JHS-207

TWO-WAY RADIOTELEPHONE APPARATUS/ ON-BOARD COMMUNICATION EQUIPMENT

INSTRUCTION MANUAL

JRC Japan Radio Co., Ltd.

Thank you for purchasing JRC's JHS-207 two-way radiotelephone. This radiotelephone can be used as a hand-held portable VHF radiotelephone for on- scene, life-saving two-way communication between survival craft, between survival craft and ship, and between ship and rescue boat in accordance with SOLAS convention.

- Please read this instruction manual thoroughly before using the equipment.
- Please keep this manual available for future reference.
- Please refer to it if any difficulties are encountered when using the equipment.

Before Operation

Concerning the symbols

This manual uses the following symbols to explain correct operation and to prevent injury or damage to property.
The symbols and descriptions are as follows. Understand them before proceeding with this manual.

WARNING	Indicates a warning that, if ignored, may result in serious injury or even death.
CAUTION	Indicates a caution that, if ignored, may result in injury or damage to property.

Examples of symbols

The △ symbol indicates caution (including DANGER and WARNING). The illustration inside the △ symbol specifies the content of the caution more accurately. (This example warns of possible electrical shock.)

The ⃠ symbol indicates that performing an action is prohibited. The illustration inside the ⃠ symbol specifies the contents of the prohibited operation. (in this example disassembly is prohibited.)

The ● symbol indicates operations that must be performed. The illustration inside the ● symbol specifies obligatory instructions. (In this example unplugging is the obligatory instruction.)

WARNING label

Since the JHS-207 is a non-explosionproof type transceiver, a warning label as shown below is attached to the equipment. Never remove, damage, or alter the warning label.

Handling precaution

⚠ WARNING

Do not use this JHS-207 in hazardous areas subject to the presence of explosive gases.

Do not open forcibly for the equipment to repair it. Inspection or repairs by anyone other than a specialized technician may result in fire, electrical shock, or malfunction.

Do not disassemble or customize this unit. Doing so may cause malfunction.

Do not use a voltage other than specified.
Doing so may cause fire, electrical shock, or malfunction.

Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product, otherwise you risk fire or explosion.

A battery that is disassembled or exposed to water, fire or high temperatures can explode or leak causing burns.

Do not perform the followings to avoid burn hazard or fire explosion:
· Heating a lithium battery over 70 degrees celsius
· Attempting to recharge the emergency battery.
· Crushing, disassembling or attempting to ignite or set flame to the battery.

Accessories should not be used when using the JHS-207 in the emergency mode because the JHS-207 will no longer be waterproof during using them.

If any problem is observed in this unit on usual operation or inspection, contact JRC or our agent. In addition to usual communication, this unit is also used for the distress communication.

⚠ CAUTION

Do not use this equipment for anything other than specified.
Doing so may cause failure or malfunction.

Do not touch contents of an open battery. It can cause skin irritation and respiratory irritation.

In order to avoid the equipment failure, changing the battery must be done in a dry environment or under shelter.

The JHS-207 unit is not waterproof when the standard antenna is not attached or if the antenna is not assembled correctly.

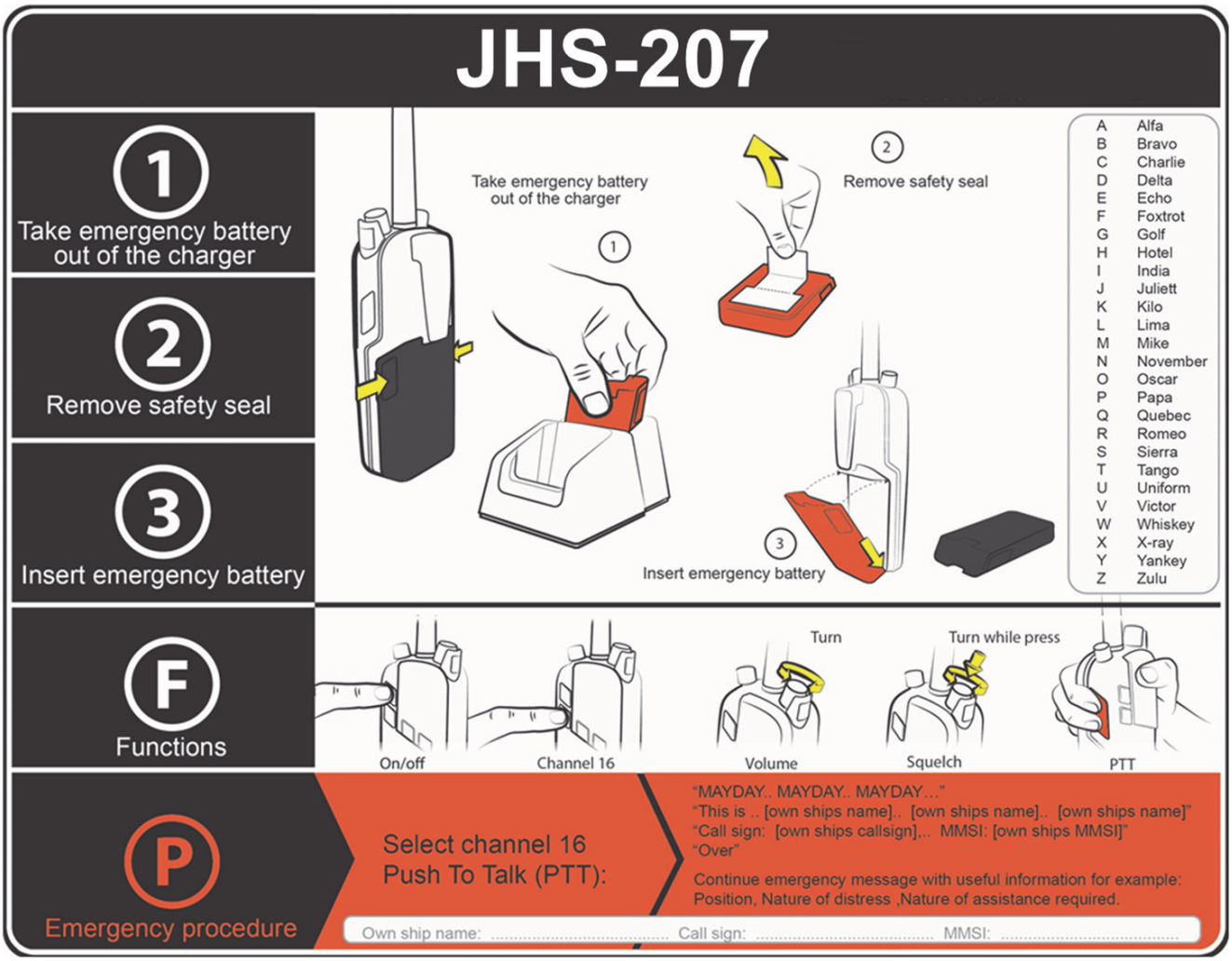
Place the radio in a location away from direct sea spray, chemicals, oil and vibration.

Do not use Channel 16 for the regular testing.
It may cause interference with distress and safety communications.

Always use the NBB-748 (NBB-789 in emergency) as the battery of the JHS-207. Unauthorized use will void your warranty.

Emergency instructions

This is an overview of how to operate a JHS-207 during an emergency.



Product Image

JHS-207　Two-way VHF Radiotelephone

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2 Abbreviations

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CE	European Commission
CFR	The Code of Federal Regulations
DW	Dual Watch (Receiver altering between two different channels)
EMC	Electromagnetic compatibility
EN	European standards
ETS	European Telecommunications Standard
ETSI	European Telecommunications Standards Institute
FCC	Federal Communications Commission
GHz	Gigahertz
GMDSS	Global Maritime Distress and Safety System
HW	Hardware
IATA	International Air Transport Association
IEC	International Electrotechnical Commission
IMDG	International Maritime Dangerous Goods Code
ITU	International Telecommunication Union
kHz	Kilohertz
LED	Light Emitting Diode
MHz	Megahertz
NC	Noise cancel
PTT	Push to talk
RF	Radio Frequency
RID	Reglement concernant le transport International ferroviare des merchandises Dangereuses par chemin de fer (Transportation of Dangerous Goods by Train)

RSS	Radio Standards Specification
SAR	Specific Absorption Rate
SINAD	Signal-to-Noise and Distortion ratio
SMA	Sub miniature version A connector
SOLAS	Safety of Life at Sea (An international maritime safety treaty)
SW	Software
TW	Triple Watch
VAC	Volts, alternating current (AC)
VDC	Volts, direct current (DC)
VHF	Very High Frequency

3 General

JRC manufactures safety products designed for the search and rescue of human lives and property. For this product be effective according to the design parameters, it is imperative that it is handled, maintained, serviced, and stowed in accordance with this manual.
All information contained within this manual has been verified and is to our knowledge correct, however, JRC reserves the right to make changes to any product(s) or module(s) described herein to improve design, function, or reliability, without further notice.

⚠ WARNING

A battery that is disassembled or is exposed to water, fire or high temperatures can explode or leak causing burns.

Important

JRC is not liable for consequential or special damages and cannot be held responsible for any damages or injury arising either directly or indirectly due to an error or omission of information, misuse of a product, breach of procedures, or for failure of any specific component or other part of the equipment

4 Standards

JHS-207 (GMDSS – emergency mode) has been verified, tested and meets the following product standards.

EN/IEC 60945: 2002 including Corr.1 (Category - Portable)	Maritime navigation and radio communication equipment and systems - General requirements - Methods of testing and required test results
ETSI EN 300225, V1.4.1 (2004-12)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and methods of measurement for survival craft portable VHF radiotelephone apparatus
ETSI EN 301 843-1, V1.2.1 (2004-06)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for marine radio equipment and services; Part 1: Common technical requirements
ETSI EN 301 843-2, V1.2.1 (2004-06)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for marine radio equipment and services; Part 2: Specific conditions for VHF radiotelephone transmitters and receivers
IEC 61097-12: 1996	Global maritime distress and safety system (GMDSS) - Part 12: Survival craft portable two-way VHF radiotelephone apparatus - Operational and performance requirements, methods of testing and required test results

RSS-102, Issue 5: Mar. 2015	Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)
RSS-182, Issue 5: Jan. 2012	Maritime Radio Transmitters and Receivers in the Band 156-162.5 MHz

JHS-207 (Maritime VHF – regular mode) has been verified, tested and meets the following product standards incl ITU Radio Regulation Appendix 18 rev 2020:

EN 62479: 2010	Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
ETSI EN 301 178, V2.2.2 (2017-04)	ETSI EN 301 178 V2.2.2 (2017-04) Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands (for non-GMDSS applications only); Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
ETSI EN 301 178-1, V1.3.1: 2007-02	Electromagnetic compatibility and Radio spectrum Matters (ERM); Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands (for non-GMDSS applications only); Part 1: Technical characteristics and methods of measurement
ETSI EN 301 178-2, V1.2.2: 2007-02	Electromagnetic compatibility and Radio spectrum Matters (ERM); Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile

	operating in the VHF bands (for non-GMDSS applications only); Part 2: Harmonized EN covering essential requirements of article 3.2 of the R & TTE Directive
ETSI EN 301 843-1, V1.2.1 (2012-08)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for marine radio equipment and services; Part 1: Common technical requirements
ETSI EN 301 843-2, V1.2.1 (2004-06)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for marine radio equipment and services; Part 2: Specific conditions for VHF radiotelephone transmitters and receivers
IEC 62209-1:2005	Human exposure to radio frequency fields from hand- held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)
IEC 62209-2: 2010	Human exposure to radio frequency fields from hand- held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)
IEC 62368-1:2014	Audio/video, information and communication technology equipment - Part 1: Safety requirements

Important

The use of JHS-207 with the rechargeable LiPo battery may be subject to an operator certificate in accordance with RED 2014/53/EU, Article 10.10.

Prior to using this equipment, please check with your local national radio license authority.

47 CFR 2.1093: Oct. 2013	Radio frequency radiation exposure evaluation: Portable devices.
47 CFR 80 to End: Oct. 2015	Electronic Code of Federal Regulations, Title 47, Telecommunications

Important

This device complies with the GMDSS provision of part 80 of the FCC Rules.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The following instructions are in accordance with national and international regulations regarding obligations of any radio operator:

STCW 95 including the STCW code (including relevant regulation regarding watch keeping on board passenger and cargo ships)	The radio log shall be kept in accordance with requirements in the Radio Regulation, SOLAS Convention, national requirements regarding radio installations and the STCW Convention
STCW Code BVIII/2 No. 32	Unauthorized transmissions and incidents harmful interference should, if possible, be identified, recorded in the radio log and brought to the attention of the Administration in compliance with the Radio Regulations, together with an appropriate extract from the radio log

5 Product description

The JHS-207 is a ruggedly designed radio made for easy operation. It is a portable survival craft two-way VHF radio which is possible to operate using one hand, even when wearing gloves. The high contrast graphical display including integrated back lighting of the display and keys are very effective for visibility and usage in low light conditions.

