◇ Memory scan watch

While operating on a VFO frequency or the call channel, memory scan watch monitors for signals in each memory channel in sequence, every 5 sec.

① Push **[C•MR]** to select memory mode, if necessary.
 • "**MR**" appears.
② Push **[A•FUNC]**, then push **[5•SCAN]** to start the memory scan.
③ Push **[A•FUNC]**, then push **[7•PRIO]** to start the watching.
 • VFO is displayed, then the decimal point ".", on the frequency readout blinks.
 • When the signal is detected on the priority channel, the watching is paused according to the setting of the scan resume condition.
④ Push **[D•CLR]** to stop the watching.

■ Scan resume condition

USING SET MODE

When a signal is received during scanning, the scan resume condition determines what action the transceiver takes. The transceiver has 2 scan resume conditions available as illustrated below. Use SET MODE to select the one which best suits your needs.

① Push **[A•FUNC]**, then push **[8•SET]** to enter SET MODE.
② Push **[▲]** or **[▼]** several times until "SCP" or "SCt" appears.
③ Rotate **[VOL]** to select the desired scan resume condition.
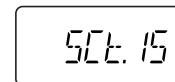
 • *Pause scan:*
  When receiving a signal, scan pauses on the signal until it disappears. Resumes 2 sec. after the signal disappears.
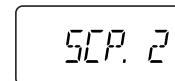
  SCP. 2
  Pause scan

 • *Timer scan:*
  When receiving a signal, scan pauses on the signal for 5 sec., 10 sec. or 15 sec., then resumes.

 SCt. 15
  Timer scan

④ Push **[✱•ENT⌐⚬]** (or **[D•CLR]**)to set and exit SET MODE.

8

SUBAUDIBLE TONES

■ Tone squelch

◇ Operation

The tone squelch opens only when receiving a signal containing a matching subaudible tone. You can silently wait for calls from group members using the same tone.

① Set the operating frequency.
• Set the AF and squelch to the desired level as the normal operation.
② Set the desired subaudible tone in SET MODE.
• See page 32 for programming.
③ Push **[A•FUNC]**, then push **[1•TONE]**.
• Repeat several times until "▷" appears when selecting CTCSS, or "◎" appears when selecting DTCS.

Push [A FUNC] [1 TONE]

CTCSS   DTCS
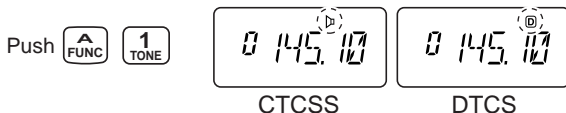
④ When the received signal includes a matching tone, squelch opens and the signal can be heard.
• When the received signal's tone does not match, tone squelch does not open, however, the S-indicator shows signal strength.
• To open the squelch manually, push and hold **[MONI]**.
⑤ Operate the transceiver in the normal way.
⑥ To cancel the tone squelch, push **[A•FUNC]** and **[1•TONE]**.
• Repeat several times until "▷" or "◎" disappears.

NOTE: The transceiver has 50 tone frequencies and consequently their spacing is narrow compared to units having 38 tones. Therefore, some tone frequencies may receive interference from adjacent tone frequencies.
To prevent interference from adjacent tone frequencies, using the frequencies as in the following table, is recommended.

• **Recommended tone frequencies**   **(Unit: Hz)**

67.0	79.7	94.8	110.9	131.8	156.7	186.2	225.7
69.3	82.5	97.4	114.8	136.5	162.2	192.8	233.6
71.9	85.4	100.0	118.8	141.3	167.9	203.5	241.8
74.4	88.5	103.5	123.0	146.2	173.8	210.7	250.3
77.0	91.5	107.2	127.3	151.4	179.9	218.1	

◇ **Setting subaudible tones for tone squelch operation**

Separate tone frequencies can be set for tone squelch operation rather than repeater operation (the same range of tones is available— see right below). Like the repeater tones, these are set in SET MODE.

① Select VFO or memory channel.
② Push **[A•FUNC]**, then push **[8•SET]** to enter SET MODE.
③ Push **[▲]** or **[▼]** several times until "Ct" appears when selecting CTCSS, or "dt" appears when selecting DTCS.
  • "▷" blinks when selecting CTCSS, or "▣" blinks when selecting DTCS.
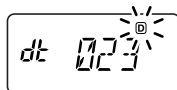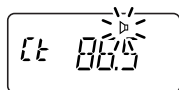
④ Rotate **[VOL]** to select the desired subaudible tone.
⑤ Push **[✱•ENT⊤•○]** (or **[D•CLR]**) to program the selected tone and exit SET MODE.

When SET MODE is selected from memory mode.
⑥ Push **[A•FUNC]**, then push **[C•MR]** for 1 sec. to transfer the contents to VFO.
  • 3 beeps are emitted.
  • VFO mode is selected automatically.
⑦ Push **[A•FUNC]**, then push **[C•MR]** for 1 sec.
  • 3 beeps are emitted.

Steps ⑥ and ⑦ are necessary when overwriting the memory contents permanently. The set tone frequency is used for temporary operation only, therefore, these steps are not necessary.

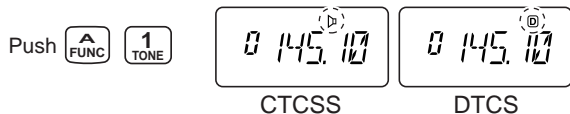• **Available CTCSS tone frequency list**   (unit: Hz)

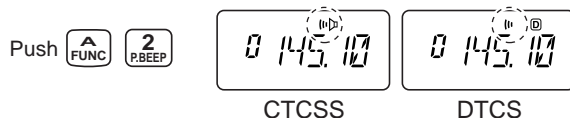|							
67.0	85.4	107.2	136.5	165.5	186.2	210.7	254.1
69.3	88.5	110.9	141.3	167.9	189.9	218.1	
71.9	91.5	114.8	146.2	171.3	192.8	225.7	
74.4	94.8	118.8	151.4	173.8	196.6	229.1	
77.0	97.4	123.0	156.7	177.3	199.5	233.6	
79.7	100.0	127.3	159.8	179.9	203.5	241.8	
82.5	103.5	131.8	162.2	183.5	206.5	250.3	

9

■ **Pocket beep operation**

This function uses subaudible tones for calling and can be used as a "common pager" to inform you that someone has called when you were away from the transceiver.

◇ **Waiting for a call from a specific station**

① Set the operating frequency.
② Set the desired CTCSS tone frequency or DTCS code in SET MODE.
  • See p. 33 for programming details.
③ Push **[A•FUNC]**, then push **[1•TONE]**.
  • Repeat several times until "▷" appears when CTCSS, or "ᴰ" appears when DTCS is selected.

Push [A FUNC] [1 TONE] $0\ 145.10$ (CTCSS) $0\ 145.10$ (DTCS)

    CTCSS   DTCS

④ Push **[A•FUNC]**, then push **[2•P.BEEP]** to activate the pocket beep function.
  • "ᴵⁿ" appears.

Push [A FUNC] [2 P.BEEP] $0\ 145.10$ (CTCSS) $0\ 145.10$ (DTCS)

    CTCSS   DTCS

⑤ When a signal with the matched tone is received, the transceiver emits beep tones and blinks "ᴵⁿ."
  • Beep tones sound for 30 sec. and "ᴵⁿ" blinks. To stop the beeps manually, push any key. "ᴵⁿ" continues blinking until step ⑥ is operated.

    $0\ 145.10$ (CTCSS) $0\ 145.10$ (DTCS)

    CTCSS   DTCS
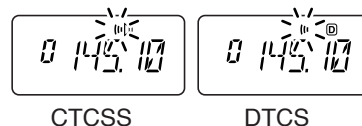
⑥ Push **[PTT]** to answer.
  • "ᴵⁿ" disappears and cancels the pocket beep function automatically.

■ Tone scan

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

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

② Push **[A•FUNC]**, then push **[1•TONE]**.
  • Repeat several times to select the tone condition or type to be scanned. (One of "♪," "▷" or "Ⓓ" appears)
  • The tone scan can be operated even if the tone condition or type is not selected.

Push [A FUNC] [1 TONE]
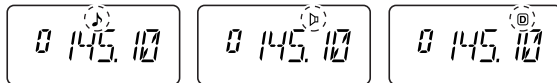
③ Push **[A•FUNC]**, then push **[3•T.SCAN]** to start the tone scan.
  • To change the scanning direction, push **[▲]** or **[▼]**.

Push [A FUNC] [3 T.SCAN]

④ When the CTCSS tone frequency or DTCS code is matched, the squelch opens and the tone frequency or code is temporarily programmed into the selected mode such as memory or call channel.
  • The tone scan pauses when a CTCSS tone frequency or 3-digit DTCS code is detected.
  • The decoded CTCSS tone frequency or 3-digit DTCS code is used for the tone encoder or tone encoder/decoder depending on the selected tone condition or type in step ②.
  - No indication : Cannot be used for operation.
  - "♪"   : CTCSS tone encoder
  - "▷"   : CTCSS tone encoder/decoder
  - "Ⓓ"   : DTCS tone encoder/decoder

⑤ Push **[D•CLR]** to stop the scan.

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■ Pager function

This function uses DTMF codes for paging and can be used as a "message pager" to confirm you of a caller's identification even when you leave the transceiver temporarily unattended.

