

Raytheon

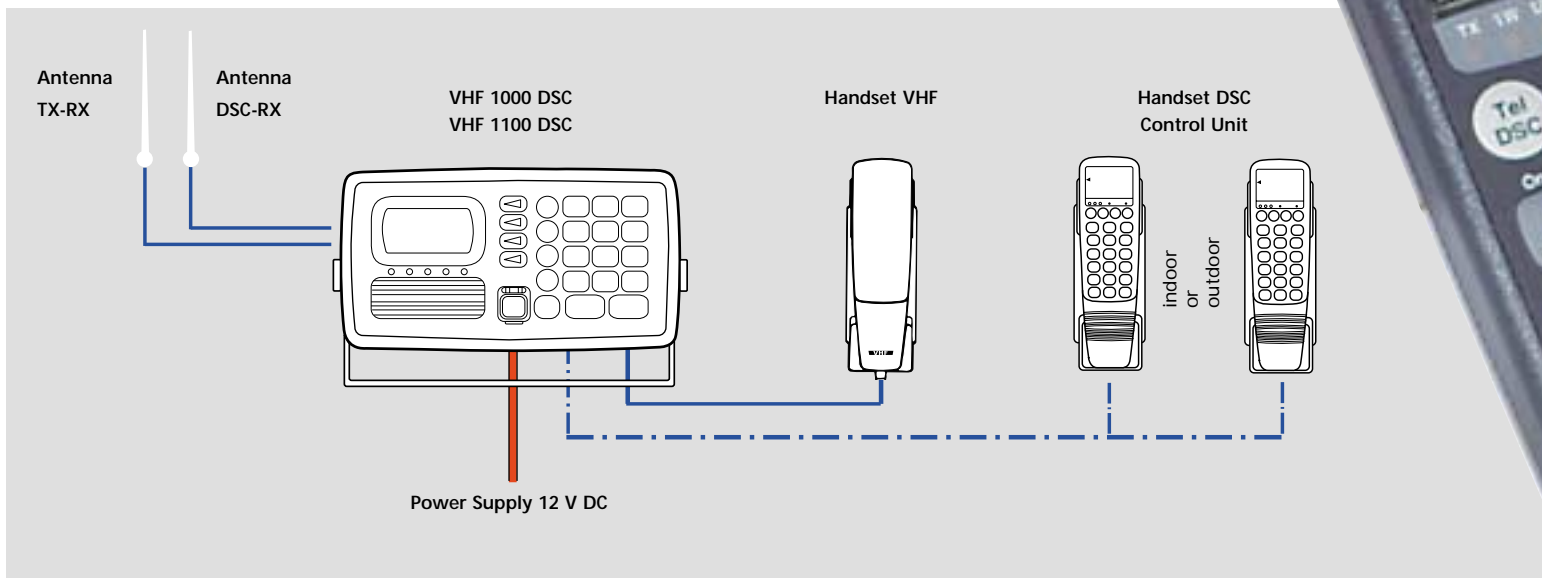
*Reply for a better
Conversation*

VHF RADIOTELEPHONES

VHF 1000 DSC
for GMDSS simplex
with built-in DSC

VHF 1100 DSC
for GMDSS VHF duplex
with built-in DSC





The Raytheon Radiotelephones VHF 1000 DSC and VHF 1100 DSC are the new VHF radios for merchant vessels, and professional users. Both units fulfil the latest requirements for VHF and DSC (digital selective calling function) Class B, and are thus ideal for safe communication.

The Raytheon VHF 1000 (simplex) is a GMDSS VHF and an advanced DSC unit (Class B) integrated in one compact unit, which is ideal for multi-unit configurations. The integration of the VHF and the DSC functionality thus ensures a simple and logical operation of the mandatory VHF and DSC GMDSS equipment.

The Raytheon VHF 1100 DSC (full duplex) has the same performance as the VHF 1000 DSC but the communication can be done in duplex mode.

