

# Function Description

**2007-08-03**

## **Synthesized Scanning Radio**

### **FCC RF EXPOSURE COMPLIANCE REQUIREMENTS FOR OCCUPATIONAL USE ONLY**

The Federal Communications Commission (FCC), with its action in General Docket 93-62, November 7, 1997, has adopted a safety standard for human exposure to Radio Frequency (RF) electromagnetic energy emitted by FCC regulated equipment. Maxon subscribes to the same safety standard for the use of its products. Proper operation of this radio will result in user exposure far below the Occupational Safety and Health Act (OSHA) and Federal Communications Commission limits.

**DO NOT** transmit for more than 50% of total radio use time (50% duty cycle). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.

- This radio is NOT approved for use by the general population in an uncontrolled environment. This radio is restricted to occupational use, work related operations only where radio operator must have the knowledge to control the user's exposure conditions for satisfying the higher exposure limit allowed for occupational use.
- When transmitting, hold the radio in a vertical position with its microphone 2 inches (5 cm) away from your mouth.  
The radio is transmitting when the red LED on the front of the radio is illuminated. You can cause the radio to transmit by pressing the PTT bar on the radio.
- These are required operating configurations for meeting FCC RF exposure compliance.  
Failure to observe these restrictions mean violation.

## **Safety Information**

The Federal Communications Commission (FCC), with its action in General Docket 93-62, March 13, 1997, has adopted a safety standard for human exposure to Radio Frequency (RF) electromagnetic energy emitted by FCC regulated equipment. Maxon subscribes to the same safety standard for the use of its products. Proper operation of this radio will result in user exposure far below the Occupational Safety and Health Act and Federal Communications Commission limits.

**WARNING - DO NOT** hold the radio in such a manner that the antenna is next to, or touching, exposed parts of the body, especially the face or eyes, while transmitting.

**WARNING - DO NOT** allow children to operate transmitter - equipped radio equipment.

**CAUTION - DO NOT** operate the radio near unshielded electrical blasting caps or in an explosive atmosphere unless it is a type especially designed and qualified for such use.

**CAUTION - DO NOT** press and hold the transmit switch (P-T-T) when not actually wishing to transmit.

**NOTE: This radio operates in FCC regulated frequency bands. All radios must be licensed by the FCC before use. Because this radio contains a transmitter, Federal law prohibits unauthorized use or adjustments of this radio.**

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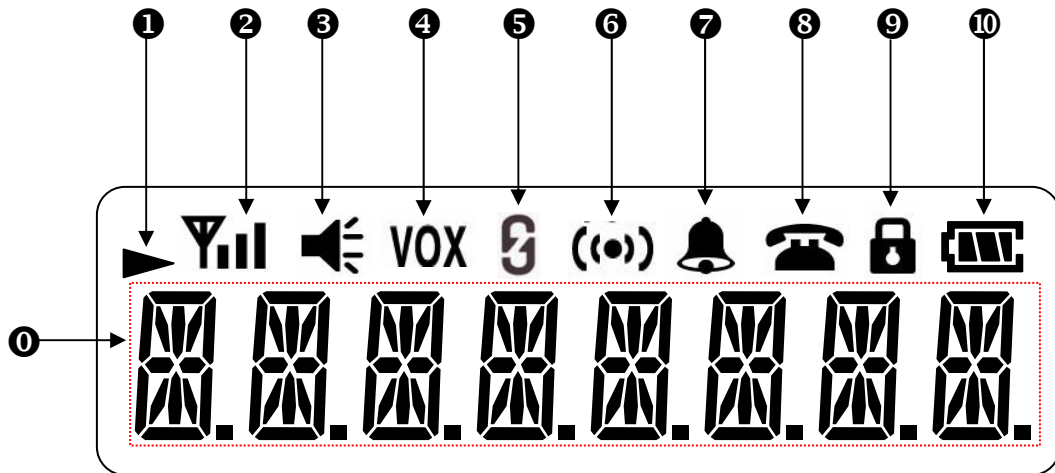
## 1. Panel Description

