iCOM

INSTRUCTION MANUAL

VHF MARINE TRANSCEIVER

IC-M35

Icom Inc.

DOC

CE versions of the IC-M35 which display the "CE" symbol on the serial number seal, comply with the essential requirements of the European Radio and Telecommunication Terminal Directive 1999/5/EC.

This warning symbol indicates that this equipment operates in non-harmonised frequency bands and/or may be subject to licensing conditions in the country of use. Be sure to check that you have the correct version of this radio or the correct programming of this radio, to comply with national licensing requirement.

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DECLARATION OF CONFORMITY

We Icom Inc. Japan
1-1-32, Kamiminami, Hirano-ku
Osaka 547-0003, Japan

Declare on our sole responsability that this equipment complies the essential requirements of the Radio and Telecommunications Terminal Equipment Directive, 1999/5/EC, and that any applicable Essential Test Suite measurements have been performed.

Kind of equipment: VHF MARINE TRANSCEIVER

Type-designation: IC-M35

Version (where applicable):

This compliance is based on conformity with the following harmonised standards, specifications or documents:
i)   EN 301 178-2 V1.2.2 (2007-2)
ii) EN 60945 2002
iii) EN 60950-1 2001
iv) EN 300 698-2 V1.1.1 (2000-8)
v)   EN 300 698-3 V1.1.1 (2001-5)
vi)
vii)

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Icom (Europe) GmbH
Himmelgeister straße 100
D-40225 Düsseldorf
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Signature

Icom Inc.

• List of Country codes (ISO 3166-1)

	Country	Codes		Country	Codes
1	Austria	AT	18	Liechtenstein	LI
2	Belgium	BE	19	Lithuania	LT
3	Bulgaria	BG	20	Luxembourg	LU
4	Croatia	HR	21	Malta	MT
5	Czech Republic	CZ	22	Netherlands	NL
6	Cyprus	CY	23	Norway	NO
7	Denmark	DK	24	Poland	PL
8	Estonia	EE	25	Portugal	PT
9	Finland	FI	26	Romania	RO
10	France	FR	27	Slovakia	SK
11	Germany	DE	28	Slovenia	SI
12	Greece	GR	29	Spain	ES
13	Hungary	HU	30	Sweden	SE
14	Iceland	IS	31	Switzerland	CH
15	Ireland	IE	32	Turkey	TR
16	Italy	IT	33	United Kingdom	GB
17	Latvia	LV			

IN CASE OF EMERGENCY

If your vessel requires assistance, contact other vessels and the Coast Guard by sending a distress call on Channel 16.

❍ **USING CHANNEL 16**

DISTRESS CALL PROCEDURE

1. "MAYDAY MAYDAY MAYDAY."

2. "THIS IS ……………… " (name of vessel)

3. Your call sign or other indication of the vessel.

4. "LOCATED AT …………… " (your position)

5. The nature of the distress and assistance required.

6. Any other information which might facilitate the rescue.

RECOMMENDATION

CLEAN THE TRANSCEIVER THOROUGHLY WITH FRESH WATER after exposure to saltwater, and dry it before operation. Otherwise, the transceiver's keys, switches and controllers may become unusable due to salt crystallization.

NOTE: DO NOT wash the transceiver in water if there is any reason to suspect the waterproof protection may not be effective. For example, in cases where the battery pack rubber seal is damaged, the transceiver/battery pack is cracked or broken, or has been dropped, or when the battery pack is detached from the transceiver.

FOREWORD

Thank you for purchasing this Icom radio. The IC-M35 VHF MA-RINE TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care this radio 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-M35.

EXPLICIT DEFINITIONS

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

FEATURES

☞ **Floating on water**
The transceiver floats on fresh or salt water even when the supplied accessories are attached.

• When a third-party battery pack, strap, antenna, etc. is used, it may sink.
• The battery contacts may be prone to rust if the transceiver is kept floating on the water.

☞ **Clear voice boost**
The transceiver has the noise detection function which enables automatic volume adjustment and the volume loud function that enables you to maximize the volume level instantly to provide clear communication in the noisy marine environments.

☞ **Noise cancelling microphone**
The sub-microphone on the rear panel inverts the phase and cancels out the ambient noise from the main microphone. As a result, the transceiver can reduce the influence of the background noise (particularly treble noise) on the transmitted signal.

• The noise cancellation can produce no effect according to conditions such as loudness and type of noise, or the position and distance between the noise source and the microphone, etc.
• The noise cancellation does not work when an optional external speaker-microphone is connected.

PRECAUTIONS

⚠**WARNING! NEVER** connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

⚠**WARNING! NEVER** hold the transceiver so that the antenna is closer than 2.5 cm from 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.

NEVER connect the transceiver to a power source other than the BP-251 (option) or BP-252. Such a connection will ruin the transceiver.

DO NOT use or place the transceiver in direct sunlight or in areas with temperatures below −15°C or above +55°C.

KEEP the transceiver out of the reach of children.

KEEP the transceiver at least 0.9 meters away from your vessel's magnetic navigation compass.

BE CAREFUL! The transceiver's right-side panel will become hot when operating continuously for long periods.

BE CAREFUL! The transceiver meets IPX7* requirements for waterproof protection. However, once the transceiver has been dropped, waterproof protection cannot be guaranteed because of possible damage to the transceiver's case or the waterproof seal.
* Only when the BP-251 (option) or BP-252, flexible antenna, **[SP MIC]** cap is attached.

MAKE SURE the flexible antenna and battery pack are securely attached to the transceiver, and that the antenna and battery pack are dry before attachment. Exposing the inside of the transceiver to water will result in serious damage to the transceiver.
After exposure to water, clean the battery contacts thoroughly with fresh water and dry them completely to remove any water or salt residue.

TABLE OF CONTENTS

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◇ **Priorities**
• Read all rules and regulations pertaining to priorities and keep an up-to-date copy handy. Safety and distress calls take priority over all others.

• You must monitor Channel 16 when you are not operating on another channel.

• False or fraudulent distress calls are prohibited under law.

◇ **Privacy**
• Information overheard but not intended for you cannot lawfully be used in any way.

• Indecent or profane language is prohibited.

◇ **Radio licenses**
(1) SHIP STATION LICENSE
You must have a current radio station license before using the transceiver. It is unlawful to operate a ship station which is not licensed.

Inquire through your dealer or the appropriate government agency for a Ship-Radiotelephone license application. This government-issued license states the call sign which is your craft's identification for radio purposes.

(2) OPERATOR'S LICENSE
A Restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators when a radio is not required for safety purposes.

The Restricted Radiotelephone Operator Permit must be posted or kept with the operator. Only a licensed radio operator may operate a transceiver.

However, non-licensed individuals may talk over a transceiver if a licensed operator starts, supervises, ends the call and makes the necessary log entries.
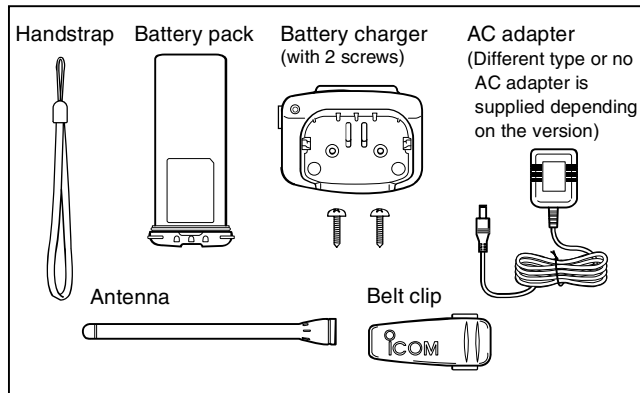
A current copy of the applicable government rules and regulations is only required to be on hand for vessels in which a radio telephone is compulsory. However, even if you are not required to have these on hand it is your responsibility to be thoroughly acquainted with all pertinent rules and regulations.

2 SUPPLIED ACCESSORIES AND ATTACHMENTS

■ Supplied accessories

Handstrap   Battery pack   Battery charger
(with 2 screws)   AC adapter
(Different type or no AC adapter is supplied depending on the version)

Antenna   Belt clip

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■ Attachments

◇ Flexible antenna

Connect the supplied flexible an-
tenna to the antenna connector.

CAUTION:
• **NEVER** carry the transceiver by holding the antenna.
• Transmitting without an an-
tenna may damage the trans-
ceiver.

◇ Handstrap

Pass the handstrap through the loop on the back side of the transceiver as illustrated at right. This facilitates carry-ing.
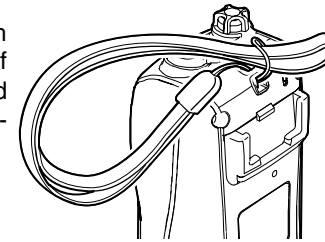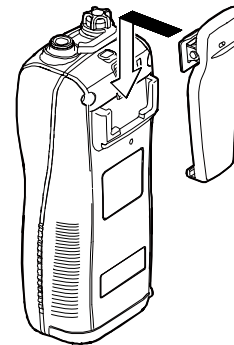
◇ Belt clip

Attach/detach the belt clip to the transceiver as illustrated below.
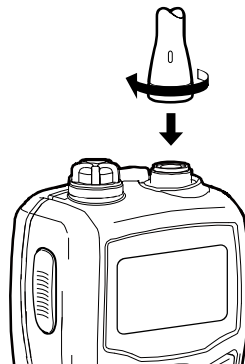
To attach the belt clip   To detach the belt clip

Be careful!
Not to break your nails.

