# **To Customers**

Thank you very much for using our TWO WAY RADIO. This radio of modern design is a reasonable structure with stable functions. It is designed to meet different customers' need for high quality with easy operations and perfect capability. We believe you are pleased with it's shape and multi functions.

This manual is suitable for using the model of TH-UVF1.

# SAFETY TRAINING INFORMATION



Your lcom 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-115), Rechargeable Li-Ion Battery Pack (BP-254), Alkaline Battery Case (BP-237) and Speaker-microphone (HM-184).



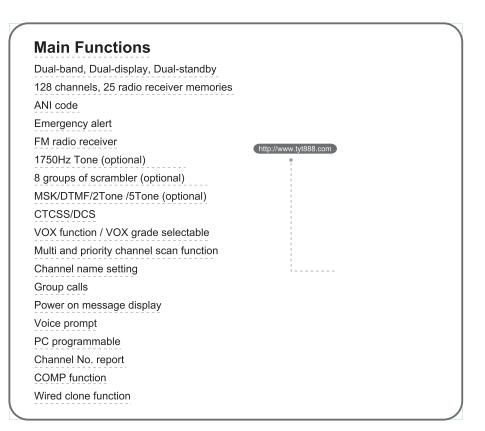
To ensure that your expose to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following guidelines:

- **DO NOT** operate the radio without a proper antenna attached, as this may damaged the radio and may also exceed FCC RF exposure limits. A proper antenna is the antenna supplied with this radio by lcom Inc. or antenna specifically authorized by lcom Inc. for use with this radio.
- DO NOT transmit for more than 50% of total radio use time ("50% duty cycle"). "50% duty cycle" is also applicable to PSTN (Public Switched Telephone Network) mode and VOX Mode. Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the TX indicator lights red. You can cause the radio to transmit by pressing the "PTT" switch.
- ALWAYS keep the antenna at least 2.5 cm (1 in.) away from the body when transmitting and only use the lcom belt-clips listed on p. 24 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 in.) 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 with the FCC RF exposure limits of this radio.

### Welcome to use TYT two-way radio

http://www.tyt888.com



# **User's Manual** Unpack and checking equipments Using tips http://www.tyt888.com

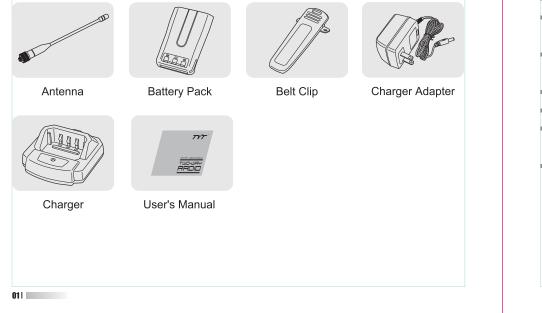
# **CONTENTS**

- 01 Unpack and checking equipments
- 02 Using tips
- 04 Radio illustration
- 06 LCD icons introduction
- 08 Work modes
- 10 Menu illustration
- 12 Menu settings
- 28 Optional signalings
- 37 Optional accessories
- 38 Specification
- 40 Trouble shooting guide
- 42 Guarantee

#### Unpack and checking equipments

Carefully unpack the transceiver. We recommend you check the items listed in the following table before discarding the packing. If any items are missing or have been damaged during shipment, please contact us as soon as possible.

