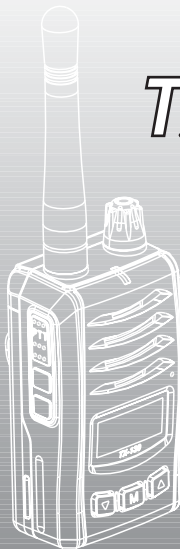


**TX-130U**



**INSTRUCTION MANUAL**  
**PMR446 TRANCEIVER**



[www.ttikorea.co.kr](http://www.ttikorea.co.kr)



## **Thank you for purchasing this radio.**

All our products are built to offer excellent value by combining advanced features, great design and manufacturing quality.

To ensure you are familiar with the operation and features of your radio, and in order to obtain the best performance, please read this manual carefully before operation.

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**Caution**

**IMPORTANT** - READ ALL INSTRUCTIONS carefully and completely before operating your radio and retain this manual for future reference.

**NEVER** connect the radio to a power source other than the supplied battery. This may damage your product.

**NEVER** operate your radio with the antenna less than 5cm from exposed parts of the body.

**NEVER** use the radio in or near a mining facility or other area which uses remotely triggered explosives or an area labelled "Blasting Area".

**NEVER** use or charge your radio in a potentially explosive atmosphere.

**DO NOT** place your radio in front of a vehicle airbag.

**DO NOT** operate your radio on board an aircraft.

**DO NOT** use your radio with a damaged antenna.

**DO NOT** attempt to modify your radio in any way.

**ALWAYS** charge your radio at normal room temperature.

**ALWAYS** switch off your radio where notices restrict the use of two-way radio or mobile telephones.

**ALWAYS** replace the accessory jack cover (if applicable) when the jack is not in use.

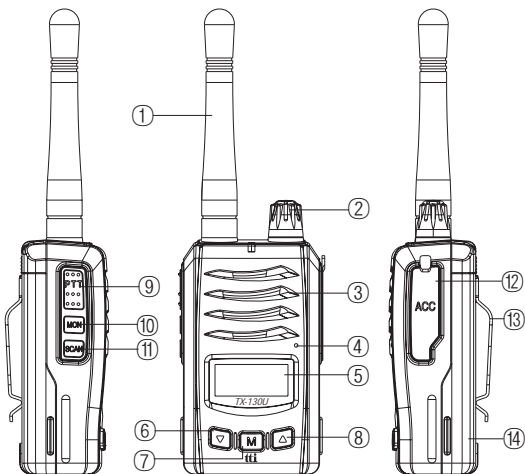
**ONLY** use TTI approved rechargeable batteries with the supplied charger.

**AVOID** charging your radio or battery pack while it is wet.

**AVOID** storing or charging your radio in direct sunlight.

**AVOID** storing or using your radio where temperatures are below  $-20^{\circ}\text{C}$  or above  $+60^{\circ}\text{C}$

## 1. Radio Controls



- |                         |                       |
|-------------------------|-----------------------|
| ① Antenna               | ⑧ UP Button           |
| ② Power On/Off & Volume | ⑨ PTT Button          |
| ③ Speaker               | ⑩ Monitor/Lock Button |
| ④ Microphone            | ⑪ Scan Memory/Scan    |
| ⑤ LCD                   | ⑫ Accessory Jack      |
| ⑥ DOWN Button           | ⑬ Belt Clip           |
| ⑦ Menu button           | ⑭ Battery Pack        |

## 2. Equipment and Accessories Supplied

1. TX-130U Radio with Antenna	1 Unit
2. Li-Ion Battery Pack	1 Unit
3. Charging Cradle	1 Unit
4. Power Adaptor	1 Unit
5. Belt Clip	1 Unit

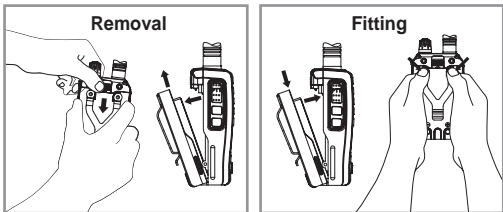
## 3. Fitting the Battery pack

### Fitting

1. Ensure that your radio is switched off.
2. Align the bottom of the battery pack with the securing slots at the back of the radio.
3. Press the top of the battery into the back of the radio until it “clicks” home.

