

HIMUNICATION

Innovation, Make a difference!
Marine Products Family



HIMUNICATION

HI-MIC SERIES MARINE HANDSET

NEW



HST20

HST20 wired handset is standard accessory for TS18-BB series
TS18 series optional



HST20+

HST20+ wired handset add the Zigbee 2.4G module based on the HST20, can be connected with HST20W wireless handset



HST20W

HST20W is the wireless handset based on the wired handset HST20+, the HST20W can be wirelessly connected to the HST20+ and the communication distance is about 100 meters.



HS20

HS20 wired handset is standard accessory for HM390BB series
HM390 series optional



HS20+

HS20+ wired handset add the Zigbee 2.4G module based on the HS20W, can be connected with HS20W wireless handset



HS20W

HS20W is the wireless handset based on the wired handset HS20+, the HS20W can be wirelessly connected to the HS20+ and the communication distance is about 100 meters.

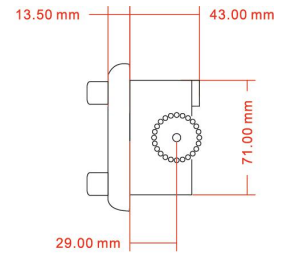
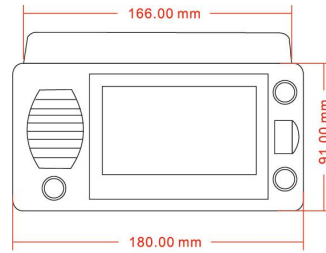
HIMUNICATION

VHF Fixed Maritime Radio

TS18 Series Ultrathin Fixed VHF Maritime Radio with GPS Receiver

Model	NMEA2000	NMEA0183	AIS	DSC
TS18 / TS18-BB	•	•	-	•
TS18S / TS18S-BB	•	•	•	•

TS18



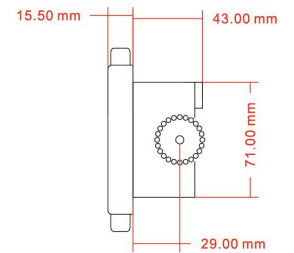
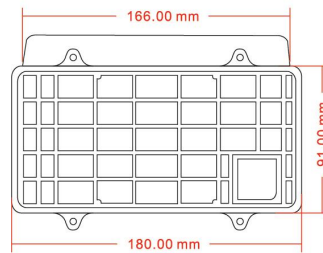
Connected



Optional Handset

TS18-BB

NEW





1/25W

DSC

AIS

INSTRUMENT

NMEA 2000

GNSS



IPX8

HIMUNICATION

VHF Maritime Radio Innovation Solutions

MORE THAN A TOUCH SCREEN

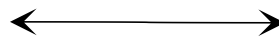
TS18

The World First touch screen fixed radio

2018



Can be Wireless Connected



TS19

The World First touch screen handheld radio

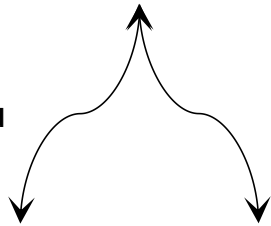
2019



It can display the marine instrument data and AIS information when connected to the TS18

Big fish
Small fish

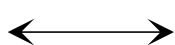
Can be Wireless Connected



2020



Can be Wireless Connected



HST20 + built-in 2.4G module can be Wireless connected to HST20W

HST20

HST20W

The wired and wireless second Handset Touch screen

TS18-BB

HST20+

SPECIAL FEATURES

- Maritime Radio + Marine Instrument (2 in 1)
- High Contrast 4.3 Inch Color TFT LCD Intuitive User Interface
- Touch-screen Operation Similar to Mobile Operation
- Built-in Class "D" DSC
- Integrated GNSS Receiver
- Integrated AIS Receiver(RX Only)
- NMEA0183/NMEA2000 Connectivity
- Optional Second Handset
- Multiple Languages(English, French, Spanish, Italian etc)
- Optional Second Handset 7-Pins Plug
- Waterproof IPX8
- FOG-Anchor Alarm
- TCPA&CPA Alarms
- Dual&Tri Watch Modes
- 25/1 Watt Switchable Power
- International、US & Canada marine Channel