### (1) Front Panel



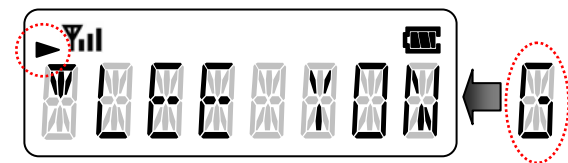
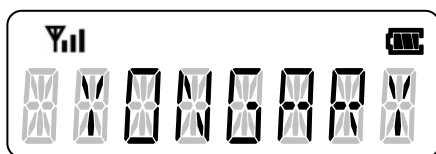
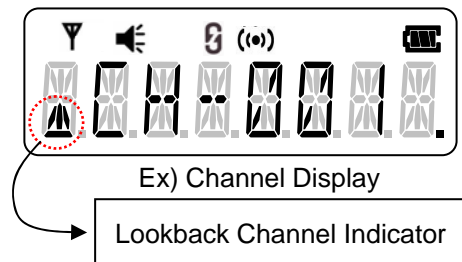
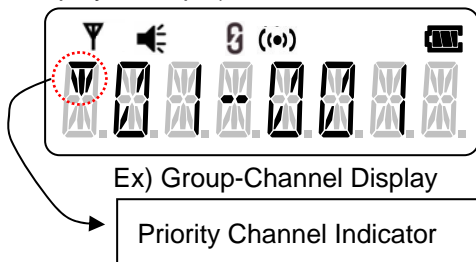
No.	Description	No.	Description
①	Power On/Off, Volume Control S/W	⑥	Up/Down / Select Button
②	Rotary Selector	⑦	LED Indicator
③	Emergency Button	⑧	LCD Display
④	Monitor Button	⑨	Default Programmable Keys
⑤	PTT Key	⑩	Optional 10-keypad

## (2) LCD Display



No.	Description
①	CH, Group, Name, Message etc. Display Digit
❶	Scroll Indicator
❷	RSSI Indicator
❸	Monitor Indicator
❹	VOX On/Off Indicator
❺	Scrambler On/Off Indicator
❻	Compander On/Off Indicator
❼	Bell Indicator
❽	Call Indicator
❾	Key Lock On/Off Indicator
❿	Battery Gauge

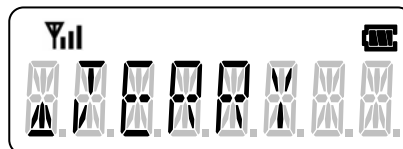
Display Example)



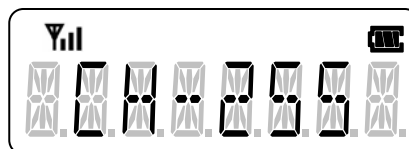
## (3) Display Option

### 1) Display Type

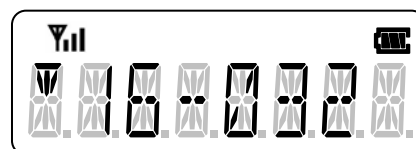
- Channel Name Display
  - Display only Channel Name when this type is selected.
  - Display the Group Number for a second when Group is changed.
  - Scrolls when the name is more than 7 characters



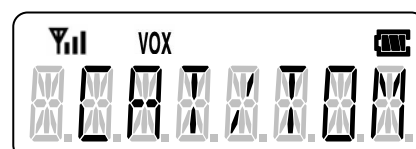
- Channel Number Display
  - Display only Channel Number when this type is selected.
  - Display the Group Number for a sec when Group is changed.



- Group / Channel Number Display
  - Display Group & Channel Number when this type is selected.



- Group / Channel Name Display
  - Display Group & Channel Name when this type is selected.
  - Display '/' between Group and Channel Name as a descriptor.
  - Scrolls when the name is more than 7 characters





## 2. Basic Functions

### (1) Power On/Off & Volume Control

#### 1) Power On/Off

To turn on the radio, rotate the volume knob clockwise beyond detent.

To turn off the radio, rotate the volume knob the most counter-clockwise beyond detent.



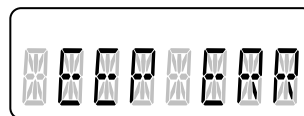
Ex) Power On

#### 2) Power On Sequence

##### - Initialization & Self Test

Initialization and self test are performed when the radio is turned on.