It is also resistant to oil, seawater and sunlight. This radio is compact in size with smooth edges to avoid damage to clothing or a raft. The highly visible orange housing is made from glass reinforced polycarbonate.

The JHS-207 GMDSS (emergency mode) radio is waterproof down to 1 meter and floats in freshwater, battery included. The radio is designed with a self-draining loudspeaker.

The JHS-207 is only completely waterproof when the antenna and jack cover are assembled on the radio correctly.

5.1 Basic configuration

5.1.1 Basic configuration of the main unit

JHS-207M package

No.	Product Name	Parts number	QTY
1	Two-way VHF Radiotelephone	JHS-207	1
2	Emergency battery (Primary Lithium iron battery)	NBB-789	1
3	Rechargeable battery (Secondary LiPo battery)	NBB-748	1
4	Battery charger	NJD101037	1
5	Power supply	NJD101038	1
6	Antenna	-	1
7	Belt clip	-	1
8	Wrist strap	-	1
9	Instruction manual	7ZPJD0793A	1

5.1.2 OPTION

Accessories

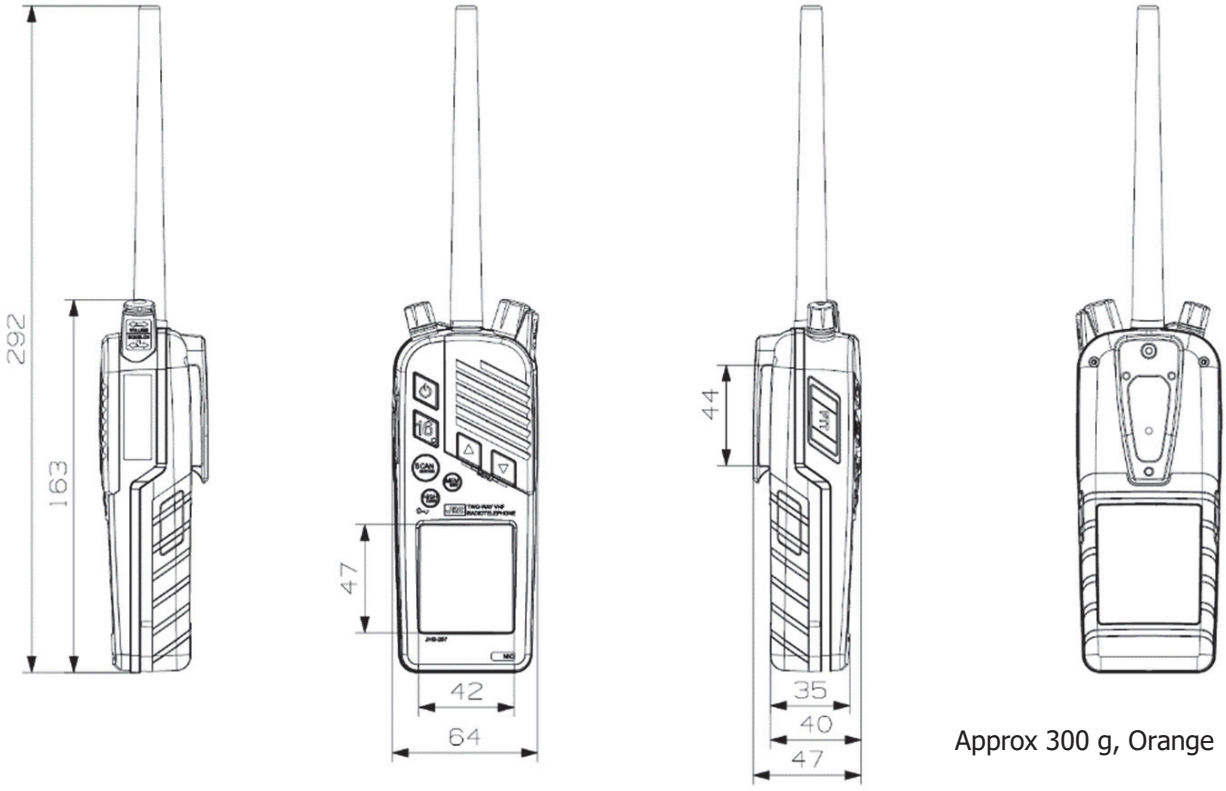
No.	Product Name	Parts number	Notes
1	Carry case	7ZZJD0128	With shoulder strap
2	Earphone mic	7UMJD0022	
3	Speaker microphone	7UMJD0021	
4	Headset	NJD103000	
5	PTT module	NJD19601	For NJD103000
6	Multi battery charger (kit)	NZB-191	Wall or table mount type, up to 3 chargers

Spare Parts

No.	Product Name	Parts number	Notes
1	Two-way VHF radiotelephone	JHS-207	Main body only (inc. no other parts)
2	Emergency battery	NBB-789	Primary lithium iron battery
3	Rechargeable battery	NBB-748	Secondary lithium polymer (LiPo) battery
4	Battery charger	NJD101037	
5	Power supply	NJD101038	For NJD101037
6	Antenna kit	7ABJD0009	Antenna, jack plug cover, gasket
7	Peripheral set	7ZXJD0185	Belt-clip, wrist-strap

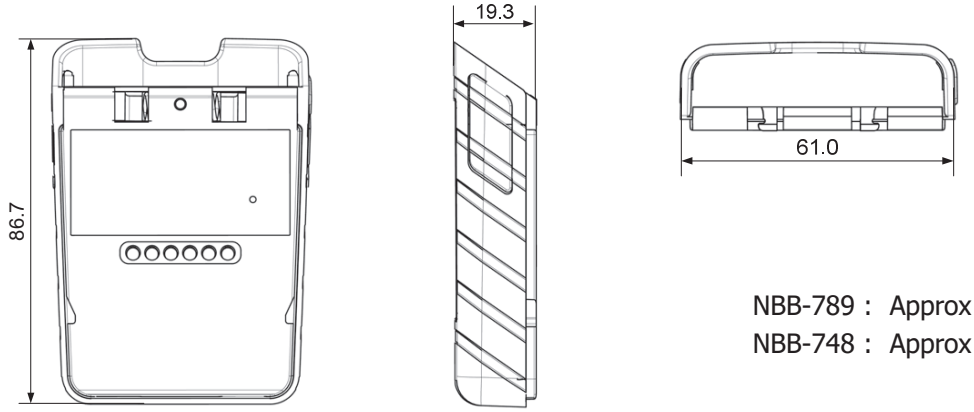
5.2 External dimensions

1）Two-way VHF radiotelephone（JHS-207）



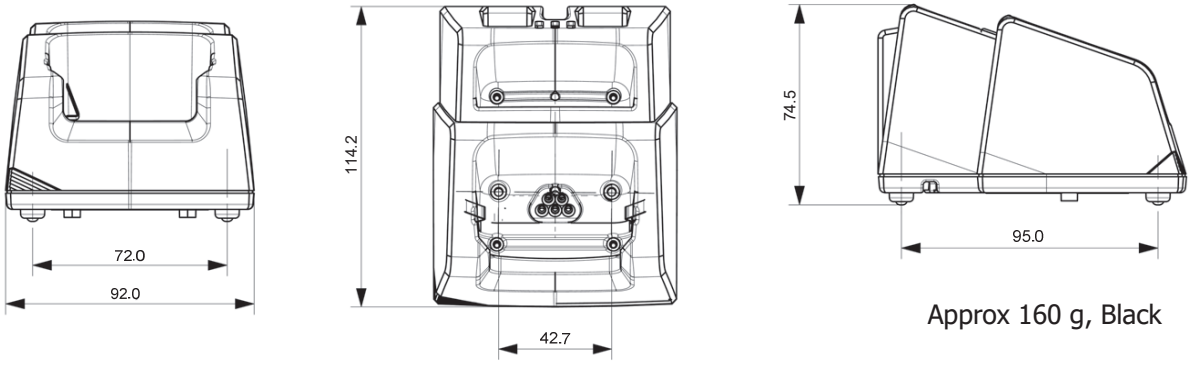
Approx 300 g, Orange

2）Battery（NBB-789 / NBB-748）



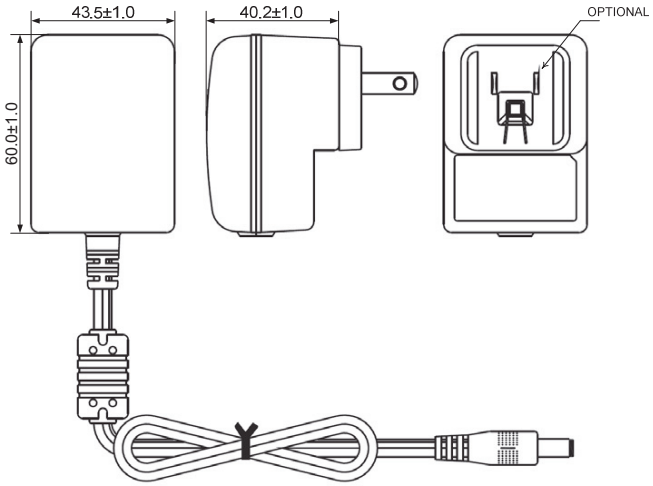
NBB-789： Approx 100 g, Orange
NBB-748： Approx 100 g, Black

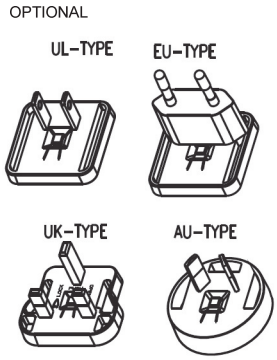
3) Battery charger（NJD101037）



Approx 160 g, Black

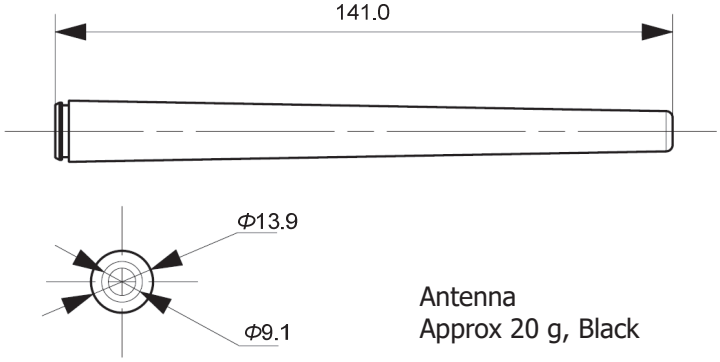
4) Power supply (NJD101038)



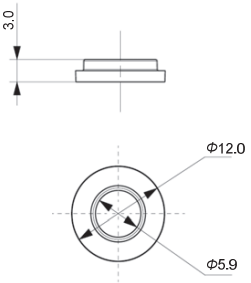


Approx 165 g, Black

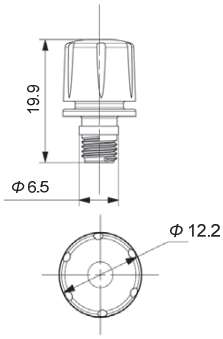
5) Antenna kit（7ABJD0009）



Antenna
Approx 20 g, Black

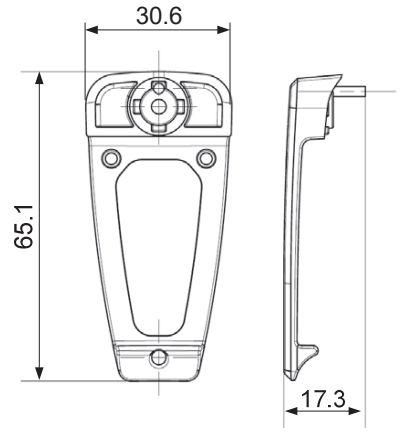


Gasket
Approx 0.1 g, Black



Jack Plug Cover
Approx 2.1 g, Black

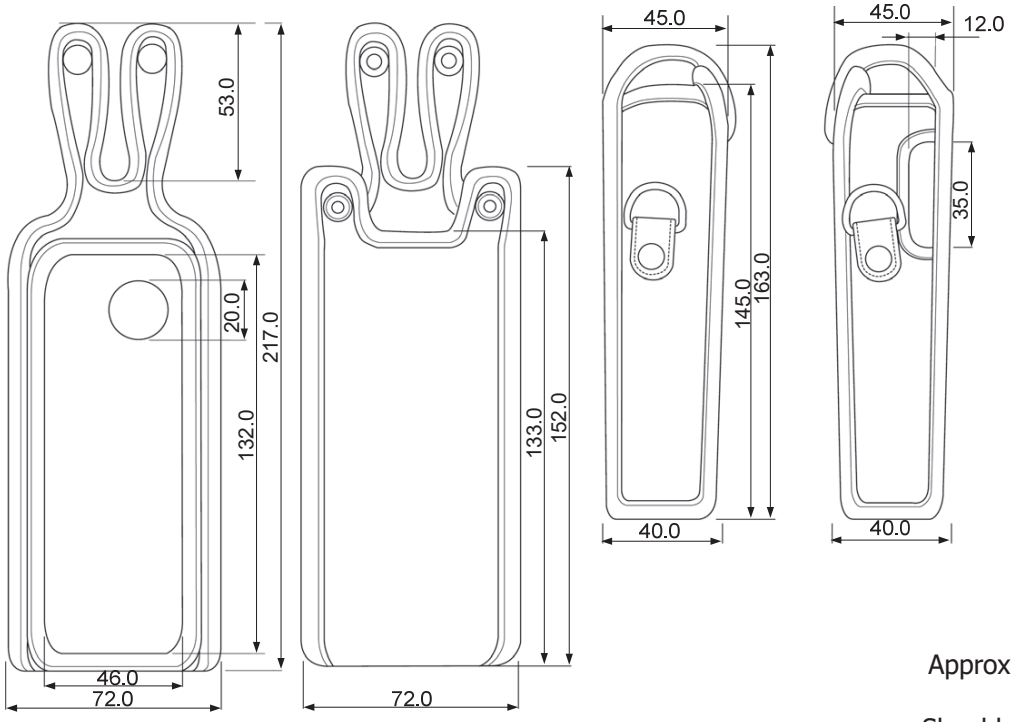
6) Peripheral set (7ZXJD0185)



