



RS35 Fixed Mount VHF Radio



HS35 Wireless Handset



Unique Sales Proposition

- Full Featured VHF with expansion options – suitable for any user.
- Simrad Tough. Quality and performance you'd expect.
- Added Value with built in AIS receiver – one antenna required.
- Sophisticated Wireless Handset with unique inductive charging.
- Easy to use – large screen packed with info, proven rotary controls

Key Selling Features

- Large 57mm diameter speaker for loud & clear audio
 - 94dBA @ 1m
- High quality fist mic:
 - In-built speaker for noisy environments
 - 6 keys for easy helm operation
 - Easy grip rubber over moulding
- Advanced radio features including AIS plot, waypoints, navigation and MOB features
- Track Your Buddy when connected to a Navico MFD
- PA/Hailer Horn output with Listen back feature
- Flush mount kit & sun cover included as standard

Main Features-RS35

57mm speaker for deep, clear audio, 94dBA @ 1m

Classic Simrad angled speaker grill

Dual channel AIS receive built in, view AIS Equipped vessels in range on the LCD and output to MFD with NMEA2000 & NMEA0183

128 x 256 pixel LCD FSTN – 1.3" x 2.6"
Twice the resolution of its nearest competitor

Dedicated Volume knob with rubber overmoulding

Class-D DSC

Dedicated Squelch knob

MOB function on VHF

Dedicated Weather Key for USA models, programmable to any channel for EU models

Selectable Dual and TriWatch modes

Intercom/Hailer/Fog functionality

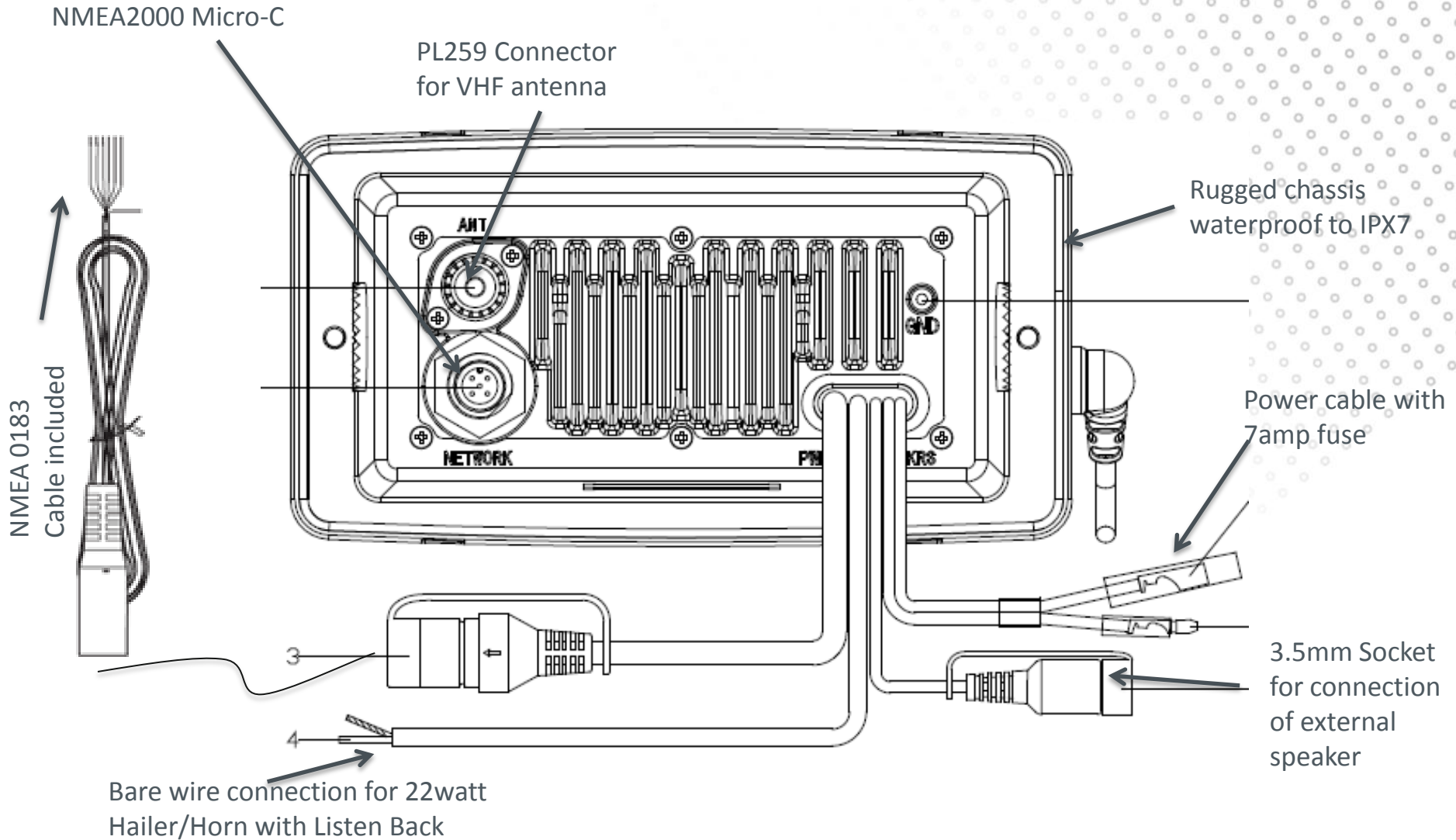
Style matched to Simrad MFD's

Rugged chassis waterproof to IPX7

The same classic rotary key from Simrad NSE/NSS/NSO MFD's



Main Features-RS35



Main Features-HS35



VHF features and functionality

- All International, CANADA, USA Channels
