

# VHF Marine Radio

**NAVCOM**

**PACK RT-311**

**INSTALLATION  
AND OPERATION GUIDE**



Navicom plaisance: Z.A. des Boutries, 78700 Conflans Ste Honorine

Tel: 01.39.72.19.90 Fax: 01.39.19.28.98

Navicom Pro: 3, rue J. Cugnot, Z.A.C Petit Guelen, 29000 Quimper

Tel: 02.98.94.64.70 Fax: 02.98.94.69.71

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# Equipment Description

## INTRODUCTION

Your marine transceiver PACK RT311 represents the state-of-the-art in high-tech engineering. Designed for international operation. This allows you to transmit and receive on all international channels in the VHF marine band, as assigned by the international Union (ITU). This unit is a quality piece of electronic equipment, skillfully constructed with the finest components. It is approved with commercial-grade standards to give you clear, reliable communication.

Your transceiver is designed for many years of reliable, trouble-free performance. It is under control of a microprocessor resulting in enhanced features and performance. The microprocessor controls not only the marine band tuning but also dual watch, memory channels, and a host of other useful features.

Your transceiver has the following features:

**Channel 16 Switch** ----- provides quick access to channel 16, the universal marine frequently used channel.

**PLL (Phase Lock Loop) Controlled Circuitry** ---- Provides accurate and stable channel selection.

**Squelch Adjustment** ----- help eliminate noise between transmissions.

**Key Lock** ----- lets you lock the keypad in order to prevent the controls from accidental pressing.

**High/Low Power Selection** ---- lets you save power by selecting a suitable transmitting power for long or short distances.

**Battery Level Indicator** ---- shows the battery pack's condition.

**Supplied Battery Charge** ----- lets you conveniently recharge your

transceiver's battery pack.

**Backlit LCD Display** ----- allows you to operate the transceiver in dark environment.

**Memory Channels** ---- lets you store channels as memory channels.

**Du/Tri** ---- lets you to select DW/normal mode or Tri/normal mode.

We recommend you record your transceiver's serial number here.  
This number is on the transceiver's back panel.