◇ Battery pack

To remove the battery pack:
Turn the screw counter clockwise one quarter turn, then pull the battery pack in the direction of the arrow as shown below.

To attach the battery pack:
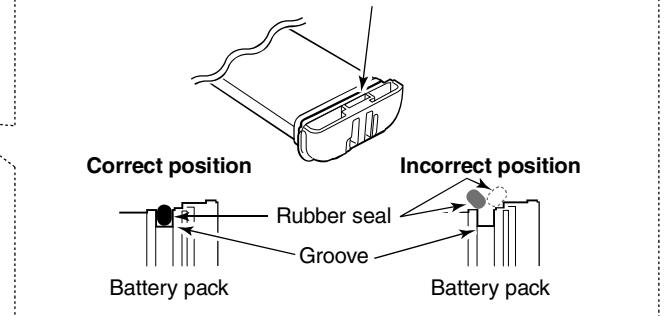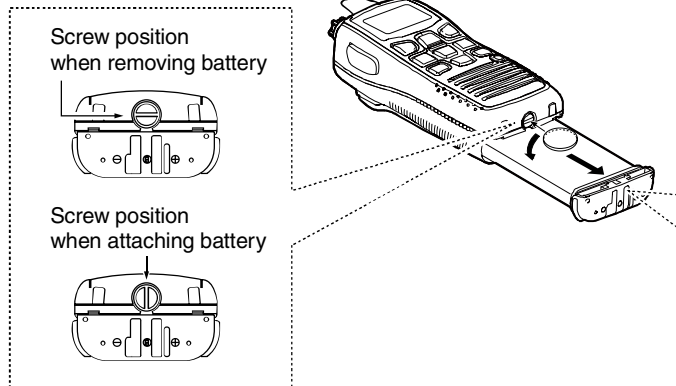Insert the battery pack in the transceiver completely, then turn the screw clockwise one quarter turn.

NEVER remove or insert the battery pack when the transceiver is wet or soiled. This may result water or dust getting into the transceiver/battery pack and may result in the transceiver being damaged.

NOTE: When removing or attaching the battery pack, use a coin or standard screwdriver to loosen or tighten the bottom screw.

CAUTION:
When attaching or removing a battery pack, make sure the rubber seal is set in the groove of the battery pack correctly. If the seal is not correctly in the groove, it may be damaged when attaching the battery pack. If the seal is damaged, waterproof protection is not guaranteed.

NOTE:
When attaching a battery pack, make sure dust or other material does not adhere to the rubber seal. If dust or other material is on the seal when attaching a battery pack, waterproof protection may not be guaranteed.
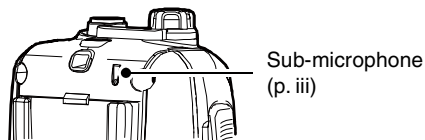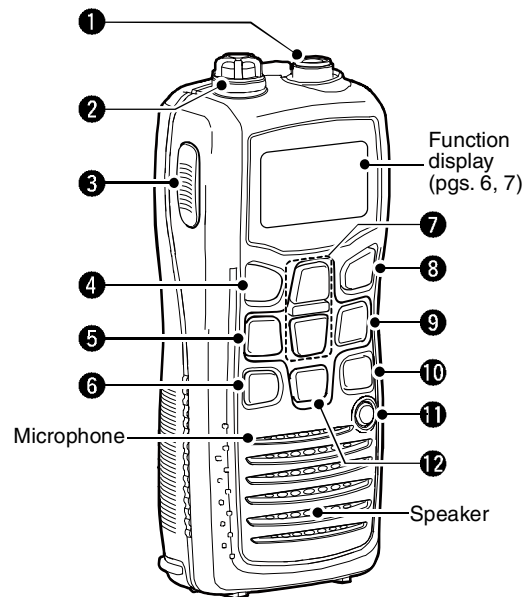
Make sure the rubber seal (purple) is properly seated in the groove and dust or other material does not adhere to it.

Screw position when removing battery

Screw position when attaching battery

Correct position   **Incorrect position**

Rubber seal
Groove
Battery pack   Battery pack

3

3 PANEL DESCRIPTION

■ Front, top, side and rear panels

Function display (pgs. 6, 7)

Microphone

Speaker
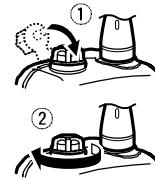
Sub-microphone (p. iii)

q **ANTENNA CONNECTOR** (p. 2)
Connects the supplied antenna.

w **SPEAKER-MICROPHONE CONNECTOR [SP MIC]** (p. 25)
Connects the optional external speaker-microphone.
NOTE: Attach the **[SP MIC]** cap when the optional speaker-microphone is not used. Otherwise, water will get into the transceiver.

① Attach the **[SP MIC]** cap.

② Then rotate it clockwise completely.

e **PTT SWITCH [PTT]**
Push and hold to transmit; release to receive. (p. 10)

r **CHANNEL 16 KEY [16 C]**
➥ Push to select Channel 16. (p. 8)
➥ Push and hold for 1 sec. to select the call channel. (p. 8)
➥ When the call channel is selected, push and hold for 3 sec. to enter the call channel programming mode. (p. 11)
➥ While in the set mode, push to return to the normal condition. (p. 17)

❺ VOLUME/SQUELCH/MONITOR KEY [VOL/SQL MONI]
➥Push to enter the volume adjustment mode and the squelch adjustment mode. (pgs. 11, 12)

Normal condition
↓ **PUSH**
Volume adjustment mode
↓ **PUSH**
Squelch adjustment mode
┘ **PUSH**
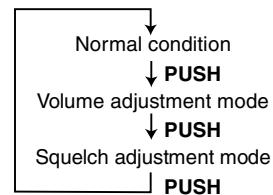
➥Push to restore the changed volume level by the noise detection, volume loud, or volume mute function to the original. (pgs. 12, 20)
➥Push and hold for 1 sec. to activate the monitor function. (p. 13)
➥While pushing and holding this key, turn power ON to enter the set mode. (p. 17)
➥While in the set mode, push to select an item. (p. 17)

❻ SCAN/DUAL KEY [SCAN DUAL]
➥Push to start or stop normal or priority scan. (p. 15)
➥Push and hold for 1 sec. to enter the watch mode. (p. 16)
➥Push to exit the watch mode. (p. 16)
➥Push and hold this key and **[Hi/Lo ▭O]**, to activate the AquaQuake function. (p. 13)

❼ CHANNEL UP/DOWN KEYS [▲]/[▼]
➥Selects an operating channel. (pgs. 8, 9)
➥While in the set mode, selects the setting or value of an item. (p. 17)
➥Checks TAG channels or changes scanning direction during scan. (p. 15)

❽ FAVOURITE/TAG KEY [FAV TAG]
➥Push this key to select the favourite (TAG) channels with ignoring untagged channels in a channel group in sequence. (p. 8)
➥Push and hold for 1 sec. to set or clear TAG for the displayed channel. (p. 15)
➥While pushing and holding this key, turn power ON to clear or set all TAG channels in the selected channel group. (p. 15)

❾ CHANNEL KEY [CH]
➥Push and hold for 1 sec. to select the channel group from U.S.A.*, International and ATIS†. (p. 9)
➥Push to return to the previous channel before selecting channel 16 or the call channel.
* U.K. version only.   † German and Holland versions only.

❿ TRANSMIT POWER/LOCK KEY [Hi/Lo ▭O]
➥Push to select the output power from high and low. (p. 10)
➥Push and hold for 1 sec. to turn the key lock function ON or OFF. (p. 13)

⓫ POWER KEY [⏻]
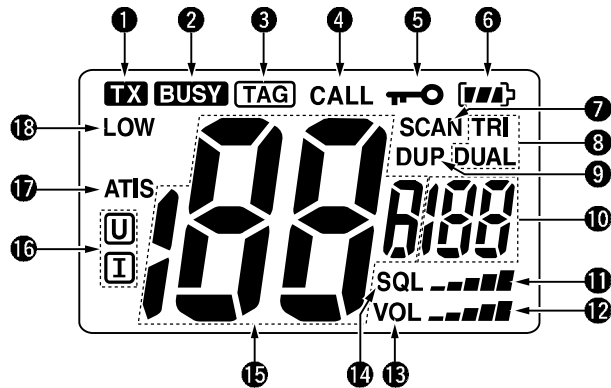Push and hold to turn power ON or OFF.

⓬ LOUD/MUTE KEY [LOUD MUTE]
➥Push to turn the volume loud function ON or OFF. (p. 12)
➥Push and hold for 1 sec. to turn the volume mute function ON, and push to turn the function OFF. (p. 12)

■ Function display

➊ TRANSMIT INDICATOR (p. 10)
Appears while transmitting.