Pager selective code (push [PTT])

Beep Beep Beep

Answer back (manual)

Beep Beep Beep

Set both transceivers to either code squelch or non-coded operation

Communication
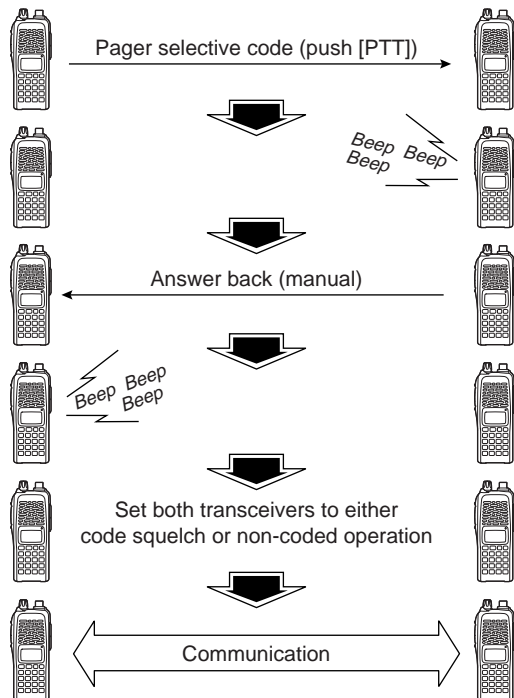
■ Code programming

◇ Before programming

The pager and code squelch functions require ID codes and a group code. These codes are 3-digit DTMF codes and must be written into the code channels before operation.

① Decide the ID code of each transceiver and a group code for your group.
② Decide whether you want to return to normal operation or code squelch operation after a connection is made.
③ Program the ID code, group code and transmit codes (other station's codes) as below.

◇ Code channel assignment

ID OR GROUP CODE	CODE CHANNEL NUMBER	"RECEIVE ACCEPT" OR "RECEIVE INHIBIT"
Your ID code	0	"Receive accept" only
Other parties' ID code	1–6	"Receive inhibit" should be programmed in each channel.
Group code	One of 1–6	"Receive accept" must be programmed.
Memory space*	P	"Receive inhibit" only.

*Channel CP automatically memorizes an ID code when receiving a pager call. The contents in channel CP cannot be changed manually.

◇ **Code programming**

An ID code **MUST** be programmed into code channel C0. Up to 6 transmit codes are programmable into code channels, C1 to C6, if required.

① Push **[A•FUNC]**, then push **[0•OPT]** to enter OPTION SET MODE.
　• Rotate **[VOL]** to select "dtm.PG" or "dtm.CS," if "dtm.OF" appears.

$$dtm.OF \Rightarrow dtm.PG \quad or \quad dtm.CS$$
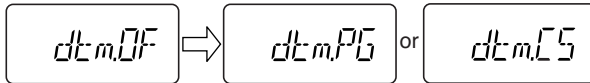
② Push **[0•OPT]** for 1 sec. to enter the code selection mode.
　• One of either "CP" or "C0" to "C6" blinks.
　• "C0" is the ID code and "C1" to "C6" are transmit codes.

$$CP \quad 000$$
SKIP
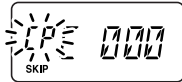
③ Rotate **[VOL]** (or push **[▲]/[▼]**) to select code channel C0.
　• A different ID code must be programmed into each transceiver.

④ Enter the desired 3-digit ID code via the keypad.

$$C0 \quad 424$$
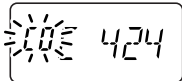
⑤ Rotate **[VOL]** (or push **[▲]/[▼]**) to select a transmit code channel from C1 to C6.

⑥ Enter the desired 3-digit transmit code via the keypad.

$$C2 \quad 222$$

⑦ Push **[A•FUNC]**, then push **[6•SKIP]** to set the channel for "receive inhibit" or "receive accept."
　• When "receive inhibit" is set, "SKIP" appears as below.
　• Code channel C0 cannot be set as "receive inhibit."
　• See the table for "receive accept" and "receive inhibit" details (p. 36).

$$C2 \quad 222$$
SKIP
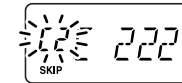
⑧ Repeat steps ⑤ and ⑥ to set additional transmit code channels, if desired.
⑨ Push **[✱•ENT↜]** or **[PTT]** to exit CODE SET MODE.

• **Receive accept/receive inhibit**
➥ "Receive accept" ("SKIP" indicator does not appear) accepts pager calls when the transceiver receives a signal with a code the same as that in the code channel.
➥ "Receive inhibit" ("SKIP" indicator appears) rejects calls even when the transceiver receives a code the same as that in the code channel. Transmit codes should therefore be programmed for "receive inhibit," otherwise the transceiver will not reject unnecessary calls.

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■ **Pager operation**

◇ **Calling a specific station**

① Program the desired code channel in advance (p. 37).
② Set the operating frequency.
   • Set the AF and squelch to the desired level as in normal operation.
③ Push **[A•FUNC]**, then push **[0•OPT]**.
   • Rotate **[VOL]** to select "dtm.PG," if "dtm.CS" or "dtm.OF" appears.

$$\boxed{dtm.PG}$$
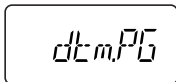
④ Select the desired transmit code channel:
   ➤ Push **[0•OPT]** for 1 sec. to enter the code selection condition.
   ➤ Rotate **[VOL]** to select the desired code channel.
   ➤ Push **[✳•ENT⊤○]** to return to previous condition.
     • 100 MHz digit shows "P."

$$\boxed{1P45.10}$$
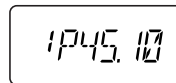
⑤ Push **[PTT]** to transmit the pager code.
⑥ Wait for an answer back.
   • When the transceiver receives an answer back code, the function display shows the other member's ID or group code.

⑦ After confirming a connection, push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE, then rotate **[VOL]** to select the code squelch operation, or repeat the previous key operation again to select non-selective calling system.
   • DO NOT push any digit keys while code channels C0 to C6 are displayed, or code channel contents will be changed.
⑧ Communicate with the other party as normal: push **[PTT]** to transmit; release to receive.

◇ **Waiting for a call from a specific station**

① Set the operating frequency.
② Push **[A•FUNC]**, then push **[0•OPT]**.
   ➤ Rotate **[VOL]** to select "dtm.PG," if "dtm.CS" or "dtm.OF" appears.
   ➤ Push **[✳•ENT⊤○]** to return to previous condition.
     • 100 MHz digit shows "P."
③ Wait for a call.
   • When receiving a call, the caller's ID or group code appears as shown at next page.
   • DO NOT push any digit keys while code channels C0 to C6 are displayed, or code channel contents will be changed.
④ Push **[PTT]** to send an answer back call and display the operating frequency.
⑤ After confirming a connection, push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE, then rotate **[VOL]** to select the code squelch operation, or repeat the previous key operation again to select non-selective calling system.
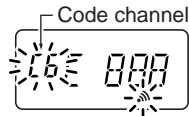
• **PERSONAL CALLS**

This display appears when you are called with your ID code and the calling station's ID code is 123.
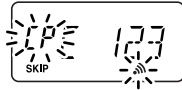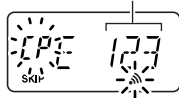
"CP" and " 🔊 " blink.

• **GROUP CALLS**

This display appears when you are called with the group code, 888, and 888 has been programmed into code channel C6.

Code channel

• **ERROR INFORMATION**

When the transceiver receives an incomplete signal, "E" and previously received code appear.

Previously received code.

Pager/code squelch operation during channel indication
To use these functions in channel indication, the pager/code squelch setting must be programmed with other memory contents before selecting channel number indication.

■ Code squelch

Code squelch provides communications with quiet standby since you will only receive calls from stations which know your ID or group code. Each push of **[PTT]** sends a 3-digit code in order to open the receiving station's code squelch prior to voice transmission.

① Set the operating frequency.
   • Set the AF and squelch to the desired level as in normal operation.
② Push **[A•FUNC]**, then push **[0•OPT]**.
   • Rotate **[VOL]** to select "dtm.CS," if "dtm.PG" or "dtm.OF" appears.
③ Select the desired transmit code channel:
   ➥ Push **[0•OPT]** for 1 sec. to enter code selection condition.
   ➥ Rotate **[VOL]** to select the desired code channel.
   ➥ Push **[✱•ENT‑‑○]** to exit CODE SET MODE and return to previous condition.
      • 100 MHz digit shows "C."
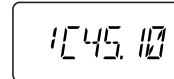
④ Operate the transceiver in the normal way (push **[PTT]** to transmit; release **[PTT]** to receive).
⑤ To cancel the code squelch, push **[A•FUNC]** and **[0•OPT]**, then rotate **[VOL]** to select "dtm.OF."
   • 100 MHz digit shows "1" when the function is cancelled.

■ Digital mode operation

The IC-V82 with optional digital unit UT-118 can be operated for digital voice mode and low-speed data operation for both transmit and receive. Also available for connecting GPS receiver (compatible with an RS-232C output/NMEA format/4800 bps) and transmit/receive position data.
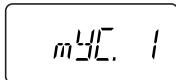
■ Call sign programming

Four kind of call sign memories are available for your own call sign "myC," other station call sign "yUC" and nearest repeater call sign "R1C" and another zone's repeater call sign "R2C." Each call sign memory can be stored up to 6 call signs, and each call sign programmed up to 8 characters.

◊ Your call sign programming

Your call sign must be programmed for both Digital voice and low-speed data communications (including GPS transmission).

① Push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE, then push **[▲]** or **[▼]** several times to select the call sign select mode.
• "myC" appears.

② Push **[0•OPT]** for 1 sec. then rotate **[VOL]** to select the desired call sign channel.

③ Push **[▲]** (or **[▼]**) to set into call sign programming condition.
• The 1st digit blinks and channel indication stops blinking.

④ Rotate **[VOL]** to set the desired character or code.
• Push **[▼]** or **[▲]** to move the cursor to left or right, respectively.

⑤ Push **[▲]** (or **[▼]**) to select 2nd digit, then rotate **[VOL]** to set the desired character or code.
• 2nd digit blinks (1st digit stops blinking).
• Repeat this step for programming your call sign.

⑥ Push **[0•OPT]** to fix the call sign.

