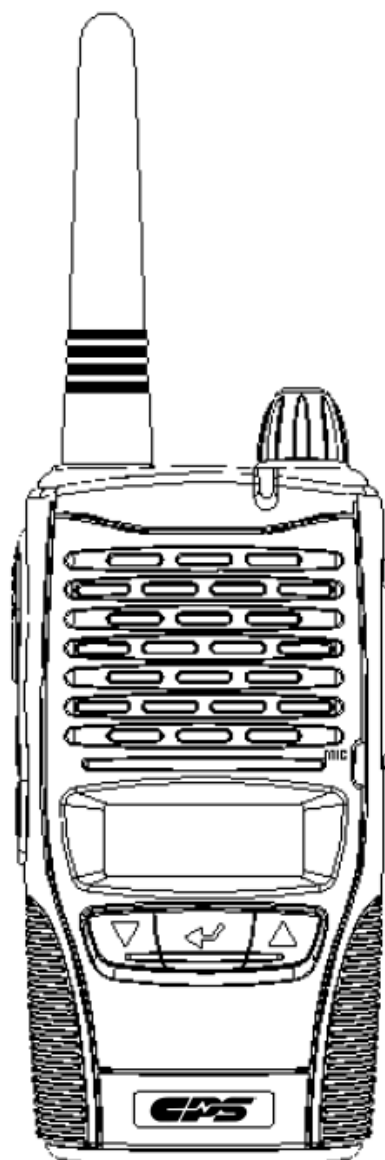


# CP238

## 手持式公众对讲机 使用说明书



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# 1.概述

## 1.1 简介

CP238手持式公众对讲机，设计优良，线条美观时尚，铝合金机架，坚固耐用，性能良好，配合大容量锂离子电池，提供长时间通话功能。

## 1.2 功能

- 频率范围(409.7500MHz至409.9875MHz)
- 20个工作频道
- 内置53单音CTCSS及104个DCS数字私线组合
- 高和低发射输出功率可设置
- 7.4V 2600mAh 锂离子电池，环保锂离子电池可提供长时间通话电量
- VOX声控发射功能，可无需按动PTT而以讲话声音进行声控发射
- 12.5KHz频道间隔
- 扫描功能
- 监听功能，能在微弱的接收讯号或带有防干扰静音码的场合中进行监听功能
- 紧急呼叫按键，当持续按下紧急呼叫按键，该机将发射警报声但本机并无声响和发射指示，可隐蔽求援
- 0.5W音频功率输出

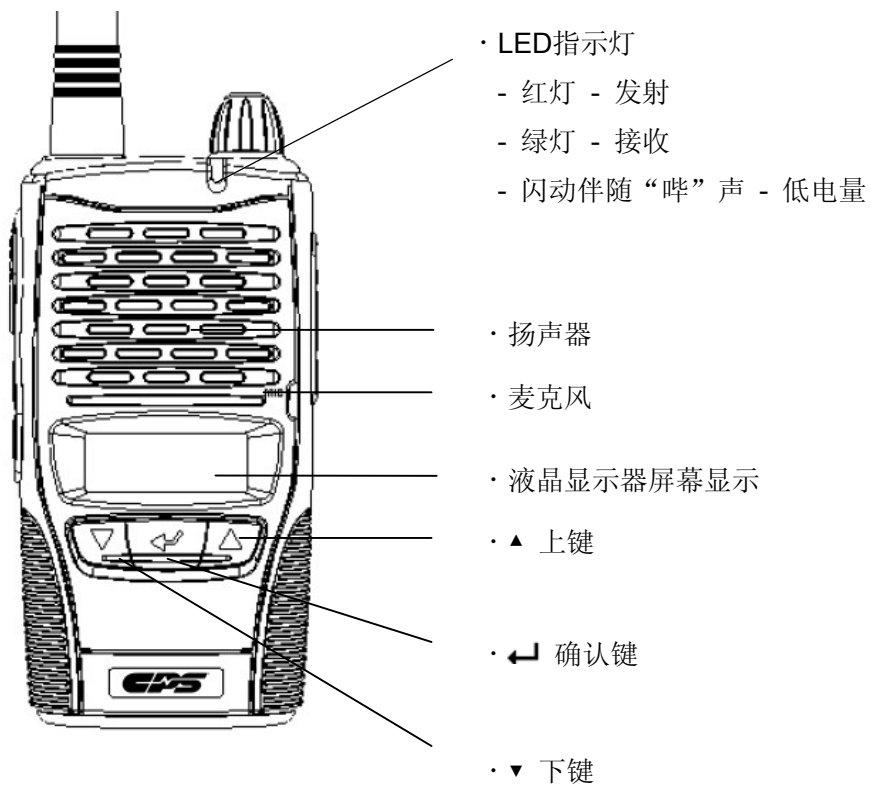
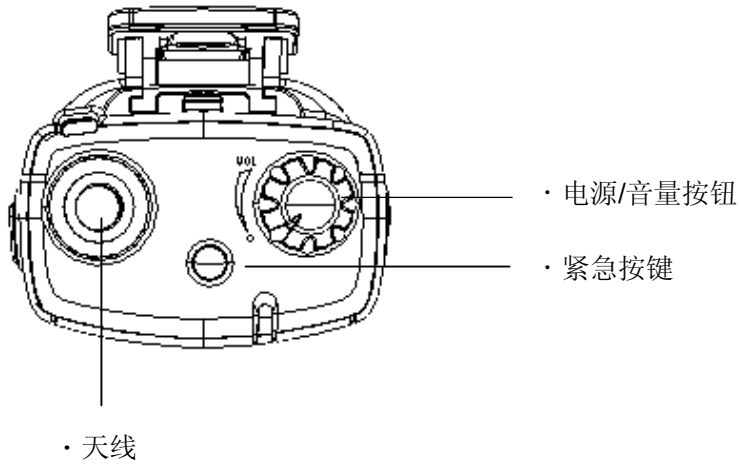
## 1.3 配件