➋ BUSY INDICATOR
➥Appears when receiving a signal or when the squelch opens. (p. 10)
➥Blinks while monitoring. (p. 13)

➌ TAG CHANNEL INDICATOR (p. 15)
Appears when a TAG channel is selected.

➍ CALL CHANNEL INDICATOR (p. 8)
Appears when the call channel is selected.

➎ LOCK INDICATOR (p. 13)
Appears while the lock function is activated.

➏ BATTERY INDICATOR
Indicates remaining battery power.

Indication	〖🔋⯈	〖🔋 〗	〖🔋 〗	〖 〗
Battery level	Full	Middle	Charging required	No battery

🔋⯈ blinks when the battery is over charged.
〖 〗 blinks when the battery is exhausted.

➐ SCAN INDICATOR (p. 15)
Blinks during scan.

➑ DUALWATCH/TRI-WATCH INDICATORS (p. 16)
"**DUAL**" appears during Dualwatch; "**TRI**" appears during Tri-watch.

➒ DUPLEX INDICATOR
Appears when a duplex channel is selected.

➓ SUB CHANNEL READOUT
➥Indicates Channel 16 during priority scan, Dualwatch or Tri-watch. (p. 16)
➥Indicates the set mode item while in the set mode. (p. 17)
➥Indicates the volume level while in the volume adjustment mode. (p. 11)
➥Indicates the squelch level while in the squelch adjustment mode. (p. 12)

⓫ **SQUELCH LEVEL INDICATOR**
Shows the squelch level.

⓬ **VOLUME LEVEL INDICATOR**
➥ Shows the volume level.
➥ The bars appear in ascending order repeatedly while the volume loud function is activated. (p. 12)
➥ Blinks while the volume mute function is activated. (p. 12)

⓭ **VOLUME LEVEL ADJUSTING INDICATOR** (p. 11)
➥ Blinks while adjusting the volume level.
➥ This indicator and the volume level indicator appear alternately while the volume level is turned up by the noise detection function. (p. 20)

⓮ **SQUELCH LEVEL ADJUSTING INDICATOR** (p. 12)
Blinks while adjusting the squelch level.

⓯ **CHANNEL NUMBER READOUT**
➥ Indicates the selected operating channel number.
➥ In the set mode, indicates the selected condition or value. (p. 17)

⓰ **CHANNEL GROUP INDICATOR** (p. 9)
"Ⓤ" appears when U.S.A. channel group*; "Ⓘ" appears when International channel group is selected.
* U.K. version only.

⓱ **ATIS INDICATOR** (p. 9)
"**ATIS**" appears when the channel group, which ATIS function is activated, is selected. (Available with German and Holland versions only.)

⓲ **LOW POWER INDICATOR** (p. 10)
➥ "**LOW**" appears when low power is selected.
➥ "**LOW**" blinks when switching forced low power mode because of a high temperature error or low voltage.

3

4 BASIC OPERATION

■ Channel selection

◇ Channel 16
Channel 16 is the distress and safety channel. It used for establishing initial contact with a station and for emergency communications. Channel 16 is monitored during both Du-alwatch and Tri-watch. While in the standby condition, you must monitor Channel 16.

① Push **[16 C]** momentarily to select Channel 16.
② Push **[CH]** to return to the channel used before Channel 16, or push **[▲]/[▼]** to select a channel.
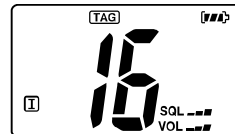
Push

Convenient!
While pushing and holding **[FAV TAG]**, push [▲]/[▼] to select the favourite (TAG) channels with ignoring untagged chan-nels in the selected channel group in sequence.
• Pushing **[FAV TAG]** only advances the displayed TAG channel.
• The favourite channels are selected using the TAG channel setting. (p. 15)

◇ Call channel
Each regular channel group has separate leisure-use call channels. The call channel is monitored during Tri-watch. The call channels can be programmed (p. 11) and are used to store your most often used channel in each channel group for quick recall.

① Push and hold **[16 C]** for 1 sec. to select the call channel of the selected channel group.
  • "**CALL**" and call channel number appear.
  • Each channel group may have an independent call channel after programming a call channel. (p. 11)
② Push **[CH]** to return to the channel used before call chan-nel, or push **[▲]/[▼]** to select a channel.

Push and hold for 1 sec.
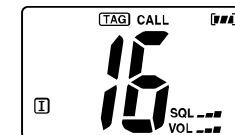
◇ U.S.A., International and ATIS channels

The transceiver is pre-programmed with U.S.A.*, International and ATIS† channels. These channel groups may be specified for the operating area.

* U.K. version only.   † German and Holland versions only.

① Push **[CH]** to select a regular channel.
② Push and hold **[CH]** for 1 sec. to change the channel group.
  • International and U.S.A., International and ATIS channel groups can be selected in sequence.
③ Push **[▲]/[▼]** to select a channel.
  • "**DUP**" appears for duplex channels.

International channels

Push and hold for 1 sec.   CH

U.S.A. channels

ATIS channels
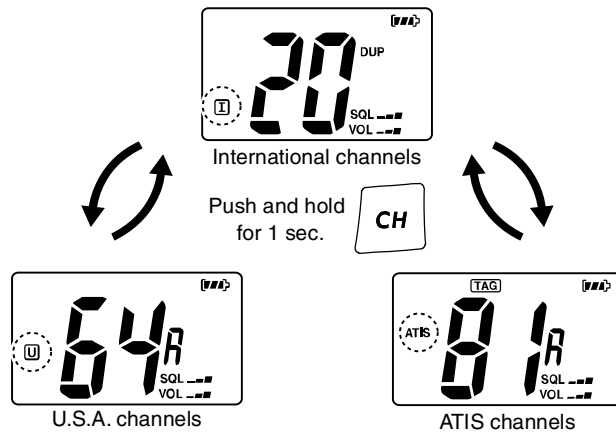
■ Receiving and transmitting

CAUTION: Transmitting without an antenna may damage the transceiver.

① Push and hold **[⏻]** to turn power ON.
② Set the volume and squelch levels.
  You can enter each adjust mode with **[VOL/SQL MONI]**.
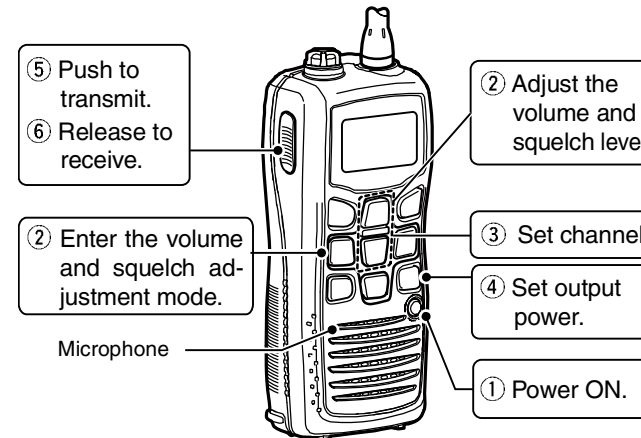 ➥ Enter the squelch adjustment mode, and push **[▼]** several times to open the squelch.
  ➥ Enter the volume adjustment mode, then push **[▲]/[▼]** to adjust the volume level.
  ➥ Enter the squelch adjustment mode again, and push **[▲]** until the noise disappears.
③ Push **[▲]/[▼]** to select the desired channel.
  • When receiving a signal, "**BUSY**" appears and audio is emitted from the speaker.
  • Further adjustment of the audio may be necessary at this point.
④ Push **[Hi/Lo ⌐O]** to select the output power if necessary.
  • "**LOW**" appears when low power is selected; no indication when high power is selected.
  • Choose low power for short range communications, choose high power for longer distance communications.
  • Some channels are for low power only.
⑤ Push and hold **[PTT]** to transmit, then speak into the microphone.
  • "**TX**" appears.
  • Channel 70 cannot be used for transmission.
⑥ Release **[PTT]** to receive.

IMPORTANT: To maximize the readability of your transmitted signal, pause a few sec. after pushing **[PTT]**, hold the microphone 5 to 10 cm from your mouth and speak into the microphone at a normal voice level.

NOTE: The transceiver has a power save function to conserve the battery power. The power save function activates automatically when no signal is received for 5 sec.

⑤ Push to transmit.
⑥ Release to receive.

② Adjust the volume and squelch level.

② Enter the volume and squelch adjustment mode.

Microphone

③ Set channel.

④ Set output power.

① Power ON.

■ Call channel programming

Call channel is used to access Channel 16 (default; may differ according to the version), however, you can program the call channel with your most often-used channels in each channel group for quick recall.

① Push and hold **[CH]** for 1 sec. once or twice to select the desired channel group (U.S.A., International or ATIS) to be programmed. (p. 9)

② Push and hold **[16 C]** for 1 sec. to select the call channel of the selected channel group.
   • "**CALL**" and call channel number appear.

③ Push and hold **[16 C]** again for 3 sec. (until a long beep changes to 2 short beeps) to enter the call channel programming mode.
   • Channel number starts blinking.

④ Push **[▲]/[▼]** to select the desired channel.

