

SAMCOM
TWO-WAY RADIO

CP-210

**Cost Effective
Portable Radio**



► *Instruction Manual*

INTRODUCTION

The model CP-210 is a cost-effective communication tool meant for both first time and intermediate users. This compact and lightweight radio is equipped with the necessary features to ensure reliable communication at an affordable price, ideal for business operators who need the basic and short-range communications.

MAIN FEATURES

- Compact, lightweight but rugged design
- IP54 rating splash and dust proof
- 1700mAh Li-ion battery and life up to 48 hours
- Wide LCD display with 3 backlight colors selection
- Battery status indicator
- Buttons for the channel selection
- Knob for volume adjustment
- 99 programmable channels
- 50 CTCSS tones & 210 DCS codes in TX and RX
- High/low output power selectable
- Built-in VOX for hands-free communications
- CALL key with 10 tones selectable
- Channels scan
- Battery saver
- Emergency alarm
- Time-out timer
- Busy channel lock-out
- PC programmable

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SAFETY INFORMATION

Please read this information before using your radio. Failure to do so could result in personal injury, death, and/or damage to your radio, accessories and/or other property.

Radio Care

Caution

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

End of Life Disposal

When your radio reaches the end of its useful life, please ensure that the unit is disposed of in an environmentally friendly way.

Battery Care

Precautions

- Turn the radio OFF before charging.
- Charge the battery pack before use.
- Do not recharge the battery pack if it is already fully charged as this will use one of its charge cycles and may shorten its life. Charge the battery in accordance with the instructions enclosed with your charger.
- Do not charge the radio and battery pack if they are wet.

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 or get it wet by other means.
- Do not charge the battery near fires or under direct sunlight.
- 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 on your skin or into your eyes, immediately:

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

Notes:

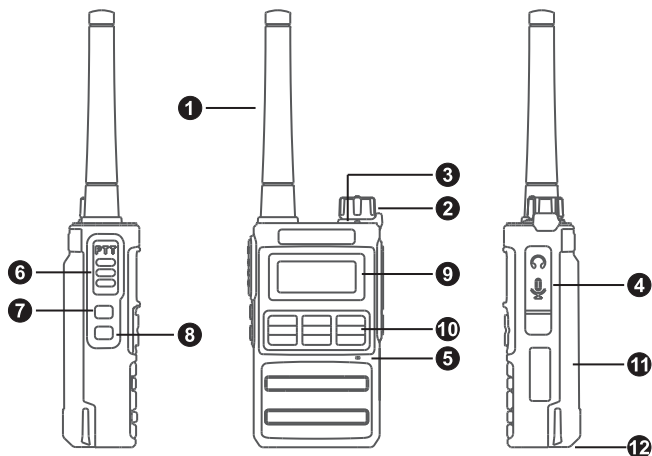
- If a battery is not to be used for an extended period of time (several months) remove the battery pack from the equipment and store in a cool and dry location part charged. Do not fully discharge the battery before storage.
- Each charge cycle reduces the battery's life. Minimize the number of times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

RADIO OVERVIEW

Package Includes

- 1pcs radio
- 1pcs rubber antenna
- 1pcs rechargeable Lithium-ion battery pack
- 1pcs desktop charger kit
- 1pcs belt clip & hand strap
- 1pcs user's manual

At a Glance



1 – Antenna

Provide attached rubber integrated antenna.

2 – On/Off/Volume Knob

Turn the radio ON or OFF and to adjust the radio's volume.

3 – LED Indicator

Give radio TX & RX status: **RED** means transmitting and **GREEN** means receiving.

4 – Audio Accessory Jack (Kenwood 2 Pin Connector)

Connect compatible audio accessories.

5 – Microphone

Speak clearly into the microphone when transmitting.

6 – PTT (Push-To-Talk) Button

Press and hold down this button to transmit and talk, release it to receive and listen.

7 – Up Side MON Key

Short press this key to activate '**Monitor**' function, that temporarily cuts off the squelch (for weak signals).


8 – Down Side SCAN Key


Short press this key to activate '**Scan**' function.


9 – LCD Display


Give radio setting and status, including channel number, CTCSS, DCS, VOX, scan, channel number, battery capacity, keypad lock, TX & RX signal strength.

10 – Keypad

 **Key:** short press this key to enter the radio's menu mode and confirm the current sub menu item selection.

 **Key:** change the channel in standby mode and change settings in the sub menu item.

 **Key:** can set as functional keys in standby mode if necessary and change the sub menu item in menu mode.

 **Key:** cancel the current operation and back to standby mode. Long press it for about 2 seconds to activate the keypad lock.

11 – Lithium-Ion Battery Pack

Radio comes equipped with a rechargeable Lithium-ion battery pack. This battery should be fully charged before initial use to ensure optimum capacity and performance. Batteries are designed specifically to be used with a supplied charger and vice versa.

12 – Battery Latch

Push down battery latch to release battery pack.

BASIC OPERATION

Turn the Radio ON / OFF

To turn on the radio, turn the **ON/OFF/VOLUME** knob clockwise until you hear it clicks, the LCD display will light up and the radio will play power up audio.

