iCOM®

MPT Trunking
MPT1327/1343
MAP27

INSTRUCTION MANUAL

UHF TRUNKED RADIO

IC-F40GT/GS
(MT Version)

Icom Inc.

FOREWORD

Thank you for purchasing the IC-F40GT/GS UHF TRUNKED RADIO. This transceiver compatible with most MPT1327 trunking networks. And also, you can use the MAP27 serial interface (p. 32).

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL–This instruction manual contains important operating instructions for the transceiver.

INSTALLATION NOTES

• When transmitting with a portable radio, hold the radio in a vertical position with its microphone 2.5 to 5 centimeters away from your mouth. Keep the antenna at least 2.5 centimeters from your head and body.

• If you wear a portable two-way radio on your body, ensure that the antenna is at least 2.5 centimeters from your body when transmitting.

IMPORTANT

⚠ **CAUTION! 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.

⚠ **CAUTION! NEVER** operate the transceiver with a headset or other audio accessories at high volume levels.

⚠ **CAUTION! NEVER** short the terminals of the battery pack.

DO NOT push the PTT when not actually desiring to transmit.

AVOID using or placing the transceiver in direct sunlight or in areas with temperatures below −10°C or above +50°C.

The basic operations, transmission and reception of the transceiver, are guaranteed within the specified operating temperature range (depending on version). However, the LCD display may not be operate correctly, or show an indication in the case of long hours of operation, or after being placed in extremely cold areas.
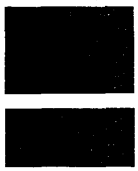
DO NOT modify the transceiver for any reason.

KEEP the transceiver from the heavy rain, and **NEVER** immerse it in the water. The transceiver construction is **water resistant**, not waterproof.

The use of non-Icom battery packs/chargers may impair transceiver performance and invalidate the warranty.
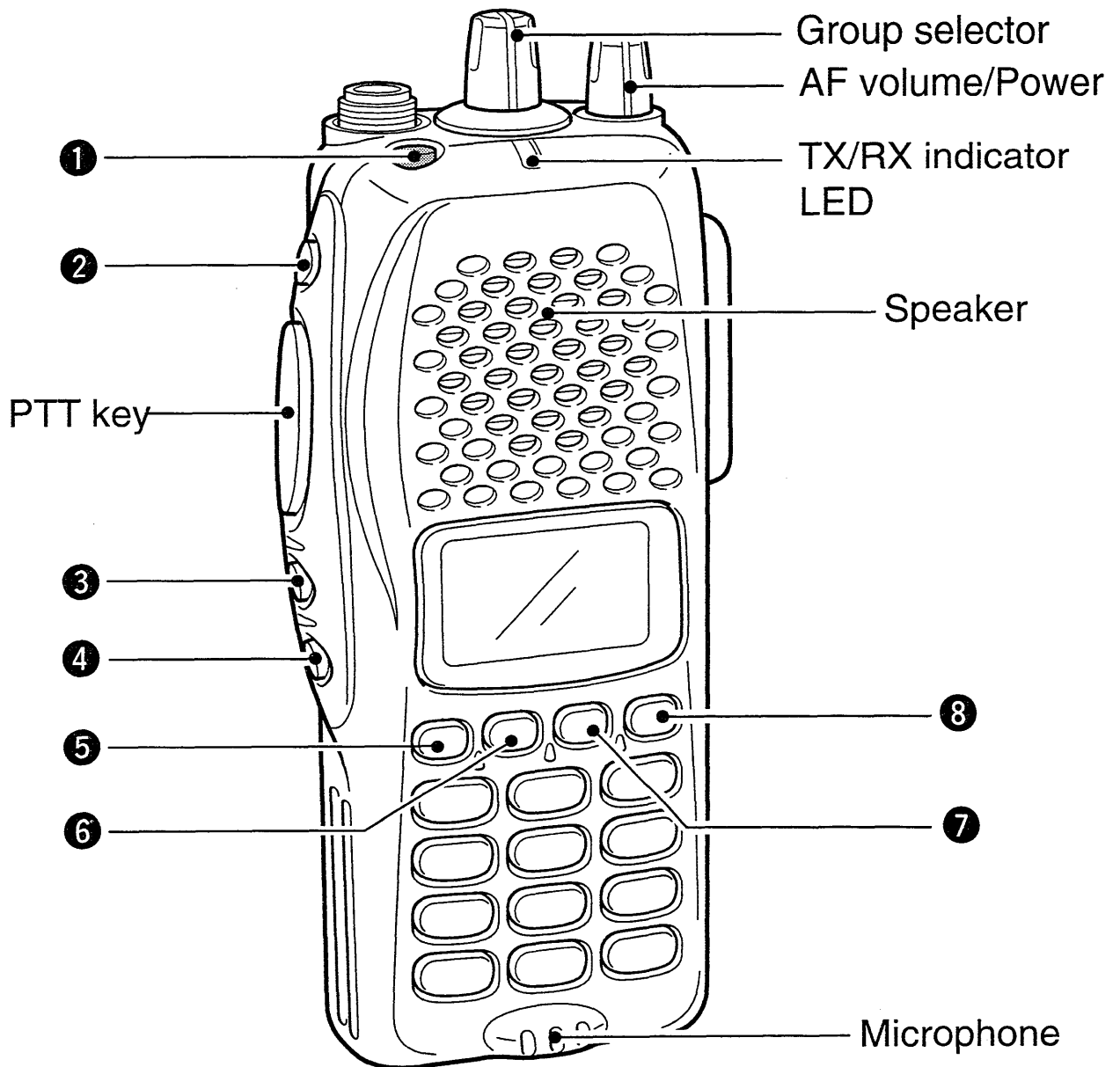
TABLE OF CONTENTS

1 PANEL DESCRIPTION

■ Switches, controls, keys and connectors

Group selector

AF volume/Power

TX/RX indicator LED

Speaker

PTT key

Microphone

❶ EMERGENCY KEY [Emergency]

- Holding down this key for 2.5 seconds will start making an Emergency Call (✳9) to the predetermined station.

❷ CLEAR KEY [Clear]

- If this key is pressed during a call, the call is finished.
- If the key is held down for 2.5 sec., the User Setup Menu appears (or the user setup menu is cancelled).
- Press the key to cancel any keypad operation, and turn to normal mode.

❸ UP KEY [Up]

- Pressing this key will select a stored code and display it on the screen.
- Pressing the key again will scroll up to the next stored code.
- If the stored calls are displayed by pressing the Call Back key or if the Status menu is displayed, this key scrolls up the screen.

❹ DOWN KEY [Down]

- This key is used to scroll down the screen when selecting a stored code.
- If the stored calls are displayed by pressing the Call Back key or if the Status menu is displayed, this key scrolls down the screen.
- While entering the dial number via the keypad, press the key to delete the last digit as a backspace key.

❺ DESPATCHER KEY [Despatcher/P0]

- Pressing this key will display the screen in the Despatcher mode.
- Pressing the key again will display a status code (if permitted by the settings).
- Pressing the key again will go to the Group Call Standby mode.

❻ STATUS KEY [Status/P1]

- Pressing this key will go to the Status Code Select mode.
- Press the key again to turn to normal mode.

❼ CALL BACK KEY [Call Back/P2]

- Pressing this key will display the stored calls that you have not yet answered.
- PressING the key again will return to the Group Call standby mode.
- If the key is held down for 2.5 sec., the Call Back mode turns ON or OFF. While the Call Back mode is turned ON, received calls are stored in the LOG, then the Call Back message automatically send back to the called station.

❽ MODE KEY [Mode/P3]

- Pressing this key will turn the Conventional operation mode ON. You can operate with conventional channels.
- PressING this key again to return to the Trunking operation mode.