⑤ Push **[16 C]** to program the displayed channel as the call channel.
   • The channel number stops blinking.
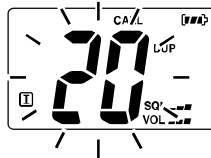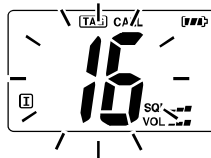
■ Adjusting the volume level

The volume level can be adjusted with **[VOL/SQL MONI]** and **[▲]/[▼]**.

① Push **[VOL/SQL MONI]** once to enter the volume adjustment mode, then adjust the volume level with **[▲]/[▼]**.
   • "**VOL**" indicator starts blinking.
   • The transceiver has 31 volume levels and OFF.
   • With no key operation is performed for 5 sec., the transceiver returns to the normal condition.

② Push **[VOL/SQL MONI]** twice to exit the volume adjustment mode.
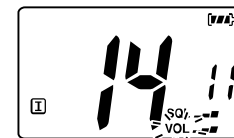
Indicates the volume level.

Blinks while adjusting the volume level.

■ Volume loud function

The volume loud function can be activated temporarily by pushing **[LOUD MUTE]**.

⚡The function does not work when the volume level is 31.

① Push **[LOUD MUTE]** to activate the volume loud function.
  • The volume level is set to the maximum level (level 31).
  • The bars of the volume level indicator appears in ascending order repeatedly.
② Push **[LOUD MUTE]** again, or push **[VOL/SQL MONI]** to turn the volume loud function OFF.

■ Volume mute function

The volume mute function can be activated temporarily by pushing and holding **[LOUD MUTE]**.

⚡The function does not work when the volume level is OFF.

① Push and hold **[LOUD MUTE]** for 1 sec. to activate the volume mute function.
  • The volume level is set to the minimum level (OFF).
  • The volume level indicator blinks.
② Push **[LOUD MUTE]** again, or push **[VOL/SQL MONI]** to turn the volume mute function OFF.

■ Adjusting the squelch level

The squelch level can be adjusted with **[VOL/SQL MONI]** and **[▲]**/**[▼]**.
In order to receive signals properly, as well as for the scan to function effectively, the squelch must be adjusted to the proper level.

① Push **[VOL/SQL MONI]** twice to enter the squelch adjustment mode, then adjust the squelch level with **[▲]**/**[▼]**.
  • "**SQL**" indicator starts blinking.
  • The transceiver has 11 squelch levels: OP is completely open; 10 is tight squelch; 1 is loose squelch.
  • With no key operation is performed for 5 sec., the transceiver returns to the normal condition.
② Push **[VOL/SQL MONI]** again to exit the squelch adjustment mode.

Indicates the squelch level.

Blinks while adjusting the squelch level.
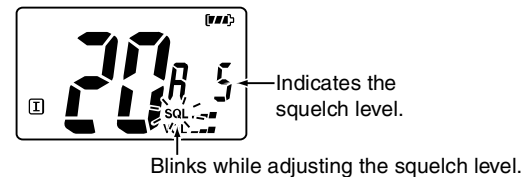
■ Lock function
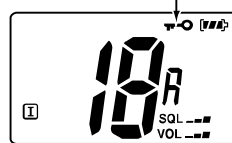
This function electronically locks all keys (except for **[PTT]**, **[VOL/SQL MONI]**, **[LOUD MUTE]**, **[Hi/Lo ⌐O]** and **[▲]/[▼]***) to prevent accidental channel changes and function access.
* In the volume or squelch adjustment mode only.
➥ Push and hold **[Hi/Lo ⌐O]** for 1 sec. to turn the lock function ON and OFF.

Appears while the lock function is activated.

Push and hold for 1 sec.
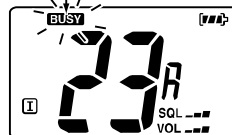
■ Monitor function

The monitor function opens the squelch. The monitor key action can be selected in the set mode. (p. 19)

➥ The monitor function is activated by pushing and holding **[VOL/SQL MONI]** for 1 sec.
• "BUSY" blinks and the squelch is opened.

Blinks while the monitor function is activated.

Push and hold for 1 sec.

■ Automatic backlighting

This function lights the function display and keys, and it is convenient for night-time operation. The automatic backlighting can be activated in the set mode. (p. 19)
➥ Push any key except for **[PTT]** to turn the backlight ON.
• The backlight is automatically turned OFF after 5 sec. of inactivity.

■ AquaQuake water draining function

The AquaQuake water draining function clears water away from the speaker grill. Without this function, water may muffle the sound coming from the speaker. The transceiver emits a vibrating beep when this function is activated.

➥ Push and hold both **[SCAN DUAL]** and **[Hi/Lo ⌐O]**.
• A low beep tone sounds for 9 sec. to drain water, regardless of the volume level setting.
• The transceiver never accepts key operation while the AquaQuake function is activated.
• The AquaQuake function can not be activated when an optional speaker-microphone is connected.

5 SCAN OPERATION (Except Holland version)

■ Scan types

Scanning is an efficient way to locate signals quickly over a wide frequency range. The transceiver has priority scan and normal scan.

In addition, the auto scan function is available for standby convenience. This function can be activated depending on the setting in the set mode. (p. 18)

Set the TAG channels (scanned channels) before scanning. Clear the TAG for unwanted channels which inconveniently stop scanning, such as those for digital communications. (p. 15)

Choose the desired scan type from "Priority" or "Normal" in the set mode. (p. 18)

PRIORITY SCAN

Priority scan searches through all TAG channels in sequence while monitoring Channel 16. When a signal is detected on Channel 16, scan pauses until the signal disappears; when a signal is detected on a channel other than Channel 16, scan becomes Dualwatch until the signal disappears.

NORMAL SCAN

Normal scan, like priority scan, searches through all TAG channels in sequence. However, unlike priority scan, Channel 16 is not checked unless Channel 16 is set as a TAG channel.

■ Setting TAG channels

For more efficient scanning, add the desired channels as TAG channels or clear TAG for unwanted channels.
Channels that are not tagged will be skipped during scanning. TAG channels can be assigned to each channel group (U.S.A., International and ATIS) independently.

① Push and hold **[CH]** for 1 sec. once or twice to select the desired channel group.
② Select the desired channel to be set as a TAG channel.
③ Push and hold **[FAV TAG]** for 1 sec. to set the displayed channel as a TAG channel.
 • "TAG" appears on the display.
④ To cancel TAG channel setting, push and hold **[FAV TAG]** for 1 sec.
 • "TAG" disappears.

✔ Clearing (or setting) all tagged channels
While pushing and holding **[FAV TAG]**, turn power ON to clear all TAG channels in the selected channel group.
• Repeat above procedure to set all channels as TAG channels (when no TAG channel has been set.)

■ Starting a scan

Set the priority scan function, scan resume timer and auto scan function in advance, using the set mode. (p. 18)

① Push and hold **[CH]** for 1 sec. once or twice to select the desired channel group.
② Push **[SCAN DUAL]** to start priority or normal scan.
 • "**SCAN**" blinks in the display.
 • "16" appears on the sub channel readout during priority scan.
 • When a signal is received, scan pauses until the signal disappears or resumes after pausing 5 sec. according to the set mode setting.
 • Push [▲]/[▼] to check which channels have been set as TAG channels, change the scanning direction or resume the scan manually.
③ To stop the scan, push **[SCAN DUAL]**.
 • "**SCAN**" disappears.
 • Pushing **[PTT]**, **[16 C]**, **[CH]** or **[FAV TAG]** also stops the scan.

[Example]: Starting a normal scan.