- 2600mAh 锂离子电池组
- 电源适配器及充电器
- 皮带夹
- 使用说明书
- 保修卡

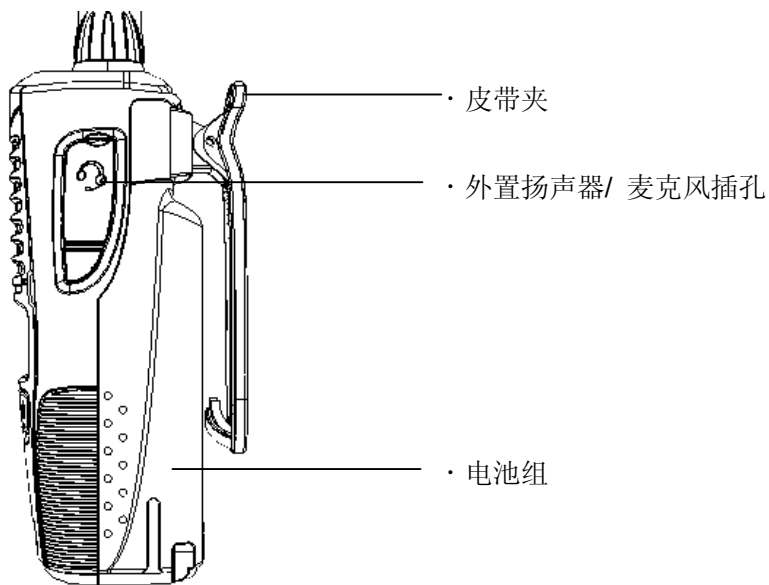
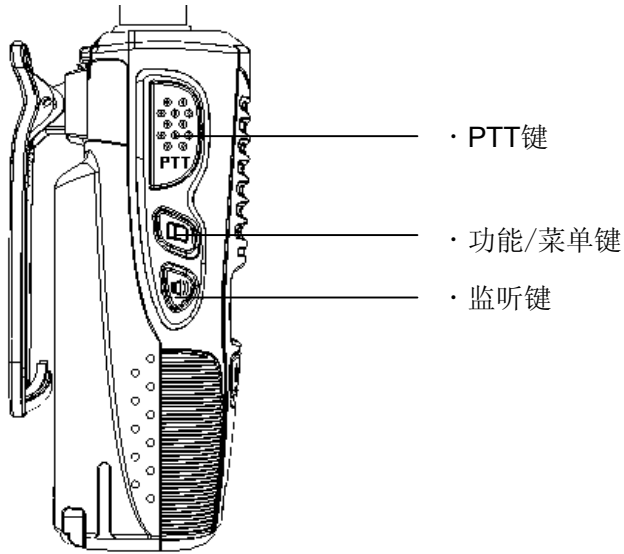
## 1.4 另购配件

