User Guide - HT8/944 & HT942

v10/10

Professional submersible marine handheld transceivers

ATEX approved Intrinsically Safe

II 2 G Ex ib IIA T4 Gb
II 2 G Ex ib IIC T4 Gb

Ex ib IIA T4 Gb
Ex ib IIC T4 Gb

Common Information
(all models)

HT844
LCD

HT944
LCD

HT942
Entry

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Declaration of Conformity

We Entel UK Limited of:

Entel UK Limited
320 Centennial Avenue
Centennial Park
Elstree
Borehamwood
Hertfordshire
WD6 3TJ
United Kingdom

Declares under our sole responsibility that the product range:

HT844 / HT944 Series ATEX Handheld Radio Transceiver

Conforms to the following standards or other nominative documents:

- EN 301 178-2 V1.2.2: 2007, EN 60945:2002, EN60950-1: 2006, in accordance with Directive 1999/5/EC.
- EN 60079-0:2006, EN 60079-0:2009, EN60079-11:2007 in accordance with Directive 94/9/EC

Related Certificate:

94/9/EC: Sira 10ATEX2066X Marking: Ex II 2 G Ex ib IIA T4 Gb

IECEx SIR 10.0035X Ex II 2 G Ex ib IIC T4 Gb

Notified Body No. 0518
Sira Certification, Rake Lane, Chester CH4 9JN, UK

Quality Assurance Notification:

94/9/ Intertek Notified Body No. 0359
Intertek, Intertek House, Leatherhead KT22 7SB, UK

R&TTE:

Trac
Notified Body No. 0891

M Austin

Date: 1 October 2010

Quality Manager

CE

ISO 9001
REGISTERED FIRM

Introduction

The HT844, HT944 & HT942 are professional marine handheld transceivers that operate on the VHF marine band. The HT844 and HT944 have 58 marine international channels and 36 dealer programmable private channels. The 58 marine channels are switchable to comply with International, USA or Canadian regulations, which can be done directly via the radio's keypad. It has an emergency channel, which can be immediately selected from any channel using the 16 button. The HT942 is a 16 channel Marine VHF that operates from 155Mhz to 165 Mhz.
The HT844, HT944 & HT942 commercial grade HT Series 2.0 portables utilise the latest intelligent Lithium-Ion battery technology and includes the following features: scan, battery life indicator, VOX (voice operated transmit), low battery indicator, large LCD with back light.

Packing List

- HTX44 Radio or HT942.
- CNB950E Rechargeable 1800mAh Li-Ion battery.
- CBH950 Spring loaded belt clip.
- CATXX Antenna .
- User guide CD.
- Trickle charger (only supplied with HT942)

Radio Care

Warranty

The HTX44\HT942 come with a 24 month warranty, for details see our full terms & conditions.

Advice

- Do not use options or accessories not specified by Entel.
- Ensure that the radio is used within the parameters for which it was designed.
- Please switch the transceiver off before connecting optional accessories.

Warning

Turn the transceiver off in the following locations:

- In explosive atmospheres (flammable gas, dust including metallic and grain powders etc) outside of the radio's ATEX approval rating.
- Whilst taking on fuel or while parked near a fuel station.
- Near explosives or blasting sites.
- In aircraft, medical institutions or near persons known to be wearing a pacemaker.

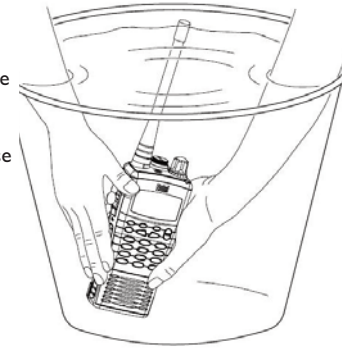
Caution

- Do not disassemble or modify the transceiver for any reason.
- Do not transmit while touching the antenna terminal or any exposed metallic parts of the aerial as this may result in a burn.
- Please check and observe regulations in your country with regard to use whilst driving.

Cleaning your Radio

After exposure to any potentially corrosive substance including salt water it is recommended to thoroughly wash the transceiver in fresh water. If washing with the battery removed from the radio, ensure that the battery is not immersed in water and clean only with a damp cloth.

Note: Do not wash the transceiver if you suspect the waterproofing seal may be damaged. Please return to your supplier for inspection / repair.



End of Life Disposal

When your Entel transceiver reaches the end of its useful life, please ensure that the unit is disposed of in an environmentally friendly way. For country specific information please see: www.entel.co.uk/recycling.

Preparing Your Radio For Use

Attaching / Removing the Battery Pack

1 To attach, locate the pegs on the bottom of the battery into the slots on the radio and press the top of the battery against the radio. Secure battery by tightening the screw clockwise by hand (Do not over tighten).

2 To remove, unscrew the locking screw anticlockwise and pull the battery away from the top of the radio.

Attaching / Removing Audio Accessories

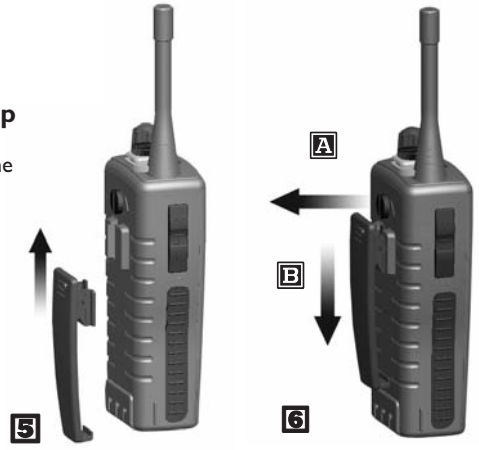
3 To attach, remove the accessory cover by unscrewing the locking screw anti-clockwise (leave cover secured under antenna as this provides a waterproof seal). Attach accessory plug by locating over the socket. Carefully tighten the locking screw clockwise until finger tight (do not tighten with a screwdriver etc).

