

# JRC

# 150W MF/HF RADIOTELEPHONE JSB-196GM



- Simple installation on small ship
- High expandability
- Easy operation
- Digital signal processing (DSP)

**JRC** *Japan Radio Co., Ltd.*



The JSB-196GM MF/HF Radiotelephone is a new generation of economical marine transceiver with high functionality designed to conform to the GMDSS A2 area requirements. The JSB-196GM functions to fully meet the latest regulations for maritime MF/HF communications by connecting the NCT-196 DSC terminal with a built-in watchkeeping receiver.

The radiotelephone system consisting of the JSB-196GM that covers the frequency range of 1.6 to 27.5MHz and the NCT-196 DSC terminal with an internal DSC watchkeeping receiver conforms to the applicable regulations including the IMO performance standard and the national standard.

## FEATURES

- **Simple installation on small ship**

Each equipment is of very compact design for simple installation on small ship. The GMDSS-based system consists of the JSB-196GM MF/HF Radiotelephone, the NCT-196 DSC Terminal and a DC-DC converter. The main unit of the JSB-196GM and the NCT-196 can be integrated as a stacked system and installed in a easy-to-operate place on the bridge.

- **High expandability**

The JSB-196GM can provide the HF E-mail communication capability by connecting a dedicated modem and a general-purpose personal computer.

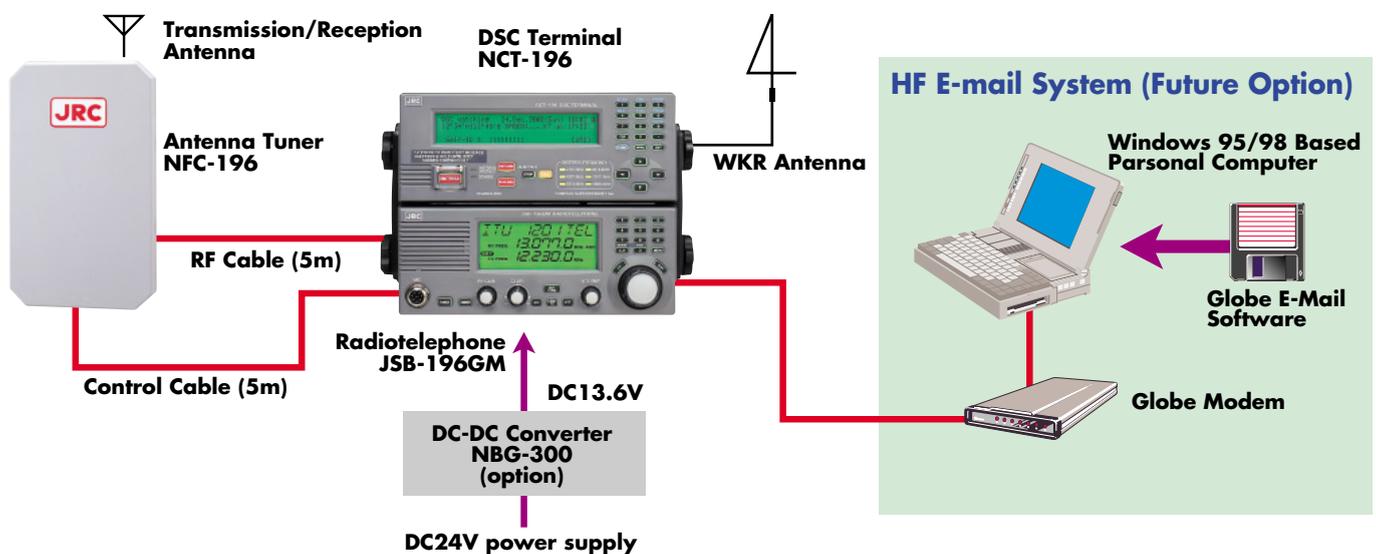
- **Easy operation**

The JSB-196GM is designed for user-friendly operation using a single large control dial for frequency channel selection, mode setting and high/low transmit power switching. The NCT-196 integrates the DSC modem and the watchkeeping receiver in it, enabling operations to fully meet the GMDSS requirements.

- **Digital signal processing (DSP)**

The JSB-196GM radiotelephone uses 32-bit floating point DSP for digital signal processing in and after the IF stage. The DSP technology improves a number of functions including noise reduction and various types of interference rejection, ensuring enhanced performance.