HIMUNICATION

VHF Handheld Maritime Radio

NEW

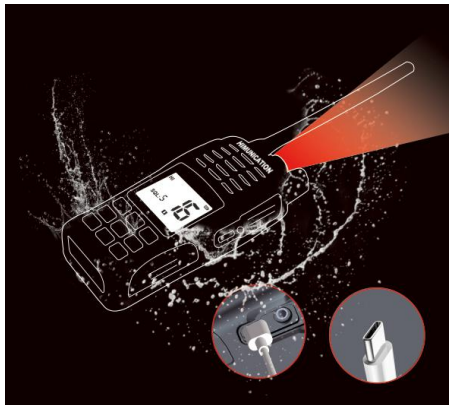
HM160 PLUS The updated middle end portable radio

SPECIAL FEATURES

- Output power: 6W/3W/1W
- USB charger voltage: 3.7V
- White back light LCD Section code screen
- Marine Torch (two optional lights, red&white)
- Voice Record
- Waterproof IPX8
- Floats&Flashes with the Marine Torch Flashes
- Private Channel Facility
- Dual and Tri Watch
- Voice Record



HM160 PLUS



HM360 PLUS The updated DSC portable radio

SPECIAL FEATURES

- Output power: 6W/3W/1W
- USB charger voltage: 3.7V
- White back light LCD dot matrix
- Marine Torch (two optional lights, red&white)
- Way-Point function
- Voice Record
- Waterproof IPX8
- Built-in DSC for Handheld
- Floats&Flashes with the Marine Torch Flashes
- MOB Alert
- COG&SOG
- Integrated GNSS Receiver

**DSC
&
GPS**



HM360 PLUS



INCLUDED IN THE BOX

- HM160 PLUS VHF Maritime Radio • Integrated 3.7V 4000mAh Li-Polymer Battery • 5V Adapter
- Detachable Antenna • Wrist Strap • Belt Clip
 - Instruction Manual
 - Optional accessory: Earphone MIC

INCLUDED IN THE BOX

- HM360 PLUS VHF Maritime Radio • Integrated 3.7V 4000mAh Li-Polymer Battery • 5V Adapter
- Detachable Antenna • Wrist Strap • Belt Clip
 - Instruction Manual
 - Optional accessory: Earphone MIC

HIMUNICATION

VHF Handheld Maritime Radio

TS19 3.5-inch high-definition screen, touch screen operation Smart radio, Beyond your imagination!

SPECIAL FEATURES

- The first 3.5-inch 480×800dots, TFT, Transflective, high-definition screen, touch screen handheld Maritime Radio in the world, touch screen operation similar to smartphone
- Built-in 2.4g wireless data transmission module
- It can display the marine instrument data (When connect with our TS18 series or Wireless N2K data TX device)
- It can display the AIS information (When connect with our TS18 series)
- DISTRESS high power forwarding function (When connect with our TS18 series)
- Built-in GPS module and GPS antenna
- Digital switch ON/OFF feature, it means the sailors can use radio to remote control the switch on/off of marine equipments via the N2K system
- Multi-language interface selection
- Output power: 6W/3W/1W
- Class H DSC function
- Floats&Flashes

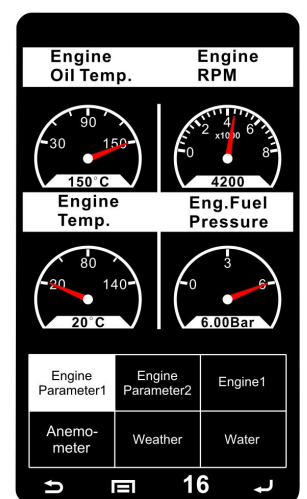
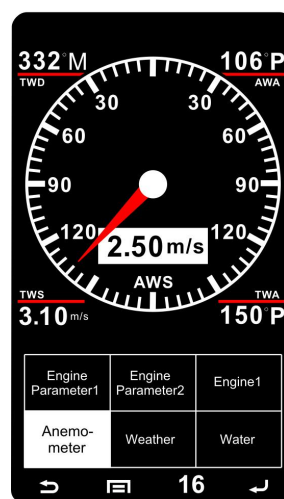
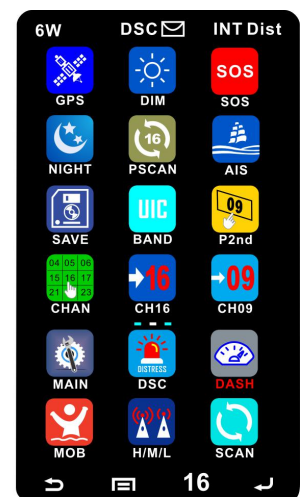
INCLUDED IN THE BOX