4 To remove, unscrew accessory plug the locking screw by hand in an anti-clockwise direction (carefully use a coin or screwdriver if too tight). Ensure you re-fit the accessory waterproof cover so as to protect the accessory socket.

Attaching / Removing the Belt Clip

5 To attach, slot the clip onto the slot on the back of the battery and slide up until you hear a "click"

6 To remove, pull the tab towards the belt clip (A). Then slide the belt clip downwards (B)



Battery Care / Information

Introduction

Your Entel radio is supplied with a high performance Lithium-Ion (Li-Ion) battery. These batteries:

- Extend talk time
- Reduce the battery's size and weight
- Do not suffer from 'memory effect' that reduces the life of Ni-Cad and NiMH batteries
- Have a low toxicity, therefore reducing the impact on the environment

Battery Pack Precautions

- Switch the transceiver OFF before charging
- Charge the battery pack before use
- Do not recharge the battery pack if it is already fully charged
- Charge the battery in accordance with the instructions enclosed with your charger.
- Do not charge the transceiver and/or battery pack if they are wet
- Do not charge the battery pack in a hazadous area

The battery pack includes potentially hazardous components. Please:

- Do Not disassemble or reconstruct battery
- Do Not short-circuit the battery
- Do Not incinerate or apply heat to the battery
- Do Not immerse the battery in water unless attached securely to the radio or get it wet by other means
- Use only the specified charger and observe charging requirements
- Do Not pierce the battery with any object or strike it with an instrument
- Do Not use the battery pack if it is damaged in any way
- Do Not reverse-charge or reverse-connect the battery
- Do Not touch a ruptured or leaking battery

If liquids from the battery get into your eyes, immediately:

- Wash your eyes out with fresh water and avoiding rubbing them.
- Seek medical treatment

Battery Pack

- If a battery is not to be used for an extended period of time (e.g. several months) remove the battery pack from the equipment and store in a cool and dry location (around 0°C) part charged
  Do not fully discharge the battery before storage
- Each charge cycle reduces the battery's life. Minimise the number of times you charge your battery especially in hotter environments which further shortens a battery's life

Battery Charging

1. Connect the AC adapter to the charger pod. The LED status light will illuminate green indicating ready for charge
2. Turn the transceiver off
3. Insert the battery pack into the charger pod, either with or without the transceiver attached. The LED status light changes from green to red and trickle charge begins
4. A fully discharged battery pack will take approximately 6 hours to charge, depending on the remaining power condition. When charge is complete, the LED status light turns green.

The battery pack has an over-current protection circuit fitted. When charging a completely discharged battery i.e. first charge, ensure the battery is removed from the radio and then re-attach (if fitted to radio when charging). This will reset the protection circuitry and ensure normal operation. This process will need to be repeated if the battery is allowed to completely discharge in the future. In normal use this is unlikely.

Battery Care / Information

Battery Indicator (HTX44 Only)

For your safety and convenience your transceiver continually monitors the battery pack and gives an indication on the LCD.

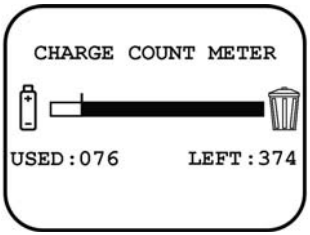
- 3 Segments: Fully charged
- 2 Segments: 1 hour
- 1 Segment: 20 mins

Note: Only genuine Entel batteries should be used. With Entel batteries customer satisfaction is assured, as you avoid risks from sub standard, potentially dangerous battery packs from 3rd party manufacturers, ensuring it delivers the expected capacity and endurance.

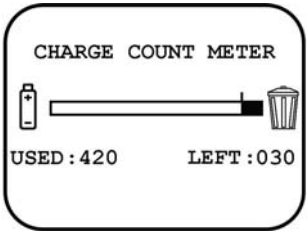
On HT series batteries a breathable membrane is used. This is clearly marked on the battery label. Piercing the membrane will allow water ingress to the battery and will invalidate the warranty.

Battery Communications (HTX44 Only Excluding ATIS models)

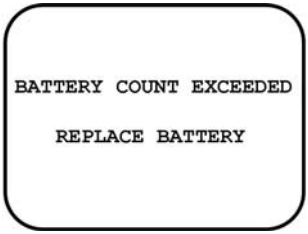
Each battery used with your radio has a microprocessor fitted, which logs the number of times your battery has been charged.
On a radio with an LCD display, the number of times the battery has been charged, together with the remaining charge cycles available, will be shown during switch on (if not de-activated by your dealer).



The warranty on all batteries is 12 months or 450 charge cycles, whichever is the sooner. After 420 cycles, at switch on the radio will emit a series of short tones, and on LCD models a waste bin icon will flash to alert you to the need to buy a new battery.



After 450 cycles, at switch on the radio will emit a series of long warning beeps that indicate the number fo times the battery has been charged exceeds the charge count & the battery needs to be replaced.



