch threshold level adjustment, operating channel selection and the LCD and key backlight brightness adjustment, if assigned.
- ➔ Rotate to adjust the volume level.* (p. 14)

*The desired function can be assigned in the Menu screen.

PANEL DESCRIPTION 2

2

8 CHANNEL 16/CALL CHANNEL KEY [16/C]

- ➔ Push to select Channel 16. (p. 9)
- ➔ Hold down for 1 second to select the Call channel. (p. 9)
 - “CALL” appears when the Call channel is selected.
- ➔ Hold down for 3 seconds to enter Call channel programming mode when the Call channel is selected. (p. 12)

9 SOFTKEYS

The desired functions as described below can be assigned in the Menu screen.

Scan [SCAN] (p. 17)

Push to start or stop a Normal or Priority scan.

Dualwatch/Tri-watch [DW] (p. 18)

- ➔ Push to start a Dualwatch or Tri-watch.
- ➔ Push to stop a Dualwatch or Tri-watch when either is activated.

High/Low [HI/LO] (p. 11)

Push to set the power to high or low.

- Some channels are set to only low power.

Channel [CHAN] (p. 9)

Push to select a regular channel.

AquaQuake [AQUA] (p. 15)

While holding down, the AquaQuake function is activated to clear water away from the speaker grill.

Favorite channel [★] (p. 17)

- ➔ Push to set or clear the displayed channel as a Favorite (Tag) channel.
- ➔ Hold down for 3 seconds to clear or set all Favorite channels in the selected channel group.

Name [NAME] (p. 12)

Push to enter the channel name programming mode.

Backlight [BKLT] (p. 15)

Push to enter the LCD and key backlight brightness adjustment mode.

- While in the adjustment mode, push [▲]/[▼]/[◀]/[▶] or rotate Dial to adjust the brightness of the LCD and key backlight.

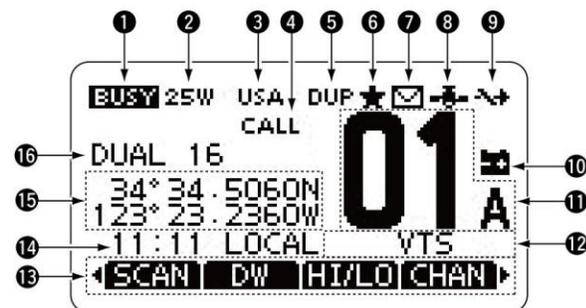
Log [LOG] (p. 58)

Push to enter “RCVD CALL LOG” in the DSC CALLS menu.

3

2 PANEL DESCRIPTION

■ Function display



- 1 BUSY/TRANSMIT ICON** (p. 11)
 - “BUSY” appears when receiving a signal or when the squelch is open.
 - “TX” appears while transmitting.
- 2 POWER ICON** (p. 11)
 - “25W” appears when high power is selected.
 - “1W” appears when low power is selected.
- 3 CHANNEL GROUP ICON** (p. 10)
 - Shows which channel group is selected, a U.S.A. “USA,” International “INT,” ATIS “ATIS” or DSC “DSC”, depending on the version.

- 4 CALL CHANNEL ICON** (p. 9)
 - Appears when the Call channel is selected.
- 5 DUPLEX ICON** (p. 10)
 - Appears when a duplex channel is selected.
- 6 FAVORITE CHANNEL ICON** (p. 17)
 - Appears when a Favorite (Tag) channel is selected.
- 7 MESSAGE ICON** (p. 58)
 - Blinks when there is an unread DSC message.
- 8 GPS ICON**
 - Stays ON when the connected GPS receiver is activated and valid position data is received.
 - Blinks when invalid position data is being received.
- 9 SWITCH ICON** (p. 61)
 - Appears when the “CH 16 SWITCH” in DSC Settings is set to ‘OFF.’
- 10 LOW BATTERY ICON**
 - Blinks when the battery voltage drops to approximately 10 V DC or less.
- 11 CHANNEL NUMBER READOUT**
 - Shows the selected operating channel number.
 - When a simplex channel is selected, “A” appears.
- 12 CHANNEL NAME FIELD**
 - The channel name appears, if programmed. (p. 12)

13 KEY ICON (p. 6)

Shows the programmed function of the softkeys on the front panel.

