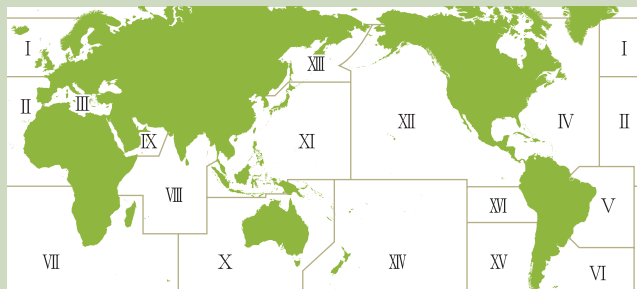


NAVTEX system operation

The world is divided into 16 areas (called Navareas) as shown at right. Each Navarea has multiple NAVTEX stations and each NAVTEX station has an identification code, from "A" to "Z."
The service range of a NAVTEX station is typically 200-400 nautical miles depending on the terrain and station transmit power. A NAVTEX station normally broadcasts every four hours.
There are two channels including international channel, 518 kHz, and local channels, 490 and 4209.5 kHz. International channels broadcast messages in English. On local channels, 490 kHz, is available in the UK, France, etc., using their own languages. 4209.5 kHz is allocated for NAVTEX broadcasts in tropical areas - not widely used at the moment.



SPECIFICATIONS

NAVTEX RECEIVER

Receiving Frequency	518 kHz and 490 or 4209.5 kHz
Mode of Reception	F1B
Sensitivity	2 μV e.m.f. (50 ohms), 4% error rate
Input Protection	Withstands 30 Vrms for 15 min or more (w/ preamp unit)
Spurious Emission	1 nW or less
Message Category	A : Navigation warning B : Meteorological warning C : Ice report D : Search and rescue information/ piracy and armed robbery E : Meteorological forecast F : Pilot message G : AIS H : Loran-C message I : reserved presently not used J : SATNAV message K : Other electronic navigational aid and system message L : Navigational warning (additional) M to Y : Reserved - presently not used V : Notice to Fishermen (US only) Z : QRU (no message on hand)

DISPLAY

Screen Size	5" monochrome LCD, 76 x 100 mm
Resolution	240(H) x 320(V)
Display Modes	Message, List, NAV Data
ID Storage	200 x 2 channels
Message Storage	200 messages x 2 channels (100,000 characters x 2 channels)

PRINTER SECTION (for NX-700A)

Printing System	Line thermal head printing system
Printing Paper	Thermal paper (58 mm x 30 m)
Printing Width	48 mm
Character Format	24 x 12 dot
Dot Pitch	8 dots/mm
Number of Characters	32 characters/line
Print Speed	20 mm/sec.

ANTENNA UNIT

Antenna Type	NX-7H: H-field antenna with preamp
Output Impedance	50 ohms
Power Supply	+8 V to +9 V (thru co-ax cable)

INTERFACE

Input	IEC61162-1/-2 navigational data from INS, GPS, GGA, GLL, RMC, ZDA, NRQ, NMK, ACK, GNS, VHW, VTC, VBW
Output	IEC61162-1/-2 message data for INS, PC, NRX, ALR
Alarm	Normal close, contact closure signal(floating, max 80mA, 50V)
Printer	RS-232C(NX-700B only)

POWER SUPPLY

NX-700A:	12-24 VDC, 1.5-0.8 A
NX-700B:	12-24 VDC, 0.7-0.4 A

ENVIRONMENT (fully complied with IEC 60945 3rd/4th ed.)

Temperature	Antenna Unit: -25°C to +70°C (-13°F to +158°F) Receiver, Display Unit: -15°C to +55°C (5°F to +131°F)
Waterproofing	Antenna Unit: IP66 Receiver Unit: IP20 Display Unit: IP20 NX-700A: IP20 NX-700B: IP25(front panel)

EQUIPMENT LIST

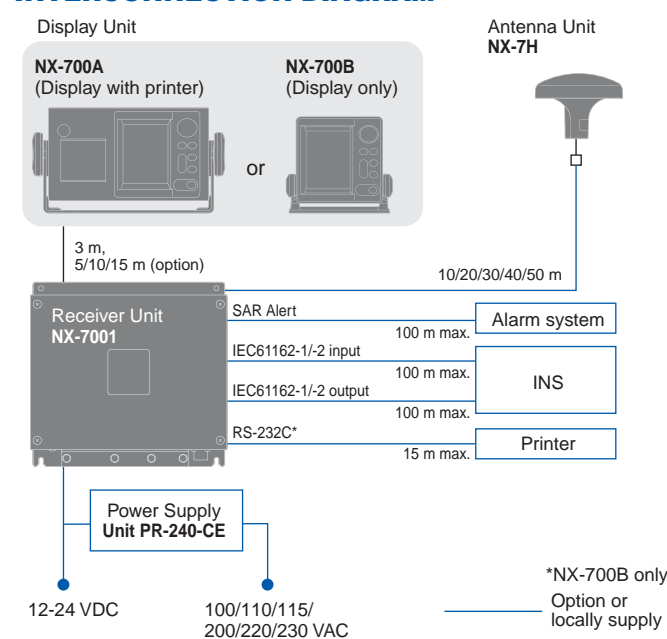
Standard

1. Receiver Unit NX-7001 1 unit
2. Antenna Unit NX-7H 1 unit
3. Display Unit with Bracket (Specify when ordering) 1 unit
NX-700A: Display with Printer, NX-700B: Display only
4. Installation Materials and Spare Parts 1 set