To turn off the radio, turn the knob counter-clockwise until you hear another click.

Volume Control

Turn the **ON/OFF/VOLUME** knob to about half way and adjust it to a comfortable level as soon as you receive a signal. If you do not receive a signal you can use the up side **MON** key.

Channel Selection

Press the **▲ / ▼** keys to scroll up or down the channels till you select the desired channel.

Transmission and Reception

To transmit:

1. Make sure that no one else is currently talking on the selected channel.
2. Keep **PTT** button firmly pressed. **RSSI** icon will appear on the display.
3. Speak normally in the direction of the microphone.
4. When you have finished, release the **PTT**. **RSSI** icon will disappear from the display.
5. When the radio is in reception mode (**PTT** not pressed) you will automatically receive any communication.

Note: during transmission and reception, as far as possible, try to keep the antenna in vertical position and to avoid obstacles towards the direction of the other party.

Monitor

The Monitor feature is for temporarily opening the squelch in order to listen to signals that are too weak to open the squelch. In order to activate the '**Monitor**' function, so as to listen to **all** traffic on the selected channel, short press the up side **MON** key. Press it again to disable this function.




Scanning Channels

The radio can automatically search for signals throughout the bands by scanning, i.e. selecting the channels in sequence.

Short press the down side **SCAN** key to start scanning. When a signal is detected, the scanning pauses on that channel and you can transmit by pressing **PTT** Button.

If you want to stop it, short press the down side **SCAN** key again. The radio will go back to the channel from which the scanning originally started.

Keypad Lock

Keep press the  key for about 2 seconds to activate keypad lock function and  will be displayed as confirmation. Only **PTT** button remain active. To disable this function, keep pressed again the  key for 2 seconds approx.

Display Screen

On the display screen, you will see various icons which stand for the selected functions. Here you will find the icons indicator as below.



ICON	Description
CT	Means current channel sets CTCSS tone.
DCS	Means current channel sets DCS code.
H	Means current channel sets high power.
N	Means current channel sets narrowband mode.
188	Means channel number.
	Means battery power indicator.
	Means channel number or menu item.
VOX	Means the VOX is activated..
S	Means battery saver is activated.
	Means the keypad beep is enabled.
	Means keypad lock is activated.
BUSY	Means busy channel.
	Means real time display receiving signal strength or power indicator.

MENU OPERATION








CTCSS Tones / DCS Codes Selection

The radio can receive in two modes:

- Open traffic: in this case you will hear any communication transmitted on the selected channel.

b. Group mode with CTCSS/DCS: CTCSS tones and DCS codes are access keys that allow you to receive only messages coming from parties using the same channel and code. The speaker will remain muted until the correct tone is received.

To activate one of CTCSS tones or DCS codes:








1. Select the desired channel.
2. Press the  key then the  /  key till the display shows "OFF, CT & DCS" blinking.
3. Press the  /  key to select desired CTCSS tone or DCS code and the display will show CTCSS tone (CT blinking) or DCS code (DCS blinking).
4. Press the  key to confirm the selection.
5. Press the  key or wait for approximately 3 seconds to exit.

Squelch Level

A squelch eliminates background noise. Higher level settings will keep the squelch 'closed' more tightly for quieter monitoring, but weak signals will not be heard. Lower settings allow weaker signals to 'open' the squelch but noise may also cause it to open. The radio has 10 (0~9) squelch levels:

- 0 – Squelch turns off (monitor on condition)
- 1 – Maximum sensitivity (minimum squelch)
- 9 – Minimum sensitivity (maximum/tight squelch)

To set the squelch level:

1. Press the  key then the  /  key till the display shows "SQL 3" blinking.
2. Use the  /  key to select the desired level.
3. Press the  key to confirm the selection.
4. Press the  key or wait for approximately 3 seconds to exit.

VOX Function






The radio enables hands free conversations through VOX function. You can enable it with or without accessories.

The VOX sensitivity can be set in 9 different levels:

1 = high sensitivity (normal voice with no background noise)

9 = low sensitivity (useful in very noisy areas or if you talk loudly)






To activate VOX function:

1. Press the  key then the  key till the display shows "VOX OFF" blinking.
2. Use the  key to select the desired level.
3. Press the  key to confirm the selection.
4. Press the  key or wait for approximately 3 seconds to exit.

Backlight Color Selection






The radio can select 3 kinds of LCD backlight colors: Yellow - Y, Blue - B, Purple - P.

To set backlight color:

1. Press the  key then the  key till the display shows "LAMP Y" blinking.
2. Use the  key to select the desired color.
3. Press the  key to confirm the selection.
4. Press the  key or wait for approximately 3 seconds to exit.

Keypad Beep

To deactivate the keypad beep, follow these steps:

1. Press the  key then the  key till the display shows "BP ON" blinking.
2. Use the  key until the display shows "BP OFF".
3. Press the  key to confirm the selection.
4. Press the  key or wait for approximately 3 seconds to

exit.

Now you won't hear any beep at the pressure of any keys.

