



BASIC MANUAL

ENGLISH

PMR446 TRANSCEIVER

# IC-F29SR2

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# ENGLISH

Thank you for choosing this Icom product.

This product is designed and built with Icom's state of the art technology and craftsmanship.

With proper care, this product should provide you with years of trouble-free operation.

## IMPORTANT

**READ ALL INSTRUCTIONS** carefully and completely before using the transceiver.



**SAVE THIS INSTRUCTION MANUAL** — This instruction manual contains important operating instructions for the IC-F29SR2 PMR446 TRANSCEIVER.

This transceiver includes some functions that are usable only when they are preset by your dealer. Ask your dealer for details.

For more information, download the IC-F29SR2 operating guide from the Icom web site.  
(<http://www.icom.co.jp/world/support/>)

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## EXPLICIT DEFINITIONS

WORD	DEFINITION
 <b>DANGER!</b>	Personal death, serious injury or an explosion may occur.
 <b>WARNING!</b>	Personal injury, fire hazard or electric shock may occur.
<b>CAUTION</b>	Equipment damage may occur.
<b>NOTE</b>	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

## DISPOSAL



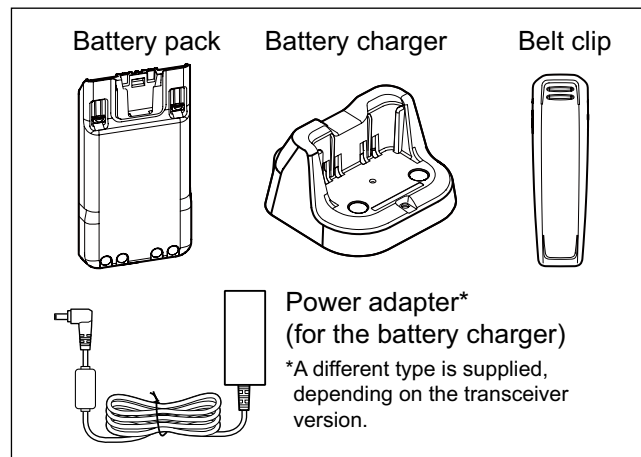
The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

## RECOMMENDATION

**CLEAN THE TRANSCEIVER THOROUGHLY WITH FRESH WATER** after exposure to saltwater, and dry it before operating. Otherwise, the transceiver's keys, switches and controllers may become unusable, due to salt crystallization, and/or the charging terminals of the battery pack may rust.

**NOTE:** If the transceiver's waterproof protection appears defective, carefully clean it with a soft, wet (fresh water) cloth, then, dry it before operating. The transceiver may lose its waterproof protection if the case, jack cap, or connector cover is cracked or broken, or the transceiver has been dropped.

## SUPPLIED ACCESSORIES



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## PRECAUTIONS

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⚠ **DANGER! NEVER** short the terminals of the battery pack. Shorting may occur if the terminals touch metal objects such as a key, so be careful when placing the battery packs (or the transceiver) in bags, and so on. Carry them so that shorting cannot occur with metal objects. Shorting may damage not only the battery pack, but also the transceiver.

⚠ **DANGER! NEVER** use and charge Icom battery packs with non-Icom transceivers or non-Icom chargers. Only Icom battery packs are tested and approved for use with Icom transceivers or charged with Icom chargers. Using third-party or counterfeit battery packs or chargers may cause smoke, fire, or cause the battery to burst.

⚠ **WARNING! NEVER** hold the transceiver so that the antenna is very close to, or touching exposed parts of the body, especially the face or eyes, while transmitting. The transceiver will perform best if the microphone is 5 to 10 cm away from the lips and the transceiver is vertical.

⚠ **WARNING! NEVER** operate the transceiver with a headset or other audio accessories at high volume levels. If you experience a ringing in your ears, reduce the volume level or discontinue use.

⚠ **WARNING! NEVER** operate the transceiver while driving a vehicle. Safe driving requires your full attention—anything less may result in an accident.

**CAUTION: DO NOT** operate the transceiver unless the flexible antenna, battery pack and jack cover are securely attached. Confirm that the antenna and battery pack are dry before attaching. Exposing the inside of the transceiver to dust or water can cause serious damage to the transceiver.

**CAUTION: DO NOT** place or leave the transceiver in direct sunlight or in places with temperatures below  $-25^{\circ}\text{C}$  or above  $+55^{\circ}\text{C}$ .