14 TIME ZONE INDICATOR

- Shows the current time when a GPS receiver is connected, or the time is manually programmed.
 - When the GPS current time is invalid, “??” will blink every 2 seconds instead of current time. After 23.5 hours has passed, “NO TIME” will appear.
 - “??” will blink every 2 seconds instead of the current time, after 4 hours have passed from the time when the time was manually programmed. The manually programmed time is held for only 23.5 hours, and after that, “NO TIME” will appear.
- “LOCAL” appears when the offset time is set.
- “MNL” appears when the time is manually programmed.
- “UTC” appears when the GGA, GLL and GNS GPS sentence format is included in the GPS signal.
- The date information appears when the RMC GPS sentence format is included in the GPS signal.
- “NO TIME” appears when no GPS receiver is connected, and no time is manually input.

15 POSITION INDICATOR

- Shows the current position when a GPS receiver is connected, or the position is manually programmed.
 - When the GPS position is invalid, “??” may blink every 2 seconds instead of position. The last position is held for only 23.5 hours, and after that, “NO POSITION” will appear.
 - “??” will blink every 2 seconds instead of position, after 4 hours have passed from the time when the position is manually programmed. The manually programmed position is held for only 23.5 hours, and after that, “NO POSITION” will appear.
- “NO POSITION” appears when no GPS receiver is connected, and no position is manually input.

16 SCAN INDICATOR

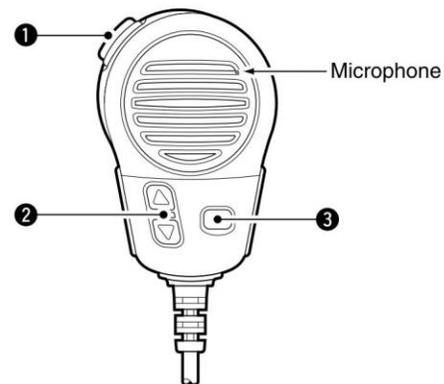
- “SCAN 16” appears during a Priority scan; “SCAN” appears during a Normal scan. (p. 17)
- “DUAL 16” appears during Dualwatch; “TRI 16” appears during Tri-watch. (p. 18)

2

5

2 PANEL DESCRIPTION

■ Microphone



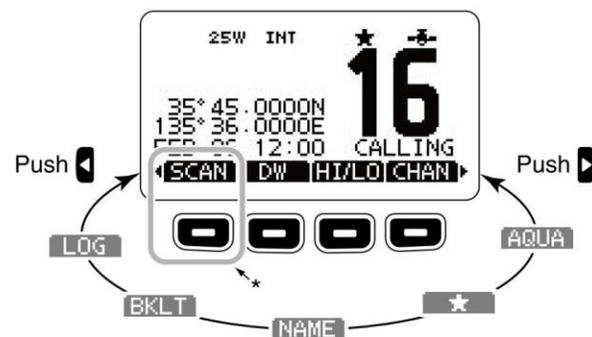
- 1 PTT SWITCH [PTT]**
 Hold down to transmit, release to receive. (p. 11)
- 2 CHANNEL UP/DOWN KEYS [▲]/[▼]**
 - Push either key to check Favorite channels. (p. 11)
 - Push either key to change scanning direction or manually resumes a scan. (p. 17)
- 3 TRANSMIT POWER KEY [HI/LO]**
 - Push to toggle the power high or low. (p. 11)
 - Some channels are set to only low power.
 - While holding down [HI/LO], turn ON the power to turn the Microphone Lock function ON or OFF. (p. 13)

■ Softkey function

Various functions can be assigned to the softkeys. When the key function is assigned, the key icon is displayed above the softkey, as shown below.

◇ Softkey function selection

- When “◀” or “▶” is displayed beside the key icon, pushing [◀] or [▶] sequentially shows the previous or next key function that is assigned to the softkey.



*Push this key to start or stop scan.

▨ The order of the key icons may differ, depending on the preprogramming.

DSC-Controller Menu (IC-M323, IC-M423)



◇ DSC Calls

| Item | Ref. | Item | Ref. |
|--------------------------------|-------|--------------------------|-------|
| • Individual Call | p. 27 | • Transmitted Call Log | p. 57 |
| • Individual ACK* ¹ | p. 31 | • Received Call Log | p. 58 |
| • Group Call | p. 32 | • Test Call | p. 35 |
| • All Ships Call | p. 34 | • Test ACK* ¹ | p. 37 |
| • Distress Call | p. 24 | | |

*¹Appears only after receiving a corresponding call.