Scan starts

Push

When a signal is received
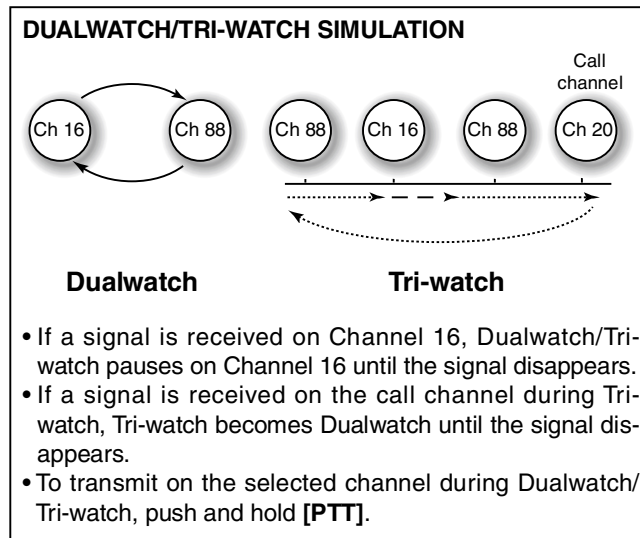
Blinks

Appears

Blinks
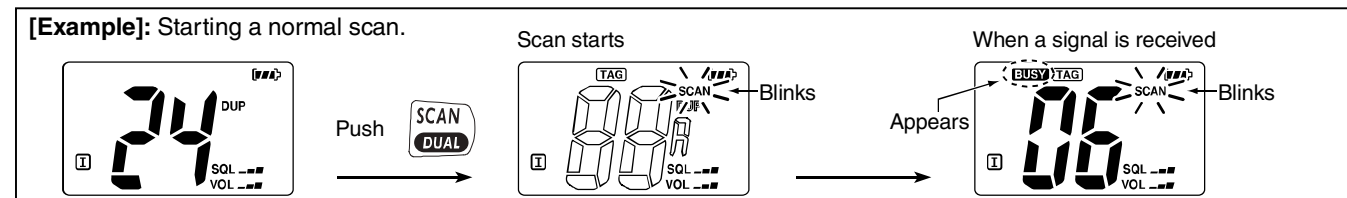
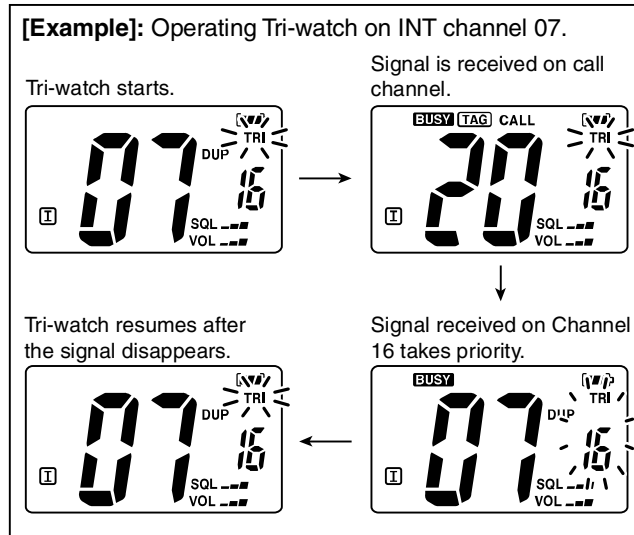# 6 DUALWATCH/TRI-WATCH (Except Holland version)

■ Description

Dualwatch monitors Channel 16 while you are receiving on another channel; Tri-watch monitors Channel 16 and the call channel while receiving another channel. Dualwatch/Tri-watch is convenient for monitoring Channel 16 when you are operating on another channel.

DUALWATCH/TRI-WATCH SIMULATION

Dualwatch   **Tri-watch**

- If a signal is received on Channel 16, Dualwatch/Tri-watch pauses on Channel 16 until the signal disappears.
- If a signal is received on the call channel during Tri-watch, Tri-watch becomes Dualwatch until the signal disappears.
- To transmit on the selected channel during Dualwatch/Tri-watch, push and hold **[PTT]**.

■ Operation

① Select Dualwatch or Tri-watch in the set mode. (p. 19)
② Select the desired channel.
③ Push and hold **[SCAN DUAL]** for 1 sec. to start Dualwatch or Tri-watch (depending on the set mode setting).
- • "**DUAL**" blinks during Dualwatch; "**TRI**" blinks during Tri-watch.
- • A beep tone sounds when a signal is received on Channel 16.
- • Tri-watch becomes Dualwatch when receiving a signal on the call channel.
④ To cancel Dualwatch/Tri-watch, push **[SCAN DUAL]** again.

[Example]: Operating Tri-watch on INT channel 07.

Tri-watch starts.

Signal is received on call channel.

Tri-watch resumes after the signal disappears.

Signal received on Channel 16 takes priority.
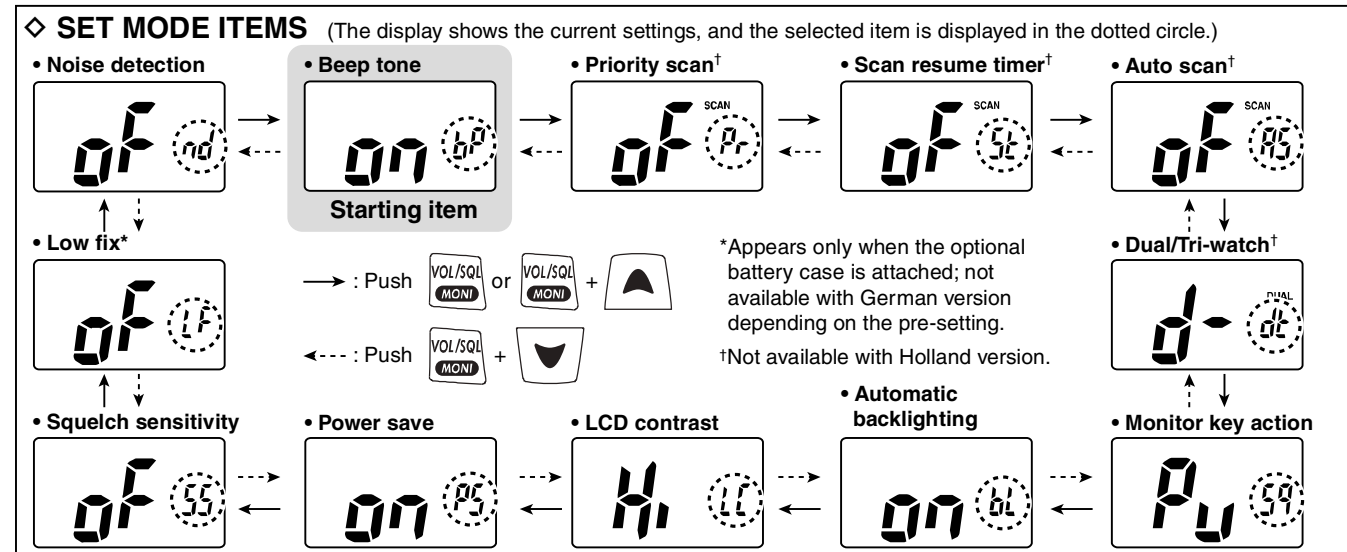
■ Set mode programming

Set mode is used to change the conditions of transceiver's functions: Beep tone function, Priority scan function†, Scan resume timer†, Auto scan function†, Dual/Tri-watch function†, Monitor key action, Automatic backlighting, LCD contrast setting, Power save function, Squelch sensitivity, Low fix function* and Noise detection function.

* Appears only when the optional battery case is attached; not available with German version depending on the pre-setting.
† Not available with Holland version.

◇ Set mode operation
① Turn power OFF.
② While pushing **[VOL/SQL MONI]**, turn power ON to enter the set mode.
  • "bP" appears.
③ Push **[VOL/SQL MONI]**, or push **[▲]/[▼]** while pushing and holding **[VOL/SQL MONI]** to select the desired item.
④ Push **[▲]/[▼]** to select the desired condition of the item.
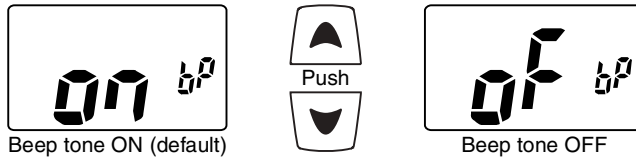⑤ To exit the set mode, push **[16 C]**.

◇ SET MODE ITEMS   (The display shows the current settings, and the selected item is displayed in the dotted circle.)

■ Set mode items

◇ Beep tone function   "bP"
Select the key touch beep sound from ON or US, or turn sound OFF.

• OFF: For silent operation.
• ON : A fixed beep sounds.
• US : The preset beeps (e.g. do, re, mi) sound.

Beep tone ON (default)   Push   Beep tone OFF

◇ Priority scan function   "Pr"
(Not available with Holland version)

The transceiver has 2 scan types— normal (OFF) and priority (ON) scans. Normal scan searches all TAG channels in the selected channel group. Priority scan searches all TAG channels in sequence while monitoring Channel 16.

Normal scan (default)   Push   Priority scan
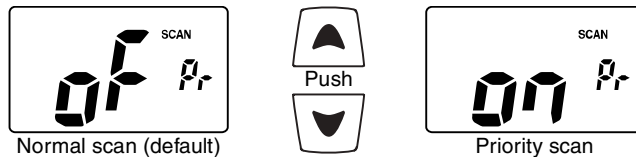
◇ Scan resume timer   "St"
(Not available with Holland version)

The scan resume timer can be set as a pause (OFF) or timer scan (ON).

• OFF: When a signal is detected on a channel, scan pauses on the channel until the signal disappears, and then resumes.
• ON : When a signal is detected on a channel, scan pauses on the channel for 5 sec., and then resumes.

Scan resume timer OFF   Push   Scan resume timer ON
(default)
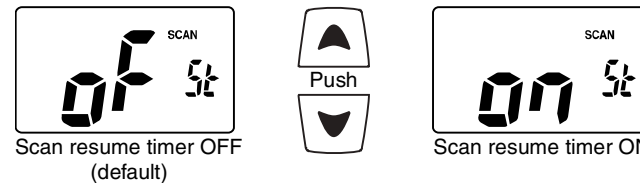
◇ Auto scan function   "AS"
(Not available with Holland version)

The auto scan function starts normal or priority scan automatically when no signal is received, and no operation is performed for 30 sec.