**CAUTION: DO NOT** modify the transceiver. The specifications may change and then the transceiver may not comply with the requirements of required regulations. The transceiver warranty does not cover any problems caused by unauthorized modification.

**CAUTION: DO NOT** use harsh solvents such as Benzine or alcohol when cleaning, because they will damage the transceiver surfaces.

**DO NOT** operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere.

**DO NOT** push [PTT] when you do not actually intend to transmit.

**BE CAREFUL!** The transceiver meets IP67\* requirements for dust-tight and waterproof protection. However, once the transceiver has been dropped, dust-tight and waterproof protection cannot be guaranteed because of possible damage to the transceiver's case or the waterproof seal.

\* Only when the jack cover or the optional HM-168LWP, HS-94LWP, or HS-95LWP is attached.

**BE SURE** to turn OFF the transceiver power before connecting the supplied or optional equipment.

Even when the transceiver power is OFF, a slight current still flows in the circuits. Remove the battery pack from the transceiver when not using it for a long periods of time. Otherwise, the installed battery pack will become exhausted, and will need to be recharged or replaced.

Icom is not responsible for the destruction, damage to, or performance of any Icom or non-Icom equipment, if the malfunction is because of:

- Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom transceivers with any equipment that is not manufactured or approved by Icom.

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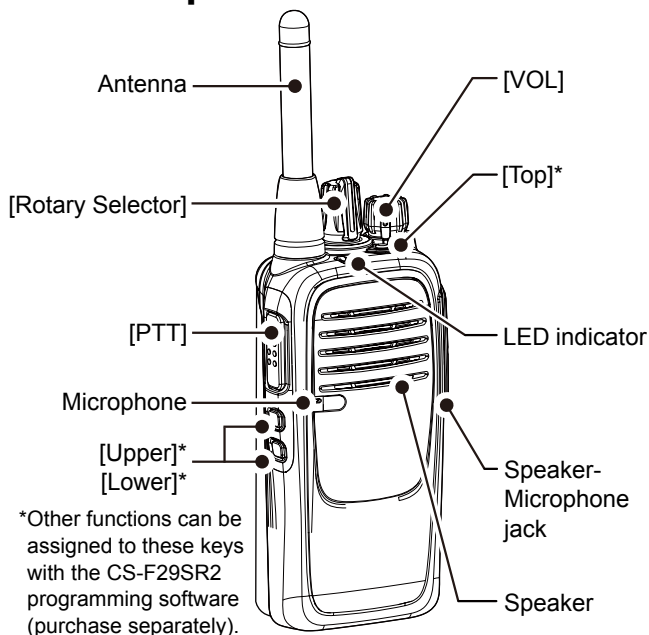
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## ■ Turning ON the power

**NOTE:** For optimum life and operation, the battery must be fully charged before using the transceiver for the first time.

Rotate [VOL] to turn ON the power.

## ■ Front panel



### ◇ About the Speaker microphone jack

The transceiver meets IP67 requirements for dust-tight and waterproof protection only when the jack cover or the optional HM-168LWP, HS-94LWP, or HS-95LWP is attached.

### ◇ About the LED Indicator

- Lights red while transmitting.
- Lights green while receiving a signal.
- You should charge the battery when the indicator slowly blinks green.
- You must charge the battery when the indicator quickly blinks green.

### ◇ Factory default key assignment

<b>[Upper]</b>	<ul style="list-style-type: none"> <li>● Push to make a Smart-Ring call.</li> <li>● Hold down to make a Call-Ring call.</li> </ul> <p>① See the next page for more detail.</p>
<b>[Lower]</b>	<p>Hold down to release the C.Tone* mute. The mute is released even if the received signal does not include a matching C.Tone*.</p>
<b>[Top]</b>	<ul style="list-style-type: none"> <li>● Push to alternately select Zone 1 or Zone 2.</li> <li>● Hold down to turn the Channel Announce function ON or OFF.</li> </ul> <p><b>NOTE:</b> The Zone number is announced when selecting a Zone, regardless of the Channel Announce setting.</p>

\* CTCSS tone or DTCS code

## ■ Receiving and Transmitting

### Receiving

1. Rotate [Rotary Selector] to select a channel.
2. When receiving a call, rotate [VOL] to adjust the audio.

### Transmitting

Wait until the channel is clear to avoid interference.