- 10 weather channel with 1050hz alert tone detect (for US)
- Selectable 25/1-watt Transmit Power (conduct)
- Support Private channels (able to vary by dealer at site by clone s/w)
- PLL Controlled Circuitry
- 2nd Receiver for CH70
- NMEA0183 IN for GPS function
- NMEA0183 OUT for AIS Distress + polling calls function
- NMEA 2000 Interface for quick and easy DSC/AIS Connection to MFD.
- Update radio software over N2K via Navico MFD
- 4 Watt external speaker output
- Additional speaker in fist mic
- Auto / manual FOG
- ATIS Function (for EU)
- Local / Distant function
- Dual Watch/TRI Watch Function
- Memory Retention
- 20 user Programmable names with MMSI
- All Channel Priority Scan
- Memory Channel Scan
- Water Resistance – JIS 7
- GPS Input for Automatic Time and Position Update



AIS features and functionality

- Dual AIS receiver
 - Receiver Frequency: 161.975MHz, 162.025MHz
- PLL Controlled Circuitry
- Supporting AIS Information:
 - Vessel Name
 - Type of vessel
 - Call sign
 - MMSI number
 - IMO number
 - Draft/Size of vessel
 - Vessel position
 - SOG/COG/Rate of turn/Heading
 - Status/Destination/ETA
- NMEA0183HS Output (38400 Baud)
- GPS Input Interface
- RS232 and RS422 output
- AIS PPI on LCD (Plot)



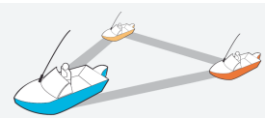
Handset features and functionality

- 2 Handsets can be connected to a RS35.
- Inductive charging, no contacts to corrode
- AIS Vessel information on LCD
- 2.4GHz DSSS wireless technology
- Add up to 2 Handsets
- Handset operable up to 100m from base, so potentially up to 200m handset to handset
- Squelch Adjustable
- Volume control by up/down key
- Backlight Adjustable
- INTERCOM function
- Built-in microphone and 0.5W speaker
- 3.7V 830mAh Li-Polymer Battery
- Battery Life: 8 hours