- 耳咪

## 2. 控制键及显示说明

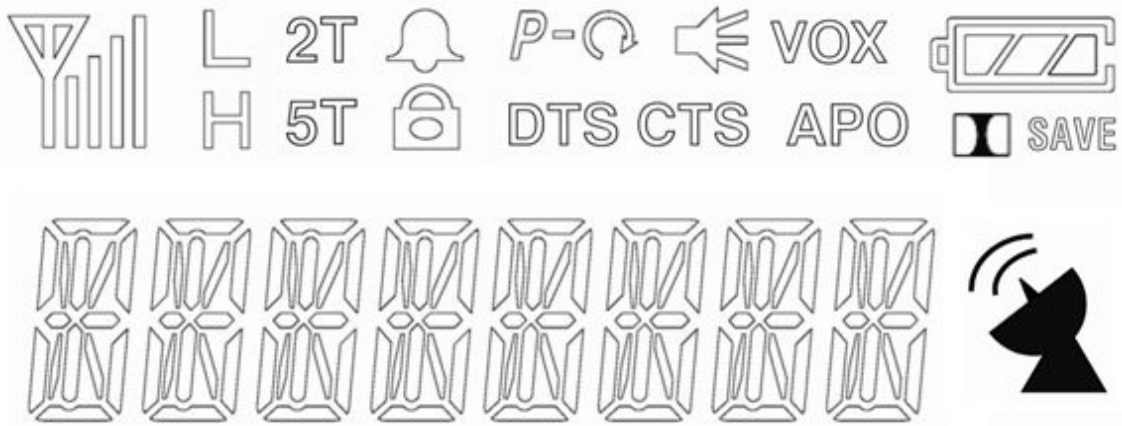


## 2. 控制键及显示说明

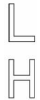


## 2. 控制键及显示说明

### 显示屏



发射/接收信号强度指示



“L”“H”：发射功率高低指示



提示音指示(按键提示音)



键盘锁指示



扫描指示



监听功能指示



电池电量指示

VOX

VOX指示声控发射功能开启

DCS

指示DTCSS防干扰数字编码功能开启

CTS

指示CTCSS模拟亚音功能开启

SAVE

省电指示



中转指示

## 3. 一般操作

### 3.1 开机/关机

顺时针方向开机，开机后显示屏将全屏显示并显示该机状态。

### 3.2 发射

持续按下PTT键并距离麦克风约5cm讲话，红色指示灯将亮起，表示在进行发射，放开PTT键恢复接收模式。

### 3.3 接收

接收信息时，绿色指示灯将亮起，表示正在接收信息。

### 3.4 频道选择



按下▲或▼键选择频道，同时将会有一声响提示。持续按下▲或▼将加速频道跳动。

### 3.5 发射功率选择


选择低功率时可延长电池续航时间；

用户也可通过按键调节各信道的发射功率为高功率或低功率，方法是持续按下PTT键并按下▲为高功率或▼键为低功率。

### 3.6 扫描

在一般模式，在2秒内先按住再按下“←”可选择扫描功能，该机将自动寻找正在通话之频道。当扫描并停留到通话频道时，按下▲或▼可暂时取消聆听该频道而转入下一个频道。按一下退出扫描功能。

### 3.7 亚音频/防干扰数字编码设定

长按进入功能菜单，显示屏显示“TONE”，按“←”进入亚音频/防干扰数字编码菜单，

按下▲或▼键选择所需的亚音频/防干扰数字编码设定，按下“←”确定选择，按下PTT退出功能菜单。

亚音频/防干扰数字编码设定后，对讲机需工作在相同的亚音频/防干扰数字编码，才能互相通话。设置亚音频/防干扰数字编码可减少同频通信干扰。

### 3.8 监听功能


按下可取消静噪以便监听微弱讯号，

或在设置不一致的亚音频/防干扰数字编码时，用于监听当前频道的信息。

### 3.9 紧急呼叫功能



持续按下紧急呼叫键约3秒，开启紧急呼叫功能，紧急呼叫向其它对讲机发出警报声但本机并无声响和发射指示，仅LCD显示“EMERGEN”而LCD背光灯不亮。此时的发射信道为当前信道或在SCAN状态时最近一次接收呼叫信道。

### 3.10 LCD 背光灯持续打开或关闭

短按可选择LCD背光灯打开或关闭。

## 3. 一般操作

### 3.11 键盘锁

按住  后再按下 ▲ 键，LCD 显示 “KEYLOCK”，除 PTT 及监听键与紧急呼叫键外，所有键盘不能操作；按住  同时再按下 ▼ 键则解除键盘锁，LCD 显示 “LOCKOFF”。

### 3.12 功能菜单

持续按下  约 3 秒进入功能选项，其次序如下：

TONE (亚音频) --> SQUELCH (静噪灵敏度) --> SOUND (按键音) --> VOX\_TH (声控发射灵敏度)  
--> VOX\_EN (声控发射 (开/关)) --> SAVE (省电功能 (开/关)) --> SCAN (扫描功能 (开/关))  
--> DTMF (双音多频) --> REPEAT (中转)

按 ▲ 或 ▼ 键选择所需功能，按动 “←” 确认，然后按动 ▲ 或 ▼ 选择开启或关闭，然后再按 “←” 确认，再按 “PTT” 键退出菜单。（如 10 秒内未有任何选择，该机将自行退出菜单功能。）

