DESIGNED AND MANUFACTURED IN ENGLAND

Weatherman

Radiotelex Receiver

NASA
MARINE INSTRUMENTS

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RoHS ✔
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CE

INTRODUCTION

Weatherman consists of a synthesised HF receiver, a powerful computer and a high contrast display. It forms a dedicated radio teletype (RTTY) receiver configured to record and display the range of weather reports and weather forecasts broadcast by the German national weather agency Deutscher Wetterdienst (DWD) based in Hamburg.

The coverage is, clockwise from the Eastern Mediterranean, via Gibraltar and the English Channel, to the North Atlantic and Baltic Seas. There is a daily schedule of times, frequencies and areas and Weatherman can easily be set up to receive all this information, or to record only the areas and data to suit the user's requirements.

The receiver is simple to use with all instructions clearly displayed on the screen.

A compact stubby antenna is supplied with the receiver.

Whilst the receiver is designed to operate from the vessels 12 volt system it can be powered by domestic mains using a regulated 12 volt power supply (not a battery charger). When used in a domestic environment it is important that the negative supply wire is connected to a good ground (e.g. mains ground or a suitable water pipe) to avoid interference.

DWD TRANSMISSIONS

DWD broadcasts on several frequencies simultaneously. This is to cope with the varying radio propagation and reception conditions, which are dictated by time of day and the distance from the Hamburg transmitters.

Weatherman can receive the following frequencies:

DDK9 on 10.1008 MHZ
DDH7 on 7.646 MHZ PROGRAM 1 in ENGLISH LANGUAGE
DKK2 on 4.583 MHZ

DDH9 on 11.039 MHZ PROGRAM 2 in GERMAN LANGUAGE

The most appropriate frequency can easily be resolved by reference to Weatherman's on-screen radio spectrum analyser, which is more fully explained in the section entitled SELECTING THE BEST FREQUENCY.

DWD sends out - Storm Warnings
Weather reports
Synoptic weather outlooks
Detailed 2 day - 3 day - 5 day prognosis

Broadly speaking the areas covered are:

North and Baltic Seas
Pentlands and SW Greenland
Atlantic and English Channel
Mediterranean

For some transmissions these areas overlap.

Each large area is sub-divided into smaller more useful sub-areas. The latitude/ longitude datum point (area centre) for each of these is given in the section entitled Hamburg Weather Forecast Areas and Co-ordinates.

When you are familiar with how Weatherman operates, you will appreciate that this service gives you plenty of weather information for all times and for all quoted areas.

INSTALLING THE ANTENNA

Many types of electrical apparatus emit interference and it is important that the antenna be well clear of such interference. Troublesome items are alternators, ignition coils, motors, strip lights, inverters etc. Select a position as far from likely sources of interference as is practical and mount the aerial using the flange on the base. Ensure that the antenna is at least 30cms from other metal structures that are parallel to it.

Whilst the antenna should be mounted as high as possible for best results, deck level mounting has proved to be satisfactory in most cases.

A pushpit mounting bracket is available from your chandler, or Nasa Marine spares department. The bracket permits the antenna to be mounted to any 25mm diameter horizontal rail.

Run the antenna lead back to the receiver. The cable can be shortened or lengthened using standard 75 ohm coaxial cable.

Take great care when making connections. Power for the active antenna is supplied by the coax so all joints should be soldered and properly insulated. Alternatively a 7 metre extension cable is available from your chandler. (Or Nasa Marine spares department).

An insulated backstay can be used as an alternative to the active antenna. To connect to the backstay run a 75 ohm coaxial cable from the receiver to the backstay. Include a capacitor (0.1mFd) in series with the inner conductor to block the DC supply from the receiver.

INSTALLING THE DISPLAY

The Weatherman receiver is not waterproof and should only be cabin mounted. Select a convenient position for the display on a panel or bulkhead. The site must be flat and the cavity behind the panel must remain dry at all times. Cut a hole in the panel 103mm by 143mm wide. (The cut out in the cardboard packaging can be used as a template).

Unscrew the wingnut from the rear of the receiver and take off the mounting clamp. Fit the 'O' ring in the groove on the rear and place the unit in the hole in the panel. Refit the mounting clamp and replace and finger tighten the wing nut.