Option

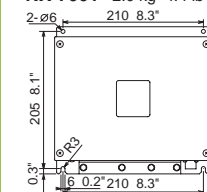
1. Antenna Mounting Base
Pipe mount: CP20-01111
Deck mount: 13-QA330
Handrail mount 13-RC5160
Offset bracket: 13-QA310
2. Cable for Antenna
3D2V, 10/20/30/40/50 m;
RG10U, 30/40/50 m
3. Cable for Display Unit
D-Sub 25P to D-Sub 25P, 5/10/15
4. Flush Mount Kit for Display Unit for NX-700A: OP08-19
for NX-700B: OP08-20
5. Power Supply Unit PR-240-CE
6. Thermal Paper for NX-700A

INTERCONNECTION DIAGRAM



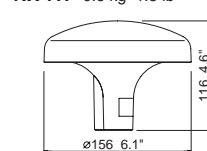
Receiver Unit

NX-7001 2.0 kg 4.4 lb



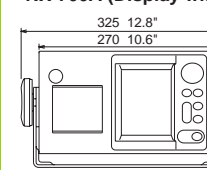
Antenna Unit

NX-7H 0.6 kg 1.3 lb



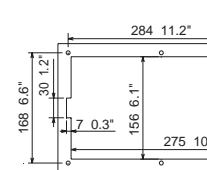
Display Unit

NX-700A (Display with printer) 3.3 kg 7.3 lb



Display Unit

NX-700B (Display only) 0.7 kg 1.5 lb



TRADE MARK REGISTERED MARCA REGISTRADA
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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Catalogue No. FX-620

TRADE MARK REGISTERED
MARCA REGISTRADA

NAVTEX

Dual-channel NAVTEX Receiver

for Russian Market

Message display with printer

NX-700A

Message display unit

NX-700B



NAVTEX

Dual-channel NAVTEX Receiver

Enhances the navigation efficiency and safety by watching NAVTEX messages broadcasted on both international and local channels

FURUNO NX-700 is a dual-channel NAVTEX receiver for SOLAS ships complying with the new NAVTEX performance standard MSC.148(77).

The NX-700 can receive two channels simultaneously. One is set for 518 kHz to receive international NAVTEX messages and another is selectable from 490 or 4209.5 kHz for domestic or local NAVTEX messages. These messages include a variety of safety information such as Navigational Warnings, Meteorological Warnings, Search and Rescue (SAR) information and other information for ships sailing within the reach of each service station's coverage. The broadcast station can be selected automatically according to own ship position when the NX-700 is connected with GPS or EPFS.

Every incoming message is stored in non-volatile memory and is displayed on the clear 5" silver bright LCD. Three different font sizes are available and one of them can be selected on menu.

The NX-700A consists of a receiver, display with printer and antenna units. The NX-700B has a low profile, stylish display without a printer, receiver and antenna units. The compact umbrella type antenna requires no grounding because it is H-field antenna. In addition, the antenna incorporates a high-performance preamp within the compact body, which gives reliable and uninterrupted reception without an extra whip antenna.



Dual-channel NAVTEX Receiver NX-700A/B

- Fully meets new IMO resolution MSC.148(77), IEC 61097-6 Ed.2
- Dual channel reception, 518 kHz and either 490 or 4209.5 kHz, simultaneously
- Incorporates a printing device(NX-700A) or a dedicated display device with printer output(NX-700B)
- 200 message of average length 500 characters can be stored in non-volatile memory
- Incorporates a preamp within a lightweight, compact antenna for reliable, uninterrupted reception
- Display messages on a clear 5" silver bright LCD
- Low power consumption
- NAV data display acts as NMEA repeater for GPS or instruments

Operators can print out important messages by pressing a dedicated "PRINT" button.

Message inbox

Status icons
Message icons

All received messages with a selected channel information are sorted by order of time in the message inbox. Operators can easily know the status of each message from the message ID and icons. When receiving SAR information, NX-700 notifies of the incoming messages by audible alarm. For quick viewing, operators can pick up messages they are interested in and display them by using the sort function.

Icons
Status icon

	Shows that an International frequency (518 kHz) message has not been read.
	Shows that a Local frequency message has not been read. L1: 490 kHz, L2: 4209.5 kHz
	Displayed while the NAVTEX is receiving a message. L1: International frequency (518 kHz), L2: 490 kHz, L2: 4209.5 kHz
	Displayed when the battery voltage is low.
	Print error (no paper, not connected to the printer, etc.)
	While printing.

Message icon

	Displayed when message has not been read yet.
	Displayed when message type D (SAR) is received.
	Displayed when message type A, B or L (Warning) is received.
	Protected message

NavData window
Essential navigational data is clearly displayed at the bottom of display when connected with a positioning equipment.

Guide for key controls

Message display

Message format

Message ID: ZCZC b1 b2 b3 b4

Start code (sync): ZCZC

Serial number: b1 (00:Emergency message, 01-99:Normal message)

Type of message: b2 ("A"-Z") (See the list below.)

Station ID: b3 ("A"-Z)

Main message: b4

Termination code: NNNN

Fonts

Small (38 characters x 19 lines), Medium (32 characters x 16 lines), Large (19 characters x 9 lines)

Three font sizes are available for convenience of the operation.

Type of message (category)

A	Navigational warning	I	reserved presently not used
B	Meteorological warning	J	SATNAV message
C	Ice report	K	Other electronic navigational aid system message
D	Search and rescue information/ piracy and armed robbery	L	Navigational warning (additional)
E	Meteorological forecast	M to U	Reserve-presently not used
F	Pilot message	V	Notice to Fishermen (U. S. only)
G	AIS	W to Y	Reserve-presently not used
H	LORAN-C message	Z	QRU (no message on hand)

Distance window
Shows distance from own ship to a position of event, which is mentioned in message. This enables swift understanding of whether the position is nearby own ship or not.