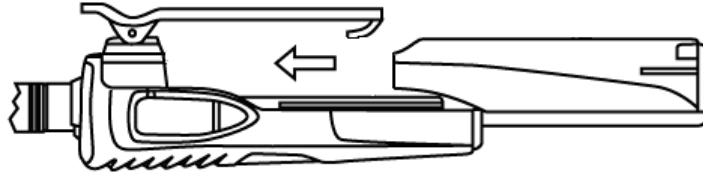
TONE (亚音频) :	可选 C01-53 或 D001-104 或 OFF (出厂值)
SQUELCH (静噪灵敏度) :	可选 LEVEL 0-9, (出厂值: 2)
SOUND (按键音) :	可选 SOUND_ON (出厂值) 或 SOUNDOFF
VOX_TH (声控发射灵敏度) :	可选 1-9, (出厂值: 4)
VOX_EN (声控发射 (开/关)) :	可选 VOX_ON 或 VOX OFF (出厂值)
SAVE (省电功能 (开/关)) :	可选 SAVE_ON (出厂值) 或 SAVEOFF
SCAN (扫描功能 (开/关)) :	可选 SCAN_ON 或 SCANOFF (出厂值)
DTMF (双音多频) :	可选 DTMF_ON (该功能不适合本机使用) 或 DTMFOFF (出厂值)
REPEAT (中转功能) :	可选 REPEAT_ON (该功能不适合本机使用) 或 REPEATOFF (出厂值)



## 4. 电池组安装及拆除

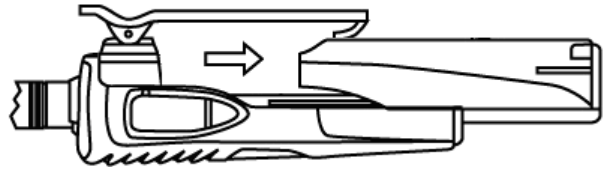
### 4.1 安装电池组

- 1) 把电池组下边缘对齐到对讲机铝壳卡位。
- 2) 向上推电池至发出咔哒声。



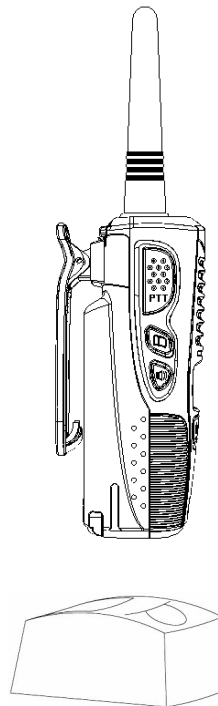
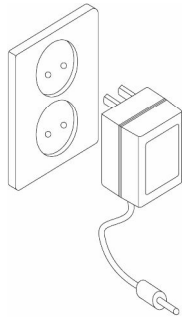
### 4.2 拆除电池组

- 关机，按下电池锁按钮，退下电池组。  
注意：卡扣紧为正常现象。



### 4.3 电池组充电

- 将DC插头插入充电座
- 将电源适配器接入110/220V AC电源
- 关上对讲机
- 将对讲机放入充电座进行充电
- 充电完成后提取对讲机



### 4.4 充电器灯号指示

红灯	正在充电中
绿灯	充电完成
红灯闪动	充电短路/电池有问题/过时
绿灯闪动	高温
红灯及绿灯闪动	接触不良

## 5.CTCSS/DCS表

### CTCSS表

No	Frequency	No	Frequency	No	Frequency	No	Frequency
1	67.0	14	107.2	27	167.9	40	159.8
2	71.9	15	110.9	28	173.8	41	183.5
3	74.4	16	114.8	29	179.9	42	189.9
4	77.0	17	118.8	30	186.2	43	196.6
5	79.7	18	123.0	31	192.8	44	199.5
6	82.5	19	127.3	32	203.5	45	206.5
7	85.4	20	131.8	33	210.7	46	229.1
8	88.5	21	136.5	34	218.1	47	254.1
9	91.5	22	141.3	35	225.7	48	165.5
10	94.8	23	146.2	36	233.6	49	171.3
11	97.4	24	151.4	37	241.8	50	177.3
12	100.0	25	156.7	38	250.3	51	60.7
13	103.5	26	162.2	39	69.3	52	62.5
						53	64.7

### DCS表

NO	DCS Code	NO	DCS Code	No	DCS Code	No	DCS Code
1	023	28	172	55	431	82	743
2	025	29	174	56	432	83	754
3	026	30	205	57	445	84	036
4	031	31	223	58	464	85	053
5	032	32	226	59	465	86	122
6	043	33	243	60	466	87	145
7	047	34	244	61	503	88	212
8	051	35	245	62	506	89	225
9	054	36	251	63	516	90	246
10	065	37	261	64	532	91	252
11	071	38	263	65	546	92	255
12	072	39	265	66	565	93	266
13	073	40	271	67	606	94	274
14	074	41	306	68	612	95	325
15	114	42	311	69	624	96	332
16	115	43	315	70	627	97	356
17	116	44	331	71	631	98	446
18	125	45	343	72	632	99	452
19	131	46	346	73	654	100	454
20	132	47	351	74	662	101	455
21	134	48	364	75	664	102	462
22	143	49	365	76	703	103	523
23	152	50	371	77	712	104	526
24	155	51	411	78	723		
25	156	52	412	79	731		
26	162	53	413	80	732		
27	165	54	423	81	734		

