

## THANK YOU

We are grateful you chose your land mobile radio **VERO** applications. We believe this easy-to-use transceiver will provide dependable communications to keep personnel operating at peak efficiency.

Transceivers incorporate the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product.

## PRECAUTIONS

- Refer service to qualified technicians only.
- Do not operate transceiver or charge a battery pack in an explosive atmosphere (gases, dust, fumes, etc.).
- Turn OFF the transceiver while taking on fuel or while parked in a gasoline service station.
- Do not modify or attempt to adjust this transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the transceiver in excessively dusty, humid, and/or wet areas, nor on unstable surfaces.

**Safety:** It is important that the operator is aware of, and understands, hazards common to the operation of any transceiver.

## CONTENTS

UNPACKING AND CHECKING EQUIPMENT .....	1
Suppling Accessories .....	1
PREPARATION .....	3
Charging the Battery Pack .....	3
Installing/Removing the Battery Pack .....	4
Installing the Antenna .....	5
Installing the Belt Clip .....	5
Installing the Cover over the Speaker/Microphone Jacks .....	6
Installing the Optilonal Speaker/Microphone .....	6
GETTING ACQUAINTED .....	7-8
OPERATION .....	9
AUXILARY FUNCTIONS .....	10
Time - out Timer .....	10
Battery Save .....	10
Low Battery Warning .....	10
Monitor .....	11
CTCSS/DCS FUNCTION .....	11
TROUBLESHOOTING GUIDE .....	12
SPECIFICATIONS .....	13
CTCSS/DCS CHART .....	14

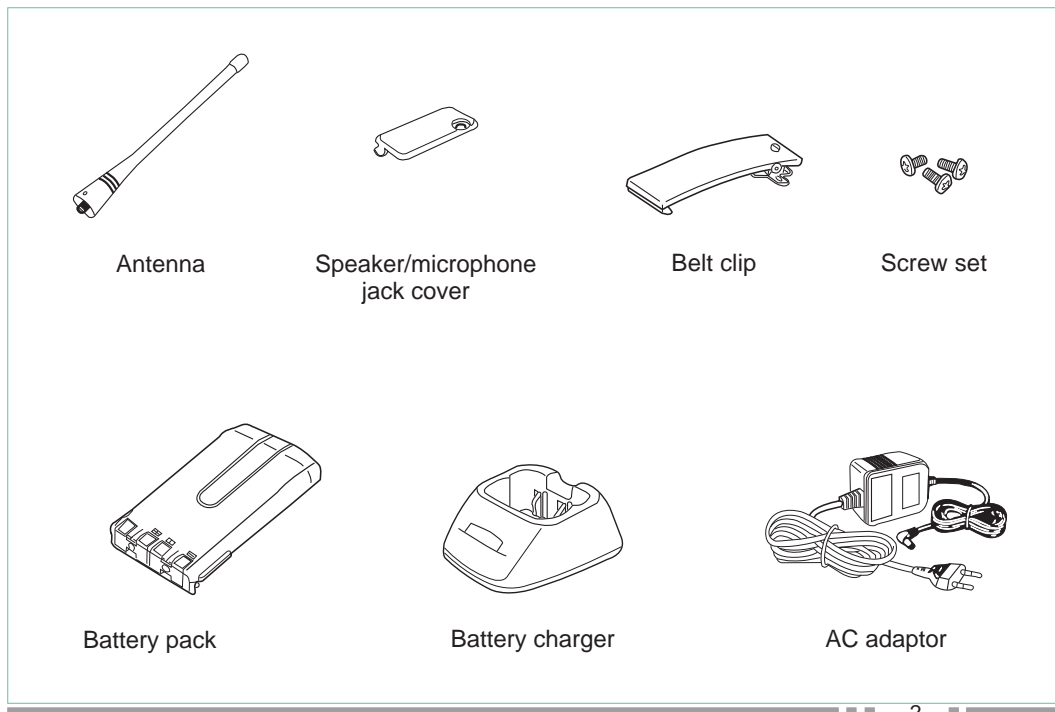
## UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

### Supplied Accessories

Item	Part Number	Qty
Antenna	T90-0684-XX	1
Battery charger	W08-0598-XX	1
AC adaptor	W08-0558-XX	1
Battery pack	W09-0940-XX	1
Speaker/microphone jack cover	B09-0351-XX	1
Belt clip	J29-0658-XX	1
Screw set	N99-0396-XX	1
Instruction manual	B62-1687-XX	1

Note: A market code (M, M2, M4, or M6) can be found on the label attached to the package box.

