■ Transferring memory contents

Contents of programmed memory channels can be transferred to another memory channels.

① Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to enter *select memory write mode*.
- 1 short and 1 long beeps sound.
- "MR" indicator and memory channel number blink.
- Do not hold **[V/M] (SKIP•S.MW)** for more than 2 sec. otherwise the memory contents will be copied to VFO.

② Rotate **[DIAL]** to select the desired memory channel to be transferred.

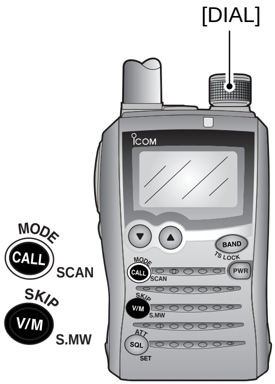
③ While pushing and holding **[CALL] (MODE•SCAN)**, rotate **[DIAL]** to select "CLEAR."
- Pushing **[CALL] (MODE•SCAN)** several times also "CLEAR" item is selectable.

④ Push and hold **[V/M] (SKIP•S.MW)** for 1 sec.
- The displayed contents are cleared.

CONVENIENT!:
Instead of steps ③ and ④ operations, while pushing and holding **[FUNC]**, push and hold **[V/M] (SKIP•S.MW)** for 1 sec. also clearing the contents.

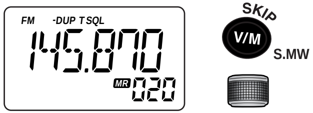
⑤ Rotate **[DIAL]** to select the desired target memory channel.

⑥ Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to transfer the contents.

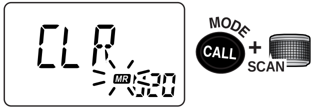

[DIAL]
MODE
CALL
SCAN
SKIP
V/M
S.MW
ICOM
BAND
TS LOCK
PWR
ATT
SQL
SET

• **Example—** Transferring the contents of memory channel 20 to channel 30.

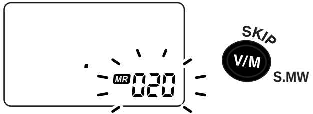
Steps ① and ②


FM -DUP TSQL
145.870
MR 020
SKIP
V/M
S.MW

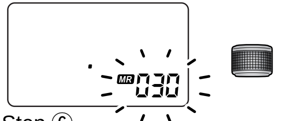
Step ③


CLR
MR 020
MODE
CALL
+
SCAN

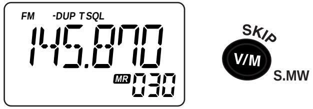
Step ④


MR 020
SKIP
V/M
S.MW

Step ⑤



Step ⑥


FM -DUP TSQL
145.870
MR 030
SKIP
V/M
S.MW

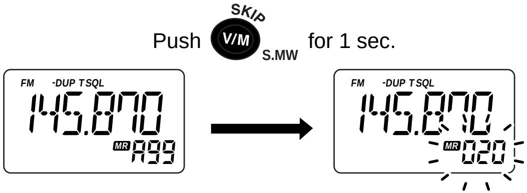
■ Erasing/transferring bank contents

The bank contents of programmed memory channels can be cleared or reassigned to another memory bank.

INFORMATION: Even if the memory bank contents are cleared, the memory channel contents still remain programmed.

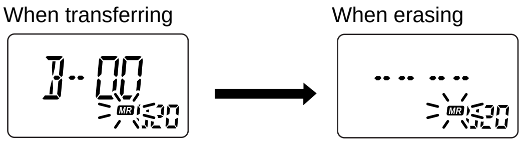
①Select the desired bank contents to be transferred or erased from the bank.
- ➥ Push **[V/M] (SKIP•S.MW)** to select *memory mode*.
- ➥ While pushing and holding **[BAND] (TS•LOCK)**, rotate **[DIAL]** to select the desired memory bank.
- ➥ Rotate **[DIAL]** to select the bank channel.

②Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to enter *select memory write mode*.
- 1 short and 1 long beeps sound.
- Displays the original memory channel number automatically and "MR" indicator and memory channel number blink.
- Do not hold **[V/M] (SKIP•S.MW)** for more than 2 sec. otherwise the bank contents will be copied to VFO.



③While pushing and holding **[CALL] (MODE•SCAN)**, rotate **[DIAL]** to select "BANK."
- Pushing **[CALL] (MODE•SCAN)** several times, "BANK" is also selectable.

④While pushing and holding **[BAND] (TS•LOCK)**, rotate **[DIAL]** to select the desired bank to receive the transferred information or erase the bank contents.
- Select "-- -- -- --" indication when erasing the contents from the bank.



⑤Rotate **[DIAL]** to select the desired bank channel.

⑥While pushing and holding **[CALL] (MODE•SCAN)**, rotate **[DIAL]** to select "S.MW."
- Pushing **[CALL] (MODE•SCAN)** several times, "S.MW" is also selectable.

⑦Push and hold **[V/M] (SKIP•S.MW)** for 1 sec.
- 3 beeps sound.

○ Push ● Push and hold ◉ Dual operation

■ Call channel programming

①Push **[V/M] (SKIP•S.MW)** to select *VFO mode*, if necessary.

②Set the desired frequency:

➥ Select the desired band with **[BAND] (TS•LOCK)**.

➥ Set the desired frequency with **[DIAL]**.

➥ Set other data (e.g. offset frequency, duplex direction, subaudible tone frequency, etc.), if desired.

③Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to enter *select memory write mode*.

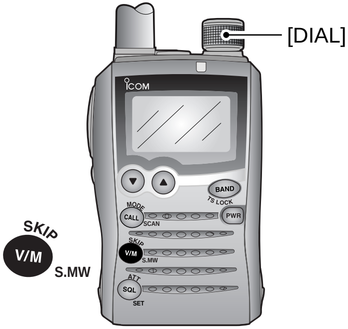
- 1 short and 1 long beep sound.
- "MR" indicator and memory channel number blink.

④Rotate **[DIAL]** to select the desired call channel.

- "MR" indicator and call channel number "C0" or "C1" blink.
- While pushing and holding **[FUNC]**, rotate **[DIAL]** to select memory channel in 10 channel steps.

⑤Push and hold **[V/M] (SKIP•S.MW)** for 1 sec.

- 3 beeps sound


[DIAL]
SKIP
V/M
S.MW
ICOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET

■ Copying call channel contents

①Push **[CALL] (MODE•SCAN)** momentarily to select a call channel.

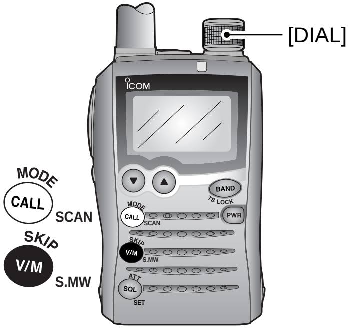
②Rotate **[DIAL]** to select the desired call channel.

③Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to enter *select memory write mode*.

- 1 short and 1 long beeps sound.
- "MR" indicator and memory channel number blink.
- Do not hold **[V/M] (SKIP•S.MW)** for more than 2 sec. otherwise the call channel contents will be copied to VFO.

④Rotate **[DIAL]** to select the desired target memory channel.

⑤Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to transfer the contents.


[DIAL]
MODE
CALL
SCAN
SKIP
V/M
S.MW
ICOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET

CONVENIENT!:

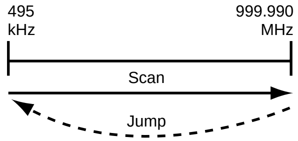
When you want to copy the call channel contents to the VFO, push and hold **[V/M] (SKIP•S.MW)** for 2 sec. as in steps ③.

■ Scan types

Scanning searches for signals automatically and makes it easier to locate new stations for contact or listening purposes.

There are 7 scan types and 4 resume conditions to suit your operating needs.

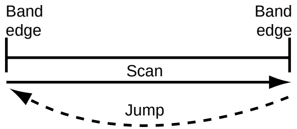
FULL SCAN (p. 35)


495
kHz
999.990
MHz
Scan
Jump

Repeatedly scans all frequencies over all bands.

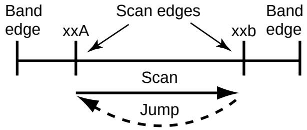
Some frequency ranges are not scanned according to the frequency coverage of the transceiver's version.

SELECTED BAND SCAN (p. 35)


Band
edge
Band
edge
Scan
Jump

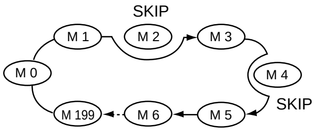
Repeatedly scans all frequencies over the entire selected band.

PROGRAMMED SCAN (p. 35)


Band
edge
Scan edges
Band
edge
xxA
xxb
Scan
Jump

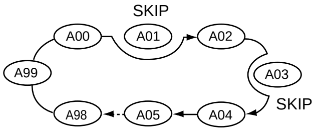
Repeatedly scans between two user-programmed frequencies. Used for checking for frequencies within a specified range such as repeater output frequencies, etc.

MEMORY (SKIP) SCAN (p. 37)


SKIP
M 1
M 2
M 3
M 0
M 4
SKIP
M 199
M 6
M 5

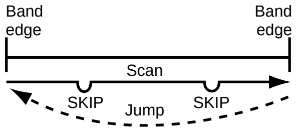
Repeatedly scans memory channels except those set as skip channels. Skip channels can be turned ON and OFF by pushing **[FUNC]** + **[V/M]** **(SKIP•S.MW)** in *memory mode*.

ALL/SELECTED BANK SCAN (p. 37)


SKIP
A00
A01
A02
A99
A03
SKIP
A98
A05
A04

Repeatedly scans all bank channels or selected bank channels. Skip scan is also available.

FREQUENCY/MEMORY SKIP FUNCTION (p. 39)


Band
edge
Band
edge
Scan
SKIP
Jump
SKIP

Skips unwanted frequencies or channels that inconveniently stop scanning. This function can be turned ON and OFF by pushing **[FUNC]** + **[V/M]** **(SKIP•S.MW)** in either VFO or *memory mode*.

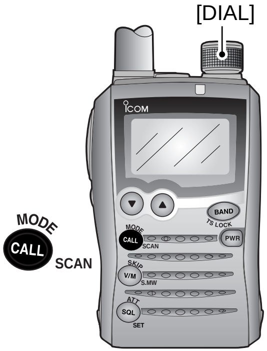
■ Full/band/programmed scan

①Select *VFO mode* with **[V/M] (SKIP•S.MW)**, if necessary.
- Select the desired frequency band with **[BAND] (TS•LOCK)**, if desired.

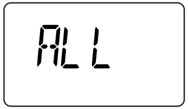
②Set the squelch to the point where noise is just muted.

③Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection condition.

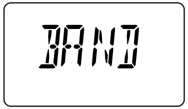
④Rotate **[DIAL]** to select the desired scanning type.
- “ALL” for full scan; “BAND” for band scan, “PROGxx” for programmed scan (xx= 0 to 24; programmed scan edges numbers only displayed)


[DIAL]
MODE
CALL
SCAN
ICOM
BAND
TS LOCK
PWR
MODE
CALL
SCAN
SKIP
V/M
S.MW
ATT
SQL
SET

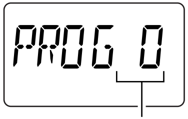
• Full scan selection



• Band scan selection



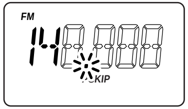
• Programmed scan selection



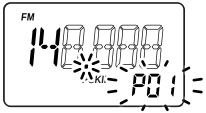
Selectable between “ 0” to “24”
if programmed

⑤Push **[CALL] (MODE•SCAN)** again to start the scan
- Scan pauses when a signal is received.
- Rotate **[DIAL]** to change the scanning direction, or resumes manually.
- To stop the scan, push **[CALL] (MODE•SCAN)**.

• During full/band scan



• During programmed scan



About the scanning steps: The selected tuning step in each frequency band (in *VFO mode*) is used during scan.

○ Push ● Push and hold ◉ Dual operation

■ Scan edges programming

Scan edges can be programmed in the same manner as memory channels. Scan edge frequencies are programmed into scan edges, 00A/00b to 24A/24b, in memory channels.

① Push **[V/M] (SKIP•S.MW)** to select *VFO mode*, if necessary.

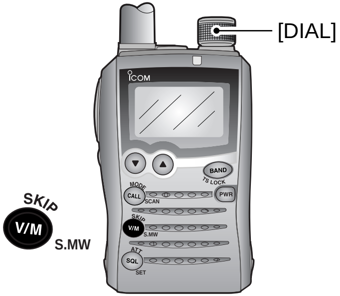
② Set the desired frequency:
- ➥ Select the desired band with **[BAND] (TS•LOCK)**.
- ➥ Set the desired frequency with **[DIAL]**.
- ➥ Set other data (e.g. offset frequency, duplex direction, subaudible tone frequency, etc.), if desired.

③ Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to enter *select memory write mode*.
- • 1 short and 1 long beeps sound.
- • “MR” indicator and memory channel number blink.

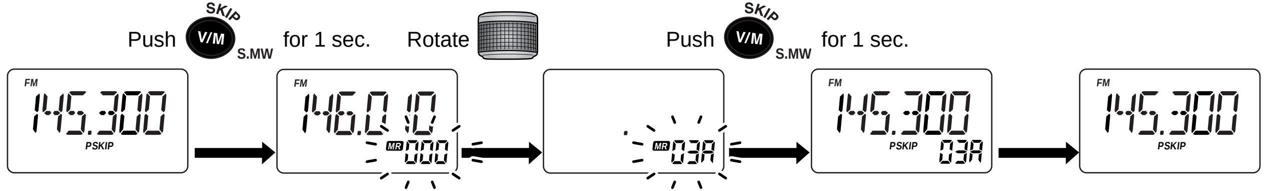
④ Rotate **[DIAL]** to select the desired programmed scan edge channel from 00A to 24A.