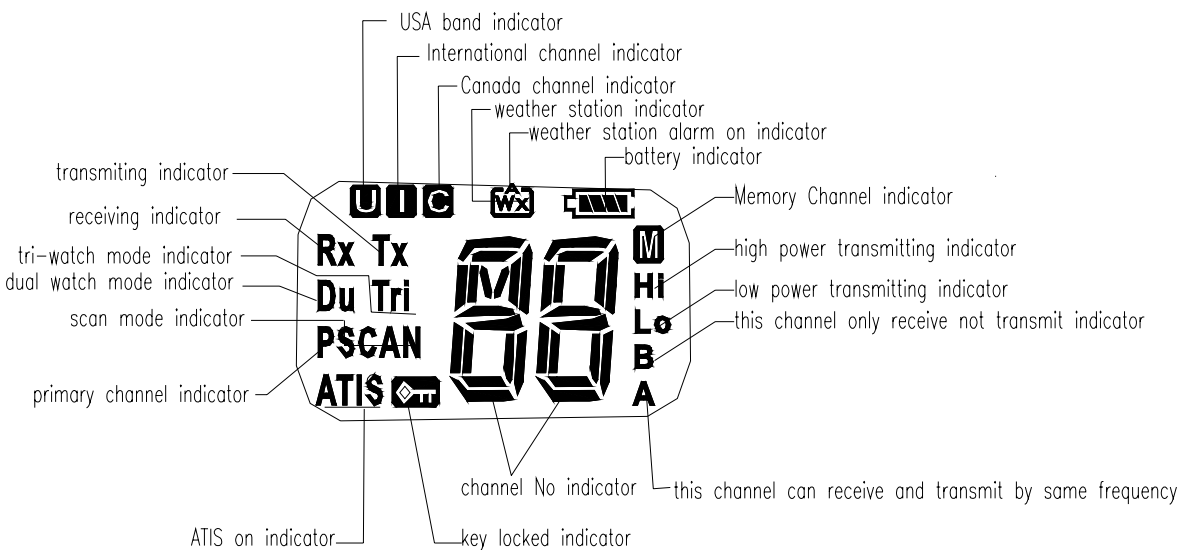
Serial Number \_\_\_\_\_

## SAFETY INFORMATION

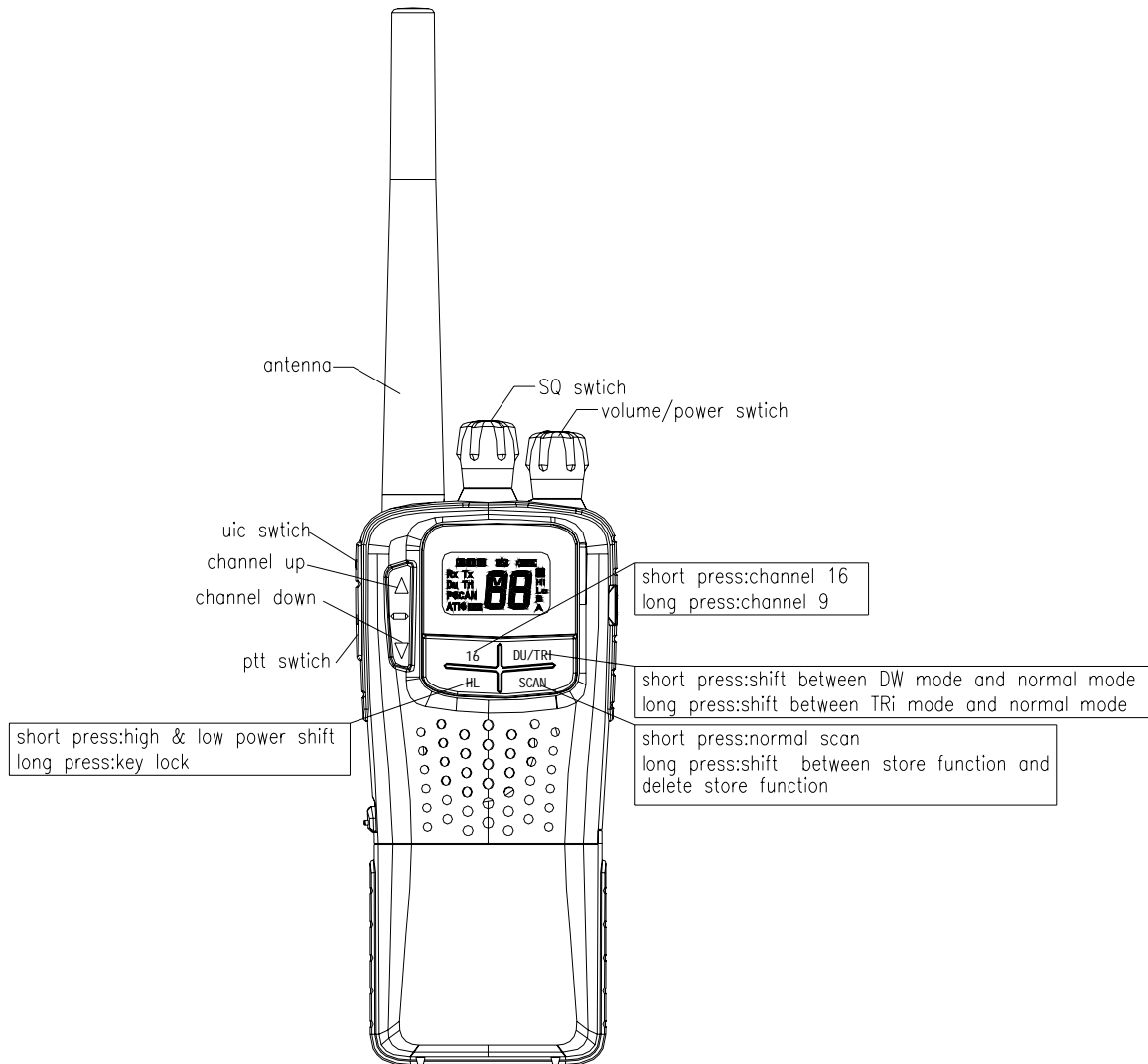
Your hand-held marine VHF radio contains a low power transmitter. When the Push-To-Talk (**PTT**) button is pushed it sends out radio frequency (RF) signals.

## USING THE RADIO DISPLAY

Your radio comes with a multifunctional display.



## FUNCTION AND LOCATION OF THE CONTROLS



## BASIC OPERATION

Before operating your transceiver, you should make the following preparations. You should install the battery pack on to the main unit and fully charge your 7.2V Ni-MH battery pack or charge it separately before its being attached onto the radio, then you can use it after making sure to attach the antenna on your radio.