■ LCD screen modes (displayed icons)
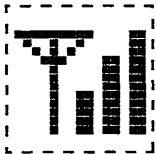
❶ SIGNAL STRENGTH INDICATOR

Indicates the received signal strength at 4 levels.

If the connection with the communication network is not established, the whole icon turns OFF while the ANT icon blinks. For the stable communication, at least the second highest level (with two bars appearing) is required.
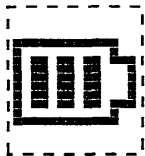
❷ BATTERY INDICATOR

Indicates the battery power at 4 levels.
If this icon indicates only one segment, the battery must be replaced or charged.

❸ KEYPAD LOCK INDICATOR

Appears when the keypad has been locked.
'Key-Lock' must be assigned in advance to a function key.

❹ CALL BACK INDICATOR

Blinks if any call number to which you have not yet answered is stored.
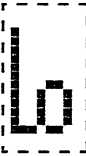
❺ LOW POWER INDICATOR

Appears if the transmission output is set to a low power level (Low1 or Low2). Does not appear if High power is selected.

❻ SPEAKER INDICATOR

Appears when voice communication becomes possible.

❼ SCRAMBLER INDICATOR

Appears when the scrambler is enabled.

❽ COMPANDER INDICATOR

Appears when the compander that improves the communication quality, is enabled.

❾ MULTI FUNCTION INDICATOR

Indicates personal ID, opening text, etc., according to operating condition.

F40GT/MAP27

200200120

2 ACCESSORIES

■ Accessory attachment

◇ Supplied accessories

The transceiver comes supplied with the following accessories.

① Flexible antenna
(may differ according
to version)
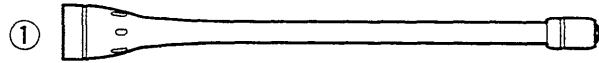
② Belt clip

◇ Antenna

The antenna screws onto the transceiver
as illustrated at right.
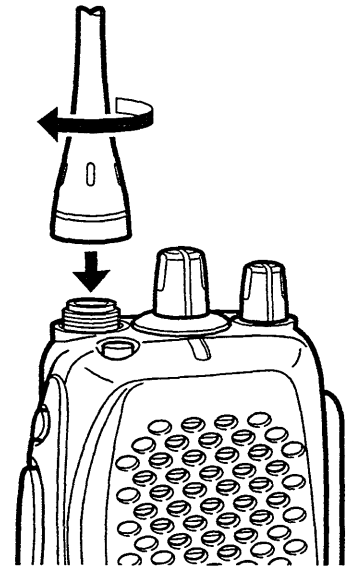
◇ Belt clip

Attach/remove the belt clip to/from the transceiver as illustrated
below.

Para poner el clip de cinturón
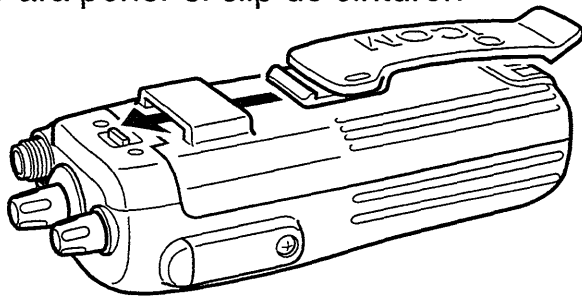
Para quitar el clip de cinturón
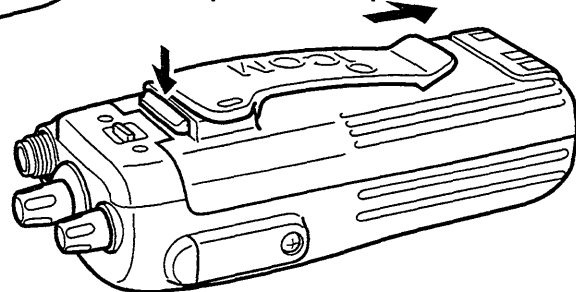
■ Battery pack replacement

Before replacing the battery pack, the volume control **MUST** be rotated fully counterclockwise, until a click is heard, to turn the power OFF.

• Slide the battery release forward, then pull the battery pack upward with the transceiver facing away from you.
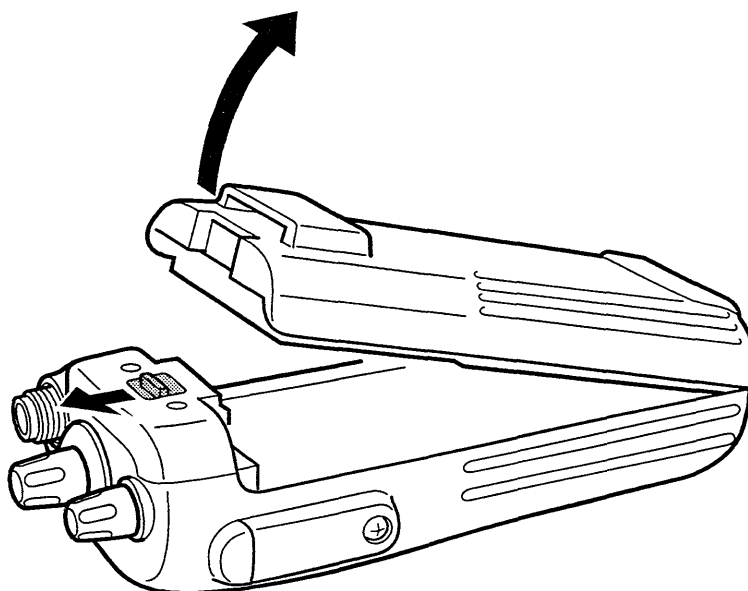
◇ BATTERY PACKS

Battery pack	Voltage	Capacity	Charging period		Battery life*1
			BC-146	BC-144 or BC-121	
BP-208	Battery case for AA (R6)×6 alkaline		N/A	N/A	—*2
BP-209	7.2 V	1100 mAh	12 hrs.	1.5 hrs.	7 hrs.
BP-210	7.2 V	1650 mAh	18.5 hrs.	2.0 hrs.	11 hrs

*1Battery life is calculated under the following conditions;
   Tx : Rx : standby =5 : 5 : 90
*2 Operating period depends on alkaline cells used.

■ Battery caution

- **CAUTION! NEVER** short terminals (or charging terminals) of the battery pack. Also, current may flow into nearby metal objects such as a necklace, so be careful when placing battery packs (or the transceiver) in handbags, etc.
Simply carrying with or placing near metal objects such as a necklace, etc. causes shorting. This will damage not only the battery pack, but also the transceiver.
- **NEVER** incinerate used battery packs. Internal battery gas may cause an explosion.
- **NEVER** immerse the battery pack in water. If the battery pack becomes wet, be sure to wipe it dry **BEFORE** attaching it to the transceiver.
- **Clean** the battery terminals to avoid rust or miss contact.
- **Keep** battery contacts clean. It's a good idea to clean battery terminals once a week.

If your battery pack seems to have no capacity even after being charged, completely discharge it by leaving the power ON overnight. Then, fully charge the battery pack again. If the battery pack still does not retain a charge (or only very little charge), a new battery pack must be purchased. (p. 37)

■ Battery charging

◇ Rapid charging with the BC-144

The optional BC-144 provides rapid charging of optional battery packs.

The following are additionally required:

• One AD-99 (supplied with the BC-144).

• An AC adapter (may be supplied with the BC-144 depending on version).

Apague el transceptor.

Compruebe la orientación para una carga correcta. (Insertar junto con AD-99.)