#### Supplied Accessories

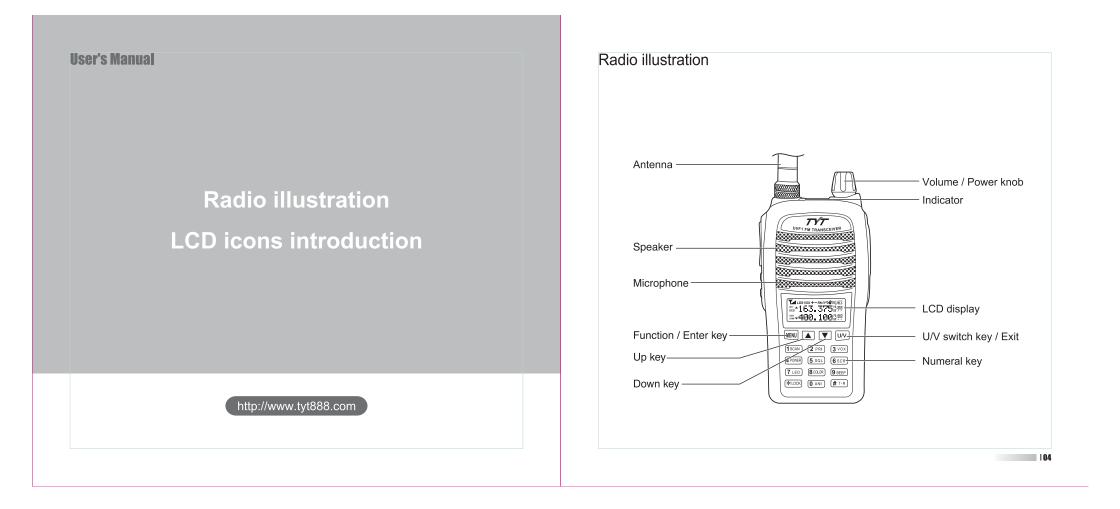


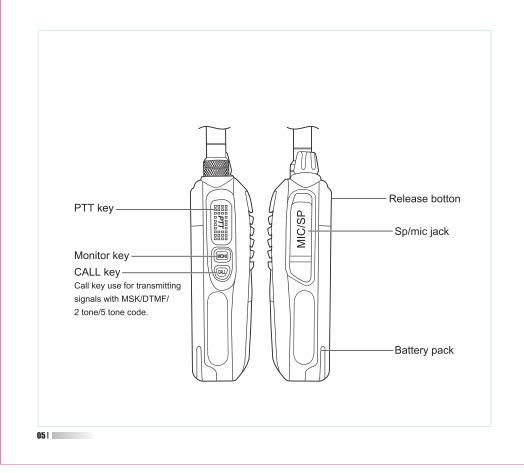
#### Using tips

Your Two Way Radio is an electronic product of exact design and should be treated with care.

The suggestions below will help you fulfill warranty obligations and keep radio using for many years.

- Do not attempt to open the unit. Non-expert operations may cause damage.
- When using regulated power supply, take notice of power voltage and it must be between 6V and 8V to avoid damaging the unit.
- Do not store radio under the sunshine or in hot areas. High temperature can shorten the life of radio, and warp or melt certain plastics.
- Do not store radio in dusty, dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If radio appears smelly or smoke, please shut off its power immediately and take off charger or battery and contact our agents.
- Do not transmit without antenna.





#### LCD icons introduction

You can see various icons are shown on the screen when radio powers on. The following table can help you to identify icons' meaning which display on LCD.

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CT75 /88 DCS25
5T2T DTMF

Tull	Received signal strength, power indicator	
L	Low power	
D	Dual- standby opening	
S	Power saving	
vox	VOX on	
+-	Frequency offset direction under full frequency mode	
R	Reverse frequency	
N	Narrow band	
A	Keypad locked	
Ъ	SQL turned on	
Ð	Beep on	
	106	

10	Current frequency is with scrambler function	
<u> </u>	Battery power display	
ст	CTCSS turned on	
DCS	DCS turned on	
5T	5Tone turned on	
2T	2Tone turned on	
DTMF	DTMF turned on	
	Indicating current channel when standby / selected operation	
•	Indicating current channel when standby / selected operation	
75 25	Frequency mantissa indicating	
:88	Channel NO. /Menu indicator	
•	Channel is busy	
*	Scan function is available under channel mode	

# <section-header>User's Manual Work modes Menu Illustration Menu Settings

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#### Work modes

#### CH mode

Press and hold [ I ] key to turn on the radio, enter CH mode, use [ I ] / [ I ] key to choose channels or input the channel NO. directly.

Note: Radio should store two channels at least.

Press and hold [ 🔼 ] key again to turn on the radio, enter FR mode. Press [ 👿 ] key to select

the frequency band, use [ 🚺 ] / [ 🔽 ] key to change T/R priority frequency.

#### CH-FR mode

Under FR mode, hold [ w ] key two second or more, radio changes into CH-FR mode.

Press and hold [ w ] key two second or more, radio changes into FR mode.

Press [ w ] key to switch current displaying frequency to edit or transmit.

