

# TARGET NAVTEX PRO

## INSTALLATION AND USER INSTRUCTIONS



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## **INTRODUCTION**

The Target navtex is a dual frequency navtex receiver allowing reception of either the navtex national (490kHz) service or the international (518kHz) service. Facilities are provided to program the receiver for both stations and messages on each of the two frequencies.

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 vessel's 12 volt system, it can be powered by domestic mains using a regulated 12 volt power supply (not a battery charger). A custom power supply is available from the Nasa Marine spares department. 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.

## **NAVTEX Transmissions**

NAVTEX is information broadcast as radio signals by coastal navigation authorities world-wide. The signals can travel long distances under favourable circumstances, and so stations within hundreds of miles of each other in each region of the world transmit at different times of the day. Doing so prevents their transmissions interfering, and producing unintelligible signals at the receiver.

Each transmitting station has an identifying letter (known as the "station ident"), which is allocated by the authorities to ensure that no nearby station in each region of the world shares the same letter. A selection of Navarea 1 (United Kingdom) transmitter station idents is shown in Table 1. World-wide station idents and transmission times are listed in the Admiralty List of Radio Signals, Volume 3, published by Her Majesty's Stationery Office (HMSO).

<b>IDENT LETTER INTERNATIONAL</b>		<b>M</b>	Oostende (Thames Est.)	<b>IDENT LETTER NATIONAL</b>	
<b>A</b>	Corsen (Cross)	<b>O</b>	Portpatrick	<b>I</b>	Niton
<b>B</b>	Bodo	<b>P</b>	Netherlands Coastguard	<b>C</b>	Portpatrick
<b>C</b>	Murmansk	<b>Q</b>	Malin Head	<b>U</b>	Cullercoats
<b>D</b>	Grimeton	<b>R</b>	Reykjavick	<b>S</b>	
<b>G</b>	Cullercoats	<b>E</b>	Nitron	<b>IDENT LETTER NATIONAL (Fr)</b>	
<b>H</b>	Bjuroklubb	<b>T</b>	Oostende	<b>E</b>	Corsen
<b>J</b>	Givsløvshamar	<b>U</b>	Stavnas	<b>S</b>	La Garde
<b>K</b>	Niton (French Coast)	<b>V</b>	Vardo		
<b>L</b>	Rogaland	<b>W</b>	Valentia Radio		

National transmissions are in local language only.

## MESSAGE

<b>Type Ident</b>	<b>Description of message type</b>
A	Navigation warnings covering the station's area
B	Gale Warnings
C	Ice Reports
D	Search and Rescue information (Distress messages)
E	Weather Forecasts
F	Pilot messages
G	Decca information
H	LORAN-C information
I	Omega information
J	SATNAV information
L	Rig lists, submarine and gunnery information
V	Rig movements
Z	No messages on hand

## **The Navtex Message**

All navtex messages begin with a 4 character code. The first letter is the station ident letter, the next is the message ident letter followed by a message reference number. At the end of the message the Target navtex prints the service that was received followed by an error count. The counter represents the total number of corrupted bits in the data stream received. As the navtex performs error correction most of these errors do not result on corrupted characters, however if high counts are received from local stations the installation should be examined.

Each user has different preferences for which stations and messages they want to record (that is, to copy to the display screen and save). The Target Navtex has facilities for including or rejecting selected station idents and message types so that only desired messages are recorded.

All messages are displayed in real time. Only messages programmed in are recorded, whereas those programmed out (rejected) are simply displayed as they arrive, and are not saved. It is a simple matter to return to the programming screens during standby and to change the programming to suit the user's requirements at any time.

A universal convention is to transmit distress or search and rescue messages with a message type D, which navtex receivers are required always to display and record. The Target navtex does so, and to indicate this fact, D cannot be programmed out.

## **INSTALLING THE ANTENNA**

Owing to the low frequency nature of the signal, it is not necessary to mount the antenna at a great height. However many types of electrical apparatus emit interference and it is important that the antenna is 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.

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.

## **INSTALLING THE DISPLAY**

The Target navtex is not waterproof and should only be cabin mounted. Select a convenient position for the display, secure the mounting cradle with two screws and fit the navtex into the cradle using the side knobs supplied.

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 stripes to negative. The unit is protected against reverse polarity). Push the moulded antenna plug into its socket on the rear of the receiver. Adjust the display contrast if necessary using the control at the rear of the unit.