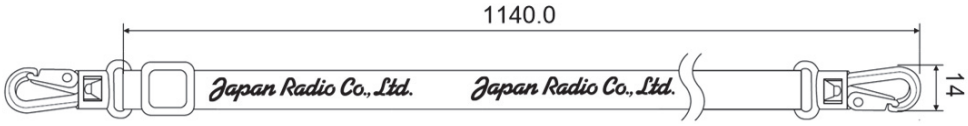
Belt clip
Approx 5.5 g, Black

Wrist strap
Approx 3.8 g, Black
Static Weight Limit of the weak-link : Approx 20kgf

7) Carry case (7ZZJD0128)

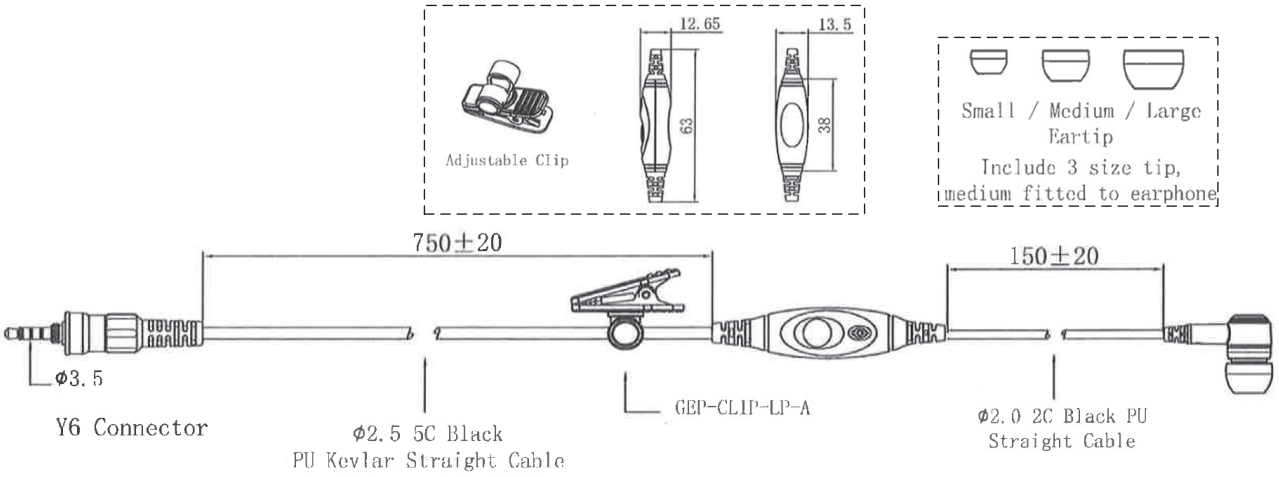


Approx 60 g, RED



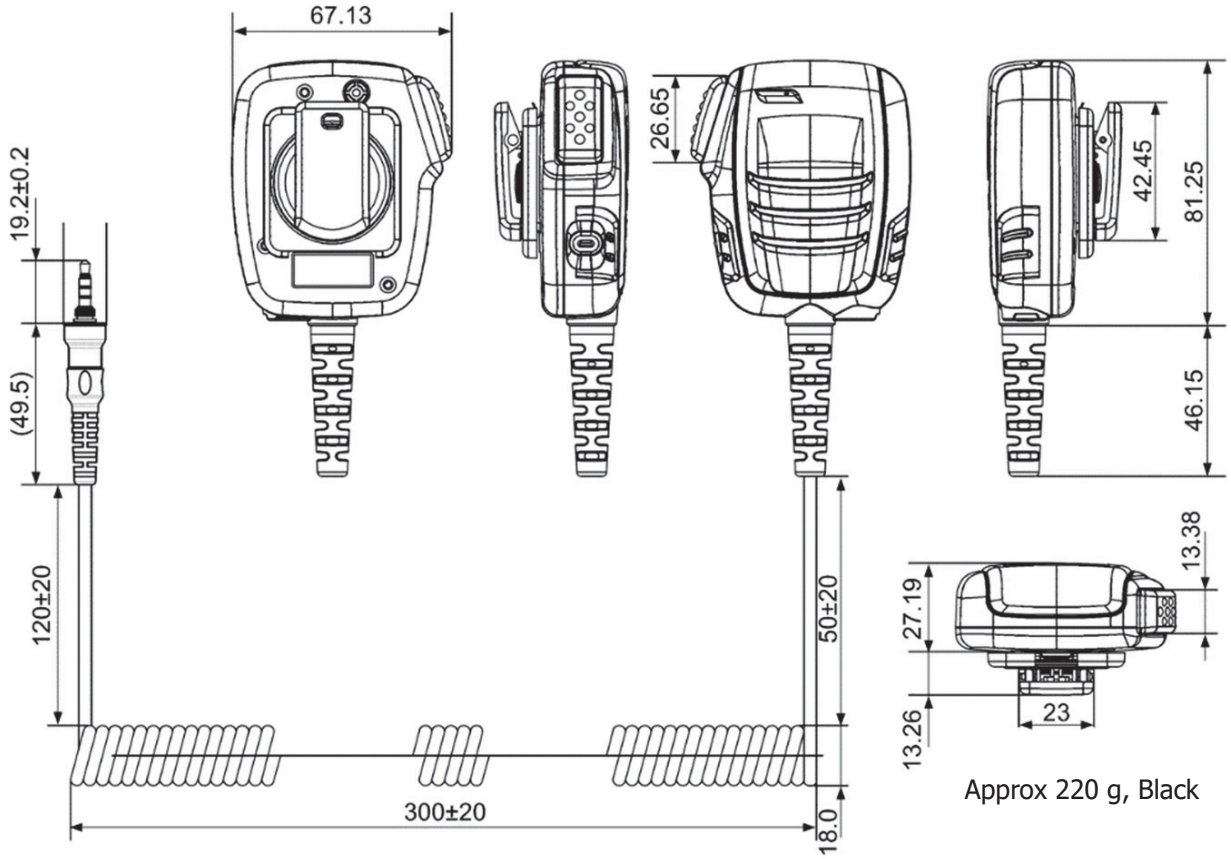
Shoulder strap:
Static Weight Limit of the weak-link :6.5~22kgf

8) Earphone mic (7UMJD0022)



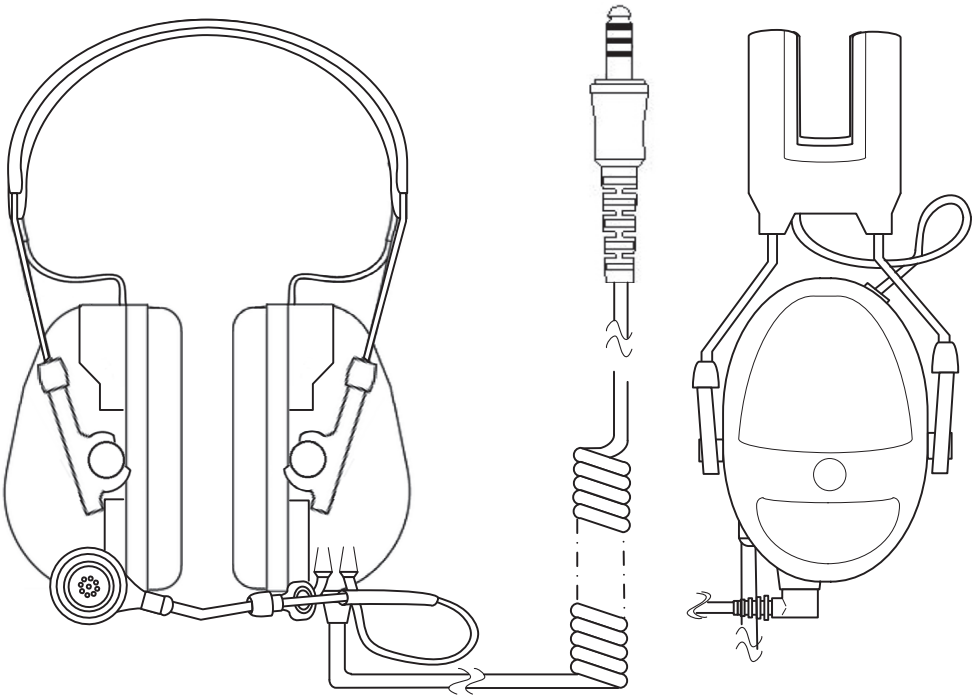
Approx 30 g, Black

9) Speaker microphone (7UMJD0021)