- TS19 VHF Maritime Radio
- Hi Gain Flexible Antenna
- 12V Adapter
- Li-polymer Battery (2200mAh)
- Charging Cradle
- Wrist Strap
- Instruction Manual
- Optional Ear-Piece Mic
- Optional Cigarette Lighter Socket
- Optional 12V USB Charging Cable
- Optional 2.4G TX Device
- Optional Wireless N2K data TX device

TOUCH SCREEN OPERATION SIMILAR TO SMARTPHONE



TS19



HIMUNICATION

VHF Handheld Maritime Radio

HM130 Cost-effective Handheld VHF Maritime Radio

SPECIAL FEATURES

- Ultra-long Standby Time
- Best Choice for sailing race
- Switchable Power
- Waterproof IPX8
- Float and Flash



HM130

INCLUDED IN THE BOX

- HM130 VHF Maritime Radio
- 12V Adapter
- Li-Polymer Battery (1200mAh)
- Hi Gain Flexible Antenna
- Charging Cradle
- Wrist Strap
- Instruction Manual
- Optional Ear-Piece Mic
- Optional Cigarette Lighter Socket
- Optional 12V USB Charging Cable

HM160 Perfect Middle End VHF Maritime Radio

SPECIAL FEATURES

- Waterproof IPX8
- Float and Flash
- Private Channel Facility
- 5/1 watt Switchable Power
- Dual and Tri Watch
- Large&Bright LCD Screen



HM160

INCLUDED IN THE BOX

- HM160 VHF Maritime Radio
- Integrated 7.4V 1800mAh Li-Polymer Battery
- 9V Adapter
- Detachable Antenna
- Wrist Strap
- Belt Clip
- Instruction Manual
- Optional Cigarette Lighter Socket
- Optional 12V USB Charging Cable

HM360 DSC Built in GPS VHF Maritime Radio

SPECIAL FEATURES

- Waterproof IPX8
- Built-in DSC for Handheld
- Floats&Flashes
- MOB Alert
- Large&Bright LCD Screen
- On-screen Speed Display
- COG&SOG
- Integrated GNSS Receiver



