

STANDARD HORIZON

Nothing takes to water like Standard Horizon

Class-H DSC GPS 6W Transceiver

HX890

Floating

IPX8
1.5 m for 30 min
Submersible

3 Year
WARRANTY

66 ch GPS

New Ergonomic Design with the Most Advanced Features

Leading with Class-H DSC & GPS Marine Communications



Radio Specification

FLOATING Icon of a radio on water	SUBMERSIBLE Icon of a radio underwater	6W Transmit Power Icon of radio waves	LOUD AUDIO Icon of a speaker
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Usability

E 2 O Easy To Operate	LARGE DISPLAY Icon of a large screen	16 / S Icon of a 16/S button	Li-Ion Battery Included
AC and DC Charger Included Icon of a power plug			

Features

CLASS H Icon of a DSC symbol	DSC DISTRESS and POS Polling	GPS Icon of a globe	GPS COMPASS Icon of a compass
WAYPOINT NAV Icon of a compass with waypoints	GM Group Monitor	TONE CONTROL Icon of a speaker	MOB Man Overboard
NOAA WEATHER CHANNELS / ALERT Icon of a weather symbol	STROBE LIGHT Icon of a light	FM Broadcast Radio Receiver	

Connectability

OPTIONAL MIC / HEADSET
Icon of a microphone

MIL-STD-810F

The photo shows the NAVY BLUE

Ergonomic Design & Durable Construction

Marine Class-H DSC & GPS Floating 6W VHF Transceiver

Class-H DSC GPS 6W Transceiver

HX890



HX890: for USA

HX890E: for Europe, Asia and Australia

Supplied Accessories

CAT460 Antenna, SBR-13LI 7.4V 1800mAh Li-ion Battery Pack, SBH-32 Charger Cradle, SAD-25 AC Adapter, E-DC-19A DC Cable with Cigarette Lighter Plug for SBH-32, SBT-13 Alkaline Battery Case (AAA x 5), CLIP-22 Belt Clip, Hand Strap and T9101648 USB Cable

SOLID BLACK

NAVY BLUE



Actual Size

Rounded Case Design and Durable Construction

The HX890 has an innovative rounded case design that provides excellent handheld comfort and easy front panel operation. Professional grade construction meets MIL-STD-810F for operation in the harsh environment.

Floating IPX8 Submersible Construction (4.92 ft/1.5 m for 30 minutes)

Engineered to be rugged and reliable, the HX890 is designed to float and also constructed to survive submersion with the IPX8 water resistant rating (4.92 ft / 1.5 m of water for 30 minutes).



Floating image

ITU-R M.493-14 Class-H DSC (Digital Selective Calling) & CH70 DSC call Receiver

The HX890 is capable of DSC (Digital Selective Calling) ITU-R M.493-14 Class-H operation. Class-H operation permits continuous reception of Digital Selective Calling functions on channel 70, concurrent with reception of radio calls on the audio channels.

DSC DISTRESS ALERT

Transmit and reception of DSC distress messages is incorporated. Distress alert transmissions include the latitude and longitude of the vessel when the Distress alert is activated.

Built-in Integrated 66 Channel WAAS GPS Receiver

With the internal high-performance 66 Channel GPS receiver, SBAS (WAAS / MSAS / EGNOS) satellites can be received. The HX890 includes a position logger that permits recording/logging the GPS location information at periodic intervals.

Extended Range 6W Transmit Power on Marine VHF

The HX890 provides a full *6Watts of transmit power and also is selectable to 2W and 1W settings to assist the user in obtaining maximum battery life.

*5W TX required in some countries

700mW Loud Audio and Noise Canceling Function

The HX890 is designed to be heard even in noisy environments with 700mW of audio power supplied to the internal speaker. In addition, the HX890 has the Noise canceling function for both receive and transmit audio.

*11 hours Operating time with supplied Li-ion Battery

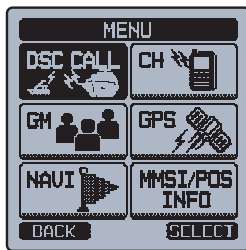
The Supplied 1800mAh high capacity Li-ion battery provides up to *11 hours operating time.

Also, the HX890 may be operated with the included "AAA" SBT-13 Alkaline Battery Case (AAA x 5).

*Based on Duty Cycle = (TX)5sec: (RX)5sec: (Standby)90sec; with 6W TX power, GPS: ON, DSC: ON

Oversized Full-dot Matrix Display & E20 (Easy to Operate) Icon /Menu System

Designed with a large (1.7"x1.7", 43.2 x 43.2mm) Full-dot matrix display with wide digits and bold information flags that makes great visibility in any conditions. Also the HX890 advanced features "MENU" screen is displayed by pressing the MENU key on the front panel.