Plug the power cable into the socket on the rear of the receiver and connect to 12 volts. (The red wire to positive and the wire with the black stripe to negative. The unit is protected against reverse polarity.) Push the moulded antenna plug into its socket on the rear of the receiver.

USING THE WEATHERMAN

Switching on power to the Weatherman performs an internal reset, turns on the backlight and goes to the Standby screen.

From this screen: -

i/ The backlight can be switched on and off (NB back lighting will go off automatically after five minutes to conserve power)

ii/ The signal spectrum screen can be accessed.

Iii/ The program screen can be accessed.

Iv/ Scrolling through memory is available.

v/ The display contrast can be adjusted.

vi/ The receiver frequency can be changed.

To make a choice follow the instructions on the screen.

Where a key name is shown followed by '+' and a second key name (for example a CTRL + UP) first press and hold CTRL and then press the second key. Releasing CTRL will store the setting.

PROGRAMMING

From the Standby screen select the Programming screen (Long press on ENTER key).

The Weatherman allows the following groups of messages to be recorded or ignored.

Reports -	North & Baltic Sea
F'cast -	North & Baltic Sea
F'cast -	North Sea (5 day)
F'cast -	West European Atlantic (2 day)
F'cast -	Baltic Sea (5 day)
F'cast -	Mediterranean
F'cast -	Pentlands - SW Greenland
Reports -	Storm Warnings (all areas)

Follow the instructions on the screen to select the desired messages to be recorded. This screen also allows old messages to be wiped from the memory. Wiping the memory does not affect the message programming. Message 'ident' codes, which accompany the transmissons are made up as follows.

FE??	=	medium range forecast (5 day)
FQ??	=	short range forecast (2 day)
NO??	=	notes
SI??	=	synoptic surface observations at 0300, 0900, 1500, 2100 UTC
SM??	=	synoptic surface observations at 0000, 0600, 1200, 1800 UTC
SS??	=	reports from mobile stations
SX??	=	various station reports
WO??	=	various weather warnings
WW??	=	warnings and actual weather observations

??AW	=	Naher Osten
??BQ	=	Baltic Sea
??DL	=	German Bight, West and South Baltic sea, German North sea and Baltic sea coast
??EE	=	Osteuropa
??EN	=	North sea and Baltic sea
??EU	=	Europa
??EW	=	Western Europe
??MM	=	Mediterranean
??NA	=	North America
??NO	=	Norway
??NT	=	North Atlantic
??RS	=	Russia
??VX	=	Ships underway
??WF	=	Fixed weather ships in Europe
??XX	=	No specific designation

Where ? can be any character. Hence FQEN is a short range forecast for the North sea.

EXTRA DATA DISPLAYED ON YOUR WEATHERMAN SCREEN

CQ - CQ - CQ is the international code for “Calling all stations.” It means that all parties are permitted to monitor and use the transmissions which follow.

RYRYRYR..... is the conventional signal broadcast whilst the transmitter is ‘at rest’ between messages.

GROUPS of 5 figures with a space in between. This is the coded, abbreviated form of data being sent to and fro between the transmitter and weather ships and other reporting stations. It cannot be decoded by Weatherman so is ignored.

SELECTING THE BEST FREQUENCY

Weatherman’s signal spectrum analyser is a graphic way of determining which is the best frequency for the present time and location.

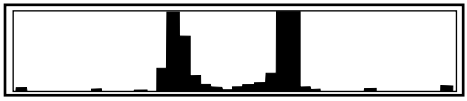
From the Standby screen select the signal spectrum screen. The frequency is shown in the centre of the screen and the area at each side the spectrum of the signal being received.

Frequency efficiency depends on location and time of day and is indicated by the heights of the lower and upper sideband pixel columns on either side of the nominal frequency. The taller and more consistent these columns, the greater the signal strength and absence of interference. See below.

No signal present, background level, no reception,

Weak signal near background level, many errors,

Weak signal above background level, Few errors,



Strong signal, Good copy, no errors,

As a rule of thumb, the lower frequencies are better when you are closer to Hamburg and at night, or in the early morning.

DDK9 is usually the best ‘all round’ channel and DDK2 or DDH7 when you are a long way from the transmitting station during daylight.

NB Whilst DDH9 is substantially in German language much of it can be understood by English speakers.