⑦ Rotate **[VOL]** to select an another channel from "C1" to "C6."
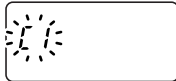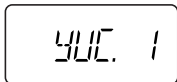
⑧ Repeat steps ② to ⑦ to program your call sign channels.

◇ Your call sign note programming

Your call sign can be added some information such as operating radio type, place or area. Call sign note can be stored up to 6 type, and each call sign note programmed up to 4 characters.

① Push **[A•ғᴜɴᴄ]** and **[0•ᴏᴘᴛ]** to enter ᴏᴘᴛɪᴏɴ ꜱᴇᴛ ᴍᴏᴅᴇ, then push **[▲]** or **[▼]** several times to select the call sign select mode.
  • "myS" appears.

$$\boxed{m45.1}$$
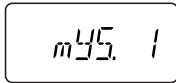
② Push **[0•ᴏᴘᴛ]** for 1 sec. then rotate **[VOL]** to select the desired call sign note channel.

$$\boxed{C1}$$

③ Push **[▲]** (or **[▼]**) to set into call sign note programming condition.
  • The 1st digit blinks and channel indication stops blinking.
④ Rotate **[VOL]** to set the desired character or code.
  • Push **[▼]** or **[▲]** to move the cursor to left or right, respectively.

⑤ Push **[▲]** (or **[▼]**) to select 2nd digit, then rotate **[VOL]** to set the desired character or code.
  • 2nd digit blinks (1st digit stops blinking).
  • Repeat this step for programming your call sign note.

$$\boxed{C1\_}$$

⑥ Push **[0•ᴏᴘᴛ]** to fix the call sign.
⑦ Rotate **[VOL]** to select an another channel from "C1" to "C6."
⑧ Repeat steps ② to ⑦ to program your call sign channels.

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◇ Station call sign programming

Station call sign must be programmed for the specified station call as well as repeater operation in both Digital voice and low-speed data communications.

① Push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE, then push **[▲]** or **[▼]** several times to select the call sign select mode.
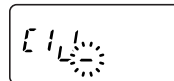 • "yUC" appears for station call sign.

```
 ┌───────────────┐
 │   ЧUC. 1      │
 └───────────────┘
```

② Push **[0•OPT]** for 1 sec then rotate **[VOL]** to select the desired call sign channel.

```
 ┌───────────────┐
 │   C1          │
 └───────────────┘
```
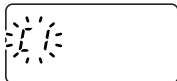
③ Push **[▲]** (or **[▼]**) to set into call sign programming condition.
  • The 1st digit blinks and channel indication stops blinking.
④ Rotate **[VOL]** to set the desired character or code.
  • Push **[▼]** or **[▲]** to move the cursor to left or right, respectively.

⑤ Push **[▲]** (or **[▼]**) to select 2nd digit, then rotate **[VOL]** to set the desired character or code.
  • 2nd digit blinks (1st digit stops blinking).
  • Repeat this step for programming station call sign.

```
 ┌───────────────┐
 │   C1U         │
 └───────────────┘
```

⑥ Push **[0•OPT]** to fix the call sign.
⑦ Rotate **[VOL]** to select an another channel from "C1" to "C6."
⑧ Repeat steps ② to ⑦ to program another station call sign channels.

✔ For your information:
Station and/or repeater call sign can be programmed from Received call record when a call is received.

■ **Digital voice mode operation**

① Set the desired frequency in VFO mode. (pgs. 13, 14)
  • Select output power, if desired. (p. 15)
② Push **[A•FUNC]** then **[0•OPT]** for enter OPTION SET MODE, then push **[▲]** or **[▼]** several times to select the digital select mode.
  • "DG" appears.
③ Rotate **[VOL]** to turn the digital mode ON.
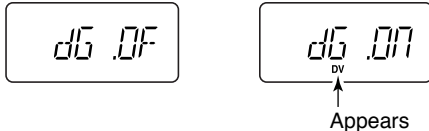
Appears

④ Push **[▲]** once to select the your call sign select mode.
  • "myC" appears.
⑤ Push **[0•OPT]** for 1 sec. then rotate **[VOL]** to select the desired your call sign channel, if you have programmed several call signs.
  • After selecting the your call sign, push **[0•OPT]** to return to OPTION SET MODE.

NOTE: In the digital mode operation; when "BUSY" indicator appears but no sound comes out the speaker, it may be caused by the interference of FM mode. In this case, to prevent interference of FM mode, set the digital monitor setting (p. 47) to "An(analog)" then listen on the channel before transmitting by pushing **[MONI]**.

◇ **When sending a CQ**
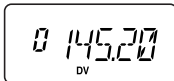
  (continued from step ⑤)

⑥ Select "CQ" as the call sign.
  - Push **[▲]** or **[▼]** several times to select the call sign select mode.
    • "yUC" appears.
  - Push **[0•OPT]** for 1 sec. then rotate **[VOL]** to select the desired channel.
  - Push **[0•OPT]** for 1 sec. to set "CqCqCq."

  - Push **[✱•ENT↰○]** (or **[D•CLR]**) to exit OPTION SET MODE.
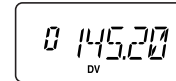
⑦ Push and hold **[PTT]** to transmit and speak into the microphone at normal voice level.
  • Transmit indicator appears and the RF meter shows the output power.
⑧ Release **[PTT]** to return to receive.
  • The other station call sign will be received.
  • Received call signs can be stored into the received call record automatically. See page 44 for details.
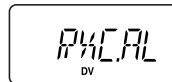
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◊ **When calling the desired station**

⑥ Select the desired call sign.
- Push **[▲]** or **[▼]** several times to select the call sign select mode.
  • "yUC" appears.
- Push **[0•opt]** then rotate **[VOL]** to select the desired call sign (pre-programmed), or set the desired call sign.

```
CY UA3BIR
                DV
```
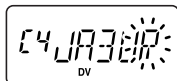
- Push **[✳•ENT↝○]** to exit OPTION SET MODE.

```
0 145.20
           DV
```

⑦ Push and hold **[PTT]** to transmit and speak into the microphone at normal voice level.
  • Transmit indicator appears and the RF meter shows the output power.
⑧ Release **[PTT]** to return to receive.
  • The other station call sign will be received.
  • Received call signs can be stored into the received call record automatically.

■ When receiving a Digital call

When an individual station call is received, the calling station call sign can be stored into the received call record.
The record is cleared once turning power OFF.

◊ **Received call record**

① Push **[A•FUNC]** then **[0•OPT]** for enter OPTION SET MODE, then push **[▲]** or **[▼]** several times to select the received call indication.
  • "RXCALL," "R1CALL," and "R2CALL" are available for the received station call sign, repeater 1/2 call signs, respectively.

```
RXCAL
           DV
```

② To confirm the received call, push **[0•OPT]** for 1 sec. to enter the received call sign indication mode.

```
rC:E64F
             DV
```
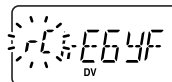
◇ To store a received call

① Push **[A•ꜰᴜɴᴄ]** and **[0•ᴏᴘᴛ]** several times to select the call sign select mode.
• "yUC" appears for station call sign.
• "R1C" or "R2C" appears for repeater call sign.

② Push **[0•ᴏᴘᴛ]** for 1 sec. to call sign indication, rotate **[VOL]** to select the blank channel or erasable channel.
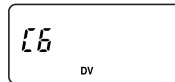
③ Push **[0•ᴏᴘᴛ]** then, push **[▲]** or **[▼]** several times to select the received call indication.
• "RXC.AL" appears for received station call sign.
• "R1C.AL" or "R2C.AL" appears for received repeater call sign.
④ To confirm the received call, push **[0•ᴏᴘᴛ]** for 1 sec. to enter the received call sign indication mode.

⑤ Push **[0•ᴏᴘᴛ]** for 1 sec. to store the call sign into the selected station call sign channel or repeater call sign channel.

■ Break-in communication

The break-in function allows you to break into an another stations communications in both Digital voice and low-speed data operation.

① While receiving another station communication, push **[A•ꜰᴜɴᴄ]** then **[0•ᴏᴘᴛ]** to enter ᴏᴘᴛɪᴏɴ sᴇᴛ ᴍᴏᴅᴇ.
② Push **[▲]** or **[▼]** several times to select the break-in setting, then turns the break-in setting ON.
• "bRk" appears.
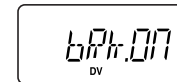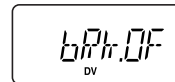
③ When both stations are in standby, transmit to send a break-in call.
• Programmed call sign station receives the break-in call as well as your call sign.
④ Wait for the reply call from the station who receive the break-in call.
⑤ After receive the reply call, communicate normal way.
⑥ To cancel the break-in, push **[A•ꜰᴜɴᴄ]** and **[0•ᴏᴘᴛ]**, then rotate **[VOL]** to turn OFF.

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■ EMR communication

The EMR communication mode is available for Digital mode operation. In the EMR call, no call sign setting is necessary.

① Set the desired frequency then push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE.
② Push **[▲]** or **[▼]** several times to select the EMR setting, then turns the EMR setting ON.
  • "EmR" appears.

```
EmR.OF        EmR.ON
    DV            DV
```
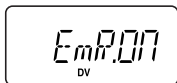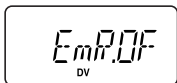
③ Operate the transceiver normal way.
④ To cancel the EMR communication mode, push **[A•FUNC]** and **[0•OPT]** for 1 sec., then rotate **[VOL]** to turn OFF.

■ Pocket beep operation

This function uses a digital code/call sign for calling and can be used as a "common pager" to inform you that someone has called while you were away from the transceiver. The digital code or call sign squelch does not function while in a low-speed data communication.