BC-144 + AD-99
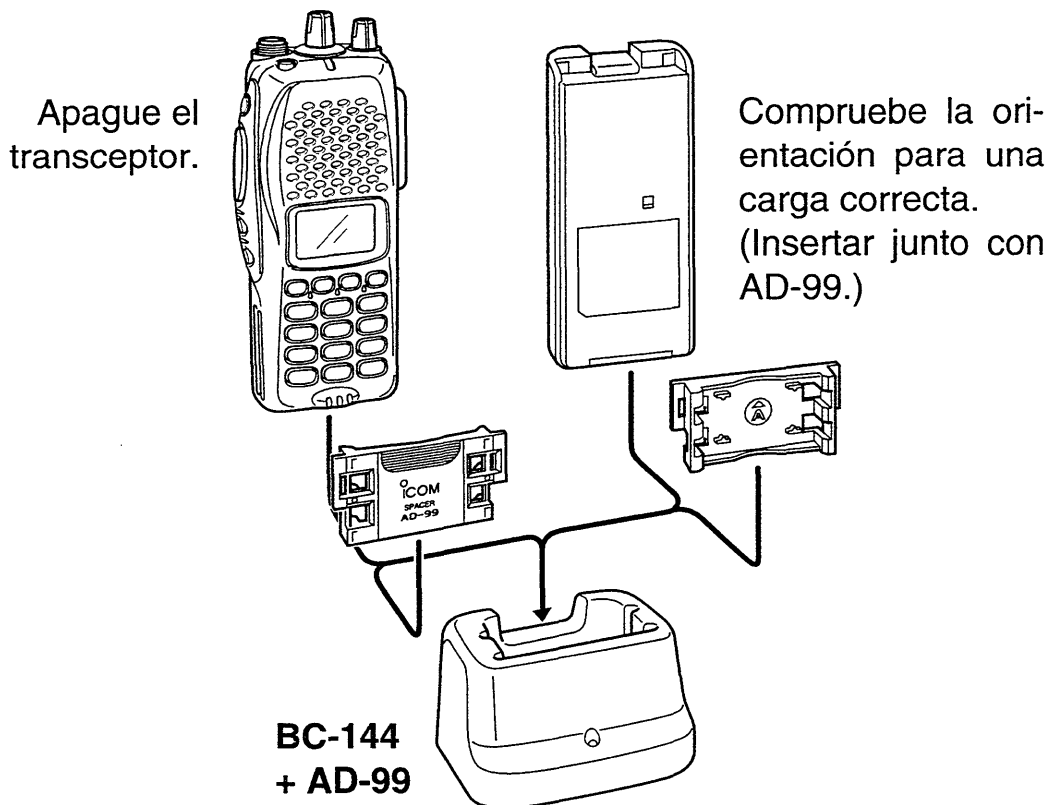
//// The BC-144 cannot be used in a vehicle, because the charger requires 16 V DC input.

AD-99— Use Spacer A only!
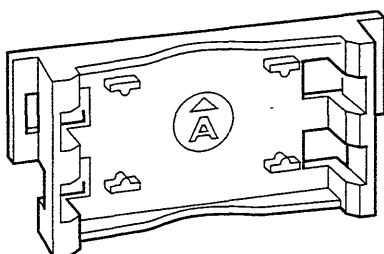
The adapter (Spacer A) only is required for charging a battery pack with the IC-F40G series transceiver. See BC-144 instruction manual for details.

◇ **Rapid charging with the BC-121+AD-94 (#11)**

The optional BC-121 allows up to 6 battery packs to be charged simultaneously. The following are additionally required.

• Six AD-94 (#11).

• An AC adapter (may be supplied with the BC-121 depending on version).

Apague el transceptor.

Adaptador AC
(comprado
separadamente)

Indicador de carga.
(cada indicador funciona separadamente)
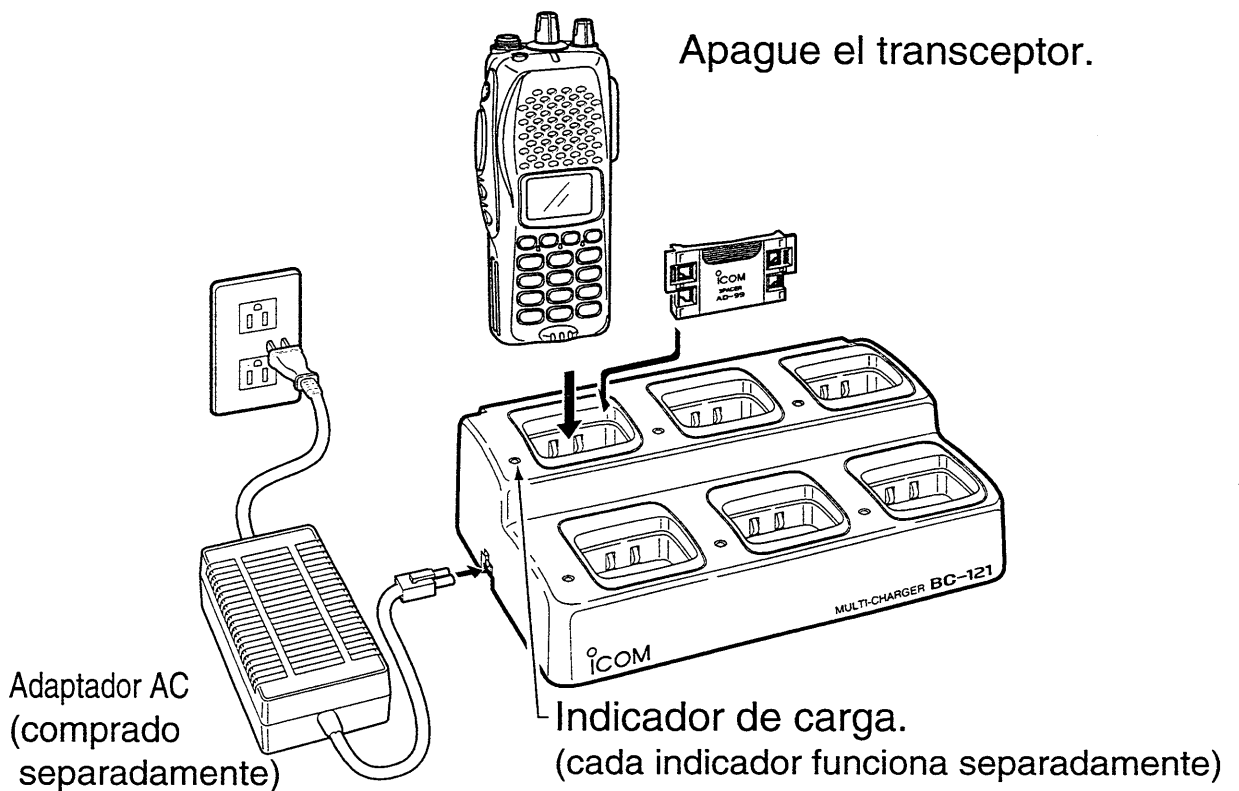
◇ **Regular charging with the BC-137 #11/BC-146**

The optional BC-137 #11 or BC-146 provides regular charging of optional battery pack with/without transceiver. The following is additionally required:

• An optional AC adapter.
  (AD-99 is supplied with BC-137 #11/BC-146)

Apague el transceptor.

Comprube la orientación para una carga correcta.
(Insertar ju nto con AD-99.)