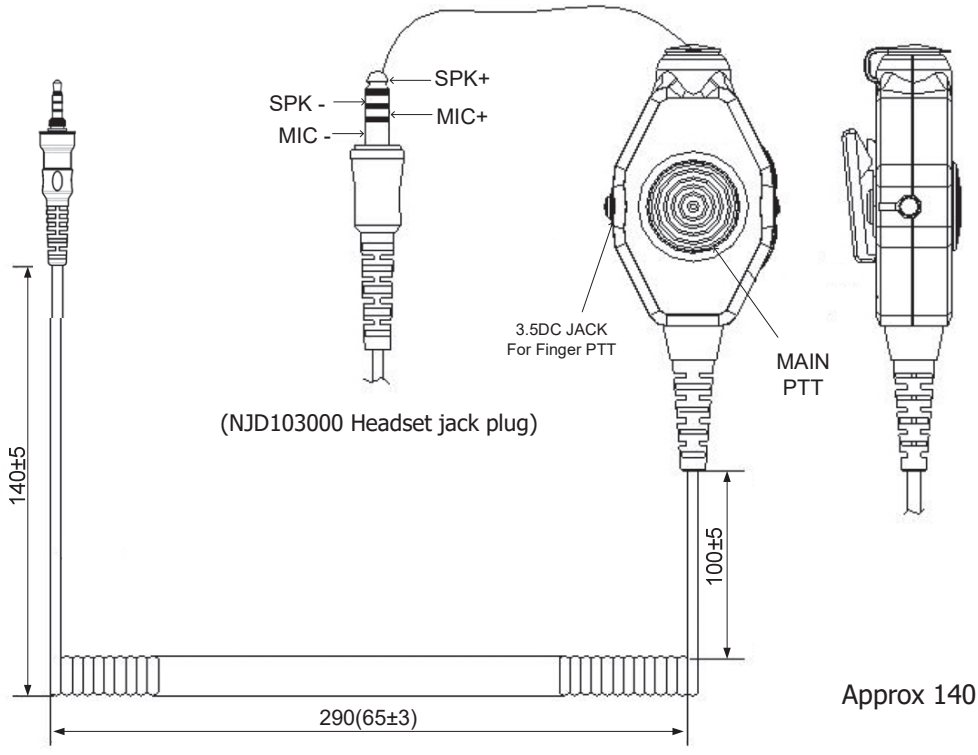
Approx 220 g, Black

10）Headset（NJD103000）



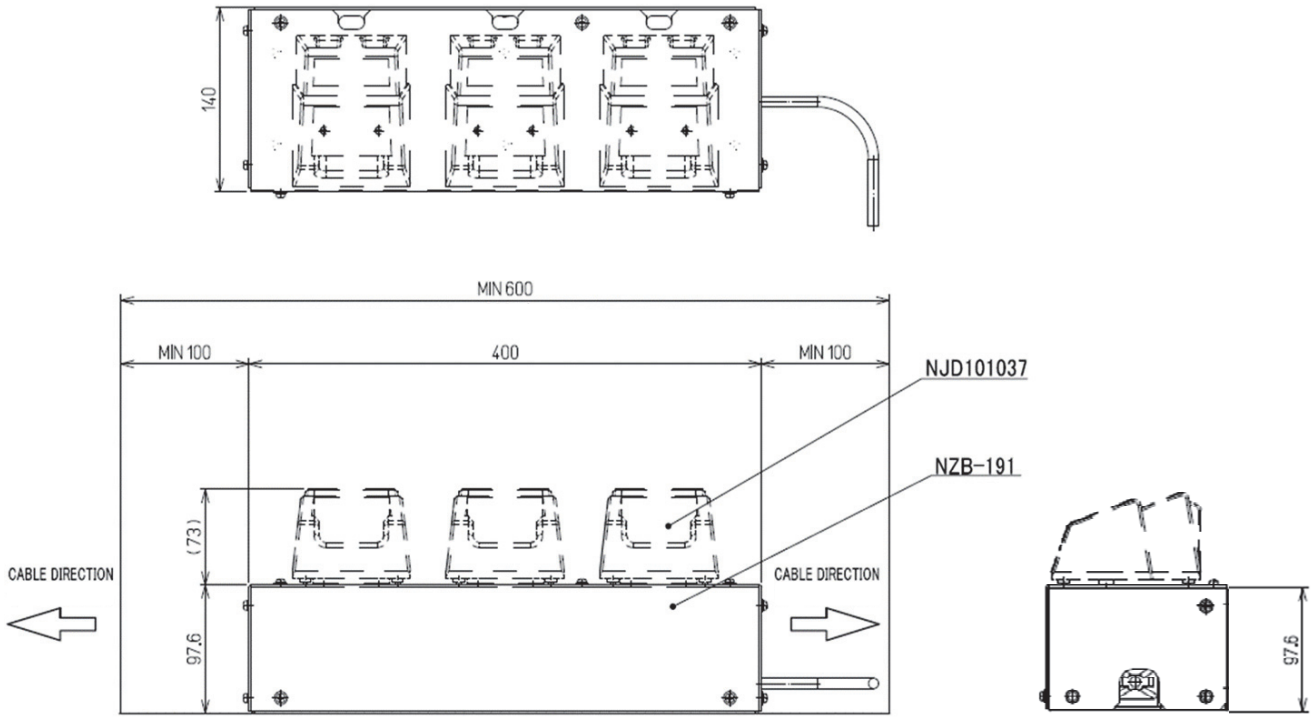
Approx 290 g, Yellow & Black

11）PTT module（NJD19601）



Approx 140 g, Black

12）Multi battery charger (NZB-191) *Wall or Desktop type



Approx 2.5 kg, Black
(With 3 Battery Charger)

Important

The NZB-191 does not include battery chargers (NJD101037). When installing this kit, use the battery chargers bundled in the JHS-207M packages.

6 Battery safety instructions (GMDSS radio)

Under EC, European Chemical Agency (ECHA) and US, Occupational Safety and Health Admin (OSHA) legislation this product is classified as a manufactured article, which does not release or otherwise result in exposure to a hazardous chemical under the normal conditions of use.
Therefore, this product is exempt from the requirement of a dedicated Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS).

The following information is included in this manual as guided safety

instructions. Product name:	Emergency battery
Type:	Lithium metal
Lithium metal content:	Below 1 gram lithium pr battery cell
Approximate weight:	100 grams
Chemical system:	Lithium Iron Disulfide
Designed for recharge:	No

Below are instructions for keeping the radio log and the radio operator's obligation according to national and international regulation:

1. The radio log shall be kept in accordance with requirements in the Radio Regulation, SOLAS Convention, national regulations regarding radio installations and the STCW Convention (STCW 95 including the STCW Code) including relevant regulation regarding watch keeping on board passenger and cargo ships.

2. Unauthorized transmissions and incidents harmful interference should, if possible, be identified, recorded in the radio log and brought to the attention of the Administration in compliance with the Radio Regulations, together with an appropriate extract from the radio log (STCW Code BVIII/2 No. 32).

Testing of radio equipment and reserve source of energy should occur:

 NOTE	The below safety information is extracted from EVE Energy SDS (sections 4, 5 and 6).

6.1 Hazards identification

The lithium iron disulfide batteries used in the JHS-207 and described herein are sealed units.

Under normal conditions, the battery is hermetically sealed. These batteries are not hazardous when used as intended and recommended.

⚠ **WARNING**	
	Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product, otherwise you risk fire or explosion.

⚠ CAUTION

Do not touch contents of an open battery. It can cause skin irritation and respiratory irritation.

6.2 First aid measures

Inhalation:	Provide fresh air and seek medical attention.
Skin contact:	Remove contaminated clothing and shoes and wash skin with soap and water. Wash clothing and shoes prior to reuse. If irritation occurs, seek medical attention.
Eye contact:	Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

6.3 Fire fighting measures

In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguisher appropriate for lithium metal, such as Lith-X.
Water may not extinguish burning batteries but will cool the adjacent batteries and control spreading fire. Burning batteries will burn themselves out.
Virtually all fires involving lithium batteries can be controlled by flooding with water, however, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, a smothering agent is recommended. A smothering agent will extinguish burning lithium batteries.

Important

Any person responding to such an emergency should wear a self-contained breathing apparatus.

Burning lithium iron disulfide batteries produces toxic and corrosive lithium hydroxide fumes and sulfur dioxide gas.

6.4 Accidental release measures

To clean up a leaking battery:

Ventilation requirements:	Room ventilation may be in areas where there are open or leaking batteries.
Respiratory protection:	Avoid exposure to electrolyte fumes from an open or leaking battery.
Eye protection:	Wear safety glasses with side shields if handling an open or leaking battery.
Gloves:	Use neoprene or natural rubber gloves when handling an open or leaking battery. Battery materials should be disposed of in a leak-proof container.

6.5 Handling and storage

The JHS-207 should be stored in a cool and well ventilated area. Elevated temperatures can result in a reduction of battery life. In locations that handle large quantities of lithium batteries, such as a warehouse, lithium batteries should be isolated from unnecessary combustibles.

⚠ **WARNING**
A battery that is disassembled or exposed to water, fire or high temperatures can explode or leak causing burns.

6.5.1 Transportation

NOTE	About detailed documentation regarding transportation regulations for batteries in accordance with ICAO/IATA, IMDG code and/or ADR/RID, contact our service center or agent

7 Battery safety instructions (Maritime VHF radio)

Under EC, European Chemical Agency (ECHA) and US, Occupational Safety and Health Admin (OSHA) legislation this product is classified as a manufactured article, which does not release or otherwise result in exposure to a hazardous chemical under the normal conditions of use.
Therefore, this product is exempt from the requirement of a dedicated Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS).

The following information is included in this manual as guided safety instructions.

Product name:	Rechargeable battery (LiPo 1550 mAh)
Type:	Lithium Polymer
Lithium metal content:	11.47 watt-hour rating (Wh)
Approximate weight:	100 grams
Chemical system:	Lithium Polymer
Designed for recharge:	Yes

Below are instructions for keeping the radio log and the radio operator's obligation according to national and international regulation:

1. The radio log shall be kept in accordance with requirements in the Radio Regulation, SOLAS Convention, national regulations regarding radio installations and the STCW Convention (STCW 95 including the STCW Code) including relevant regulation regarding watch keeping on board passenger and cargo ships.

2. Unauthorized transmissions and incidents harmful interference should, if possible, be identified, recorded in the radio log and brought to the attention of the Administration in compliance with the Radio Regulations, together with an appropriate extract from the radio log (STCW Code BVIII/2 No. 32).

Testing of radio equipment and reserve source of energy should occur:

Monthly: Handheld VHF transceivers are to be tested using a test or rechargeable battery.

 NOTE	The below safety information is extracted from Green Energy Battery and MSDS info from Pony Test Lab's report (sections 4, 5 & 6).

7.1 Hazards identification

The lithium polymer batteries used in the JHS-207 and described herein are sealed units.

Under normal conditions, the battery is hermetically sealed. These batteries are not hazardous when used as intended and recommended.

⚠ WARNING
 Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product, otherwise you risk fire or explosion.

⚠ CAUTION

Do not touch contents of an open battery. It can cause skin irritation and respiratory irritation.

7.2 First aid measures

Inhalation:	Provide fresh air and seek medical attention.
Skin contact:	Remove contaminated clothing and shoes and wash skin with soap and water. Wash clothing and shoes prior to reuse. If irritation occurs, seek medical attention.
Eye contact:	Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

7.3 Fire fighting measures

In case of fire where lithium batteries are present, use an extinguishing agent suitable for the location and surrounding environment, such as CO_2.

A battery may burst and release hazardous decomposition products when exposed to fire. Lithium polymer batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (›150°C/302°F), when damaged or abused (e.g. mechanical damage or electrical overcharging), may burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

Important

Any person responding to such an emergency should wear a self-contained breathing apparatus.

Burning lithium polymer batteries produces toxic and corrosive lithium hydroxide fumes and sulfur dioxide gas.

7.4 Accidental release measures

Personal precautions:	Wear the proper personal protective equipment. Keep unprotected individuals away. Ensure adequate ventilation.
Emergency procedures:	Remove ignition sources, evacuate the area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, place the spilled material into an appropriate disposal container. Keep spilled material out of sewers, ditches and bodies of water.
Environmental precautions:	Do not allow material to be released into the environment without proper governmental permits.
Methods and materials for containment and cleaning up:	All waste must refer to the United Nations, the national and local regulations for disposal.

7.5 Handling and storage

The JHS-207 should be stored in a cool and well ventilated area. Elevated temperatures can result in a reduction of battery life. In locations that handle large quantities of lithium batteries, such as a warehouse, lithium batteries should be isolated from unnecessary combustibles.

⚠ WARNING
A battery that is disassembled or is exposed to water, fire or high temperatures can explode or leak causing burns.

7.5.1 Transportation

NOTE	About detailed documentation regarding transportation regulations for batteries in accordance with ICAO/IATA, IMDG code and/or ADR/RID, contact our service center or agent.

8 Functional description

8.1 JHS-207 components

An overview of the radio components.

Figure 1 JHS-207 components

1 Antenna
2 Volume, squelch and monitor control
3 Loudspeaker
4 Up arrow button
5 Down arrow button
6 Mem set (memory button)
7 Emergency mode indicator
8 Channel designator
9 Microphone
10 Squelch and signal strength indicator
11 transmitter power indicator (Hi/medium/low)
12 Battery status indicator
13 Volume control indicator
14 Transmitter power adjustment (High/ Low button)
15 Scan/Enter button
16 Channel 16/Call channel button (instant access)
17 PTT Transmit button
18 Power button
19 Jack cover (external accessories connector)

8.2 Antenna

The antenna for the JHS-207 is fitted with a standard SMA connector. You can also connect a remote antenna for a fixed application.

⚠ CAUTION
The JHS-207 unit is not waterproof when the standard antenna is not attached or if the antenna is not assembled correctly.

8.3 Battery endurance

Below is a list of the operation times of the battery and usage.

NOTE	Use medium or low power when possible, to maximize the operational time of the battery.

Battery type	Hours of usage*	
	Standby time (-20°C)	Multi-usage ** (-20°C)
Emergency battery	70 hours	12 hours
Rechargeable battery	50 hours	12 hours

NOTE	* The hours indicated are based on 2W (tested at -20 °C). ** Emergency battery multi-usage hours have been tested in accordance with 10:10:80 ratio (Send: Listen: Standby). ** Rechargeable battery multi-usage hours have been tested in accordance with 5:5:90 ratio (Send: Listen: Standby). For more information refer to the ETSI EN 300 225 standard.

8.4 Emergency battery

The emergency battery NBB-789 (orange) is a lithium battery. This battery is specially designed for GMDSS emergency use and cannot be recharged. Keep the emergency battery in the battery storage bay, then it is easily accessible in a distress situation.

Important

The emergency battery is a single use item. You must replace the battery before the battery expiry date and/or if the protective seal on the battery is broken.

The expiry date of NBB-789 is 5 years after the installation and is indicated at the label put on it.

NOTE	Always bring a sealed emergency battery with the radio when boarding a lifeboat or raft.

⚠ WARNING

Doing any of the following could result in sever burn hazard or fire explosion:

- Heating a lithium battery over 70 degrees celsius
- Attempting to recharge the battery.
- Crushing, disassembling or attempting to ignite or set flame to the battery.