CALL Function

The radio can send 10 different call tones. To send this audio signal to other users, press the **◀ / ▶** key once if assign.

To select the desired call tone:

1. Press the **☐☐** key then the **◀ / ▶** key till the display shows "CA 01" blinking.
2. Use the **▲ / ▼** key to select the desired melody.
3. Press the **☐☐** key to confirm the selection.
4. Press the **↵** key or wait for approximately 3 seconds to exit.

Now, each time the radio sends out a tone call, it will beep with the selected melody.

Roger Beep

When your transmission is finished (**PTT** released), the radio gives out a sound that indicates to the other party that s/he can start talking. This function is disabled by default.

To activate it:

1. Press the **☐☐** key then the **◀ / ▶** key till the display shows "RG OFF" blinking.
2. Use the **▲ / ▼** key to select the desired method and "RG 1/2/3" will be displayed;
3. Press the **☐☐** key to confirm the selection.
4. Press the **↵** key or wait for approximately 3 seconds to exit.

TROUBLESHOOTING

Problem	Possible Reasons and Potential Solutions
No Power	Recharge or replace the battery pack; Extreme operating temperatures may affect battery life.
Hearing other noises or conversation on a channel	Confirm CTCSS/DCS is set; Frequency or CTCSS/DCS may be in use; Change settings: either change frequencies or CTCSS/DCS on all radios; Make sure the radio is at the right frequency and privacy code when transmitting.
Audio quality not good enough	Radio settings might not be matching up correctly. Double check frequencies, CTCSS/DCS and bandwidths to make sure they are identical in all radios.
Limited talk range	Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clear line of sight to improve transmission; Wearing radio close to body such as in a pocket or on a belt decreases range; Change location of radio. UHF radios provide great coverage in industrial and commercial buildings. Increasing power provides greater signal range and increases penetration through obstructions.
Can not transmitted or received	Make sure the PTT button is completely pressed when transmitting; Confirm that the radios have the same channel, frequency, private code and bandwidth settings; Recharge, replace and/or reposition batteries; Obstructions and operating indoors, or in vehicles, may interfere, change location; Verify that the radio is not in Scan.
Heavy static or interference	Radios are too close, they must be at least seven feet apart; Radios are too far apart or obstacles are interfering with transmission.
Low battery	Recharge or replace the battery pack; Extreme operating temperatures affect battery life.
Desktop Charger LED light does not blink	Check that the radio/battery is properly inserted and check the battery/charger contacts to ensure that they are clean and charging pin is inserted correctly.
Cannot activate VOX	VOX feature might be set to OFF; Use the programming software to ensure that the VOX sensitivity level is not set to '0'; Accessory not working or not compatible.
Battery does not charge	Check desktop charger is properly connected and correspond to a compatible AC adapter; Check the charger's LED indicators to see if the battery has a problem.

SPECIFICATIONS

General

Frequency Range	UHF: 433 / 446 / 400-480MHz
Channel Capacity	99 Channels
Channel Bandwidth	12.5 / 25kHz
Operating Voltage	3.7V DC
Dimensions (H x W x D)	98 x 55 x 30mm
Weight with battery	180g

Transmitter

RF Power(H/L)	Low: 500mW / High: 2W
Frequency Stability	$\pm 1.5\text{ppm}$
Spurious & Harmonics	-36dBm < 1GHz -30dBm > 1GHz
FM Hum & Noise	$\geq 40\text{dB(W)} / \geq 36\text{dB(N)}$
Modulation Deviation	$\leq 5\text{kHz(W)} / \leq 2.5\text{kHz(N)}$
Adjacent Channel Power	$\geq 70\text{dBC(W)} / \geq 60\text{dBC(N)}$
Audio Frequency Response	+1 ~ -3dB
Audio Distortion	< 5%

Receiver

Sensitivity (12 dB SINAD)	$\leq 0.2\mu\text{V(W)} / \leq 0.3\mu\text{V(N)}$
Adjacent Channel Selectivity	$\geq 70\text{dBC(W)} / \geq 60\text{dBC(N)}$
Audio Distortion	< 5%
Radiated Spurious Emissions	< -54dBm
Intermodulation Rejection	70dB
Audio Output	1W @ 8 Ω

Hereby, we declare that our radio is in compliance with the essential requirements and other relevant provisions of RE Directive 2014/53/EU.

WARRANTY INFORMATION

Warranty Period

Radio Body: 12 months from date of purchase.

Battery Pack: 6 months from date of purchase.

Note: Please retain your receipt as your proof of purchase will be required to valid warranty claim.

Warranty Exclusions

This warranty will not apply in relation to:

- Failure to provide a proof of purchase
- Product has been modified, changed or serial number has been removed
- If any damage is caused by the use of non approved accessories
- Product that has been replaced by an unauthorized person
- Product failure due to customer misuse, abuse or abnormal use
- Failure by the customer to take reasonable care
- Failure due to not using the product in accordance with instructions stated in the manufacture's user guide.
- Product failure due to recommended installation procedures not being followed as stated in the manufacture's user guide.

More warranty relative information please read our Warranty Policy on the website.

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