#### Menu Illustration

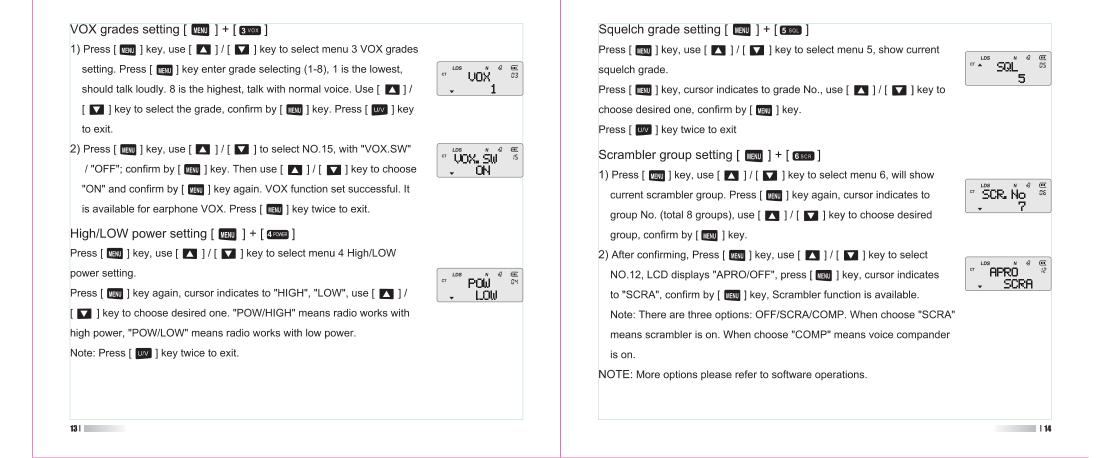
NO.	LCD Icons	Optional Setting	Menu Illustration
01	SCAN	1	scanning
02	TX.SEL	EDIT/BUSY	Dual standby priortity TX channel select
03	VOX	1-8	VOX level setting
04	POWER	LOW/HIGH	Current channel transmit power
05	SQL	0-9	SOL Level
06	SCR.NO	1-8	Scrambler groups
07	LED	ON/AUTO / OFF	LED setting
08	LIGHT	BLUE/ORANGE/PURPLE	LED colors
09	BEEP	ON/OFF	Beep on/off
10	ANI	ON/OFF	ANI code
11	D.WAIT	ON/OFF	Dual-standby on/off
12	APRO	OFF/COMP/SCRA	Voice mode
13	тот	OFF/30/60//270	Time-out timer
14	BCL	OFF/WAVE/CALL	Busy channel lock
15	VOX.SW	ON/OFF	VOX switch

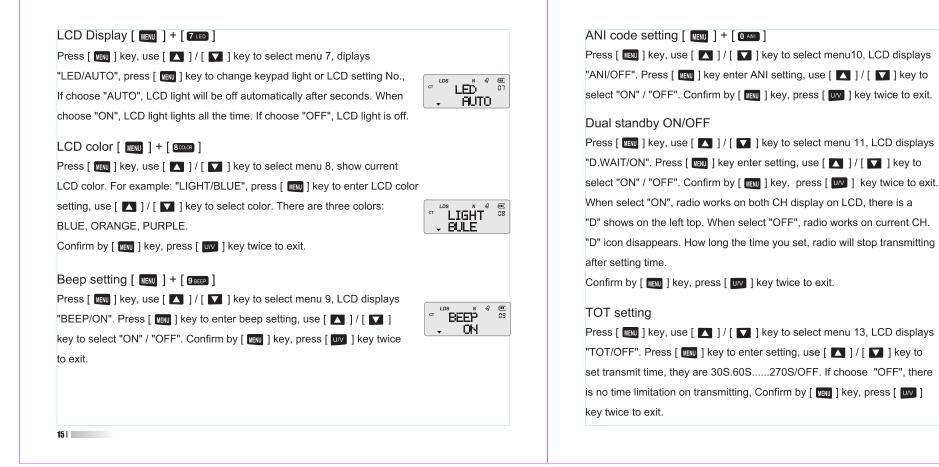
ROGER	ON/OFF	Transmit end tone voice prompt on/off
DW	ON/OFF	Monitoring
RX.SAV	ON/OFF	Receive power saving
SCAN.S	TIME/CARRY/SEEK	Scan mode
AUTOLK	ON/OFF	Auto keypad lock
VOICE	ON/OFF	Voice prompt on/off
OPNSET	OFF/DC/MSG	Power on display
VLT	1	Battery voltage indicate
PON.MSG	1	Power on message
OFFSET	0.000-99.995MHz	Shift frequency setting
DIS.NM	ON/OFF	Display channel name (under CH mode)
CHNAME	-1A, @	Channel name setting
C-CDC	OFF/67.0/D023N	RX/TX CTCSS/DCS
R-CDC	OFF/67.0/D023N	Receiving CTCSS/DCS
T-CDC	OFF/67.0/D023N	Transmitting CTCSS/DCS
S-D	+/-/OFF	Shift direction
STEP	5K/6.25K//100K	Frequency spacing
N/W	WIDE/NARROW	Wide/narrow band
	DW RX.SAV SCAN.S AUTOLK VOICE OPNSET VLT PON.MSG OFFSET DIS.NM CHNAME C-CDC R-CDC R-CDC T-CDC S-D STEP	DWON/OFFRX.SAVON/OFFSCAN.STIME/CARRY/SEEKAUTOLKON/OFFVOICEON/OFFOPNSETOFF/DC/MSGVLT/PON.MSG/OFFSET0.000-99.995MHzDIS.NMON/OFFCHNAME-1A, @C-CDCOFF/67.0/D023NR-CDCOFF/67.0/D023NT-CDCOFF/67.0/D023NS-D+/-/OFFSTEP5K/6.25K//100K