DSC & GPS
HM360

INCLUDED IN THE BOX

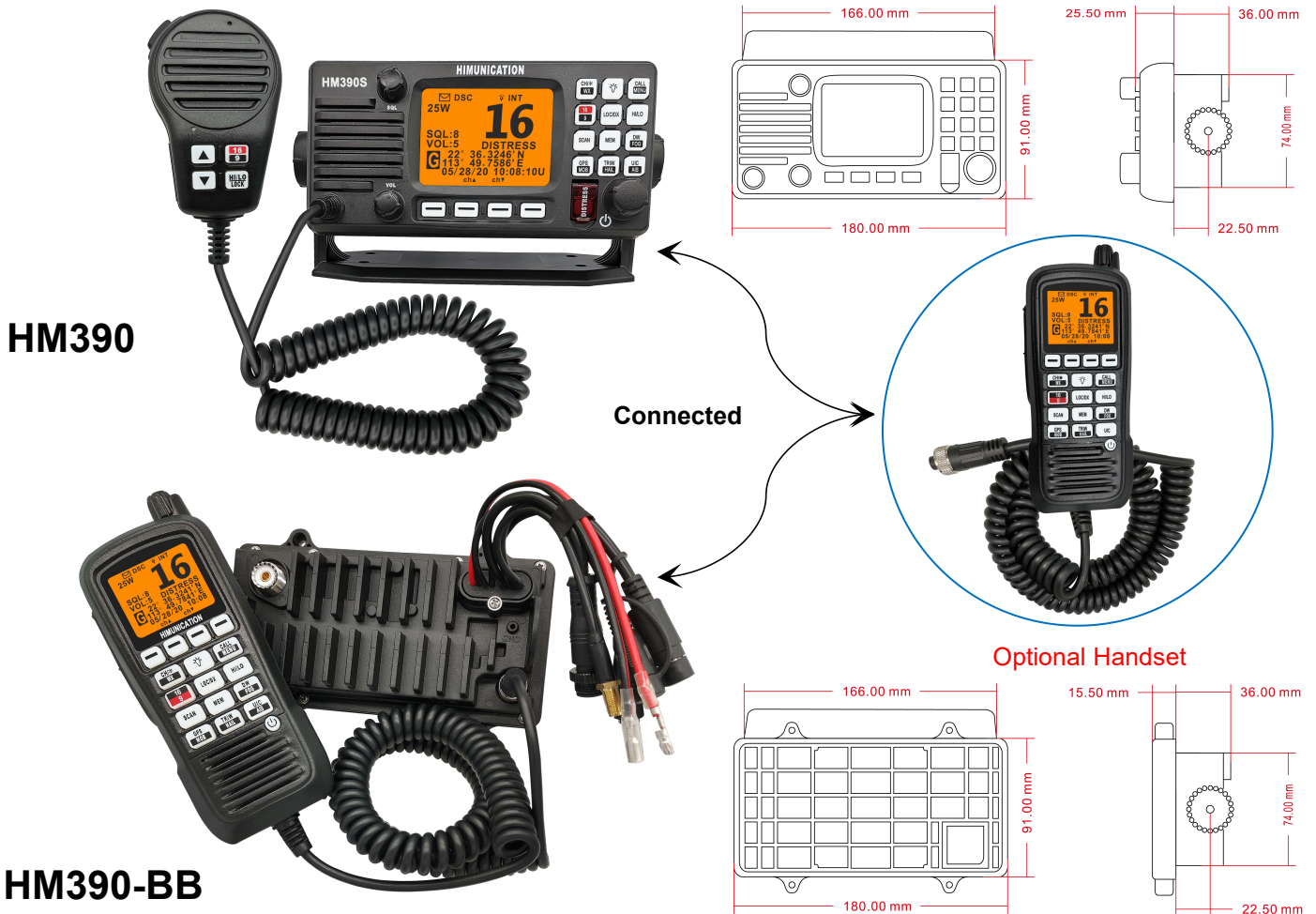
- HM360 VHF Maritime Radio
- Integrated 7.4V 1800mAh Li-Polymer Battery
- 9V Adapter
- Detachable Antenna
- Wrist Strap
- Belt Clip
- Instruction Manual
- Optional Cigarette Lighter Socket
- Optional 12V USB Charging Cable

HIMUNICATION

VHF Fixed Maritime Radio

HM390 Series Ultrathin Fixed VHF Maritime Radio with GPS Receiver

Model	NMEA2000	NMEA0183	AIS	DSC
HM390 / HM390-BB	-	•	-	•
HM390C / HM390C-BB	•	•	-	•
HM390S / HM390S-BB	•	•	•	•
HM390 Non DSC / HM390-BBN	-	•	-	-



SPECIAL FEATURES

- Slim model
- Waterproof IPX8
- Large Backlit Display
- FOG-Anchor Alarm
- Integrated GNSS Receiver
- AIS MOB (EPIRB&SART AIS) Compatibility (HM390S/HM390S-BB)
- TCPA&CPA Alarms
- Dual&Tri Watch modes
- Optional Second Handset 7-Pins Plug
- Function Key Below LCD Screen For Easy of Use
- 25/1 Watt Switchable Power
- Programmable ATIS
- Built-in Class "D" DSC
- Loud and Clear Audio, with hailer, external and Inner speaker
- Two Potentiometers to Control VOL and SQL
- NMEA 0183 and NMEA 2000 Compatible
- International, US & Canada marine Channel

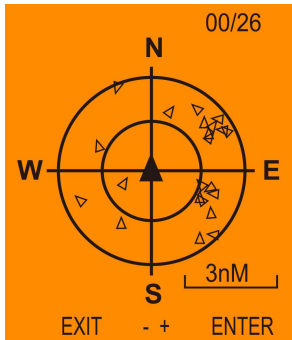
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Advanced Fixed Mount VHF with AIS Receiver and NMEA 2000 Connectivity

AIS

Integrated AIS Receiver

The AIS target call function allows you to easily set up a DSC individual call.