◇ DSC Settings

| Item | Ref. | Item | Ref. |
|--------------------------------|-------|-------------------|-------|
| • Position Input* ² | p. 22 | • CH 16 Switch | p. 61 |
| • Individual ID | p. 19 | • DSC Data Output | p. 62 |
| • Group ID | p. 20 | • Alarm | p. 62 |
| • Individual ACK | p. 60 | • CH 70 SQL Level | p. 63 |
| • Position ACK | p. 60 | • DSC Loop Test | p. 63 |
| • Test ACK | p. 60 | | |

*²Appears only when no GPS information is received.

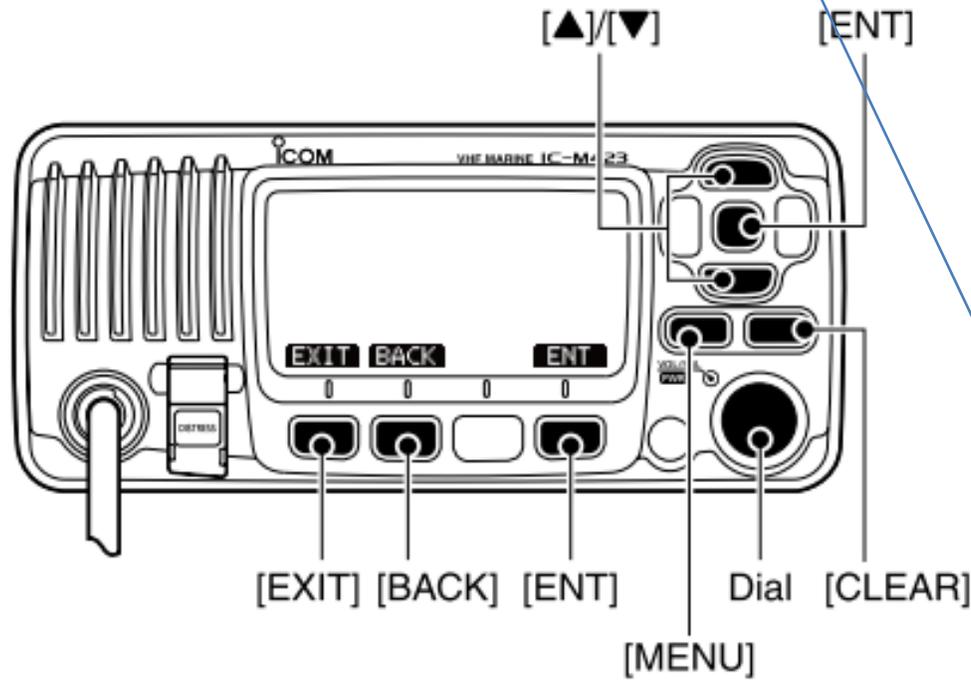
◇ MMSI/GPS Info

MMSI/GPS INFO

- MMSI: 123456789
- ATIS: 0123456789
- LAT: 35° 45.0000N
- LOX: 135° 36.0000E
- UTC: MAR 15 10:00
- SOG: 18.5kt
- COG: 275.5°
- SW Ver: [REDACTED]