For easy installation the control unit is mounted on the compact VHF/DSC transceiver unit which has an output power of 25 W, and thus is able to reach all



VHF stations within approximately 40-50 nautical miles. The VHF includes a SPARC-bus interface. This advanced interface enables the VHF to be remotely operated from handsets placed positions. The distance between the transceiver unit and the handset control unit can be up to 50 m. An external loudspeaker can be connected directly to the handset control unit.

Die Raytheon Radiotelefone VHF 1000 DSC und VHF 1100 DSC sind die neuen VHF-Funkgeräte für Handelsschiffe und professionelle Anwender. Sie erfüllen die neuesten Anforderungen für VHF und DSC (Digital Selective Calling Funktion) Klasse B, und sind somit ideal für sichere Kommunikation.

Das Raytheon VHF 1000 DSC (simplex) besteht aus einem GMDSS VHF und einem ausgereifen DSC Gerät (Klasse B), die in einer kompakten Einheit integriert sind und ist dadurch für den Anschluss mehrerer Handsets ideal.

Die Integration der VHF- und der DSC Funktionalität gewährleistet eine einfache und logische Bedienung für die vorgeschriebene VHF und DSC GMDSS Ausrüstung.

Das Raytheon VHF 1100 DSC (full duplex) erfüllt die gleichen Anforderungen wie das VHF 1000 DSC, ermöglicht jedoch die duplexe Kommunikation.



Um die Installation zu vereinfachen sind die Bedienelemente in die VHF/DSC-Transceivereinheit integriert. Der Transceiver hat eine Ausgangsleistung von 25 W, welche die Kommunikation mit allen VHF-Seefunkstellen im Umkreis von 40 bis 50 Seemeilen sicherstellt.

Das VHF-Gerät hat einen SPARC-bus Anschluss. Diese Schnittstelle ermöglicht eine Fernbedienung über zusätzliche Bedienerhandgeräte von verschiedenen Orten auf dem Schiff. Die Entfernung zwischen dem Transceiver und den zusätzlichen Bedienerhandgeräten kann bis zu 50 m betragen. Ein zusätzlicher, externer Lautsprecher kann direkt am Halter des Bedienerhandgerätes angeschlossen werden.



VHF 1100 DSC

Features

- Integrated VHF/DSC
- Easy operation
- Graphic LCD display
- Full DSC function (Class B)
- NMEA navigator interface
- Acoustic and visual alarms
- Built-in real time clock
- Multi-handset connection via
- SPARC-bus interface
- Intercom with call-ID facility

Merkmale:

- Integriertes VHF/DSC
- Einfache Bedienung
- Grafisches LCD-Display
- Volle DSC-Funktion (Klasse B)
- NMEA Navigatorschnittstelle
- Akustische und optische Alarmer
- Eingebaute Echtzeituhr
- Multihörerverbindung über
- SPARC-Bus Schnittstelle
- Intercom mit Ruf-ID Fähigkeit

Technical Data

General

The Raytheon Radiotelephones VHF 1000 DSC and VHF 1100 DSC for GMDSS conform to all relevant international requirements and resolutions as agreed by ETSI, IEC, ITU, and IMO as well as other national requirements. These specifications include e.g. ETS 300 162, ETS 300 338, IEC 945, IEC 1097-3 and IEC 1097-7. The systems are type approved acc. to MED 96/98/EC.

Normal Channels

All international channels for 25 kHz operation. Up to 40 private channels.

Optional Channels

All international channels for 12.5 kHz operation. Up to 224 channels With up to 54 private channels.

Channel Spacing

25 kHz/ opt.: 12.5 kHz

Frequency Range

150.8 MHz - 163.6 MHz

Operation Modes VHF 1000 DSC

Simplex/ semi-duplex

Operation Modes VHF 1100 DSC

Full duplex

Modulation

G3EJN for telephony receiver
G2B for DSC signalling

DSC Operation

According to Rec. ITU-R M.541- 6 and Rec. ITU-R M.689-2

DSC Protocol

According to Rec. ITU-R M.493-7, class A

Navigator Interface

NMEA 0183, GGA, GLL, ZDA, NMEA Input Current 8 mA type.