⑤ Push and hold **[V/M] (SKIP•S.MW)** for 1 sec.
- • 3 beeps sound
- • The other scan edge channel “b,” 00b to 24b, is automatically selected when continuing to push **[V/M] (SKIP•S.MW)** after programming.

⑥ To program a frequency for the other pair of scan edges, 00b or 24b, repeat steps ② and ⑤.
- • If the same frequency is programmed into a pair of scan edges, programmed scan will not function.

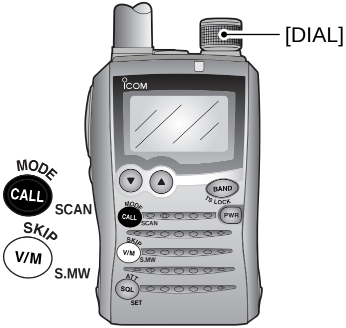

[DIAL]
ICOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET

[EXAMPLE]: Programming 145.300 MHz into scan edge 03A.


Push
SKIP
V/M
S.MW
for 1 sec.
Rotate
Push
SKIP
V/M
S.MW
for 1 sec.
FM
145.300
PSKIP
FM
146.010
MR 000
MR 03A
FM
145.300
PSKIP 03A
FM
145.300
PSKIP

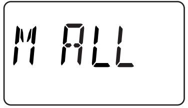
■ Memory/bank scan

①Select *memory mode* with **[V/M] (SKIP•S.MW)**.
②Set the squelch to the point where noise is just muted.
③Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection mode.
④Rotate **[DIAL]** to select the desired scanning type.
- "M ALL" for all memory scan; "B ALL" for all bank scan; "B LINK" for bank link scan; "BANK" for bank scan.

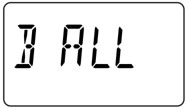

[DIAL]
iCOM
MODE
CALL
SCAN
SKIP
V/M
S.MW
BAND
TS LOCK
PWR
ATT
SQL
SET

○ Push ● Push and hold ◉ Dual operation

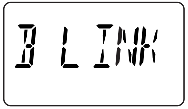
• All memory scan selection



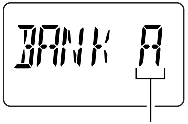
• All bank scan selection



• Bank link scan selection



• Bank scan selection

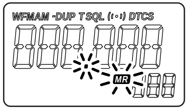


Programmed bank

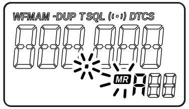
⑤Push **[CALL] (MODE•SCAN)** momentarily to start the selected scan.
- Scan pauses when a signal is received.
- Rotate **[DIAL]** to change the scanning direction, or resumes manually.

⑥To stop the scan, push **[CALL] (MODE•SCAN)**.

• During all memory/all bank/ bank link scan


WFM AM -DUP TSQL DTCS
MR

• During bank scan


WFM AM -DUP TSQL DTCS
MR

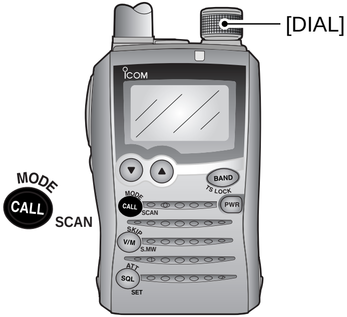
IMPORTANT!: To perform memory or bank scan, 2 or more memory/bank channels MUST be programmed, otherwise the scan never starts.

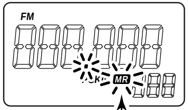
■ Auto memory write scan

This scan is useful for searching a specified frequency range and automatically storing busy frequencies into memory channels. The same frequency ranges used for program scan are used for auto memory write scan.

①Select *VFO mode* with **[V/M] (SKIP•S.MW)**, if necessary.
②Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection condition.
③Rotate **[DIAL]** to select the desired scanning type.
- "ALL" for full scan; "BAND" for band scan, "PROGxx" for programmed scan (xx= 0 to 24; programmed scan edges numbers only displayed)

④Push **[CALL] (MODE•SCAN)** to start the scan.
⑤Push **[V/M] (SKIP•S.MW)** to toggle the automatic memory write function ON and OFF.
- "MR" indicator blinks during auto memory write.



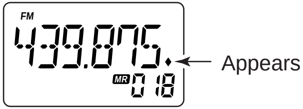


"MR" indicator blinks

⑥Push **[CALL] (MODE•SCAN)** to stop scan.

◇ **During auto-memory write scanning:**
- When a signal is received, scan pauses and the frequency is stored into auto memory write channel group (000♦–199♦).
  - 2 short beeps sound when stored.
- Scan resumes after frequency storing.
- When all channels are stored, the scan cancels automatically and 1 long beep sounds.

◇ **Re-calling the stored frequencies:**
①Push **[V/M] (SKIP•S.MW)** to select *memory mode*.
②Push **[BAND] (TS•LOCK)** several times, or while pushing and holding **[BAND] (TS•LOCK)**, rotate **[DIAL]** to select the auto memory write channel group.
- "♦" appears.



③Rotate **[DIAL]** to select the desired channel.

◇ **Clearing the stored frequencies:**
①Select the auto memory write channel group.
②While pushing and holding **[FUNC]**, push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to clear the all channels contents.
- 1 short and 1 long beeps sound.

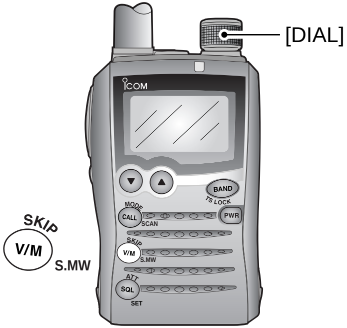
NOTE: The auto memory write channel contents CANNOT be cleared as an independent channel. Thus it is a good idea to copy the contents into a memory channel.

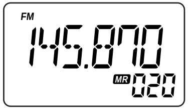
■ Skip channel/frequency setting

You can set the selected memory channel as a skip channel which is skipped during memory skip scan. In addition, it can be set as a skip channel for both memory skip scan and frequency skip scan. These are useful to speed up the scan interval.

①Select a memory channel:

- ➥ Push **[V/M] (SKIP•S.MW)** to select *memory mode*.
- ➥ Rotate **[DIAL]** to select the desired channel to be a skip channel/frequency.

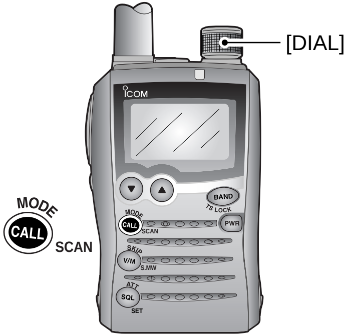

[DIAL]
SKIP
V/M
S.MW
ICOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET


FM
145.870
MR
020

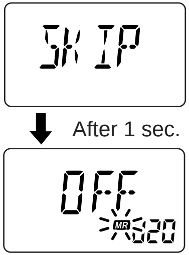
②Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to enter *select memory write mode*.

③Push **[CALL] (MODE•SCAN)** several times to select "SKIP."

- While pushing and holding **[CALL] (MODE•SCAN)**, rotating **[DIAL]** can also select "SKIP."


[DIAL]
MODE
CALL
SCAN
ICOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET

• Skip setting


SKIP
After 1 sec.
OFF
MR
020

Setting indication

④Rotate **[DIAL]** to select the skip condition from "SKIP," "PSKIP" or "OFF" for the selected channel.

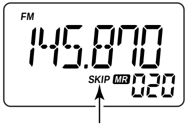
- OFF : The channel or programmed frequency is scanned during any scan.
- SKIP : The channel is skipped during memory or bank scan.
- PSKIP : The channel is skipped during memory/bank scan and the programmed frequency is skipped during VFO scan, such as programmed scan.

○ Push ● Push and hold ◉ Dual operation

⑤Push **[CALL] (MODE•SCAN)** several times; or while pushing and holding **[CALL] (MODE•SCAN)**, rotate **[DIAL]** to select “S.MW.”

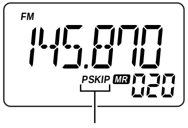
⑥Push and hold **[V/M] (SKIP•S.MW)** for 1 sec. to set the skip condition.
- “SKIP” or “PSKIP” indicator appears, according to the skip selection in step ④.

• Skip channel setting



“SKIP” appears

• Program skip setting



“PSKIP” appears

✔ *CONVENIENT!*

The skip setting can also be easily set with the following operation.

①Select the desired memory channel to be set as a skip channel/frequency.

②While pushing and holding **[FUNC]**, push **[V/M] (SKIP•S.MW)** momentarily to select the skip condition from “SKIP,” “PSKIP” and “OFF (no indication).”

✔ *CONVENIENT!*

During VFO scanning, such as programmed scan, the skip setting can be programmed into the highest blank memory channel which is automatically selected with the following operation.

①Start the VFO scan.
- ➥ Select *VFO mode* with **[V/M] (SKIP•S.MW)**.
  - Select the desired frequency band with **[BAND] (TS•LOCK)**, if desired.
- ➥ Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection condition.
- ➥ Rotate **[DIAL]** to select the desired scanning type.
  - “ALL” for full scan; “BAND” for band scan, “PROGxx” for programmed scan (xx= 0 to 24; programmed scan edges numbers only displayed)
- ➥ Push **[CALL] (MODE•SCAN)** again to start the scan.
  - Scan pauses when a signal is received.
  - Rotate **[DIAL]** to change the scanning direction, or resumes manually.

②When scan pauses and you want to set the paused frequency as a skip frequency.
- ➥ Push and hold **[FUNC]** then push **[V/M] (SKIP•S.MW)** for 1 sec. to store the paused frequency into the highest blank memory channel.
  - While pushing and holding **[FUNC]**, scan pauses; and after writing the frequency, scan resumes.

■ Scan resume condition

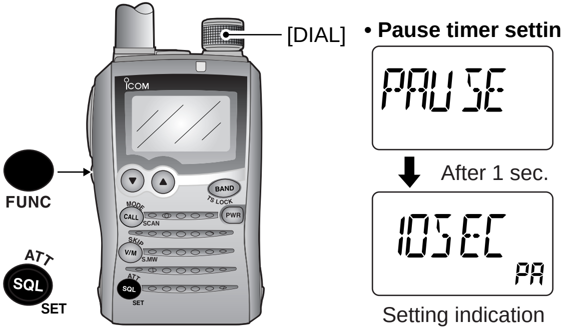
USING EXPANDED SET MODE

◇ Scan pause timer

The scan pauses when receiving signals according to the scan pause time. It can be set from 2–20 sec. or unlimited.

①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
②Rotate **[DIAL]** to select “EXPAND.”
③While pushing and holding **[FUNC]**, rotate **[DIAL]** to turn the *expanded set mode* ON.
④Rotate **[DIAL]** to select “PAUSE.”
⑤While pushing and holding **[FUNC]**, rotate **[DIAL]** to set the desired scan pausing time from 2–20 sec. (2 sec. steps) or “HOLD.”
- “2SEC”–“20SEC”; scan pauses 2–20 sec. while receiving a signal.
- “HOLD”; scan pauses on a received a signal until it disappears.

⑥Push **[SQL] (ATT•SET)** to exit *set mode*.



• Pause timer setting

After 1 sec.

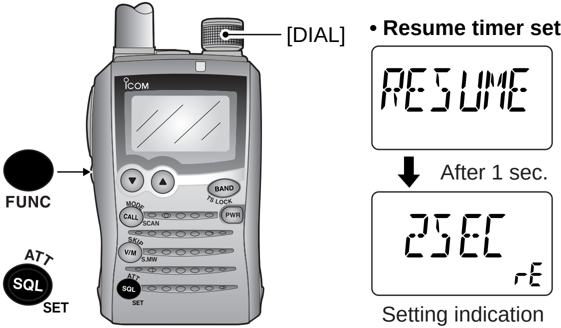
Setting indication

◇ Scan resume timer

The scan re-starts after a signal disappears according to the resume time. it can be set from 0–5 sec. or unlimited.

①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
②Rotate **[DIAL]** to select “EXPAND.”
③While pushing and holding **[FUNC]**, rotate **[DIAL]** to turn the *expanded set mode* ON.
④Rotate **[DIAL]** to select “RESUME.”
⑤While pushing and holding **[FUNC]**, rotate **[DIAL]** to set the desired scan pause time from 0–5 sec. (1 sec. steps) or “HOLD.”
- “0SEC”; scan restarts immediately after the signal disappears.
- “1SEC”–“5SEC”; scan restarts 1–5 sec. after the signal disappears.
- “HOLD”; scan restarts by rotating **[DIAL]** only.

⑥Push **[SQL] (ATT•SET)** to exit *set mode*.



• Resume timer setting

After 1 sec.

Setting indication

■ Priority watch types

Priority watch checks for signals on a frequency every 5 sec. while operating on a VFO frequency or scanning. The transceiver has 3 priority watch types to suit your needs.

The watch resumes according to the selected scan resume condition. See the page at left for details.

NOTES:
If the pocket beep function is activated, the transceiver automatically selects the tone squelch function when priority watch starts.

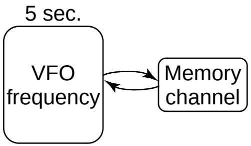
◇ About priority beep function

When receiving a signal on the priority frequency, you can be alerted with beeps and a blinking "((•))." This function can be activated when setting the priority watch function ON.

MEMORY CHANNEL WATCH

While operating on a VFO frequency, priority watch checks for a signal on the selected memory channel every 5 sec.

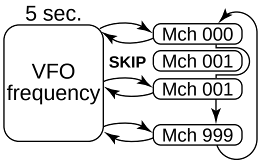
- A memory channel with skip information can be watched.