At this time, if some errors occur, error message shall be displayed.



Ex) EEPROM Error

##### - Power On Beep Generation (Option)

Beep sounds out after success of Initialization and Self Test.

(Depends on Beep Option)

- Display Start Logo (Option)

Display the Start Logo for a second. If there is no predefined start logo, all digits and icons will be displayed for a second.



Ex1) Start Logo



Ex2) Non Start Logo

- Password Check (Option)

Password function is the function that the user who knows the password can use the radio. (Depends on password option)

Password can be consisted of 1 to 4 numerical digits.

In case of the radio with 10-keypad, 10-keypad can be used to input the password.

\* Usage of keys for inputting password



: Confirm (Enter)



: Delete (Error Beep out if there is no digit to delete.)



: Confirm (Enter)



: Digit Value Change



: Next Digit



: Delete

## (2) Receiving and Transmitting

### 1) Receiving

- Channel & Group Selection

- Group Selection

#### ① Rotary Selector

Rotary Selector can be used to select each group up to 16.

If blank group is selected, the radio keeps the last used channel status.

## ② Programmable Key

To select the group up or down direction, push the programmed key.

If there are blank groups within the total groups, the blank group is skipped automatically when group is changing.

## ● Channel Selection

### ① Rotary Selector

Rotary Selector can be used to select channel up to 16.

If blank channel is selected, the radio keeps last used channel status.

### ② Programmable Key

Push to select the channel up or down direction.

If there are blank channels within the total channels, the blank channel is skipped automatically when channel is changing.

## - Busy

Busy Status: When receiving a call

Amber color LED turns on in busy status.



Ex) LED Display

- Correct Call

Correct Call Status: When proper CTCSS tone or DCS code is decoded.

Green color LED turns on in correct call status

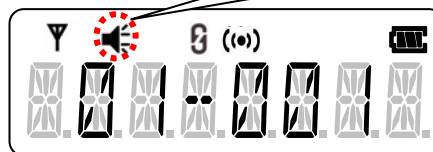
- Monitor Operating

Release squelch and tone option to check whether you can use or not current channel.

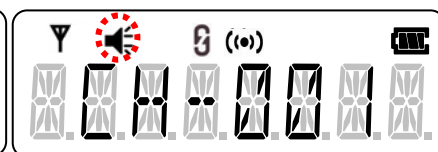
Mode	Description
Push Mode	<p>Push and hold the key in short time, to enter to monitor push mode.</p> <p>Squelch and tone option are released while push and hold the key.</p> <p>To return to normal mode, release the monitor key.</p>
Hold Mode	<p>Push and hold the key in long time, to enter to monitor hold mode.</p> <p>After a confirm beep, monitor operation is held even if the key is released.</p> <p>To return to normal mode, push and release the monitor key once more.</p>

Display Ex.

Monitor On Indicator



Group – Channel Display



Channel Display

- RSSI (Received Signal Strength Indication)

This function is to indicate the received signal strength.

Display Ex.



- Receiving Option

- Squelch Level Control

Squelch level is adjustable 1 to 9 step by PC Program or User Set Mode.

- Sub-Audio Tone

- ① CTCSS

The radio has a CTCSS tone squelch function which consists of 38 standard tones and 12 non-standard tones.

No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
1	67.0	14	107.2	27	167.9	40	159.8
2	71.9	15	110.9	28	173.8	41	165.5
3	74.4	16	114.8	29	179.9	42	171.3
4	77.0	17	118.8	30	186.2	43	177.3
5	79.7	18	123.0	31	192.8	44	183.5
6	82.5	19	127.3	32	203.5	45	189.9
7	85.4	20	131.8	33	210.7	46	196.6
8	88.5	21	136.5	34	218.1	47	199.5
9	91.5	22	141.3	35	225.7	48	206.5
10	94.8	23	146.2	36	233.6	49	229.1
11	97.3	24	151.4	37	241.8	50	254.1
12	100.0	25	156.7	38	250.3		
13	103.5	26	162.2	39	69.4		

## ② DCS (IDCS)

The radio also has a digital coded squelch function which consists of 104 codes.