In practice the receiver can be left on the spectrum screen. Recording will take place as normal and frequency selection can be made at any time to select the best signal. Press CTRL to change frequency. A long press of the ENTER key will return to the Standby screen.

VIEWING STORED MESSAGES

Pressing either the UP of DOWN keys will take you to the beginning of the last stored message. Pressing DOWN will allow you to read through that message. Pressing UP will scroll back into the previous message. Hold the UP key and the display will scroll back and stop at the beginning of the previous message. A simple press on CTRL will return to the previous screen. ie Standby of Spectrum.

From the standby or the spectrum screen the unit can be fixed to record any message (regardless of the program settings) by pressing the up & down keys simultaneously.

HAMBURG WEATHER FORECAST AREAS AND CO-ORDINATES

Norwegian and Baltic Seas

North Cape	72.2N	25.3E
Lofoten	68.6N	13.9E
Haltenbank	65.5N	8.6E
Svinoy	62.3N	4.2E
Faroes	60.7N	5.6W
Pentland Firth	59.4N	3.1W
Hebrides	57.9N	8.1W
Shetlands	60.9N	1.6W
Bay of Bothnia	65.0N	23.5E
Quark	63.7N	21.0E
Sea of Bothnia	62.0	19.5E
Sea of Alland	61.0N	20.0E
Gulf of Finland	60.0N	25.8E

North Atlantic

AREA 51	52.1N	15.7W
Pentl-Farvel 1	60.0N	15.0W
Pentl-Farvel2	59.0N	21.7W
Pentl-Farvel3	60.5N	31.2W
Cape Farvel	58.1N	43.5W
SE Greenland	61.2N	38.5W
SW Greenland	60.3N	50.0W
S of Ireland	50.9N	7.7W
Eng Chann E	50.1N	1.2W
Lyme Bay	50.3N	3.0W
Eng Channel West	49.6N	4.1W
Bay of Biscay	46.4N	5.7W
Finisterre	43.5N	9.8W
W of Portugal	39.0N	10.4W
W of Gibraltar	36.0N	6.6W
Gibraltar	36.1N	5.2W
Canaries S	30.0N	15.0W

Mediterranean

Alboran	36.0N	2.4W
Palos	37.0N	0.1E
Algier	37.8N	5.0E
Golfe de Lion	42.2N	4.5E
Balearic Is	39.4N	3.7E
Ligurian Sea	43.3N	9.3E
W of Corsica/Sardinia	41.4N	7.2E
Tyrrhenian Sea	41.5N	10.5E
S of Sardinia	35.9N	12.3E

Baltic Sea

Skagerak	57.5N	10.8E
Belts and sound	55.5N	10.9E
W Baltic	54.7N	12.4E
S Baltic	54.6N	15.7E
SE Baltic	56.2N	17.0E
Central Baltic	58.1N	20.2E
Northern Baltic	59.9N	20.9E
Gulf of Riga	57.8N	23.5E
Gulf of Finland	60.0N	25.8E
Sea of Aland	61.0N	20.0E
Sea of Bothnia	62.0N	19.5E
Quark	63.7N	21.0E
Bay of Bothnia	65.0N	23.5E

North Sea

German Bight	54.7N	5.7E
Humber	53.3N	2.3E
Thames	51.6N	2.2E
Dogger	55.2N	2.2E
Forties	57.1N	1.7E
Fisher	57.4N	5.3E
Viking	60.1N	0.8E
Utsira S	58.3N	5.1E
Utsira N	60.3N	4.0E
Skagerak	57.5N	8.9E
Ijslmeer	52.7N	5.4E
Eng Ch E	50.1N	1.2W
Eng Ch W	49.6N	4.1W

East Mediterranean

Golfe de Lion	42.2N	4.5E
Balearic Is	39.4N	3.7E
Ligurian Sea	43.3N	9.3E
W of Corsica/Sardinia	41.4N	7.2E
Tyrrenhian	41.5N	10.5E
Adriatic Sea N	44.3N	13.5E
Adriatic Sea S	42.0N	17.8E
Ionian	38.1N	18.9E
Aegean Sea N	39.9N	25.4E
Aegean Sea S	35.8N	26.1E
Rhodes and Cyprus	35.0N	30.4E
Black Sea W	43.3N	30.8E
Black Sea E	43.6N	35.3E
East of Tunis	34.8N	18.7E
Port-Said	32.0N	31.2E