8.4.1. Battery labelling

According to IMO MSC. 515(105), implemented in the 2024 version of SOLAS, the battery label must indicate:

1. Replace the battery if the date has expired, or the seal is broken.
2. Battery expiry date information. Please note that it is the earliest expiry date which decide when to replace the emergency battery, ref to Chap 12.2

8.5 Rechargeable battery

When using the rechargeable battery NBB-748 (Black), additional functionality intended for regular radio usage is enabled. This battery can be recharged either while mounted to the radio or while standing alone in the Battery charger. The battery capacity is 7.4V/1550mAh.

 NOTE	Ensure you check the battery for damage prior to use.

Important

- This battery must be charged prior to use.
- Always use the dedicated Battery charger to recharge this battery.
- Charge a discharged battery within 1 week as the life of a battery diminishes greatly when stored in a discharged state.

8.6 Battery charger (Including multi type)

The Battery charger can charge either a single rechargeable battery or a JHS-207 with a rechargeable battery. In addition, this charger also has one extra battery storage bay for storing an emergency battery.

The charger will not charge a battery if the battery temperature is below 0 °C or above 40°C, however, charging will automatically occur when the temperature is within the correct range.

Important

The recommended charging temperature range is between +15°C-+25°C, i.e. about the Multi battery charger NBB-191, install it in such a condition.

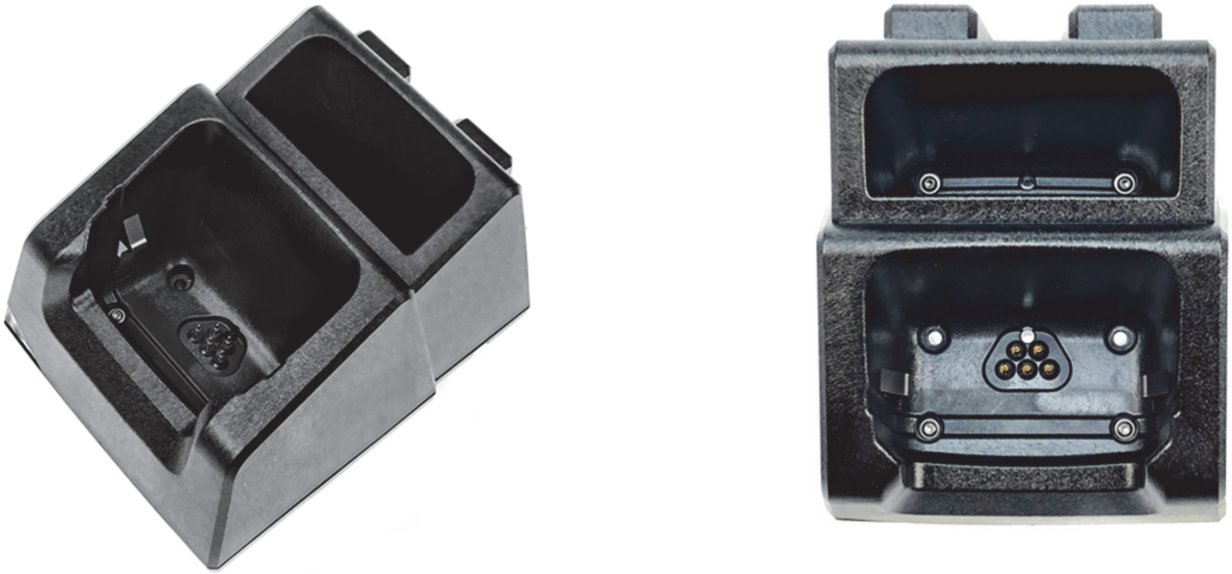


Figure 2 Battery charger - charging and storage bays

Figure 3 Radio in the charging bay and emergency battery in the storage bay

Important

The battery charger is not waterproof and therefore must be protected from elements.

Leaving the radio switched on during charging will increase the charging time.

8.6.1 Battery charger components

An overview of the Battery charger components.

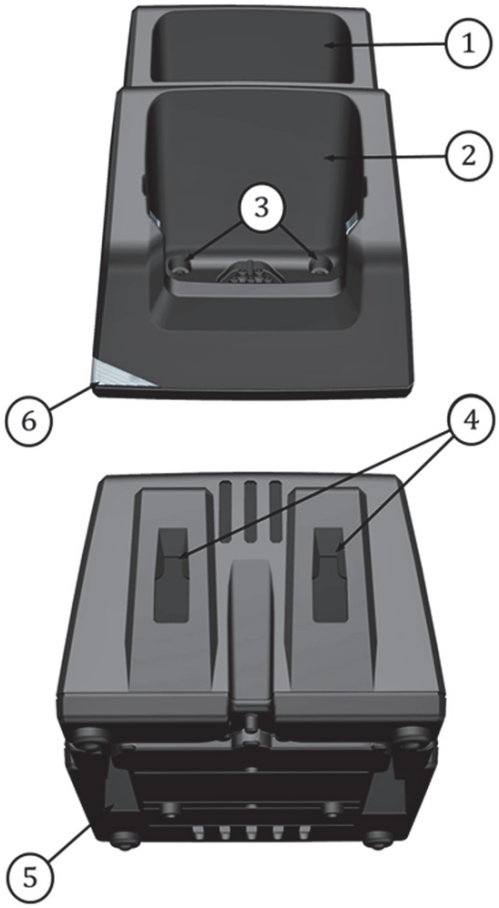


Figure 4 Battery charger components

1 Battery storage bay
2 Battery charger bay
3 Vertical mounting holes (36mm spacing)
4 Horizontal mounting holes (43mm spacing)
5 Power input
6 LED indicator

8.6.2 Mounting the Battery charger

The Battery charger can be securely mounted on a flat surface in one of two ways:

- Horizontal mounting
- Vertical mounting

To mount the JHS-207 (GMDSS radio), do the following:

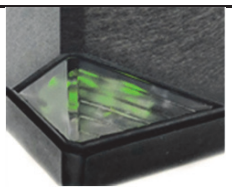
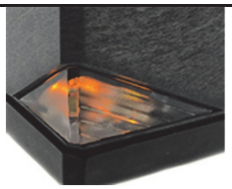
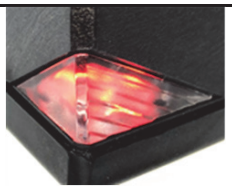
Using either the two horizontal or the two vertical mounting holes and screw the Battery charger to the desired surface in an easily accessible area.

⚠ **CAUTION**
Place the radio in a location away from direct sea spray, chemicals, oil and vibration.

NOTE	The JHS-207 must be easily accessible at all times for testing and maintenance.

8.6.3 LED indicator

The LED indicator on the Battery charger displays the current battery status.

Indicator color:	Status:	Color:
Green*	The battery is fully charged	
Yellow	The battery is charging	
Red	There is a fault with charging	

*A green light combined with a yellow blinking light also indicates the battery is fully charged.

9 Installation

9.1 Installing the antenna

Before use, install the antenna to the JHS-207 as shown below.

1. Put the antenna through the rubber ring of the jack cover to prevent loss.
2. Insert the antenna to the SMA connector on the top of the JHS-207.
3. Hold the antenna at the base and turn it clockwise. When the antenna starts to resist turning, turn it another 90 degrees.

Important

Holding the antenna anywhere but at the base during assembly will damage it.

9.2 Installing the battery

Since the JHS-207 can be supplied as a GMDSS or a Maritime VHF radio and each radio uses a different battery, ensure you install the batteries appropriately. Following the applicable installation process according to the battery you will use; either the emergency battery or the rechargeable battery.

Important

The emergency battery should only be installed on the JHS-207 in the event of an emergency.

9.2.1. Installing the emergency battery

Important

The emergency seal sticker must not be removed from the battery unless an emergency situation occurs.

To install the emergency battery on the JHS-207, do the following:

1. Pull back and remove the emergency seal sticker on the battery.

NOTE

Rip the sticker off at the perforated edge.

2. Using the fixing track, mount the emergency battery onto the back of the radio.

NOTE	Do not force the battery. Ensure you enter the bottom edge of the battery into the bottom edge of the radio.

3. Squeeze in the black finger grips on either side of the battery to lock the battery into place.

9.2.2. Replacing the emergency battery

If the emergency battery has expired or the battery has been used, it must be replaced with a new one. The emergency seal sticker must not be removed as only a sealed battery can be used in the case of an emergency. The battery and radio should always be stored together.

Important

The expiry date of NBB-789 is 5 years after the installation and is indicated at the label put on it.

9.2.3. Installing the rechargeable battery

To install the rechargeable battery on the JHS-207 (Maritime VHF radio), do the following:

1. Using the fixing track, mount the rechargeable battery onto the back of the radio.
2. Squeeze in the black finger grips on either side of the battery to lock the battery into place.
3. Insert the wall adapter into the power input located on the underside of the charger.
4. Plug in the wall adapter.
5. Insert the radio into the Battery charger.

NOTE	Do not force the radio into position in the charging bay.

6 Ensure that the radio is sitting properly in the Battery charger and the LED is turned on into yellow color.

9.2.4. Changing the rechargeable battery

To change the rechargeable battery, do the following:

1 Press the Power button to turn off the radio.

2 Squeeze in the black battery clips in to release the battery.

3 Gently pull the top of the battery backwards and away from the radio.

4 Put the lower end of the new battery into the fixing track at the bottom of the radio.

5 Make sure both battery clips are fully engaged.

⚠ CAUTION

In order to prevent equipment failure, changing the battery must be done in a dry environment or under shelter.

10 Operation instructions (GMDSS radio)

10.1 Emergency mode

When the emergency battery is connected, the radio starts in the emergency mode. Only basic functionality is available to the user in this mode. This battery is for use in a distress situation.

⚠**WARRNING**
Accessories should not be used when using the JHS-207 in the emergency mode because the JHS-207 will no longer waterproof during using them.

Function:

Turning on a radio using an emergency battery. The circle in the top right corner appears when the radio is in the emergency mode.

Display screen:

Operation:

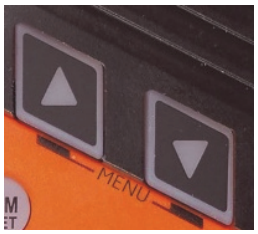
Press and hold the power button for approximately 3 seconds to turn the radio on.

NOTE	The radio loads the following settings: • Channel 16 • Max power level (2W) • High volume • Low squelch

10.2 Channel selection

Operation:

Press or press and hold the up/down arrow buttons to change the channel.



NOTE	When an emergency battery is connected, only GMDSS channels are available.

Important

For information regarding available and active VHF marine radio channels and frequencies, please check your local channel plan.

10.3 Channel 16 button

Operation:

Press the 16 button to jump directly to channel 16.

Channel 16 button:

Display screen:

NOTE	The transmit power will always be set to Hi power when using the channel 16 button.

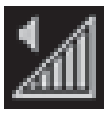
10.4 Volume adjustment

Operation:

Turn the volume control to adjust the volume.

Volume control:

Display screen:



NOTE	The volume symbol in the display indicates the volume level. Ensure that you do not press down the volume control while adjusting the volume.

10.5 Squelch adjustment

The squelch bar appears on the screen display indicating the current active sensitivity level. When the bar is adjusted fully to the left, the squelch is completely open. Adjusting the bar to the right lowers the receiver sensitivity.

The signal strength of the current channel appears on the bar below the squelch bar. If the received signal is strong enough, the squelch opens and voice is received. This is indicated by the Rx symbol.

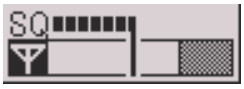
When the squelch control is pressed twice, it opens the squelch immediately. Press twice again to recall the previous squelch setting.

Operation:

Press and turn the squelch control anti-clockwise to increase receiver sensitivity.

Squelch control:

Display screen:



NOTE	When the receiver signal is too distorted (by radio noise) to be readable, the loudspeaker or speaker mic is automatically muted. This is indicated by the Noise Cancel (NC) symbol that appears in the display. 

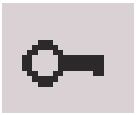
10.6 Key lock and unlock

Operation:

Press and hold the HI/LO button for 2 seconds to lock or unlock the buttons on the front.

HI/LO button:

Display screen:



NOTE	A key symbol appears when the radio is locked. PTT, Channel 16, volume and squelch are still available when the radio is locked.

10.7 Watch

When the radio is in the emergency mode, it can only check for signals or watch in one way:

Important

The radio will continue to watch channel 16 while receiving on other channels.

NOTE	When you press PTT the radio will transmit on the active channel. In addition, the watch function will be deactivated.

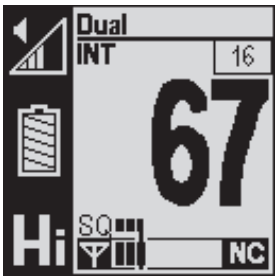
11.7.1 Dual watch (DW)

The DW function allows the user to monitor channel 16 and the active channel alternately.

To activate or deactivate DW, do the following:

1. Press Scan to activate dual watch.
2. Press the up/down arrowbuttons to watch a second channel.
3. Press Scan a second time to deactivate dual watch.