## 6. 频率表

信道	频率 (MHz)	信道	频率 (MHz)
1	409.7500	11	409.8750
2	409.7625	12	409.8875
3	409.7750	13	409.9000
4	409.7875	14	409.9125
5	409.8000	15	409.9250
6	409.8125	16	409.9375
7	409.8250	17	409.9500
8	409.8375	18	409.9625
9	409.8500	19	409.9750
10	409.8625	20	409.9875

## 7. 技术参数

型号	CP238
频率范围	409.750MHz-409.9875MHz
频道数目	20个
频道间隔	12.5 KHz
工作电压范围	7.4VDC
调制型式	FM
体积(高×阔×深)	103×56×40mm
重量(连电池)	250g
发射	
射频输出功率	0.5W
频率稳定	±2.5ppm(-30℃ ~ +60℃)
杂波辐射	<50uW
调频杂噪声	38dB
音频失真	3%
接收	
灵敏度(12dB SINAD)	0.2uV(-121dBm)
门限静噪灵敏度	0.14uV(-124dBm)
选择性	60dB
杂波辐射	<20nW
音频输出功率	0.5W, 8Ω 阻抗

注：以上数据如有变化，恕不另行通知。以实物为准。

## 8.用户安全须知

1. 未经允许请勿拆开对讲机，非专业人员对本机的处理可能会造成对讲机故障。
2. 为避免电磁干扰或电磁兼容引起的问题，请在禁止使用对讲机的场合关闭对讲机。例如医院和其他保健场所。
3. 汽车加油或停车于加油站期间，请关闭对讲机。
4. 在带有安全气囊的汽车内，请勿将对讲机放在气囊展开可能覆盖的区域范围内。
5. 在进入易燃、易爆的环境前请关闭对讲机。
6. 在易燃、易爆的环境中请勿更换对讲机电池或进行电池充电。
7. 在靠近爆破区域和雷管所在区域前，请关闭对讲机。
8. 请勿把对讲机长时间暴露在直射日光下，勿将对讲机放在加热器附近。
9. 请勿把对讲机放在多尘、潮湿、水溅或者表面不平稳的地方。
10. 请勿使用天线已损坏的对讲机，损坏的天线如果接触皮肤可能导致皮肤轻微灼伤。
11. 对讲机发射时，请保持对讲机机身处于垂直状态，话筒距离嘴部约5厘米，发射时对讲机天线至少距离头部或身体2.5厘米。

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# 1. GENERAL INFORMATION

## 1.1 Introduction

The CP238 handheld public transceiver combines quality and versatility into a compact, light and portable professional two-way radio with state-of-the-art design and easy-to-use features.

## 1.2 Key Features

- Frequency Range (409.7500 – 409.9875MHz)
- 20 Channels
- Built-in 53 CTCSS Tones / 104 DCS Codes
- Adjustable Transmission Power – Helps conserve battery life using low- power output under favorable communications condition
- 7.4V 2600mAh Li-ion High Capacity Battery – Lightweight lithium-ion battery with extended battery life.
- Voice Activated Transmission (VOX) – Allows for hands-free transmission of message without pressing the PTT button.
- 12.5kHz Channel Spacing
- Channel Scan for activity across different communications channels
- Monitor function – Enables monitoring of weak radio signals
- Emergency button- pressed to send out emergency signals
- 0.5 Watt High Power Speaker.

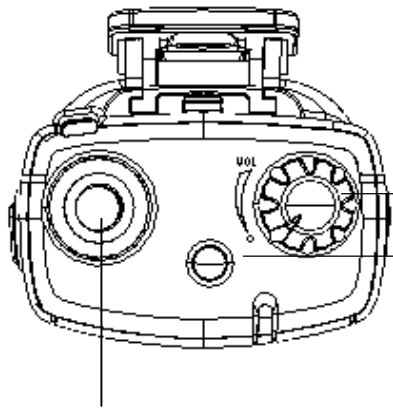
## 1.3 Accessories

- 2600 mAh Li-ion high capacity battery pack
- Rapid charger with stand and charging adaptor
- Belt clip
- Owner's manual
- Warranty card