AIS plotter display

NMEA 2000

NMEA 2000 Connectivity

With the plug-and-play functionality of NMEA 2000, the HM390 Series can easily connect to a NMEA 2000 network. The HM390 Series can receive and transmit GPS (position, course (COG) and speed (SOG), AIS report and DSC call information data and transmit radio frequency and PGN list data on the network. Using this function, the HM390 Series can convert NMEA 0183 GPS data to NMEA 2000 data for other equipment.

LCD

Intuitive Menu-Driven User Interface

The intuitive software key function provides simple and quick operation to control various functions of HM390 series. Dot matrix display, software key functions that can be switched by buttons.

DSC

ITU Class D DSC (Meets ITU-R M493-14)

The built-in DSC watch function monitors Ch.70 (DSC).

MUTE

MUTE Feature for Internal Speaker

When the crew is resting inside, you can operate only the external speaker by turning ON the MUTE feature. The internal speaker will have no sound when the MUTE feature works normally, so as not to disturb the crew to rest.

This feature is enabled or disabled in the VHF menu.

HAILER

30W Two-Way Hailer

When connected to an external hailer horn, you can talk to people on the deck or shore from the radio's microphone and can hear people's reply via the hailer speaker. The RX hailer function allows you to monitor the received audio from the hailer horn, 30W amplifier increases your talk power making your communication loud and clear.

HORN

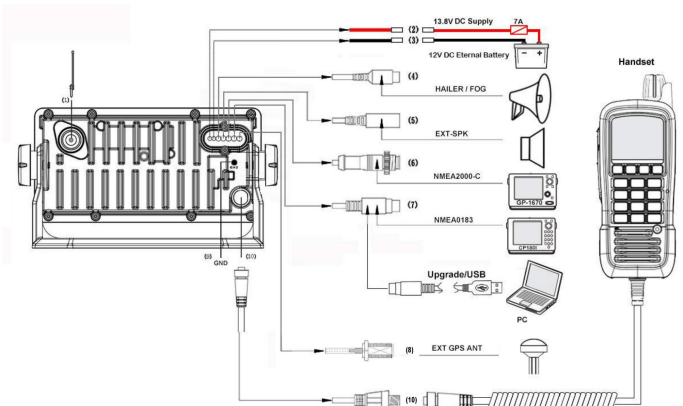
Built-in Horn (Automatic & Manual)

Foghorn feature is built-in via the external Hailer horn.

HAND SET

Optional Handset

Optional Handset The connector is drawn from the rear panel and a 3m microphone extension cable (Optional 6m/12m microphone extension cable) is supplied to allow you clean and neat panel installation.











HIMUNICATION

PORTABLE VHF ACCESSOR







	BATTERY			DESKTOP CHARGERS		BATTERY CHARGER	
Model	BT19	BT360 Built-in	BT130	BC19	BT130	AC130	AC360
Name	Li-ion Battery (2200 mAh)	Li-ion Battery (1800 mAh)	Li-ion Battery (1200 mAh)	12V-1A	12V-1A	12V-1A	9V-1A
							
TS19	√			√		√	
HM360		√					√
HM160		√					√
HM130			√		√	√	

Remarks: VHF Handheld Accessories






	CIGARETTE LIGHTER CABLES & USB CABLES				EARPHONE	UPGRADE LINE		
Model	DC1212	DC1209	DC512	DC509	HS130	PC360	PC800	PC130
Name	Cigarette Lighter Socket 12V-1A	Cigarette Lighter Socket 9V-1A	USB socket 12V-1A	USB socket 9V-1A	INPUT 12V-1A	7pin plug	Mini USB	DC plug
								