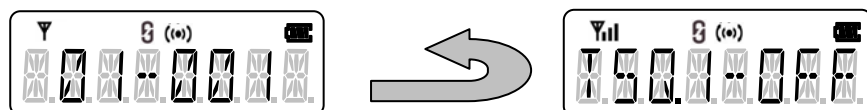
No.	Code	No.	Code	No.	Code	No.	Code
1	023	27	152	53	311	79	466
2	025	28	155	54	315	80	503
3	026	29	156	55	325	81	506
4	031	30	162	56	331	82	516
5	032	31	165	57	332	83	523
6	036	32	172	58	343	84	526
7	043	33	174	59	346	85	532
8	047	34	205	60	351	86	546
9	051	35	212	61	356	87	565
10	053	36	223	62	364	88	606
11	054	37	225	63	365	89	612
12	065	38	226	64	371	90	624
13	071	39	243	65	411	91	627
14	072	40	244	66	412	92	631
15	073	41	245	67	413	93	632
16	074	42	246	68	423	94	654
17	122	43	251	69	431	95	662
18	114	44	252	70	432	96	664
19	115	45	255	71	445	97	703
20	116	46	261	72	446	98	712
21	125	47	263	73	452	99	723
22	131	48	265	74	454	100	731
23	132	49	266	75	455	101	732
24	134	50	271	76	462	102	734
25	143	51	274	77	464	103	743
26	145	52	306	78	465	104	754

- Signalling (2-Tone, 5-Tone, DTMF)
  - ➔ There are three type audio-band tone signaling.
  - Refer to Signaling section.

- Tone Squelch Option

- ① Tone Squelch 1 (On/Off)

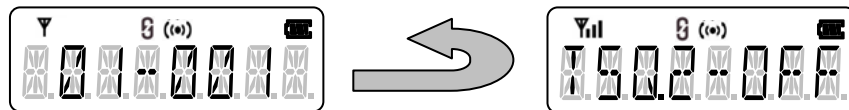
All Tone Squelch On/Off (Sub-Audio, 2-Tone, 5-Tone, DTMF)



Display Ex.) Display tone squelch status for a second when the status is changed.

② Tone Squelch 2 (On/Off)

Only audio-band tone squelch(2-Tone, 5-Tone, DTMF Squelch)  
On/Off



Display Ex.) Display the tone squelch status for a second when the status is changed.

2) Transmitting

- 송신방법

● PTT Key

Push the PTT (Push To Talk) key to transmit.

● VOX function (Voice Operated Transmit)

This function is to transmit by voice without pressing the PTT key.

The radio can transmit by low and high level voice in accordance with VOX level 1 to 4.

- Transmit Option

● PTT ID

When transmission is starting, PTT ID which consists of DTMF or 5-tone depend on system and signaling option can be transmitted.

● TX Power High/Low Control

Each channel can be capable of programmable output power via PC programmer.

Each channel can be programmed high or low transmit power.

● TOT (Time Out Timer)

This function is to prevent continuous transmitting over than specified time that is programmed via PC programmer.

● BCLO (Busy Channel Lock-Out)

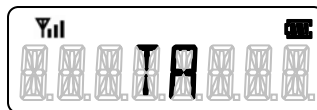
This function is to prevent transmitting when current channel is in busy status.

- **Marked Idle**  
This option allows transmitting when current channel is in correct call status even if BCLO option is applied.
- **TX Delay**  
This function is to eliminate the squelch tail on leaving transmission. The radio transmits the turn off code (or tone) and return to receive mode after the PTT key is released.
- **Roger Beep**  
When this option is on, beep sound shall be transmitted after the PTT key is released.
- **Clear to Talk**  
This function is to inform that voice can be transmitted without a loss. When PTT key is pushed beep sounds out after specified clear time.

- **Talk Around**

- This function allows communicating directly with other radios without the use of a repeater.
- When using this function, the receive frequency is used for both transmitting and receiving.
- This function shall be off automatically, when the channel is changed.