Auto scan OFF (default)   Push   Auto scan ON
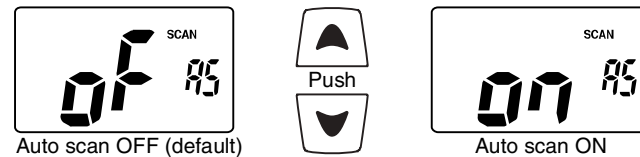
◇ Dual/Tri-watch function   "dt"

(Not available with Holland version)

This item can be set as Dualwatch or Tri-watch. (p. 16)

Dualwatch function
(default)

Push

Tri-watch function
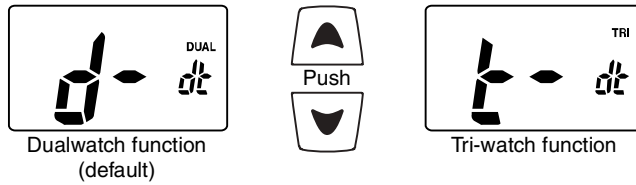
### ◇ Monitor key action   "Sq"

The monitor key opens the squelch temporarily. This item sets the key action.

• Pu (PUSH) : The monitor function is activated by pushing and holding **[VOL/SQL MONI]** for 1 sec. The squelch opens while holding down the key.

• Ho (HOLD) : The monitor function is activated by pushing and holding **[VOL/SQL MONI]** for 1 sec. The squelch stays open until any key is pushed.

Push setting (default)

Push

Hold setting
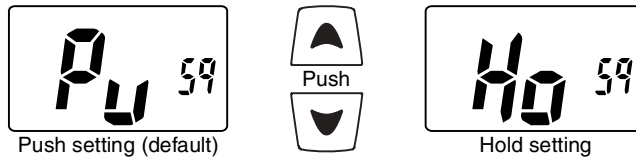
◇ Automatic backlighting   "bL"

This function is convenient for night-time operation. The backlight can be selected from ON and OFF.

• The backlight is automatically activated when any key except for **[PTT]** is pushed.

• The backlight is automatically turned OFF after 5 sec. of inactivity.

Auto backlighting ON
(default)

Push

Auto backlighting OFF
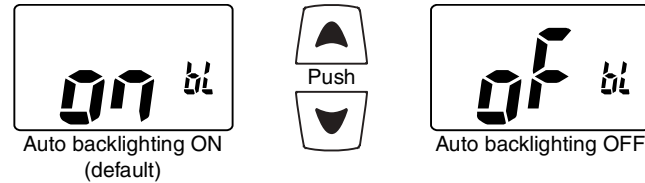
◇ LCD contrast setting   "LC"

Set the LCD contrast level from High contrast and Low contrast.

The LCD contrast level makes no difference for indoor use.

High contrast (default)

Push

Low contrast

19
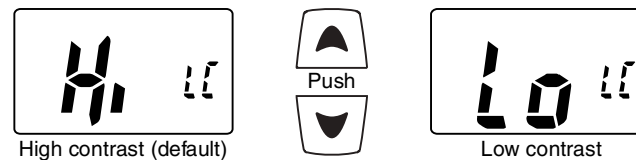
◇ Power save function "PS"

The power save function reduces current drain by deactivating the receiver circuit for preset intervals.

- OFF : The power save function is turned OFF.
- ON : The power save function is turned ON. The power save function will be activated when no signal is received, and no operation is performed for 5 sec.

Power save ON
(default)

Push

Power save OFF
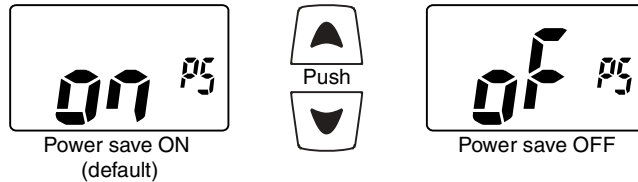
◇ Squelch sensitivity "SS"

When this function is turned ON, rejection of noise is improved so that the audio is not easily affected by noise.

Squelch sensitivity
OFF (default)

Push

Squelch sensitivity
ON
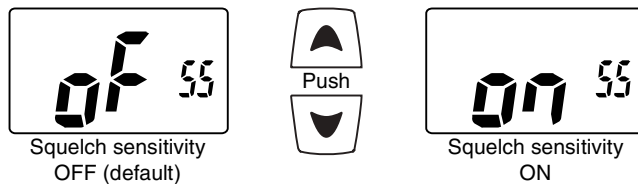
◇ Low fix function "LF"

(Appears only when the optional battery case is attached; not available with German version depending on the pre-setting.)
When this function is turned ON, the output power is fixed to low except for Channel 16.

Low fix function
OFF (default)

Push

Low fix function ON
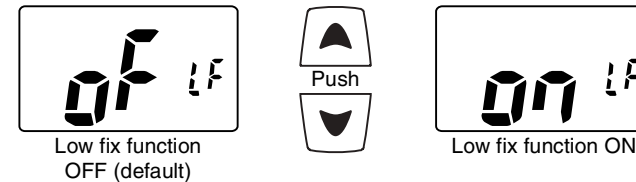
◇ Noise detection function "nd"

The noise detection function enables the transceiver to detect the ambient noise while in the standby condition. If the detecting noise and the received signal are stronger than the specific level, the transceiver increases the volume level automatically to suit the environment when receiving a signal.

※ When the squelch is open, the transceiver won't detect noise.

- OFF : The noise detection function is turned OFF.
- Low : When the detecting noise is louder than the specific level, the transceiver turns up the volume.
- High : When the detecting noise is louder than the specific level, the transceiver turns up the volume greater than "Low" setting.

Noise detection function
OFF (default)

Push

Noise detection function
ON (High)
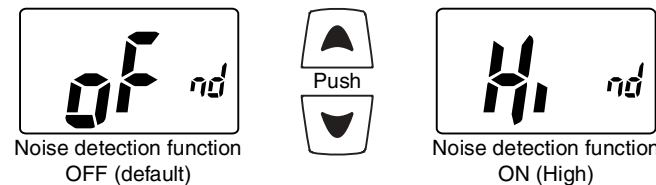
■ Battery caution

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.

△ **DANGER!** Use and charge only specified Icom battery pack with Icom radios or Icom charger. Only Icom battery pack is tested and approved for use and charge with Icom radios or Icom charger. Using third-party or counterfeit battery packs or charger may cause smoke, fire, or cause the battery to burst.

◇ Battery caution

△ **DANGER! DO NOT** hammer or otherwise impact the battery. Do not use the battery if it has been severely impacted or dropped, or if the battery has been subjected to heavy pressure. Battery damage may not be visible on the outside of the case. Even if the surface of the battery does not show cracks or any other damage, the cells inside the battery may rupture or catch fire.

△ **DANGER! NEVER** use or leave battery pack in areas with temperatures above +60˚C. High temperature buildup in the battery, such as could occur near fires or stoves, inside a sun-heated car, or by setting the battery in direct sunlight may cause the battery to rupture or catch fire. Excessive temperatures may also degrade battery performance or shorten battery life.

△ **DANGER! DO NOT** expose the battery to rain, snow, saltwater, or any other liquids. Never charge or use a wet battery. If the battery gets wet, be sure to wipe it dry before using. The battery by itself is not waterproof.

△ **DANGER! NEVER** incinerate a used battery pack since internal battery gas may cause them to rupture or may cause an explosion.

△ **DANGER! NEVER** solder the battery terminals, or **NEVER** modify the battery pack. This may cause heat generation, and the battery may rupture, emit smoke or catch fire.

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

△ **DANGER!** If fluid from inside the battery gets in your eyes, blindness can result. Rinse your eyes with clean water, without rubbing them, and see a doctor immediately.

7
8

8 BATTERY CHARGING

WARNING! Immediately stop using the battery if it emits an abnormal odour, heats up, or is discoloured or deformed. If any of these conditions occur, contact your Icom dealer or distributor.

WARNING! Immediately wash, using clean water, any part of the body that comes into contact with fluid from inside the battery.

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

CAUTION! Always use the battery within the specific temperature range for the transceiver (–15˚C to +55˚C) and the battery itself (–20˚C to +60˚C). Using the battery out of its specific temperature range will reduce the battery's performance and battery life.

CAUTION! Shorter battery life could occur if the battery is left fully charged, completely discharged, or in an excessive temperature environment (above +50˚C) for an extended period of time. If the battery must be left unused for a long time, it must be detached from the radio after discharging. You may use the battery until the remaining capacity is about half, then keep it safely in a cool dry place with the temperature range as below;

–20˚C to +50˚C   (within a month)

–20˚C to +35˚C   (within three months)

–20˚C to +20˚C   (within a year)

◇ Charging caution

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

WARNING! DO NOT charge or leave the battery in the battery charger beyond the specific time for charging. If the battery is not completely charged by the specific time, stop charging and remove the battery from the battery charger. Continuing to charge the battery beyond the specific time limit may cause a fire, overheating, or the battery may rupture.

WARNING! NEVER insert the transceiver (battery attached to the transceiver) 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 specific temperature range: ±0˚C to +40˚C. Icom recommends charging the battery at +20˚C. The battery may heat up or rupture if charged out of the specific temperature range. Additionally, battery performance or battery life may be reduced.

■ Supplied battery charger

◇ Charging connections

Do not charge batteries other than the BP-252.

① Attach the BC-173 to a flat surface, such as a desk, if desired.
② Connect the AC adapter as shown below.
③ Insert the battery pack with/without the transceiver into the charger.
  • The charge indicator lights orange.
  • The charge indicator blinks orange (or orange/green alternately) when the protector is activated.
④ Charge the battery pack approx. 10 hours, depending on the remaining power condition.
  • The charge indicator lights green when charging is completed.