## SYSTEM CONFIGURATION



# SPECIFICATION

## General

frequency range	<b>Transmit:</b> 1.6 to 27.5MHz <b>Receive:</b> 0.1 to 29.9999MHz
Frequency increments	100Hz
Frequency tolerance	±10Hz or better
User definable channels	200ch (20ch x 10 Groups)
Emissions mode	J3E(TEL), F1B(DSC/TLX), A1A(CW), H2B, H3E(AME:reception only)
Preset ITU channels	1722ch (TEL:283, DSC:29, TLX:891, CW:519)
Scanning channel	20 user defined channels
Communication mode	Simplex and semi-duplex
Operating temperature	-15°C to +55°C
Power requirement	13.6VDC±10% (12.3VDC to 15.0VDC), negative-grounded
Compass safe distance	<b>Tx:</b> 40 A max <b>Rx:</b> 2 A max (Operable between 10.2VDC and 16.2VDC)
Dimensions and mass	1.5m 250mm(W) x 100mm(H) x 260mm(D), Approx. 7.4kg

## TRANSMITTER

Output power	100Wpep (1.6 to 4MHz), 150Wpep (4 to 27.5MHz)
Occupied bandwidth	<b>J3E:</b> 3kHz or better <b>F1B, A1A:</b> 0.5kHz or less
Carrier suppression	40dB or better
Spurious suppression	43dB or better
AF frequency response	350 to 2700Hz (6dB bandwidth)
Microphone input	600 Ω(-40dBm standard)
Line input	600 Ω, 0dBm (balanced)

## RECEIVER

Receiving system	Triple superheterodyne
Intermediate frequencies	70.455MHz, 455kHz, 20.217kHz
Sensitivity (SINAD 20dB)	<b>J3E:</b> 6.3μV or better (1.6 to 4MHz) 3.5μV or better (4 to 27.5MHz) <b>F1B:</b> 1.8μV or better (1.6 to 4MHz) 1.0μV or better (4 to 27.5MHz)
Selectivity	<b>J3E:</b> 6dB bandwidth 2.4 to 3kHz, 66dB bandwidth Within±2.1kHz <b>F1B:</b> 6dB bandwidth 270 to 300Hz, 60dB bandwidth Within±550Hz

Spurious response	60dB or better
Clarifier range:	±200Hz in 1Hz steps
AF output	5.0W max. 1W rated
Line output:	600 Ω, 0dBm (balanced)

## NFC-196 ANTENNA TUNER

Frequency range	1.6 to 30MHz
Power capability	200Wpep
SWR after tuning	2 : 1
Turning time	Automatic tuning: typical 3 sec Preset tuning: typical 0.5 sec
Operating temperature	-30°C to +60°C
Power requirement	10.2VDC to 16.2VDC, negative-grounded, 1.5A (max)
Dimensions and mass	230mm(W) x 380mm(H) x 90mm(D) Approx. 3.3kg

## NCT-196 DSC TERMINAL

Protocol	ITU-RM.493-7, M.541-6 and M.1082
Modulation rate	100 baud
Modulation accuracy	Within ±30ppm
Output frequency	1700Hz ±85Hz
Frequency tolerance	±0.5Hz or better
Output level	-20dBm to +10dBm
Operating temperature	-15 to +55°C
Power requirement	10.2VDC to 16.2VDC, negative-grounded, 3A max
Dimensions and mass	250mm(W) x 100mm(H) x 260mm(D) Approx. 6.3kg

## WATCH KEEPING RECEIVER

Receiving system	Double superheterodyne
Receiving frequencies	2187.5kHz, 4207.5kHz, 6312.0kHz, 8414.5kHz, 12577.0kHz, 16804.5kHz
Sensitivity	Symbol error rate of 1% at receiver input voltage of 1 <sub>r</sub> V
Antenna impedance	50 Ω

# STANDARD COMPONENTS

Component	Model	Quantity	Remarks
<b>MF/HF Radiotelephone</b>	<b>JSB-196GM</b>	<b>1</b>	
<b>Included Accessories</b>			
Hand Set	NQW-213	1	
Power Cable	7ZCJD0043A	1	L=1m
Plug	5JWGC00004	1	
Connector	5JJAJ00034	2	
Terminals	5JDAH00084	2	14-8
Spare Fuse	5ZFEX00013	4	40A
Instruction Manual	7ZPJD0124	1	English
Quick Reference	7ZPJD0141	1	English

Component	Model	Quantity	Remarks
<b>DSC Terminal</b>	<b>NCT-196</b>	<b>1</b>	
<b>Included Accessories</b>			
Power Cable	7ZCJD0062A	1	L=3m
AF Cable	7ZCJD0071	1	L=1.5m
Control Cable	7ZCJD0072	1	L=1.5m
Terminals	5JTCD00220	2	1.25-8
Spare Fuse	5ZFEX00012	2	3A
Spare Fuse	5ZFAD00363	2	6.3A (for Power Cable)
Instruction Manual	7ZPJD0120	1	English
Quick Reference	7ZPJD0142	1	English
GMDSS Operating Guide	7ZPJD0135	1	English