- **Display Ex.**



3) **Power Save**

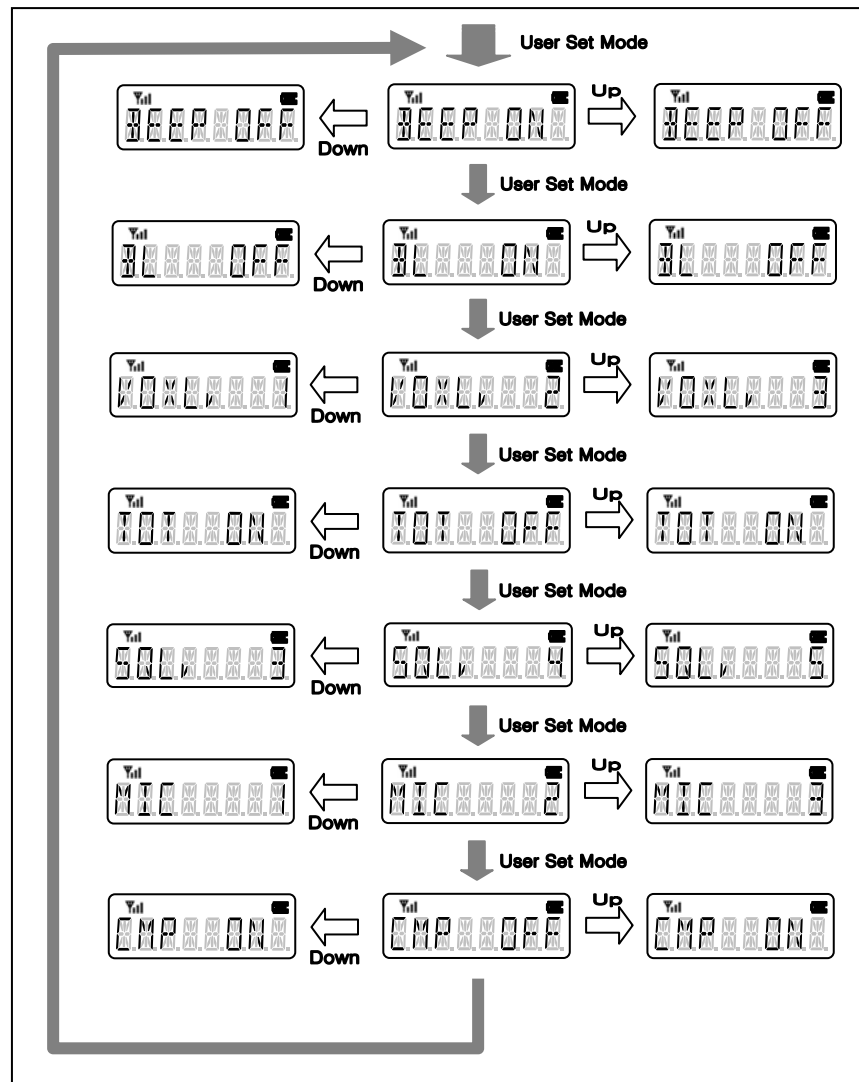
If this function is activated, the power save function will decrease the amount of using power when current channel is no busy status and no operations are being performed.



## **(3) User Set Mode**

- 1) This mode is to set internal settings that are not changed very often.
  
- 2) Setting
  - Push the User Set Mode key to enter the User Set Mode.
  - To select item: User Set Mode Key
  - To change value of the item: Up/Down Key
  - Exit without Save: Monitor Key (or after 10 seconds without key input)
  - Save & Exit: PTT Key
  - Items List
    - Beep
    - LCD Back Light
    - VOX
    - TOT
    - Squelch Level
    - MIC Sense
    - Compander On/Off

### 3) Setting Ex.



## 3. Emergency Function

### (1) To transmit Emergency Call

Push and hold the emergency key to transmit emergency call. (Push and hold the emergency key once more to exit this function.)