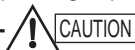


## PREPARATION

### Charging the Battery Pack

The battery pack is not charged at the factory; charge it before use.

Initially charging the battery pack after purchase or extended storage (greater than 2 months) will not bring the battery pack to its normal operating capacity. After repeating the charge/discharge cycle two or three times, the operating capacity will increase to normal.



- ◆ Do not recharge the battery pack if it is already fully charged. Doing so may cause the life of the battery pack to shorten or the battery pack may be damaged.
- ◆ After recharging the battery pack, disconnect it from the charger. Charging the battery pack for more than 5 days may reduce the battery pack life due to overcharging.
- ◆ Always switch OFF the transceiver equipped with a battery pack before charging. Using the transceiver while charging its battery pack will interfere with correct charging.
- ◆ The battery pack life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery pack.

Charging request as the following steps:

1. Plug the AC adaptor into an AC outlet.
2. Plug the DC on the adaptor into charger back jack.
3. Slide the battery pack or transceiver with a battery pack into the charger.
4. Make sure the battery pack contacts are in contact with the charging terminals. The charger LED lights and charging begins.
5. After charging the battery pack about 8 hours, remove it or the transceiver equipped with from the charger.

## Installing/Removing the Battery Pack

The average life of the supplied battery pack is 8 hours. Average times are calculated using 5% transmit time, 5% receive time, and 90% standby time.

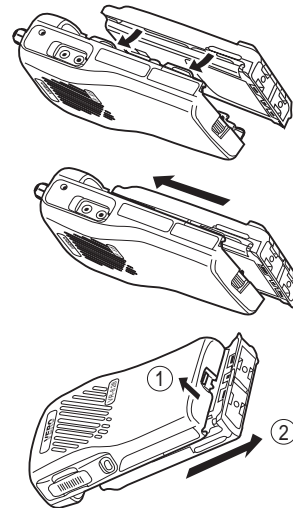


- ◆ Do not short the battery terminals or dispose of the battery into fire.
- ◆ Never attempt to remove the casing from the battery pack.

Match the four grooves of the battery pack with the corresponding guides on the back of the transceiver.

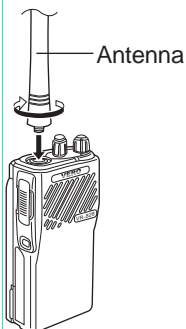
Slide the battery pack along the back of the transceiver until the release latch on the base of the transceiver locks.

To remove the battery pack, pull back on the release latch and slide the pack away from the transceiver.



4

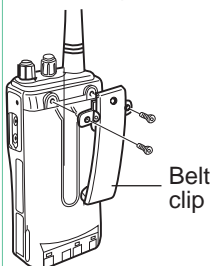
## Installing the Antenna



Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

Note: The antenna is neither a handle, a key ring retainer, nor a speaker/microphone attachment point. Using the antenna in these ways may damage the antenna and degrade your transceiver's performance.

## Installing the Belt Clip



If necessary, attach the belt clip using the two supplied 3 x 8 mm screws.

Note: If the belt clip is not installed, its mounting location may get hot during continuous transmission or when left sitting in a hot environment.

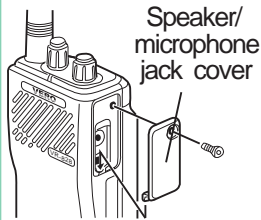
You must remove the belt clip before removing the battery pack.



Do not use glue which is designed to prevent screw loosening when installing the belt clip, as it may cause damage to the transceiver. Acrylic ester, which is contained in these glues, may crack the transceiver's back panel.

5

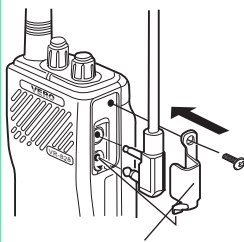
## Installing the Cover over the Speaker/Microphone jacks



If you are not using a speaker/microphone, install the cover over the speaker/ microphone jacks using the supplied 3 x 6 mm screw.

Note: To keep the transceiver water resistant, you must cover the speaker/ microphone jacks with the supplied cover.

## Installing the Optional Speaker/Microphone



Insert the speaker/ microphone plugs into the speaker/ microphone jacks.

Attach the locking bracket using the supplied 3 x 6 mm screw.

Note: The transceiver is not fully water resistant while using the speaker/ microphone.

