

Model NT1, Nautico
Front Cover

(Make sure photo of radios is high resolution before printing)..

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Welcome to the world of Midland electronics

Congratulations on your purchase of a high quality MIDLAND product. Your 2-way radio represents the state-of-the-art in high-tech engineering. Designed for VHF Marine Service operation, this compact package is big on performance. It is a quality piece of electronic equipment, skillfully constructed with the finest components. The circuitry is all solid-state and mounted on a rugged printed circuit board. Your 2-way radio is designed to give you reliable and trouble-free performance for years to come.

Features

- Marine Channels, 57 US, 61 CAN, 57 INT, grouped by area
- Instant Channel 16
- eVOX
- Selectable CALL Tone
- Weather (WX) Band Receiver
- SCAN Function
- MONITOR Function
- Roger Beep Tone
- Key Pad Lock
- Power High / Power Low Settings
- Speaker / Microphone Jacks
- Battery Indicator

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device does not cause harmful interference, and (2) this radio must accept any interference that may cause undesired operation.

To maintain compliance with FCC's RF exposure guidelines, for body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines when used with Midland Radio Corp. accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

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The Nautico operates on VHF Marine Radio Service frequencies, in compliance with Federal Communications Commission (FCC) requirements. Recreational boaters are not currently required to have a Ship Radio License. The USCG recommends that the boat's registration number and state be used for the radio call sign.

FCC License

A ship station license is not required for any vessel traveling in U.S. waters which is under 20 meters in length. However, any vessel required to carry an HF SSB radiotelephone or marine satellite terminal is required to have a ship station license. FCC license forms can be downloaded at www.fcc.gov/forms. You may also obtain a form from the FCC by calling (888) 225-5322.

This needs to be first item in manual

Exposure To Radio Frequency Energy

Your Midland radio is designed to comply with the following national and international standards and guidelines regarding exposure of human being to radio frequency electromagnetic energy:

- United States Federal Communications Commission, Code of Federal Regulations: 47 CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical & Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineer (IEEE) C95. 1-1999 Edition
- National Council on Radiation Protection and Measurements (NCRP) of the United States, Report 86, 1986
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

To control your exposure and ensure compliance with the general population or uncontrolled environment exposure limits, transmit no more than 50% of the time. The radio generates measurable RF energy exposure only when transmitting.

lcom page >>>

SAFETY TRAINING INFORMATION



Your Icom radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "Occupational Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is NOT intended for use by the "General Population" in an uncontrolled environment.

This radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only". In addition, your Icom radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

- FCC OET Bulletin 65 Edition 97-01 Supplement C, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
- American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields—RF and Microwave.
- The following accessories are authorized for use with this product: Use of accessories other than those specified may result in RF exposure levels exceeding the FCC requirements for wireless RF exposure; Belt Clip (MB-68/74/74N/87), Rechargeable Ni-Cd Battery Pack (BP-224) and Alkaline Battery Case (BP-223).



To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following guidelines:

- **DO NOT** operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed FCC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or antenna specifically authorized by the manufacturer for use with this radio.

- **DO NOT** transmit for more than 50% of total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. To provide the recipients of your transmission the best sound quality, hold the antenna at least 5 cm (2 inches) from your mouth, and slightly off to one side.

- **ALWAYS keep** the antenna at least 2.5 cm (1 inch) away from the body when transmitting and only use the Icom belt-clips which are listed on page 32 when attaching the radio to your belt, etc., to ensure FCC RF exposure compliance requirements are not exceeded. To provide the recipients of your transmission the best sound quality, hold the antenna at least 5 cm (2 inches) from your mouth, and slightly off to one side.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates within the FCC RF exposure limits of this radio.