◇ Waiting for a call from a specific station

① Set the operating frequency.
② Program the digital code or call sign in setting mode.
  • See p. 51, "Digital code setting" or p. 40 "Call sign programming."
③ Push **[A•FUNC]** and **[1•TONE]** one or more times until "📞" or "📧" appears in the function display.
  • "📞" for call sign squelch; "📧" for digital code squelch operation.
④ Push **[A•FUNC]**, then push **[2•P.BEEP]** to activate the pocket beep function.
  • "📶" appears.
⑤ When a signal with the matched call sign/digital code is received, the transceiver emits beep tones and blinks "📶."
  • Beep tones sound for 30 sec. and "📶" blinks. To stop the beeps manually, push any key. "📶" continues blinking until step ⑥ is operated.
⑥ Push **[PTT]** to answer.
  • "📶" disappears and cancels the pocket beep function automatically.
⑦ To cancel the call sign/digital code squelch, push **[A•FUNC]** and **[1•TONE]** one or more times until or "📞" or "📧" disappears.

■ Digital squelch functions

The digital code (CSQL) or call sign (DSQL) squelch opens only when receiving a voice signal with the same pre-programmed digital code or call sign, respectively. The digital code or call sign squelch does not function while in a low-speed data communication.

① Set the operating frequency.
② Program the digital code or call sign in setting mode.
  • See p. 51, "Digital code setting" or p. 40 "Call sign programming."
③ Push **[1•TONE]** one or more times until "⒟" or "⒫" appears in the function display.
  • "⒟" for call sign squelch; "⒫" for digital code squelch operation.
④ When a signal with the matched call sign/digital code is received, the squelch opens and the signal can be heard.
  • When the received signal includes an unmatched call sign/digital code, the squelch does not open. However, the S-meter shows the received signal strength.
  • To open the squelch manually, push and hold **[MONI]**.
⑤ Operate the transceiver in the normal way (push **[PTT]** to transmit; release **[PTT]** to receive).
⑥ To cancel the call sign/digital code squelch, push **[1•TONE]** one or more times until or "⒟" or "⒫" disappears.

■ Digital monitor *USING INITIAL SET MODE*

This function is used to listen to the analog signal (FM mode signal) without changing the operating mode while digital (DV mode) operation.

① While pushing **[▲]** and **[▼]**, turn the power ON to enter INITIAL SET MODE.
② Push **[▲]** or **[▼]** several times until "dmO" appears.
③ Rotate **[VOL]** to turn the repeater lockout function to "RP," "bU" or OFF.
  • "An": Activate for monitoring the analog (FM mode) signals. (default)
  • "dG": Activate to open the call sign or digital code squelch.

dmO.dG	dmO.An

④ Push **[✱•ENT↰°]** (or **[D•CLR]**) to exit INITIAL SET MODE.

NOTE: When "digital monitor setting" is set to "An (analog)," the monitor function (pushing **[MONI]**) works as the analog monitor for receiving an FM signal. Then digital monitor function is activate using the Squelch control (pushing **[MONI]** and **[▲]** or **[▼]**).


✔ *While scanning in digital mode:*
• The call sign squelch function deactivate, then after cancelling the scan it will activate again.
• Scan stops near channel in a 5 kHz tuning steps, and then no sound comes out.


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■ Low-speed data communication

In addition to the digital voice communication, a low-speed data communication is available (Refer p. 4 about the transceiver-PC connection details).

① Set the desired frequency.
② Set another settings, such as repeater call, transmit output power.
③ Push **[A•FUNC]** then **[0•OPT]** for enter OPTION SET MODE, then push **[▲]** or **[▼]** several times to select the automatic data transmission setting. (see p. 51)
  • "AtX" appears.
  • Skip this setting, if you want to transmit manually.

```
AtX.OF          AtX.ON
   DV              DV
```
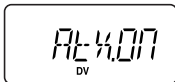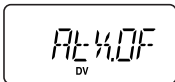
④ Push **[▲]** once to select the data communication speed setting. (see p. 52)
  • "SPd" appears.
  • Select suitable data speed for your PC or application.

```
SPd.48          SPd.96
   DV              DV
```
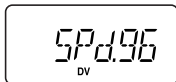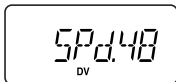
⑤ Start up the low-speed data communication application.
⑥ Set the application as follows.
  • Port   : The same COM port number as IC-V82's
  • Baud rate : 4800 bps or 9600 bps (same as step ④)
  • Data   : 8 bit
  • Parity   : None
  • Stop   : 1 bit
  • Flow control : Xon/Xoff
⑦ Transceiver automatically transmits or receives the data while you sending data to transceiver. Or push and hold **[PTT]** to transmit, release to receive the data manually.
  • Refer to the instruction of the application that how to send or receive data.

■ About D-STAR system

In the D-STAR system, repeater linking via a 10 GHz band backbone and internet network (gateway connection) capabilities are available. This system allows you to much wider coverage range during Digital voice mode operation.

• D-STAR system outline
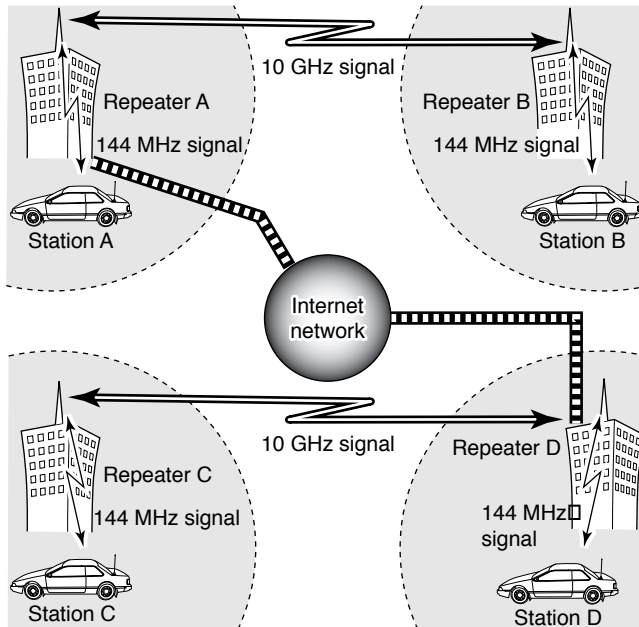
For current existing repeater operation, stations that are communicating must be in the same repeater's operating area. However, in the D-STAR system as in the illustration at left, the repeaters can be linked via the system repeaters (with a 10 GHz signal). Thus stations A and B can communicate even though they are in different repeater operating areas.

Also, the D-STAR system repeaters are connectable through the internet network— gateway connection capability.

For example, when station B uses the gateway connection station B can communicate with the station C!
By using the gateway connection, long distance communication like DX operation may be possible with 144 MHz digital voice!

In the D-STAR system, independent repeater's operating area is called as Area and a group that linking repeaters via a 10 GHz backbone is called as Zone.

NOTE: The digital repeater for IC-V82 (144 MHz of amateur radio band operation) is not available at present of October 2004. It will be designed in the future.

■ Repeater call sign programming

Repeater call sign must be programmed for the repeater operation in both Digital voice and low speed data communications.

① Push **[A•ꜰᴜɴᴄ] and [0•ᴏᴘᴛ]** to enter ᴏᴘᴛɪᴏɴ sᴇᴛ ᴍᴏᴅᴇ, then push **[▲]** or **[▼]** several times to select the call sign items.
• "R1C" or "R2C" appears for repeater call sign.

```
 R IC. I
```

② Push **[0•ᴏᴘᴛ]** for 1 sec. then rotate **[VOL]** to select the desired call sign channel.

```
 C I
```
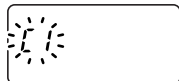
③ Push **[▲]** (or **[▼]**) to set into call sign programming condition.
• The 1st digit blinks and channel indication stops blinking.

④ Rotate **[VOL]** to set the desired character or code.
• Push **[▼]** or **[▲]** to move the cursor to left or right, respectively.

⑤ Push **[▲]** (or **[▼]**) to select 2nd digit, then rotate **[VOL]** to set the desired character or code.
• 2nd digit blinks (1st digit stop blinking).
• Repeat this step for programming repeater call sign.
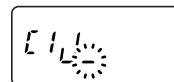
```
 C IU
```

⑥ Push **[0•ᴏᴘᴛ]** to fix the call sign.
⑦ Rotate **[VOL]** to select an another channel from "C1" to "C6."
⑧ Repeat steps ② to ⑦ to program another repeater call sign channels.

✔ *For your information:*
Station and/or repeater call sign can be programmed from Received call record when a call is received.
See page 45 for details.

✔ *For your information:*
Repeater call sign can be programmed gateway connection capabilities at step ④ for connecting to the other Area or Zone.
• "G" appears or disappears at the 8th digit when each pushing **[8•sᴇᴛ]**.

```
 C I  G --
```

---
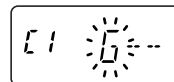
j3

■ **Other setting items**

①Push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE, then push **[▲]** or **[▼]** several times to select the desired item.
②Rotate **[VOL]** to select the desired value or condition.

◇ **Auto Reply**

During Digital mode operation, auto reply function is available. This function replies to an individual station call even you are away from the transceiver.   (default: OFF)

After the manual transmission (pushing **[PTT]**) or message transmission, the Auto Reply setting is return to OFF automatically.
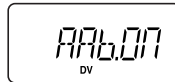
◇ **Digital Code**

Sets the desired digital code for digital code squelch operation. Total of 100 codes (00–99) are available.   (default: 00)
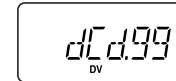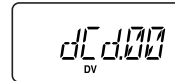
◇ **Auto data Transmission**

During low-speed data operation, auto data transmission function is available. This function transmits when data are input from PC via the **[DATA]** jack.   (default: OFF)

After the manual transmission (pushing **[PTT]**), the Auto Transmission setting is return to OFF automatically.