MENU screen

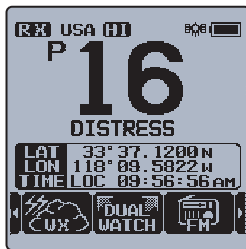


SETUP Menu screen

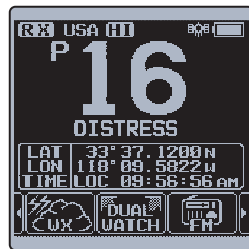
Selectable Display Mode (Night Mode Display)

The display is selectable between DAY mode and NIGHT mode.

The NIGHT mode display improves visibility at night by inverting the black and white dots of the display from the DAY mode.



DAY mode



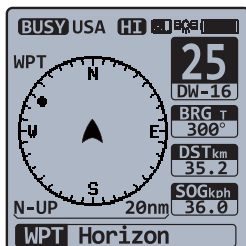
NIGHT mode

Waypoint Navigation

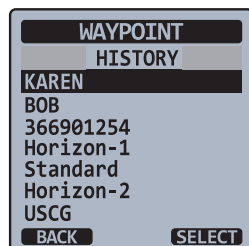
: Navigate to stored memory locations using the compass screen

The HX890 is capable of storing up to 250 waypoints for navigation using the compass page. The compass screen includes the distance and direction to the destination and the waypoint is indicated by a dot. The large compass screen makes it easy to discern the overall positional relationship at a glance.

Also, the HX890 allows setting 1 to 30 waypoints to create a route.



Navigation Compass screen

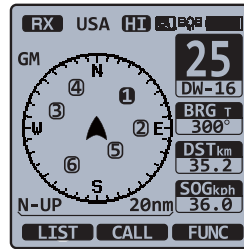


Waypoint List screen

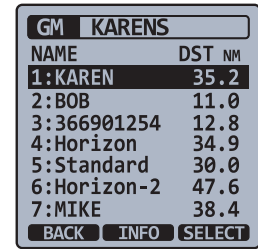
GM (Group Monitor) using DSC Group position Call

The GM (Group Monitor) feature of the HX890 utilizes the DSC (Digital Selective Calling), the Group call and Auto Position Polling, to display the group member locations.

By selecting the specific group member, you may begin navigation using the GM function. The HX890 is capable of storing up to 10 groups with 1 to 9 members each.



Group Monitor Screen

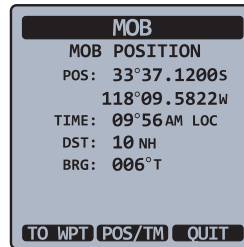


Group List

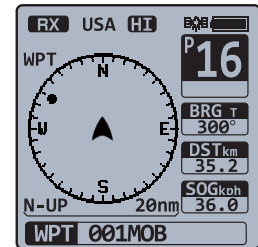
MOB (Man over Board) Location and navigation System

In an emergency, the MOB (Man Over Board) feature permits instantly recording the location where a person falls overboard.

This position may be reported for navigation to the exact location.



MOB information screen



Navigation screen

Water Activated Emergency Strobe Light

When the HX890 comes in contact with water, the water activated strobe light will turn on "WHITE" to assist finding the radio in low light conditions. This feature operates when the radio is ON or OFF.

Integrated Voice Scrambler Systems

Two types of voice scrambler functions are available: the 4-Code type (CVS2500A compatible) or the 32-code type (FVP-42 compatible)

*The scrambler is not available for CH16 and CH70

Versatile Scanning modes and Multi-watch

The HX890 will automatically scan channels programmed into the preset channel memory and also the scan channel memory, and the last selected weather channel.

Multi watch is used to scan two or three channels for communications.

- In Dual Watch, a normal VHF channel and the priority channel are scanned alternately.
- In Triple Watch, a normal VHF channel, the priority channel, and the sub channel are scanned repeatedly.

NOAA Weather Alert (USA version only)

In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA (National Oceanic and Atmospheric Administration) sends a weather alert including a 1050Hz tone and subsequent weather report on one of the NOAA weather channels. The HX890 can receive weather alerts when monitoring a weather channel, on the last selected weather channel during scanning modes, or while listening on another working channel.

Built in FM Broadcast Radio Receiver

FM broadcast receiver function is included in the HX890, with FM broadcast frequency sweep and Memory frequency Store/Recall operations.