BC-137 #11 o BC-146
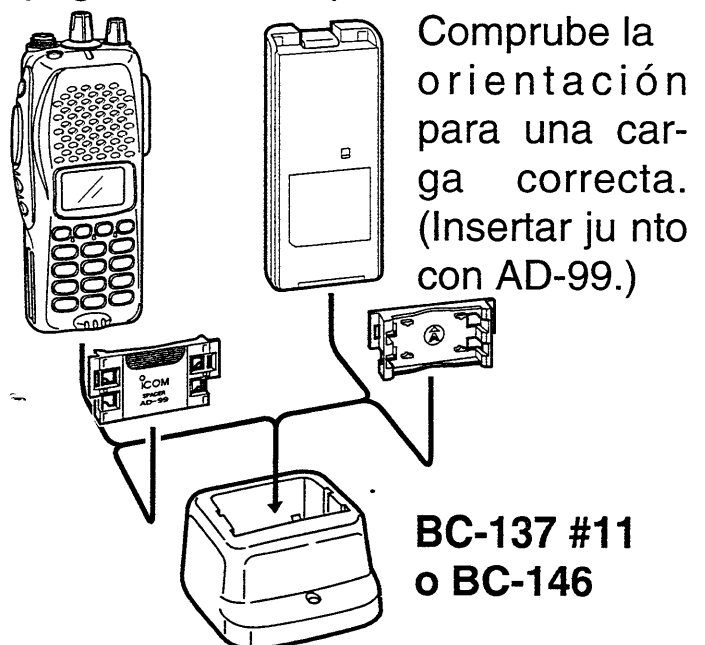
■ Charging NOTE

Prior to using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation.
• Recommended temperature range for charging:
  +10°C to +40°C.
• Use the supplied charger or optional charger (BC-119N/BC-121/BC-144 for rapid charging, BC-137 #11/BC-146 for regular charging) only. **NEVER** use other manufacturers' chargers.

The optional BP-209 or BP-210 battery packs include rechargeable Ni-Cd (Ni-MH: BP-210) batteries and can be charged approx. 300 times. Charge the battery pack before first operating the transceiver or when the battery pack becomes exhausted.
If you want to charge the battery pack more than 300 times, the following points should be observed:

• Avoid over charging. The charging period should be less than 20 hours.
• Use the battery until it becomes almost completely exhausted under normal conditions. We recommend battery charging after transmitting becomes impossible.

◇ **Battery pack life**
When the operating period becomes extremely short, even after charging the battery pack fully, a new battery pack is needed.

■ Battery case (Option)

When using an optional BP-208 BATTERY CASE attached to the transceiver, install 6 AA (R6) size alkaline batteries as illustrated below.
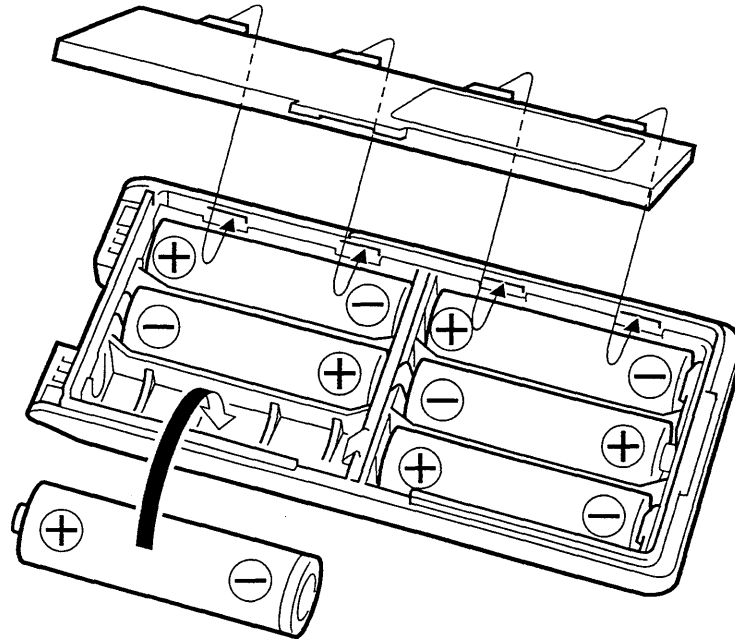
◇ CAUTION

- Use **ALKALINE** batteries only.
- **Make sure** all battery cells are the same brand, type and capacity.
- **Never** mix old and new batteries.
  Either of the above may cause a fire hazard or damage the transceiver if ignored.

- **Never** incinerate used battery cells since internal battery gas may cause them to rupture.
- **Never** expose a detached battery case to water.
  If the battery case gets wet, be sure to wipe it dry before use.

■ General

Turn the volume knob clockwise to turn the power ON. A beep sound will be heard and the following information will sequentially appear on the display:

◇ Opening text

The preprogrammed opening text and individual ID will appear. The individual ID consisting of a prefix code (3 digits) + a fleet code (2 digits)+ an individual code (2 or 3 digits) will appear. (e.g.) If the prefix code is 200, the fleet code 2001, and the individual code 300, the individual ID will be '2002001300'.

```
┌─────────────────────┐
│    (Opening text)   │
│     201 2001 300    │
└─────────────────────┘
```

• If you are within the trunking service area, the current selectable group code (selected by the rotary selector) and the received signal strength, are displayed to indicate that communication is possible.

```
┌─────────────────────┐
│      -TEXT-         │
│                 900 │
└─────────────────────┘
```

*In the "-TEXT-" part, the characters pre-programmed by cloning soft ware will be displayed.

• If you are outside of the trunking service area, or if the system is down, the Antenna icon will blink.
At this time, the transceiver is searching for any available system-controlled channel.

```
┌─────────────────────┐
│      -TEXT-         │
│                 900 │
└─────────────────────┘
```

■ Calling

◇ Making a call with a memory Group Code

Using the rotary selector or Up/Down keys, select one of the group codes that is stored in the memory.

The rotary selector allows you to select any group code from the stored 16 group codes and Up/Down keys allows from the 24 group codes.

① Select the desired group code by turning the rotary selector.

② Press the PTT key. The selected group code will be used to make the call.

③ With 'Calling' displayed, the intermittent beep sound for calling will be heard.

```
┌─────────────────────────┐
│         Calling         │
│                   900   │
└─────────────────────────┘
```

④ With 'Connected' displayed, the speaker icon will appear allowing you to start the communication. At the same time, the count-down timer will appear to limit the communication time.

```
┌─────────────────────────┐
│        Connected        │
│                         │
└─────────────────────────┘
```

⑤ The warning sound will be emitted 10 seconds before the communication timer reaches the limit. When the limit has been reached, the communication will be disconnected automatically.

```
┌─────────────────────────┐
│   Timer  00:56          │
│                   900   │
└─────────────────────────┘
```

⑥ To manually end the communication, press the Clear key. (or push *, then push #).

```
┌─────────────────────────┐
│       Clear Down        │
│                         │
└─────────────────────────┘
```

◇ Making a call with a memory Individual Code

Using the Up and Down keys, select a memory individual code to make the call.

Up to 24 individual codes or group codes may be stored.

① Display an individual code by pressing the Up or Down key.

② Select the desired individual code using the Up and Down keys.

```
┌─────────────────────┐
│     Personal 1      │
│                     │
│               302   │
└─────────────────────┘
```

③ Press the PTT or # key. The selected individual code will be used to start calling.

④ While 'Calling' is displayed, the intermittent beep sound for calling will be heard.

⑤ With 'Connected' displayed, the speaker icon will appear allowing you to start the communication. At the same time, the count-down timer will appear to limit the communication time.

⑥ The warning sound will be emitted 10 seconds before the communication timer reaches the limit. When the limit has been reached, the communication will be disconnected automatically.

⑦ To manually end the communication, press the Clear key. (or push ✳, then push #).

◇ Calling the Dispatcher

The despatcher may be called directly.