MEMORY SCAN WATCH

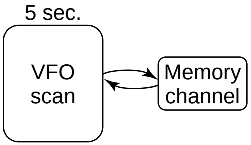
While operating on a VFO frequency, priority watch checks for signals on each memory channel in sequence.

- The memory skip function and/or memory bank scan is useful to speed up the scan.



VFO SCAN WATCH

While scanning in *VFO mode*, priority watch checks for signals on the selected memory channel every 5 sec.



○ Push ● Push and hold ◉ Dual operation

■ Priority watch operation

◇ Memory channel watch and memory scan watch

①Select *VFO mode*, then set an operating frequency.
- TX channel can also be selected.

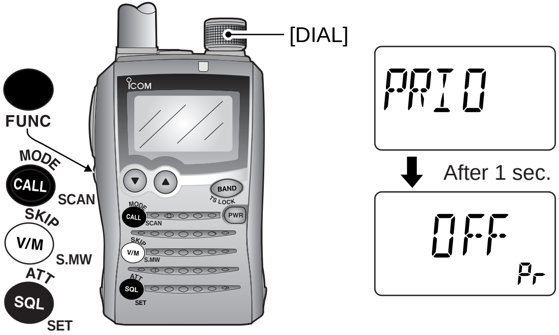
②Push **[V/M] (SKIP•S.MW)** to enter *memory mode*, then select the channel(s) to be watched.

For memory channel watch:
Rotate **[DIAL]** to select the desired memory channel.

For memory scan watch:
Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection condition to select the scan type, then push **[CALL] (MODE•SCAN)** again to start memory/bank scan.

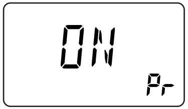
③While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.

④Rotate **[DIAL]** to select “PRIO.”

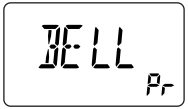

[DIAL]
FUNC
MODE
CALL
SCAN
SKIP
V/M
S.MW
ATT
SQL
SET
ICOM
BAND
TS LOCK
PWR
PRIO
After 1 sec.
OFF
Pr

⑤While pushing and holding **[FUNC]**, rotate **[DIAL]** to turn the priority watch ON.

- Select “BELL” if the priority beep function is necessary.



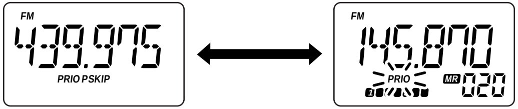
Priority ON



Priority beep ON

⑥Push **[SQL] (ATT•SET)** to exit *set mode* and start the watch.
- “PRIO” indicator appears.
- The transceiver checks the memory/bank channel(s) every 5 sec.
- The watch resumes according to the selected scan resume condition. (p. 41)

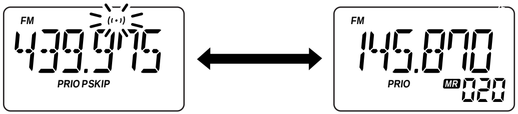
• During priority watch


FM
439.975
PRIO PSKIP
FM
145.870
PRIO
MR
020

Monitors VFO frequency for 5 sec.

Paused on a memory (bank) channel when a signal is received.

• During priority watch with priority beep


FM
((•))
439.975
PRIO PSKIP
FM
145.870
PRIO
MR
020

Emits beep and blinks “((•))” indicator when a signal is received on a memory (bank) channel.

⑦While pushing and holding **[FUNC]**, push **[SQL] (ATT•SET)** to cancel the watch.

◇ VFO scan watch

①Push **[V/M] (SKIP•S.MW)** to enter *memory mode*, then rotate **[DIAL]** to select the memory channel.

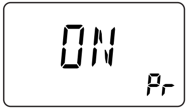
②Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection condition to select the scan type, then push **[CALL] (MODE•SCAN)** again to start memory/bank scan, if desired.

When scanning memory/bank channels:
Starts memory/bank scan first. Memory/bank scan cannot be started after VFO scan is started.

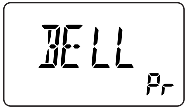
③While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.

④Rotate **[DIAL]** to select "PRIO."

⑤While pushing and holding **[FUNC]**, rotate **[DIAL]** to turn the priority watch ON.
- Select "BELL" if the priority beep function is necessary.



Priority ON



Priority beep ON

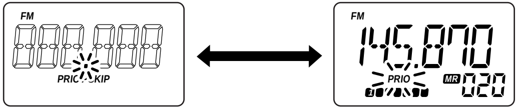
⑥Push **[SQL] (ATT•SET)** to exit *set mode* and start the watch.
- "PRIO" indicator appears.

⑦Push **[CALL] (MODE•SCAN)** for 1 sec. to enter scan type selection condition.

⑧Rotate **[DIAL]** to select the desired scan type from "ALL," "BAND" and "PROGxx (xx= 0–24)."

⑨Push **[CALL] (MODE•SCAN)** to start the VFO scan watch.
- The transceiver checks the memory channel(s) every 5 sec.
- The watch resumes according to the selected scan resume condition. (p. 41)

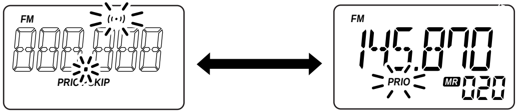
• During VFO scan watch



Searches VFO frequencies for 5 sec.

Pauses on a memory (bank) channel when a signal is received.

• During VFO scan watch with priority beep



Emits beep and blinks "((•))" indicator when a signal is received on a memory (bank) channel.

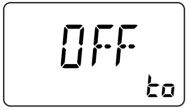
⑩While pushing and holding **[FUNC]**, push **[SQL] (ATT•SET)** to cancel the watch and scan.

○ Push ● Push and hold ◉ Dual operation

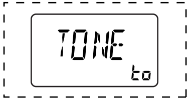
■ Tone/DTCS squelch operation

The tone or DTCS squelch opens only when receiving a signal with the same pre-programmed subaudible tone or DTCS code, respectively. You can silently wait ffor a signal using the same specified tone.

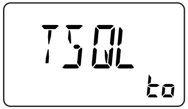
①Set the desired frequency in FM mode.
②While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
③Rotate **[DIAL]** to select “T/TSQL.”
④While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the desired tone squelch condition from “TSQL,” “P BEEP,” “DTCS” and “P DTCS.”



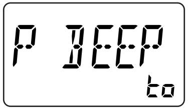
Subaudible tone OFF



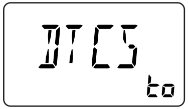
Repeater tone selection



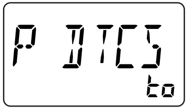
Tone squelch selection



Tone squelch with pocket beep function selection

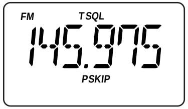


DTCS selection

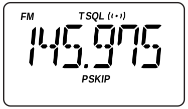


DTCS with pocket beep function selection

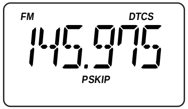
⑤Push **[SQL] (ATT•SET)** to exit *set mode*.
- One of “TSQL,” TSQL ((•)) ,” “DTCS” or “((•)) DTCS” appears according to the tone selection in the step ④.



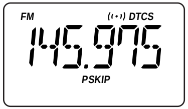
Tone squelch selection



Tone squelch with pocket beep function selection



DTCS selection



DTCS with pocket beep function selection

⑥When a signal with a matching tone is received, the squelch opens and the transceiver emits audio.
When pocket beep function is activated, the transceiver also emits beep tones and blinks “((•)) .”
- Beep tones sound and “((•))” blinks for 30 sec.

⑦Push **[FUNC]** to manually stop the beeps and blinking.
- “((•))” disappears and the pocket beep function is deactivated.

⑧To cancel the tone squelch or DTCS, select “OFF” with the “T/TSQL” in the *set mode*, as described in step ④.

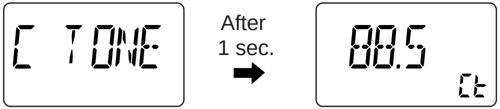
■ Tone squelch frequency/DTCS code setting

88.5 Hz and 023 is set as the default for the tone squelch frequency and the DTCS code, respectively. The frequency and code can be selected as desired.

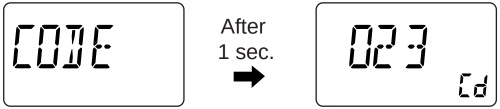
①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.

②Rotate **[DIAL]** to select “C TONE” when selecting the tone squelch frequency; select “CODE” when selecting the DTCS code.

Tone squelch frequency selection



DTCS code selection



③While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the desired subaudible tone frequency or DTCS code.

- See the tables at right.

④Push **[SQL] (ATT•SET)** to exit *set mode*.

- **Available tone frequency**

67.0	79.7	94.8	110.9	131.8	156.7	171.3	186.2	203.5	229.1
69.3	82.5	97.4	114.8	136.5	159.8	173.8	189.9	206.5	233.6
71.9	85.4	100.0	118.8	141.3	162.2	177.3	192.8	210.7	241.8
74.4	88.5	103.5	123.0	146.2	165.5	179.9	196.6	218.1	250.3
77.0	91.5	107.2	127.3	151.4	167.9	183.5	199.5	225.7	254.1

NOTE: The transceiver has 50 tone frequencies and consequently their spacing are narrow compared to units having 38 tones. Therefore, some tone frequencies may receive interference from adjacent tone frequencies.

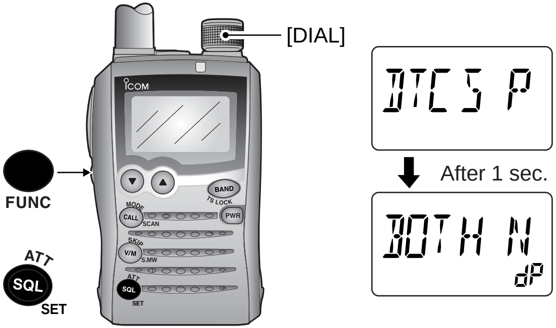
- **Available DTCS code**

023	054	125	165	245	274	356	445	506	627	732
025	065	131	172	246	306	364	446	516	631	734
026	071	132	174	251	311	365	452	523	632	743
031	072	134	205	252	315	371	454	526	654	754
032	073	143	212	255	325	411	455	532	662	
036	074	145	223	261	331	412	462	546	664	
043	114	152	225	263	332	413	464	565	703	
047	115	155	226	265	343	423	465	606	712	
051	116	156	243	266	346	431	466	612	723	
053	122	162	244	271	351	432	503	624	731	

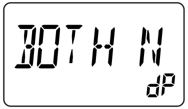
■ DTCS polarity setting

As well as a code setting, the polarity setting is also available for the DTCS operation. When a different polarity is set, the DTCS never releases audio mute even when a signal with a matching code number is received.

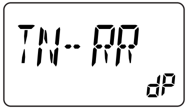
①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
②Rotate **[DIAL]** to select “EXPAND.”
③While pushing and holding **[FUNC]**, rotate **[DIAL]** to turn the *expanded set mode* ON.
④Rotate **[DIAL]** to select “DTCS P.”


[DIAL]
FUNC
ATT
SQL
SET
ICOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
DTCS P
After 1 sec.
BOTH N
dP

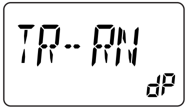
⑤While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the polarity from “BOTH N” (normal), “TN-RR” (TX: normal, RX: reverse), “TR-RN” (TX: reverse, RX: normal) and “BOTH R” (reverse).



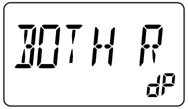
TX/RX: Normal polarity



TX: Normal, RX: Reverse



TX: Reverse, RX: Normal



TX/RX: Reverse polarity

⑥Push **[SQL] (ATT•SET)** to exit *set mode*.

○ Push ● Push and hold ◉ Dual operation

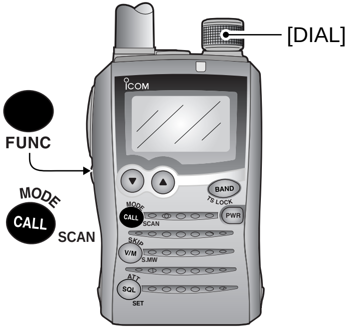
■ Tone scan

By monitoring a signal that is being operated with pocket beep, tone or DTCS squelch function, you can determine the tone frequency or DTCS code necessary to open a squelch.

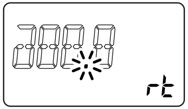
①Set the frequency to be checked for a tone frequency or code.

②Turn the desired tone type ON in *set mode*; “TONE” (repeater tone), “TSQL” (tone squelch) or “DTCS” (DTCS squelch).
- One of “T,” “TSQL” or “DTCS” appears.
- Even if the pocket beep function is activated, it is cancelled when the tone scan is started.

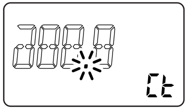
③While pushing and holding **[FUNC]**, push **[CALL] (MODE•SCAN)** for 1 sec. to start the tone scan.
- To change the scanning direction, rotate **[DIAL]**.



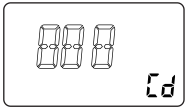
Repeater tone scan



Tone squelch scan



DTCS scan



④ When the CTCSS tone frequency or 3-digit DTCS code is matched, the squelch opens and the tone frequency or code is temporarily programmed into the selected condition, such as a memory channel.
- The tone scan pauses when a CTCSS tone frequency or 3-digit DTCS code is detected.

☞ **NOTE:** The decoded tone frequency or code is programmed temporarily when a memory channel is selected. However, this will be cleared when the memory channel is re-selected.

✔ CONVENIENT!

Even if no tone type is selected, pushing and holding **[CALL] (MODE•SCAN)** for 1 sec. while pushing and holding **[FUNC]** also starts tone scan. In this case, the tone scan searches for repeater tone frequency only.