Three Station Intercom and Hailer with Talkback





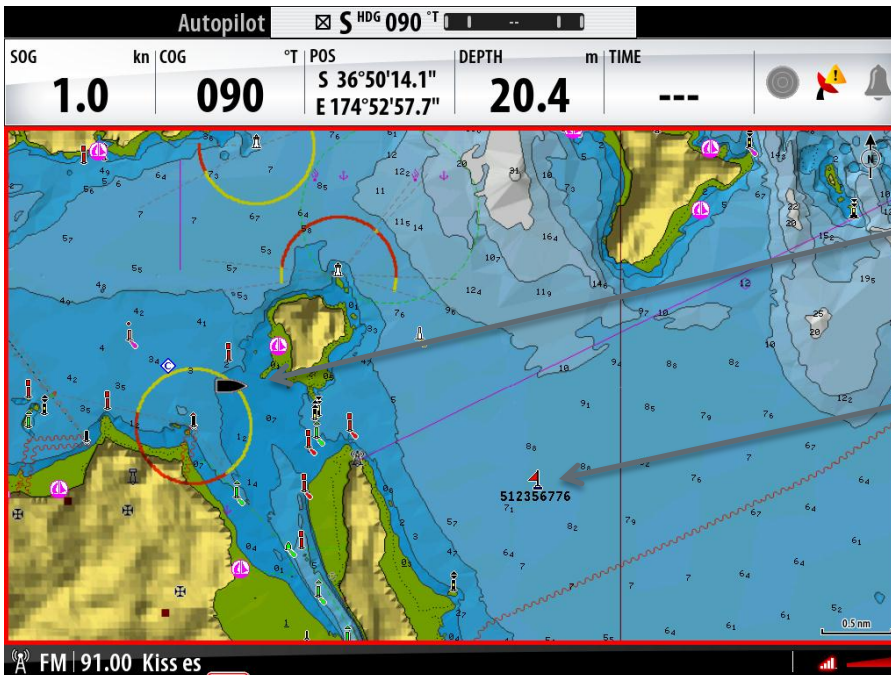
Track Your Buddy

This exclusive RS35 VHF function is for safety, teamwork, convenience, and even just for fun.

It's a great feature that allows you to connect your VHF DSC position polling with chartplotter to show the location of up to three boating friends on the chart display.

It's also easy to set up: You need a Simrad RS35 fixed mount VHF, the MMSI number of your buddies' VHF DSC radios and a Simrad NSS/NSE/NSO GPS chartplotter. Your VHF will regularly poll your buddies' positions, and the chartplotter will regularly update their locations by MMSI number on your screen.

Track-Your-Buddy is a truly great aid in locational awareness of your friends in a group boating excursion.



Your own vessel position

Buddy Position shown on chart as waypoint that can then be used to navigate

Track Your Buddy Shown on NSE12

Warranty & Support

**ADVANTAGE:
SERVICE BEYOND
THE STANDARD.**



- 2 Year warranty
- 2 Year's on board warranty*
- A further 3 years advantage service
- Total 5 years of guaranteed service

* Systems under warranty and valued over \$2,500 USD qualify for OnBoard Advantage when they have been installed or certified by a Certified Dealer, or Navico-authorized factory. Select limits apply to labour and travel related costs as detailed by the program guidelines

Navico VHF Antenna's

Our innovative VHF antennas come in two interchangeable parts for installation ease and flexibility.

The cable is hardwired to the mount, so the antenna can be removed or replaced whenever necessary without pulling or cutting the cable. Ordinary antennas have the cable hard wired to the antenna, meaning the cable has to be pulled out or cut if the antenna is removed.

Our fast-fit cable connector allows for a smaller hole to be cut through bulkheads and easier cable installation.

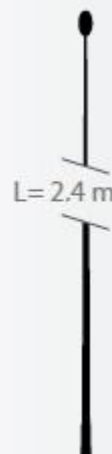
Both stainless steel and nylon mounts can be used with 2.4m and 1m fiberglass antennas,

Masthead SS Antenna



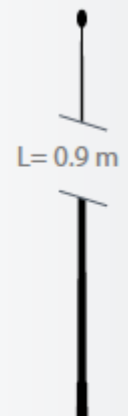
30 metres Cable

Whip Antenna



Antenna mount Stainless Steel
Stainless Steel 4-way adjustable
antenna mount.

Plastic Whip Antenna



Antenna Mount Heavy Duty Nylon
White plastic 4-way adjustable
antenna mount.

Technical Specifications Cont..