Frequency Stability

+/- 10 ppm/opt. +/- 5 ppm

Antenna Connectors

Standard 50 Ohm female, SO239

Temperature Range

-15° C to +55° C

Supply Voltage

13.2 VDC nominal

Supply Range

10.8 VDC to 15.6 VDC

Supply Current

Stand-by 0.14 A
Transmitter on 1.5 A (low power)
Transmitter on 5 A (high power)

Receiver

Sensitivity for 12 dB SINAD

- 119 dBm or 0.25 μ V p.d.

Symbol Error Rate Below $1 \cdot 10^{-2}$ at

- 119 dBm or 0.25 μ V p.d.

AF Rated Power

Output 1 = 4 W/ 4 Ohm
Output 2 = 6 W/ 4 Ohm

Distortion THD

Below 5%

Signal/Noise Ratio

Better than 40 dB

AF Response

-6 dB/octave

Spurious Emission

Below 2nW

Spurious Response Attenuation

More than 70 dB

Intermodulation Attenuation

More than 68 dB

Blocking

More than 90 dB μ V

Co-channel Rejection

Better than -10 dB

Adjacent Channel Selectivity

More than 70 dB

Transmitter

RF Output Power

High: 25 W + 0 dB to -0.5 dB
Low: 0.9 W + 0.5 dB to -1dB

Adjacent Channel Power

Below -70 dBc

Spurious Radiation

Below 0.25 μ W

Cabinet Radiation

Below 0.25 μ W

AF Response

+ 6 dB/octave

Distortion

Below 5%

Signal/Noise Ratio

Better than 40 dB

Modulation

1700 Hz +/- 400 Hz
1200 Baud (+/- 30 ppm)

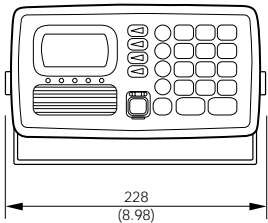
Frequency Error

Below +/-1 Hz

Residual DSC-Modulation

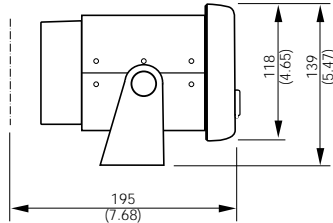
-26 dB

Control Unit VHF 1000 DSC mounting bracket



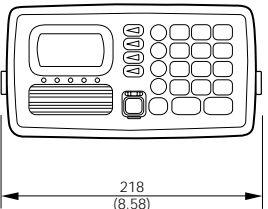
228
(8.98)

Weight 3.2 kg



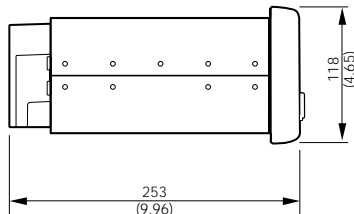
118
(4.65)
139
(5.47)
195
(7.68)

Control Unit VHF 1100 DSC



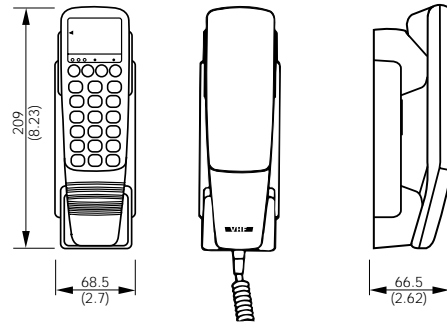
218
(8.58)

Weight 3.9 kg



118
(4.65)
253
(9.96)

Handset



209
(8.23)

68.5
(2.7)

66.5
(2.62)

Weight 0.5 kg incl. holder

Dimensions in mm (inch)

Subject to alteration due to technical developments without notice.

Raytheon Marine GmbH

High Seas Products
D-24100 Kiel
Germany
Tel +49(0)4 31-30 19-0
Fax +49(0)4 31-30 19-291
Email ReceptionDE@raykiel.com
www.raytheon-marine.de

Raytheon

All rights reserved · Printed in Germany
RM 60.002 ed / 1 L+S 0202