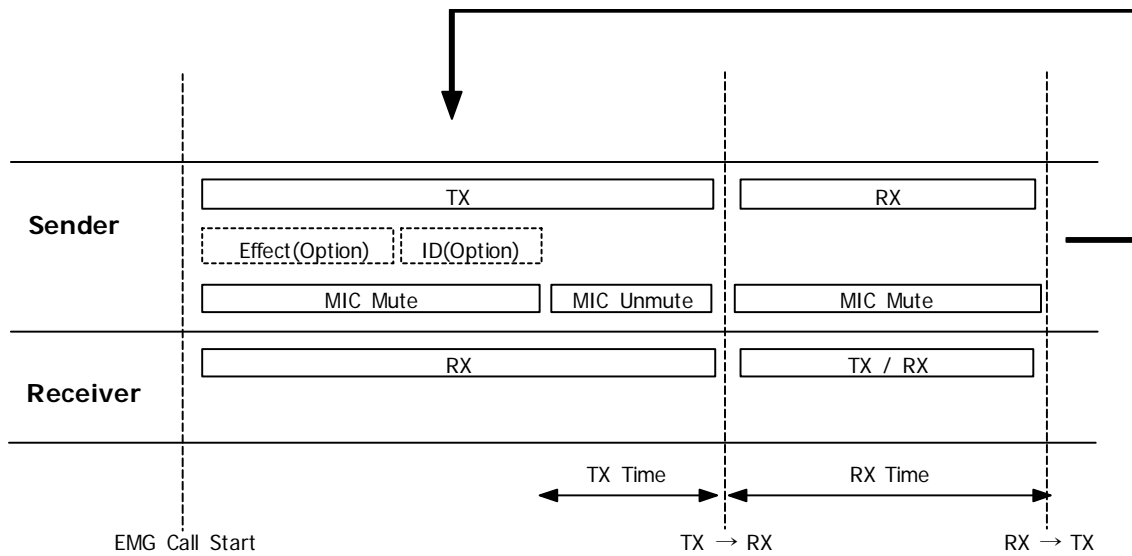
### (2) Effect

- 1) Alert tone
- 2) Backlight Blinking (one second interval)

### (3) Emergency ID

This ID consists of DTMF codes.

### (4) Formation of the Emergency Call



### (5) Emergency Call Options

- 1) Cycle: The number of repetition
- 2) The number of repetition of Alert Tone
- 3) RX Time: Time for receiving
- 4) TX Time: Time for transmitting
- 5) Channel Type: Fixed Channel / Current Channel

## 4. Scan Function

### (1) Description

This function is to monitor a number of channels or channels within a group that are defined in the scan list.

**(Note: Start re-scanning when turning power on if the radio turned off while scanning)**

### (2) Scan Type

- 1) Normal Scan: If there is no predefined priority channel, Normal Scan shall be running.
- 2) Priority Scan: If the radio has a predefined priority channel, Priority Scan will be running. In this case priority channel is checked every three normal channel scanning.
- 3) Power On Scan: When turning power on, the radio automatically starts scanning.
- 4) Look Back Scan: When using priority scan, the radio will automatically change to the priority channel when a call is received on the lookback channel. If the priority channel is not correct call status, return to lookback channel. After lookback interval time, the radio will repeat the above operation.
  - If the priority channel is correct call status, look back scanning will be stopped and the radio receive a call until the priority channel will be not correct call status.

### (3) Nuisance Delete

This function is to temporarily delete a channel from the scan list.

- 1) How to use: Push the monitor key while scanning and stopped on the channel to be deleted.
- 2) Note: The original scan list is recovered when the radio's power is reset.

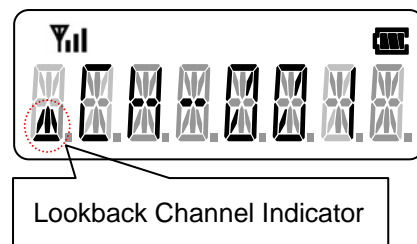
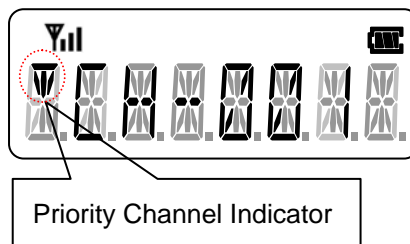
## (4) Scan List Edit

- 1) You can use the Scan List Edit Key to add or delete.
- 2) Display



## (5) Priority Channel / Lookback Channel Setting

- 1) You can set Priority Channel / Lookback Channel using the each setting key.
- 2) Display