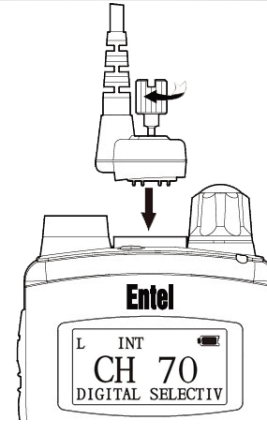
Note: only genuine Entel batteries should be used. Only genuine batteries offer the battery charge count feature informing you when the battery is reaching the end of its useful life. Non ATEX batteries will not work on ATEX radios ensuring customer safety.

Optional Accessories

Attaching and Removing Accessories

To attach an accessory: Remove the accessory cover by unscrewing the locking screw anti-clockwise (leave cover attached or store in a safe place). Attach accessory plug to the socket. Carefully tighten the locking screw clockwise until finger tight (do not tighten with a screwdriver etc).

To remove an accessory: Unscrew the locking screw of the accessory by hand in an anti-clockwise direction (carefully use a coin or screwdriver if too tight). Ensure you re-fit the accessory cover so as to protect the socket.



Battery and Charger Options	
CNB950E	Spare 1800mAh Lithium-Ion battery pack with rear clip.
CSAHT	1-way intelligent rapid charger.
CSBHT	6-way intelligent, rapid charger.
CCAHT-230	1-way trickle charger with 230V mains adapter.
CCAHT-110	1-way trickle charger with 110V mains adapter.
CCAHT-12	1-way trickle charger with cigarette lighter lead, 12V DC operation.

Carry Options	
CLC953	Heavy duty black leather case with strap and belt loop.
CBH950	Spare spring loaded belt clip.

Audio Accessory Options	
CMP950HD	Heavy duty submersible speaker microphone.
EA12/950	D-shaped earpiece with in-line PTT/microphone and VOX*.
EA15/950	Transparent acoustic tube earpiece with in-line PTT/microphone.
EA19/950	D-shaped earpiece with boom microphone and large in-line PTT and VOX*.
EPT40/950	Bone conductive combined earpiece microphone with large in-line PTT.
CXR5/950	Bone conductive skull microphone with large in-line PTT.
CXR16/950	D-shaped earpiece and throat microphone with large in-line PTT.
CHP950HS	Single earpiece ear defender headset with boom mic and in line PTT for hard hat and VOX*
CHP950HD	Double earpiece defender headset with boom mic and in line PTT for hard hat and VOX*.
CHP950D	Double earpiece headband defender headset with boom mic and in line PTT and VOX*.
CXW640	BNC antenna adapter for external aerial connection.
CAT40	Replacement high efficiency helical antenna.

Optional Accessories

Other Accessories	
EPROGHT	Programming software and lead (Only available to Authorised Dealers)
PTT950	Waterpoof PTT
PTT951E	Waterproof PTT
PTT951C	Waterproof PTT

*VOX = Voice Operated Transmit (hands free operation)

For complete up to date list of optional accessories visit: www.entel.co.uk

The use of non Entel approved accessories will invalidate your ATEX intrinsically safe approval. Refer to certificate Sira 10ATEX 2066X for permitted accessories.

Standard Features

Standard Features:

- Environmentally protected to IP68 i.e. submersible to 5 metres for up to 60 minutes
- Robust design, exceeds MIL-STD-810C/D/E/F
- 1800 mAH Lithium-Ion battery for superior operational time.
- Exceptionally loud and clear audio
- Automatic power save to further increase operational time
- Low battery alert indicates when the battery needs charging or replacing

Standard Featus (HTX44 only)

- LCD screen to display channel number and current settings \ status (HTX44 Only)
- INT, USA, CAN channels (HTX44 Only)
- Ch 16 shortcut button
- Scan, Monitor and MEM button
- Battery charge count to indicate when a battery needs replacing.
- Full transmit power output 4 Watts (HT844 only), 1 Watt.

Dealer Programmable Features:

- Key lock button
- VOX (Voice Operated Transmit) Function
- Prefixed minimum volume level and fixed bleep level

Using Your Radio

Turning the Radio On and Off

To turn the radio ON press and hold the red power button ⏻ until the LCD iluminates and a power on tone is generated after 1 second to indicate the transceiver has passed its self-diagnostic test.
To turn the radio OFF press and hold the power button until the LCD displays "POWERING OFF" and its illumination switches off.

Using Your Radio

Before using your radio you may need to adjust the volume on the radio to take in to account background noise. Adjust the volume using the rotary control on the top of the radio.

Reception

1. Turn the transceiver on using the power button. During standby the LED indicator will pulse amber every 3 seconds, verifying its circuitry is functioning correctly. Adjust the volume using the rotary control on top of the radio. After power-on, the transceiver will always default to the last channel selected.
2. Select the desired channel using the [UP/DOWN] buttons. A full listing of channels can be found on page 17 to 19.
3. When receiving a signal the LED indicator illuminates green.

Transmitting

1. Perform steps 1 through 2 of RECEPTION.
2. Before transmitting, monitor the channel and make sure it is clear.
3. For communications over short distances, press the [H/L] button or press & hold the MEM button to toggle from High Power (4 watts) to Low power (1 watt) denoted by an L on the LCD, (available on the HT844 only). Transmitting on 1 watt prolongs battery life, and should be selected whenever possible.
4. When receiving a signal, wait until the signal stops before transmitting. The transceiver cannot transmit and receive simultaneously.
5. Press the [PTT] (Push-To-Talk) button to begin your transmission. To confirm transmission is in progress, the LCD indicator illuminates TX and the LED illuminates red.
6. Hold the transceiver 1 inch from your mouth and speak slowly and clearly into the microphone.
7. When the transmission is finished release the [PTT] button.