---

10 SET MODE

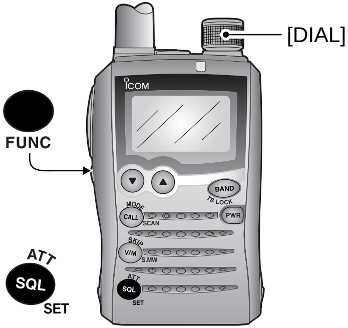
■ General

Set mode is used for programming infrequently changed values or conditions of functions.

In addition, the IC-P7A has an *expanded set mode* which is used for programming even more infrequently changed values or conditions of functions. When turning the *expanded set mode* OFF, only half of the set mode items are displayed for simple operation.

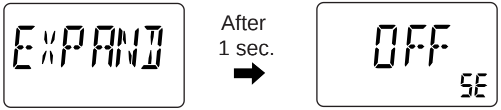
◇ *Set mode* entering and operation

①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
②Rotate **[DIAL]** to select the desired item.
③While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the desired value or condition.
④Push **[SQL] (ATT•SET)** to exit *set mode*, or rotate **[DIAL]** to select another set mode item.

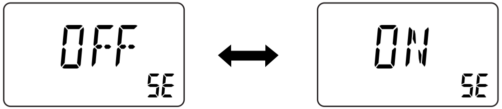


◇ *Expanded set mode* ON/OFF

①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
②Rotate **[DIAL]** to select “EXPAND.”



③While pushing and holding **[FUNC]**, rotate **[DIAL]** to turn the *expanded set mode* ON and OFF.



Expanded set mode OFF

Expanded set mode ON

④Rotate **[DIAL]** to select the desired item.
⑤While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the desired value or condition.
⑥Push **[SQL] (ATT•SET)** to exit *set mode*, or rotate **[DIAL]** to select another item.

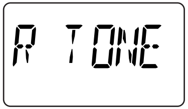
○ Push ● Push and hold ◉ Dual operation

Set mode items

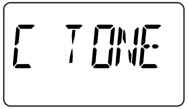
The following items are available in the *set mode* and *expanded set mode*.

◇ General set mode items

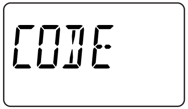
- **Repeater tone** (p. 52)



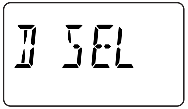
- **Tone squelch tone** (p. 52)



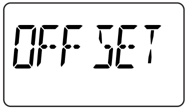
- **DTCS code** (p. 52)



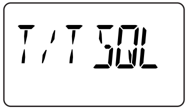
- **Dial select step** (p. 53)



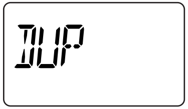
- **Offset frequency** (p. 53)



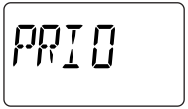
- **Tone selection** (p. 53)



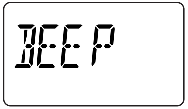
- **Duplex direction** (p. 54)



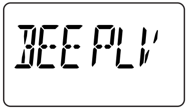
- **Priority watch** (p. 54)



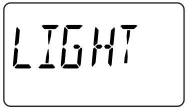
- **Key-touch beep** (p. 54)



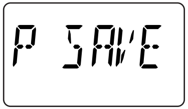
- **Beep output level** (p. 54)



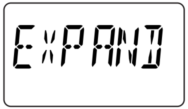
- **Display backlighting** (p. 55)



- **Power save** (p. 55)



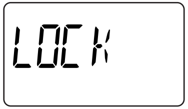
- **Expanded set mode** (p. 49)



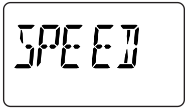
*Available for the USA and Korea versions only.
[†] Available for the USA version only.

◇ Expanded set mode items

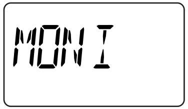
- **Key lock effect** (p. 46)



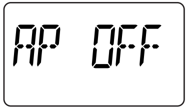
- **Dial speed acceleration** (p. 56)



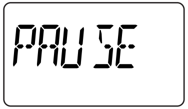
- **Monitor key action** (p. 56)



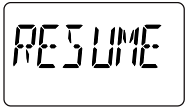
- **Auto power OFF** (p. 57)



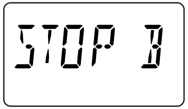
- **Scan pause timer** (p. 57)



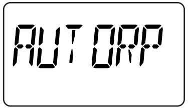
- **Scan resume timer** (p. 57)



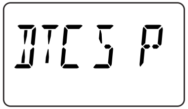
- **Scan stop beep** (p. 57)



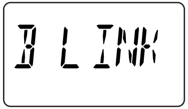
- **Auto repeater*** (p. 58)



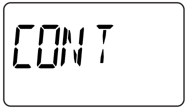
- **DTCS polarity** (p. 58)



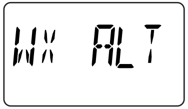
- **Bank link** (p. 59)



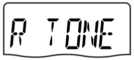
- **LCD contrast** (p. 59)



- **Weather alert**[†] (p. 59)

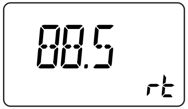


◇ Repeater tone frequency

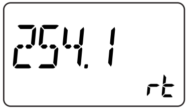


Selects subaudible tone frequency for accessing a repeater, etc. Total of 50 tone frequencies (67.0–254.1 Hz) are available.

(default: 88.5 Hz)

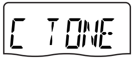


88.5 Hz setting



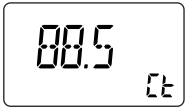
254.1 Hz setting

◇ Tone squelch frequency

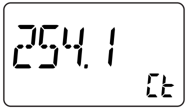


Selects tone frequency for tone squelch or pocket beep operation from one of 50 available frequencies (67.0–254.1 Hz).

(default: 88.5 Hz)



88.5 Hz setting

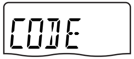


254.1 Hz setting

- **Available subaudible tone frequencies**

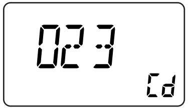
67.0	79.7	94.8	110.9	131.8	156.7	171.3	186.2	203.5	229.1
69.3	82.5	97.4	114.8	136.5	159.8	173.8	189.9	206.5	233.6
71.9	85.4	100.0	118.8	141.3	162.2	177.3	192.8	210.7	241.8
74.4	88.5	103.5	123.0	146.2	165.5	179.9	196.6	218.1	250.3
77.0	91.5	107.2	127.3	151.4	167.9	183.5	199.5	225.7	254.1

◇ DTCS code

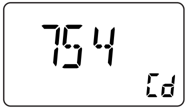


Selects DTCS (both encoder/decoder) code for DTCS squelch operation. Total of 104 codes (023–754) are available.

(default: 023)



Code 023 setting



Code 754 setting

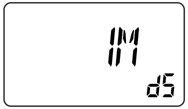
- **Available DTCS code**

023	054	125	165	245	274	356	445	506	627	732
025	065	131	172	246	306	364	446	516	631	734
026	071	132	174	251	311	365	452	523	632	743
031	072	134	205	252	315	371	454	526	654	754
032	073	143	212	255	325	411	455	532	662	
036	074	145	223	261	331	412	462	546	664	
043	114	152	225	263	332	413	464	565	703	
047	115	155	226	265	343	423	465	606	712	
051	116	156	243	266	346	431	466	612	723	
053	122	162	244	271	351	432	503	624	731	

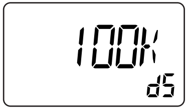
The polarity can also be set in "DTCS P" as described on page 58.

◇ Dial select step

Select the tuning step while pushing and holding **[FUNC]** from 100 kHz, 1 MHz (default) and 10 MHz.

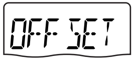


1 MHz step

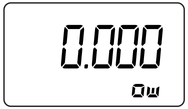


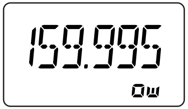
100 kHz step

◇ Offset frequency



Sets the offset frequency for duplex (repeater) operation for each frequency band independently within 0 to 159.995 MHz range. During duplex operation (–DUP or +DUP), the offset frequency shifts the transmit frequency (or while **[SQL] (ATT•SET)** is pushed).





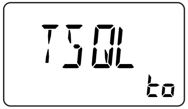
The default value may differ according to the selected frequency band (before accessing *set mode*) and transceiver version.

The selected tuning step in *VFO mode* is used for setting the offset frequency.

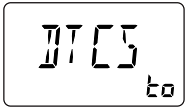
◇ Tone selection

Sets the tone encoder, tone squelch or DTCS squelch operation and pocket beep capability, when waiting for the desired signal.

- OFF : Regular noise squelch operation. (default)
- TONE : Using tone encoder. Some repeaters require subaudible tones to be accessed.
- TSQL : Using tone squelch. The squelch opens only when a signal with matched subaudible tone is received.
- P BEEP : In addition to the “TSQL” setting, alert beeps will sound when a signal with matched tone is received.
- DTCS : Using DTCS squelch. The squelch opens only when a signal with matched DTCS code is received.
- P DTCS : In addition to the “DTCS” setting, alert beeps will sound when a signal with matched DTCS code is received.



Tone squelch operation



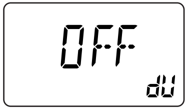
DTCS squelch operation

The subaudible tone frequency and DTCS code are programmed as the tone frequency and DTCS code items, respectively.

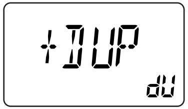
◇ Duplex direction

Sets the duplex direction. The transmit frequency is shifted from the receive frequency by the offset frequency when transmitting or when the monitor function is in use.

- OFF : Simplex operation. (default)
- –DUP : The transmit frequency shifts down while transmitting.
- +DUP : The transmit frequency shifts up while transmitting.



Simplex operation

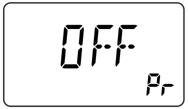


Positive duplex operation

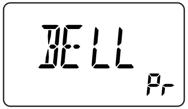
◇ Priority watch

Turn the priority watch or priority beep (priority watch with beep capability) ON. (default: OFF)

- ON : Start priority watch after exiting *set mode*.
- BELL : Emits beeps and blinking "((•))" indicator when a signal is received on the priority frequency.



Priority watch OFF

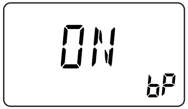


Priority beep ON

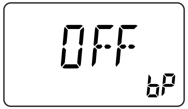
◇ Key-touch beep

The key-touch beep can be turned OFF for silent operation.

(default: ON)



Key-touch beep ON



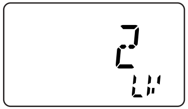
Key-touch beep OFF

◇ Beep output level

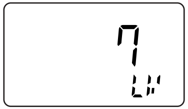
Adjust the key-touch beep tone level to the desired level within 8 levels.

Beep tone sounds while setting. The tone sound let you know the approximate sound level.

(default: 2)



Default level



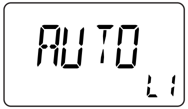
Maximum level

▨ The key-touch beep (previous item) must be set to ON to have a beep tone.

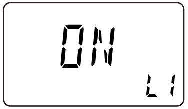
◇ Display backlighting

The transceiver has display backlighting with a 5 sec. timer for night time operation. The backlighting can be turned ON continuously or turned OFF, if desired.

- AUTO : Lights when an operation is performed, goes out after 5 sec. (default)
- ON : Lights continuously during transceiver power is ON.
- OFF : Never lights.



Auto setting

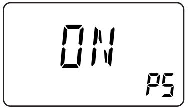


Continuously ON setting

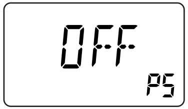
◇ Power save

The power save function reduces the current drain to conserve battery power. This power save function can be turned OFF, if desired.

In the default setting (“ON” selection), the power save function is activated in 1:4 (125 msec.: 500 msec.) ratio when no signal is received for 5 sec. The ratio becomes 1:8 (125 msec.: 1 sec.) when no signal is received for another 60 sec.



Power save ON



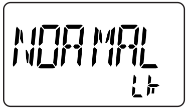
Power save OFF

◇ Key lock effect

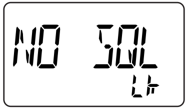
While the key lock function is ON, **[▲]**/**[▼]** and **[SQL] (ATT•SET)** can still be accessed. Accessible keys can be set to one of 4 groups.

[PWR] and **[FUNC]**+**[BAND] (TS•LOCK)** are also accessible during the lock, however, these keys are not effected by this setting.

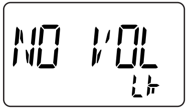
- NORMAL : **[▲]**/**[▼]** and **[SQL] (ATT•SET)** are accessible. (default)
- NO SQL : **[SQL] (ATT•SET)** is accessible.
- NO VOL : **[▲]**/**[▼]** are accessible.
- ALL : No accessible key is available, except **[PWR]** and **[FUNC]**+**[BAND] (TS•LOCK)**.



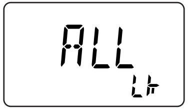
Normal lock condition



Squelch level can be adjusted



Audio output can be adjusted

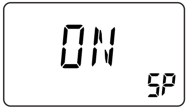


Transceiver power and lock function only switchable

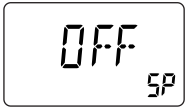
◇ Dial speed acceleration

The dial speed acceleration automatically speeds up the tuning dial speed when rotating **[DIAL]** rapidly.

- ON : The dial speed acceleration is tuned ON. (default)
- OFF : The dial speed acceleration is turned OFF.



The acceleration ON

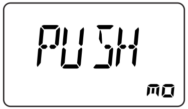


The acceleration OFF

◇ Monitor key action

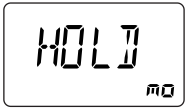
The monitor key, **[SQL] (ATT•SET)**, can be set as a ‘sticky’ key. When set to the sticky condition, each push of **[SQL] (ATT•SET)** toggles the monitor function ON and OFF.