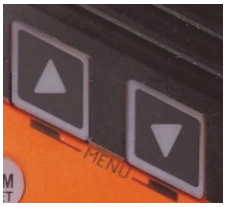
Display screen:



10.8 Menus

Press the up/down arrow buttons at the same time to enter or exit the menu system.

Up/Down arrow buttons:



Use the up/down arrow buttons to navigate and select using Scan/Enter.

Scan/Enter arrow

Menus:

Exit:

Use this menu option to exit the menu system.

Display screen:

Settings:

Use this menu option to adjust the following settings:

- Key sound
- Key volume
- Backlight time
- Backlight level
- Contrast
- Key lock time

Display screen:

Menu number:

1

Key sound:

Use this menu option to choose an audio tone. You can choose between four different tones.

Using the up/down arrow buttons, select from 1-4.

Display screen:

Menu number:

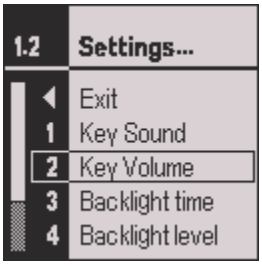
1.1

Key volume:

Use this menu option to set the volume of the key sound.

(Off=0, low to high=1-6)

Display screen:



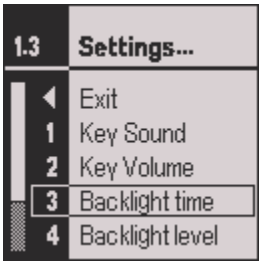
Menu number:

1.2

Backlight time:

Use this menu option to set the time while the backlight is on (1-10 seconds). The backlight will go off automatically.

Display screen:



Menu number:

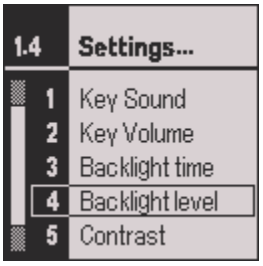
1.3

Backlight level:

Use this menu option to set the display backlight level.

(Off=0, low=1 or high=2)

Display screen:



Menu number:

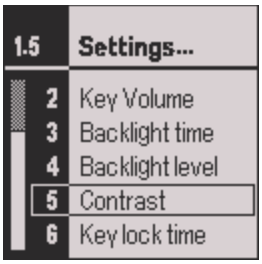
1.4

Contrast:

Use this menu option to set the display contrast level

(Low=1, medium= 2 or high=3)

Display screen:



Menu number:

1.5

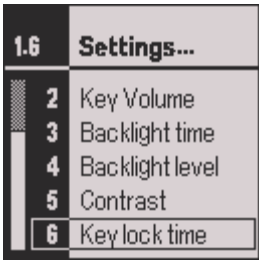
Key lock time:

Use this menu option to set the time before the key lock automatically turns on.

This can be adjusted from 5-60 (in increments of five seconds).

(0=keylock time turned off)

Display screen:



Menu number:

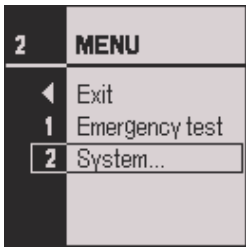
1.6

System:

Use this menu option to access the following information:

- Serial Number
- SW version
- HW version

Display screen:



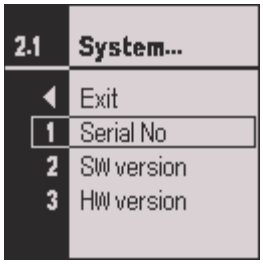
Menu number:

2

Serial Number:

Use this menu option to find the serial number of the radio.

Display screen:



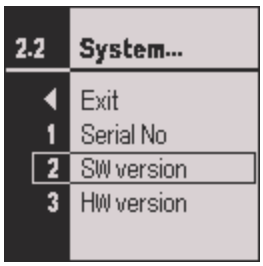
Menu number:

2.1

SW Version:

Use this menu option to find the software version of this radio.

Display screen:



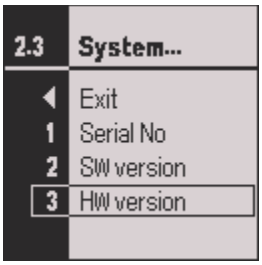
Menu number:

2.2

HW Version:

Use this menu option to find the hardware version of this radio.

Display screen:



Menu number:

2.3

11 Operation instructions (Maritime VHF radio)

11.1 Regular mode

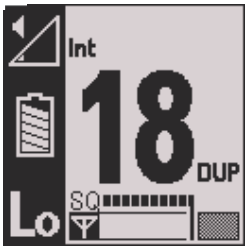
When the rechargeable battery is connected, additional functionality is available. All VHF channels are available with triple watch and custom channel scan. In addition, three transmit power levels are also available.

Operation

Press and hold the power button for approximately 3 seconds to turn the radio on.

Power button:

Display screen:



NOTE	The radio loads settings based on previous usage.

11.2 Channel selection

Operation:

Press or press and hold the up/down arrow buttons to change the channel.

NOTE	When a rechargeable battery is connected, all VHF maritime channels are available.

Important

For information regarding available and active VHF marine radio channels and frequencies, please check your local channel plan.

11.3 Channel 16 button

Operation

Press the 16 button to jump directly to channel 16.

Channel 16 button:

Display screen:

NOTE	The transmit power will always be set to Hi power when using the channel 16 button, even if you switch from another channel.

11.4 Channel display

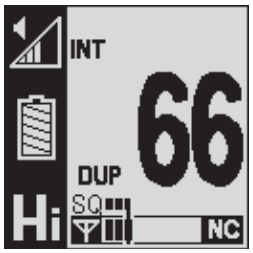
When the radio is in the regular mode, there are 6 channel lists available, which contain the 3 lists for 4-digit channels:

11.4.1. 4-digit channel view

The 4-digit channels will be displayed as shown below.

11.4.2. 2-digit channel view

The normal 2-digit channels will be displayed as shown below.



11.5 Call channel

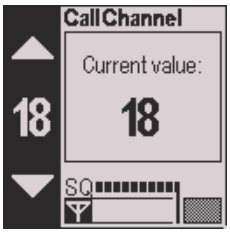
Operation:

To program a call channel, do the following:

1. Press and hold the channel 16 button for 2 seconds to enter the call channel.

Channel 16 button

Display screen:



NOTE	The radio will go to the programmed call channel. The default call channel is Channel 9.

2. Press and hold the channel 16 button again to change the call channel.
3. Press up/down arrow buttons to select the desired channel.
4. Press and hold Mem in for 2 seconds to save the channel.

NOTE	The current value updates within approximately 2 seconds. The desired call channel is marked with a C that appears on the radio display.

5. Press the channel 16 button to close the menu.

NOTE	To recall the desired channel, press the channel 16 button for 2 seconds. You can also press Scan to exit the programming mode.

11.6 Custom channels

In the regular mode the JHS-207 is capable of storing up to 20 custom channels, which must be programmed by a radio supplier.
To view the pre-programmed custom channels, select the Custom channel menu (Refer to the Menus section under the operation instructions for the maritime VHF radio).
All custom channels are identified by a letter followed by a number. The letters can be any of the following:

Channel letter:	Channel ID:	Channel type:
F	"F"	Fishing channel
L	"L"	Leisure channel
M	"M"	Yacht and leisure channels (UK only)
P	"P"	Private channel
W	"W"	Weather channel

11.7 Volume adjustment

Operation:
Turn the volume control to adjust the volume.

Volume control:

Display screen:

NOTE	The volume symbol in the display indicates the volume level. Ensure that you do not press down the volume control while adjusting the volume.

11.8 Squelch adjustment

The squelch bar appears on the screen display indicating the current active sensitivity level. When adjusted fully to the left, the squelch is completely open. Adjusting to the right lowers the receiver sensitivity.

The signal strength of the current channel appears on the bar below the squelch bar. If the received signal is strong enough, the squelch opens and voice is received. This is indicated by the Rx symbol.

When the squelch control is pressed twice, it opens the squelch immediately. Press twice again to recall the previous squelch setting.

Operation:

Press and turn the squelch control anti-clockwise to increase receiver sensitivity.

Squelch control:

Display screen:

NOTE	When the receiver signal is too distorted (by radio noise) to be readable, the loudspeaker or speaker mic is automatically muted. This is indicated by the Noise Cancel " NC " symbol that appears in the display. 

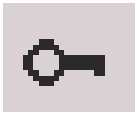
11.9 Key lock and unlock

Operation:

Press and hold the HI/LO button for 2 seconds to lock or unlock buttons on the front.

HI/LO button:

Display screen:



NOTE	A key symbol appears when the radio is locked. PTT, volume and squelch are still available when the radio is locked.

11.10 Watch

When the radio is in the regular VHF mode, it can check for signals or watch in three ways:

1. Dual watch
2. Triple watch
3. Scan

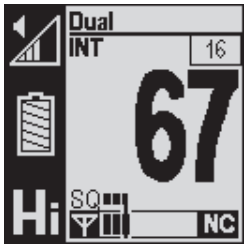
Important

In Dual, Triple watch and Scan, the channels will rotate in the display search indicator area. The radio will continue to watch channel 16 while receiving on the other channels.

NOTE	When you press PTT the radio will transmit on the active channel. In addition, the watch function you are currently in (DW, TW or Scan) will be deactivated.

11.10.1 Dual watch (DW)

Display screen:



The DW function allows the user to monitor channel 16 and the active channel alternately.

The channel search indicator is visible on the display, however, the channels do not appear in real time.

To select DW setup, do the following

1. Press the up/down arrow buttons at the same time to enter the menu.
2. Using the up/down arrow buttons, select Settings.
3. Using the up/down arrow buttons, select DW/TW.
4. Using the up/down arrow buttons, select DW.
5. If the radio is not already set to DW, then select SAVE.

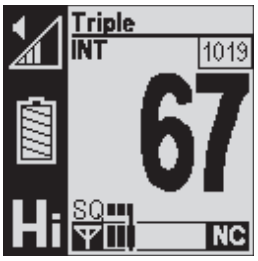
To activate or deactivate DW, do the following:

1. Press Scan to activate dual watch.
2. Press the up/down arrow buttons to watch a second channel.
3. Press Scan a second time to deactivate dual watch.

11.10.2 Triple watch (TW)

The TW function allows the user to monitor channel 16, the chosen call channel and the active channel alternately.

Display screen:



The channel search indicator is visible on the display, however, the channels do not appear in real time.

To select TW setup, do the following:

1. Press the up/down arrow buttons at the same time to enter the menu.
2. Using the up/down arrow buttons, select Settings.
3. Using the up/down arrow buttons, select DW/TW.
4. Using the up/down arrow buttons, select TW.
5. If the radio is not already set to TW, then select SAVE.

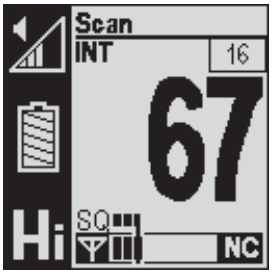
To activate or deactivate TW, do the following:

1. Press Scan/Enter button to activate triple watch.
2. Press the up/down arrow buttons to watch a third channel.
3. Press Scan/Enter button a second time to deactivated triple watch.

11.10.3 Scan

The scan function allows the radio can scan up to 12 memory channels (Channel 16 and the active channel are automatically included).

Display screen:



Important

The radio is supplied without any pre-programmed channels, therefore, until a channel is added into the memory you will not have a channel available to scan.

In this case, when you press Scan you will automatically go directly to the Scan Prog screen.

All stored channels can be browsed by pressing the Mem button. Stored channels are displayed with an M.

To activate or deactivate Scan, do the following:

Press and hold Scan for 2 seconds to activate and short click to deactivate.

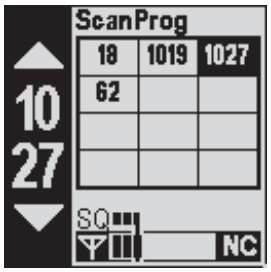
NOTE	The scan indicator is visible on the display; however, the channels do not appear in real time.

11.10.3.1 Scan Prog

You can store and delete memory channels for scanning in two ways, do one of the following:

- Quick method, to be done when scan is not active.
- Visual method, to be done when scan is active.

Display screen:



Quick method:

1. Navigate to the channel you want to store or delete from the memory.
2. Press and hold MEM SET for 2 seconds to store or delete the selected channel from memory.

MEM SET(memory button)

Visual method:

1. Press and hold the Scan button for 2 seconds to activate Scan.
2. Press and hold the Scan button for 2 seconds again to enter the scan program screen.
3. Use the up/down arrow buttons to select the desired channel.
4. Press and hold the Mem button in for 2 seconds to add or remove the current channel.
5. Press Scan to exit Scan Prog.