Charge indicator lights orange when the battery pack (with/without the transceiver) is inserted.

Battery pack

Transceiver

Turn power OFF

NOTE: The battery charger, BC-173, has a charging timer. The timer stops the charging process after 14 hours (approx.).

AC adapter*

BC-173

Supplied screws

*Different type or no AC adapter is supplied depending on the version.
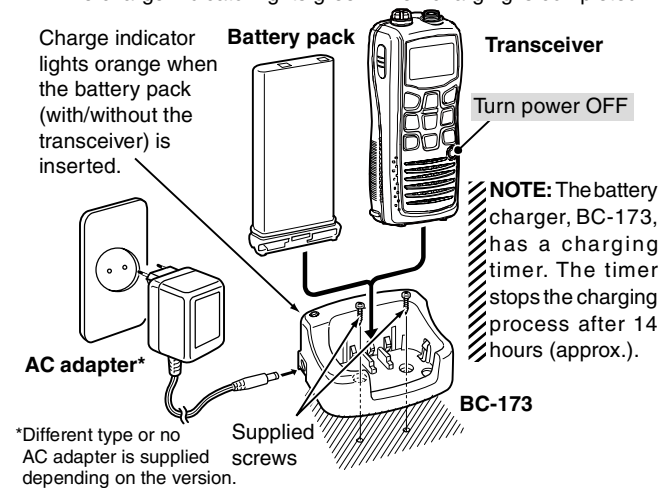
■ Optional battery case

When you would like to use the optional AAA(LR03) size battery case (BP-251), install the batteries as illustrated below. Be sure to observe the correct polarity.

CAUTION:
• When installing batteries, make sure they are all the same brand, type and capacity. Also, do not mix new and old batteries together.
• Keep battery contacts clean. It's a good idea to clean battery terminals once a week.
• When using the optional battery case, output power level is 2 W at high. (Depends on the pre-setting for German version.)

NOTE: The transceiver can sink when the optional battery case is attached. (Depends on the weight of the installed batteries.)
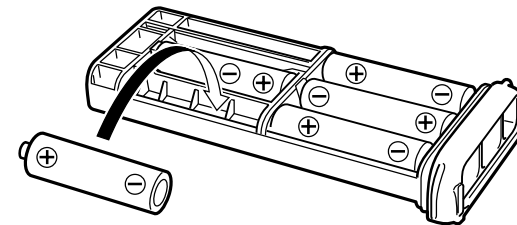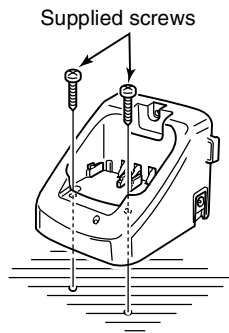
■ Optional battery charger
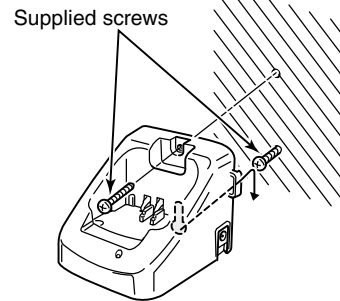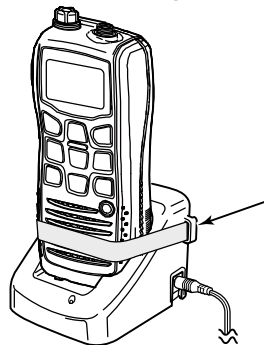
◇ BC-162 installation

• To a desktop

Supplied screws

• To a wall

Supplied screws

• For added stability

Eyelet:
Use a rubber band to secure the transceiver, if desired.

◇ Charging

① Connect the AC adapter as shown below.
② Insert the battery pack with/without the transceiver into the charger.
  • The charge indicator lights orange.
  • The charge indicator blinks orange (or red) when the protector is activated.
③ Charge the battery pack approx. 2 hours, depending on the remaining power condition.
  • The charge indicator lights green when charging is completed.

NOTE: The battery charger, BC-162, has a charging timer. The timer stops the charging process after 4 hours (approx.).

Battery pack

Transceiver

Turn power OFF

Charge indicator

BC-162

AC adapter
(Not supplied with some versions)

■ HM-165 descriptions

Alligator type clip
To attach the speaker-mic. to your shirt or collar, etc.

PTT switch
Transmits during push.
Receives during release.

Microphone

Speaker

Turn the transceiver power OFF when connecting the HM-165.
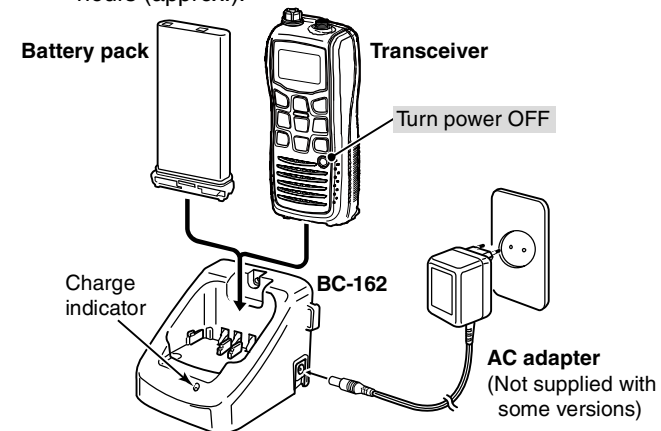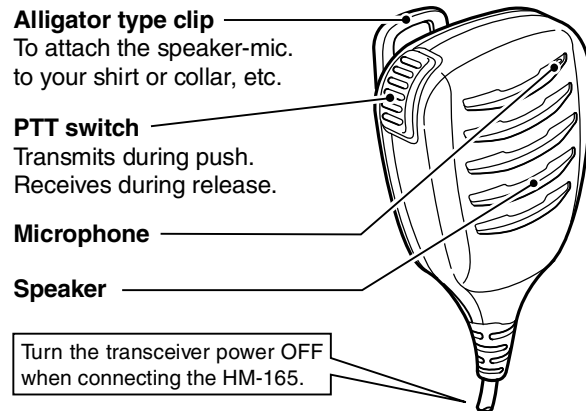
NEVER immerse the connector in water. If the connector gets wet, be sure to dry it BEFORE attaching it to the transceiver.

NOTE: The microphone is located at the top of the speaker-microphone, as shown above. To maximize the readability of your transmitted signal (voice), hold the microphone approx. 5 to 10 cm from your mouth, and speak in a normal voice level.
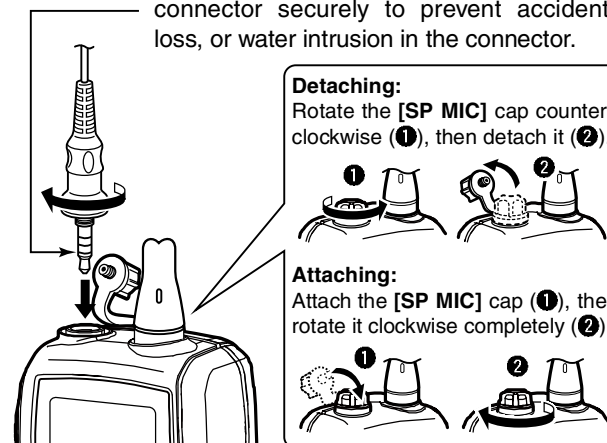
NOTE: When the speaker-microphone is connected to the transceiver, the noise cancellation does not work.

■ Attachment

Turn power OFF before attaching the speaker-microphone. Then, insert the speaker-mic connector into the **[SP MIC]** connector and carefully screw it tight, as shown below. Be careful not to cross-thread the connection.

IMPORTANT: KEEP the transceiver's **[SP MIC]** cap attached when the speaker-microphone is not in use. If the cover is not attached, water will get into the transceiver. Moreover, the terminals (pins) will become rusty, or the transceiver will function abnormally if the connector gets wet.

CAUTION: Attach the speaker-microphone's connector securely to prevent accidental loss, or water intrusion in the connector.

Detaching:
Rotate the **[SP MIC]** cap counter-clockwise (❶), then detach it (❷).

Attaching:
Attach the **[SP MIC]** cap (❶), then rotate it clockwise completely (❷).