- PUSH : Pushing and holding **[SQL] (ATT•SET)** to monitor the frequency. (default)
- HOLD : Push **[SQL] (ATT•SET)** momentarily to monitor the frequency and push momentarily again to cancel it.



Monitor key activates as PUSH function key.

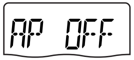
Push and hold [SQL] to monitor



Monitor key activates as HOLD function key.

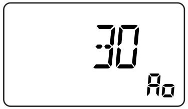
Push to monitor

◇ Auto power OFF

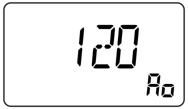


The transceiver can be set to automatically turn OFF after a specified period with a beep when no key operations are performed.

30 min., 1 hour, 1.5 hours, 2 hours and OFF (default) can be specified. The specified period is retained even when the transceiver is turned OFF by the auto power OFF function. To cancel the function, select “OFF” in this *set mode*.

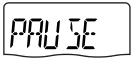


30 min. timer



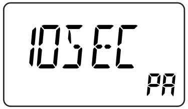
2 hrs. timer

◇ Scan pause timer

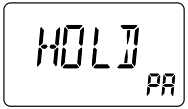


Selects the scan pause time. When receiving signals, the scan pauses according to the scan pause time.

- 2–20 : Scan pauses for 2–20 sec. on a received signal, and is selected in 2 sec. steps. (default: 10 sec.)
- HOLD : Scan pauses on a received signal until it disappears. Rotate **[DIAL]** to resume manually.

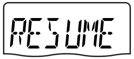


Scan pauses for 10 sec.



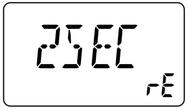
Scan pauses until signal disappears

◇ Scan resume timer

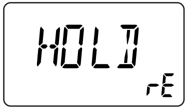


Selects scan resume time. Scan resumes after the specified period when the received signal disappears.

- 0 : Scan resumes immediately when the received signal disappears.
- 1–5 : Scan pause 1–5 sec. after the received signal disappears. (default: 2 sec.)
- HOLD : Scan pauses on the received signal even if it disappears. Rotate **[DIAL]** to resume manually.

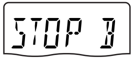


Scan resumes after 2 sec.

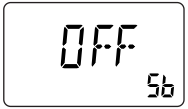


Scan resumes manually

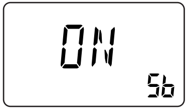
◇ Scan stop beep



Turns the scan stop beep function ON and OFF (default).
When the function is activated (“ON” is selected), a long beep will sound each time a signal is received during scan.



No beep is sound when receiving a signal



A long beep is sound when receiving a signal

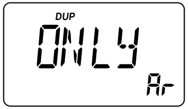
◇ Auto repeater

U.S.A./KOREA versions only

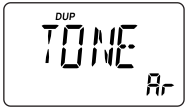
The auto repeater function automatically turns ON or OFF the duplex operation and tone encoder. The offset and repeater tone is not changed by the auto repeater function. Reset these frequencies, if necessary.

U.S.A. version:

- OFF : The auto repeater function is turned OFF.
- DUP ONLY : Activates for duplex only. (default)
- DUP TONE : Activates for duplex and tone.



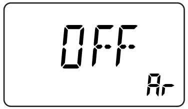
Duplex only



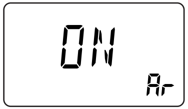
Duplex and tone

Korea version:

- OFF : Deactivates the function.
- ON : Activates duplex and tone. (default)



Auto repeater OFF

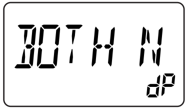


Auto repeater ON

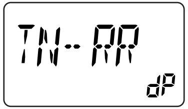
◇ DTCS polarity

Sets DTCS polarity from “BOTH N” (TX/RX: normal), “TN-RR” (TX: normal, RX: reverse), “TR-RN” (TX: reverse, RX: normal) and “BOTH R” (TX/RX: reverse).

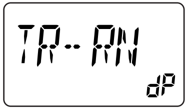
(default: BOTH N)



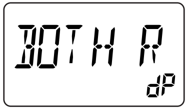
TX/RX: Normal polarity



TX: Normal, RX: Reverse



TX: Reverse, RX: Normal



TX/RX: Reverse polarity

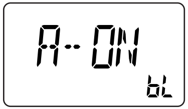
◇ Memory bank link function

Sets the memory bank link function ON (default) and OFF. The link function provides continuous bank scan, scanning all contents in the selected banks during bank scan.

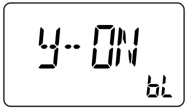
• Bank link setting

① While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the desired bank to be linked.
- "A-ON" to "y-ON" appears.
- A to H, J, L, N, O to R, T, U and y are available for usage by group

② Push **[CALL] (MODE•SCAN)** to select "ON" to link the bank.



Bank A is linked



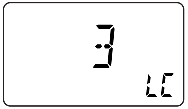
Bank Y is linked

③ Repeat steps ① and ② to link other banks.
- To cancel the memory bank link function, repeat steps ① and ② to select "OFF."

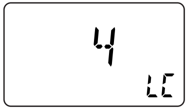
◇ LCD contrast

Sets the LCD contrast within 1 to 4 levels as desired.

(default: 3)

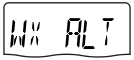


Contrast 3 setting



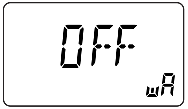
Contrast 4 setting

◇ Weather alert function

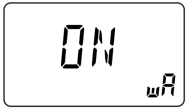


U.S.A. version only

Turns weather alert function ON and OFF.



Weather alert OFF



Weather alert ON

■ Weather channel operation

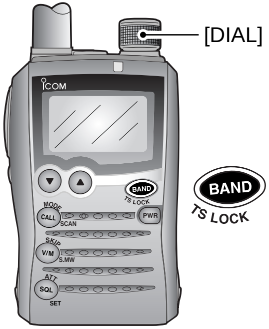
U.S.A. version only

◇ Weather channel selection

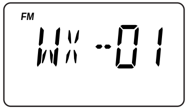
①Select *VFO mode* with **[V/M] (SKIP•S.MW)**.

②Push **[BAND] (TS•LOCK)** several times, or while pushing and holding **[BAND] (TS•LOCK)** rotate **[DIAL]** to select the weather channel group.

③Rotate **[DIAL]** to select the desired weather channel.


[DIAL]
iCOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET
BAND
TS LOCK

Weather channel indication



④Push **[BAND] (TS•LOCK)** to change frequency band, or push **[V/M] (SKIP•S.MW)** to select *memory mode*.

○ Push	● Push and hold	◉ Dual operation

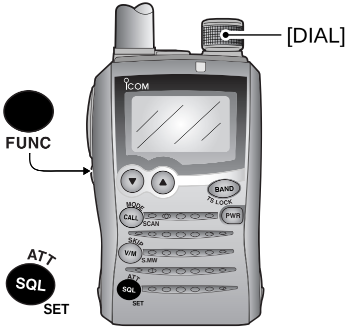
◇ Weather alert function

NOAA broadcast stations transmit weather alert tones before important weather announcements. When the weather alert function is turned ON, the selected weather channel is monitored once every 5 sec. for the announcement. When the alert signal is detected, the “AL.T” and the WX channel are displayed alternately and sounds a beep tone until the transceiver is operated. The previously selected (used) weather channel is checked periodically during standby or while scanning.

①Select the desired weather channel.

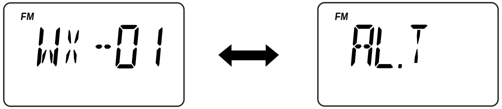
②Turn the weather alert function ON in *expanded set mode*.

- ➥ While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** to enter *set mode*.
- ➥ Rotate **[DIAL]** to select “WX ALT,” then rotate **[DIAL]** while pushing and holding **[FUNC]** to set ON.
- ➥ Push **[SQL] (ATT•SET)** to exit *set mode*.


[DIAL]
FUNC
ATT
SQL
SET
iCOM
BAND
TS LOCK
MODE
CALL
SCAN
PWR
SKIP
V/M
S.MW
ATT
SQL
SET

③Set the desired stand-by condition.
- Select VFO or memory channel.
- Scan or priority watch operation can also be selected.

④When the alert is detected, a beep sounds and the following indication will be displayed.



Show above indications alternately.

⑤ Turn the weather alert function OFF in *set mode*.

NOTE: While receiving a signal (on a frequency other than the weather alert ON frequency), the receiving signal or audio will be interrupted momentarily every 5 sec. (approx.) in case the alert function is turned ON. This symptom is caused by the WX alert function. To cancel these symptoms, set the weather alert item OFF in *set mode*.

○ Push ● Push and hold ◉ Dual operation

■ Data cloning

AT POWER ON

Cloning allows you to quickly and easily transfer the programmed contents from one transceiver to another; or data from a personal computer to a transceiver using the optional CS-P7 CLONING SOFTWARE.

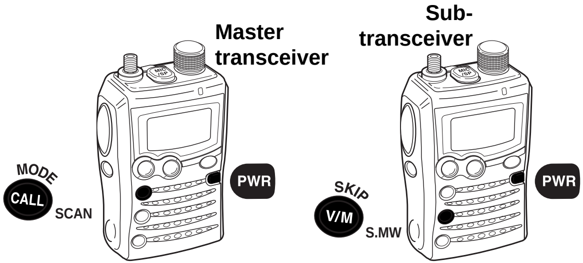
◇ Cloning between transceivers

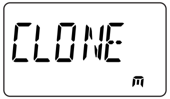
①**Master transceiver:**

While pushing and holding **[CALL] (MODE•SCAN)**, turn power ON to enter cloning mode.
- The master transceiver is used to send data to the sub-transceiver.

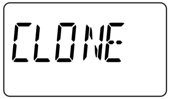
Sub-transceiver:

While pushing and holding **[V/M] (SKIP•S.MW)**, turn power ON to enter cloning mode.



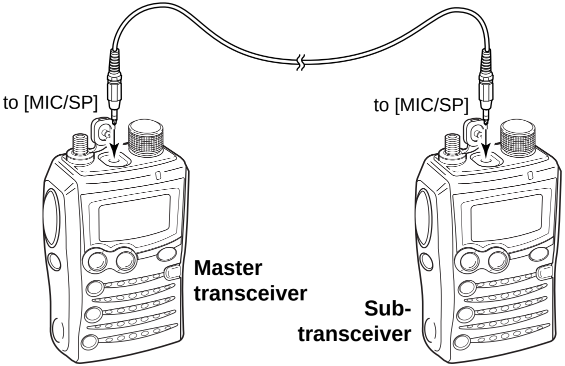


“CLONE” and “m” appear

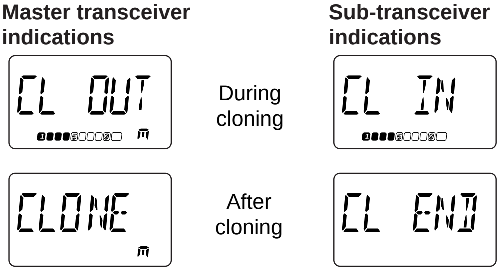


“CLONE” appears

② Connect the OPC-474 cloning cable to the [MIC/SP] jack of the master and sub-transceivers.


to [MIC/SP]
to [MIC/SP]
Master transceiver
Sub-transceiver

③ Push **[SQL] (ATT•SET)** on the master transceiver.
- The transceiver show following indications.


Master transceiver indications
Sub-transceiver indications
CL OUT
During cloning
CL IN
CLONE
After cloning
CL END

④ When cloning is finished, turn power OFF, then ON to exit cloning mode.

◇ Cloning using a personal computer

Data can be cloned to and from a personal computer (Microsoft® Windows® 98/98SE/Me/2000/XP) using the optional CS-P7 CLONING SOFTWARE and the optional OPC-478/478U CLONING CABLE. Consult the CS-P7 CLONING SOFTWARE HELP file for details.

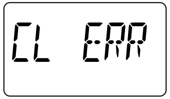
CAUTION: Be sure to turn OFF the transceiver when connecting the cloning cable, otherwise cloning operations cannot be performed.

◇ Cloning error

☞ **NOTE: DO NOT** push any key on the sub-transceiver during cloning. This will cause a cloning error.

When the display appears as below, a cloning error has occurred.

In such a case, both transceivers automatically return to the clone standby condition and cloning must be repeated.



Microsoft and Windows are registered trademarks of Microsoft Corporation in the U.S.A. and other countries.

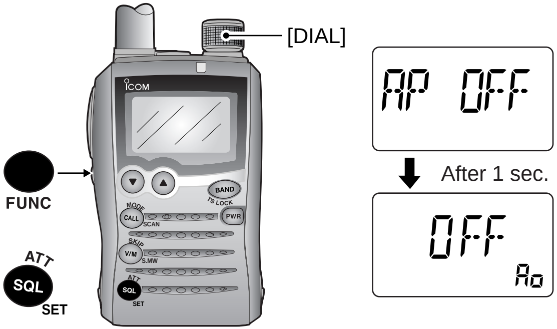
■ Auto power-off function

USING *EXPANDED SET MODE*

The IC-P7A can be set to automatically turn OFF after a specified period in which no operation is performed.

120 min., 90 min., 60 min., 30 min. and OFF can be specified. The specified period is retained even when the transceiver is turned OFF by the auto power-off function. To cancel the function, select “OFF” in step ③ below.

①While pushing and holding **[FUNC]**, push and hold **[SQL] (ATT•SET)** for 1 sec. to enter *set mode*.
②Rotate **[DIAL]** to select “AP OFF.”
- Turn the *expanded set mode* ON for selection. (p. 39)



③While pushing and holding **[FUNC]**, rotate **[DIAL]** to select the desired time or to turn the function OFF.
④Push **[SQL] (ATT•SET)** to exit *set mode*.