RECEIVER	Unit	LIMIT
Intermediate Frequency : 1st	MHz	21.4
: 2nd	KHz	450
Sensitivity: 12dB SINAD	dBuV (EMF)	≤-6 (EMF)
Squelch Sensitivity : at tight	dBuV (EMF)	≤6 (EMF)
Spurious Response Rejection Ratio	dB	≥70
Adjacent Channel Selectivity	dB	≥70
Intermodulation Response	dB	≥68
S/N at 3KHz Dev.	dB	≥40
Audio Output Power At THD 10%	W	≥2
Audio Distortion	%	≤10
Audio Response	dB	+1 to -3dB of 6dB/octave from 300Hz to 3kHz
Current Drain At : Max Audio Power	A	≤1.5
: Stand-By	A	≤0.25
: Hailer Power	A	≤3.5



Technical Specifications Cont..

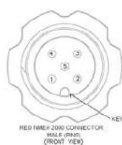
TRANSMITTER	Unit	Limit
Frequency error	KHz	<±1.5
RF Power : Hi	W	23 ± 2
: Lo	W	0.8 ± 0.2
Maximum Deviation	KHz	≤±5
S/N at 3KHz Dev.	dB	≥40
Modulation Distortion ±3KHz	%	≤7
Audio Response at 1KHz Dev.	dB	+1 to -3dB of 6dB/octave range from 300hz to 3khz
Spurious/Harmonic Emissions : Hi/LO	uW	≤0.25
Modulation Sensitivity	mV	≤10
Current Drain At 13.6V DC : Hi Power	A	≤6
: Lo Power	A	≤1.5



Communications-NMEA2000

NMEA2000 PGNS

- 127250 Vessel Heading
- 127258 Magnetic Variation
- 129025 Position, Rapid Update
- 129026 COG & SOG, Rapid Update
- 129029 GNSS Position Data
- 129033 Time & Date
- 129283 Cross Track Error
- 129284 Navigation Data
- 129285 Navigation Route/WP Information
- 129799 Radio Frequency/Mode/Power
- 129808 DSC Call Information
- 130074 Route and WP Service - WP List - WP Name & Position



NMEA2000 PGNS

- 129038: Class A position report (Rx,Tx)
- 129039: Class B position report (Rx,Tx)
- 129040: Class B extended position report (Rx, Tx)
- 129792: DGNSS Broadcast binary message (Tx)
- 129793: UTC and date report (Tx)
- 129794: Class A static and voyage related data (rx, tx)
- 129795: Addressed binary message (tx)
- 129796: Acknowledge (tx)
- 129797: Binary broadcast message (tx)
- 129798: SAR Aircraft Position report (tx)
- 129800: UTC/Date enquiry (tx)
- 129801: Addressed safety msg (rx,tx)
- 129802: Broadcast safety msg (rx,tx)
- 129803: Interrogation (tx)
- 129804: Assignment Mode Command (tx)
- 129805: Data Link Management message (tx)

Pin / Socket	Wire Color	Function (NMEA2000)
1	Green	Can-D, Drain wire, Shield
2	Red	Can-S, Power, +12 V DC
3	Black	Can-C, Ground
4	White	Can-H, Data HIGH
5	Blue	Can-L, Data LOW

Communications-NMEA0183

NMEA0183 Sentences

- Receive:
GLL, RMC and VTG for GPS position
- Send:
DSC, DSE for Distress Call or Position
Acknowledgement received
AIVDM for AIS message received @ AIS
data output port

Example RAW AIVDM Message;

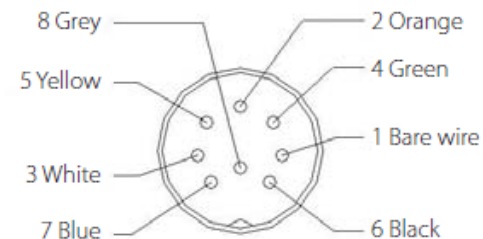
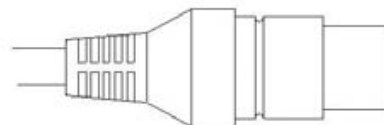
!AIVDM,1,1,,A,13u?etPv2;0n:dDPwUM1U1Cb069D,0*24

Decoded;