NOTE	The signal strength of the selected channel appears on the signal strength bar.

11.11 Menus

Press the up/down arrow buttons at the same time to enter or exit the menu system. Use the up/down arrow buttons to navigate and select using Scan/Enter.

Menus:

Exit:

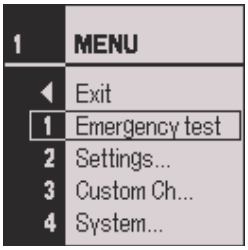
Use this menu option to exit the menu system.

Display screen:

Emergency test:

Use this menu option for drills/testing or when you want the radio to behave like a GMDSS radio

Display screen:



Menu number:

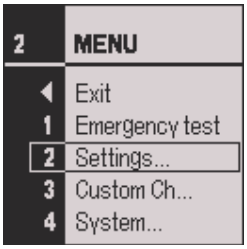
1

Settings:

Use this menu option to adjust the following settings:

- Key sound
- Key volume
- DW/TW
- Backlight time
- Backlight level
- Contrast
- Key lock time
- Channel set
- Speaker/Mic

Display screen:



Menu number:

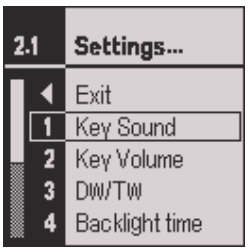
2

Key sound:

Use this menu option to choose an audio tone. You can choose between four different tones.

Using the up/down arrow keys, select from 1-4.

Display screen:



Menu number:

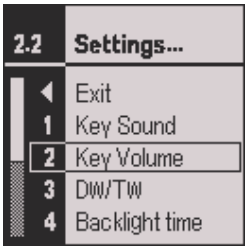
2.1

Key volume:

Use this menu option to set the volume of the key sound.

(Off=0, low to high= 1-6)

Display screen:



Menu number:

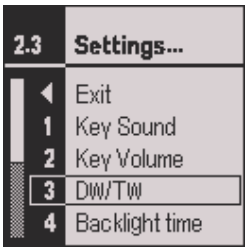
2.2

DW/TW:

Use this menu option to choose if you want to use dual watch or triple watch.

Use the up/down arrow keys, select either DW or TW.

Display screen:



Menu number:

2.3

Backlight time:

Use this menu option to set the time while the backlight is on (1-10 seconds). The backlight will go off automatically.

Display screen:

Menu number:

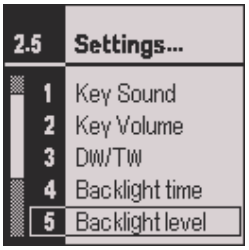
2.4

Backlight level:

Use this menu option to set the display backlight level.

(Off=0, low=1 or high=2)

Display screen:



Menu number:

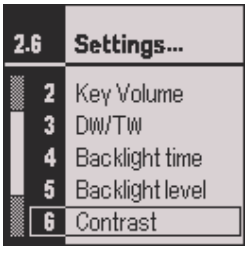
2.5

Contrast:

Use this menu option to set the display contrast level

(Low=1, medium= 2 or high=3)

Display screen:



Menu number:

2.6

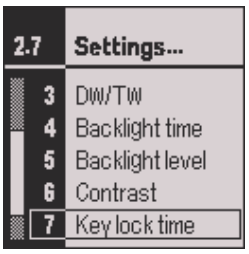
Key lock time:

Use this menu option to set the time before the key lock automatically turns on.

This can be adjusted from 5-60 (in increments of five seconds).

(0=keylock time turned off)

Display screen:



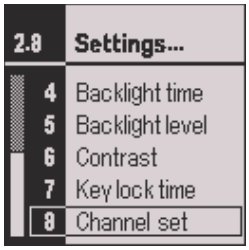
Menu number:

2.7

Channelset:

Use this menu option to change the channel set according to the region where the radio will be in use.

Display screen:



Menu number:

2.8

Channel set sub menu

3 channel lists can be chosen which includes the implemented 4-digit channels in accordance with ITU Radio Regulation Appendix 18 revision 2020.

Speaker/Mic:

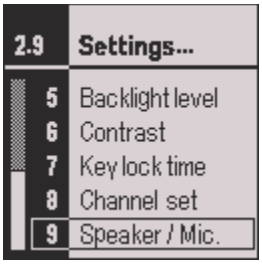
Use this menu option when connecting an external speaker/mic. This option allows you to select where the sound comes from, either the internal loudspeaker or the external speaker mic.

You need to restart the radio after you configure it in order for the changes to take effect.

Mic. Only: The sound comes from the internal loudspeaker of the radio when the microphone in the speaker/mic is in use.

Loudsp. +mic: The sound comes from the external speaker mic.

Display screen:



Menu number:

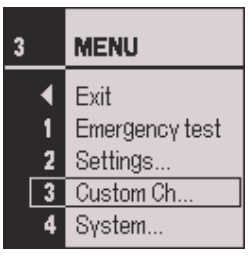
2.9

Custom channel:

Use this menu option to view the pre-programmed custom channel.

To view transmitting and receiving frequencies press enter on the selected custom channel.

Display screen:



Menu number:

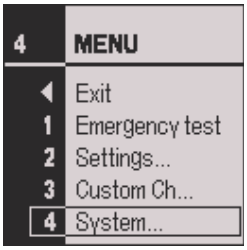
3

System:

Use this menu to access the following additional menu options:

- Serial Number
- SW version
- HW version
- Factory reset

Display screen:



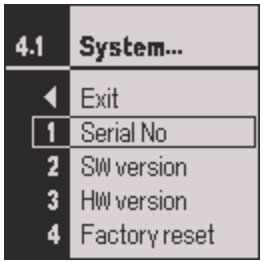
Menu number:

4

Serial Number:

Use this menu option to find the serial number of the radio.

Display screen:



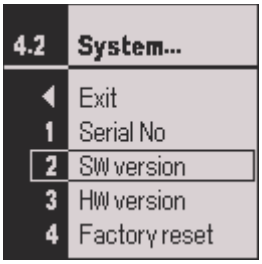
Menu number:

4.1

SW Version:

Use this menu option to find the software version of this radio.

Display screen:



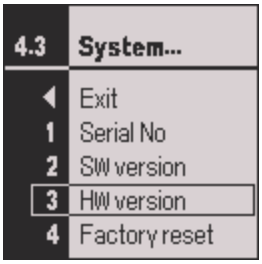
Menu number:

4.2

HW Version:

Use this menu option to find the hardware version of this radio.

Display screen:



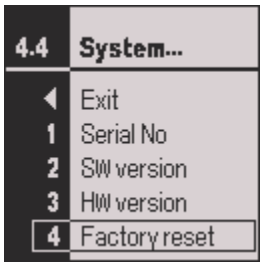
Menu number:

4.3

Factory reset:

Use this menu option to reset all user settings.

Display screen:



Menu number:

4.4

11.12 External accessories

The headphone symbol appears in the display screen when you connect an external accessory, such as a headphone, microphone, or external PTT. It is also possible to choose the internal loudspeaker when using an external speaker mic.

Connector type: 3,5mm 4 pole jack.

Display screen:

⚠WARNNING

Accessories should not be used when using the JHS-207 in the emergency mode because the JHS-207 will no longer be waterproof during using them.

Important

Do not use other than the dedicated options. It may cause malfunction or failure.

12 Maintenance

The following maintenance should be completed.

⚠WARRNING
 Do not disassemble or customize this unit. Doing so may cause malfunction.

If the radio is immersed in seawater, rinse it with fresh water immediately, otherwise, wash away dirt and oil from the radio with warm water (no higher than 45 degrees celsius) and mild dish soap.
Finish by rinsing with fresh water and drying.

 NOTE	Only wash the exterior of the radio.

12.1 Regular inspection

The lifetime of any equipment depends on how well you take care of it. The JHS-207 is constructed to endure in a rough maritime environment. Regular inspection is important to detect error symptoms and prevent potentially serious problems.

To inspect, do the following:

1. Inspect the battery connection pins, the gasket and the lock/release device.
2. Inspect the housing for defects regularly. This is important as defects can affect water sealing.

⚠ CAUTION

Ensure that the antenna and jack cover are assembled correctly, if not the radio is not waterproof.

12.2 Regular testing

It is important to perform regular testing of equipment to ensure proper operation. This also ensures the radio is in good working order and therefore ready for use in a potential emergency situation.

Important

Ensure you have a rechargeable battery available for use during testing to avoid using a sealed lithium battery.

Testing should occur according to the requirements indicated in the on board radio log.

To test, do the following:

1. Use the rechargeable battery.
2. Turn the radio on and choose an appropriate channel other than 16.

3. Verify sending a transmission to another radio.
4. Verify receiving a transmission from another radio.
5. Turn off the radio.
6. Verify that the emergency battery is still valid.

NOTE	The expiry date is located on the top of the battery. It is the orange expiry date label which indicates when the emergency battery has to be replaced.

7. Verify that the emergency battery is still sealed.

NOTE	If the seal on the emergency battery is broken, replace the battery immediately.

13 After-sales service

★ Warranty

The warranty period is determined by JRC's warranty regulations, but is normally 1 year from the date of purchase. Additionally, the warranty except for the body text is submitted to contractual agreements.

★ Repair Part Inventory Period

Parts necessary for proper functioning of this equipment will be kept available for 10 years after product discontinuation.

★ When Requesting Repairs

If the problem is due to a defect, immediately stop use of the system and contact the store at which you purchased the system, or one of our branches.

- During the warranty period , if a malfunction occurs with the equipment while in standard usage in accordance with this instruction manual, we or our agencies will repair the malfunction at no charge at the store where the equipment was purchased or another location specified by JRC. If the malfunction occurs due to improper usage, fault, or any external abnormal condition such as fire, pollution, abnormal voltage, natural disaster (ex. thunder storms, earthquake) etc., JRC will repair the equipment for a fee. Furthermore, regardless of the warranty period, orders of consumables will be charged.
- After the warranty expires, we will repair the malfunction for a fee, if repair is possible.
- Please inform us of the following :
  - ☆ Product name, model name, manufactured date, serial number
  - ☆ As much information as you can provide about the malfunction. (whether transmission is possible or not, etc.)
  - ☆ Your company or organization name, address, and phone number

★ Periodical Maintenance Recommendation

Depending on usage conditions, with extended use, the performance of this equipment may degrade over time, and externally installed parts such as the antenna may degrade due to vibration, so we recommend periodical maintenance in addition to the standard maintenance.

Please contact the store where you purchased the equipment, or one of our branches, to request periodical maintenance. Periodical maintenance requires a service charge.

If you have any questions regarding after-sales service, please contact the store where you purchased the equipment, or one of our branches.

Refer to the inside of the back cover for contact numbers and locations.

14 DISPOSAL

Observe all rules and regulations of the local authorities when disposing of this equipment.

15 Technical specifications

15.1 JHS-207 specification

Overall:	Emergency mode (emergency battery)	Regular mode (rechargeable battery)
Operating temperature range	-20°C to +55°C	-20°C to +55°C
Size (W/H/D)	61mm x 157mm x 40mm (Dept with belt clip 47mm)	61mm x 157mm x 40m (Dept with belt clip 47mm)
Weight	Approximately 300 g	Approximately 295 g
Ingress protection rating	IP67	IP67
Full buoyancy	Yes	Yes

Receiver:	Emergency mode (emergency battery)	Regular mode (rechargeable battery)
Frequency range	154-157.425 MHz	154-162 MHz
Channel spacing	25 kHz	25 kHz
Maximum usable sensitivity	< 1 μ V for 20dB SINAD	< 1 μ V for 20dB SINAD
Adjacent channel rejection	> 70dB	> 70dB
Blocking	> 90dB	> 90dB
Spurious response	> 70dB	> 70dB
Harmonic distortion*	< 5%	< 5%
Inter-modulation rejection	> 68dB	> 68dB
Channel monitoring	DW	DW/TW/Scan

Transmitter:	Emergency mode (emergency battery)	Regular mode (rechargeable battery)
Frequency range	154-157.425MHz	154-161.875MHz
Channel spacing	25 kHz	25 kHz
Transmitter output power (fully charged battery)	Low: 1W High: 2W	Low: 1W Medium: 2W (default) High: 4W
Harmonics and spurious	< 0.25 μW	< 0.25 μW
Frequency error	< +1.5 kHz	< +1.5 kHz
Adjacent channel power	< -70dB	< -70dBc

Charger:	Emergency mode (emergency battery)	Regular mode (rechargeable battery)
Power source	Not applicable	12–24 VDC
Wall adapter	Not applicable	115–240 VAC
Mounting option	Not applicable	Table or wall mount

	The nominal viewing distance is 0.8m.