TS19	√		√		√			√
HM360		√		√		√		
HM160		√		√		√	√ (GX800)	
HM130	√		√		√			√

Remarks: VHF Handheld Accessories Options




Fixed Mount VHF Radio ACCESSOR

	Fixed Mount VHF Radio Optional HI-MIC Series Handset					
Model Name	HS20 Wired Handset	HS20+ Wired Handset	HS20W Wireless Handset	HST20 Wired Handset	HST20+ Wired Handset	HST20W Wireless Handset
						
HM390 and HM390-BB Series	√	√	√			
TS18 and TS18-BB Series				√	√	√

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	HORN SPEAKER		Access Point / GPS Antenna		
Model Name	SP205 132mm Round PA/hailing horn 20W 4 Ohm 	SP408 120 x 200mm Rectangular PA/hailing horn 40W 4 Ohm 	ANTGPS10 External GPS Antenna WITH 10m of Cable 	ANTGPS20 GPS Antenna WITH 5m of Cable 	ANTGPS30 Smart GPS WITH 5m of Cable 
HM390 and HM390-BB Series	√	√	√	√	√
TS18 and TS18-BB Series	√	√	√	√	√

	Y CABLE	EXTENSION CORD			HAILER / FOG CABLE	NMEA0183 CABLE	POWER CABLE	UPGRADE CABLE
Model Name	EC03 	EC06 	EC12 	EC001 	EC002 	EC003 	BW390 	PC390 
HM390 and HM390-BB Series	√	√	√	√	√ (Accessories included)	√ (Accessories included)	√ (Accessories included)	√
TS18 and TS18-BB Series	√	√	√	√	√ (Accessories included)	√ (Accessories included)	√ (Accessories included)	√

	FLUSH MOUNT KITS	DATA TX DEVICE	
Model Name	FMK390 	DA30 Big fish Wireless N2K data TX device 	DA10 Small fish 2.4G TX Plug 
HM390 and HM390-BB Series	√		
TS18 and TS18-BB Series	√	√	√

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HANDHELD VHF SPECIFICATION

MODEL	TS19	HM360 / HM360 PLUS	HM160 / HM160 PLUS	HM130
GENERAL				
Frequency Range	156.025 To 157.425(Tx) 156.025 To 163.275(Rx)	156.025 To 157.425(Tx) 156.025 To 163.275(Rx)	156.025 To 157.425(Tx) 156.025 To 163.275(Rx)	156.025 To 157.425(Tx) 156.025 To 163.275(Rx)
Battery type / Capacity	Li-Ion 2200mAh	Lithium Polymer 1800mAh(Built-in)	Lithium Polymer 1800mAh(Built-in)	Li-Ion 1200mAh
Input Voltage	7.4 V DC	7.4 V DC / 3.7 V DC	7.4 V DC / 3.7 V DC	7.4 V DC
Current Drain	Standby:150 mA Receiver Max audio :0.9A Transmit:1.8A/1.5A/1.0A (Hi / Mid / Low)	Standby:120 mA Receiver Max audio :0.38A Transmit:1.5A/0.9A (Hi / Low) PLUS Transmit:2.7A/1.5A (Hi / Low)	Standby:60 mA Receiver Max audio :0.3A Transmit:1.5A/0.9A (Hi / Low) PLUS Transmit:2.7A /1.5A (Hi/Low)	Standby:50 mA Receiver Max audio :0.28A Transmit:1.4A/0.9A (Hi / Low)
Flush-Mount Dimensions	145×70×40mm	138.8×60×39.5mm	138.8×60×39.5mm	128×59×33mm
Weight	355g	315g	314g	241g
TRANSMITTER				
RF Output	6W (H),3W(M),1W(L)	5W (H),1W(L) / 6W (H),3W(M),1W(L)	5W (H),1W(L) / 6W (H),3W(M),1W(L)	5W (H),1W(L)
Spurious Emissions	≤-36dBm	≤-36dBm	≤-36dBm	≤-36dBm
Frequency Stability	±5 ppm (-20℃ to +60℃)	±5 ppm (-20℃ to +60℃)	±5 ppm (-20℃ to +60℃)	±5 ppm (-20℃ to +60℃)
Adjacent channel power	≥ 70 dB	≥ 70 dB	≥ 70 dB	≥ 70 dB
FM Hum and Noise	≥ 40 dB	≥ 40 dB	≥ 40 dB	≥ 40 dB
RECEIVER(For Voice and DSC)				
Sensitivity(12 dB SINAD)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) -	≤ -119dBm(For Voice) -
Adjacent channel selectivity	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice)	≥ 70 dB(For Voice)
Spurious response	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice)	≥ 70 dB(For Voice)
Intermodulation rejection ratio	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice)	≥ 68 dB(For Voice)
Hum and Noise	≥ 40 dB	≥ 40 dB	≥ 40 dB	≥ 40 dB