RTT BROADCAST FOR SHIPPING

Frequency			Power	Class of emission		
11039 kHz	DDH 9	05.30 - 22.00 UTC	1 kW	F1B	50 Baud	+ / - 225 Hz
4583 kHz	DDK 2	00.00 - 24.00 UTC	1 kW	F1B	50 Baud	+ / - 225 Hz
7646 kHz	DDH 7	00.00 - 24.00 UTC	1 kW	F1B	50 Baud	+ / - 225 Hz
10100,8 kHz	DDK 9	00.00 - 24.00 UTC	10 kW	F1B	50 Baud	+ / - 225 Hz

Progr. 1 DDK 2, DDH 7, DDK9	Progr. 2 DDH47, DDH 9, DDH 8	Contents	Heading / Time (UTC)
00.00	-----	Strong wind, gale and storm warnings for German Bight, Western and Southern Baltic Sea, German North Sea and Baltic Sea coast (in German / English)	WODL45 EDZW 0000
00.05	-----	Weather report North Sea and Baltic Sea (in English), Weather situation, forecast valid for 12 hours and outlook valid for another 12 hours	FQEN70 EDZW 0000
00.20	-----	Weather report German North Sea and Baltic Sea coast (in English), Weather situation and forecast valid for 12 hours	FQEN71 EDZW 0000
00.30	-----	Advice on the use of weather data (in English)	NOXX70 EDZW 0000
00.35	-----	SYNOP (FM 12-XI Ext.), Coded station reports from Europe, North America and North Africa	SM / / / / CCCC 0000
02.00	-----	SHIP (FM 13-XI Ext.), Coded ship reports from North Sea, North Polar Sea, Atlantic and Mediterranean Sea	SMVX41-48 EDZW 0000
03.00	-----	Warning for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 0300
03.05	-----	Weather report North Sea and Baltic Sea (in English), see 00.05 UTC	FQEN70 EDZW 0300
03.20	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 0300
03.30	-----	Medium range weather report Baltic Sea (in English), Weather situation and time series forecast for 5 days	FEBQ72 EDZW 0000
03.55	-----	Medium range weather report North Sea (in English), Weather situation and time series forecast for 5 days	FEEN73 EDZW 0000
04.15	-----	Medium range weather report Mediterranean Sea (in English). Weather situation and time series forecast for 5 days	FEMM74 EDZW 0000

04.40	-----	SHIP (FM 13- XI Ext.), See 02.00 UTC	SIVX41-48 EDZW 0300
-----	05.00	Warnings for the sea areas (in German / English). See 00.00 UTC	WODL45 EDZW 0300
-----	05.05	Weather report North Sea and Baltic Sea (in German), see 00.05 UTC	FQEN50 EDZW 0500
05.15	-----	Navigational warnings for North Sea, Baltic Sea and German coast (in German / English	WWXX60 EDZW 0500
-----	05.20	Weather report German North Sea and Baltic Sea coast (in German), see 00.20 UTC	FQEN51 EDZW 0500
-----	05.30	Station reports North Sea and Baltic Sea (in German)	SXEN40 EDZW 0300
-----	05.35	Medium range weather report Mediterranean Sea (in German), see 04.15 UTC	FEMM54 EDZW 0000
05.35	-----	Weather report North Sea and Baltic Sea (in English), see 00.05 UTC	FQEN70 EDZW 0500
05.50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 0500
06.00	06.00	Warnings for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 0600
-----	06.05	Weather report North Sea and Baltic Sea (in German), see 05.05 UTC	FQEN50 EDZW 0600
06.05	-----	Advice on the use of weather data (in English)	NOXX70 EDZW 0600
06.10	-----	SYNOP (FM 12-XI Ext.), See 00.35 UTC	SM / / / / CCCC 0600
-----	06.20	Weather report German North Sea and Baltic Sea coast (in German), see 05.20 UTC	FQEN51 EDZW 0600
-----	06.30	Weather report Norwegian Sea and Baltic Sea (in German), Route North Cape - Shetlands, The Quark-Gulf of Finland. Weather situation and time series forecast for 2 days	FQEN55 EDZW 0500
-----	07.00	Weather report North Atlantic (in German). Route Pentlands - Southwest Greenland, Weather situation and time series forecast for 2 days	FQNT56 EDZW 0600
-----	07.25	Station reports North Sea and Baltic Sea (in German)	SXEN40 EDZW 0600
-----	07.30	Station reports Mediterranean Sea (in German)	SXMM41 EDZW 0600
07.35	07.35	SHIP (FM 13-XI Ext.), see 02.00 UTC	SMVX41-48 EDZW 0600