11
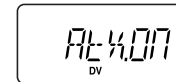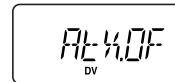
◇ Data Speed

Select the communication speed between the transceiver and PC from 4800 bps or 9600 bps.　　　(default: 9600)

```
SPd.48
  DV
```
```
SPd.96
  DV
```
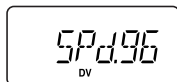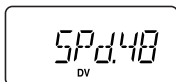
◇ Standby Beep

Turns the beep emission capability when the communicating station finishes transmitting or the receive signal disappears.
(default: OFF)

```
Stb.OF
  DV
```
```
Stb.ON
  DV
```
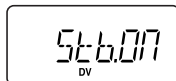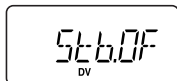
◇ Auto RxCall Write

When an individual station call is received, the calling station call sign can be stored automatically. The stored call sign can be re-called when selecting a station call sign.
(default: OFF)

```
RCW.OF
  DV
```
```
RCW.ON
  DV
```
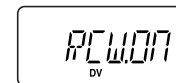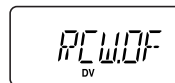
◇ Auto Rx RepeaterCall Write

When an individual station call via the repeater is received, the repeater call sign can be stored automatically. The stored repeater's call sign can be re-called when selecting a repeater call sign.　　　(default: OFF)

```
RRW.OF
  DV
```
```
RRW.ON
  DV
```
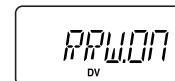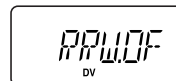
◇ **Auto RxCall Display**

When an individual station call is received, the calling station call sign can be indicated automatically.　　(default: ON)

◇ **Auto MyCALL Display**

Sets auto MyCALL display function ON and OFF. When this setting is set to ON, the transceiver automatically indicates your programmed call sign at turning power ON or digital mode transmission.　　(default: OFF)

◇ **Message Transmission**

Select the Message transmission function ON and OFF. When ON is selected, transceiver transmits a text message (pre-programmed).　　(default: OFF)

After the transmission once, the Message Transmission setting is return to OFF automatically.
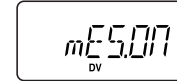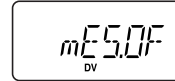
◇ **TX message**

TX messages are available up to 6 channels and each channel can be programmed up to 20 characters message. Available characters are **0** to **9**, **A** to **Z** (capital letters only), some symbols and space. (see the next page for details)
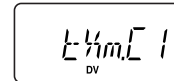
◇ TX message programming

At least one of the TX message channels must be programmed, if you want to use the GPS message. The GPS message is transmitted from TX message channels.

① While OPTION SET MODE, push **[▲]** (or **[▼]**) to select "tXm," then push **[0•OPT]** for 1 sec. to edit the message indication then rotate **[VOL]** to select the message channel.
　• One of either "C1" to "C6" blinks.

② Push **[▲]** to set into message programming condition.
　• The 1st digit blinks and channel indication stops blinking.

③ Rotate **[VOL]** to set the desired character.

④ Push **[▲]** to select 2nd digit, then rotate **[VOL]** to set the desired character.
　• 2nd digit blinks (1st digit stop blinking).
　• Repeat this step for programming.

⑤ Push **[0•OPT]** to set the message.

⑥ Repeat steps ② to ⑤ to set another message channels.

⑦ Push **[✳•ENT⊤º]** (or **[D•CLR]**) to exit OPTION SET MODE.

• Available characters

| (space)	(!)	(")	(#)	($)	(%)	(&)	(')	(()	())	(✳)
(+)	(,)	(–)	(.)	(/)	(0)	(1)	(2)	(3)	(4)	(5)
(6)	(7)	(8)	(9)	(:)	(;)	(<)	(=)	(>)	(?)	(@)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
(W)	(X)	(Y)	(Z)	([)	(\)	(])	(^)			

■ GPS operation

The IC-V82 can indicate the current position (Latitude and Longitude) when a GPS receiver (compatible with an RS-232C output/NMEA format/4800 bps) is connected to **[DATA]** jack. And also can transmit the position data and message to other stations.

◇ Position indication

① While connecting a GPS receiver, push **[A•ғᴜɴᴄ]** and **[0•ᴏᴘᴛ]** to enter ᴏᴘᴛɪᴏɴ ꜱᴇᴛ ᴍᴏᴅᴇ.

② Push **[▲]** or **[▼]** several times to select the GPS setting.
   • "GPS" appears.

GPS.0F

③ Rotate **[VOL]** to set the suitable sentence formatter for the connecting GPS receiver.
   • For your position indication is necessary to select "GGA" or "RMC."

GPS. 3
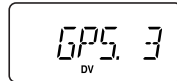
• Sentence formatters

1	GLL	6	GLL, GGA	11	GGA, GSA	16	GLL, GGA, RMC	21	GLL, GSA, VTG
2	GGA	7	GLL, RMC	12	GGA, VTG	17	GLL, GGA, GSA	22	GGA, RMC, GSA
3	RMC	8	GLL, GSA	13	RMC, GSA	18	GLL, GGA, VTG	23	GGA, RMC, VTG
4	GSA	9	GLL, VTG	14	RMC, VTG	19	GLL, RMC, GSA	24	GGA, GSA, VTG
5	VTG	10	GGA, RMC	15	GSA, VTG	20	GLL, RMC, VTG	25	RMC, GSA, VTG

④ Push **[▲]** twice to select the position indication.

m ꓩᴾ.05
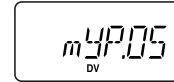
⑤ Push **[0•ᴏᴘᴛ]** for 1 sec. to enter the position indication.
   • Latitude and longitude date appear in order as below.

North or South Degrees   Minutes   Seconds

← Push ▼
⟹ Push ▲

Seconds   Minutes   East or West Degrees
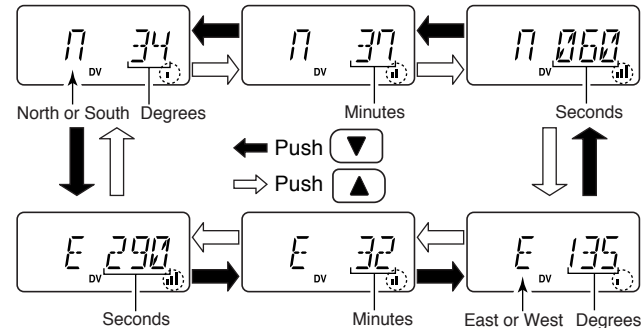
⑥ After checking the current position, push **[✱•ᴇɴᴛ⊤○]** (or **[D•ᴄʟʀ]**) to return to normal operating mode.

IMPORTANT: When set the sentence formatter at step ③ for connecting GPS receiver, and already programmed your call sign, GPS automatic transmission is activate every 3 minutes. The automatic transmission can be changed interval time or deactivated, if desired. (see the next page)
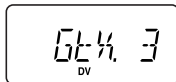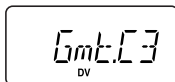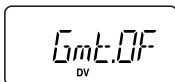
◇ GPS Automatic transmission

① While connecting a GPS receiver, push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE.
② Push **[▲]** or **[▼]** several times to select the GPS automatic transmission.
　• "GtX" appears.

```
Gt X.OF
    DV
```
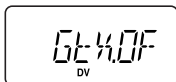
③ Rotate **[VOL]** to set the interval time for the GPS automatic transmission.
　• Interval time is selectable from 0.5 (30 sec.), 1, 3, 5, 10, 30 min.

```
Gt X. 3
    DV
```

④ Push **[▲]** three times to select the transmit message selection, if desired.
　• GPS TX message is selectable from OFF and C1 to C6.
　• TX message must be programmed in advance. (see page 50 for setting)

```
Gmt.OF          Gmt.C3
    DV              DV
```

⑤ Push **[✱•ENT↲]** (or **[D•CLR]**) to exit OPTION SET MODE.

IMPORTANT: GPS Automatic transmission transmits at every setting interval even while receiving an another stations communication. To prevent interfere the another stations, set the GPS transmission together with the Repeater lockout item "RLO" (set to "bU" busy lockout) in INITIAL SET MODE. (p. 62)

◇ Receiving a GPS transmission

① Push **[A•FUNC]** and **[0•OPT]** to enter OPTION SET MODE.
② Push **[▲]** or **[▼]** several times to select the received position.
　• "RXP.OS" appears.

```
RXP.OS
    DV
```
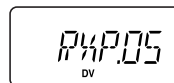
③ Push **[0•OPT]** for 1 sec. to enter the position indication.
　• Latitude data and longitude date appear by every pushing **[▲]** or **[▼]**.
④ Push **[0•OPT]** then push **[▲]** twice to select the received GPS message.
⑤ Push **[0• OPT]** for 1 sec. to enter the message.
　• Received message is indicated, push **[▼]** or **[▲]** to move the cursor to left or right, respectively.
⑥ After checking a received position and message, push **[✱•ENT↲]** (or **[D•CLR]**) to return to normal operating mode.

■ SET MODE

◇ Entering SET MODE
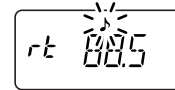
① Push **[A•FUNC]**, then push **[8•SET]** to enter SET MODE.
② Push **[▲]** or **[▼]** to select the desired item.
③ Rotate **[VOL]** to select the condition/value.

• To exit SET MODE, push **[✳•ENT↩○]** (or **[D•CLR]**).