#### 11

#### Menu Settings



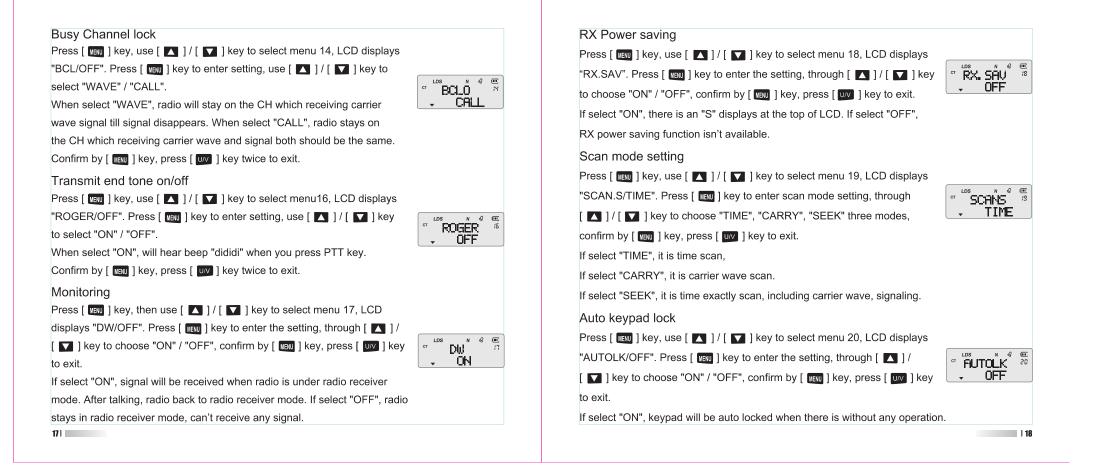


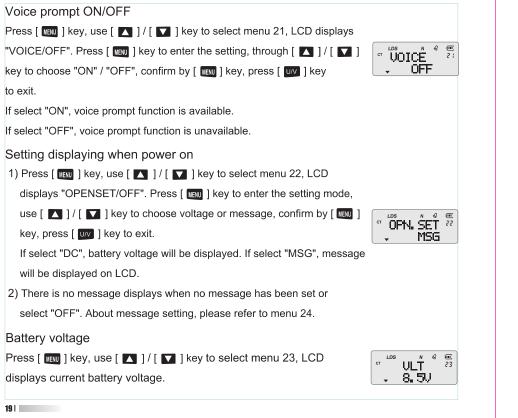




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-	609	5	

| 16





	2
shit frequency.	
Note: Make sure open increase/decrease frequency function before setting	
Press [ 🔼 ] / [ 🔽 ] key to select "ON/OFF", confirmed by [ 📖 ] key.	
Confirm with [ 🗤 ] key.	
nput desired shift frequency. It can be set from 0.000-99.995MHz.	
Press [ 📖 ] key to enter the setting mode.	- 0.000
2s, LCD displays "OFFSET/0.000".	
Nhen standby, press [ 📷 ] key, use [ 🔼 ] / [ 🔽 ] key to select menu	
Setting shift frequency	
5) Confirm by [ 📖 ] key and press [ 😡 ] key twice to exit.	
cancel current letter, and return to the last editable letter.	
4) Press [ # 18] key to switch to the next editable letter, press [ * 108] to	
3) Press [ ▲ ] / [ ▼ ] key to select the desired letters.	
2) Press [ I want ] key to enter the setting mode, power on message blinks.	
menu 24, LCD displays "PON. MSG".	
1) When standby, press [ 🏧 ] key, use [ 🔼 ] / [ 🔽 ] key to select	