① Press the Dispatcher key. The despatcher code will be displayed for example as :

```
┌─────────────────────┐
│     Despatcher      │
│                     │
│                     │
└─────────────────────┘
```

② Press the PTT or # key. The call to the dispatcher will be started.

NOTE: If calling direct to the Despatcher is prohibited, the status message 01(Call Back Request) is transmitted and then the the transceiver will return to the waiting mode.

③ While 'Calling' is displayed, the intermittent beep sound will be heard.

④ With 'Connected' displayed, the speaker icon will appear allowing you to start the communication. At the same time, the countdown timer will appear to limit the communication time.

⑤ The warning sound will be emitted 10 seconds before the communication timer reaches the limit. When the limit has been reached, the communication will be disconnected automatically.

⑥ To manually end the communication, press the Clear key. Pressing ✱ and # also functions in the same way.

◇ Making a Status Call

A status message may be sent to the dispatcher or a remote station having an individual code. (No status message can be sent to any station using a group code.)

• Sending a status message to a station having an individual code.

① Display an individual code by pressing the Up or Down key.

```
Personal 1
              302
```

② Press the Status key to enter the Status code select mode.

③ Using the Up or Down key, select the desired status message.

```
Status 01
              302
```

➥ Select the desired message from a total of 32 different status messages having code Nos. 0 through 31.

➥ Status code 0 means "Call Back Req" -- Please call back, and status code 31 "Call Cancel" -- Cancels the call. These status codes are commonly used by all systems.

④ Press the PTT, the status message will be sent to the station having the selected individual code.

⑤ When the status message has been successfully sent out, 'OK' appears on the display.

◇ **Sending a status message to the Despatcher**

① Enter the Despatcher mode by pressing the Despatcher key.

```
Despatcher
```

➡ The preprogrammed despatcher code will be displayed.

② Press the Despatcher key again. Now you are ready to select a status code.

```
Status 01
```

➡ If the direct call to the despatcher is selected, you cannot be made the status code select condition.

③ Using the Up or Down key, select the desired status message.

➡ Select the desired message from a total of 32 different status messages having code Nos. 0 through 31.

➡ Status code 0 means "Call Back Req" -- Please call back, and status code 31 "Call Cancel" -- Cancels the call. These status codes are commonly used by all systems.

④ Press the PTT. The status message will be sent to the despatcher.

⑤ When the status message has been successfully sent out, 'OK' appears on the display.

■ Making a call via the keypad

Various calls can be made by the following keying sequences via the keypad:

◇ **Individual Call;**

• **Individual call to a station having the same prefix and fleet codes.**

Enter an individual code via the keypad and then press the # key. The individual call will be started.

(e.g.) To call 200 2001 300 from 200 2001 200, enter '300#'.

• **Individual Call to a station having the same prefix code and a different fleet code.**
Enter the fleet code plus the individual code via the keypad and then press the # key. The individual call will be started.
(e.g.) To call 200 2006 300 from 200 2001 200, enter 2006300#.

• **Individual Call to a station having a different prefix code.**
Enter the prefix code plus the fleet code plus the individual code via the keypad and then press the # key. The individual call will be started.
(e.g.) To call 211 2006 300 from 200 2001 200, enter 2112006300#.

Note: Instead of pressing the # key, the PTT key may be pressed to make the call.

◇ **Group Call**
• **Group Call to the stations having the same prefix and fleet codes.**
Enter the group code via the keypad and then press the # key. The group call will be started.
(e.g.) To call 200 5001 91 from 200 5001 90, enter 91#.

• **Group Call to the stations having the same prefix code and a different fleet code.**
Enter the fleet code plus the group code via the keypad and then press the # key. The group call will be started.
(e.g.) To call 200 6002 90 from 200 5001 90, enter 600290#.

• **Group Call to the stations having a different prefix code.**
Enter the prefix code plus the fleet code plus the group code via the keypad and then press the # key. The group call will be started.
(e.g.) To call 211 6002 90 from 200 5001 90, enter 211600290#.

◇ **Status Call**
* Enter ✱0xx (xx: a status code in a range between 00 and 31) and then press the # key. The status call to the despatcher will be started.
(e.g.) To send status code 02 to 200 2001 300 from 200 2001 200, enter ✱002✱300#. You can omit the first "0" between status 00 and 09, for example as ✱02✱300#.
* To make the Call Back request of the status call to the despatcher, enter ✱0#.
* To make the cancellation of the above request to the despatcher, enter #0#.
and,
* To make the Call Back request of the status call to the individual code station, enter ✱0✱ plus an individual code plus #.
* To make the cancellation of the above request to the individual code station, enter #0✱ plus an individual code plus #.

◇ **Enhanced Group Call**
* **To make a Conference Call;**
Enter ✱1✱ plus a group code and then press the # key. The conference call will be started allowing the called stations to have communication.

* **To make a Broadcast Call;**
Enter ✱11✱ plus a group code and then press the # key. The broadcast call will be started allowing the called stations only to listen to the call.

◇ **Priority Call**
* Enter ✱8✱ plus an individual call and then press the # key. The priority call will be started.
➡If the system is busy (no channel is available), the priority is given on a first-come-first-served basis.

◇ **Emergency Call**
* Enter ✱9✱ plus an individual code or a group code and then press the # key. The emergency call will be started.

• Enter ✳9, then press the # key. The call to the despatcher will be started.

➥If the system is busy (no channel is available), a channel is forcibly made available allowing you to establish the communication.

◇ **System Wide Call**

• Entering ✳1981# will allow you to make a priority voice call.
• Entering ✳1982# will allow you to make an voice call.
• Entering ✳1987# will allow you to make a standard voice call.

➥Each of the above calls is used to call all the mobile stations that are waiting on the system.

◇ **PSTN Call**

Enter 0 plus a telephone number (8 digits or more) and then press the # key. The PSTN call will be started.

◇ **PABX Call**

Enter 0 plus a telephone number (5 to 7 digits) and then press the # key. The PABX call will be started.

◇ **Divert Own Call**

• Enter ✳41n✳ plus the individual code of the station you want to divert your own call to, and then press the # key. This will allow you to divert your own call to the specified station.

➥In the place of 'n', enter 1 for voice, 0 for data, or nothing for both voice and data.

• Enter #41n✳, then press the # key to cancel the diversion.Or enter #45n# to cancel the above diversion on the station you want to divert your own call to.

◇ **Divert 3rd Party Call**

• Enter ✳44n✳ plus Station B's individual code plus ✳ plus Station A's individual code (destination), and then press the # key. Station B's call will be diverted to Station A.

➥In the place of 'n', enter 1 for voice, 0 for data, or nothing

for both voice and data.
- Enter #44n✳ plus station B's individual code, and then press the # key to cancel this diverting.

◇ **Cancellation of Divert**
- Enter #41n and then press the # key. This will allow you to cancel the Divert Own call.
- Enter #44n✳ plus station B's individual code and then press the # key. This will allow you to cancel the Divert 3rd Party call.
- Enter #45n and then press the # key. This will allow you to cancel the call that diverted to you.
  ➡In the place of 'n', enter 1 for voice, 0 for data, or nothing for both voice and data.

◇ **Include Call**
- After moving to the communication channel, you can make an additional call to the other station for them join in to the communication with you.
  ➡Make a call with a memory individual/group call or make a call via the keypad on the communication channel to start the Include call.

◇ **SDM (Short Data Message) Call**
- Enter ✳2✳ plus data (up to 24 digits in total) via the keypad and then press the # key. This will allow you to make a data call to a predetermined station.
- Enter ✳2✳ plus data via the keypad plus individual code (up to 24 digits in total) and then press the # key. This will allow you to make a data call to an individual code station.