08.15	-----	BUOY (FM 13-XI Ext.), Coded buoy reports from North Polar Sea and Atlantic	SSVX40-42 EDZW 0600
-----	08.20	Weather report Western European Sea (in German). Route Southern Ireland - Area Canarias, Weather situation and time series forecast for 2 days	FQEW57 EDZW 0600
08.35	-----	Weather report North Sea and Baltic Sea (in English), see 00.05 UTC	FQEN70 EDZW 0800
-----	08.40	Weather report Western Mediterranean Sea (in German). Route Alboran - Tunis. Weather situation and time series forecast for 2 days	FQMM58 EDZW 0600
08.50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 0800
09.00	09.00	Warnings for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 0900
-----	09.05	Weather report North Sea and Baltic Sea (in German). See 05.05 UTC	FQEN50 EDZW 0800
09.05	-----	Weather report Norwegian Sea and Baltic Sea (in English), see 06.30 UTC (Progr. 2)	FQEN75 EDZW 0600
-----	09.20	Weather report German North Sea and Baltic Sea coast (in German), see 05.20 UTC	FQEN51 EDZW 0800
09.30	-----	Weather report North Atlantic (in English), see 07.00 UTC (Progr. 2)	FQNT76 EDZW 0600
-----	09.30	Weather report Eastern Mediterranean Sea (in German). Route Eastern Tunis - Rhodes/Cyprus. Weather situation and time series forecast for 2 days	FQMM59 EDZW 0600
-----	09.50	Navigational warnings for North Sea, Baltic Sea and German coast (in German / English)	WWXX60 EDZW 0900
09.55	-----	Weather report Western European Sea (in English), see 08.20 UTC (Progr. 2)	FQEW77 EDZW 0600
10.15	-----	Weather report Western Mediterranean Sea (in English), see 08.40 UTC (Progr. 2)	FQMM78 EDZW 0600
-----	10.10	Advice on the use of weather data (in German)	NOXX50 EDZW 0600
		Notices (in German)	NODL40 EDZW 0800
-----	10.25	Station reports North Sea and Baltic Sea (in German)	SXEN40 EDZW 0900
-----	10.30	Station reports Mediterranean Sea (in German)	SXMM41 EDZW 0900
10.35	-----	SHIP (FM 13-XI Ext,), see 02.00 UTC	SIVX41-48 EDZW 0900

-----	10.35	Medium range weather report Baltic Sea (in German), see 03.30 UTC (Progr. 1)	FEBQ52 EDZW 0600
-----	11.00	Medium range weather report North Sea (in German), see 03.55 UTC (Progr. 1)	FEEN53 EDZW 0600
11.10	-----	Notices (in English)	NODL61 EDZW 0800
11.15	-----	Weather report Eastern Mediterranean Sea (in English), see 09.30 UTC (Progr. 2)	FQMM79 EDZW 0600
-----	11.20	Medium range weather report Mediterranean Sea (in German), see 04.15 (Progr. 1)	FEMM54 EDZW 0600
11.35	-----	Weather report North Sea and Baltic Sea (in English), see 00.05 UTC	FQEN70 EDZW 1100
-----	11.45	Special transmissions for research vessels (only if required)	
11.50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 1100
12.00	12.00	Warnings for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 1200
-----	12.05	Weather report North Sea and Baltic Sea (in German), see 05.05 UTC	FQEN50 EDZW 1100
12.05	-----	Advice on the use of weather data (in English)	NOXX70 EDZW 1200
12.10	-----	SYNOP (FM 12-XI Ext.), See 00.35 UTC	SM / / / / CCCC 1200
-----	12.20	Weather report German North Sea and Baltic Sea coast (in German), see 05.20 UTC	FQEN51 EDZW 1100
-----	12.30	Repetition weather report Norwegian Sea and Baltic Sea (in German), see 06.30 UTC	FQEN55 EDZW 0600
-----	13.00	Repetition weather report North Atlantic (in German), see 07.00 UTC	FQNT56 EDZW 0600
-----	13.25	Station reports North Sea and Baltic Sea (in German)	SXEN40 EDZW 1200
-----	13.30	Station reports Mediterranean Sea (in German)	SXMM41 EDZW 1200
13.35	13.35	SHIP (FM 13-XI Ext.), See 02.00 UTC	SMVX41-48 EDZW 1200
-----	14.20	Repetition weather report Western European Sea (in German), see 08.20 UTC	FQEW57 EDZW 0600
14.35	-----	Weather report North Sea and Baltic Sean (in English), see 00.05 UTC	FQEN70 EDZW 1400