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Audio Output	≥ 700mW	≥ 700mW	≥ 700mW	≥ 700mW
DSC Format	Class H ITU-R M.493-14	Class H ITU-R M.493-14	-	-
2.4G				
RF Output	17 dBm	-		
GPS				
Channels	66 channels	66 channels	-	-
Sensitivity	Less than-147 dBm	Less than-147 dBm	-	-
Time to First Fix	1 min Typical(@Cold Start) 5 sec Typical(@Hot Start)	1 min Typical(@Cold Start) 5 sec Typical(@Hot Start)	-	-
Geodetic Datum SBAS Correction	WGS84 WAAS,EGNOS,MSAS and GAGAN	WGS84 WAAS,EGNOS,MSAS and GAGAN	-	-

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FIXED MOUNT VHF AND LOUD HAILER SPECIFICATION

Fixed Mount VHF Radios				
MODEL	HM390S / HM390S-BB	HM390C / HM390C-BB	HM390 / HM390-BB	HM390 Non DSC / HM390-BBN
GENERAL				
Frequency Range	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz CH 70:156.525MHz AIS1:161.975MHz AIS2:162.025MHz	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz CH 70:156.525MHz	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz CH 70:156.525MHz	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz
Input Voltage	13.8 V DC (10.8V - 15.6V)	13.8 V DC (10.8V - 15.6V)	13.8 V DC (10.8V - 15.6V)	13.8 V DC (10.8V - 15.6V)
Current Drain	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)
VHF FIXED Dimensions	HM390S: 180×91×61.5mm	HM390C: 180×91×61.5mm	HM390: 180×91×61.5mm	HM390 Non DSC: 180×91×61.5mm
	HM390S-BB: 180×91×51.5mm	HM390C-BB: 180×91×51.5mm	HM390-BB: 180×91×51.5mm	HM390-BBN: 180×91×51.5mm
VHF Handheld Dimensions	HM390S-BB Handheld: 155×63×31mm	HM390C-BB Handheld: 155×63×31mm	HM390-BB Handheld: 155×63×31mm	HM390-BBN Handheld: 155×63×31mm
Weight	HM390S:1000g	HM390C:983g	HM390:970g	HM390 Non DSC:970g
	HM390S-BB:1108g	HM390C-BB:1091g	HM390-BB:1078g	HM390-BBN:1078g
TRANSMITTER				
RF Output	25W (Hi),1W(Lo)	25W (Hi),1W(Lo)	25W (Hi),1W(Lo)	25W (Hi),1W(Lo)
Conducted Spurious Emissions	≤ -36dBm	≤ -36dBm	≤ -36dBm	≤ -36dBm
Frequency Stability	±5 ppm (-20°C to +60°C)	±5 ppm (-20°C to +60°C)	±5 ppm (-20°C to +60°C)	±5 ppm (-20°C to +60°C)
FM Hum and Noise	≥ 40 dB	≥ 40 dB	≥ 40 dB	≥ 40 dB
RECEIVER(For Voice and DSC)				
Sensitivity(12 dB SINAD)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) -