### Removal

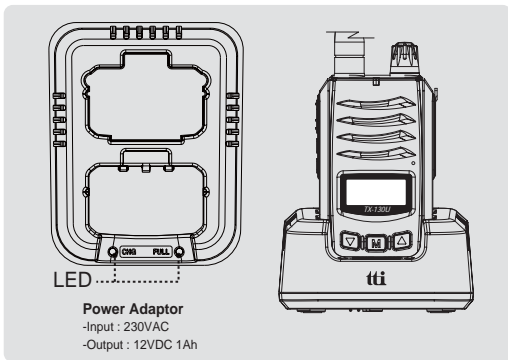
1. Ensure that your radio is switched off.
2. Press down on the battery release catch and separate the battery pack from the radio.



#### 4. Battery Charging

To charge your radio, carefully follow these instructions:

1. Connect the power adaptor to the mains power supply and connect the adaptor charger jack to the charging cradle.
2. Disconnect any radio accessories and ensure the radio is switched off.
3. Insert the radio into the charging cradle until it 'Clicks' home. The charger LED will glow red and charging will start. If the charger LED blinks red or green or the charger LED does not light, re-insert the radio into the charging cradle.
4. The battery charging time is about 4~5 hours. When the battery is fully charged the green LED(Full) will be turned on.





## 5. Radio Controls

### 1. Power On/Off/Volume Control



Turn the knob clockwise to switch on and increase the volume and counter-clockwise to decrease the volume and switch off the radio. The radio will emit a confirmation tone when it switches on.

### 2. Push-To-Talk (PTT) Button



Press and hold this button to speak (transmit) and release the button to hear (receive) messages. You can only communicate with other radios when the channel and privacy code are the same as that of yours. The red LED lights during the PTT press.

*Note : The green or orange LED lights during receive. The green lights on the basic channels and the orange lights on the channel with privacy codes.*

### 3. Monitor/Lock Button



**Monitor** Momentarily press this button to activate the monitor function. To deactivate this function, momentarily press this button again.

**Lock** Press and hold this button to activate the keypad lock.

### 4. Scan Memory and Scan button



**Scan Memory** As factory default your radio has all channels memorized for channel scanning.

To delete a certain channel stay on the channel and press the function button momentarily.

The scan icon will disappear on the LCD and the channel is now deleted from the scanning list.

**Scan** Press and hold this button to activate the scan.

### 5. Down Button



Pressing this button will decrease the channel number. In some modes this button is used to adjust the function setting.

### 6. Menu(Mode) Button



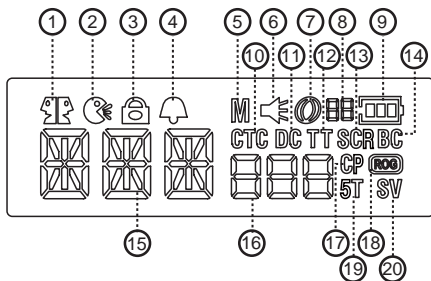
Press and hold for about 2 seconds to enter the menu mode. Then briefly press to step down through the menus.

### 7. Up Button



Pressing this button will increase the channel number. In some modes this button is used to adjust the function setting.