Enter	Set	Exit
	[VOL]	
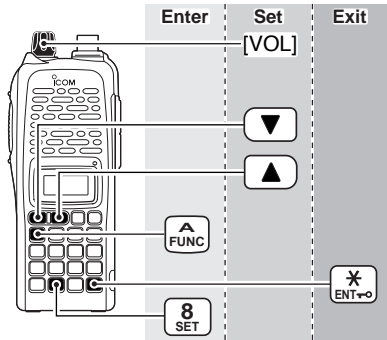
◇ Repeater tone frequency

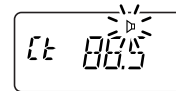Selects tone encoder frequency for accessing a repeater, etc. from one of 50 available frequencies.
• 67.0–254.1 Hz (50 tones): 88.5 Hz (default)

rt 88.5

◇ Tone squelch frequency

Selects frequency for tone squelch or pocket beep operation from one of 50 available frequencies.
• 67.0–254.1 Hz (50 tones): 88.5 Hz (default)

Ct 88.5

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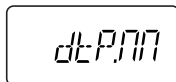
Selects DTCS (both encoder/decoder code) for DTCS squelch operation. Total of 104 codes are available.
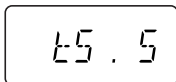• 023–754: 023 (default)

```
dt  023
```
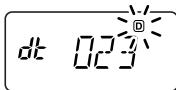
◇ DTCS polarity

Selects DTCS polarities for transmission and reception from "NN," "NR," "RN" and "RR." (N: normal/R: reverse)

```
dtP.NN
```

◇ Tuning step

Selects tuning step from 5 (default), 10, 12.5, 15, 20, 25 , 30 and 50 kHz for **[▲]**/**[▼]** or **[VOL]** (When **[VOL]** is assigned as tuning dial) operation.

```
tS . 5
```

◇ Offset frequency

Sets the duplex offset frequency within 0 to 20 MHz range. During duplex (repeater) operation, transmit frequency (or receive when reverse function is set to ON) shifts the set frequency. (default value may differ depending on versions)

```
±
0.60
```
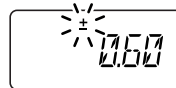
◇ Reverse function

Turns the reverse function ON and OFF (default).

```
REV.OF  ⟷  REV.ON
```

Reverse function OFF (default)   Reverse function ON
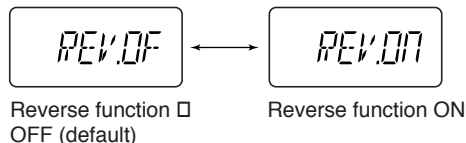
◇ Scan pause timer

Selects the scan pause time from SCt.5, SCt.10, SCt.15 and SCP. 2. When receiving signals, the scan pauses according to the scan pause time.
• SCt. 5/10/15 : Scan pauses for 5/10/15 sec.
　　　　　　　　(default: SCt.15)
• SCP. 2　　　 : Scan pauses until the signal disappears. Resumes 2 sec. after the signal disappears.

```
SCt. 15        SCP. 2
```

◇ Function key timer

Selects **[A•FUNC]** effect timer from F0.At, F1.At, F2.At, F3.At and F .m.
• F0.At　　: "■" disappears immediately after secondary function is operated. (default)
• F1/2/3.At: "■" disappears after 1/2/3 sec. after secondary function is operated.
• F .m　　: "■" appears until **[A•FUNC]** is pushed again.

```
F0.At          F .m
```

◇ LCD backlight

Selects LCD backlight lighting condition from auto, ON and OFF.
• LIG.At　 : Lights when any key except **[PTT]** is pushed. (default)
• LIG.ON　: Lights continuously while the transceiver is powered ON.
• LIG.OF　: Never lights.

```
LIGAt
```

◇ Transmission permission

Turns transmission permission ON and OFF. This function can be set for each memory and call channel, independently.
• tX .ON : Transmission is permitted. (default)
• tX .OF : Transmission is inhibited.

```
tX .ON
```

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◇ Memory bank setting

Sets the desired memory bank (A to J and OFF) to assign the regular memory channels.

This item appears when SET MODE is accessed from memory mode only.

```
 16 bRk.----
```

```
 16 bRk. R
```
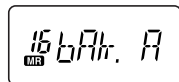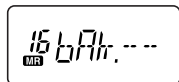
◇ Memory bank link function

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

This item appears when SET MODE is accessed from memory mode only.

```
 bLk.OF
```

```
 bLk.ON
```
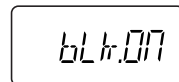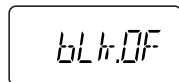
• Bank link setting

① Rotate **[VOL]** to select the memory bank link function ON.
② Push **[▲]** or **[▼]** to select the desired bank to be linked.
   • BLA: Bank A, BLB: Bank B, BLC: Bank C, BLD: Bank D, BLE: Bank E, BLF: Bank F, BLG: Bank G, BLH: Bank H, BLI: Bank I, BLJ: Bank J
③ Rotate **[VOL]** to select "ON" to linking the bank.
④ Repeat steps ② and ③ to set the link condition.

◇ Wide/Narrow setting

Selects both the transmission and reception passband width from wide (default) and narrow.

When narrow is selected, the transmission and reception passband width become half of the wide setting (approx.).
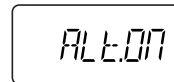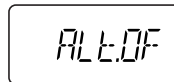
This setting can be set for each memory, call and VFO independently.

```
 W/N. W
```

```
 W/N. N
```
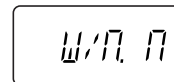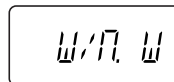
◇ Weather alert function   *USA version only*

Turns weather alert function ON and OFF (default).

```
 RLt.OF
```

```
 RLt.ON
```

■ INITIAL SET MODE   *AT POWER ON*

The INITIAL SET MODE is accessed at power on and allows you to set seldom-changed settings. In this way, you can "customize" transceiver operations to suit your preference and operating style.
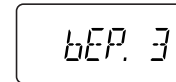
◇ Entering INITIAL SET MODE

① While pushing [▲] and [▼], turn power ON.
② Push [▲] or [▼] to select the desired item.
③ Rotate [VOL] to select the condition or value.
 • To exit INITIAL SET MODE, push [✱•ENT╼o] (or [D•CLR]).
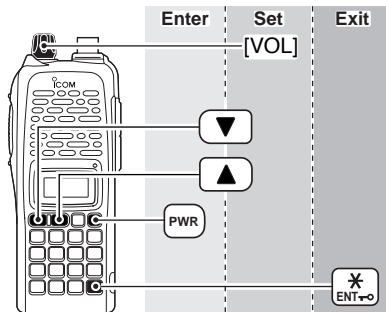
◇ Key-touch beep

Turns key-touch beep emission ON (Beep level 1 to 3) and OFF.   (default: 3)

```
bEP. 3
```

◇ Time-out timer

To prevent accidental prolonged transmission, etc., the transceiver has a time-out timer. This function cuts a transmission OFF after 1–30 min. of continuous transmission. This timer can be cancelled.
• tOt.OF   : The time-out timer is turned OFF. (default)
• tOt. 1–30: The transmission is cut OFF after the set period
              elapses.

```
tOt.OF
```

12
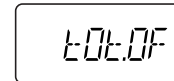
12 OTHER FUNCTIONS

◇ Auto repeater
U.S.A. version 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.
• RPt.OF : The auto repeater function is turned OFF.
• RPt.R1 : Activates for duplex only. (default)
• RPt.R2 : Activates for duplex and tone.

RPt.OF	RPt.R1	RPt.R2
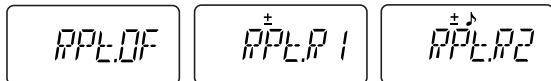
◇ Auto power-off

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, 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 "POF.OF" in this SET MODE.
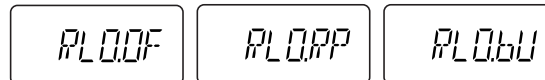
POF.OF	POF.30

NOTE: While an optional UT-118 DIGITAL UNIT is installed and GPS automatic transmit function is activated, this function does not work.

◇ Repeater lock-out
Selects lockout type from repeater, busy and OFF.
• RLO.RP : The repeater lockout is turned ON.
• RLO.bu : The busy lockout is turned ON.
• RLO.OF : No lockout is activated. (default)

RLO.OF	RLO.RP	RLO.bU

◇ Squelch delay
Selects squelch delay from short and long to prevent repeated opening and closing of the squelch during reception of the same signal.
• Sqt. S: The squelch closes in short delay. (default)
• Sqt. L: The squelch closes in long delay.

SQt. S	SQt. L

◇ DTMF speed

The rate at which DTMF memories send individual DTMF characters can be set to accommodate operating needs.
• 1: 100 msec. interval; 5.0 cps speed (default)
• 2: 200 msec. interval; 2.5 cps speed
• 3: 300 msec. interval; 1.6 cps speed
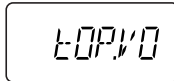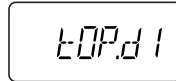• 5: 500 msec. interval; 1.0 cps speed (cps=characters/sec.)

```
dtd. 1
```

◇ Dial assignment

Selects **[VOL]** control action from AF volume and tuning dial.
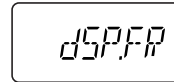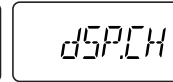• tOP.VO : AF volume (default)
• tOP.dI : Tuning dial

```
tOP.VO        tOP.dI
```

◇ Display type

Selects LCD indication type from frequency, channel number and channel names.
• dSP.FR : Shows frequency (default)
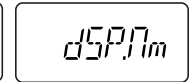• dSP.CH : Shows channel number*
• dSP.Nm : Shows channel names
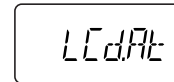*Memory channels only can be selected.

```
dSP.FR        dSP.CH        dSP.Nm
```
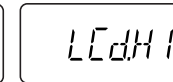
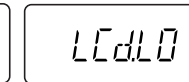## ◇ LCD contrast

Selects LCD contrast from auto, high and low.
• LCd.AT : Automatic (default)
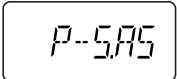• LCd.HI : High contrast
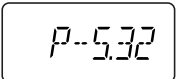• LCd.LO : Low contrast

```
LCd.At        LCd.HI        LCd.LO
```

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◇ Power save

Selects duty cycle for power save function from auto, 1:32, 1:16, 1:8, 1:2 and OFF.
• P–S.At   : Duty cycle changes automatically. (default)
• P–S.32   : 1:32 duty cycle
• P–S.16   : 1:16 duty cycle
• P–S. 8   : 1:8 duty cycle
• P–S. 2   : 1:2 duty cycle
• P–S.OF   : The power save function is turned OFF.

```
 P--5.A5        P--5.32
```

▨ **NOTE**: While DV mode operation (with UT-118), or pager/ CSQL operation (with UT-108), the active duty cycle is fixed 1:1 only (even any duty cycle setting other than OFF).