Setting power on message	



#### Setting TX/RX CTCSS/DCS

If only set RX with CTCSS/DCS, TX without CTCSS/DCS, or RX without CTCSS/DCS, TX with CTCSS/DCS. You can press [ ] key into setting mode, use [ ▲ ] / [ ▲ ] key to select menu 28,29. Operation is the same as setting TX/RX CTCSS/DCS.

#### Keypad lock ON/OFF

When radio standbys, press and hold [ ∰ ] key not less than 2 second to turn on/off the keypad lock. When keypad lock function is on, " △ " will be displayed on the top of LCD, there will have voice prompt like "keypad locked"



# UNLOCK?

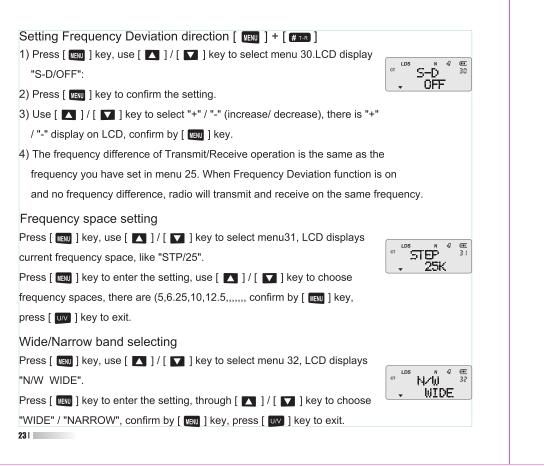
<sup>⊳</sup>s T\*R ?

(m)

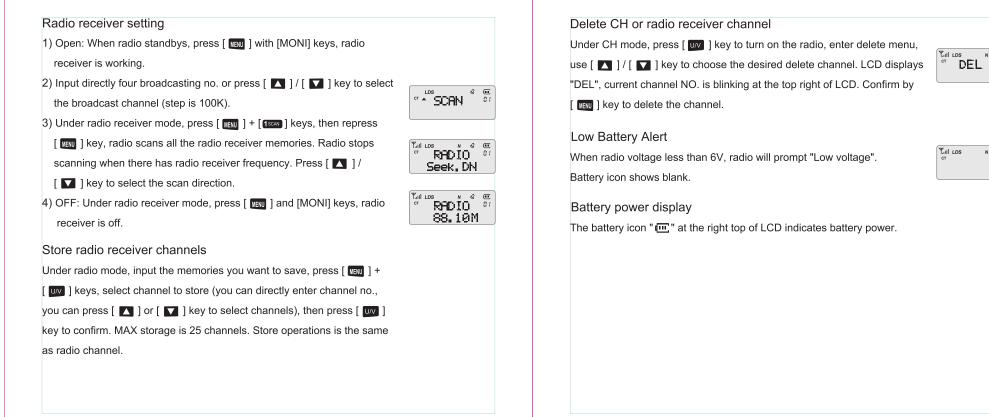
#### Reverse frequency ON/OFF

When radio standbys, press and hold [#TR] key not less than 2 second to turn on/off the reverse frequency.

When reverse frequency function is on, "N" will be displayed on the top of LCD, at this time, radio's transmit frequency is its receive frequency; radio's receive frequency is its transmit frequency.