Channels

International (INT), USA and Canadian (CAN) Modes

The HT844 / HT944 has 3 different modes: International (INT), USA and Canadian (CAN), which are displayed on the LCD. These modes can be changed by applying the "Change Mode" function to a button. The mode can be selected by pressing the button to toggle through the options and pressing the PTT to select the desired mode.

Emergency Channels

To select the emergency channel, press the [16] button from any channel. Channel 16 appears on the display.
To recall the previous channel used, press the [16] button once again.

Monitor Channels

Press the monitor button [MON] to defeat the squelch mute this is displayed as a speaker on the LCD and release to mute the radio. A long press will hold the squelch mute open until pressed again to cancel again to return to squelch mute.

SIMPLEX / DUPLEX CHANNEL USE

Your transceiver has been factory programmed in accordance with FCC (USA), Industry Canada and International regulations. The mode of operation cannot be altered from simplex to duplex or vice versa. Simplex or duplex mode is automatically activated, depending on the channel set and whether USA, Canadian (CAN), or International (INT) mode is selected.
Refer to the channel charts listed on pages 17 to 19 of this user manual.
If you have a licence to use a specific simplex or semi-duplex channel, contact your dealer who may be able to programme your channel using the transceiver's private channel memory.

High \ Low Power Channels (HT844 Only)

To toggle the power level from High (4 watts) to Low (1 watt) press & hold the MEM button, the power of the channel will be indicated by an H for High or L for Low on the LCD.

The Scan Function

Programming the Scan Function:

1. Select the desired channels to be scanned using the  and  buttons.
2. Press the [MEM] button to store the channel in the transceiver's memory. [M] will be displayed on the LCD if the channel is memorised and will be scanned.
3. To add further channels, repeat steps 1 and 2.
4. To delete a channel from the transceiver's scan list, press the [MEM] button on a channel that displays the [MEM] icon until the icon disappears.
5. All channels programmed remain in the transceiver's scan memory, even if the power is switched off.

Using the Scan Function:

Once a Scan list has been programmed, you can start scanning by pressing the [SCAN] button. The scan proceeds from the lowest to the highest programmed channel number and stops on channels when a transmission is received. The transceiver will display the channel number and alias as it is being scanned.

To stop the scan at any time, press the [SCAN] key again.

VOX (Voice Operated Transmit)

In VOX mode the transceiver will react to your voice, and transmit automatically without you having to press the PTT button when it receives audio above a selected level. There is always a slight delay for the electronic switching and consideration will need to be given. To get optimum performance from the VOX feature you should use a noise cancelling headset or earpiece microphone (see accessory options).

Using the VOX Feature:

To use the VOX feature, assign it to a button using the Entel Programmer and a programming lead. Press the assigned button to enable \ disable it. The VOX symbol  will be displayed on the LCD when the VOX is enabled.

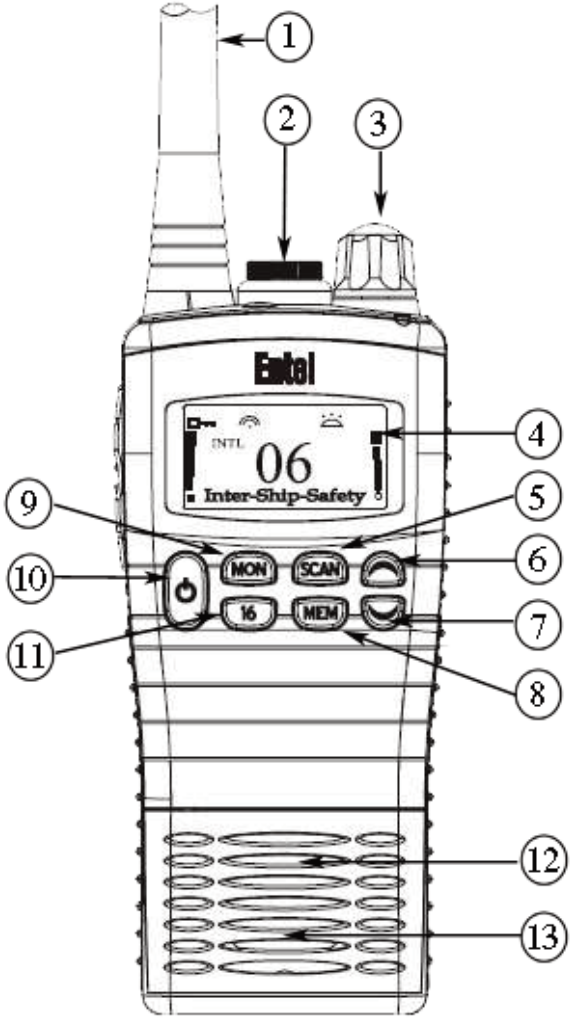
Changing the Sensitivity of the VOX:

To control the sensitivity of the VOX assign the "VOX Level" to a button using the Entel Programmer. Press the button to display the current level, then use the rotary control on top of the radio to select the level you wish (the lower the level the lower the sensitivity). Then press the PTT to select the level and return to normal radio operation.