-----	14.40	Repetition weather report Western Mediterranean Sea (in German), see 08.40 UTC	FQMM58 EDZW 0600
14.50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 1400
15.00	15.00	Warnings for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 1500
-----	15.05	Weather report North Sea and Baltic Sea (in German), see 05.05 UTC	FQEN50 EDZW 1400
15.05	-----	Medium range weather report Baltic Sea (in English), see 03.30 UTC	FEBQ72 EDZW 0600
-----	15.20	Weather report German North Sea and Baltic Sea coast (in German), see 05.20 UTC	FQEN51 EDZW 1400
15.30	-----	Medium range weather report North Sea (in English), see 03.55 UTC	FEEN73 EDZW 0600
-----	15.30	Repetition weather report Eastern Mediterranean Sea (in German), see 09.30 UTC	FQMM59 EDZW 0600
-----	15.45	Repetition Medium range weather report Baltic Sea, see 10.35 UTC	FEBQ52 EDZW 0600
15.50	-----	Weather report Mediterranean Sea (in English), Weather situation and forecast valid for 24 hours	FQMM80 EDZW 1500
-----	16.10	Weather report Mediterranean Sea (in German), Weather situation and forecast valid for 24 hours	FQMM60 EDZW 1500
16.10	-----	Medium range weather report Mediterranean Sea (in English), see 04.15 UTC	FEMM74 EDZW 0600
-----	16.25	Station reports North Sea and Baltic Sea (in German)	SXEN40 EDZW 1500
-----	16.30	Station reports Mediterranean Sea (in German)	SXMM41 EDZW 1500
-----	16.35	Repetition Medium range weather report North Sea (in German), see 03.55 UTC (Progr. 1)	FEEN53 EDZW 0600
-----	16.35	And / or Special transmissions for research vessels (only if required)	
16.35	-----	SHIP (FM 13-XI Ext.), See 02.00 UTC	SIVX41-48 EDZW 1500
17.15	17.15	Navigational warnings for North Sea, Baltic Sea and German coast (in German / English)	WWXX60 EDZW 1700
-----	17.35	Repetition medium range weather report Mediterranean Sea (in German), see 11.20 UTC	FEMM54 EDZW 0600
17.35	-----	Weather report North Sea and Baltic Sea (in English), see 00.05 UTC	FQEN70 EDZW 1700