15.2 Option specification

15.2.1 NBB-789 Emergency Battery

Size	61x86.7x19.3mm (W×H×D)
Mass	Approx. 0.10kg
Capacity	6.0V / 3000mAh
Battery type	Lithium/Iron Disulfide
Expiry Date	5 years (from the installation date)

15.2.2 NBB-748 Rechargeable Battery

Size	61x86.7x19.3mm (W×H×D)
Mass	Approx. 0.10kg
Capacity	7.4V / 1550mAh
Battery type	Lithium Polymer

15.2.3 NJD101037 Battery Charger

Size	92x74.5x114.2mm (W×H×D)
Mass	Approx. 0.16kg
Charging time	Approx 3 hours (type)

15.2.4 NJD101038 Power supply

Size	43.5x60.0x40.2mm (W×H×D)
Cable length	1250mm (type)
Mass	Approx. 0.14kg
Input Voltage Range	100V-240V / 47-63Hz
Setting Voltage Range	18VDC (type)
Output Current	0.72 - 0.94A

15.2.5 7ZXJD0185 Peripheral set (Wrist Strap)

Size	8.0x215.0x45.0mm (W×H×D)
Mass	Approx. 0.01kg
Weak-link	Approx. 20kgf

15.2.6 7UMJD0022 Earphone mic

Cable length	750mm (type)
Mass	Approx. 0.03kg
Speaker	15mW (16Ω)
Microphone	2.2kΩ (ECM type)

15.2.7 7UMJD0021 Speaker Microphone

Size	67.1x81.3x27.2mm (W×H×D)
Cable length	470mm (type)
Mass	Approx. 0.22kg
Speaker	0.5W (8Ω)

15.2.8 NJD103000 Headset

Cable length	500-1400mm
Mass	Approx. 0.29 kg
Speaker	46 mm diameter, 230Ω, SPL 107+/-2dB, 100～8000Hz
Microphone	Dynamic 150 Ohm, Sensitivity,-71dB±3dB

15.2.9 NJD19601 Headset push to talk module

Size	52.0x85.0x34.0mm (W×H×D)
Cable length	530mm (type)
Mass	Approx. 0.14kg

15.2.10 NZB-191 Multi battery charger

Size	400x97.6x140mm (W×H×D)
Cable length	1750mm (reference)
Mass	Approx. 2.5kg (With 3 battery Chargers NJD101037)
Input Voltage Range	100V-240V / 47-63Hz

16 Channels and frequencies

Important

Regulations for the use of VHF radios varies from country to country. Check the national radio requirements for VHF radio operators and ensure this radio conforms to all the local regulations, prior to use.

The channel frequencies listed in this manual reflect only as they are available and displayed on the radio.

Important

Due to the introduction of services on frequencies that were previously used by maritime voice communications, you must refer to your local regulations to find out which channels you can use.
These maritime frequency channel changes commenced 1 January 2017. This will be a gradual and ongoing process, with different regulations around the world.
The four digit channel number format is not available on this radio.

Simplex use of the ship station (transmit side) of what was the international duplex channel is marked as "A" on the radio. Additionally, there are channels having number 10 in front of the channel (for example, channel 5A will be the same as channel 1005).
Simplex use of the coast station (transmit side) of what the international duplex channel is marked as "B" on the radio. Additionally, there are channels having number 20 in front of the channel (for example, channel 5B will be the same as 2005).

16.1 GMDSS

Channel Number	TX/RX (MHz)	Channel number	TX/RX (MHz)	Channel number	TX/RX (MHz)
6	156.300	14	156.700	71	156.575
8	156.400	15	156.750*	72	156.625
9	156.450	16	156.800	73	156.675
10	156.500*	17	156.850*	74	156.725
11	156.550*	67	156.375	77	156.875
12	156.600	68	156.425	87	157.375
13	156.650	69	156.475	88	157.425

* Low power mode with TX transmit power limited to 1W

16.2 International (4-digit)

Channel Number	TX (MHz)	RX (MHz)	Channel Number	TX (MHz)	RX (MHz)	Channel number	TX (MHz)	RX (MHz)
1	156.050	160.650	19	156.950	161.550	73	156.675	156.675
2	156.100	160.700	1019	156.950	156.950	74	156.725	156.725
3	156.150	160.750	20	157.000	161.600	77	156.875	156.875
4	156.200	160.800	1020	157.000	157.000	78	156.925	161.525
5	156.250	160.850	1027	157.350	157.350	1078	156.925	156.925
6	156.300	156.300	1028	157.400	157.400	79	156.975	161.575
7	156.350	160.950	60	156.025	160.625	1079	156.975	156.975
8	156.400	156.400	61	156.075	160.675	87	157.375	157.375
9	156.450	156.450	62	156.125	160.725	88	157.425	157.425
10	156.500*	156.500	63	156.175	160.775			
11	156.550*	156.550	64	156.225	160.825			
12	156.600	156.600	65	156.275	160.875			
13	156.650	156.650	66	156.325	160.925			
14	156.700	156.700	67	156.375	156.375			
15	156.750*	156.750	68	156.425	156.425			
16	156.800	156.800	69	156.475	156.475			
17	156.850*	156.850	71	156.575	156.575			
18	156.900	161.500	72	156.625	156.625			

* Low power mode with TX transmit power limited to 1W

16.3 USA (4-digit)

Channel Number	TX (MHz)	RX (MHz)	Channel Number	TX (MHz)	RX (MHz)	Channel number	TX (MHz)	RX (MHz)
1001	156.050	156.050	20	157.000	161.600	73	156.675	156.675
1005	156.250	156.250	1020	157.000	157.000	74	156.725	156.725
6	156.300	156.300	1022	**	157.100	75	156.775*	156.775
1007	156.350	156.350	24	157.200	161.800	76	156.825*	156.825
8	156.400	156.400	25	157.250	161.850	77	156.875	156.875
9	156.450	156.450	26	157.300	161.900	1078	156.925	156.925
10	156.500*	156.500	27	157.350	161.950	1079	156.975	156.975
11	156.550*	156.550	28	157.400	162.000	1080	157.025	157.025
12	156.600	156.600	1063	156.175	156.175	84	157.225	161.825
13	156.650	156.650	1065	156.275	156.275	85	157.275	161.875
14	156.700	156.700	1066	156.325	156.325	86	157.325	161.925
15	**	156.750	67	156.375	156.375	87	157.375	157.375
16	156.800	156.800	68	156.425	156.425	88	157.425	157.425
17	156.850*	156.850	69	156.475	156.475			
1018	156.900	156.900	71	156.575	156.575			
1019	156.950	156.950	72	156.625	156.625			

* Low power mode with TX transmit power limited to 1W

** RX only

16.4 Canada (4-digit)

Channel Number	TX (MHz)	RX (MHz)	Channel Number	TX (MHz)	RX (MHz)	Channel number	TX (MHz)	RX (MHz)
1	156.050	160.650	20	157.000*	161.600	67	156.375	156.375
2	156.100	160.700	2021	**	161.650	68	156.425	156.425
3	156.150	160.750	23	157.150	161.750	69	156.475	156.475
1004	156.200	156.200	2023	**	161.750	71	156.575	156.575
1005	156.250	156.250	24	157.200	161.800	72	156.625	156.625
6	156.300	156.300	25	157.250	161.850	73	156.675	156.675
1007	156.350	156.350	2025	**	161.850	74	156.725	156.725
8	156.400	156.400	26	157.300	161.900	75	156.775*	156.775
9	156.450	156.450	27	157.350	161.950	76	156.825*	156.825
10	156.500*	156.500	28	157.400	162.000	77	156.875	156.875
11	156.550*	156.550	2028	**	162.000	1078	156.925	156.925
12	156.600	156.600	60	156.025	160.625	1079	156.975	156.975
13	156.650	156.650	1061	156.075	156.075	1080	157.025	157.025
14	156.700	156.700	1062	156.125	156.125	2083	**	161.775
15	156.750*	156.750	1063	156.175	156.175	84	157.225	161.825
16	156.800	156.800	64	156.225	160.825	85	157.275	161.875
17	156.850*	156.850	1064	156.225	156.225	86	157.325	161.925
1018	156.900	156.900	1065	156.275	156.275	87	157.375	157.375
1019	156.950	156.950	1066	156.325	156.325	88	157.425	157.425

*Low power mode with TX transmit power limited to 1W

** RX only

16.5 International (2-digit)

Channel Number	TX (MHz)	RX (MHz)	Channel Number	TX (MHz)	RX (MHz)	Channel number	TX (MHz)	RX (MHz)
1	156.050	160.650	19	156.950	161.550	68	156.425	156.425
2	156.100	160.700	20	157.000	161.600	69	156.475	156.475
3	156.150	160.750	21	157.050	161.650	71	156.575	156.575
4	156.200	160.800	22	157.100	161.700	72	156.625	156.625
5	156.250	160.850	23	157.150	161.750	73	156.675	156.675
6	156.300	156.300	24	157.200	161.800	74	156.725	156.725
7	156.350	160.950	25	157.250	161.850	77	156.875	156.875
8	156.400	156.400	26	157.300	161.900	78	156.925	161.525
9	156.450	156.450	27	157.350	161.950	79	156.975	161.575
10	156.500*	156.500	28	157.400	162.000	80	157.025	161.625
11	156.550*	156.550	60	156.025	160.625	81	157.075	161.675
12	156.600	156.600	61	156.075	160.675	82	157.125	161.725
13	156.650	156.650	62	156.125	160.725	83	157.175	161.775
14	156.700	156.700	63	156.175	160.775	84	157.225	161.825
15	156.750*	156.750	64	156.225	160.825	85	157.275	161.875
16	156.800	156.800	65	156.275	160.875	86	157.325	161.925
17	156.850*	156.850	66	156.325	160.925	87	157.375	157.375
18	156.900	161.500	67	156.375	156.375	88	157.425	157.425

* Low power mode with TX transmit power limited to 1W

16.6 USA (2-digit)

Channel Number	TX (MHz)	RX (MHz)	Channel Number	TX (MHz)	RX (MHz)	Channel number	TX (MHz)	RX (MHz)
1A	156.050	156.050	19A	156.950	156.950	71	156.575	156.575
5A	156.250	156.250	20	157.000	161.600	72	156.625	156.625
6	156.300	156.300	20A	157.000	157.000	73	156.675	156.675
7A	156.350	156.350	22A	**	157.100	74	156.725	156.725
8	156.400	156.400	24	157.200	161.800	75	156.775*	156.775
9	156.450	156.450	25	157.250	161.850	76	156.825*	156.825
10	156.500*	156.500	26	157.300	161.900	77	156.875	156.875
11	156.550*	156.550	27	157.350	161.950	78A	156.925	156.925
12	156.600	156.600	28	157.400	162.000	79A	156.975	156.975
13	156.650	156.650	63A	156.175	156.175	80A	157.025	157.025
14	156.700	156.700	65A	156.275	156.275	84	157.225	161.825
15	**	156.750	66A	156.325	156.325	85	157.275	161.875
16	156.800	156.800	67	156.375	156.375	86	157.325	161.925
17	156.850*	156.850	68	156.425	156.425	87	157.375	157.375
18A	156.900	156.900	69	156.475	156.475	88	157.425	157.425

* Low power mode with TX transmit power limited to 1W

** RX only

16.7 Canada (2-digit)

Channel Number	TX (MHz)	RX (MHz)	Channel Number	TX (MHz)	RX (MHz)	Channel number	TX (MHz)	RX (MHz)
1	156.050	160.650	20	157.000*	161.600	67	156.375	156.375
2	156.100	160.700	21B	**	161.650	68	156.425	156.425
3	156.150	160.750	23	157.150	161.750	69	156.475	156.475
4A	156.200	156.200	23B	**	161.750	71	156.575	156.575
5A	156.250	156.250	24	157.200	161.800	72	156.625	156.625
6	156.300	156.300	25	157.250	161.850	73	156.675	156.675
7A	156.350	156.350	25B	**	161.850	74	156.725	156.725
8	156.400	156.400	26	157.300	161.900	75	156.775*	156.775
9	156.450	156.450	27	157.350	161.950	76	156.825*	156.825
10	156.500*	156.500	28	157.400	162.000	77	156.875	156.875
11	156.550*	156.550	28B	**	162.000	78A	156.925	156.925
12	156.600	156.600	60	156.025	160.625	79A	156.975	156.975
13	156.650	156.650	61A	156.075	156.075	80A	157.025	157.025
14	156.700	156.700	62A	156.125	156.125	83B	**	161.775
15	156.750*	156.750	63A	156.175	156.175	84	157.225	161.825
16	156.800	156.800	64	156.225	160.825	85	157.275	161.875
17	156.850*	156.850	64A	156.225	156.225	86	157.325	161.925
18A	156.900	156.900	65A	156.275	156.275	87	157.375	157.375
19A	156.950	156.950	66A	156.325	156.325	88	157.425	157.425

*Low power mode with TX transmit power limited to 1W

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