Electromagnetic Interference/Compatibility

During transmissions, your Icom radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. **DO NOT** operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

Occupational/Controlled Use

The radio transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

LCD DISPLAY

- 1. LOW BATTERY ICON** – Indicates battery level is low.
- 2. TRANSMIT (TX) ICON** – Indicates radio is transmitting a signal.
- 3. VOX** – Indicates when eVOX mode is active.
- 4. CHANNEL NUMBER** – Changes from 1~88a on VHF Marine band (1~10 on WX band).
- 5. RECEIVE (RX) ICON** – Indicates radio is receiving a transmission.
- 6. KEY LOCK ICON** – Indicates KEY LOCK mode is on.
- 7. WX BAND ICON** – Indicates when the radio is in Weather Band mode
- 8. TRANSMIT POWER LEVEL(LO) ICON** – Indicates TX Low Power setting.
- 9. USA/CAN/INT CHANNEL ICONS**

(Diagram -- Please re-number these so 11-15 are on the left side of the diagram and 16-20 go down the right side in numerical order)

CONTROLS

- 11. POWER/VOLUME KNOB** – Turn clock-wise to turn the power on and increase the volume level. Turn counter-clockwise to decrease the volume level and turn the power off.
- 12. PTT Button** – Press and hold to transmit voice communication. Press twice quickly to send a call tone.
- 13. CH 16 Button** – Press to switch immediately to emergency channel 16. Press and hold to switch to Channel 9.
- 14. MIC** – Built-in microphone.
- 15. SPEAKER** – Built-in speaker.
- 16. ANTENNA.**
- 17. EXTERNAL SPEAKER/MIC JACK.**
- 18. MENU Button** – Press to access MENU mode. Press and hold to go to WX Band Receiver mode.
- 19. MONITOR/SCAN Button** – Press to enter SCAN mode. Press and hold to enter MONITOR mode.
- 20. UP and DOWN Button** – Make adjustments in MENU mode.

BATTERY INSTALLATION

Your Nautico radio operates with either 4 AA alkaline batteries or an optional NiMH battery pack. The belt clip should be removed (see below) to ease installation or removal of the batteries.

To install the batteries:

1. With the back of the radio facing you, remove the belt clip (see diagram below) for easy access, then remove the Battery Cover by pressing down on the top center and sliding it down from the radio.
2. Insert 4 AA batteries observing the polarity as shown. Installing the batteries incorrectly will prevent the unit from operating or may damage the unit.
3. Return the battery cover by sliding it up on the radio. Replace the belt clip, making sure it locks into place.

1. Battery inserted in this slot

BATTERY COMPARTMENT

BATTERY COMPARTMENT COVER

Press here and push down to open

(Diagram - Place the **Belt Clip Installation** diagram from page 13 next to the Battery Installation diagram on this page).

INSTALLING THE BELT CLIP

To install the **BELT CLIP**, slide the clip down into the slot on the back of the radio until the **BELT CLIP LATCH** clicks. To remove the **BELT CLIP**, press the **LOCK TAB** down, then gently pull the belt clip up toward the top of the radio.

BELT CLIP

LOCK TAB

BELT CLIP

LATCH

RECHARGEABLE BATTERY & CHARGER OPTION

Your Nautico is equipped for using an optional rechargeable NiMH battery pack (not included) which can be recharged using a desktop charger (not included). Initial charge time is 24 hours with a charge time of 8-12 hours thereafter. For maximum battery life, we recommend charging the batteries when the low battery icon comes on. Remove the radios from the charger when the charge time expires.

To Charge Using a Desktop Charger:

1. Place the rechargeable battery packs in the radios
2. Connect the AC adapter into an AC wall outlet
3. Insert the AC adapter plug (or DC Cigarette Lighter adapter if charging in vehicle) into the desktop charger jack
4. Place the units into the desktop charger slot and note that the LED indicator will light up, indicating charging function

(Add a large ! symbol in margin next to the following section)

1. Only use our NiMH battery pack.
2. Do not attempt to charge alkaline batteries or any batteries or battery packs other than the one indicated in the manual. This may cause leakage and damage the radio.
3. For long term storage of the radio, turn the radio OFF and remove the batteries from the radio.

OPERATING YOUR RADIO

POWER ON/OFF AND VOLUME

Rotate the **POWER/VOLUME** knob clockwise to turn the radio on and increase the volume level. Rotate the control counter-clockwise to reduce the volume level and to turn the radio off. During Power On, the radio will beep 3 times with different tones, the LCD will display a "**self-test**" message for 1 second and the LCD display will indicate the last channel selected.

TRANSMITTING AND RECEIVING A CALL

Stolen from Icom manual >>>

1. For maximum clarity, hold the radio 2 to 3 inches from your mouth.
2. Press and hold the **PTT** button and speak in a normal voice into the **microphone**. The **TX** icon will appear continuously on the LCD display while transmitting.
3. To receive a call, release the **PTT** button. The **RX** icon will appear on the display when your radio is receiving a transmission.