1. While holding down [PTT], speak at your normal voice level.
2. Release [PTT] to receive.

**NOTE:** To insure the readability of your signal:

1. After pushing [PTT], pause briefly before you start speaking.
2. Hold the microphone 5 to 10 cm from your mouth, and then speak at your normal voice level.

## ■ Call-Ring operation

This function sends the preset ringer to your group members.

**NOTE:** To use this function, the operating channel and CTCSS tone must be the same on all of your group transceivers.

Hold down [Upper] for 1 second to send the preset ringer.

- The ringer sounds while holding down [Upper].
- The same ringer sounds from your group members' speaker.

## ■ Smart-Ring operation

This function has an answer back call feature. You can confirm whether or not a call has reached your group members, even if the operators are temporarily away from their transceivers.

The called transceivers automatically send an answer back call to your transceiver.

**NOTE:** To use this function, the operating channel and CTCSS tone must be the same on all of your group transceivers.

1. Push [Upper] to make a Smart-Ring call.
  - When an answer back call is received, the transceiver sounds beeps and the LED indicator blinks orange.
    - Turn OFF the transceiver to stop the beeps and the LED blinking.
  - When no answer back call is received, the transceiver sounds three short failure beeps.
2. Push [PTT] to answer the call and stop the beeps and blinking.

## ■ Caution

**NOTE:** Misuse of Lithium-ion batteries may result in the following hazards: smoke, fire, or the battery may rupture. Misuse can also cause damage to the battery or degradation of battery performance.

### ◇ Battery caution

⚠ **DANGER! NEVER** strike or otherwise impact the battery pack. Do not use the pack if it has been severely impacted or dropped, or if it has been subjected to heavy pressure. Battery damage may not be visible on the outside of the case. Even if the surface of the pack does not show cracks or any other damage, the cells inside may rupture or catch fire.

⚠ **DANGER! NEVER** leave the battery pack in areas with temperatures above +60°C. High temperature buildup in the battery cells, such as could occur near fires or stoves, inside a sun-heated vehicle, or in direct sunlight for long periods of time may cause the battery to rupture or catch fire. Excessive temperatures may also degrade pack's performance or shorten the battery cell's life.

⚠ **DANGER! NEVER** expose the battery pack to rain, snow, salt water, or any other liquids. Do not charge or use a wet battery pack. If the pack gets wet, be sure to wipe it dry before using. The battery pack itself is not waterproof.

⚠ **DANGER! NEVER** place battery packs near a fire. Fire or heat may cause them to rupture or explode. Dispose of used packs in accordance with local regulations.

⚠ **DANGER! NEVER** solder the battery cell's terminals, and **NEVER** modify the battery pack. This may cause heat generation, and the battery cells may burst, emit smoke, or catch fire.

⚠ **DANGER! NEVER** use the battery pack with a transceiver for which it is not specified. Never use a pack with any other equipment, or for any purpose that is not specified in this instruction manual.

⚠ **DANGER! NEVER** let fluid from inside the battery cells get in your eyes. If it does, blindness can result. Rinse your eyes with clean water, without rubbing them, and immediately go to a doctor.

⚠ **WARNING! NEVER** use the battery pack if it emits an abnormal odor, heats up, or is discolored or deformed. If any of these conditions occur, contact your Icom dealer or distributor.

⚠ **WARNING! NEVER** let fluid from inside the battery cells come in contact with your body. If it does, immediately wash with clean water.

⚠ **WARNING! NEVER** put the battery pack in a microwave oven, high-pressure container, or in an induction heating cooker. This could cause a fire, overheating, or cause the battery cells to rupture.



**CAUTION: DO NOT** use the battery pack out of the specified temperature range, for the transceiver  $-25^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ , and the battery itself  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ . Using the pack out of its specified temperature range will reduce its performance and the battery cell's life. Please note that the specified temperature range of the pack may exceed that of the transceiver. In such cases, the transceiver may not work properly because it is out of its operating temperature range.