## 6. LCD Display





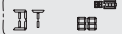
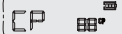
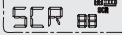
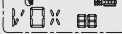

No.	Description	No.	Description
1	Dual Watch	11	DCS
2	VOX	12	Time-out Timer
3	Lock	13	Scrambler
4	Key Tone	14	Busy Channel Lock-out
5	Scan Memory	15	Channel
6	Monitor	16	Tone code
7	Scan	17	Compander
8	Battery Balance Status	18	Roger Beep
9	Battery Level	19	5 Tone
10	CTCSS	20	Power Save


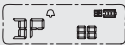
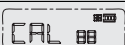


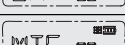
## 7. Menu mode

The menu mode allows you to set-up and edit the basic functions. To access this menu mode press and hold the menu button. Each press of this button steps the radio sequentially through the different functions.

The radio display indicates the current functions. The current setting and associated icon display. Use the up or down button to change the value of any selected menu.

Press the PTT button or wait for about 5 seconds to confirm the change.

Display	Function	Setting
	Change Privacy Tone Code (CTCSS)	1 to 73, oF
	Change Digital Privacy Tone code (DCS)	1 to 208, oF
	DTMF Tone On / Off	on, oF
	Compander On / Off	on, oF
	Scramble On / Off	on, oF
	Vox Activation and Level Selection	1, 2, 3, 4, oF
	Squelch level Selection	1, 2, 3, 4, 5, oF

Display	Function	Setting
	Roger Beep On/Off	on, of
	Key Tone On/Off	on, of
	Call(Page) Tone Selection	of, 1, 2, 3, 4, 5
	Backlight On/Off	on, of
	Dual Watch Activation & Channel Selection	1 to 8, of
	Microphone Gain	Hi, Lo

## 8. Basic Radio Operation

The PMR-446 Radio service which this radio uses shares channels on a 'take turns' basis. This means that other users and groups may be using any channel and privacy code combination.

To communicate with other PMR-446 radios, all units must be switched to the same frequency and privacy code.

If the combination you have chosen is already in use, please make an alternative selection.

1. Switch on your radio.
2. Check and if necessary change the channel or frequency and privacy code settings.
3. To speak, hold the radio upright, about 10cm from your mouth and press the PTT. Speak slowly and clearly towards the radio.

Release the PTT when you finish speaking.

You will hear messages from other radios that are within range and have the same channel and privacy code setting.

The appropriate icon will appear in the radio display when you receive or transmit a message.

## 9. Radio Features Explained

### Privacy Codes (CTCSS and DCS Tone Codes)

This radio is fitted with 73 Analogue Privacy codes (also known as CTCSS, sub-codes or sub-channels) and 208 Digital Privacy codes (also known as DCS codes).

Only one type of Privacy code can be used on each channel.

Selecting a Digital Privacy code will override any Analogue Privacy code settings. If the other unit(s) do not have privacy codes ensure your units privacy codes (analogue and digital) are set to 'Off'.

Please note that privacy codes do not prevent other radio users from hearing your conversation. They simply allow you to ignore messages that are using a different privacy code.

#### Selecting an Analogue Privacy Code



To change the Analogue Privacy Code, press the MODE(Menu) button until the CTCSS icon and privacy code number flash. Use the UP or DOWN button to select the desired code. Press the PTT or MODE button or wait for 5 seconds to store your choice. The CTCSS icon will appear when an Analogue Privacy Code is selected.

#### Selecting a Digital Privacy Code



To change the Digital Privacy Code, press the MODE(Menu) button until the DCS icon and privacy

code number flash. Use the UP or DOWN button to select the desired code. Press the PTT or MODE button or wait for 5 seconds to store your choice. The DCS icon will appear when a Digital Privacy Code is selected.

Once a CTCSS or DCS code has been selected, you can conveniently deactivate or re-activate the tone function.

Press and hold the monitor key to deactivate or re-activate the tone function. The tone function can only be activated if a tone code has been selected.

### DTMF TONE



The DTMF tone is a kind of combinations of short tones. The DTMF tone can preamble to the message upon every press of the PTT button.