ABOUT RANGE

Your Nautico radio is designed to give you maximum range under optimum conditions.

Optimum Conditions are:

- Over water
- Open rural areas without obstructions
- Flat areas where you can see the other person (might need new conditions)

To ensure you get maximum range:

- Be sure to use fresh or fully charged batteries – low batteries will cause low power conditions
- –Be sure you are
- Be sure to

(Insert **Quick Reference Chart** from page 11 --previously called "GXT300/400 User Interface Chart " -- here)

IN CASE OF EMERGENCY

If your vessel requires assistance, contact other vessels and the Coast Guard by sending a distress call on Channel 16.

○ USING CHANNEL 16

DISTRESS CALL PROCEDURE

1. "MAYDAY MAYDAY MAYDAY."
2. "THIS IS" (name of vessel)
3. Your call sign or other indication of the vessel.
4. "LOCATED AT" (your position)
5. The nature of the distress and assistance required.
6. Any other information which might facilitate the rescue.

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MONITOR

Pressing and holding the **MONITOR** button for 1 second will let you hear noise so you can adjust the volume level of the radio when not receiving a signal. This should be used to check activity on your current channel before transmitting. Press and release the **Monitor** button for 1 second again to get out of **Monitor** mode.

SCAN

Your Nautico can scan all channels for activity. To enter, quickly press the **SCAN** button. Repeat the same procedure to exit. Your radio will rapidly scan each of the channels and stop on any active channel for 5 seconds before resuming scan. When you press the **PTT** button to transmit on an active channel, the scanning function will stop and remain on the active channel. To resume scanning, quickly press the **SCAN** button.

INSTANT CHANNEL 16/9

Your Nautico can switch to Channel 16 instantly by pressing the **CH16** button. Use channel 16 for emergency traffic only. You can also switch to Channel 9 without changing your normal channel by pressing and holding the CH16 Button for 1 second. Pressing the **CH16** button again returns the radio to the normal channel setting.

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CALL TONE

Your Nautico can transmit a call tone for a fixed length of time. To send a call tone, press the **PTT** button twice within ½ second. The **TX** icon will appear while transmitting a call tone and a tone can be heard on the speaker for confirmation.

KEYPAD LOCK

To avoid accidentally changing the radio setting, press the **MENU** button 4 times then press an up/down button to choose ON. The **KEY LOCK** icon will appear on the display. **PTT** and **CH 16** will still be active. Repeat the same procedure to unlock the keypad.

DISPLAY ILLUMINATION

During Power on, the display illumination will activate for approx. 7 seconds. The display illumination can also be activated when the **MENU** button is pressed.

CHANNEL SELECTION:

Press the **MENU** button once, and then the buttons to select one of the channels. To confirm the selection, press the **PTT** button or press **MENU** again to move to the next feature setting.

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TRANSMIT (TX) POWER LEVEL SELECTION

The Nautico has 2 transmit power level settings. To select the power level on channels press the **MENU** button two times, a “**Pr**” icon will appear blinking on the display. Then press the (Down/Up arrow symbols) buttons to select **TRANSMIT POWER LEVEL** icon (**no icon: Hi /LO: Low**). To confirm, press the **PTT** button or press **MENU** again to move to the next feature setting.

eVOX (Hands-free Transmission)

Your Nautico has 2 eVOX level settings: (**oF/1/2**).

To set **eVOX**, press the **MENU** button three times. The display shows “**eVOX**” blinking while on the right of the **CHANNEL NUMBER** display, an “**oF**” icon appears. Select “1” or “2” by pressing the buttons and push the **PTT** key, or press **MENU** again to move to the next feature setting.

eVOX will be more sensitive on the “**Hi**” setting than on the “**Lo**” setting.

To turn **eVOX** off, press the **MENU** button three times. The display shows “**VOX**” blinking while on the right of the **CHANNEL NUMBER** display, an “**on**” icon appears. Select “**oF**” by pressing the (down/up arrow symbols) buttons and push the **PTT** key, or press **MENU** to move to the next feature setting.