■ TV channel operation

TV channel operation is available only when TV channels are programmed using the optional CS-P7 CLONING SOFTWARE. (p. 61)

◇ TV channel receiving

① Push **[V/M] (SKIP•S.MW)** to select *VFO mode*, if necessary.
② Push **[BAND] (TS•LOCK)** several times to select the TV channel band.
- “tV” and channel number appear.
- While pushing and holding **[BAND] (TS•LOCK)**, rotating **[DIAL]** also selects the TV channel band.

③ Rotate **[DIAL]** to select the desired channel.
- While pushing and holding **[FUNC]**, rotating **[DIAL]** selects the all channels including skip channel.

◇ Skip channel setting

Unwanted channels can be skipped for rapid selection, etc.

① Rotate **[DIAL]** to select the channel to be skipped.
- To clear the skip setting, rotate **[DIAL]** while pushing and holding **[FUNC]** to select a skip channel.

② While pushing and holding **[FUNC]**, push **[V/M] (SKIP•S.MW)** to toggle the skip setting ON and OFF.
- “SKIP” appears when the channel is set as skip channel.

◇ Automatic TV channel programming

TV channels can be programmed automatically.

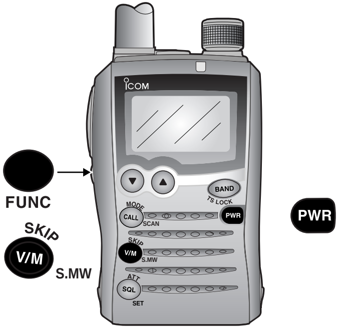
➥ Push and hold **[CALL] (MODE•SCAN)** for 1 sec. to start TV channel programming.
- The programming will automatically stop when scanning all channels.

■ Partial reset

AT POWER ON

If you want to initialize the operating conditions (VFO frequency, VFO settings, set mode contents) without clearing the memory contents, a partial reset function is available for the transceiver.

➥ While pushing and holding **[FUNC]** and **[V/M] (SKIP•S.MW)**, turn the power ON to partially reset the transceiver.



○ Push ● Push and hold ◉ Dual operation

■ All reset

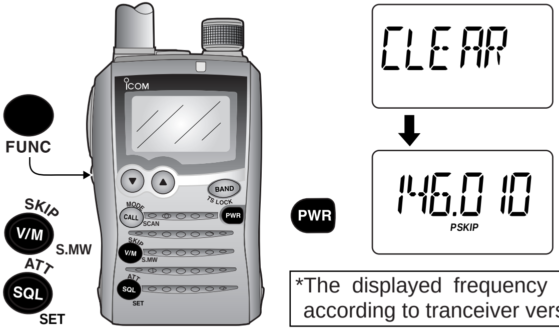
AT POWER ON

The function display may occasionally display erroneous information (e.g. when first applying power). This may be caused externally by static electricity or by other factors.

If this problem occurs, turn power OFF. After waiting a few seconds, turn power ON again. If the problem persists, perform the following procedure.
- Partial resetting is also available. See left for details.

IMPORTANT!:
Resetting the transceiver CLEARS all memory information and initializes all values in the transceiver, including TV channel skip setting.

➥ While pushing and holding **[FUNC]**, **[V/M] (SKIP•S.MW)** and **[SQL] (ATT•SET)**, turn the power ON to reset the CPU.



*The displayed frequency differs according to tranceiver version.

12 FREQUENCY TABLE

■ TV channels

The following tables show the channels versus video and audio frequencies depending on each version.

◇ U.S.A. channels

(unit: MHz)

CH	Freq.	CH	Freq.	CH	Freq.
2	59.75	27	553.75	52	703.75
3	65.75	28	559.75	53	709.75
4	71.75	29	565.75	54	715.75
5	81.75	30	571.75	55	721.75
6	87.75	31	577.75	56	727.75
7	179.75	32	583.75	57	733.75
8	185.75	33	589.75	58	739.75
9	191.75	34	595.75	59	745.75
10	197.75	35	601.75	60	751.75
11	203.75	36	607.75	61	757.75
12	209.75	37	613.75	62	763.75
13	215.75	38	619.75	63	769.75
14	475.75	39	625.75	64	775.75
15	481.75	40	631.75	65	781.75
16	487.75	41	637.75	66	787.75
17	493.75	42	643.75	67	793.75
18	499.75	43	649.75	68	799.75
19	505.75	44	655.75	69	805.75
20	511.75	45	661.75		
21	517.75	46	667.75		
22	523.75	47	673.75		
23	529.75	48	679.75		
24	535.75	49	685.75		
25	541.75	50	691.75		
26	547.75	51	697.75		

◇ CCIR channels

(unit: MHz)

CH	Freq.	CH	Freq.
1	46.75	40	628.75
2	53.75	41	636.75
3	60.75	42	644.75
4	67.75	43	652.75
5	180.75	44	660.75
6	187.75	45	668.75
7	194.75	46	676.75
8	201.75	47	684.75
9	208.75	48	692.75
10	215.75	49	700.75
11	222.75	50	708.75
12	229.75	51	716.75
21	476.75	52	724.75
22	484.75	53	732.75
23	492.75	54	740.75
24	500.75	55	748.75
25	508.75	56	756.75
26	516.75	57	764.75
27	524.75	58	772.75
28	532.75	59	780.75
29	540.75	60	788.75
30	548.75	61	796.75
31	556.75	62	804.75
32	564.75	63	812.75
33	572.75	64	820.75
34	580.75	65	828.75
35	588.75	66	836.75
36	596.75	67	844.75
37	604.75	68	852.75
38	612.75	69	860.75
39	620.75		

◇ Australian channels

(unit: MHz)

CH	Freq.	CH	Freq.
0	51.75	43	637.75
1	62.75	44	644.75
2	69.75	45	651.75
3	91.75	46	658.75
4	100.75	47	665.75
5	107.75	48	672.75
5A	143.75	49	679.75
6	180.75	50	686.75
7	187.75	51	693.75
8	194.75	52	700.75
9	201.75	53	707.75
10	214.75	54	714.75
11	221.75	55	721.75
28	532.75	56	728.75
29	539.75	57	735.75
30	546.75	58	742.75
31	553.75	59	749.75
32	560.75	60	756.75
33	567.75	61	763.75
34	574.75	62	770.75
35	581.75	63	777.75
36	588.75	64	784.75
37	595.75	65	791.75
38	602.75	66	798.75
39	609.75	67	805.75
40	616.75	68	812.75
41	623.75	69	819.75
42	630.75		

◇ China channels

(unit: MHz)

CH	Freq.
1	56.25
2	64.25
3	72.25
4	83.75
5	91.75
6	174.75
7	182.75
8	190.75
9	198.75
10	206.75
11	214.75
12	222.75
13	477.75
14	485.75
15	493.75
16	501.75
17	509.75
18	517.75
19	525.75
20	533.75
21	541.75
22	549.75
23	557.75
24	565.75
25	613.75
26	621.75
27	629.75
28	637.75
29	645.75
30	653.75
31	661.75
32	669.75
33	677.75
34	685.75
35	693.75
36	701.75
37	709.75
38	717.75
39	725.75
40	733.75
41	741.75
42	749.75
43	757.75
44	765.75
45	773.75
46	781.75
47	789.75
48	797.75
49	805.75
50	813.75
51	821.75
52	829.75
53	837.75
54	845.75
55	853.75
56	861.75
57	869.75
58	877.75
59	885.75
60	893.75
61	901.75
62	909.75
63	917.75
64	925.75
65	933.75
66	941.75
67	949.75
68	957.75

◇ New Zealand channels

(unit: MHz)

CH	Freq.
1	50.75
2	60.75
3	67.75
4	180.75
5	187.75
6	194.75
7	201.75
8	208.75
9	215.75
10	222.75
11	229.75

◇ UK channels

(unit: MHz)

CH	Freq.
21	477.25
22	485.25
23	493.25
24	501.25
25	509.25
26	517.25
27	525.25
28	533.25
29	541.25
30	549.25
31	557.25
32	565.25
33	573.25
34	581.25
35	589.25
36	597.25
37	605.25
38	613.25
39	621.25
40	629.25
41	637.25
42	645.25
43	653.25
44	661.25
45	669.25
46	677.25
47	685.25
48	693.25
49	701.25
50	709.25
51	717.25
52	725.25
53	733.25
54	741.25
55	749.25
56	757.25
57	765.25
58	773.25
59	781.25
60	789.25
61	797.25
62	805.25
63	813.25
64	821.25
65	829.25
66	837.25
67	845.25
68	853.25
69	861.25

◇ French channels

(unit: MHz)

CH	Freq.
2	49.25
3	54.00
4	57.25
5	182.50
6	190.50
7	198.50
8	206.50
9	214.50
10	222.50
21	477.75
22	485.75
23	493.75
24	501.75
25	509.75
26	517.75
27	525.75
28	533.75
29	541.75
30	549.75
31	557.75
32	565.75
33	573.75
34	581.75
35	589.75
36	597.75
37	605.75
38	613.75
39	621.75
40	629.75
41	637.75
42	645.75
43	653.75
44	661.75
45	669.75
46	677.75
47	685.75
48	693.75
49	701.75
50	709.75
51	717.75
52	725.75
53	733.75
54	741.75
55	749.75
56	757.75
57	765.75
58	773.75
59	781.75
60	789.75
61	797.75
62	805.75
63	813.75
64	821.75
65	829.75
66	837.75
67	845.75
68	853.75
69	861.75

12 FREQUENCY TABLE

◇ Indonesian channels

(unit: MHz)

CH	Freq.
2	53.75
3	60.75
4	67.75
5	180.75
6	187.75
7	194.75
8	201.75
9	208.75
10	215.75
11	222.75
12	229.75
21	476.75
22	484.75
23	492.75
24	500.75
25	508.75
26	516.75
27	524.75
28	532.75
29	540.75
30	548.75
31	556.75
32	564.75
33	572.75
34	580.75
35	588.75
36	596.75
37	604.75
38	612.75
39	620.75
40	628.75
41	636.75
42	644.75
43	652.75
44	660.75
45	668.75
46	676.75
47	684.75
48	692.75
49	700.75
50	708.75
51	716.75
52	724.75
53	732.75
54	740.75
55	748.75
56	756.75
57	764.75
58	772.75
59	780.75
60	788.75
61	796.75
62	804.75
63	812.75
64	820.75
65	828.75
66	836.75
67	844.75
68	852.75
69	860.75

◇ Italian channels

(unit: MHz)

CH	Freq.
A	59.25
B	67.75
C	87.75
D	180.75
E	188.75
F	197.75
G	206.75
H	215.75
H1	222.75
H2	229.75
21	476.75
22	484.75
23	492.75
24	500.75
25	508.75
26	516.75
27	524.75
28	532.75
29	540.75
30	548.75
31	556.75
32	564.75
33	572.75
34	580.75
35	588.75
36	596.75
37	604.75
38	612.75
39	620.75
40	628.75
41	636.75
42	644.75
43	652.75
44	660.75
45	668.75
46	676.75
47	684.75
48	692.75
49	700.75
50	708.75
51	716.75
52	724.75
53	732.75
54	740.75
55	748.75
56	756.75
57	764.75
58	772.75
59	780.75
60	788.75
61	796.75
62	804.75
63	812.75
64	820.75
65	828.75
66	836.75
67	844.75
68	852.75
69	860.75

◇ Taiwan channels

(unit: MHz)

CH	Freq.
7	179.75
8	185.75
9	191.75
10	197.75
11	203.75
12	209.75

◇ FOT channels

(unit: MHz)

CH	Freq.
4	181.75
5	189.75
6	197.75
7	205.75
8	213.75
9	221.75

■ VHF marine channels

(unit: MHz)

CH No.	Ship Transmit	Ship Receive
01	156.050	160.650
01A	156.050	156.050
02	156.100	160.700
03	156.150	160.750
03A	156.150	156.150
04	156.200	160.800
04A	156.200	156.200
05	156.250	160.850
05A	156.250	156.250
06	156.300	156.300
07	156.350	160.950
07A	156.350	156.350
08	156.400	156.400
09	156.450	156.450
10	156.500	156.500
11	156.550	156.550
12	156.600	156.600
13	156.650	156.650
14	156.700	156.700
15	156.750	156.750
16	156.800	156.800
17	156.850	156.850
18	156.900	161.500
18A	156.900	156.900
19	156.950	161.550
19A	156.950	156.950
20	157.000	161.600
20A	157.000	157.000
21	157.050	161.650
21A	157.050	157.050
21b	161.650	161.650
22	157.100	161.700
22A	157.100	157.100
23	157.150	161.750
23A	157.150	157.150
24	157.200	161.800
25	157.250	161.850
25b	161.850	161.850
26	157.300	161.900
27	157.350	161.950
28	157.400	162.000
28b	162.000	162.000
60	156.025	160.625
61	156.075	160.675
61A	156.075	156.075
62	156.125	160.725
62A	156.125	156.125
63	156.175	160.775
63A	156.175	156.175
64	156.225	160.825
64A	156.225	156.225
65	156.275	160.875
65A	156.275	156.275
66	156.325	160.925
66A	156.325	156.325
67	156.375	156.375
68	156.425	156.425
69	156.475	156.475
70	156.525	156.525
71	156.575	156.575
72	156.625	156.625
73	156.675	156.675
74	156.725	156.725
77	156.875	156.875
78	156.925	161.525
78A	156.925	156.925
79	156.975	161.575
79A	156.975	156.975
80	157.025	161.625
80A	157.025	157.025
81	157.075	161.675
81A	157.075	157.075
82	157.125	161.725
82A	157.125	157.125
83	157.175	161.775
83A	157.175	157.175
83b	161.775	161.775
84	157.225	161.825
84A	157.225	157.225
85	157.275	161.875
85A	157.275	157.275
86	157.325	161.925
86A	157.325	157.325
87	157.375	161.975
87A	157.375	157.375
88	157.425	162.025
88A	157.425	157.425