## 1.4 Optional Accessories

- Ear microphone

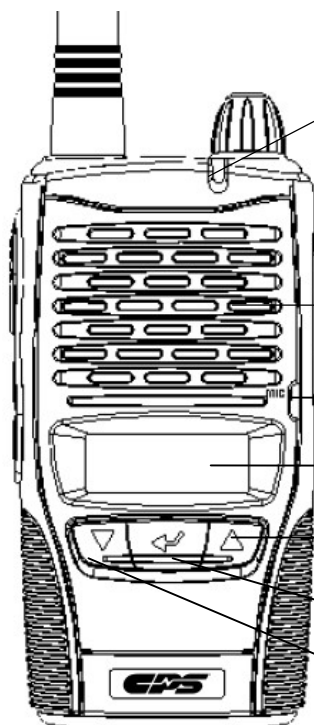
## 2. CONTROLS AND INDICATORS



· Antenna

· Power / Volume Control Knob

· Emergency key



· LED Indicator

- Red - Transmitting

- Green - Receiving

- Blinks – Together with beep sound and background light blinking indicates battery level low

· Speaker

· Microphone

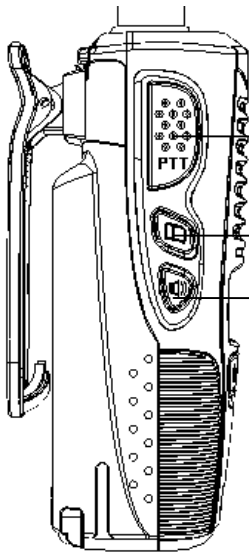
· LCD Display

· ▲ Up Button

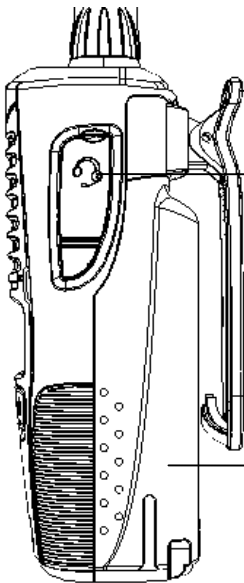
· ◀ Confirm Button

· ▼ Down Button

## 2. CONTROLS AND INDICATORS



- Push-To-Talk (PTT) Button
- Menu / Function Key
- Monitor Key

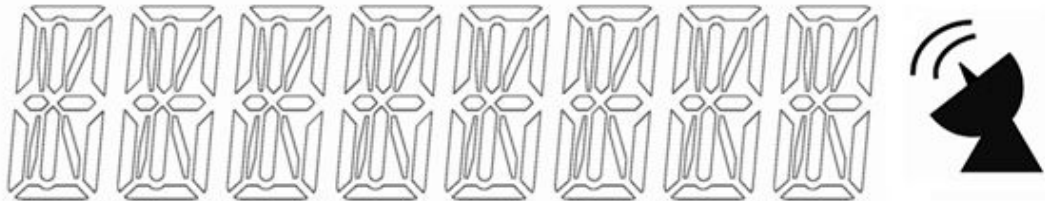


- Belt Clip
- External PTT / Ear Microphone Jack
- Battery



## 2. CONTROLS AND INDICATORS

### LCD Display



Transmission / Reception Indicators



“L” Low Power; “H” High Power Indicator



Alert (Key Tone)



Key Lock



SCAN



Monitor function ON



Battery Level Indicator



VOX (Voice Activated Transmission) Function ON



DTCSS Function ON



CTCSS Function ON



Battery Save Indicator



Repeat

## 3. OPERATION

### 3.1 Power On/Off

Switch on the radio by turning the power knob clockwise until the speaker is at a desired volume level. As soon as the power is on, the LCD display becomes lit.

### 3.2 Transmission

Press and hold the PTT button while speaking at about 5cm from the microphone for transmission (indicated by the red LED). Release the PTT button to return to the Standby mode.

### 3.3 Reception

The green LED will be on during reception of signals.

### 3.4 Channel




Press ▲ or ▼ to select channel and a “beep” sound will be heard when a new channel is selected. To select channels quickly, press and hold ▲ and ▼ until the desired channel.

### 3.5 Transmission Power Adjustment



High power output “H” or Low power output “L” can be selected by programming. Low power output may prolong the battery life.

User may select “H” by pressing the PTT and ▲ or “L” by pressing the PTT and ▼.

### 3.6 Scan


While in General mode, press and hold  and  for scanning function. The radio will automatically scan for activity until an active channel is detected. Press ▲ or ▼ to skip the detected channel and continue the scan. Press  once to abort the channel scan function.

### 3.7 CTCSS / DCS

Long press  to menu and press  to “TONE” menu,

Press ▲ or ▼ to select desired CTCSS or DCS coding.

### 3.8 Monitor Function


Press  to monitor weak radio signals or monitoring channel with unknown CTCSS / DCS.

### 3.9 Emergency Call



Press and hold the Emergency button for about 3 seconds to activate or deactivate the Emergency mode. The subject radio will display “EMERGEN” with no siren or LED light.