Memory channel storage	
Under CH mode, input frequency and other parameters (such as	
CTCSS/DCS, offset frequency, offset direction, etc). Press [ IIII ] first,	
then press [ $\Box$ ] key, the channel No. for storage will be displayed at the	
right of the screen. Press [ 🔼 ] / [ 💟 ] key to select the desired channel	
for storage, and then press [ uvv ] key to finish the storage.	
If the channel is blinking, means radio has stored frequency, if isn't blinking,	۳ <mark>136.</mark> 025 <sup>۳</sup>
the current channel is null, without any frequency message.	<b>-465.025</b>
Example; input frequency: 465.025 T/R CDCSS 71.9 store in CH 9.	
Operation:	→ OFF
1) Input the NO. like:[4FOMER] [65cr] [5501] [0 AN] [2 PRI] [5501]	
2) Press [ NEW ] and [ 🕬 🚥 ] keys again.	71.9
3) Press [ 📖 ] key to confirm, use [🕬 🖙 ] key to choose 67.0, Press	
[ 🚺 ] / [ 🔽 ] key to select 71.9, confirm by [ 📖 ] key. "CT" is	- 7 <b>1</b> .9
displaying at the right of LCD	" 136. 025 °
4) Re-press [ 🗤 ] key to exit. Use [ 🛲 ] and [ 🗤 ] key, then input 010	-465.025 <sup>(0</sup>
directly and confirm by [ 💷 ] key to complete channle store. Also can	
press [ 🔼 ] / [ 🔽 ] key to select No.10 and confirm by [ 💷 ] key to	
complete channle storage.	



N & 💷

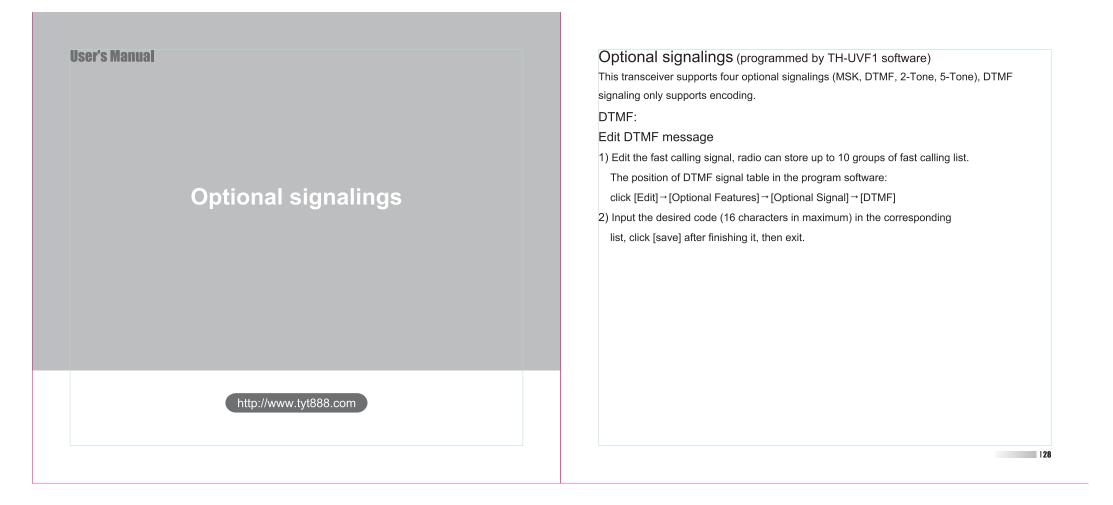
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N & C

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01

01



The position of channel optional signal in the programming software: 3) Set the optional signal of the desired channel to be DTMF The position of channel optional signal in the programming software: Click [More], then select "MSK" in the [Option signal] to set the edited MSK Click [More], then select "DTMF" in the [Option signal] to set the edited signal into the radio. DTMF signal into the radio. Make DTMF call with the transceiver 1) Power on, then select the channel with DTMF signal. 2) Press [CALL] key, LCD displays "CALL/DTMF?", press [0 ANI ] - [9 EEF ] keys to make call with the desired call list message. If the corresponding call list has not been edited (blank), it will sound "Du". MSK Part: Edit the MSK message of the transceiver (ID code for receiving, calling list message for transmitting) 1) Edit the fast calling signal via programming software, radio can store up to 10 groups of fast calling list. Make MSK call with the transceiver The position of MSK signal in the programming software: 1) Power on, then select the channel with MSK signal. click [Edit] → [Optional Features] → [Option Signal] → [MSK] 2) Press [CALL] key, LCD displays "CALL/MSK?", press [0 AN] - [9 BEEP] 2) Input the desired codes (4 characters in maximum) in the corresponding keys to make call with the desired call list message. If the corresponding list, click [save] after finishing it, then exit. call list has not been edited (blank), it will sound "Du". 3) Input the corresponding decoding ID in [ID Code] setting. 4) Set the optional signal of the desired channel to be MSK. 29