ROGER BEEP (end of transmission) TONE

When the **PTT** button is released, the radio will beep to confirm to other users that your transmission has finished. To turn the **ROGER BEEP** tone on, press the **MENU** button until the display shows an **"rb"** icon while on the right of the **"rb"** display, an **"oF"** icon appears. Select **"on"** by pressing the (down/up symbols) buttons and push the **PTT** key, or press **MENU** to move to the next feature setting.

To turn the **ROGER BEEP** tone off, press the **MENU** button until the display shows an **"rb"** icon while on the right of the **"rb"** display, an **"on"** icon appears. Select **"oF"** by pressing the (down/up symbols) buttons and push the **PTT** key, or press **MENU** to move to the next feature setting.

USA/CAN/INT CHANNEL SELECTION

The Nautico channel selection can be changed to follow rules of USA, Canada, or international rules. Press the **MENU** button until the current channel icon (USA, CAN , INT) flashes. . Select a different channel list by pressing the (down/up symbols) buttons until the desired icon appears. Press the **PTT** key or press **MENU** to confirm.

CALL TONE SELECTION

Your **Nautico** has 3 user-selectable **CALL TONES**. To select, press the **MENU** button six times, so a "**CA**" icon appears and to the right of the "**CA**" icon the current **CALL TONE** setting is displayed. Then press the (down/up symbols) buttons to make the **CALL TONE** selections– the radio will emit a corresponding tone for each selection. To confirm, press the **PTT** button or press **MENU** to move to the next feature setting.

WEATHER (WX) BAND RECEIVER

Your **Nautico** has a **WEATHER (WX) BAND RECEIVER** function, to enable user to receive weather alert/reports from designated **NOAA** stations. To turn the **WEATHER (WX) RECEIVER** on, press and hold the **MENU** button for 3 seconds. The current **WX CHANNEL** and **WX BAND** icon will appear on the display. Press the **MENU** button and the (down/up symbols) buttons to select one of the 10 **WX BAND** channels. To confirm, press the **PTT** button or press **MENU** to move to the next feature setting. To turn the **WEATHER (WX) RECEIVER** off, press and hold the **MENU** button for 3 seconds. The current radio setting will be displayed and the **WX BAND** icon will go off.

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EXTERNAL SPEAKER/MICROPHONE JACK

Your Nautico can be used with an optional external speaker/microphone or headset, freeing your hands for other tasks. To use an optional / speaker / microphone or headset:

- Insert the plug(s) into the **SPK/MIC** jacks
- Place the earbud into your ear, and adjust the mic into your desired position.

TROUBLESHOOTING GUIDE

PROBLEM

SOLUTION

No Power

Check battery installation and/or replace batteries

Cannot Receive Messages

Confirm the radios have the same channel settings.

Make sure that you are within range of the other transceivers.

Buildings and other structures may interfere with your communication.

(See *ABOUT RANGE* on Page

Radio is not responding to button presses

Make sure key lock is not on. See "Keypad Lock" (Page 11).

Radio might need to be reset. Turn radio off then on.

Display is dim

Recharge or replace batteries.

Charger not functioning

Contacts on the back of the radio may require cleaning.

Ensure the outlet where the charger is plugged into is functioning properly.

Check that the battery pack is installed in the radio properly.

USE AND CARE :

1. Use a soft, damp cloth to clean the radio
2. **Do not** use alcohol or cleaning solutions to clean the radio.
3. **Do not** immerse the radio in water.
4. Use a soft damp cloth to clean the radio
5. Dry the radio with dry lint-free cloth if the radio gets wet.
6. Turn off the radio and remove the batteries during long-term storage.

If you have a problem which you believe requires service, please call first and speak with a service technician. Many problems can be remedied over the phone without returning the unit for service.