## 3. OPERATION


### 3.10 LCD Back Light

Press  to select LCD back light ON or OFF

### 3.11 Keypad Lock

Press  followed by ▲ to activate keypad lock, The LCD will display “KEYLOCK” and all keys are disabled except PTT, Monitor and Emergency button. Press  followed by ▼ to deactivate keypad lock.

### 3.12 Programming at Menu Mode

Press and hold  for about 3 seconds to enter the Menu mode, which has the following selection sequence:

TONE (CTCSS / DCS) → SQUELCH (Squelch) → SOUND (Key sound)  
→ VOX\_TH (VOX Sensitivity) → VOX\_EN (VOX ON / OFF)  
→ SAVE (Battery save ON / OFF) → SCAN (Scan function ON / OFF)  
→ DTMF (DTMF function ON / OFF) → REPEAT (Repeat function ON / OFF)

Press ▲ or ▼ to select and  to confirm selection

Press “PTT” exit menu

If no selection is confirmed after 10 seconds, the radio will automatically exit the Menu mode.

TONE (CTCSS / DCS):	Select level between C01 – D104 or OFF (default)
SQUELCH (Squelch):	Select level between 0 – 9 (default: 2)
Sound (Key sound):	Select SOUND_ON (default) or SOUND OFF
VOX_TH (VOX Sensitivity):	Select level between 1 – 9 (default: 4)
VOX_EN (VOX ON / OFF):	Select VOX_ON or VOX_OFF (default)
SAVE (Battery save ON / OFF):	Select SAVE_ON (default) or SAVE OFF
SCAN (Scan function ON / OFF):	Select SCAN_ON or SCAN OFF (default)
DTMF (N.A.):	Select DTMF_ON or DTMF OFF (default)
REPEAT (N.A.):	Select REPEAT_ON or REPEAT OFF (default)

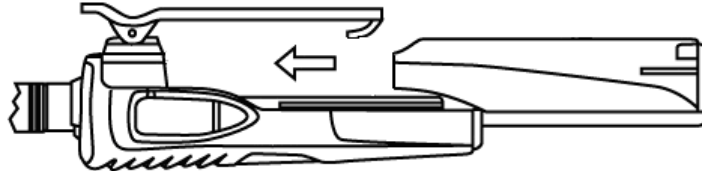
Remark:

N.A. = Not applicable for this model

## 4. BATTERY

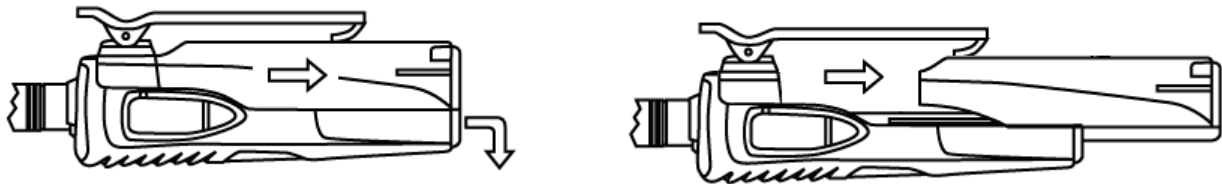
### 4.1 To install the battery

1. Align the top of the battery (belt-clip end) with the radio's battery compartment and guide rails.
2. Slide the battery towards the top of the radio until the battery is fully engaged by the latch with a "click" sound.



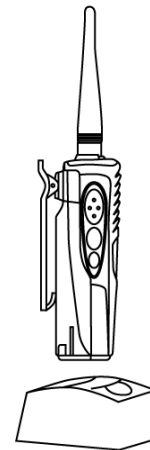
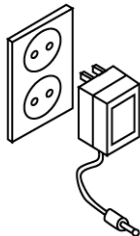
### 4.2 To remove the battery

1. After the radio has been switched off, disengage the battery latch by pushing and holding it towards the front of the radio.
2. With the latch disengaged, slide the battery down until it can be entirely removed from the radio.



### 4.3 To charge the battery

1. Plug the AC-to-DC Adaptor into the appropriate AC power outlet.
2. Connect the DC jack of AC-to-DC Adaptor to desktop charger.
3. Turn off the radio.
4. Insert the radio (with battery) into the charging tray (! Make sure the radio is off).
5. When the radio with battery is fully inserted, a glowing red light indicates that the battery is charging.
6. Green light indicates the charging is completed and radio is ready for use.