## Turning On/Off Your Transceiver

Rotate **VOLUME** knob to turn the transceiver on or off with an indicating voice of click. And adjust the volume to a comfortable level.

## Adjusting Squelch

Rotate **SQ** knob to adjust squelch threshold level.

Squelch is used to eliminate static and background noise and allows for silent operation of the PAKK RT311 until a transmission is received. If the squelch is too high, only the strongest transmissions can be heard, and when too low, intermittent static and noise are heard.

## Selecting High/Low Power or Lock keypad

Press and release this key to toggle the transmit power between high and low. When the unit is operating at low power, “Lo” appears on LCD and “Hi” appears on LCD when operating at high power.

You also can lock your radio keypad to avoid accidental pressing of keys by activating the key lock. Pressing and holding **HL** button until key lock icon will appear on LCD if it is enabled. The function is effective to all other knobs/keys except **PTT** and **HL** buttons.

## Selecting a Channel

Press the **▲/▼ (UP/DOWN)** button to scroll through the available channels.

*Note: Not all channel numbers are available in INT bands.*

## Transmitting and Receiving

**Press and hold** the Push-To-Talk (**PTT**) key to transmit on the selected channel, then release to receive. The TX indicator appears while transmitting.

## SCANNING FEATURES

The PACK RT311 is equipped with three types of scan options: All Scan, Saved(Memory) Scan and Priority Scan. If there are no channels in memory, the default is All Scan. This function automatically searches for transmissions on the channel set being scanned. If a TX signal is received, the scan stops on the receiving channel as long as it is present and the SCAN indicator flashes. If the signal is lost for five seconds, the radio resumes scanning. During the Scan Modes:

**Press** the Channel ▲/▼ (**UP/DOWN**) button to change the scan direction. UP increments the channel while DOWN decrements it.

**Press and release** the **SCAN** button to terminate the SCAN mode. **Du/TRI** button do not function and sound an error beep if pressed.

**Note:** *Scan modes are disabled when the ATIS operation is active.*

### All Scan

**Press and release** the **SCAN** button when no channels are stored in memory to activate the All Scan function. The SCAN indicator appears on the LCD during All Scan. In All Scan mode, all channels in the channel set are scanned in sequence, assuming no channels have been stored in memory. After the last channel number has been scanned, the cycle repeats.

### Saved (Memory) Scan

**Press and release** the **SCAN** button when there is at least one channel in memory to activate the Saved Scan function. In Saved Scan Mode, the SAVED and SCAN indicators appear on the LCD. In Saved Scan mode, only the channels that have been saved in memory are scanned in sequence. After the last saved channel number has been scanned, the cycle repeats.

## Adding Channels to Memory

The PACK RT311 can store any channel (including Private Channels). The stored channels are the ones scanned in the Saved (Memory) Scan mode.

To Add Channels to Memory

1. During normal operation mode, use the UP/DOWN key to select the desired channel for programming.

2. **Press and hold** the *scan* key for 3 seconds.

The SAVED icon appears to indicate the current channel has been saved in memory. Any number of channels can be saved as memory channels.

To Delete Channels from Memory

1. During the normal mode, use the UP/DOWN key to select the channel to be deleted.

2. **Press and hold** the *scan* key for 3 seconds.

The selected channel is deleted from memory.

## Using the Monitor Modes

The Watch Modes monitor the programmed Priority Channel and other user selected channel(s). The watch is halted when activity is detected on a monitored channel. The PACK RT311 is equipped with 2 types of monitor operations: Dual Watch and Tri Watch.

**Note:** *Monitor modes are disabled when the ATIS operation is active.*

### Dual Watch

**Press and release** the *Du/TRI* button to activate the Dual Watch mode. The DUAL indicator appears on the LCD. Dual Watch monitors the current working channel and Channel 16 in cycle. Dual Watch is demonstrated in the figure to the left; the sample working channel is CH 72.

**Press and release** the *Du/TRI* button to terminate Dual Watch and return to the previous working channel.

**Press and hold** the **Du/TRI** button to terminate Dual Watch mode and go into Tri Watch mode.

**Press and release** the **16** button to terminate Dual Watch mode and switch to the Priority channel.

*Note: During Dual Watch mode, the SCAN and Channel ▲/▼ (UP/DOWN) button are inactive and sounds an error beep if pressed.*

## Tri Watch

Press and hold the Du/TRI key for 3 seconds to activate Tri Watch mode. The TRI indicator appears on the LCD. Tri Watch monitors in cycle Channel 16, the current working channel and the channel you have set as the Favourite (PLUS) Channel. Tri Watch is demonstrated in the figure to the left; the sample working channel is CH 72.