Selecting this allows the other party never to miss your initial message that might arrive before the audio of the other party's is open to receive. This can be activated or de-activated.

### Compander



If the compander is activated, your radio will eliminate the background noise and generate clearer sound by cutting off the high and low frequencies. The users who prefer the unrefined sound are recommended to use the radio with this compander unactivated.

To change the setting, press the MODE button until the Compander icon and current setting display. Use the UP or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice.

The Compander icon will appear when Compander is active.

### Scrambler

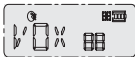


Your radio incorporates a voice scrambler using band inversion method.

The scrambler is compatible with many a scrambler used by other manufacturers, allowing you to enjoy scrambled communications with radios. This can be activated or deactivated.

To select the 5 tone, press the MODE button until the current 5 tone setting appears. Use the Up or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice.

### VOX(Handsfree) Mode



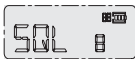
When Hands Free(VOX) MODE is selected the radio will automatically transmit when the microphone detects your voice (or other noise).

It can be used with the internal microphone or a suitable audio accessory (available separately). To avoid accidental operation and reduce the effect of background noise, there are 3 microphone sensitivity settings and off.

To select the VOX sensitivity level, press the MODE button until the VOX icon and current setting. Use the UP or DOWN button to change the sensitivity level (3 is the most sensitive). Press the PTT or MODE button or wait for 5seconds to store your choice.



## Squelch Level Adjustment



This function allows you to adjust the squelch level of your radio.

To change the squelch level, press the MODE button until the squelch mode displays.

The current squelch setting will flash. Use the UP or DOWN button to change the setting. Press the PTT button or wait for 5 seconds to store your choice.

There are 5 squelch levels. Level 1 is the most sensitive (open) and level 5 is the least sensitive (closed). Auto is the optimum factory setting and 'Off' is fully open, with constant static noise.

## Roger Beep



The Roger Beep is a short tone that is automatically added to the end of your transmissions to tell other users that you have finished speaking. You can activate or deactivate the Roger Beep as required.

To change the Roger Beep setting, press the MODE button until the Roger Beep icon and current setting displays. Use the UP or DOWN button to change the setting. Press the PTT or FUNCTION button or wait for 5 seconds to store your choice.

The Roger Beep icon will appear when Roger Beep is active.

## Key Tone



If the Key Beep is activated, your radio will emit a confirmation tone whenever you use the keypad.

You can activate or deactivate the key Beep as required. To change the Key Beep setting, press the MODE button until the Key Beep icon appears. Use the UP or DOWN button to change the setting. Press the PTT or FUNCTION button or wait for 5 seconds to store your choice.

The Key Beep icon will appear when Key Beep is active.

## Call Tone

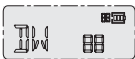


To alert other users to your message and gain their attention you can send a Call Alert melody by pressing the PTT button twice in quick succession. There are five different call alert tones and off.

To change the Call Alert melody, press the MODE button until the Call icon displays.

Use the UP or DOWN button to change the setting. Press the PTT or FUNCTION button or wait for 5 seconds to store your choice.

## Dual Watch Mode



Dual Watch mode allows you to monitor two channels; a primary channel and the dual watch channel. When a signal is received on either channel the unit will pause for 5 seconds before resuming the dual watch. To activate the dual watch mode, first select a radio channel as the primary channel.

To select the dual watch channel press the MODE button until the Dual Watch icon and current setting appear. Use the UP or DOWN button to select the desired dual watch channel. Press the PTT or MODE button or wait for 5 seconds to store your choice and activate the dual watch.

The radio display will alternate between the primary and dual watch channels and the dual watch icon will appear.

To deactivate the dual watch press the SCAN button after the FUNCTION button press.

If you press the PTT button whilst receiving a signal in Dual Watch mode the radio will transmit on the currently displayed channel. If you press the PTT button when no signal is present the radio will transmit on the primary channel.