◇ **5-Digit Routing code calling**
Converting a prefix code (3 digits) plus a fleet code (4 digits) to 3 digits allows you to dial a different prefix code and fleet code by 5 digit dialing.
  ➡ Convertible numbers; 200 to 299, 900 to 999, 20 to 29, 90 to 99.

*Preprogram the prefix and fleet numbers before converting.
- **Individual calling with different prefix code.**
  To call 211 2006 300 from 200 2001 200;
  ➡ Preprogram 22 to prefix code 211 and fleet code 2006 as 5-Digit Routing code. Enter 22300# to start the call.

◇ Cancellation of calling

Enter ✽ and then press the # key. This will allow you to cancel the current call.
➡ This will allow you to end the communication or cancel the current call.

◇ Cancellation of Input

When you are entering data via the keypad, press the Up or Down key. This will delete the data starting with the last character/digit entered, allowing you to restart entering the data again. Press the Clear key to cancel the inputting and turn to the waiting mode.

■ Special calling via the keypad

◇ ReDial

Enter ## via the keypad. This will allows you to redial the last number called.

◇ Short Dialing

Enter # followed by the memory location (1 to 9). This allows you to automatically dial a commonly used number from memory 1 to 9 by pushing the Up or Down key.

■ Receiving a call

◇ **Reception of an individual call**

When an individual call is received, the telephone beep sounds telling you that a call has been received. Immediately after this, you can talk with the caller.

Alerting
302

① The caller's individual code and count-down timer will appear on the LCD screen.

Timer 00:56
302

➡ If the call is from a telephone, Telephone (PSTN call) or PABX (PABX call) will be displayed.

Timer 00:56		Timer 00:56
Telephone		PABX

② Pressing the PTT (or #) key will allow you to talk with the caller. The transmission indicator LED on the front panel will be illuminated in red.

③ During the communication, the timer will count the communication time. When the limit has been reached, the communication will be automatically shut down (clear down).

④ To end the communication manually, press the Clear key or press ✱ then the # key.

⑤ The transceiver will return to the waiting mode.

• If you do not answer the call;

⑥ If you did not answer the call by not pressing the PTT, the caller's number is stored in the Call Back memory. Up to 15 non-answered calls are stored. If there is any non-answered call remaining in the memory, the Call Back icon blinks.

⑦ Select the Call Back memory by pressing the Call Back key and Up/Down keys, then press the PTT or # key. This will allow you to call the stored unanswered call.

```
┌─────────────────────────┐
│      Queue  1           │
│                    302  │
│                         │
└─────────────────────────┘
```

◇ Reception of a Group Call;

You can receive a group call with a preprogrammed group code number or the group code that has been selected via the rotary selector or Up/Down keys.

When a group call is received, the beep sound is emitted and you immediately are able to communicate.

① The LCD screen displays the caller's individual code.

```
┌─────────────────────────┐
│      Group              │
│                    301  │
│                         │
└─────────────────────────┘
```

➡ In the case of a call received from the Inter-Prefix, 'INTER-PFIX' is displayed on the LCD screen. In the case of a call from an ordinary telephone, 'Telephone' (PSTN call) or 'PABX' (PABX call) is displayed.

➡ The communication time timer and individual ID will appear on the display.

```
┌─────────────────────────┐
│   Timer    00:56        │
│                    302  │
│                         │
└─────────────────────────┘
```

② Thereafter, the individual ID will remain displayed during the current communication.

③ Pressing the PTT key will allow you to talk with the caller.

➡ In the case of a group call, the communication only can be cleared down from the caller's side. The called station can-

not clear down the communication.

◇ Reception of a Status Call

When a status call is received, the beep sound is heard.

① The LCD screen displays the text corresponding to the status number and the caller's individual code, and then they blink.

```
┌──────────────────────┐
│  Status 01           │
│                 302  │
└──────────────────────┘
```

② These text and the individual number remain until the Clear key is pressed.

③ If you press the Clear key to cancel the displayed status call, the transceiver returns to the waiting mode.

◇ Reception of a SMD (Short Data Message) Call

When the Short Data Message is received, a beep sound is heard.

① The LCD screen displays the received data and the caller's individual code, and then the display blinks.

```
┌──────────────────────┐
│  (Data)              │
│                 302  │
└──────────────────────┘
```

② Over 12 digits of data has been received when '▼' icon appears on the display. Press the Down key to display the following data. Press Up key to display the data before that.

③ No transmission can be made until the displayed data message is cancelled by pressing the Clear key.

④ If you press the Clear key to cancel the displayed short data message, the transceiver returns to the waiting mode.

■ Progress messages

The following messages appear corresponding to the progress of the processing of a call.

MESSAGE	DESCRIPTION
Aborting/Aborted	Your call has been aborted (Wait for a while and then make the call again).
Calling	Your call is now being processed.
Call Back	Your call has been recorded at the called station (Wait for a reply).
Diverted	Your call has been diverted to another station.
Engaged	The called station has not received your call since the line is busy (Wait for a while and then make the call again).
Invalid	You have entered an invalid number.
No Reply	Your call has not been answered.
Queued	Your call has been put in the waiting list (Wait for a while until your call is connected).
Ringing	The called station is now ringing.
System Busy	The system is so busy that no call is accepted now (Wait for a while and then make the call again).
Timeout	The communication time limit has been exceeded (The communication has already been ended).
Failed	Your call has failed or your called number is not supported by the system.
Cancelled	Your call has been cancelled.
Connected	Your call has been connected successfully.
System Wide	System Wide calls are accepted now.
Telephone	PSTN calls are accepted now.
PABX	PABX calls are accepted now.
INTER-PFIX	Calls from stations having different prefix codes are accepted now.
Clear Down	End the communication.

◇ PTT Quick Call function

The despatcher, status message, Call Back memory selected by function key or the currently selected memory group (current group) can be called by merely pressing the PTT key.

◇ Call Back function

- If you do not want to answer the call immediately, use this function.
  ➡Pressing the Call Back key will allow you to enable or disable the function.

- When this function is enabled, the transceiver sends the Call Back to the called station. "Call Back" will be displayed on the called station's display. or, when you did not answer the call or the called station has cleared down before you answered the call while this function is disabled, the caller's number is automatically retained in the memory.
- Up to 15 non-answered calls will be stored.
- When a call is received, the caller's number is automatically retained in the memory.
- At the same time, the Call Back icon starts blinking to tell the user that there is the non-answered call stored in the memory.

- The Call back icon will continue to blink until you have answered all the non-answered calls, or until you have cleared the memory.
- When you press the Call Back key to confirm the memorized contents, the Call Back icon stops blinking.
- All the retained non-answered calls are cleared when the power is turned OFF.
  Even if the Call Back function is enabled, calls can be made normally.

• Call Back

① If you press the Call Back key when the Call Back icon is blinking or lights, the memory numbers are displayed.
② A memory number can be selected using the Up and Down keys.

③ Select a number and then press the PTT (or #) key. The selected number will be dialed to call back.

④ The number called back will be deleted from the memory.

⑤ You cannot call back to any PSTN or PABX call. The calls are recorded only.

⑥ To delete a memory number without calling back to that number, press the Call Back key and display the number using the Up and Down keys.

⑦ Press the Call Back key for 2.5 seconds. The number will be deleted from the memory.

◇ Group Call monitoring

• The remote station's ID code can be displayed in real time during the communication.

• This function can be enabled or disabled in advance.

◇ Scrambler function

The transceiver is compatible with the UT-109 (#02) scrambler unit. This function is also compatible with the scrambler function of the other Icom transceivers.

➡ Preprogrammed 5 code numbers can be selected in the User Setup Menu. (p. 30)

◇ DTMF function

This function allows you to send a DTMF code via the keypad while still being able to communicate with the PTT key on the traffic channel.