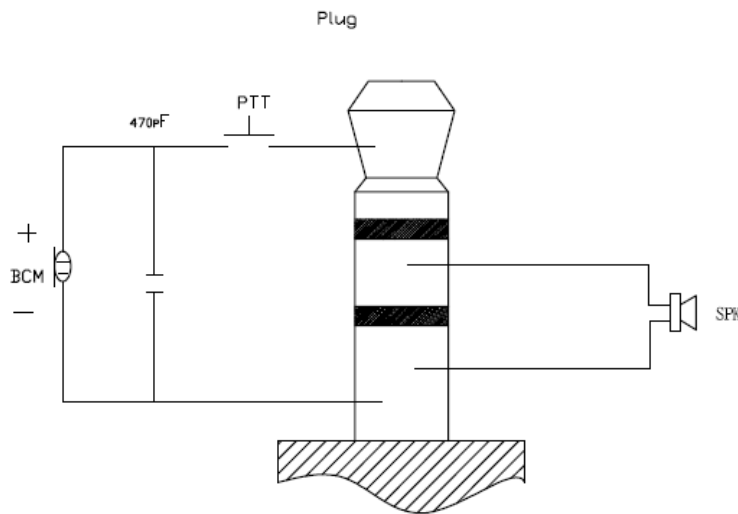
Message sent (UTC) : 17:21:53
MMSI : 265547250
Latitude : 57.660353°
Longitude : 11.832977°
Speed : 13.9 knots Heading : 41°
Course over ground : 40°
Rate of turn : -2° /min
Navigational status: 0

Wiring for GPS/COM connector

Pin	Wire	Function	Notes
1	Red	No connection	(Not used)
2	Orange	NMEA OUT (+)	(To GPS)
3	White	Program/clone	(Not used)
4	Green	NMEA IN (-)	(From GPS)
5	Yellow	NMEA IN (+)	(From GPS)
6	Black	NMEA OUT (-)	(Ground)
7	Blue	No connection	(Not used)
8	Grey	No connection	(Not used)



Headset Jack Details (HS35)



Speaker impedance
32 ohm (Earphone)

AIS 101

About AIS

The marine Automatic Identification System (AIS) is a location and vessel information reporting system. It allows vessels equipped with AIS to automatically and dynamically share and regularly update their position, speed, course and other information such as vessel identity with similarly equipped vessels. Position is derived from the Global Positioning System (GPS) and communication between vessels is by Very High Frequency (VHF) digital transmissions. There are a number of types of AIS device as follows:

Class A transceivers.

These are similar to class B transceivers, but they are designed to be fitted on large vessels such as cargo ships and large passenger vessels. Class A transceivers transmit at a higher VHF signal power than class B transceivers and therefore can be received by more distant vessels, and also transmit more frequently. Class A transceivers are mandatory on all vessels over 300 gross tonnes on international voyages and certain types of passenger vessels under the SOLAS regulations.

Class B transceivers.

Similar to class A transceivers in many ways, but are normally lower cost due to the less stringent performance requirements. Class B transceivers transmit at a lower power and at a lower reporting rate than class A transceivers.

AIS base stations.

AIS base stations are used by Vessel Traffic Systems to monitor and control the transmissions of AIS transceivers.

Aids to Navigation

(AtoN) transceivers. AtoNs are transceivers mounted on buoys or other hazards to shipping which transmit details of their location to the surrounding vessels.

AIS receivers.

AIS receivers will generally receive transmissions from class A transceivers, class B transceivers, AtoNs and AIS base stations but do not transmit any information about the vessel on which they are installed.

RS35 is also an AIS Receiver

AIS 101 Cont.

Static and dynamic vessel data

There are two categories of information transmitted by an AIS transceiver: static and dynamic data.

The vessel's dynamic data, which includes location, speed over ground (SOG) and course over ground (COG), is calculated automatically using the installed AIS antenna.

Static data is information about the vessel which must be programmed into the AIS transceiver. This includes:

- Maritime Mobile Service Identity (MMSI)
- Vessel name
- Vessel call sign (if available)
- Vessel type
- Vessel dimensions

In most countries the operation of an AIS transceiver is included under the vessel's marine VHF licence provisions.

The vessel on to which the AIS unit is to be installed must therefore possess a current VHF radiotelephone licence which lists the AIS system, vessel Call Sign and MMSI number.