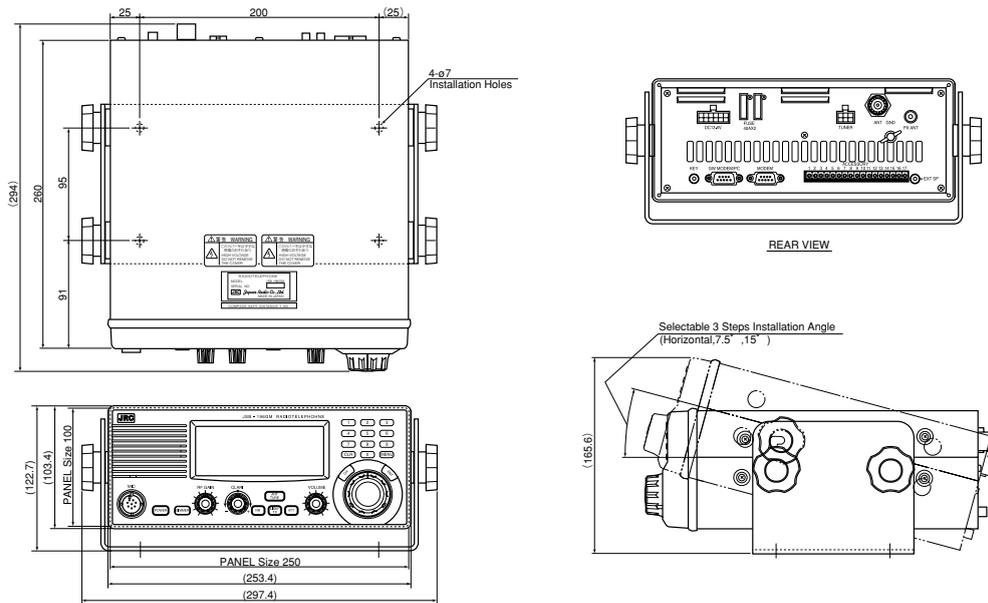
# OPTION

Component	Model	Quantity	Remarks
DC-DC Converter	NBG-300	1	
Hand Microphone	NVT-133	1	Straight Cable (L=5m)
Hand Microphone	NVT-140	1	Curl Cable
Handset Holder	MPBP00127A	1	
AF Cable	7ZCJD0073	1	For NCT-196 (L=0.3m)
Control Cable	7ZCJD0074	1	For NCT-196 (L=0.3m)
Printer	NKG-800	1	For NCT-196

Component	Model	Quantity	Remarks
<b>Antenna Tuner</b>	<b>NFC-196</b>	<b>1</b>	
<b>Included Accessories</b>			
ATU Control Cable	7ZCJD0044A	1	L=5m
ATU RF Cable	7ZCJD0045	1	L=5m
Terminal	5JTCD00393	2	1.25-3
Terminal	5JTCD00001	2	2-3
Terminal	BRTE00395	2	5.5-3
Washer	BSFW06000B	2	W6Bs

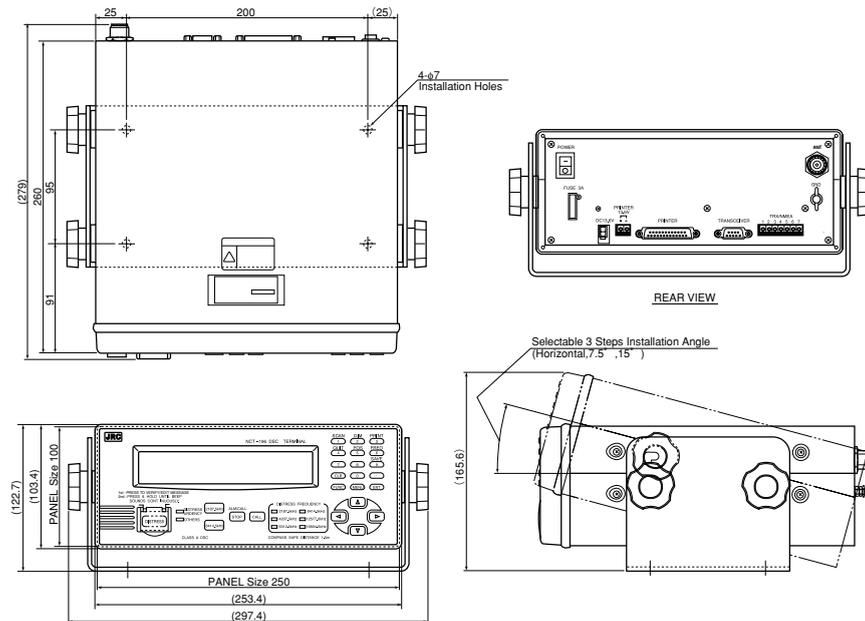
# DIMENSIONS & WEIGHT (MASS)

## RADIOTELEPHONE JSB-196GM



weight (Mass) : approx. 7.4kg

## DSC TERMINAL NCT-196



weight (Mass) : approx. 6.3kg

For further information, contact:



Since 1915

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