LCD Indicators

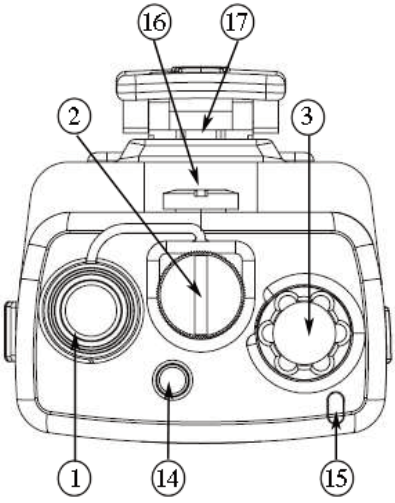
Indicator	Description
H	High power selected (4 Watts) (HT844 model only).
L	Low power (1 Watt).
MEM	Indicated channel is memorised for scanning.
	Voice operated transmit mode enabled.
USA	Indicates the channel set for USA.
CAN	Indicates the channel set for Canadian.
INT	Indicates the channel set for International.
	The Monitor function is enabled.
	Battery life indicator.
	Indicates keypad is locked, excluding the PTT.
PFL	Either P, F or L are displayed as Private channel number selected.
DUP	Duplex channel selected (not simplex).

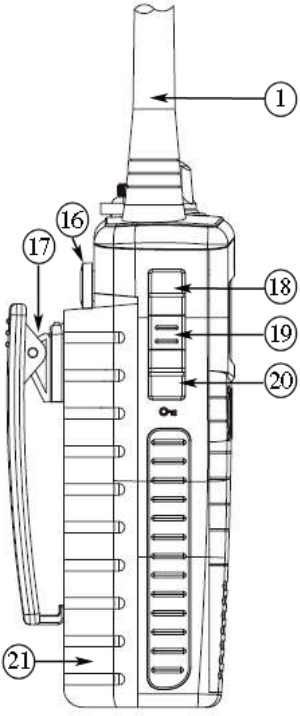
Controls



1 **Antenna \ Antenna Connector:** Used to attach the antenna of the radio.
2 **Accessory Connector:** The accessory connector and accessory cover.
3 **Encoder:** The rotary controller.
4 **LCD:** The LCD of the radio.
5 **Scan Button:** Starts / Stops scanning the memorised channels.
6 **Up Button:** The up button is used to change the channels.
7 **Down Button:** The down button is used to change the channels.
8 **[MEM] Memory Button:** The Memory button memorises a desired channel for scanning.
9 **Monitor Button:** Press to monitor the channel without the squelch mute.
10 **Power Button:** Powers the radio on and off.
11 **16 Button:** Pressing the button selects channel 16.
12 **Speaker:** The radio's speaker.
13 **Microphone:** Internal condenser microphone.

Controls





14 **Orange Button:** The orange button, the functionality of which depends on the configuration of the radio (by default long press is region).

15 **LED (Light Emitting Diode):** The LED indicator, which indicates the status of the radio:

- RED Steady = Transmitting
- RED Flashing slowly = Battery needs re-charging
- GREEN Steady = Receiving
- AMBER Steady = Receiving but with incorrect subtone.
- AMBER Pulse every 3 s = Radio in standby mode.

16 **Battery Screw:** The screw used to attach or remove the battery.

17 **Belt Clip:** The spring loaded belt clip, which can be used to attach the radio to your belt.

18 **Upper Side Button:** The upper function button, the functionality of which depends on the configuration of the radio (by default press to PTT).

19 **PTT:** The PTT (Press To Talk) button, hold down to transmit, release to receive.

20 **Lower Side Button:** The lower function button, the functionality of which depends on the configuration of the radio (by default long press key lock).

21 **Battery:** The rechargeable lithium-ion battery pack.

Channel Chart

CH	Channel Set			S/D	Frequency		Channel Use
	USA	CAN	INT		Receive	Transmit	
1A	X			S	156.05000		PORT OPERATION AND COMMERCIAL
1		X	X	D	160.65000	156.05000	PUBLIC, PORT OPERATIONS
2		X	X	D	160.70000	156.10000	PUBLIC, PORT OPERATIONS
3A	X			S	156.15000		US GOVERMENT, COAST GUARD
3		X	X	D	160.75000	156.15000	PUBLIC, PORT OPERATIONS
4A		X		S	156.20000		COMMERCIAL FISHING
4			X	D	160.80000	156.20000	PUBLIC, PORT OPERATIONS
5A	X	X		S	156.25000		PORT OPERATIONS,VTS IN SEATTLE
5			X	D	160.85000	156.25000	PUBLIC, PORT OPERATIONS
6	X	X	X	S	156.30000		INTER-SHIP SAFETY
7A	X	X		S	156.35000		COMMERCIAL
7			X	D	160.95000	156.35000	PUBLIC, PORT OPERATIONS
8	X	X	X	S	156.40000		COMMERCIAL (INTER-SHIP ONLY)
9	X	X	X	S	156.45000		BOATER CALLING CHANNEL
10	X	X	X	S	156.50000		COMMERCIAL / INTERSHIP
11	X	X	X	S	156.55000		COMMERCIAL / PORT OPERATIONS
12	X	X	X	S	156.60000		PORT OPERATION
13	X	X		S	156.65000		INTER-SHIP NAVIGATION SAFETY
13			X	S	156.65000		INTER-SHIP NAVIGATION SAFETY
14	X	X	X	S	156.70000		PORT OPERATION
15	X			R	156.75000	-	SHIP MOVEMENT
15		X	X	S	156.75000		SHIP MOVEMENT \ INTERSHIP
16	X	X	X	S	156.80000		INTERNATIONAL DISTRESS
17	X	X	X	S	156.85000		STATE CONTROLLED \ INTERSHIP
18A	X	X		S	156.90000		COMMERCIAL
18			X	D	161.50000	156.90000	PORT OPERATION, SHIP MOVEMENT
19A	X	X		S	156.95000		COAST GUARD
19			X	D	161.55000	156.95000	PORT OPERATION, SHIP MOVEMENT
20A	X			S	157.00000		PORT OPERATION
20	X		X	D	161.60000	157.00000	PORT OPERATION AND SHIPMENT
20		X		D	161.60000	157.00000	PORT OPERATION AND SHIPMENT
21A	X	X		S	157.05000		U.S. GOV, CANADIAN COST GUARD
21			X	D	161.65000	157.05000	PORT OPERATION, SHIP MOVEMENT