17.50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 1700
18.00	18.00	Warnings for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 1800
-----	18.05	Weather report North Sea and Baltic Sea (in German), see 05.05 UTC	FQEN50 EDZW 1700
18.05	-----	Advice on the use of weather data (in English)	NOXX70 EDZW 1800
18.10	-----	SYNOP (FM 12-XI Ext.), See 00.35 UTC	SM / / / / CCCC 1800
-----	18.20	Weather report German North Sea and Baltic Sea coast (in German), see 05.20 UTC	FQEN51 EDZW 1700
-----	18.30	Weather report Norwegian Sea and Baltic Sea (n German), see 06.30 UTC	FQEN55 EDZW 1800
-----	19.00	Weather report North Atlantic (in German), see 07.00 UTC	FQNT56 EDZW 1800
-----	19.25	Station reports North Sea and Baltic Sea (in German)	SXEN40 EDZW 1800
-----	19.30	Station reports Mediterranean Sea (in German)	SXMM41 EDZW 1800
19.35	19.35	SHIP (FM 13-XI Ext.), See 02.00 UTC	SMVX41-48 EDZW 1800
20.15	-----	BUOY (FM 13-XI Ext.), See 08.15 UTC	SSVX40-42 EDZW 1500
-----	20.20	Weather report Western European Sea (in German), see 08.20 UTC	FQEW57 EDZW 1800
20.35	-----	Weather report North Sea and Baltic Sea (in English), see 00.05 UTC	FQEN70 EDZW 2000
-----	20.40	Weather report Western Mediterranean Sea (in German), see 08.40 UTC	FQMM58 EDZW 1800
20.50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00.20 UTC	FQEN71 EDZW 2000
21.00	21.00	Warnings for the sea areas (in German / English), see 00.00 UTC	WODL45 EDZW 2100
-----	21.05	Weather report North Sea and Baltic Sea (in German), see 05.05 UTC	FQEN50 EDZW 2000
21.05	-----	Weather report Norwegian Sea and Baltic Sea (in English), see 09.05 UTC	FQEN75 EDZW 1800
-----	21.20	Weather report German North Sea and Baltic Sea coast (in German), see 05.20 UTC	FQEN51 EDZW 2000

21.30	-----	Weather report North Atlantic (in English), see 09.30 UTC	FQNT76 EDZW 1800
-----	21.30	Weather report Eastern Mediterranean Sea (in German), see 09.30 UTC	FQMM59 EDZW 1800
21.55	-----	Weather report Western European Sea (in English), see 09.55 UTC	FQEW77 EDZW 1800
22.15	-----	Weather report Western Mediterranean Sea (in English), see 10.15 UTC	FQMM78 EDZW 1800
22.35	-----	SHIP (FM 13-XI Ext.), See 02.00 UTC	SIVX41-48 EDZW 2100
23.15	-----	Weather report Eastern Mediterranean Sea (In English), see 11.15 UTC	FQMM79 EDZW 1800
as available		Warnings for Baltic Sea (in English)	WOBQ61 EDZW Gggg
as available		Warnings for North Sea and Baltic Sea (in English)	WOEN69 EDZW Gggg
as available		Warnings for North Sea and Baltic Sea (in German)	WOEN42 EDZW Gggg

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IMPORTANT READ THIS BEFORE UNPACKING INSTRUMENT

Prior to unpacking this instrument read and fully understand the installation instructions. Only proceed with the installation if you are competent to do so. Nasa Marine Ltd. will not accept any responsibility for injury or damage caused by, during or as a result of the installation of this product. Any piece of equipment can fail due to a number of causes. Do not install this equipment if it is the only source of information and its failure could result in injury or death. Instead return the instrument to your retailer for full credit. Remember this equipment is an aid to navigation and not a substitute for proper seamanship. This instrument is used at your own risk, use it prudently and check its operation from time to time against other data. Inspect the installation from time to time and seek advice if any part thereof is not fully seaworthy.

LIMITED WARRANTY

Nasa Marine Ltd. warrants this instrument to be substantially free of defects in both materials and workmanship for a period of one year from the date of purchase. Nasa Marine Ltd. will at its discretion repair or replace any components which fail in normal use within the warranty period. Such repairs or replacements will be made at no charge to the customer for parts and labour. The customer is however responsible for transport costs. This warranty excludes failures resulting from abuse, misuse, accident or unauthorised modifications or repairs. In no event shall Nasa Marine Ltd. be liable for incidental, special, indirect or consequential damages, whether resulting from the use, misuse, the inability to correctly use the instrument or from defects in the instrument. If any of the above terms are unacceptable to you then return the instrument unopened and unused to your retailer for full credit.

Name _____

Address _____

_____

Dealer Name _____

Address _____

_____

Date of Purchase _____

Proof of purchase may be required for warranty claims.

Nasa Marine Ltd.
Boulton Road, Stevenage, Herts SG1 4QG England

Declaration of Conformity
NASA Marine Ltd declare this product is in compliance with the essential requirements of R&TTE directive 1995/5/EC.
The original Declaration of Conformity certificate can be requested at info@nasamarine.com
THIS PRODUCT IS INTENDED FOR USE ONLY ON NON SOLAS VESSELS

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