# 21 SPECIFICATIONS

Performance specifications are nominal, unless otherwise indicated, and are subject to change without notice.

## 21.1 GENERAL

Channels ..... All USA, International and Canadian
Normal Input Voltage ..... 13.8 V DC
Operating Voltage Range ..... 11 V to 16.5 V
Current Drain
  Standby ..... 0.55 A
  Receiver (at Maximum AF Output) ..... 0.9 A
  Transmit ..... 5.0 A (Hi), 1.0 A (Lo)
DSC Transmitted Call Log ..... 24
DSC Distress Call Log ..... 27
DSC Received Call Log ..... 64
Individual Call Directory ..... 80
Group Call Directory ..... 32
Waypoint Directory ..... 100
Display Type ..... 2.75” x 1.33” (70 x 34 mm)
Full Dot Matrix (132 x 64 pixels)
Dimensions (WxHxD) ..... 7.1” x 3.1” x 6.3” (180 x 80 x 160 mm)
Flush-Mount Dimensions (WxHxD) ..... 6.3” x 2.6” x 5.9” (161 x 65 x 150 mm)
Weight ..... 3.2 lbs (1.45 kg)

## 21.2 TRANSMITTER

Frequency Range ..... 156.025 MHz to 157.425 MHz
RF Output Power ..... 25 W (Hi), 1 W (Lo)
Conducted Spurious Emissions ..... Less than –80 dBc (Hi), –66 dBc (Lo)
Audio Response ..... within +1/–3dB of a 6 dB/Octave
pre-enphasis characteristic at 300 to 3000 Hz
Audio Distortion ..... Less than 5 %
Modulation ..... 16K0G3E (for Voice), 16K0G2B (for DSC)
Frequency Stability ..... ±0.0003 % (–20 °C to +60 °C)
FM Hum and Noise ..... 50 dB

## 21.3 RECEIVER (for Voice and DSC)

Frequency Range ..... 156.050 MHz to 163.275 MHz
Sensitivity
- 20 dB Quieting ..... 0.35 µV
- 12 dB SINAD ..... 0.30 µV
- Squelch Sensitivity (Threshold) ..... 0.13 µV

Modulation Acceptance Bandwidth ..... ±7.5 kHz
Selectivity (Typical)
- Spurious and Image Rejection ..... 80 dB for Voice (75 dB for DSC)
- Intermodulation and Rejection ..... 80 dB for Voice (75 dB for DSC)

Audio Output ..... 4.5 W (at 4 ohms external speaker output)
Audio Response ..... within +1/–3dB of a 6 dB/Octave de-enphasis characteristic at 300 to 3000 Hz
Frequency Stability ..... ±0.0003 % (–20 °C to +60 °C)
Channel Spacing ..... 25 kHz
DSC Format ..... ITU-R M.493-13
Antenuator (Local) ..... Approx. 10 dB

## 21.4 RECEIVER (for AIS)

Frequency ..... 161.975 MHz (CH A), 162.025 MHz (CH B)
Sensitivity ..... 0.5 µV (at 12 dB SINAD)
Selectivity(Typical)
- Spurious and Image Rejection ..... 70 dB
- Intermodulation and Rejection ..... 70 dB

## 21.5 GPS RECEIVER

Receiver Channels ..... 66 Channels
Sensitivity ..... Less than –147 dBm
Time to First Fix ..... 1 minute typical (@Cold Start)
5 seconds typical (@ Hot Start)
Geodetic Datum ..... WGS84

## 21.5 NMEA INPUT/OUTPUT

4800 Baud selected:

NMEA 0183 Input (4800 baud).....GGA, GLL, GNS, RMC, GSA, & GSV

NMEA 0183 Output (4800 baud)..... DSC, DSE, GGA, GLL, GNS, RMC, GSA & GSV

NMEA 0183-HS AIS Output (38400 baud) .....VDM

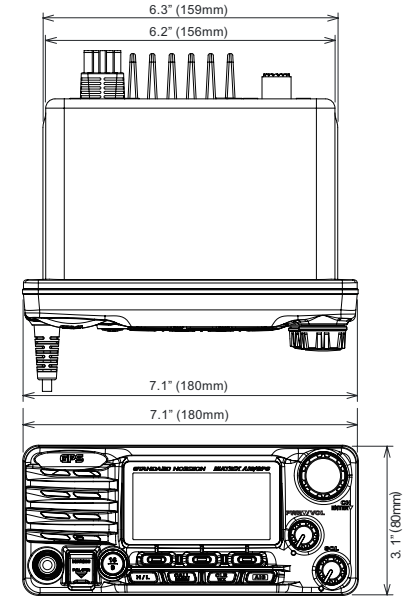
38400 Baud selected:

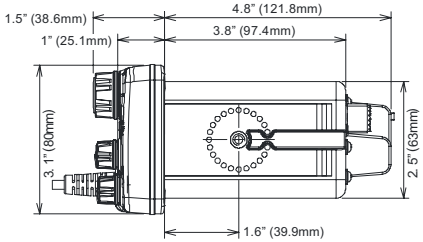
NMEA 0183-HS Input (38400 baud).....GGA, GLL, GNS, RMC, GSA, & GSV

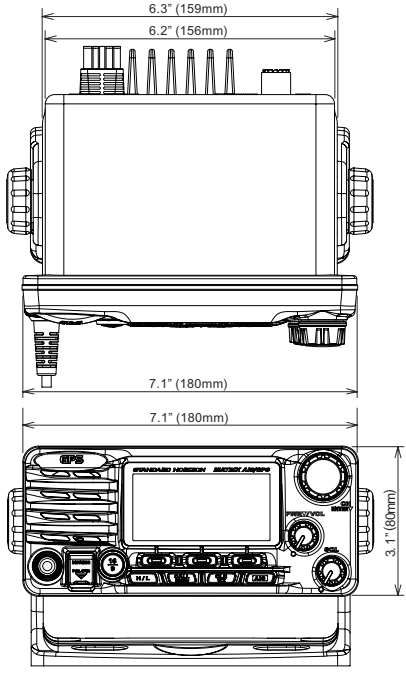
NMEA 0183-HS Output (38400 baud)..... DSC, DSE, GGA, GLL, GNS, RMC, GSA, GSV & VDM

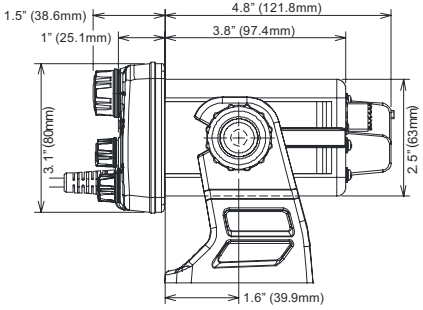
NMEA 0183-HS AIS Output (38400 baud) .....VDM

## 21.6 DIMENSIONS



# 22 FCC RADIO LICENSE INFORMATION

Standard Horizon radios comply with the Federal Communication Commission (FCC) requirements that regulate the Maritime Radio Service.

## 22.1 STATION LICENSE

An FCC ship station license is no longer required for any vessel traveling in U.S. waters (except Hawaii) which is under 20 meters in length. However, any vessel required to carry a marine radio on an international voyage, carrying a HF single side band radiotelephone or marine satellite terminal is required to have a ship station license. FCC license forms, including applications for ship (605) and land station licenses can be downloaded via the Internet at http://www.fcc.gov/Forms/Form605/605.html. To obtain a form from the FCC, call (888) 225-5322.

## 22.2 RADIO CALL SIGN

Currently the FCC does not require recreational boaters to have a Ship Radio Station License. The USCG recommends the boats registration number and the state to be used when calling another vessel.

## 22.3 CANADIAN SHIP STATION LICENSING

You may need a license when traveling in Canada. If you do need a license contact their nearest field office or regional office or write:

**Industry Canada**
**Radio Regulatory Branch**
**Attn: DOSP**
**300 Slater Street**
**Ottawa, Ontario**
**Canada, KIA 0C8**

## 22.4 FCC / INDUSTRY CANADA INFORMATION

The following data pertaining to the transceiver is necessary to fill out the license application.

Type Acceptance ..... FCC Part 80
Output Power..... 1 Watt (low) and 25 Watts (high)
Emission ..... 16K0G3E, 16K0G2B
Frequency Range ..... 156.025 to 163.275 MHz
FCC Type Number..... K6630443X3D
Industry Canada Type Approval ..... 511B-30443X3D