#### 2-Tone Part:

Edit 2-Tone message

 Edit the fast calling signal via programming software, the radio can store up to 10 groups of fast calling list.

The position of 2-Tone in the programming software:

- click [Edit] → [Optional Features] → [Option Signal] → [2-Tone]
- Input the encoding-requested A-Tone (the first tone), B-Tone (the second tone) and the Gap Time between A-Tone and B-Tone in your required call list.

In encoding, A-Tone sounds 1 second, B-Tone sounds 3 second; but when it only has A-Tone in the call list, A-Tone will sound 5 second. (As the Group call tone in real use)

- 3) Edit the decoding-requested A, B, C Tones frequencies.
- 4) Edit decoder call mode, 6 modes optional: A-B, C-B, C-A, B-C, B-A, A-C.
   E.g.: if select C-B, when decoding, it requires the first tone to be C-Tone, the second tone to be B-Tone.
- Select [Group Call] to be "None" or A-Tone, B-Tone, C-Tone, to turn on the group call function, click "save" after finishing it, then exit.
- 6) Set the optional signal of the desired channel to be 2-Tone
- The position of channel optional signal in the programming software: Click [More], then select "2-Tone" in the [Option signal], to set the edited
- 2-Tone signal into the radio.

31

Make 2-Tone call with the transceiver
1) Power on, and then select the channel with 2-Tone signal.
2) Press [CALL] key, LCD displays "CALL/2T?", press [ OAU ] - [ OBER ] keys to make call with the desired call list message. If the corresponding call list has not been edited (blank), it will sound "Du".

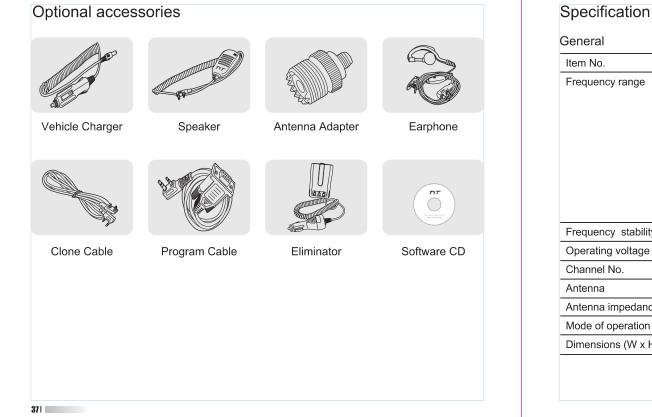
1750Hz Tone	5-Tone part:
Edit 1750Hz via programming software.	Edit 5-Tone message
Click [Edit] → [Optional Features] → [Option Signal] → [2-Tone]	click [Edit] → [Optional Features] → [Option Signal] → [5-Tone]
	1) Select the desired standard item in [Standard], 8 international common
	standards is selectable; the programming software displays the corresponding
	codes that match the specific international standard.
	2) Input the 5-Tone ID of this radio in [ID] setting, 5 digits in maximum.
	3) Set the optional signal of the desired channel to be 5-Tone.
	The position of channel optional signal in the programming software:
	Click [More], then select "MSK" in the [Option signal] to set the edited
	5-Tone signal into the radio
A: 1-9groups: choose any group.	
B: Input 1750 in "ATone(Hz)" only.	
C: Decoder Call shouldn't begin from "A".	
D: Group Call select "ATone".	
E: Save and input the data to radio.	