➡ The programmable keys [P0] to [P3] function as [A] to [D] of the DTMF tone code.

◇ Compander function

The compander function provides clear audio quality in noisy environments. (p. 30)

◇ **VOX function** (optional VS-1SC and headset are required)
VOX function provides you hands-free operation with an Icom VOX control unit and headset. Transmit and receive are controlled by your voice. Speak into the microphone at your normal voice level.
NOTE: This function is not available if you do not connect the optional VS-1SC vox case and headset.

6 OTHER FUNCTIONS

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■ User Setup Menu

If you hold down the Clear key for 2.5 seconds when your transceiver is in the waiting mode (not during communication, dialing, or operation), the User's Setup menu appears.

The User's Setup menu allows you to use the settings for the backlight, Ringer level, beep level, LCD contrast, squelch level, AF minimum level, compander ON/OFF, microphone gain and Scrambler settings.

① Hold down the Clear key for 2.5 seconds to display the User's Setup menu.
② Holding down the Clear key for another 2.5 seconds will return to the waiting mode.
③ Select the desired item by pressing the Clear key.
④ An option within the item can be selected using the Up or Down keys.

◇ Selectable items and setting value:

SELECTABLE ITEM	DOWN ↔ UP
• Back Light	OFF, Auto or ON
• Ringer Level	OFF, 1 to 5
• Beep Level	OFF, 1 to 5
• LCD Contrast	1 to 5
• SQL Level	0 to 255
• AF Min Level	0 to 255
• Compander	ON or OFF
• VOX Gain*	OFF, 1 to 5
• VOX Delay*	0.6 to 2.0 sec. (0.2 step)
• MIC Gain	1 to 5
• Scrambler	OFF, 1 to 5

　*VOX Gain and VOX Delay items may appear on the above menu when the optional VS-1 and headset are connected.
　**Pressing the Clear key will return to the setting for 'Back Light.'

8 CONVENTIONAL MODE

■ Conventional Mode operation

This transceiver has conventional mode capability. You can use up to 32 preprogrammed conventional channels. These channels can be selected with the Up or Down keys.

➡Press the Mode key assigned as the dealer programmable key to toggle between Trunking Mode and Conventional Mode. The transceiver memorizes the operating mode until Mode key is pushed, even if the power is turned OFF.

NOTE: You must assign the Mode key function to a dealer programmable key, both for the Trunking mode and the Conventional mode in the key Assign screen of the cloning software.

• CTCSS tone squelch function is available in the Conventional mode. You can select the desired operating channel and make a communication with the PTT key.
• While the Conventional mode is selected, the Clear key functions as the Monitor key.
  ➡ Pressing this key allows you to open the transceiver's squelch manually to check whether a channel is busy or not.

MAP27 **9**

■ MAP27 serial interface

By connecting the OPC-966 OPTIONAL CLONING CABLE to the external Mic connector of the transceiver, you can use the MAP27 serial interface*.
*Available baud rate: 1200/2400/4800/9600

The interface supports the following functions.
• Independent Call, Group Call
• Emergency Call (call with "✳9")
• Clear down
• Send/receive status messages
• Send/receive SDM (Short Data Message)

NOTE: Follow the instruction manuals of MAP27 equipment for operation.

OPC-966 ⟶
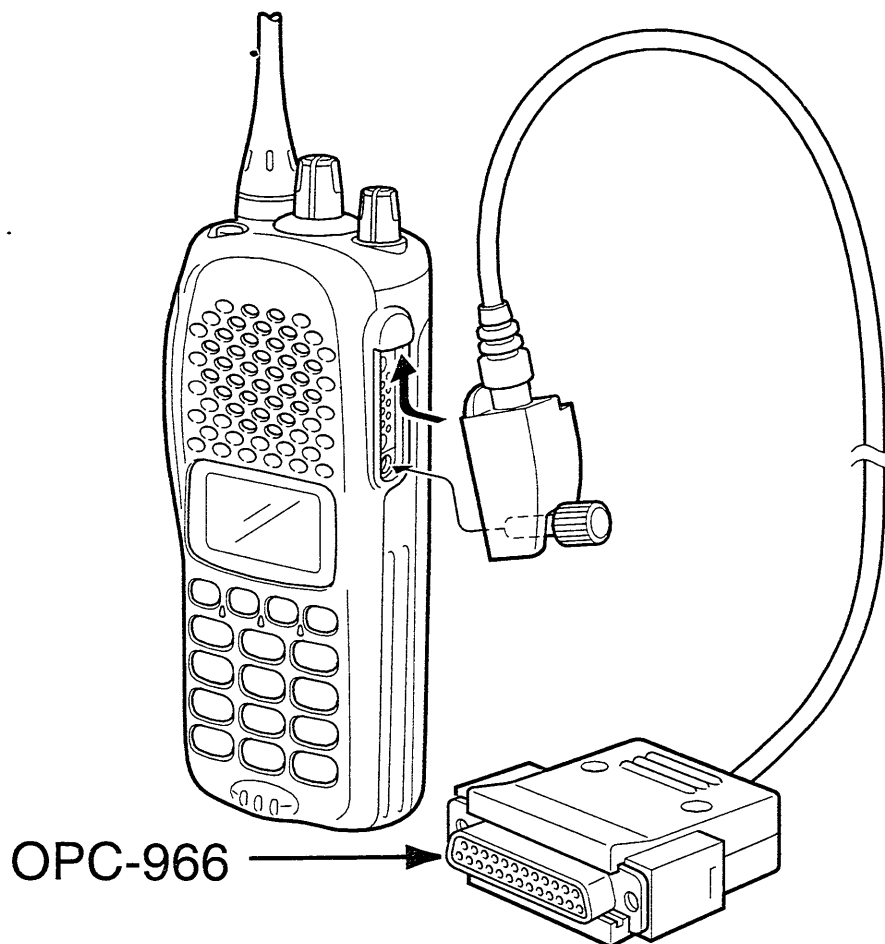
10 PROGRAMMABLE FUNCTIONS

■ Programmable key assignment

Dealer programmable keys **[P0]**, **[P1]**, **[P2]** and **[P3]** can be programmed for one of several functions by your Icom dealer.
In the following explanations, programmable function names are bracketed; the specific switch used to activate the function depends on programming.

■ *Trunking mode only:*
[Despatcher]
    The exclusive key used to call the despatcher.
[Call1], [call2]
    The exclusive key used to call the preprogrammed station.
[Emergency]
    The exclusive key used to call the preprogrammed Emergency station. This function is assigned to the red key on top of the transceiver. You cannot change this assignment.
[Status]
    This key is used to select the status message.
[Clear] (Set Mode)
    Press this key to clear down the communication.
    If you hold down the this key for 2.5 seconds when your transceiver is in the waiting mode (not during communication, dialing, or operation), the User's Setup Menu (p. 30) appears.
[Call Back]
    Press this key to turn the Call Back function ON or OFF.

■ *Either Trunking or Conventional mode;*

[Mode]

Press this key to toggle between Trunking mode and Conventional mode.

[Null]

No function is assigned.

[Key-Lock]

This function locks access to all programmable switches.

[High/Low]

Pressing this key will toggle in the order of Low1 power, Low2 power, and High power

■ *Conventional mode only;*

[Monitor]

The monitor function allows you to open the transceiver's squelch manually to check whether a channel is busy or not.

[CH Up]/[CH Down]

Push to select the operating channel.

[Simplex]

The Simplex function changes duplex channels to simplex channels.