◇ Monitor key action

The monitor key, **[MONI]**, can be set as a 'sticky' key. When set to the sticky condition, each push of **[MONI]** toggles the monitor function ON and OFF.
• PU (Push)   : Pushing and holding **[MONI]** to monitor the frequency. (default)
• HO (Hold)   : Push **[MONI]** to monitor the frequency and push again to cancel it.
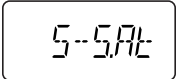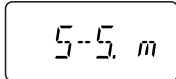
```
 mOn.PU         mOn.HO
```

◇ Tuning speed acceleration

The tuning speed acceleration automatically speeds up the tuning speed when pushing and holding **[▲]** or **[▼]**, or rotating **[VOL]** rapidly.*
• S–S.At : The tuning speed acceleration is activated. (default)
• S–S. m : The tuning speed acceleration is not activated.
*When tuning dial is assigned with **[VOL]**.

```
 5--5.At        5--5. m
```

◇ Mic simple mode
Optional HM-75A required

This item turns the microphone simple mode ON and OFF. Microphone simple mode is used to change the function assignments for keys in the optional HM-75A REMOTE CONTROL SPEAKER-MICROPHONE as below. This assignment is convenient for 3-channel use of simple operation.
• mIC.n1 : Normal 1 (default)
• mIC.n2 : Normal 2
• mIC.Sm: Simple mode
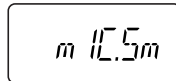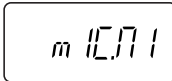
HM-75A key	Mode	NORMAL1	NORMAL2	SIMPLE
[A]	Freq. CH	[B•CALL] Null	[MONI]	[MONI]
[B]	Freq. CH	VFO/Memory Null	VFO/Memory Null	[B•CALL]
[▲]	Freq. CH	Freq. Up Memory CH Up	Freq. Up Memory CH Up	MR-00CH
[▼]	Freq. CH	Freq. Down Memory CH Down	Freq. Down Memory CH Down	MR-01CH

A 1750 Hz tone can be transmitted with the HM-75A operation.
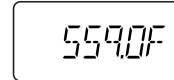➥ Push **[A]** while pushing **[PTT]**.

NOTE:
Turn power OFF when connecting the HM-75A to the transceiver.
VFO mode cannot be selected via the microphone when SIMPLE mode is selected.
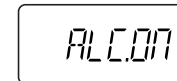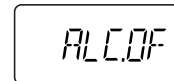
◇ S-meter squelch
Sets S-meter squelch threshold level from OFF and S1–S3. This setting allows you to set a minimum signal level needs to open the squelch.

◇ ALC function
Sets the ALC (automatic Level Control) function ON and OFF (default).
The ALC function reduces the microphone gain automatically when the transmission audio is distorted.

◇ **Battery protection function**

Sets the Battery protection function for LI (Li-Ion) and OFF (default).

LI(Li-Ion):

➥ The transceiver is required pushing **[PWR]** for tuning power ON with every battery detach and attach.

➥ Beep sounds when the attached battery is exhaustion.

• The battery must be charged presently.

OFF : The transceiver memorizes the transceiver ON/OFF condition at battery is detached.
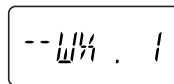
```
bAt.OF          bAt.L I
```
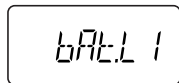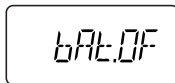
NOTE: This item **MUST** be set "LI" (Li-Ion) when the at-taching battery is BP-211N (Li-Ion).

■ Weather channel operation

(USA version only)

◇ **Weather channel selection**

① Push **[C•MR]** several times to select weather channel group.

```
--WX . I
```

Weather channel group indication

② Push **[▲]** or **[▼]** several times to select the desired weather channel.

③ Push **[C•MR]** to select memory mode, or push **[D•CLR]** to select VFO mode.

◇ **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 moni-tored each 5 sec. for the announcement. When the alert sig-nal is detected, the "ALt" and the WX channel are displayed alternately and sounds a beep tone until the transceiver is op-erated. The previously selected (used) weather channel is checked periodically during standby or while scanning.

① Select the desired weather channel.
② Turn the weather alert function ON in set mode.
➥ Push **[A•FUNC]** and **[8•SET]** to enter SET MODE.
➥ Push **[▲]** or **[▼]** to select the weather alert item, then rotate **[VOL]** to set ON.
➥ push **[✳•ENT↰○]** (or **[D•CLR]**) to exit SET MODE.
③ Sets the desired stand-by condition.
• Selects VFO, memory or call channel.
• Scan or priority watch operation can also be selected.
④ When the alert is detected, a beep sounds and the following indication will be displayed.

--WX . 1 ⟷ --ALt.

Shows 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.

■ CPU 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 other factors.

If this problem occurs, turn power OFF. After waiting a few seconds, turn power ON again. If the problem persists, perform CPU resetting operation as follows.

• While pushing **[MONI]** and **[D•CLR]**, turn power ON.

CAUTION:
Resetting the CPU returns the radio to factory default settings.
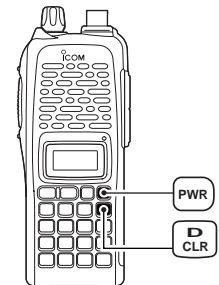
■ Partial reset

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 resetting function is available for the transceiver.

• While pushing **[D•CLR]**, turn the power ON to partially reset the transceiver.
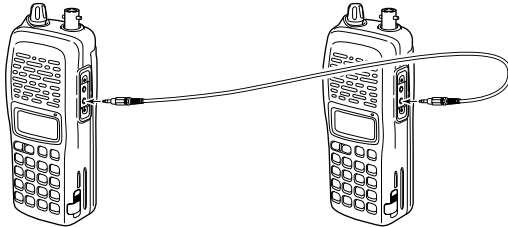
12
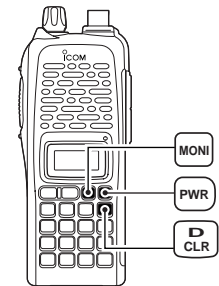
13 CLONING

Cloning allows you to quickly and easily transfer the programmed contents from one transceiver to another transceiver.

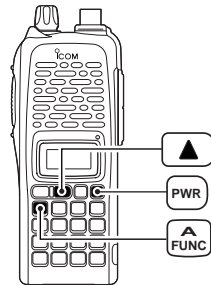## ◊ Transceiver-to-transceiver cloning

AT POWER ON

① Connect the OPC-474 CLONING CABLE to the **[SP]** jack of the master and sub-transceivers.
• The master transceiver is used to send data to the sub-transceiver.

② While pushing **[A•FUNC]** and **[▲]**, turn power ON to enter cloning mode (master transceiver only—power ON only for sub-transceiver).
• "CLONE" appears and the transceivers enter the clone standby condition.

③ Push **[PTT]** on the master transceiver.
• "CL OU" appears in the master transceiver's display and S-meter indicator shows that data is being transferred to the sub-transceiver.
• "CL IN" appears automatically in the sub-transceiver's display and S-meter indicator shows that data is being received from the master transceiver.

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

◊ Cloning using a PC

Please refer to the HELP file that comes with CS-V82 CLONING SOFTWARE.

TRANSCEIVER

OPC-478 (RS-232C type)
to RS-232C port
OPC-478U (USB type)
to USB port

PC
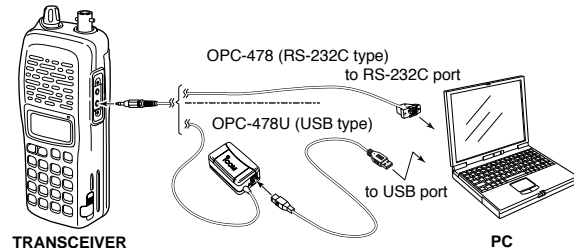
NOTE: DO NOT push the **[PTT]** on the sub-transceiver during cloning. This will cause a cloning error.

■ **Optional UT-108/118 installation**

① Remove the optional connecter access cover.
  • Unscrew two screws and remove the optional connector cover.
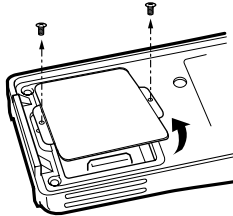
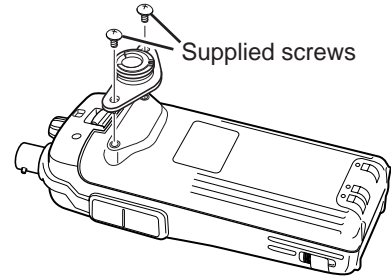② Attach the optional unit. Insert the connector tightly to avoid a bad contact.
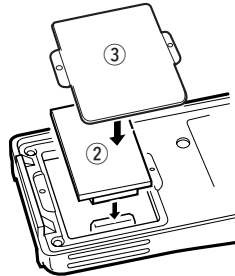
③ Replace the optional connector cover and two screws.

④ Program the necessary information from the transceivers key pads or using the cloning software, before operation.