■ Weather channels

(unit: MHz)

WX CH	Frequency
01	162.550
02	162.400
03	162.475
04	162.425
05	162.450
06	162.500
07	162.525
08	161.650
09	161.775
10	163.275

■ Other communications in the USA

◇ HF CB (Citizens Band) channels

CH	Frequency
1	26.965 MHz
2	26.975 MHz
3	26.985 MHz
4	27.005 MHz
5	27.015 MHz
6	27.025 MHz
7	27.035 MHz
8	27.055 MHz
9	27.065 MHz
10	27.075 MHz
11	27.085 MHz
12	27.105 MHz
13	27.115 MHz
14	27.125 MHz
15	27.135 MHz
16	27.155 MHz
17	27.165 MHz
18	27.175 MHz
19	27.185 MHz
20	27.205 MHz
21	27.215 MHz
22	27.225 MHz
23	27.255 MHz
24	27.235 MHz
25	27.245 MHz
26	27.265 MHz
27	27.275 MHz
28	27.285 MHz
29	27.295 MHz
30	27.305 MHz
31	27.315 MHz
32	27.325 MHz
33	27.335 MHz
34	27.345 MHz
35	27.355 MHz
36	27.365 MHz
37	27.375 MHz
38	27.385 MHz
39	27.395 MHz
40	27.405 MHz

◇ MURS channels

CH	Frequency
1	151.820 MHz
2	151.880 MHz
3	151.940 MHz
4	154.570 MHz
5	154.600 MHz

◇ GMRS (General Mobile Radio Service) channels

Transceiver Receive	Transceiver transmit
462.5500 MHz	467.5500 MHz
462.5625 MHz	
462.5750 MHz	467.5750 MHz
462.5875 MHz	
462.6000 MHz	467.6000 MHz
462.6125 MHz	
462.6250 MHz	467.6250 MHz
462.6375 MHz	
462.6500 MHz	467.6500 MHz
462.6625 MHz	
462.6750 MHz	467.6750 MHz
462.6875 MHz	
462.7000 MHz	467.7000 MHz
462.7125 MHz	
462.7250 MHz	467.7250 MHz

◇ BRS (Business Radio Service) channels

Dot color	Frequency
Red	151.625 MHz
Purple	151.955 MHz
Blue	154.570 MHz
Green	154.600 MHz
White	462.575 MHz
Black	462.625 MHz
Orange	462.675 MHz
Brown	464.500 MHz
Yellow	464.550 MHz
“J” Dot	467.763 MHz
“K” Dot	467.813 MHz
Silver Star	467.850 MHz
Gold Star	467.875 MHz
Red Star	467.900 MHz
Blue Star	467.925 MHz

◇ FRS (Family Radio Service) channels

CH	Frequency
1	462.5625 MHz
2	462.5875 MHz
3	462.6125 MHz
4	462.6375 MHz
5	462.6625 MHz
6	462.6875 MHz
7	462.7125 MHz
8	467.5625 MHz
9	467.5875 MHz
10	467.6125 MHz
11	467.6375 MHz
12	467.6625 MHz
13	467.6875 MHz
14	467.7125 MHz

◇ General aviation frequencies

(unit: MHz)

Frequency	Description
121.500	Emergencies
122.000	Flight Advisory Service
122.200	Flight Service Stations
122.700	Unicom— Uncontrolled airports
122.725	Unicom— Private airports
122.750	Unicom— Air-to-air communications
122.800	Unicom— Uncontrolled airports
122.900	Search & rescue training, & uncontrolled airports
122.950	Unicom— Controlled airports
123.000	Unicom— Uncontrolled airports
123.025	Helicopters— Air-to-air communications
123.050	Unicom— Heliports
123.075	Unicom— Heliports
123.100	Search & Rescue
123.300	Flight Schools
123.450	Air-to-air communications (unofficial)
123.500	Flight Schools
123.600	Flight Service Stations— Uncontrolled airports
148.125	Civil Air Patrol Repeaters— Secondary
148.150	Civil Air Patrol Repeaters— Primary
156.300	Aircraft-to-ship— safety
156.400	Aircraft-to-ship— commercial
156.425	Aircraft-to-ship— non-commercial
156.450	Aircraft-to-ship— commercial
156.625	Aircraft-to-ship— non-commercial
156.900	Aircraft-to-ship— commercial
243.000	Military Emergency “Guard”
255.400	Flight Advisory Service
257.800	Civilian Towers
311.000	SAC Primary
321.000	SAC Secondary
381.800	USCG— Primary

◇ Cable TV (IRC)

(unit: MHz)

CH	Frequency range	Remarks	
2– 13	54–216	(same as broadcast VHF)	
14– 22	120–174	Mid band	Ch. A–I
23– 36	216–300	Super band	J–W
37– 53	300–402	Hyper band	AA–QQ
54– 64	402–468		
65– 94	468–648	(Ultra band)	
95– 99	90–120	Low band	A5–A1
100–125	648–804	(Ultra band)	

◇ Wireless Microphones

169.445 MHz
169.505 MHz
170.245 MHz
170.305 MHz
171.045 MHz
171.105 MHz
171.845 MHz
171.905 MHz

*Power limited to 1/20 watt. These frequencies are also used at drive-in windows at some fast-food restaurants.

■ Other communications— other countries

◇ LPD (Low Power Device) **channels** (unit: MHz)

CH	Frequency
1	433.075
2	433.100
3	433.125
4	433.150
5	433.175
6	433.200
7	433.225
8	433.250
9	433.275
10	433.300
11	433.325
12	433.350
13	433.375
14	433.400
15	433.425
16	433.450
17	433.475
18	433.500
19	433.525
20	433.550
21	433.575
22	433.600
23	433.625
24	433.650
25	433.675
26	433.700
27	433.725
28	433.750
29	433.775
30	433.800
31	433.825
32	433.850
33	433.875
34	433.900
35	433.925
36	433.950
37	433.975
38	434.000
39	434.025
40	434.050
41	434.075
42	434.100
43	434.125
44	434.150
45	434.175
46	434.200
47	434.225
48	434.250
49	434.275
50	434.300
51	434.325
52	434.350
53	434.375
54	434.400
55	434.425
56	434.450
57	434.475
58	434.500
59	434.525
60	434.550
61	434.575
62	434.600
63	434.625
64	434.650
65	434.675
66	434.700
67	434.725
68	434.750
69	434.775

◇ PMR446 channels (unit: MHz)

CH	Frequency
1	446.00625
2	446.01875
3	446.03125
4	446.04375
5	446.05625
6	446.06875
7	446.08125
8	446.09375

◇ UHF C.R.S (Citizen Radio Service) channels

CH	Frequency
1	476.425 MHz
2	476.450 MHz
3	476.475 MHz
4	476.500 MHz
5	476.525 MHz
6	476.550 MHz
7	476.575 MHz
8	476.600 MHz
9	476.625 MHz
10	476.650 MHz
11	476.675 MHz
12	476.700 MHz
13	476.725 MHz
14	476.750 MHz
15	476.775 MHz
16	476.800 MHz
17	476.825 MHz
18	476.850 MHz
19	476.875 MHz
20	476.900 MHz

CH	Frequency
21	476.925 MHz
22	476.950 MHz
23	476.975 MHz
24	477.000 MHz
25	477.025 MHz
26	477.050 MHz
27	477.075 MHz
28	477.100 MHz
29	477.125 MHz
30	477.150 MHz
31	477.175 MHz
32	477.200 MHz
33	477.225 MHz
34	477.250 MHz
35	477.275 MHz
36	477.300 MHz
37	477.325 MHz
38	477.350 MHz
39	477.375 MHz
40	477.400 MHz

13 MAINTENANCE

■ Troubleshooting

If your transceiver seems to be malfunctioning, please check the following points before sending it to a service center.

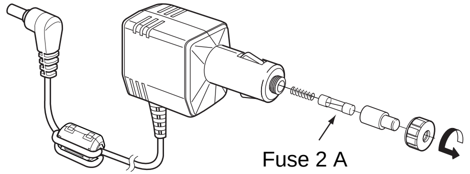
PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
No power comes on.	• The batteries are exhausted. • The battery polarity is reversed.	• Charge the battery pack. • Check the battery polarity.	p. 6 p. 6
No sound comes from the speaker.	• Volume level is too low. • Squelch level is set too tight. • Different tone is selected with tone/DTCS squelch.	• Push **[▲]** to obtain a suitable level. • While pushing and holding **[SQL]**, rotate **[DIAL]** to set the squelch level. • Turn the appropriate function OFF.	p. 13 p. 14 p. 45
Sensitivity is low and only strong signals are audible.	• Attenuator function is activated.	• While pushing and holding **[FUNC]**, push **[SQL]** momentarily to turn the attenuator function OFF.	p. 15
Frequency cannot be set.	• The lock function is activated.	• While pushing and holding **[FUNC]**, push and hold **[BAND]** for 1 sec. to turn the function OFF.	p. 18
No beep sound.	• Beep tones are turned OFF or the beep tone level is too low.	• Turn beep tone ON or set the beep tone level to appropriate level in *set mode*.	p. 54
Receive audio is distorted.	• The operating mode is not selected correctly.	• While pushing and holding **[FUNC]**, push **[CALL]** several times to select a suitable operating mode.	p. 14
Transmitting is impossible.	• The battery pack is exhausted. • A frequency outside of the 144/440 MHz amateur bands is set	• Charge the battery pack. • Set the frequency within the 144/440 MHz amateur bands.	p. 6 pgs. 9, 11
No contact possible with another station.	• The other station is using tone squelch. • The transceiver is set to duplex	• Turn the tone squelch function ON. • Set to simplex.	p. 45 p. 19
Repeater cannot be accessed.	• Wrong offset frequency is programmed. • Priority watch is paused on the watching frequency	• Correct the offset frequency. • Correct the subaudible tone frequency	p. 20 p. 21

Troubleshooting (continued)

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
Desired set mode item cannot be selected.	• "EXPAND" item is set to OFF.	• Turn "EXPAND" item ON.	p. 49
Programmed scan does not start.	• Program scan edges are not programmed.	• Program a pair of scan edge channels.	p. 36
Memory or bank scan does not start.	• No or only one memory or bank channel is programmed.	• Program at least 2 memory or bank channels	pgs. 24, 25
Charging indicator (BC-164) lights red while charging.	• The temperature is too hot or too cold around the charger (BC-164).	• Place the charger within the specified temperature range (+5°C to +35°C; +41°F to +95 °F), then charge the battery pack.	p. 8

■ Optional CP-21LR fuse replacement

If the fuse blows or the charger stops functioning while operating with the optional CP-21LR, find the source of the problem if possible, and replace the damaged fuse with a new, rated one (FGB 2 A) as shown at right.



14 SPECIFICATIONS

■ Transceiver

◇ General

• Frequency coverage : (unit: MHz)

	Transmit	Receive*[4]
U.S.A	144–148, 430–450*[1]	0.495–821.990, 851–866.990, 896–999.990
Canada	144–148, 430–450*[1]	0.495–999.990
Australia	144–148, 420–450*[3]	0.495–999.990
Korea	144–146, 430–440	144–146, 430–440
Taiwan	144–146, 430–432	144–146, 430–432
General	136–173.995*[2], 400–478.995*[3]	0.495–999.990

*[1] Guaranteed 440–450 MHz only, *[2] Guaranteed 144–148 MHz only
*[3] Guaranteed 430–440 MHz only,
*[4] Guaranteed receiving ranges are same as transmit ranges

- Mode : FM, AM (Rx only), WFM (Rx only)
- No. of memory channels : 1250 (incl. 50 scan edges, 200 auto memory write channels)
- No. of call channels : 2 channels
- Usable temp. range : –10°C to +60°C; +14°F to +140°F
- Tuning steps : 5, 6.25, 8.33, 9, 10, 12.5, 15, 20, 25, 30, 50, 100 and 200 kHz
- Frequency stability : ±6 ppm (–10°C to +60°C;+14°F to +140°F)
- Power supply : Specified battery pack (3.7 V DC)

• Current drain (at 3.7 V DC) :

Tx High	144, 440 MHz	Less than 1.5 A
Tx Low	144 MHz	0.4 A (approx.)
	440 MHz	0.5 A (approx.)
Rx	rated audio	Less than 150 mA
	standby	80 mA (approx.)