### 4.4 Charging Status Indicators

Red LED light on	Charging
Green LED light on	Charging completed
Red LED blinking	Short circuit / Battery problem / Over charged
Green LED blinking	Over heating
Red & Green LEDs blinking	Loose contact

## 5. CTCSS / DCS TABLE

### CTCSS Table

No	Frequency	No	Frequency	No	Frequency	No	Frequency
1	67	14	107.2	27	167.9	40	159.8
2	71.9	15	110.9	28	173.8	41	183.5
3	74.4	16	114.8	29	179.9	42	189.9
4	77	17	118.8	30	186.2	43	196.6
5	79.7	18	123	31	192.8	44	199.5
6	82.5	19	127.3	32	203.5	45	206.5
7	85.4	20	131.8	33	210.7	46	229.1
8	88.5	21	136.5	34	218.1	47	254.1
9	91.5	22	141.3	35	225.7	48	165.5
10	94.8	23	146.2	36	233.6	49	171.3
11	97.4	24	151.4	37	241.8	50	177.3
12	100	25	156.7	38	250.3	51	60.7
13	103.5	26	162.2	39	69.3	52	62.5
						53	64.7

### DCS Table

No	DCS Code	No	DCS Code	No	DCS Code	No	DCS Code
1	023	28	172	55	431	82	743
2	025	29	174	56	432	83	754
3	026	30	205	57	445	84	036
4	031	31	223	58	464	85	053
5	032	32	226	59	465	86	122
6	043	33	243	60	466	87	145
7	047	34	244	61	503	88	212
8	051	35	245	62	506	89	225
9	054	36	251	63	516	90	246
10	065	37	261	64	532	91	252
11	071	38	263	65	546	92	255
12	072	39	265	66	565	93	266
13	073	40	271	67	606	94	274
14	074	41	306	68	612	95	325
15	114	42	311	69	624	96	332
16	115	43	315	70	627	97	356
17	116	44	331	71	631	98	446
18	125	45	343	72	632	99	452
19	131	46	346	73	654	100	454
20	132	47	351	74	662	101	455
21	134	48	364	75	664	102	462
22	143	49	365	76	703	103	523
23	152	50	371	77	712	104	526
24	155	51	411	78	723		
25	156	52	412	79	731		
26	162	53	413	80	732		
27	165	54	423	81	734		

## 6. CHANNEL FREQUENCY CHART

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	409.7500	11	409.8750
2	409.7625	12	409.8875
3	409.7750	13	409.9000
4	409.7875	14	409.9125
5	409.8000	15	409.9250
6	409.8125	16	409.9375
7	409.8250	17	409.9500
8	409.8375	18	409.9625
9	409.8500	19	409.9750
10	409.8625	20	409.9875

## 7. TECHNICAL SPECIFICATIONS

<b>Model</b>	<b>CP238</b>
Frequency Range	409.7500-409.9875MHz
Channel	20
Channel Spacing	12.5KHz
Operating Voltage	7.4 VDC
Modulation	FM
Dimension	103 X 56 X 40 mm
Weight (including battery)	250g
<b>TRANSMITTER</b>	
Output Power	0.5W
Frequency Stability	±2.5ppm (-30°C ~ + 60°C)
Transmitter Spurious Emissions	<50uW
Hum and Noise	38 dB
Audio Distortion	3%
<b>RECEIVER</b>	
Sensitivity (12 dB SINAD)	0.2uV (-121 dBm)
Squelch Sensitivity (Threshold)	0.14uV (-124 dBm)
Selectivity	60 dB
Receiver Spurious Emissions	<20nW
Audio Output Power	0.5W, 8Ω

## 8. USER SAFETY PRECAUTIONS

1. Do not disassemble your radio without permission, allowing unqualified personnel to service your radio may result in damage to your radio and will void your manufacturer's warranty.
2. To avoid electromagnetic interference or electromagnetic compatibility problems caused, turn off your radio when you are restrict the use of a radio device in a particular area, e.g. Hospital or Near Medical equipment.
3. Do not use your radio at refueling points (service stations), near fuels or chemicals, and at blasting areas.
4. Avoid placing your radio near or in an airbag deployment area. It can cause serious injury when air bags inflate rapidly.
5. Turn off your radio in potentially flammable / explosive environments.
6. Do not install or remove the battery when you are in potentially flammable / explosive environments.
7. When you near the blasting and detonators area, turn off your radio.
8. Do not expose your radio to direct sunlight for extended periods of time; Do not store your device near or in heaters, microwaves, hot cooking equipment, or high pressure containers.
9. Keep your radio dry, do not use or store your radio in wet, dusty, dirty or on slopes areas.
10. Do not use your radio when the antenna had been damaged, if the damaged antenna contacts skin it may cause minor skin burns.
11. When transmitting, hold the radio upright, speaking at about 5cm from the microphone and keep about at least 2.5cm from the head or body.



Office B, 15/F, King Palace Plaza,  
55 King Yip Street, Kwun Tong, Kowloon, Hong Kong  
Tel: (852) 2185 7888 Fax: (852) 2187 3111

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