## **USING THE TARGET NAVTEX**

### ***Operation***

The message memory of the Target Navtex is powered by an internal rechargeable battery. When the unit is first installed (or has not been used for some time) this battery may be discharged resulting in either a complete absence of display or the contents of the message memory degraded into a random pattern.

Connecting the receiver to its 12 volt power supply will begin to recharge the battery (complete charge time is 40 hours). Normal operation will occur after about 10 seconds. It is advisable at this stage to reset the unit by simultaneously pressing all three keys. This reboots the software and returns with the Welcome screen.

From here the Main menu is accessible. To make a choice follow the instructions on the screen.

## **PROGRAMMING**

From the Main menu programming of stations and messages is available together with access to the Standby menu. Follow the instructions on the screen to program stations or messages. Remember, in areas where a local service (490kHz) is available

The station ident letters are different from those on the international (518kHz) service. Press the UP and DOWN keys simultaneously whilst in the standby screen to switch the receiver between local and international message reception. (Note the program selection is stored in non volatile memory and is unaffected by removal of power, clearing of message memory or reboot).

After programming for stations and messages press ENTER to return to the main menu. Press ENTER again to get to the standby menu, press ENTER again to get the information screen, then press ENTER again to get to the receive screen. The bottom left of this screen shows the service selected NAT (national) or INT (international) followed by STBY (STANDBY). The unit is now waiting to receive messages.

The UP and DOWN keys are used to scroll through the message memory. The UP key scrolls back message by message and the DOWN key forward line by line. Scrolling is permissible even whilst messages are being received. When in standby a short press of the ENTER key turns the backlight ON/OFF. (Note: to conserve power the backlight automatically turns off if no key is pressed for a period of five minutes and a long press will return to the main menu). When in a message a press of the ENTER key will return to the last message received.

A further choice can be made from the Standby menu, that is a signal frequency distribution (spectrum analysis). This is an aid to fault diagnosis and is not part of normal operation.

### ***Clearing The Message Memory***

Press ENTER to go to main menu.

Press UP and DOWN keys together, this will show a warning screen, press UP and DOWN keys together again to clear the message memory.



## TROUBLESHOOTING

### 1. THE UNIT APPEARS TOTALLY DEAD WITH NOTHING ON THE SCREEN

No power to unit. Check 12 volt supply and polarity is correct. Check fuse.

Reboot receiver by pressing all three keys simultaneously. Then turn contrast up (if screen is completely white) or down (if screen is completely black) until display is visible.

### 2. RECEIVER IS IN STANDBY BUT RECEIVES NO MESSAGES

No messages have been transmitted since the unit was turned on. If local service is selected then check there is a local service available.

The unit is incorrectly programmed. ie - it is not in range of the stations it is programmed to receive. Try programming for all stations and all messages and leave on overnight to see what stations are available.

If there is still no reception check the antenna cable for damage, inspect any joints and remake if defective.

Turn off any piece of equipment that may cause interference.

Shore power supplies can sometimes conduct interference onto the boat so disconnect boat from shore power. Turn off charger, particularly if it is of the inverter type.

**3. THERE IS A RANDOM PATTERN OF DOTS AND CORRUPTED CHARACTERS ON THE SCREEN**

The internal battery has become discharged at some earlier time. To clear the screen follow the instructions to clear the message memory from the main menu.

**4. THERE ARE LOTS OF STARS IN MESSAGES**

This is caused by a poor quality signal. The station is either out of range (due to distance or local obstruction) or local interference is corrupting the signal. Check siting of the antenna. Isolate source of interference.

**5. MESSAGE ENDS ABRUPTLY WITH THE WORDS "BAD SIGNAL"**

A second navtex transmitter has started up before the message has ended. This can occur when a transmitter cannot get all of its information out in its own time slot.

**6. MESSAGE ENDS WITH THE WORDS "LOST SIGNAL"**

The signal has faded below an acceptable level for too long to be of value.

**7. MESSAGES IN MEMORY HAVE SOME CORRUPTED CHARACTERS**

The internal battery is intended to maintain the memory for brief supply interruptions. If the interruption is too long (particularly if the supply has not had time to fully charge the internal battery) then characters will 'melt' into a random dot pattern.

## 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.**

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