**CAUTION:** Shorter battery pack life could occur if the pack is left fully charged, completely discharged, or in an excessive temperature environment (above  $+50^{\circ}\text{C}$ ) for an extended period of time. If the battery pack must be left unused for a long time, it must be detached from the transceiver after discharging. You may use the battery until the remaining capacity is about half, then keep it safely in a cool dry place in the following temperature range:

$-20^{\circ}\text{C}$ to $+50^{\circ}\text{C}$	(within a month)
$-20^{\circ}\text{C}$ to $+40^{\circ}\text{C}$	(within three months)
$-20^{\circ}\text{C}$ to $+20^{\circ}\text{C}$	(within a year)

**BE SURE** to replace the battery pack with a new one approximately five years after manufacturing, even if it still holds a charge. The material inside the battery cells will become weak after a period of time, even with little use. The estimated number of times you can charge the pack is between 300 and 500. Even when the pack appears to be fully charged, the operating time of the transceiver may become short when:

- Approximately five years have passed since the pack was manufactured.
- The pack has been repeatedly charged.

### ◇ Charging caution

⚠ **DANGER! NEVER** charge the battery pack in areas with extremely high temperatures, such as near fires or stoves, inside a sun-heated vehicle, or in direct sunlight. In such environments, the safety/protection circuit in the pack will activate and stop the charging.

⚠ **WARNING! NEVER** charge the transceiver during a lightning storm. It may result in an electric shock, cause a fire or damage the transceiver. Always disconnect the power adapter before a storm.

⚠ **WARNING! NEVER** charge or leave the battery pack in the battery charger beyond the specified time for charging. If the pack is not completely charged by the specified time, stop charging and remove it from the battery charger. Continuing to charge the pack beyond the specified time limit may cause a fire, overheating, or the battery cells may rupture.

⚠ **WARNING! NEVER** insert the transceiver (with the battery pack attached) into the charger if it is wet or soiled. This could corrode the battery charger terminals or damage the charger. The charger is not waterproof.

**CAUTION: DO NOT** charge the battery outside of the specified temperature range: BC-213 ( $10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$ ), BC-214 ( $15^{\circ}\text{C}$  to  $40^{\circ}\text{C}$ ). Icom recommends charging the battery at  $+20^{\circ}\text{C}$ . The battery may heat up or rupture if charged out of the specified temperature range. Additionally, battery performance or battery life may be reduced.

## 3 BATTERY CHARGING

### ■ Battery chargers

#### ◇ Rapid charging with the supplied BC-213

The BC-213 DESKTOP CHARGER rapidly charges the Li-ion battery pack.

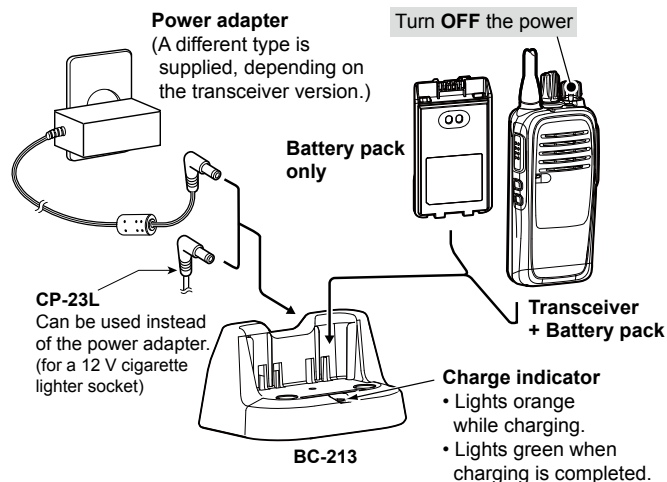
The BC-213 is used with the power adapter or the CP-23L CIGARETTE LIGHTER CABLE (purchase separately).

#### • Charging time of the BP-280

Approximately 3.5 hours

**CAUTION: DO NOT** continue to charge if the charge indicator lights orange and green alternately. This indicates a charging failure is occurring.

**NOTE:** Charge the battery within the specified temperature range of 10°C to 40°C. Otherwise, the charging time will be longer, but the battery will not reach a full charge. While charging, at the point where the temperature goes out of the specified range, charging will automatically stop.