■ **Optional MB-86 installation**

◇ **MB-86 stopper**

Supplied screws

◇ **MB-86 belt clip**

When clipping to a part of your belt   When releasing

13
14
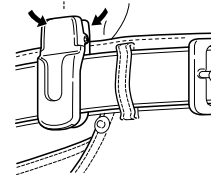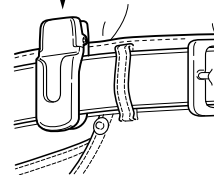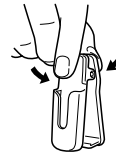
◇ MB-86 stopper

• When attaching
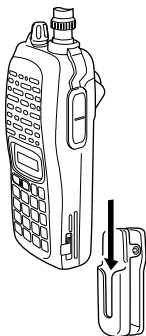
• When removing
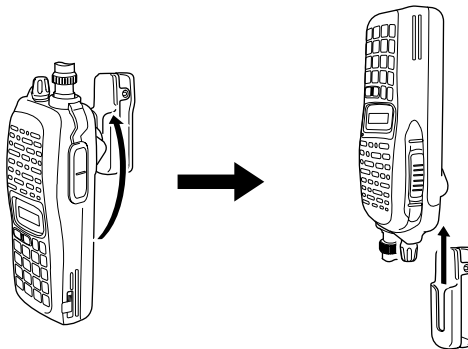
CAUTION!
HOLD THE TRANSCEIVER TIGHTLY, WHEN ATTACH-ING OR REMOVING THE TRANSCEIVER FROM THE BELT CLIP.
If the transceiver is accidentally dropped and the swivel belt clip's stopper is cracked or damaged, the swivel belt clip may not work properly.

Once the transceiver is locked in place,
it will swivel 360 degrees.

GENERAL

- Frequency coverage : (unit: MHz)
  - USA   Tx: 144–148/Rx: 136–174*
  - Europe, Taiwan, Korea   Tx/Rx: 144–146
  - General (LM), CSA (LM)   Tx/Rx: 136–174*
  - *Guaranteed: 144–148 MHz range only.
- Type of emission : FM
- Number of memory channels : 207 (incl. 6 scan edges and 1 call)
- Frequency resolution : 5, 10, 12.5, 15, 20, 25, 30, 50 kHz
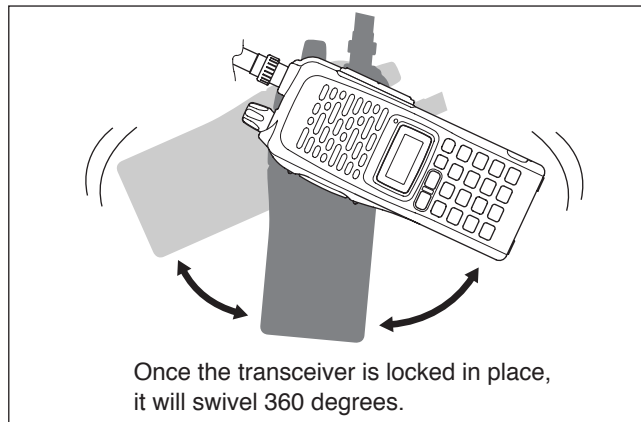- Operating temperature range : –10°C to +60°C; +14˚F to +140˚F
- Frequency stability : ±2.5 ppm (–10°C to +60°C)
- Power supply requirement : 7.2 V DC (6–10.3 V DC acceptable; Icom's battery pack only)
- Current drain (at 7.2 V DC: approx.):
  - Transmit   at 7 W (High)   2.6 A
                              at 4 W (Middle) 2.0 A
                              at 0.5 W (Low)   1.0 A
  - Receive   standby   80 mA
                              power save   30 mA
                              max. audio   250 mA
- Antenna connector : BNC (50 Ω)
- Dimensions (proj. not included) : 54(W) × 139(H) × 36.7(D) mm
  - $2\frac{1}{8}$(W)×$5\frac{15}{32}$(H)×$1\frac{7}{16}$(D) in
- Weight (approx.) : 390 g; 13.8 oz
  - (with BP-222N and Ant.)
  - 200 g; 7.1 oz
  - (without battery pack and Ant.)

TRANSMITTER

- Modulation system : Variable reactance frequency mod.
- Output power (at 7.2 V) : 7 W/4W/0.5W (High/Mid/Low)
- Max. frequency deviation : ±5.0 kHz [Wide]/±2.5 kHz [Narrow]
- Spurious emissions : Less than –60 dBc
- Microphone connector : 3-conductor 2.5 (d) mm ($\frac{1}{8}''$)/2.2 kΩ

RECEIVER

- Receive system : Double-conversion superheterodyne
- Intermediate frequencies : 1st: 46.35 MHz, 2nd: 450 kHz
- Sensitivity (at 12 dB SINAD) : 0.16 μV typical
- Squelch sensitivity (threshold) : 0.11 μV typical
- Selectivity :
  - [Wide]   More than 55 dB
  - [Narrow]   More than 50 dB
- Spurious and image rejection : 80 dB typical
- Intermodulation : 65 dB typical
- AF output power (at 7.2 V DC) : More than 0.3 W at 10% distortion with an 8 Ω load
- Ext. speaker connector : 3-conductor 3.5 (d) mm ($\frac{1}{8}''$)/8 Ω
- Ext. Data connector : 3-conductor 2.5 (d) mm ($\frac{1}{8}''$)

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◊ **BATTERY PACKS**

Battery pack	Voltage	Capacity	Battery life*¹
BP-208N	Battery case for AA (LR6)×6 alkaline		—*²
BP-209N	7.2 V	1100 mAh	3 hrs. 20 min.
BP-210N	7.2 V	1650 mAh	6 hrs.
BP-211N	7.4 V	1800 mAh	6 hrs. 10 min.
BP-222N	7.2 V	600 mAh	2 hrs. 15 min.

*¹Operating periods are calculated under the following conditions:
   Tx:Rx:standby=1:1:8, power save function: auto setting, is activated
*²Operation with the LOW output power selection is recommended.

◊ **CHARGER**

• **BC-144N** DESKTOP CHARGER + **BC-145** AC ADAPTER
  For rapid charging of battery packs. An AC adapter is supplied with the charger. Charging time: 1.5 to 2 hrs.
• **BC-146** BATTERY CHARGER + **BC-147** AC ADAPTER
  For regular charging of battery packs. An AC adapter is additionally required. Charging time: 6.5 to 18.5 hrs.
• **BC-119N** DESKTOP CHARGER + **AD-101** CHARGER ADAPTER
  For rapid charging of battery packs. An AC adapter is supplied with the charger. Charging time: 1.5 to 2 hrs.
• **BC-121N** MULTI-CHARGER + **AD-101** CHARGER ADAPTER (6 pcs.)
  For rapid charging of up to 6 battery packs (six AD-101's are required) simultaneously. An AC adapter may be supplied depending on version. Charging time: 1.5 to 2 hrs.

◊ **BELT CLIP**

• **MB-103/MB-86** BELT CLIPS
  MB-103: Same as that supplied with the transceiver.
  MB-86: Swivel belt clip
• **MB-96F/MB-96N** LEATHER BELT HANGER
  MB-96F: Fixed type belt hanger for use with MB-103.
  MB-96N: Swivel belt hanger. MB-86's base clip is required.

◊ **INTERNAL UNIT**

• **UT-108** DTMF DECODER UNIT
  Provides pager and code squelch capabilities.
• **UT-118** DIGITAL UNIT
  Provides digital mode operation capabilities.

◊ **OTHER OPTIONS**

• **HM-75A/HM-131L** SPEAKER-MICROPHONES
  Combination speaker-microphones that provide convenient operation while hanging the transceiver from your belt.
  HM-75A has 4 function switches for remote control capabilities.
  HM-131L has moisture proof construction.
• **HM-128L** EARPHONE-MICROPHONE
  You can clip the microphone with PTT switch to your lapel or breast pocket.
• **HS-85** HEADSET
  Allows you hands-free operation. Includes VOX, PTT and "one-touch" PTT with time-out timer.

- **HS-94/HS-95/HS-97** HEADSET+**VS-1L** PTT/VOX UNIT
  HS-94 HEADSET
  Earhook headset with flexible boom microphone.
  HS-95 HEADSET
  Behind-the-head headset with flexible boom microphone.
  HS-97 HEADSET
  Throat microphone fits around your neck and picks up a
  speech vibration.
  VS-1 PTT/VOX UNIT
  Required when using these head.
- **CS-V82** CLONING SOFTWARE+**OPC-478/U** CLONING CABLE
  Provide quick and easy programming of memory channel,
  memory name etc.
- **OPC-474** CLONING CABLE
  For cloning between transceivers.
- **SP-13** EARPHONE
  Provides clear receive audio in noisy environments.
- **FA-B2E** WHIP ANTENNA
  Same as that supplied with the transceiver.

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DECLARATION OF CONFORMITY

iCOM

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

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

Kind of equipment: **FM TRANSCEIVER**

Type-designation: **IC-V82**

Version (where applicable):

This compliance is based on conformity with the following harmonised standards, specifications or documents:

i)   EN 301 489-1 v 1.3.1 (2001-09)
ii) EN 301 489-15 v 1.1.1 (2000-09)
iii) EN 301 783 v 1.1.1 (2000-09)
iv) EN 60950 (1992-08) + A11:1997

$C \in \textcircled{!}$

Düsseldorf 4th Oct. 2004
Place and date of issue

Icom (Europe) GmbH
Himmelgeister straße 100
D-40225 Düsseldorf
Authorized representative name

H. Ikegami
General Manager

Signature

Icom Inc.

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Count on us!

< Intended Country of Use >			
■ GER	■ FRA	■ ESP	■ SWE
■ AUT	■ NED	■ POR	■ DEN
■ GBR	■ BEL	■ ITA	■ FIN
■ IRL	■ LUX	☐ GRE	☐ SUI
☐ NOR			

#02 Europe
#12 Europe-1
#22 Europe-2
#42 Europe-3