10 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
The transceiver does not turn ON.	• The battery is exhausted. • The battery pack is not attached correctly.	• Recharge the battery pack. • Attach the battery pack correctly.	p. 23 p. 3
No sound from speaker.	• The squelch level is too high. • Volume level is too low. • Speaker has been exposed to water.	• Set the squelch level to the threshold level. • Adjust the audio level to a suitable level. • Drain water from the speaker.	p. 12 p. 11 p. 13
Transmitting is impossible, or high power can not be selected.	• Some channels are for low power or receive only. • The battery is exhausted. • The battery is over charged. • The output power is set to low.	• Change channels. • Recharge the battery pack. • Make sure the battery voltage is correct. • Push **[Hi/Lo ▬O]** to select high power.	pgs. 8, 9, 27 p. 23 — p. 10
The displayed channel cannot be changed.	• Lock function is activated.	• Push and hold **[Hi/Lo ▬O]** for 1 sec. to cancel the function.	p. 13
Scan does not start.	• "TAG" channels are not programmed.	• Set the desired channels as "TAG" channels.	p. 15
No beep emits.	• Beep tone function is turned OFF.	• Set the beep tone to ON (Fix Beep/User Beep) in the set mode.	p. 18
Battery voltage error.	• The connected battery pack's voltage is more than 11 V.	• Make sure the battery voltage is correct.	—
The noise cancellation does not work.	• The sub-microphone is covered with something. • An optional external speaker-microphone is connected.	• Make sure the sub-microphone is not covered. • Disconnect the microphone.	p. 4 p. 25
The noise detection function does not work.	• The sub-microphone is covered with something. • The squelch is open.	• Make sure the sub-microphone is not covered. • Set the squelch level to the desired level.	p. 4 p. 12

• **International channels**

CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive
	Frequency (MHz)			Frequency (MHz)			Frequency (MHz)			Frequency (MHz)			Frequency (MHz)			Frequency (MHz)	
01	156.050	160.650	11	156.550	156.550	21	157.050	161.650	62	156.125	160.725	72	156.625	156.625	82	157.125	161.725
02	156.100	160.700	12	156.600	156.600	22	157.100	161.700	63	156.175	160.775	73	156.675	156.675	83	157.175	161.775
03	156.150	160.750	13	156.650	156.650	23	157.150	161.750	64	156.225	160.825	74	156.725	156.725	84	157.225	161.825
04	156.200	160.800	14	156.700	156.700	24	157.200	161.800	65	156.275	160.875	75*²	156.775	156.775	85	157.275	161.875
05	156.250	160.850	15*¹	156.750	156.750	25	157.250	161.850	66	156.325	160.925	76*²	156.825	156.825	86	157.325	161.925
06	156.300	156.300	16	156.800	156.800	26	157.300	161.900	67	156.375	156.375	77	156.875	156.875	87	157.375	157.375
07	156.350	160.950	17*¹	156.850	156.850	27	157.350	161.950	68	156.425	156.425	78	156.925	161.525	88	157.425	157.425
08	156.400	156.400	18	156.900	161.500	28	157.400	162.000	69	156.475	156.475	79	156.975	161.575			
09	156.450	156.450	19	156.950	161.550	60	156.025	160.625	70	Rx only	156.525	80	157.025	161.625			
10	156.500	156.500	20	157.000	161.600	61	156.075	160.675	71	156.575	156.575	81	157.075	161.675			

*¹ Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters.

*² The output power of channels 75 and 76 are limited to low power (1 W) only. The use of these channels should be restricted to navigation-related communications only and all precautions should be taken to avoid harmful interference to channel 16, e.g. by means geographical separation.

• **USA channels** (for U.K. versions only)

CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive	CH	Transmit	Receive
	Frequency (MHz)			Frequency (MHz)			Frequency (MHz)			Frequency (MHz)			Frequency (MHz)			Frequency (MHz)	
01A	156.050	156.050	12	156.600	156.600	22A	157.100	157.100	64A	156.225	156.225	77	156.875	156.875	86	157.325	161.925
—	——	——	13	156.650	156.650	23A	157.150	157.150	65A	156.275	156.275	78A	156.925	156.925	86A	157.325	157.325
03A	156.150	156.150	14	156.700	156.700	24	157.200	161.800	66A	156.325	156.325	79A	156.975	156.975	87	157.375	161.975
—	——	——	15	156.750	156.750	25	157.250	161.850	67	156.375	156.375	80A	157.025	157.025	87A	157.375	157.375
05A	156.250	156.250	16	156.800	156.800	26	157.300	161.900	68	156.425	156.425	81A	157.075	157.075	88	157.425	162.025
06	156.300	156.300	17	156.850	156.850	27	157.350	161.950	69	156.475	156.475	82A	157.125	157.125	88A	157.425	157.425
07A	156.350	156.350	18A	156.900	156.900	28	157.400	162.000	70	Rx only	156.525	83A	157.175	157.175	P4*	161.425	161.425
08	156.400	156.400	19A	156.950	156.950	37A*	157.850	157.850	71	156.575	156.575	84	157.225	161.825			
09	156.450	156.450	20	157.000	161.600	61A	156.075	156.075	72	156.625	156.625	84A	157.225	157.225			
10	156.500	156.500	20A	157.000	157.000	—	——	——	73	156.675	156.675	85	157.275	161.875			
11	156.550	156.550	21A	157.050	157.050	63A	156.175	156.175	74	156.725	156.725	85A	157.275	157.275			

*UK marina channels: M1=37A (Tx/Rx: 157.850 MHz), M2=P4 (Tx/Rx: 161.425 MHz) for U.K. versions only.
 The programmed channels are differ according to versions.

12 SPECIFICATIONS

◊ GENERAL

- Frequency coverage : Transmit   156.000–161.450 MHz
  Receive   156.000–163.425 MHz
- Mode : FM (16K0G3E)
- Channel spacing : 25 kHz
- Power supply requirement : BP-251 and BP-252 only
- Current drain (at 7.4 V DC)
  - TX at 6 W : 1.5 A typical
  -     at 5 W : 1.3 A typical
  -     at 1 W : 0.7 A typical
  -     at 0.5 W : 0.6 A typical
  - RX Max. audio
    - Internal speaker : 0.3 A typical
    - External speaker : 0.2 A typical
  - Power save : 10 mA typical
- Frequency stability : ±1.5 kHz
- Operating temperature range : –15°C to +55°C
- Dimensions : 62 (W) × 139.5 (H) × 43 (D) mm
  (Projections not included)
- Weight : Approx. 295 g
  (incl. BP-252, FA-SC58V and MB-109)

◊ TRANSMITTER

- Output power (at 7.4 V DC) : 6 W (High) and 1 W (Low)*
  *5 W (High) and 1 W (Low) for Australian version
  1 W (High) and 0.5 W (Low) for German version depending on the pre-setting
- Modulation system : Variable reactance frequency modulation
- Maximum frequency deviation : ±5 kHz
- Adjacent channel power : 70 dB
- Spurious emissions : 0.25 µW

◊ RECEIVER

- Receive system : Double-conversion superheterodyne
- Sensitivity (20 dB SINAD) : –2 dBµ emf typical
- Squelch sensitivity : –6 dBµ emf typical (at threshold)
- Intermodulation : 68 dB
- Spurious response : 70 dB*
  *65 dB for Australian version
- Adjacent channel selectivity : 70 dB
- Audio output power (at 10% distortion)
  - Internal speaker : 0.7 W typical with a 16 Ω load
  - External speaker : 0.2 W with an 8 Ω load

All stated specifications are subject to change without notice or obligation.

◇ BATTERY CASE AND PACK

• **BP-251** BATTERY CASE

   Battery case for 5 × AAA (LR03) alkaline cells.
   Output power level : 2 W at high (Depends on the pre-setting for German version.)

• **BP-252** Li-Ion BATTERY PACK

   Voltage   : 7.4 V
   Capacity   : 950 mAh (minimum) / 980 mAh (typical)

◇ CHARGERS

• **BC-173** DESKTOP CHARGER **+ BC-147/BC-174** AC ADAPTER

   Used for regular charging of battery pack. An AC adapter may be supplied with the charger depending on the version.
   Charging time   : approx. 10 hours

• **BC-162** DESKTOP CHARGER **+ BC-145** AC ADAPTER

   Used for rapid charging of battery pack. The AC adapter, BC-145, is not supplied with some versions.
   Charging time   : approx. 2 hours.

◇ BELT CLIPS

• **MB-109** BELT CLIP

◇ OTHER OPTIONS

• **HM-165** SPEAKER-MICROPHONE

   Full sized speaker-microphone including an alligator clip to attach the microphone to your shirt, collar, etc. The HM-165 meets IPX7* requirements for waterproof protection.

• **FA-SC58V** ANTENNA

* Once the item has been dropped, the IP rating cannot be guaranteed because of possible damage to the case or the waterproof seal.

Icom optional equipment is designed for optimal performance when used with this transceiver. We are not responsible for the transceiver being damaged or any accident caused when using non-Icom optional equipment.
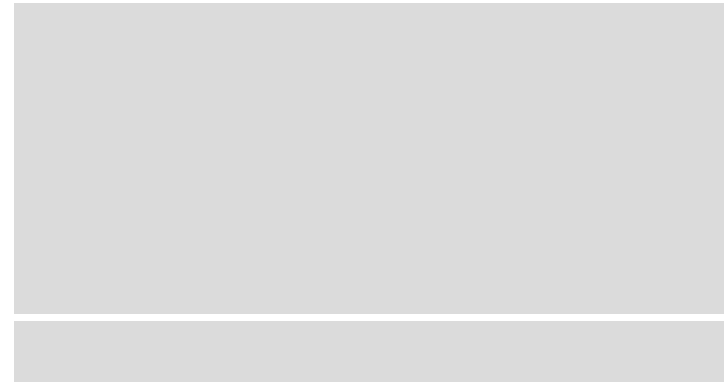
Some options may not available in some countries. Please ask your dealer for details.

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