Channel Chart

CH	Channel Set			S/D	Frequency		Channel Use
	USA	CAN	INT		Receive	Transmit	
22A	X	X		S	157.10000		
22			X	D	161.70000	157.10000	PORT OPERATION, SHIP MOVEMENT
23A	X			S	157.15000		U.S. GOVERNMENT ONLY
23		X	X	D	161.75000	157.15000	PUBLIC CORRESPONDENCE
24	X	X	X	D	161.80000	157.20000	PUBLIC CORRESPONDENCE
25	X	X	X	D	161.85000	157.25000	PUBLIC CORRESPONDENCE
26	X	X	X	D	161.90000	157.30000	PUBLIC CORRESPONDENCE
27	X	X	X	D	161.95000	157.35000	PUBLIC CORRESPONDENCE
28	X	X	X	D	162.00000	157.40000	PUBLIC CORRESPONDENCE
37			X	S	157.85000		MARINA CHANNEL
60		X	X	D	160.62500	156.02500	PUBLIC \ PORT OPERATIONS
61A	X	X		S	156.07500		-
61			X	D	160.67500	156.07500	PUBLIC \ PORT OPERATIONS
62A		X		S	156.12500		-
62			X	D	160.72500	156.12500	PUBLIC \ PORT OPERATIONS
63A	X			S	156.17500		PORT OPERATIONS
63			X	D	160.77500	156.17500	PUBLIC \ PORT OPERATIONS
64A	X	X		S	156.22500		
64		X	X	D	160.82500	156.22500	PUBLIC \ PORT OPERATIONS
65A	X	X		S	156.27500		PORT OPERATIONS
65			X	D	160.87500	156.27500	PUBLIC \ PORT OPERATIONS
66A	X			S	156.32500		PORT OPERATIONS
66A		X		S	156.32500		PORT OPERATIONS
66			X	D	160.92500	156.32500	PUBLIC \ PORT OPERATIONS
67		X	X	S	156.37500		INTERSHIP
67	X			S	156.37500		
68	X	X	X	S	156.42500		NON-COMMERCIAL
69	X	X	X	S	156.47500		INTERSHIP
70	X	X	X	R	156.25000	-	DIGITAL SELECTIVE CALLING
71	X	X	X	S	156.57500		PORT OPERATIONS
72	X	X	X	S	156.62500		NON-COMMERCIAL \ INTERSHIP
73	X	X	X	S	156.67500		INTERSHIP

Channel Chart

CH	Channel Set			S/D	Frequency		Channel Use
	USA	CAN	INT		Receive	Transmit	
74	X	X	X	S	156.72500		PORT OPERATIONS
75	X		X	S	156.77500		PORT \ GUARD CHANNELS
76	X		X	S	156.82500		PORT \ GUARD CHANNELS
77	X	X		S	156.87500		PORT OPERATIONS
77			X	S	156.87500		PORT OPERATIONS \ INTERSHIP
78A	X	X		S	156.92500		NON-COMMERCIAL
78			X	D	161.52500	156.92500	PUBLIC \ PORT OPERATIONS
79A	X	X		S	156.97500		COMMERCIAL
79			X	D	161.57500	156.97500	PORT OPERATION, SHIP MOVEMENT
80A	X	X		S	157.02500		COMMERCIAL
80			X	D	161.62500	157.02500	PORT \ SHIP MOVEMENT
81A	X	X		S	157.07500		
81			X	D	161.67500	157.07500	PORT OPERATION
82A	X	X		S	157.12500		
82			X	D	161.72500	157.12500	PUBLIC \ PORT OPERATIONS
83A	X	X		S	157.17500		
83		X	X	D	161.77500	157.17500	PUBLIC CORRESPONDENCE
84A	X			S	157.22500		PUBLIC CORRESPONDENCE
84	X	X	X	D	161.82500	157.22500	PUBLIC \ PORT OPERATIONS
85A	X			S	157.27500		PUBLIC CORRESPONDENCE
85	X	X	X	D	161.87500	157.27500	PUBLIC CORRESPONDENCE
86A	X			S	157.32500		PUBLIC CORRESPONDENCE
86	X	X	X	D	161.92500	157.32500	PUBLIC CORRESPONDENCE
87A	X			S	157.37500		PUBLIC CORRESPONDENCE
87	X	X		D	161.97500	157.37500	PUBLIC CORRESPONDENCE
87			X	S	157.37500		PUBLIC CORRESPONDENCE
88A	X			S	157.42500		COMMERCIAL
88	X	X		D	162.02500	157.42500	PUBLIC CORRESPONDENCE
88			X	S	157.42500		PUBLIC CORRESPONDENCE

Key:

- S = Simplex.
- D = Duplex.
- R = Receive Only.