Speaker/microphone locking bracket

6

## GETTING ACQUAINTED

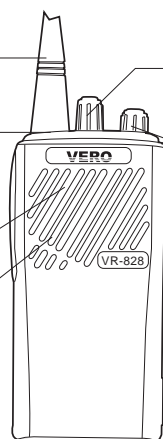
Antenna

LED indicator

Lights red while transmitting.  
Lights green while receiving a signal.  
Flashes red when the battery voltage is low while transmitting.

Speaker

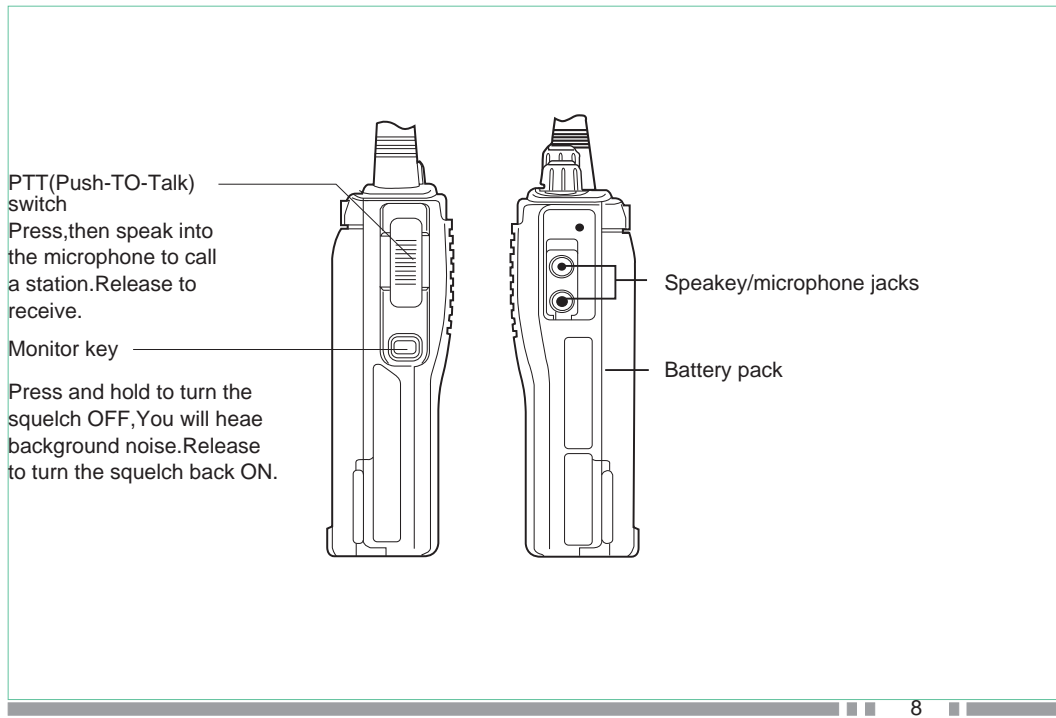
Microphone



Channel switch

Power switch/Volume control  
Turn clockwise to switch ON the transceiver. To switch OFF the transceiver, turn counterclockwise until a click sounds. Rotate to adjust the volume level.

7



## OPERATION

Switch ON the transceiver by turning the Power switch/ Volume control clockwise.

- A beep sounds.

Rotating the Power switch/Volume control.

Toggle the Channel switch to select your desired channel.

- When you receive an appropriate signal,you will hear audio from the speaker.

To make a call, press and hold the PTT switch, them speak into the microphone using your normal speaking voice.

- Hold the microphone approximately 1.5 inches (3 to 4 cm ) from your lips.

Release the PTT switch to receive.

Note: When the battery pack voltage becomes too low, transmission will stop and the LED will blink red, See"Low Battery Warning" on page 10.

## AUXILIARY FUNCTIONS

### Time-out Timer

The purpose of the Time-out Timer is to prevent any single person from using a channel for an extended period of time.

If you continuously transmit for 10 minutes, the transceiver will stop transmitting and a tone will sound.

To stop the tone, release the PTT switch. You can press the PTT switch again to resume transmitting.

### Battery Save

The Battery Save function decreases the amount of power used when a signal is not being received and no operations are being performed (no keys are being pressed, and no switches are being turned).

While the channel is not busy and no operation is performed for 10 seconds, Battery Save turns ON.

When a signal is received or an operation is performed, Battery Save turns OFF.

### Low Battery Warning

Low Battery Warning alerts you when the battery needs to be recharged.