- Antenna connector : SMA (50 Ω)
- External MIC/SP connector : 3-conductor 3.5(d) mm; $\frac{1}{8}$″
  8 Ω(SP)/2 kΩ(MIC)
- Dimensions (projections not included) : 47(W)×81(H)×28(D) mm; $1\frac{27}{32}$(W)×$3\frac{3}{16}$(H)×$1\frac{3}{32}$(D) in
- Weight (approx.) : 160 g; 5.64 oz (with antenna and BP-243)

◇ Receiver

- Receive system : Double-conversion superheterodyne
- Intermediate frequencies : 1st 46.35 MHz (FM/AM)
  14.85 MHz (WFM)
  2nd 450 kHz
- Sensitivity : (except spurious points)

FM (at 12 dB SINAD)

30.000–89.995 MHz	Less than 0.45 μV
90.000–143.995 MHz	Less than 0.2 μV
144.000–147.995 MHz	Less than 0.18 μV
148.000–179.995 MHz	Less than 0.2 μV
350.000–470.000 MHz	0.18 μV (typical)
600.000–939.990 MHz	Less than 1.4 μV
940.000–999.990 MHz	Less than 2.5 μV

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

AM (at 10 dB S/N)
  0.495–4.995 MHz Less than 2.2 μV
  5.000–29.995 MHz Less than 1.4 μV
  118.000–136.995 MHz Less than 1.4 μV
WFM (at 12 dB SINAD)
  76.000–107.995 MHz Less than 1.8 μV
  600–799.990 MHz Less than 2.5 μV

- Selectivity :
  - FM, AM More than 12 kHz/6 dB
    Less than 30 kHz/60 dB
  - WFM More than 150 kHz/10 dB
    Less than 700 kHz/20 dB
- Spurious and image rejection ratio:
  More than 40dB
- Audio output power (at 3.7 V DC) : More than 50 mW at 10% distortion with an 8 Ω load

◇ Transmitter

- Modulation system : Variable reactance frequency modulation
- Output power (at 3.7 V DC) :
  - 144 MHz High 1.5 W, Low 0.1 W (approx.)
  - 440 MHz High 1.0 W, Low 0.1 W (approx.)
- Max. frequency deviation : ±5.0 kHz
- Spurious emissions : Less than –60 dB (High power)
  Less than –50 dB (Low power)

■ Battery pack (BP-243)

- Capacity : 1800 mAh
- Battery voltage : 3.7 V
- Charging temp. range : 0°C to +40°C; +32°F to +104°F
- Usable temp. range : –20°C to +60°C; –4°F to +140°F
- Storage temp. range :
  - Within 1 month –20°C to +50°C; –4°F to +122°F
  - Within 3 months –20°C to +35°C; –4°F to +95°F
  - Within 1 year –20°C to +20°C; –4°F to +68°F
- Dimensions (projections not included) : 35.3(W)×11.4(H)×53.1(D) mm; $1\frac{3}{8}$(W)×$\frac{7}{16}$(H)×$2\frac{3}{32}$(D) in
- Charging period (approx.) : 3 hrs.
- Battery life[*1] (approx.) : 20 hrs.

[*1] Operating periods are calculated under the following conditions;
Tx : Rx : standby =5 : 5 : 90, power save function: auto setting is activated

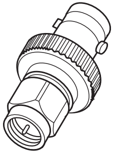
■ Battery charger (BC-164)

- Power supply : 12 to 16 V DC or the specified Icom AC adapter (BC-145LA/LE/LV)
- Charging current : 760 mA±10%
- End voltage : 4.2 V±0.1 V
- Charging temp. range : +5°C to +35°C; +41°F to +95 °F
- Dimensions (projections not included) : 67(W)×86.5(H)×50(D) mm; $2\frac{5}{8}$(W)×$3\frac{13}{32}$(H)×$1\frac{31}{32}$(D) in
- Weight (approx.) : 95 g; 3.4 oz

15 OPTIONS

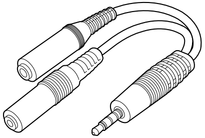
■ Options

AD-92SMA ANTENNA CONNECTOR ADAPTER



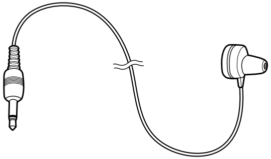
Allows you to connect an external antenna with a BNC connector.

OPC-782 PLUG ADAPTER CABLE



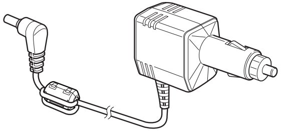
Used for connection with an Icom speaker-microphone or earphone.

SP-13 EARPHONE



Provides clear receive audio in noisy environments. An optional OPC-782 is required for connection.

CP-21LR CIGARETTE LIGHTER CABLE WITH NOISE FILTER



Allows you to charge the transceiver using supplied BC-164 BATTERY CHARGER.

BP-243 LI-ION BATTERY PACK
3.7 V/1800 mAh Lithium Ion battery pack. Same as supplied one.

OPC-474 CLONING CABLE
For connection between transceivers for data cloning.

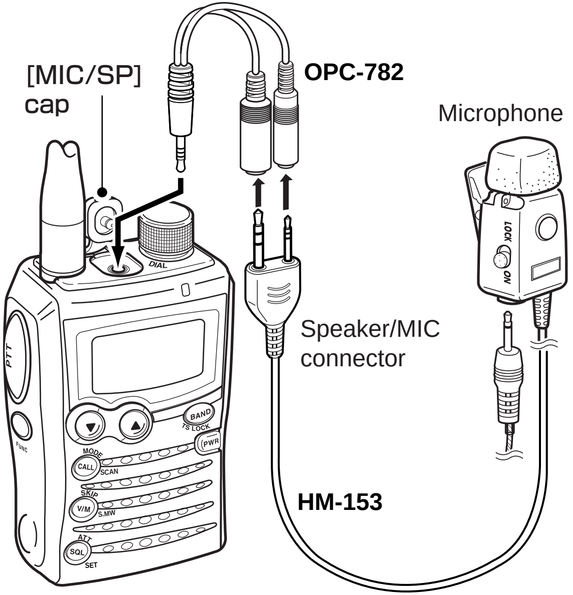
CS-P7 CLONING SOFTWARE
+ **OPC-478U** CLONING CABLE
(USB type)
Allows you to transfer data, such as memories, and quickly and easily edit and store data via a PC (for Microsoft® Windows® 98/Me/2000/XP). Current RS-232C (DB 9-pin) type cloning cable, OPC-478, is also available.

BC-145LA/LE/LV AC ADAPTER
Same as supplied AC adapter with BC-164. (Not supplied with some versions)
Regularly charges the installed battery pack into transceiver.

◇ HM-153 EARPHONE MICROPHONE

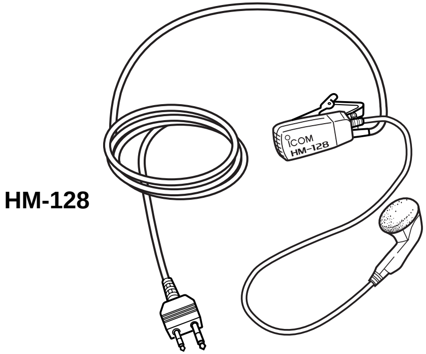
An optional OPC-782 is required for connection.

NOTE: Connect the OPC-782 after removing the [MIC/SP] cap (MIC/SP jack cover). **Keep** the [MIC/SP] cap attached when jack are not in use to keep the contact clean.


[MIC/SP] cap
OPC-782
Microphone
Speaker/MIC connector
HM-153
DIAL
PTT
FUNC
BAND
TS LOCK
PWR
MODE
CALL
SCAN
SKIP
V/M
S.MW
ATT
SQL
SET
LOCK
ON

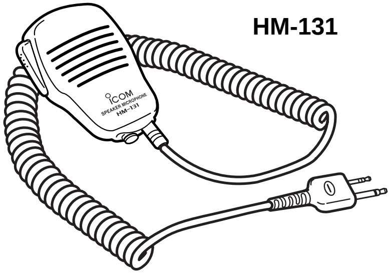
◇ HM-128 EARPHONE MICROPHONE

An optional OPC-782 is required for connection.


HM-128
ICOM
HM-128

◇ HM-131 SPEAKER MICROPHONE

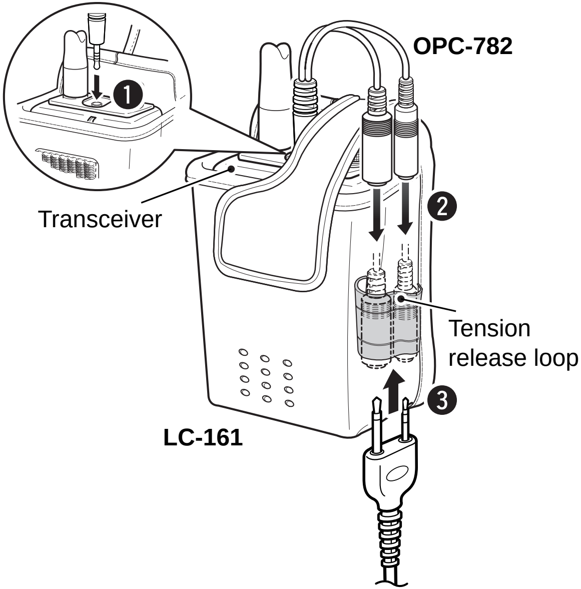
An optional OPC-782 is required for connection.


HM-131
ICOM
SPEAKER MICROPHONE
HM-131

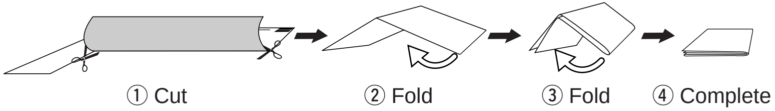
◇ LC-161 CARRYING CASE

Helps protect the transceiver from scratches, etc.

NOTE: When using as below illustration, tension release loop protects the [MIC/SP] connector from being damaged by cable stress or vibration


OPC-782
❶
Transceiver
❷
Tension release loop
❸
LC-161

Important operating instructions are summed up in this and the following page for your simple reference. By cutting along the line and folding on the dotted line, it will become a card sized operating guide which can easily be carried in a card case or wallet, etc.



<CUT HERE>

<CUT HERE>

ICOM POCKET GUIDE
IC-P7A

■ VFO and memory mode selection

➥ Push **[V/M]** to toggle between *VFO* and *memory mode*.

■ Operating mode selection

➥ While pushing and holding **[FUNC]**, push **[CALL]** several times to select the desired mode.

■ Audio level setting

➥ Push **[▲]** to increase, push **[▼]** to decrease the audio level.

■ Squelch level setting

➥ While pushing **[SQL]**, rotate **[DIAL]** to set the squelch level.

■ Frequency band selection

➥ Push **[BAND]** several times, or while pushing and holding **[BAND]**, rotate **[DIAL]** to select the desired frequency band.

■ Tuning step selection

➥ While pushing and holding **[FUNC]**, push **[BAND]** to enter tuning step selection. Then rotate **[DIAL]** to select the desired tuning step.
- Push **[BAND]** again to return to the previous condition.

■ Key lock function

➥ While pushing and holding **[FUNC]**, push **[BAND]** for 1 sec. to toggle the key lock function ON and OFF.
- " L " appears when the lock function is in use.

■ Monitor function

➥ Push and hold **[SQL]**.
- The 1st segment of S/RF meter blinks.

■ Frequency setting

① Push **[V/M]** to select *VFO mode*.

② Rotate **[DIAL]** to set the desired operating frequency.
- While pushing **[FUNC]**, dial rotation changes frequency in 1 MHz steps.

■ Attenuator function

➥ While pushing and holding **[FUNC]**, push **[SQL]** to toggle the attenuator function ON and OFF.
- "ATT" appears when the attenuator function is in use.

■ Transmit power setting

➥ While pushing and holding **[FUNC]**, push **[PTT]** to toggle the transmit output power High and Low.
- "LOW" appears when the low output power is selected.

■ Set mode setting

① While pushing and holding **[FUNC]**, push and hold **[SQL]** for 1 sec. to enter *set mode*.

② Rotate **[DIAL]** to select the desired item.

③ While pushing and holding **[FUNC]**, rotate **[DIAL]** to set the desired value or condition.

④ Push **[SQL]** to exit *set mode*.

■ Memory channel selection

① Push **[V/M]** to select *memory mode*.

② Rotate **[DIAL]** to set the desired memory channel.
- While pushing **[FUNC]**, dial rotation changes memory channel in 10 channels steps.

■ Memory bank channel selection

① Push **[V/M]** to select *memory mode*.
② Push **[BAND]** several times, or while pushing and holding **[BAND]**, rotate **[DIAL]** to select the desired bank group.
③ Rotate **[DIAL]** to select the desired bank channel.

■ Call channel selection

① Push **[CALL]** to select *call channel mode*.
② Rotate **[DIAL]** to select the desired call channel.
- Push **[CALL]** again or push **[V/M]** to return to the previous condition.

■ Memory channel programming

① Set the desired frequency and other functions in *VFO mode*.
② Push and hold **[V/M]** for 1 sec. to enter *select memory write mode*.
- 1 short and 1 long beeps sound.

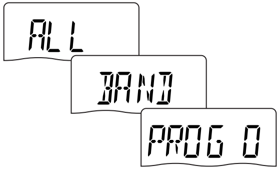
③ Rotate **[DIAL]** to select the desired memory channel number.
④ Push and hold **[V/M]** for 1 sec. again to program the contents into the selected channel.
- 3 beeps sound.

■ Scan skip setting

① Push **[V/M]** to select *memory mode*.
② Rotate **[DIAL]** to select the desired memory channel.
③ While pushing and holding **[FUNC]**, push **[V/M]** to set the skip setting (skip channel or skip frequency) ON and OFF.

■ VFO scans

① Push **[V/M]** to select *VFO mode*.
② Push and hold **[CALL]** for 1 sec.
- One of scan type "ALL," "BAND" or "PROG xx" (xx= 0–24) appears.

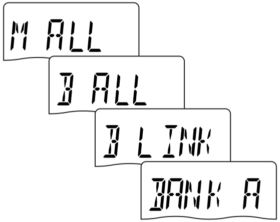


③ Rotate **[DIAL]** to select the desired scan type. Push **[CALL]** again to start the scan.
- Rotate **[DIAL]** to change the scanning direction.
- During scan, push **[V/M]** to start auto memory write scan.

④ Push **[CALL]** again to stop the scan.

■ Memory scans

① Push **[V/M]** to select *memory mode*.
② Push and hold **[CALL]** for 1 sec.
- One of scan type "M ALL," "B ALL," "B LINK" or "BANK" appears, if memory banks are assigned.



③ Rotate **[DIAL]** to select the desired scan type. Push **[CALL]** again to start the scan.
- Rotate **[DIAL]** to change the scanning direction.

④ Push **[CALL]** again to stop the scan.

MEMO