**Press and release** the **Du/TRI** button to terminate Tri Watch and return to the previous working channel.

**Press and release** the **16** button to terminate Tri Watch mode and switch to the Priority Channel.

*Note: During Tri Watch Mode, the SCAN, and Channel ▲/▼ (UP/DOWN) keys are inactive and sounds an error beep if pressed.*

## Resetting the Radio

You can reset many radio settings back to their factory defaults, this will:

- Erase any channels stored in memory
- Return to International channels, if another mode is selected
- Turn OFF the Weather Alert setting, if active
- Return power settings to their original state

To perform the reset:

1. Turn the radio OFF.
2. Simultaneously press and hold the **SCAN & UIC** button.
3. While continuing to hold these keys, power the radio ON.

The LCD remains blank for 2 seconds, and then the unit switches to channel 16.

## Attaching and Charging Your Battery Pack

Before attaching the pack, you should detach the belt clip first, then aligningly place the pack on the unit and secure it using the supplied screw.

The design of the battery pack let you can charge it either when it is attached on the radio or being detached. You should use the supplied specialized wall charger to charge it (7.2V Ni-MH battery pack) for 14~15hrs. For charging the battery pack, Connect the AC wall adapter into a standard wall socket and insert the plug into the charge jack on the side of the battery pack to start the charging.

***Note: The charging can not stop itself without prevention, even when the battery pack has been fully charged. Do not forget to take the radio/battery pack out of the charger cradle when it has been fully charged. Overcharging batteries may result in damage to both the battery pack and radio.***

## Using the Belt Clip

The supplied belt clip lets you easily attach the transceiver to your belt. To attach the belt clip, put it onto the back of your transceiver aligning the fitting groove and use a standard PHILIP screw driver to secure.

## TECHNICAL SPECIFICATIONS

Channels.....	All International Channels
Frequency Method.....	Phase Lock Loop
Frequency Range.....	TX 156.025~157.425 MHz RX 156.300~162.000 MHz
Antenna Impedance.....	50 Ohm
Power Supply.....	7.2VDC
Operating Temperature.....	-20°C to +55°C
Dimensions (HWD).....	(With 7.2V Battery Pack) 148mm(H)*60mm(W)*39mm(D)
Weight (with Battery Pack).....	(With 7.2V Battery Pack) 421.5g

### TRANSMITTER

Power Output.....	0.8 or 5 Watts (Switch Selectable)
Modulation Type.....	FM
Hum and Noise Attenuation.....	35dB
Audio Distortion.....	5%
Spurious Suppression.....	70dB

### RECEIVER

Sensitivity at 12dB Sinad.....	0.3 $\mu$ V
S/N Ratio (20dB).....	0.8 $\mu$ V
Squelch Sensitivity.....	Threshold -12dB $\mu$ V(EMF)
Adjacent Channel Rejection.....	70dB
Audio Power Output.....	250mW at 10% THD
Spurious Response Attenuation.....	70dB
Hum and Noise Attenuation.....	40dB
Modulation Acceptance Bandwidth.....	+/- 7.0KHz Minimum