### Microphone Gain Adjustment



Microphone Gain Adjustment is adjust the intake audio sound level to the radio. The high level is the normal condition that

should be used in ordinary circumstances and the low level should be used in some noisy places where you need to lower the surrounding noises. To select the microphone gain level, press the MODE button until the current microphone gain setting appears. Use the Up or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice.

## 10. Radio Cloning

### Wireless Cloning

1. Put together the master radio and the slave radios.  
(within about 20cm)
2. Turn on the master radio pressing PTT button and Mode (M) button simultaneously. The radio LED blinks green.
3. Turn on the slave radio or radios pressing PTT button and Mode(M) button simultaneously.  
The radio(radios) LED blinks green too.
4. Press and hold the master radio until the master radio LED charges green as well as the slave radio(s) charger green. During cloning, the slave radio(s) blinks among green, orange and red.
5. Turn off your radios and turn on again.

### Wired Cloning

The cloning process using a cloning cable is basically same as that using the wireless cloning. You could use this wired cloning around noisy circumstances that could give interferences.

1. Connect two radios(the master and the slave) using a cloning cable.
2. Just follow the above process No.2 through No.5.
3. Disconnect the cloning cable from the radios.

## 11. Radio ID Editing

An up to 3 digit Radio ID can be programmed when the radio is switched on. You can customise this Radio ID to identify your radio.

To enter the Radio ID edit mode, switch on the radio whilst pressing the Menu button.

1. The first digit is blinking.
2. Use the UP or DOWN button to change the character.
3. Press the Menu button to select the next digit.
4. Repeat the step 2 and the step 3.
5. Turn off the radio to finish editing.

## 12. Troubleshooting

If you experience problems with your TX-130U first check the battery power level as low batteries can cause problems such as poor transmission, weak reception and reduced sound quality.

Then check the manual and radio display to ensure that a function (such as VOX or Lock) has not been activated by accident.

In case of further difficulty please consult your dealer or visit our websites at [www.ttikorea.co.kr](http://www.ttikorea.co.kr).

### 13. CE Declaration

**CE 0700**

*CE version of the TX-130U which displays the CE symbol on the product label, complies with the essential requirements of the European Radio and Telecommunications Terminal Directive 1999/5/CE.*

This radio can be used without license and charges in; Austria, Belgium, Cyprus, Czech, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and U.K.

### 14. Safety Requirements

For charging the rechargeable batteries, only a CE approved AC adaptor complying with the following specifications must be used :

**INPUT : 230VAC 50Hz**

**OUTPUT : 12VDC 1AH**

## 15. Technical Specifications

1) Operating Frequencies (frequency shown in MHz):

Channel	Frequency	Channel	Frequency
1	446.00625	5	446.05625
2	446.01875	6	446.06875
3	446.03125	7	446.08125
4	446.04375	8	446.09375

2) Channel Spacing: 12.5kHz

3) Power Source: 1 x Li-Ion battery

4) Privacy Codes (CTCSS Tone Codes) Table (in Hz):

No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
1	67.0	16	114.8	31	192.8	46	229.1	61	110.7
2	71.9	17	118.8	32	203.5	47	254.1	62	120.0
3	74.4	18	123.0	33	210.7	48	165.5	63	131.1
4	77.0	19	127.3	34	218.1	49	171.3	64	141.1
5	79.7	20	131.8	35	225.7	50	177.3	65	150.7
6	82.5	21	136.5	36	233.6	51	60.7	66	160.8
7	85.4	22	141.3	37	241.8	52	62.5	67	171.4
8	88.5	23	146.2	38	250.3	53	64.7	68	181.4
9	91.5	24	151.4	39	69.3	54	40.8	69	190.6
10	94.8	25	156.7	40	159.8	55	51.0	70	201.3
11	97.4	26	162.2	41	183.5	56	61.0	71	211.6
12	100.0	27	167.9	42	189.9	57	71.2	72	221.5
13	103.5	28	173.8	43	196.6	58	80.8	73	230.3
14	107.2	29	179.9	44	199.5	59	91.1		
15	110.9	30	186.2	45	206.5	60	101.3		