Make 5-Tone with the transceiver 1) Power on, select the channel with 5-Tone signal. 2) Press [Call] key, LCD display "ALL/-----" 3) Input the 5-Tone ID of the radio that you want to call. E.g.:12345 4) Press [PTT] to transmit. E.g.: Here are 2 transceivers, the 5-Tone ID of transceiver A is: 12345, transceiver B is: 67890, the steps are followed for transceiver A to call transceiver B: Press [CALL], press number keys [6scr ] [7LED] [8000 ] [9BEEP] [0 AND] in sequence, and then press PTT to transmit. TH-UVF1 wireclone Prepare 2sets of TH-UVF1, 1pcs specific wireclone cable Master radio (Sending messages when in wire-clone) Deputy radio (Receiving and storing messages when in wire-cloning) Steps of wire-clone operation 1) The deputy radio normally powers on, the master radio turns off. 2) Press [PTT] and [ **T**] to turn on the master radio, enter the wire-clone state, LCD displays "LONE" connect master radio to deputy radio with wire-clone cable. 3) Press [MONI] key of the master radio to start wire-clone. During cloning, the master radio shows "ending" and red light flickers, the deputy radio light flickers in green but no update infomation of cloning. When cloning succeeded, the master radio shows "END". When cloning failed, the master radio shows "ERROR". To wire-clone next radio, you only need to connect master radio with wire-clone cable to next deputy radio, then press [MONI] key of the master radio to start cloning. 35

#### **User's Manual**

**Optional accessories** Specification **Trouble shooting guide** Guarantee

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Item No.	TH-UVF1
Frequency range	70-108MHz (FM Receive only)
	136-174MHz (RX/TX)
	400-470MHz (RX/TX)
	350-390MHz (RX)
	470-520MHz (RX)
	245MHz (RX/TX) (Optional)
	350-390MHz (RX-TX) (Optional)
	470-520MHz (RX-TX) (Optional)
Frequency stability	5ppm
Operating voltage	DC 7.2V(Rechargeable Li-ion battery)
Channel No.	128
Antenna	High gain antenna
Antenna impedance	50Ω
Mode of operation	Simplex or semi-duplex
Dimensions (W x H x D)	115mm X 55mm X 31mm

Output power	≥5W(H) ≥0.5W(L)
Modulation mode (Wideband / Narrow band)	16KF
Maximum deviation (Wideband / Narrow band)	<5KHz / <2.5KHz
Adjacent channel power (Wideband / Narrow band)	≥65dB / ≥60dB
Spurious radiation	<7µW
Pre-emphasis characteristics	6dB
Current	≤1.6A(5W)
CTCSS/DCS deviation (Wideband / Narrow band)	$0.5 \text{KHz} \pm 0.1 \text{KHz}, \hspace{0.1cm} 0.3 \text{KHz} \pm 0.1 \text{KHz}$
Intermediation sensitivity	8-12mV
Intermediation distortion	<10%
Receiver	-122dBm (12dB SINAD)
Audio power	>0.5W
	<10%
Audio distortion	
Audio distortion Blocking	≥85
	≥85 ≥60dB ≥55dB
Blocking	

### Trouble shooting guide

Troubles	Solution
No Electrical Source	<ul> <li>The battery has been exhausted. Replace or recharge the battery.</li> <li>The battery is installed incorrectly. Remove it and install again.</li> </ul>
The operating time becomes short, even the battery is fully charged.	<ul> <li>Replace the battery.</li> </ul>
Not able to communicate with the transceivers of the same group.	<ul><li>Confirm the QT/DQT is the same.</li><li>The distance is outside of range.</li></ul>
The voice of another group can be heard.	<ul> <li>Change all QT/DQT of the group.</li> </ul>

	Guarantee
Mod	lel Number:
Seria	al Number:
Purc	chasing Date:
Dea	ler: Telephone:
Use	r's Name: Telephone:
Add	ress: Post Code:
<ol> <li>Th</li> <li>Th</li> <li>Do</li> <li>that</li> <li>Or</li> <li>Th</li> <li>Or</li> <li>Th</li> </ol>	<ul> <li>harks:</li> <li>his guarantee card to be kept by the user, no replenishment if lost.</li> <li>his guarantee card to be filled &amp; chopped by the dealer, or it is invalid.</li> <li>on't alter the guarantee card, please coufirm the serial number on the guarantee card is same at on the machine.</li> <li>ne-year guarantee, charger, battery, ear-phone, antenna and cable are not under guarantee user can get repairing service from the followingways:</li> <li>Go to the shop where you buy the machine.</li> <li>Our local repairing agents.</li> <li>Send back to our company.</li> </ul>