SPECIFICATIONS

Channels

57 US, 61 CAN, 57 INT

10 Weather (WX) Band Channels

Operating Frequency VHF 156.025 ~ 162.550 MHz

Power Source 4 AA Alkaline or 4.8V Rechargeable NiMH battery pack

FREQUENCY CHART (MHz)

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
	01	01	156.050	160.650
01A			156.050	156.050
	02	02	156.100	160.700
	03	03	156.150	160.750
03A			156.150	156.150
	04		156.200	160.800
		04A	156.200	156.200
	05		156.250	160.850
05A		05A	156.250	156.250
06	06	06	156.300	156.300
	07		156.350	160.950
07A		07A	156.350	156.350
08	08	08	156.400	156.400
09	09	09	156.450	156.450
10	10	10	156.500	156.500
11	11	11	156.550	156.550
12	12	12	156.600	156.600
13*	13	13*	156.650	156.650
14	14	14	156.700	156.700
15*	15*	15*	156.750	156.750
16	16	16	156.800	156.800
17*	17	17*	156.850	156.850
	18		156.900	161.500
18A		18A	156.900	156.900
	19		156.950	161.550

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
19A		19A	156.950	156.950
20	20	20 ¹	157.000	161.600
20A			157.000	157.000
	21	21	157.050	161.650
21A		21A	157.050	157.050
	22		157.100	161.700
22A		22A	157.100	157.100
	23	23	157.150	161.750
23A			157.150	157.150
24	24	24	157.200	161.800
25	25	25	157.250	161.850
26	26	26	157.300	161.900
27	27	27	157.350	161.950
28	28	28	157.400	162.000
	60	60	156.025	160.625
	61		156.075	160.675
61A		61A	156.075	156.075
	62		156.125	160.725
		62A	156.125	156.125
	63		156.175	160.775
63A			156.175	156.175
	64	64	156.225	160.825
64A		64A	156.225	156.225
	65		156.275	160.875
65A	65A	65A	156.275	156.275

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
	66		156.325	160.925
66A	66A	66A*	156.325	156.325
67*	67	67	156.375	156.375
68	68	68	156.425	156.425
69	69	69	156.475	156.475
70	70	70	Fx only	156.525
71	71	71	156.575	156.575
72	72	72	156.625	156.625
73	73	73	156.675	156.675
74	74	74	156.725	156.725
77*	77	77*	156.875	156.875
	78		156.925	161.525
78A		78A	156.925	156.925
	79		156.975	161.575
79A		79A	156.975	156.975
	80		157.025	161.625
80A		80A	157.025	157.025
	81		157.075	161.675
81A		81A	157.075	157.075
	82		157.125	161.725
82A		82A	157.125	157.125
	83	83	157.175	161.775
83A		83A	157.175	157.175
84	84	84	157.225	161.825
84A			157.225	157.225

[illegible]

*Low power only.

NOTE: Simplex channels 3, 21, 23, 61, 64, 81, 82 and 83 **CANNOT** be lawfully used by the general public in USA waters.

Note: chart stolen from Icom. For reference only. Our own chart needed.

(Nautico) WEATHER (WX) RECEIVER FREQUENCY CHART (MHz)

CH. No CH. Freq. CH. No CH. Freq.

1 162.550 **6** 162.500

2 162.400 7 162.525

3 162.475 8 161.650

4 162.425 9 161.775

5 162.450 **10** 163.275

Channels 8,9 and 10 are designated Canadian Marine Frequencies

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LIMITED WARRANTY

Midland Radio Corporation will repair or replace, at its option without charge, any Midland VHF MARINE transceiver which fails due to a defect in material or workmanship within Three Years following the initial consumer purchase. This warranty does not apply to water damage, battery leak or abuse.

This warranty does not include any carrying cases, earphones or antennas, which may be a part of or included with the warranted product or the cost of labor for removal or re-installation of the product in a vehicle or other mounting. Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, along with proof of purchase to:

**Midland Radio Corporation
Warranty Service Department
1120 Clay Street
North Kansas City, MO 64116**

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state. Note : The above warranty applies only to merchandise purchased in the United States of America or any of the territories or possessions thereof or from a U.S. Military exchange.

**Midland Radio Corporation
1120 Clay Street
North Kansas City, MO 64116
Tel: (816) 241-8500
E-mail: mail@midlandradio.com
URL: www.midlandradio.com**

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MIDLAND Family of Products

(Other Midland Products graphic here)

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ACCESSORIES

Accessories can be purchased at www.midlandradio.com

AVP3

- 1 Dual Desk Charger
- 2 Rechargeable battery packs
- 1 AC Adapter
- 1 DC Cigarette lighter adapter

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MIDLAND RADIO CORPORATION

1120 Clay St.

Norht Kansas City, MO 64116

Call 816.241.8500

visit us at www.midlandradio.com

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