**Note:** The data are typical, and the practical ones may be varied.

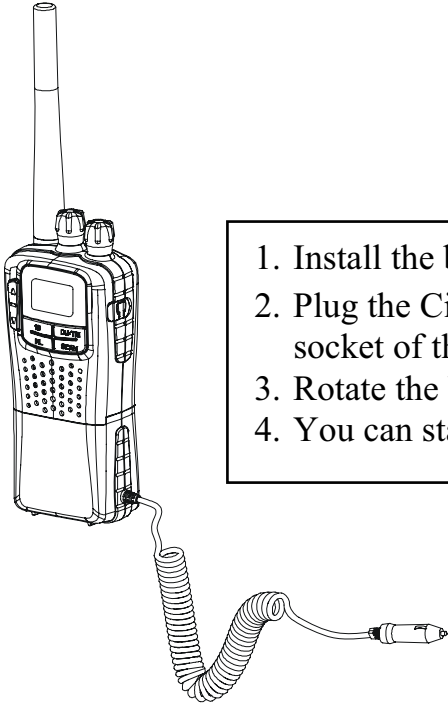
# FREQUENCY CHARTS

Unit: MHz

	INT				
	TX	RX		TX	RX
1	156.050	160.650			
2	156.100	160.700			
3	156.150	160.750	60	156.025	160.625
4	156.200	160.800	61	156.075	160.675
5	156.250	160.850	62	156.125	160.725
6	156.300	156.300	63	156.175	160.775
7	156.350	160.950	64	156.225	160.825
8	156.400	156.400	65	156.275	160.875
9	156.450	156.450	66	156.325	160.925
10	156.500	156.500	67	156.375	156.375
11	156.550	156.550	68	156.425	156.425
12	156.600	156.600	69	156.475	156.475
13	156.650	156.650			
14	156.700	156.700	71	156.575	156.575
15	156.750	156.750	72	156.625	156.625
16	156.800	156.800	73	156.675	156.675
17	156.850	156.850	74	156.725	156.725
18	156.900	161.500	75	156.775	156.775
19	156.950	161.550	76	156.825	156.825
20	157.000	161.600	77	156.875	156.875
21	157.050	161.650	78	156.925	161.525
22	157.100	161.700	79	156.975	161.575
23	157.150	161.750	80	157.025	161.625
24	157.200	161.800	81	157.075	161.675
25	157.250	161.850	82	157.125	161.725
26	157.300	161.900	83	157.175	161.775
27	157.350	161.950	84	157.225	161.825
28	157.400	162.000	85	157.275	161.875
			86	157.325	161.925
			87	157.375	157.375
			88	157.425	157.425

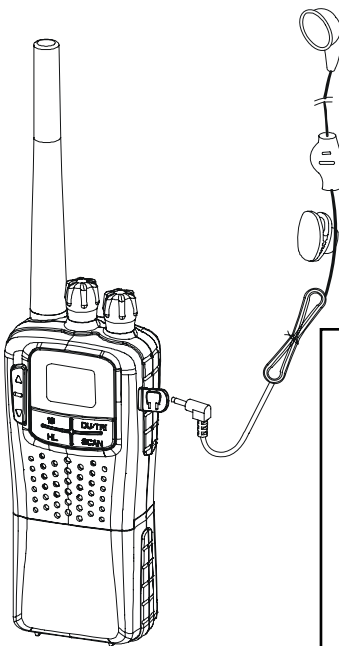
## PACK RT311 Cigarette Lighter Battery compartment, Cigarette Lighter Battery Charging and Earphone Manual

PACK RT311 Cigarette Lighter Battery compartment using:



1. Install the battery case with DC-DC supply to the main unit.
2. Plug the Cigarette Lighter Battery compartment into the socket of the battery.
3. Rotate the VOLUME knob to turn the radio ON.
4. You can start to use the radio.

PACK RT311 Earphone using:



1. Plug the earphone jack into the socket of the main unit.
2. Insert the earphone into the ear; and hold somewhere on your cloth with the clip of the earphone.
3. You can hear the voice signals through the earphone.
4. Press PTT key on the earphone cable to send callings. At this moment, PTT on the main radio does not work.

## NAVICOM

Z.A. des Boutries  
78 700 Conflans Ste Honorine  
Tel : 01.39.72.19.90  
Fax : 01.39.19.28.98  
e-mail : [navicom@navicom.fr](mailto:navicom@navicom.fr)



## NAVICOM Professionnel

3, rue J. Cugnot - ZAC Petit Guelen  
29 000 Quimper  
Tel : 02.98.94.64.70  
Fax : 02.98.94.69.71  
e-mail : [navicom.pro@navicom.fr](mailto:navicom.pro@navicom.fr)

Conflans le 04/04/2006.

## DECLARATION OF CONFORMITY

We, navicom, declare under our sole responsibility that the product:

**Handheld VHF Maritime Radiotelephone Model RT-311  
For NON GMDSS application**

Is in conformity with the essential requirements inside the directive 1999/5/CE, (R&TTE) and satisfies all the technical regulations applicable to the product within the directive.

**EN 301178-2**

**RADIO**

**EN 301843-1**

**EMC**

Detailed results are recorded in test reports n° 203872 from KENTA Electronics France.

On behalf of Navicom

Christophe SOARES

Manager

A handwritten signature in black ink, appearing to read "CSOARES", is written over a horizontal line. The signature is slanted upwards to the right.