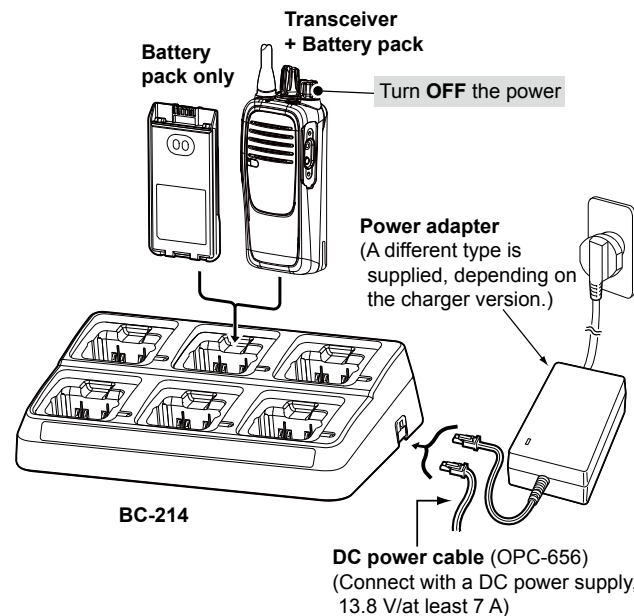
### ◇ Rapid charging with the BC-214

The BC-214 MULTI CHARGER can simultaneously charge up to 6 Li-ion battery packs.

The BC-214 is used with the BC-157S POWER ADAPTER or the OPC-656 DC POWER CABLE (purchase separately).

#### • Charging time of the BP-280

Approximately 3.5 hours



**CAUTION: DO NOT** connect the OPC-656 to a power source using reverse polarity. This will ruin the battery charger.  
Red line: ⊕ Black line: ⊖

### ◇ BATTERY PACKS

- **BP-278/BP-279/BP-280** BATTERY PACK

Battery pack	Voltage	Capacity	Battery life*
<b>BP-278</b>	7.2 V	1130 mAh (minimum) 1190 mAh (typical)	16 hours
<b>BP-279</b>		1485 mAh (minimum) 1570 mAh (typical)	21 hours
<b>BP-280</b>		2280 mAh (minimum) 2400 mAh (typical)	33 hours

\* When the power save function is turned ON, and the operating periods are calculated when TX:RX:standby = 5:5:90.

### ◇ CHARGERS

- **BC-213** DESKTOP CHARGER + **BC-123S** AC ADAPTER
- **BC-214** MULTI CHARGER + **BC-157S** AC ADAPTER

### ◇ DC CABLES

- **CP-23L** CIGARETTE LIGHTER CABLE  
For BC-213.
- **OPC-656** DC POWER CABLE  
For BC-214.

### ◇ OTHERS

- **MB-130** VEHICLE CHARGER BRACKET
- **MB-133** BELT CLIP
- **HM-158LA, HM-159LA, HM-168LWP\*** SPEAKER MICROPHONE  
HM-168LWP: Meets IP67 requirements for waterproof protection.

Adjust the microphone gain before use.

- **HM-153LA, HM-166LA** EARPHONE MICROPHONE  
**HS-94LWP\*, HS-95LWP\*, HS-97** HEADSET  
+ **VS-4LA** PTT SWITCH CABLE

/ **OPC-2004LA** ADAPTER CABLE

HS-94LWP: Ear-hook type  
 HS-95LWP: Neck-arm type  
 HS-97: Throat microphone  
 VS-4LA: To connect headset and for PTT use  
 OPC-2004LA: To connect to headsets for VOX operation  
 Adjust the both microphone and VOX gain before use.

\* When it is connected, the transceiver meets IP67 requirements for dust-tight and waterproof protection.

Some options may not be available in some countries. Ask your dealer for details.

# CHANNEL FREQUENCY LIST

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ENGLISH

Channel	Zone 1		Zone 2	
	Frequency (MHz)	C.Tone*	Frequency (MHz)	C.Tone*
1	446.006250	97.4	446.106250	97.4
2	446.018750	100.0	446.118750	100.0
3	446.031250	103.5	446.131250	103.5
4	446.043750	107.2	446.143750	107.2
5	446.056250	110.9	446.156250	110.9
6	446.068750	114.8	446.168750	114.8
7	446.081250	118.8	446.181250	118.8
8	446.093750	123.0	446.193750	123.0
9	446.006250	127.3	446.106250	127.3
10	446.018750	131.8	446.118750	131.8
11	446.031250	136.5	446.131250	136.5
12	446.043750	141.3	446.143750	141.3
13	446.056250	146.2	446.156250	146.2
14	446.068750	151.4	446.168750	151.4
15	446.081250	156.7	446.181250	156.7
16	446.093750	159.8	446.193750	159.8

**NOTE:** To communicate with the IC-F29SR, the CTCSS tone or DTCS code must be matched each other. Ask your dealer or authorized distributor for details.

\* CTCSS tone or DTCS code can be programmed manually. Ask your dealer for details.

**Count on us!**

EUR-04 #63

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UK-04 #64

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