## 5) Digital Privacy Codes Table (DCS Tone Codes):

NO	code	NO	code	NO	code	NO	code	NO	code	NO	code
1	23	41	306	81	734	121	1116	161	1445	201	1356
2	25	42	311	82	743	122	1125	162	1464	202	1446
3	26	43	315	83	754	123	1131	163	1465	203	1452
4	31	44	331	84	53	124	1132	164	1466	204	1454
5	32	45	343	85	122	125	1134	165	1503	205	1455
6	43	46	346	86	36	126	1143	166	1506	206	1462
7	47	47	351	87	145	127	1152	167	1516	207	1523
8	51	48	364	88	212	128	1155	168	1532	208	1526
9	54	49	365	89	225	129	1156	169	1546		
10	65	50	371	90	246	130	1162	170	1565		
11	71	51	411	91	252	131	1165	171	1606		
12	72	52	412	92	255	132	1172	172	1612		
13	73	53	413	93	266	133	1174	173	1624		
14	74	54	423	94	274	134	1205	174	1627		
15	114	55	431	95	325	135	1223	175	1631		
16	115	56	432	96	332	136	1226	176	1632		
17	116	57	445	97	356	137	1243	177	1654		
18	125	58	464	98	446	138	1244	178	1662		
19	131	59	465	99	452	139	1245	179	1664		
20	132	60	466	100	454	140	1251	180	1703		
21	134	61	503	101	455	141	1261	181	1712		
22	143	62	506	102	462	142	1263	182	1723		
23	152	63	516	103	523	143	1265	183	1731		
24	155	64	532	104	526	144	1271	184	1732		
25	156	65	546	105	1023	145	1306	185	1734		
26	162	66	565	106	1025	146	1311	186	1743		
27	165	67	606	107	1026	147	1315	187	1754		
28	172	68	612	108	1031	148	1331	188	1053		
29	174	69	624	109	1032	149	1343	189	1122		
30	205	70	627	110	1043	150	1346	190	1036		
31	223	71	631	111	1047	151	1351	191	1145		
32	226	72	632	112	1051	152	1364	192	1212		
33	243	73	654	113	1054	153	1365	193	1225		
34	244	74	662	114	1065	154	1371	194	1246		
35	245	75	664	115	1071	155	1411	195	1252		
36	251	76	703	116	1072	156	1412	196	1255		
37	261	77	712	117	1073	157	1413	197	1266		
38	263	78	723	118	1074	158	1423	198	1274		
39	265	79	731	119	1114	159	1431	199	1325		
40	271	80	732	120	1115	160	1432	200	1332		

## 16. Declaration of Conformity

We, TTI Tech Co., Ltd. (443-4, Juam-dong, Gwacheon-si, Gyeonggi-do, Korea, 427-070) declare on our sole responsibility that this equipment complies with the essential requirements of the Radio and Telecommunications Terminal Equipment Directive, 1999/5/EC, and that any applicable Essential Test Suite measurements have been performed.

Kind of equipment: PRIVATE MOBILE RADIO 446

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Type-designation: **TX-130U**

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Version (where applicable):

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This compliance is based on conformity with the following harmonised standards, specifications or documents:

EN 300 296-1	V1.4.1
EN 300 296-2	V1.4.1
EN60950-1:2006+A11:2009+A1:2010+A12:2011	
EN 301 489-1	V1.9.2
EN 301 489-5	V1.3.1

**CE 0700 !**

Seoul, Apr. 30, 2015  
Place and date of issue

---

**J. S. Lee**  
Senior Manager

*J.S. Lee*

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Signature

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TX-130U

TTI TECH CO., LTD. **tti**