Simplex allows you to contact other portable transceivers directly.
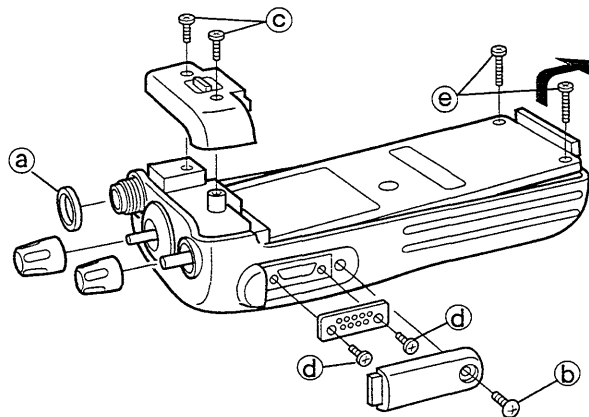
11 OPTIONAL UNIT INSTALLATION

You can install two of the following optional units in the transceiver. UT-109 (#02) VOICE SCRAMBLER UNIT, UT-113 MAN DOWN UNIT.

■ Installation

① Unscrew nut ⓐ, and remove the knobs.
② Unscrew screw ⓑ and 2 screws ⓒ, then remove the multi-connector cover and rear panel.
③ Unscrew 2 screws ⓓ, then remove the multi-connector.
④ Unscrew 2 screws ⓔ, then take off the chassis from the front panel in the direction of the arrow.
Be careful!: Flat cable is connected between the MAIN unit on the chassis and front panel.

⑤ Install the desired optional unit. Insert tightly to avoid bad contact.

⑥ Program the necessary information with the cloning software before operation. Please ask your dealer or system operator for details.
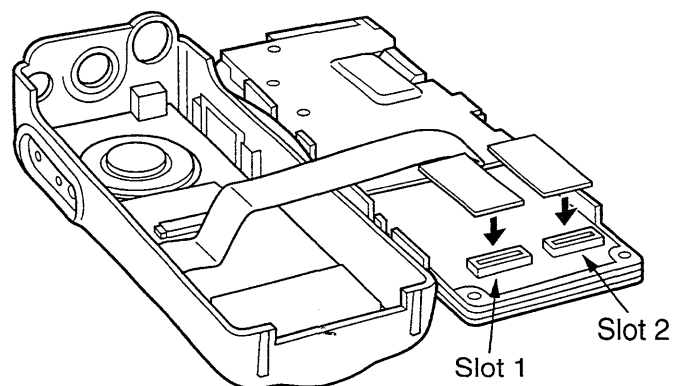
■ Cloning

Cloning allows you to quickly and easily transfer the programmed contents from one transceiver to another transceiver; or data from PC to a transceiver using the optional CS-F40G(MPT) CLONING SOFTWARE.

PC-to-transceiver cloning

Please refer to the HELP file that comes with the CS-F40G(MPT) CLONING SOFTWARE.

CAUTION: Imprudent cloning operation causes a cloning error. In such a case, memory contents may be lost. Cloning must then be repeated.

13 OPTIONS

BATTERY PACKS

- **BP-208** BATTERY CASE
  Allows a set of Alkaline batteries to operate the handheld when charging rechargeable batteries or in emergencies, etc. 6 AA (R6) alkaline cells are required.
- **BP-209** Ni-Cd BATTERY PACK
  7.2 V/1100 mAh Ni-Cd battery pack, allows more than 7 hours operation.
- **BP-210** Ni-MH BATTERY PACK
  7.2 V/1650 mAh Ni-MH battery pack, allows approx. 11 hours operation.

CHARGER

- **BC-144** DESKTOP CHARGER + **BC-145** AC ADAPTOR
  For rapid charging of battery packs. An AC adapter is supplied with the charger. Charging time: 1.5 to 2 hrs.
- **BC-137 (#11)** BATTERY CHARGER + **BC-122** AC ADAPTOR
  For regular charging of battery packs. An AC adapter is additionally required. Charging time: 15 hrs.
- **BC-146** BATTERY CHARGER + **BC-147** AC ADAPTOR
  For regular charging of battery packs. An AC adapter is additionally required. Charging time: 18.5 hrs.
- **BC-121** MULTI-CHARGER + **AD-94 (#11)** CHARGER ADAPTOR (6 pcs.)
  For rapid charging of up to 6 battery packs (six AD-94's are required) simultaneously. An AC adapter may be supplied depending on version. Charging time: 1.5 to 2 hrs.
- **BC-119N** DESKTOP CHARGER
  + **AD-94 (#11)/AD-101** CHARGER ADAPTOR
  For rapid charging of battery packs. An AC adapter is supplied with the charger. Charging time: 1.5 to 2 hrs.
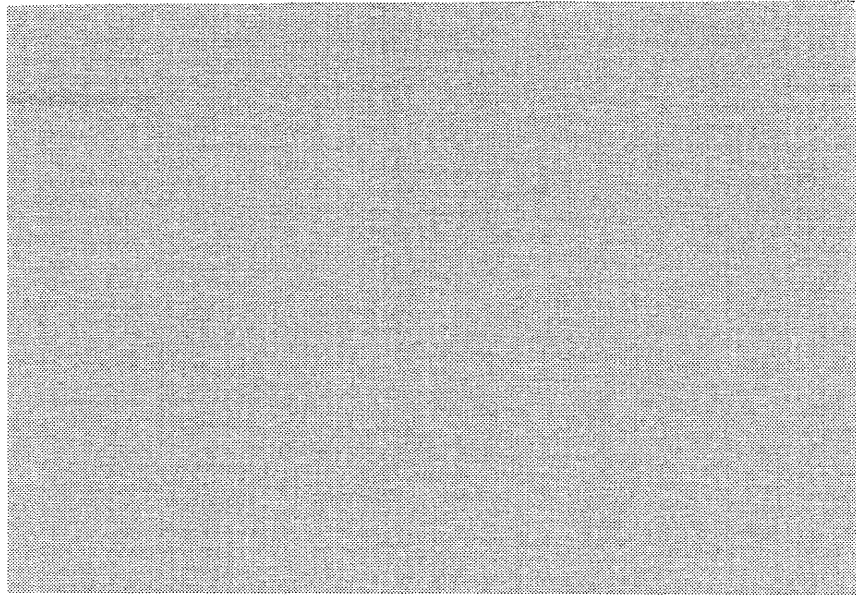
INTERNAL UNITS

• **UT-109 (#02)** VOICE SCRAMBLER UNITS
Non-rolling type voice scrambler unit provides higher communication security.

• **UT-113** MAN DOWN UNIT
Provides a measure of safety when working in a hazardous environment, etc.

OTHER OPTIONS

• **AD-52** EARPHONE JACK ADAPTER
Allows you to connect an earphone, 2-conductor 3.5 (d) mm (⅛″).

• **AD-98FSC** ANTENNA CONNECTOR CONVERTER
Allows you to connect an external antenna with BNC connector.

• **EM-80/EM-89** SPEAKER-MICROPHONES
Combination speaker-microphone that provides convenient operation while hanging the transceiver from your belt.

• **FA-SC73US** STUBBY ANTENNAS
Shorter UHF antennas; 450–490 MHz.

• **MB-68** BELT CLIP
Same as that supplied with the transceiver.

• **MB-74** BELT CLIP
Exclusive alligator-type belt clip.

• **VS-1SC** VOX/PTT CASE
The VS-1SC has a PTT switch and VOX function. The VS-1SC must be used with an Icom headset such as the HS-94, etc.

• **HS-94** HEADSET
An ear-attachable, earphone/microphone for use with the Icom handheld transceivers. The HS-94 must be used in conjection with the VS-1SC VOX/PTT CASE.

Count on us!