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Adjacent channel selectivity	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice)
Spurious response	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice)
Intermodulation rejection ratio	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice)
Hum and Noise	≥ 40 dB	≥ 40 dB	≥ 40 dB	≥ 40 dB
External Audio Output	≥ 5W	≥ 5W	≥ 5W	≥ 5W
DSC Format	Class D ITU-R M.493-14	Class D ITU-R M.493-14	Class D ITU-R M.493-14	-
Hailer				
Hailer/FOG Power Output	30 W	30 W	30 W	30 W
RECEIVER(for AIS)				
Sensitivity	≤ -119dBm	≤ -119dBm	≤ -119dBm	≤ -119dBm
Spurious and Image Rejection	≥ 70 dB	≥ 70 dB	≥ 70 dB	≥ 70 dB
NMEA Input/Output				
NMEA2000	Compatible	Compatible	-	-
NMEA0183 Baud Selected (4800 bps 9600 bps 19200 bps 38400 bps 57600 bps 115200 bps)	Input:RMC and GSV Output:DSC,DSE,RMC and GSV AIS Output:VDM (38400 bps)	Input:RMC and GSV Output:DSC,DSE,RMC and GSV	Input:RMC and GSV Output:DSC,DSE,RMC and GSV	Input:RMC and GSV Output:RMC and GSV
AIS Receiver	Built-in	-	-	-
GPS Receiver	Built-in	Built-in	Built-in	Built-in

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MODEL	TS18S / TS18S-BB	TS18-BB / TS18-BB	TS18 Non DSC / TS18-BBN
GENERAL			
Frequency Range	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz CH 70: 156.525MHz AIS1: 161.975MHz AIS2: 162.025MHz	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz CH 70: 156.525MHz	Tx:156.000 - 161.600MHz Rx:156.000 - 163.425 MHz CH 70: 156.525MHz
Input Voltage	13.8 V DC (10.8V - 15.6V)	13.8 V DC (10.8V - 15.6V)	13.8 V DC (10.8V - 15.6V)
Current Drain	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)	Standby:0.50 A Receiver Max audio :0.9A Transmit: 5.0A(Hi),1.0A(Lo)
VHF FIXED Dimensions	TS18S: 180×91×56.5mm	TS18: 180×91×56.5mm	TS18 Non DSC: 180×91×56.5mm
	TS18S-BB: 180×91×58.5mm	TS18-BB: 180×91×58.5mm	TS18-BBN: 180×91×58.5mm
VHF Handheld Dimensions	TS18S-BB: 145×70×40mm	TS18-BB: 145×70×40mm	TS18-BBN: 145×70×40mm
Weight	TS18S:925g	TS18:908g	TS18 Non DSC:908g
	TS18S-BB:1195g	TS18-BB:1178g	TS18-BBN:1178g
TRANSMITTER			
RF Output	25W (Hi),1W(Lo)	25W (Hi),1W(Lo)	25W (Hi),1W(Lo)
Conducted Spurious Emissions	≤ -36dBm	≤ -36dBm	≤ -36dBm
Frequency Stability	±5 ppm (-20°C to +60°C)	±5 ppm (-20°C to +60°C)	±5 ppm (-20°C to +60°C)
FM Hum and Noise	≥ 40 dB	≥ 40 dB	≥ 40 dB
RECEIVER(For Voice and DSC)			
Sensitivity(12 dB SINAD)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) ≤ -118dBm(For DSC)	≤ -119dBm(For Voice) -
Adjacent channel selectivity	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice)
Spurious response	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice and DSC)	≥ 70 dB(For Voice)
Intermodulation rejection ratio	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice and DSC)	≥ 68 dB(For Voice)

HIMUNICATION

Hum and Noise	≥ 40 dB	≥ 40 dB	≥ 40 dB
External Audio Output	≥ 5W	≥ 5W	≥ 5W
DSC Format	Class D ITU-R M.493-14	Class D ITU-R M.493-14	
Hailer			
Hailer/FOG Power Output	30 W	30 W	30 W
RECEIVER(for AIS)			
Sensitivity	≤ -119dBm	≤ -119dBm	≤ -119dBm
Spurious and Image Rejection	≥ 70 dB	≥ 70 dB	≥ 70 dB
NMEA Input/Output			
NMEA2000	Compatible	-	-
NMEA0183 Baud Selected (4800 bps 9600 bps 19200 bps 38400 bps 57600 bps 115200 bps)	Input:RMC and GSV Output:DSC,DSE,RMC and GSV AIS Output:VDM (38400 bps)	Input:RMC and GSV Output:DSC,DSE,RMC and GSV	Input:RMC and GSV Output:RMC and GSV
AIS Receiver	Built-in	Built-in	-
GPS Receiver	Built-in	Built-in	Built-in