### Monitor

When no signals are present, the squelch on the transceiver automatically mutes the speaker so you will not hear background noise. To manually deactivate the squelch, press and hold the Monitor key. This is useful when you want to adjust the volume level, or when you need to hear a weak signal.

- The LED indicator lights green while the Monitor key is pressed.

### CTCSS/DCS

Some channels may have pre-programmed CTCSS/DCS tones.

A CTCSS/DCS tone is subaudible tone which allows you to ignore (not hear) calls from other parties who are using the same channel.

When you receive a signal that has a tone different from the one set up in your transceiver, you will not hear the signal.

Likewise, signals that you transmit will only be heard by parties whose CTCSS/DCS tone matches the tone set up in your transceiver.

### Note:

Although using channels set up with CTCSS/DCS tones relieves you from listening to unwanted calls, it does not mean your calls will be private.

## TROUBLESHOOTING GUIDE

Problem	Solution
No power.	<ul style="list-style-type: none"> <li>• The battery pack may be dead. Recharge or replace the battery pack.</li> <li>• The battery pack may not be installed correctly. Remove the battery pack and install it again.</li> </ul>
Battery power dies shortly after charging.	<ul style="list-style-type: none"> <li>• The battery pack life is finished. Replace the battery pack with a new one.</li> </ul>
Cannot talk to or hear other members in your group.	<ul style="list-style-type: none"> <li>• Make sure you are using the same frequency and CTCSS/DCS as the other members in your group.</li> <li>• Other group members may be too far away. Make sure you are within range of the other transceivers.</li> </ul>
Other voices (besides group members) are present on the channel.	<ul style="list-style-type: none"> <li>• Change the CTCSS/DCS tone. Be sure to change the tone on all transceivers in your group.</li> </ul>

## SPECIFICATION

BAND	UHF
Frequency Range	400~420MHz
	430~450MHz
	450~470MHz
Power Output	5W
Channel Number	16
Communication Range	10-15km(on broad area)
Audio Distortion	*5%
Frequency stability	5ppm
Max.Freq.Deviation	**5KHz
Spurious Radiaton	better than 60dB
Adjacent-channel Power	better than 60dB
Sensitivity	better than 0.20μV
Squelch Sensitivity	better than 0.15μV
Adjacent-channel Selectivity	better than 60dB
Spurious Response Rejection	better than 60dB
Intermodulation Rejection	better than 60dB
Standby Current	40mA(It is about 15mA in state of power save)
Transmitting Current	1.4A
Operation Voltage	7.2V

## CTCSS/DCS

CTCSS			
67.0	107.2	165.5	210.7
69.3	110.9	167.9	218.1
71.9	114.8	171.3	225.7
74.4	118.8	173.8	229.1
77.0	123.0	177.3	233.6
79.7	127.3	179.9	241.8
82.5	131.8	183.5	250.3
85.4	136.5	186.2	254.1
88.5	141.3	189.9	
91.5	146.2	192.8	
94.8	151.4	196.6	
97.4	156.7	199.5	
100.0	159.8	203.5	
103.5	162.2	206.5	

DCS							
023	073	156	251	332	445	532	712
025	074	162	252	343	446	546	723
026	114	165	255	346	452	565	731
031	115	172	261	351	454	606	732
032	116	174	263	356	455	612	734
036	122	205	265	364	462	624	743
043	125	212	266	365	464	627	754
047	131	223	271	371	465	631	
051	132	225	274	411	466	632	
053	134	226	306	412	503	645	
054	143	243	311	413	506	654	
065	145	244	315	423	516	662	
071	152	245	325	431	523	664	
072	155	246	331	432	526	703	

## GUARANTEE CARD

model number: \_\_\_\_\_  
 serial number: \_\_\_\_\_  
 purchasing date: \_\_\_\_\_  
 dealer: \_\_\_\_\_ telephone: \_\_\_\_\_  
 user's name: \_\_\_\_\_ telephone: \_\_\_\_\_  
 address: \_\_\_\_\_ post code: \_\_\_\_\_

### Remarks

1. This guarantee card to be kept by the user, no replenishment if lost.
2. This guarantee card to be filled & chopped by the dealer, or it is invalid.
3. Don't alter the guarantee card, please confirm the serial number on the guarantee card is same as that on the machine.
4. One-year guarantee, charger, battery, ear-phone, antenna and can cable are no under guarantee.
5. The user can get repairing service from the following ways:
  - a. Go to the shop where you buy the machine.
  - b. Our local repairing agent.
  - c. Send back to our company.

Please cut along with this line