EXIT BACK

Rotate

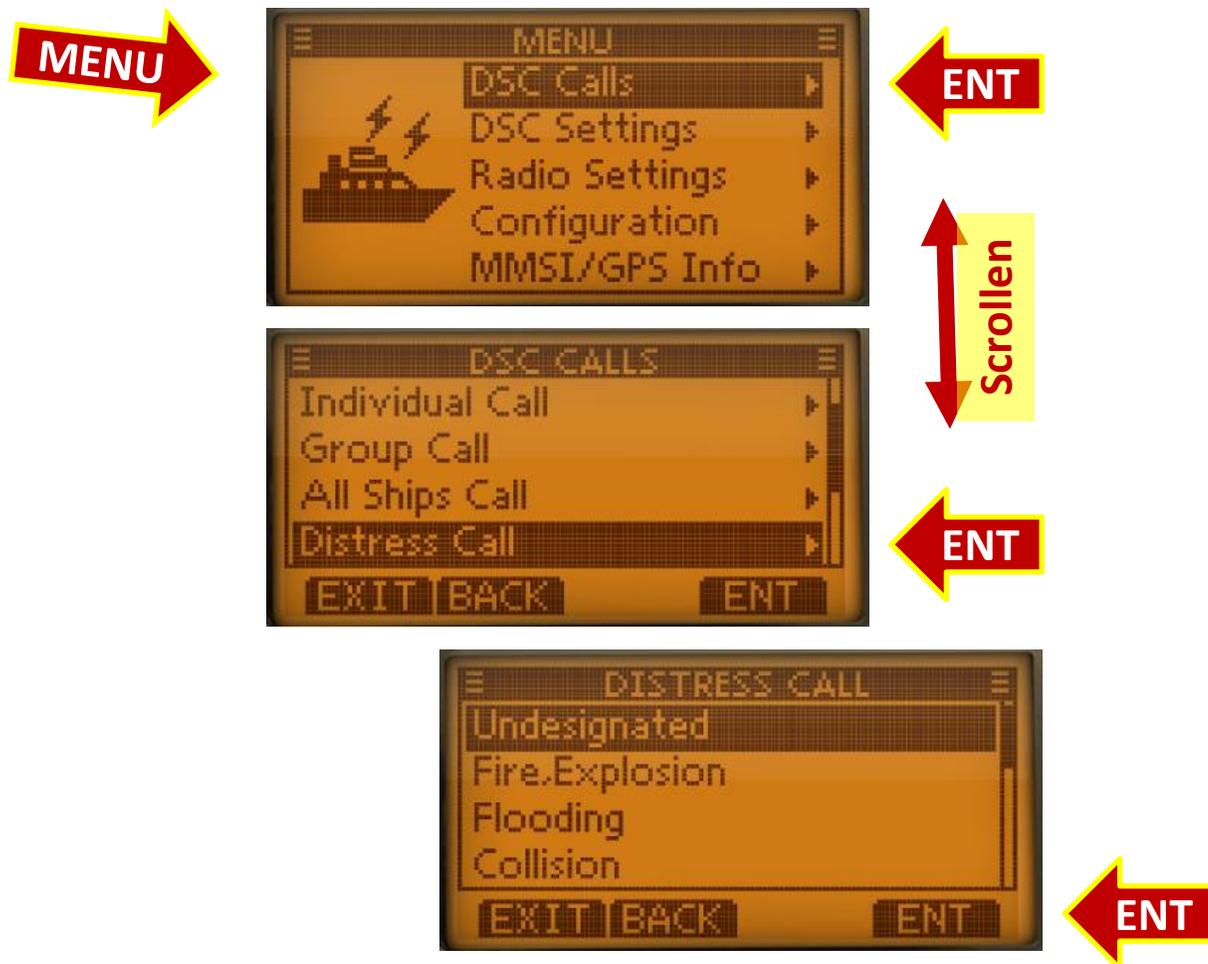


[Bedienungsanleitung ICOM IC-M323 \(PDF\)](#)

[Bedienungsanleitung ICOM IC-M323 \(WEB\)](#)

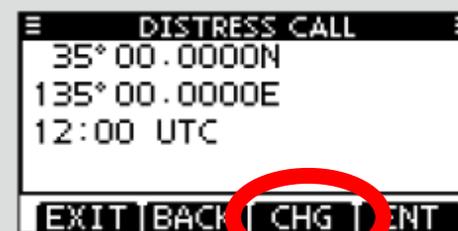
Menu IC-M323 / IC-M423

DISTRESS SETTINGS (eigener Notfall)



[Bedienungsanleitung ICOM IC-M323 \(PDF\)](#)
[Bedienungsanleitung ICOM IC-M323 \(WEB\)](#)

When no GPS receiver is connected, and both position and time have been manually programmed, the screen as shown below appears. Edit your latitude and longitude position and UTC time as follows:



➤ Push [CHG], then edit your latitude and longitude position and UTC time.

- Select a desired number using Dial, or [▲]/[▼]/[◀]/[▶].
- Push [ENT] or Dial to set it.
- To move the cursor, select either arrow, “←” or “→,” then push [ENT] or Dial.
- Select N (North latitude) or S (South latitude) when the cursor is on the ‘N’ or ‘S’ position.
- Select W (West longitude) or E (East longitude) when the cursor is on the ‘W’ or ‘E’ position.



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**Vielen Dank für die aktive
Teilnahme.**

Viel Erfolg bei der Prüfung!

A handwritten signature in blue ink, reading "Hilmar Linse". The signature is written in a cursive style with a large, stylized initial 'H'.