Technical Specifications

GENERAL

Frequency Range	156 - 163.275MHz
Channels	INT, USA, CAN and Private Channels.
Channel Spacing	25 kHz
Communication Method	Simplex / Semi Duplex
Antenna	High Efficiency Helical
Antenna Impedance	50 ohm
Battery Type	1800 mAh Li-Ion battery pack
Power Supply Voltage	7.4 V DC
Current Drain (nominal)	When transmitting (4W) - 1800mA
	When transmitting (1W) - 850mA
	When receiving (0.5W) - 160mA
	Receiver standby - 50mA
Battery Life	15 (high) 19 (low) Hours.
Duty Cycle	Transmit: 5%, Receive: 5%, Standby: 90%
Microphone	Internal condenser microphone
Operating Temperature	-20°C to +55°C
Size	Height = 130mm (145mm including knobs);
	Width = 59.5mm (62mm including protrusions);
	Diameter = 37mm (41mm including battery protrusions)
Weight	277g with battery and aerial

Technical Specifications

TRANSMITTER

Power Output	Selectable: HIGH = 4W, LOW = 1W
Modulation	16K0G3E
Oscillator Method	PLL
Frequency Stability	< ±0.00025% (±2.5PPM)
Maximum Deviation	±5 kHz
Audio Distortion	< 5% (1 kHz 60%)
Spurious Emissions	-68 [dBc]
Hum and Noise	-40 [dB]

RECEIVER

Receiver Type	Double Super Heterodyne type
Sensitivity	<0.25uV (12dB SINAD)
Frequency Stability	±0.00025%(±2.5PPM)
Spurious Rejection	-60 dB
Adjacent Channel Selectivity	-70 dB (Wide)
Distortion	< 3% Typical @ 500 mW
Hum and Noise	-40 dB
Audio Output	660 mW
Speaker Size	38 mm

Technical Specifications

GENERAL

Frequency Range	156 - 163.275MHz
Channels	INT, USA, CAN and Private channels.
Channel Spacing	25 kHz
Communication Method	Simplex / Semi Duplex
Antenna	High Efficiency Helical
Antenna Impedance	50 ohm
Battery Type	1800 mAh Li-Ion battery pack
Power Supply Voltage	7.4 V DC
Battery Life	19 hours.
Duty Cycle	Transmit: 5%, Receive: 5%, Standby: 90%
Microphone	Internal condenser microphone
Operating Temperature	-20°C to +55°C
Size	Height = 130mm (145mm including knobs);
	Width = 59.5mm (62mm including protrusions);
	Diameter = 37mm (41mm including battery protrusions)
Weight	277g with battery and aerial

Technical Specifications

TRANSMITTER

Power Output	1W
Modulation	16K0G3E
Oscillator Method	PLL
Frequency Stability	< ±0.00025% (±2.5PPM)
Maximum Deviation	±5 kHz
Audio Distortion	< 5% (1 kHz 60%)
Spurious Emissions	-68 [dBc]
Hum and Noise	-40 [dB]

RECEIVER

Receiver Type	Double Super Heterodyne type
Sensitivity	<0.25uV (12dB SINAD)
Frequency Stability	±0.00025%(±2.5PPM)
Spurious Rejection	-60 dB
Adjacent Channel Selectivity	-70 dB (Wide)
Distortion	< 3% Typical
Hum and Noise	-40 dB
Audio Output	1W
Speaker Size	38 mm

HT942

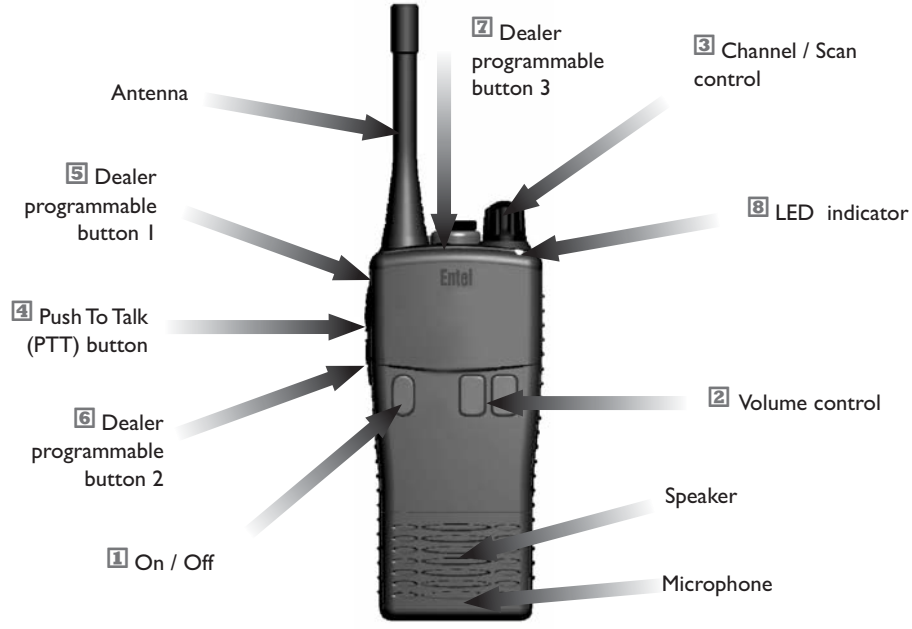
Standard Features:

- 16 programmable channels
- Top mounted monitor button
- CTCSS & DCS (analogue & digital squelch) with squelch tail elimination (removes the 'shh' noise)
- Exceptionally loud and clear audio
- Robust design, exceeds MIL-STD-810C/D/E/F
- Environmentally protected to IP68 i.e. submersible to 5 metres for up to 60 minutes
- 1800mAH Lithium-Ion battery for superior operational time
- Full band switching allows access to all channels in each band
- Battery charge count
- Radio cloning mode
- Low battery alert indicates when the battery needs recharging