FEATURES

- Automatically poll the GPS positions of ships using DSC
- Individual Calling, Group Calling and Test Calling
- DSC Beep and Selectable Call Ringer time
- Preset key used to recall up to 10 favorite channels
- CH16/S Quick Access (S: Sub-channel)
- Checking GPS Signal (GPS Status Display)
- TOT (Transmit Time-Out-Timer)
- micro USB Data jack for PC interface
- VOX Operation with optional VOX Headset (SSM-64A)
- Battery Saver
- Dimmer Adjustment
- Keypad Illumination
- Key Beep
- Key Lock

SPECIFICATIONS

General	
Frequency Range (Frequency differs in some regions)	TX: 156.025MHz - 161.600MHz RX: 156.050MHz - 163.275MHz (USA/International, Including WX channels)
Channel Spacing	25kHz
Frequency Stability	±3ppm (-4°F to +140°F [-20°C to +60°C])
Emission Type	16K0G3E (Voice) , 16K0G2B (DSC)
Antenna Impedance	50Ω
Supply Voltage	7.4VDC, Negative Ground (Battery Terminal)
Current Consumption	380mA (Receive) 130mA (Standby, GPS on), 110mA (Standby, GPS off) TX: 1.6A / 1.0A / 0.7A (TX: 6W *(5W) / 2W / 1W) *Depends on the transceiver version
Operating Temperature	-4°F to +140°F (-20°C to +60°C)
Waterproof Rating	IPX8 (4.92ft/1.5m for 30 minutes)
DSC Individual Directory	Store up to 100 Identities
DSC Group Directory	Store up to 30 Groups
DSC Format	ITU-R M.493-14
NMEA Output	DSC, DSE, GLL, GGA, GSA, GSV, and RMC
Case Size(W x H x D)	2.60" x 5.43" x 1.50" (66 x 138 x 38mm) w/o knob & antenna
Weight (Approx.)	10.94 oz (310g) with SBR-13LI, Belt Clip, hand strap & Antenna
Transmitter	
RF Power Output	6W *(5W)/2W / 1W @7.4V *5W TX required in some countries
Modulation Type	Variable Reactance
Maximum Deviation	±5kHz
Spurious Emission	Less than 0.25μW
Microphone Impedance	2kΩ

Receiver	
Circuit Type	Double-Conversion Superheterodyne
Intermediate Frequencies	(Voice) 1st: 38.85MHz, 2nd: 450kHz (DSC) 1st: 30.4MHz, 2nd: 450kHz
Sensitivity	(Voice) 0.25μV for 12dB SINAD, -5dBμ for 20dB SINAD (DSC) 0.5μV for 12dB SINAD, 0dBμ for 20dB SINAD
Adjacent Channel Selectivity	70dB typical
Intermodulation	70dB typical
Selectivity	12kHz/ 25kHz (-6dB / -60dB)
AF Output	700mW @16 Ohm for 10% THD (@7.4V)

GPS	
Receiver Channels	66 Channels
Sensitivity	Less than -147dBm
Time to First Fix	1 min typical (@Cold Start) 5 sec typical (@Hot Start)
Geodetic Datum	WGS84

FM BROADCAST RECEIVER	
Frequency Range	65MHz - 108MHz
Frequency Step	100kHz
Sensitivity	1.0μV for 12dB SINAD

Applicable MIL-STD

Standard: MIL-STD-810F			
MIL Standard	Method / Procedures	MIL Standard	Method / Procedures
Low Pressure	500.4 / I, II	Humidity	507.4
High Temperature	501.4 / I, II	Salt Fog	509.4
Low Temperature	502.4 / I, II	Settling Dust	510.4 / III
Temperature Shock	503.4 / I	Vibration	514.5 / I
Solar Radiation	505.4 / I	Shock	516.5 / I, IV
Rain Blowing/Drip	506.4 / I, III	-	-

SUPPLIED ACCESSORIES

- **CAT460**
Antenna
- **SBR-13LI**
7.4V 1800mAh
Li-Ion Battery Pack
- **SBH-32**
Charger Cradle
- **SAD-25**
AC Adapter for SBH-32
- **E-DC-19A**
DC Cable with 12V
Cigarette Lighter Plug for SBH-32
- **SBT-13**
Alkaline Battery Case (AAA x 5)
- **CLIP-22**
Belt Clip
- **T9101648**
USB Cable
- **Hand Strap**

OPTIONAL ACCESSORIES

SSM-14A Submersible Speaker Microphone with Earphone jack 	MH-73A4B Submersible Speaker Microphone 	MH-57A4B Speaker Microphone 	SEP-10A Earphone for SSM-14A 	SSM-64A VOX Headset 	SSM-55A Earpiece/ microphone 	CN-3 BNC-SMA Adapter 	CAT460** Antenna 
SBR-13LI** 7.4V 1800mAh Li-Ion Battery Pack 	SBH-32** Charger Cradle 	SAD-25** AC Adapter for SBH-32 	E-DC-19A** DC Cable with 12V Cigarette Lighter Plug for SBH-32 	E-DC-6 DC Cable (plug and wire only) 	SBT-13** Alkaline Battery Case (AAA x 5) 	CLIP-22** Belt Clip 	SCH-11 Belt Clip Hanger 

*1 The Same as the supplied accessory

STANDARD HORIZON

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