Dealer programmable features:

- VOX for hands free operation
- High / Low transmit power
- Normal & priority scan (programmable per channel position)
- Panic (personal attack) button causes high pitch, high volume, siren tone to be emitted from the radio's speaker
- Key lock button
- Prefixed minimum volume level and fixed bleep level
- Talkaround (allows communication away from a base station)
- Transmit time out-timer (ensures channels are not blocked)
- Voice scrambler with 1 code per channel (option)
- Automatic power save to further increase operational time
- User adjustable squelch level

Controls & Indicators



1. On / Off button. Press to turn radio on, press and hold to turn off.
2. Press up / down buttons to increase / reduce volume.
3. Channel / Scan control. Rotate to select the desired channel or scan setting.
4. Push To Talk (PTT) button. Press to speak and release to listen.
5. Dealer programmable button 1 (ask your dealer for more information).
6. Dealer programmable button 2 (ask your dealer for more information).
7. Dealer programmable button 3 (ask your dealer for more information).
8. LED indicator.
   - RED steady = Transmitting
   - RED flashing slowly = Battery needs re-charging
   - GREEN steady = Receiving
   - YELLOW steady = Non valid signal detected
   - YELLOW flashing rapidly = Scanning

Glossary of Terms

Term	Description
Canadian Channels	Channels designated as defined and regulated by Industry Canada, (RIC), Marine Communications and Traffic Services.
Duplex	Transmit and receive on different frequencies.
Encryption	Scrambled audio for extra privacy.
FM	Frequency Modulation.
International Channels	Channel designations as defined for use in international waters by the International Telecommunications Union (ITU).
Marina Channels	Special channels reserved for marinas located in selected European countries. These channels are pre-programmed in the transceiver as P1 and P2.
Private Channels	Channels which are assigned by regulatory agencies governing VHF radio use for a specific region or country. These channels are prefixed with a "P" and can only be programmed into the transceiver by authorised dealers.
PTT	Press To Talk (Transmit).
RX	Receive.
Simplex	Transmit and receive on the same frequency.
Squelch	To suppress background noise.
TX	Transmit.
Transceiver	A device that can transmit and receive.
USA Channels	Channel designations as defined by the Federal Communications Commission (FCC).
VOX	Voice Operated Transmit.
VHF	Very High Frequency (30MHz to 300 MHz).

Troubleshooting

SYMPTOM	PROBABLE CAUSE	REMEDY
Transceiver is not switching on.	Battery needs charging,	Charge the battery pack.
	Battery is exhausted.	Replace the battery pack.
The scan key does not start the scan.	No channels memorised (MEM).	Use the MEM key to enter desired channels into scan memory.
	Squelch is not adjusted.	Adjust the squelch to threshold or to the point where the white noise just disappears.
Cannot change any function.	Key lock is switched on.	Turn key lock off.
The LED on the charger does not illuminate when charging.	Dirty terminal contact on battery or charger.	Clean contacts with dry clean cloth.
	Defective battery or charger.	Contact your dealer.
No transmit or cannot select high power.	Some channels are low power only.	Change to high power channel.
	Battery pack exhausted.	Charge / replace the battery.
Transceiver transmits without pressing PTT button.	VOX has been enabled.	Assign VOX to a button and toggle OFF.
Buttons seem to work intermittently.		

Certifcation

Certification

ATEX approved
Intrinsically Safe
Sira 10ATEX2066X

HT844	HT944 & HT942
II 2 G Ex ib IIA T4 Gb Ex ib IIA T4 Gb Ta = -20°C to + 28°C* or Ta = -20°C to + 40°C*	II 2 G Ex ib IIC T4 Gb Ex ib IIC T4 Gb Ta = -20°C to + 28°C* or Ta = -20°C to + 40°C*

* Depending on the battery pack fitted.

SAFETY NOTES

- HT Series V2 ATEX radios must always be used within the terms of their certification
- Keep the radios away from aggressive substances. If used in a hostile environment, extra protection may be needed
- To prevent ignition of hazardous atmospheres, batteries must only be charged in an area known to be non-hazardous
- Use of battery chargers other than the Entel charger supplied will invalidate the explosion protection certification
- No unauthorised repairs are permitted
- This equipment is designed and manufactured to protect against other hazards as defined in paragraph 1.2.7 of ATEX Annex II of the Directive 94/9/EC
- Radios fitted with a CNB940E battery pack must not be used outside of the ambient temperature range Tamb = -20°C to +28°C
- Radios fitted with a CNB950E battery pack must not be used outside of the ambient temperature range indicated on the battery pack label

Notes

Use this page to record important information, such as the serial number of your radio and any private channels programmed by your dealer.

Notes

‘the professional’s choice’

<Intended Country Of Use>

☐AT	☐FR	☐LT	☐SK
☐BE	☐DE	☐LU	☐SI
☐BG	☐GR	☐MT	☐ES
☐CY	☐HU	☐NL	☐SE
☐CZ	☐IS	☐NO	☐CH
☐DK	☐IE	☐PL	☐UK
☐EE	☐IT	☐PT	
☐FI	☐LV	☐RO	

CE 0891 ⓘ

Registered Community Design Application 000810890
U.S. Design Patent Pending No. 23/182,829

Headquarters: United Kingdom **www.entel.co.uk**