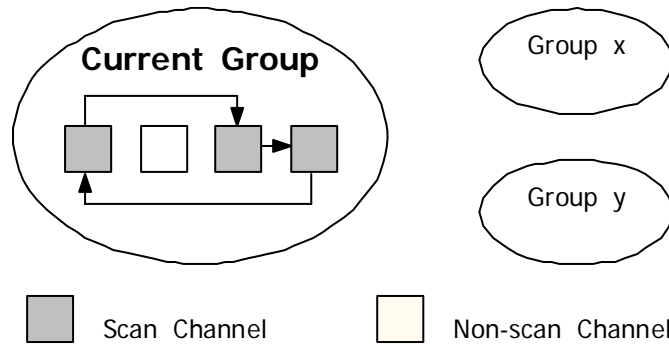
## (6) TX Channel on Scan

Transmission channel during scan

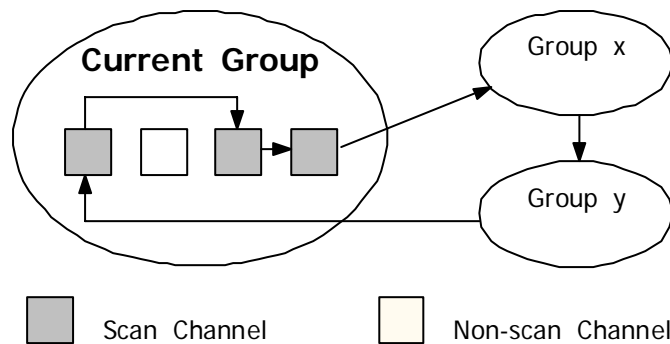
Scan Type	TX Option	Busy	No Busy
Priority Scan	Priority Scan TX	Current Ch.	Priority Ch.
	Priority Only TX	Priority Ch.	Priority Ch.
Normal Scan	Normal Scan TX	Current Ch.	TX Inhibition
	RX Only TX	TX Inhibition	TX Inhibition

**(7) Scan Operation Diagram**

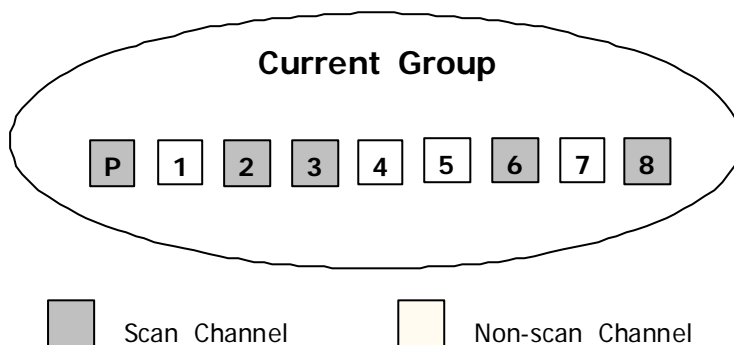
**\* Normal Scan – Current Group Scan**



**\* Normal Scan – All Group Scan**



**\* Priority Scan – Current Group Scan**



**Scan Order: P → 2 → 3 → 6 → P → 8 → P → 2 → P → ...**

## 5. Signaling Function

- ◇ You can select signalling type of each channel. Especially 5-tone case, you can select and set the format of the tone. (for example: ZVEI1, PZVEI, EEA, CCIR1 etc.)
- ◇ You can select the sending signal code in the TX Code List which depends on the signaling type of each channel.
- ◇ In DTMF case, push the PTT key to send the code after inputting or selecting.
- ◇ In 2-Tone and 5-Tone case, push the Call key to send the code after inputting or selecting. (Note: The Call Key must be programmed to send 2-tone or 5-tone code.)

### (1) Signaling Type & Transmission

#### 1) DTMF

##### - Transmission

- Manual Dial: To send the DTMF codes press the numerical key with programmable key while pressing the PTT key.
  - ① 0 ~ 9, \*, #
  - ② P0: 'A' tone
  - ③ P1: 'B' tone
  - ④ P2: 'C' tone
  - ⑤ P3: 'D' tone
- Store and Send: Push the PTT key after finishing the DTMF codes input.
  - ① PTT: Code Save & Send
  - ② Monitor: Cancel (Exit without Save)
  - ③ '\*': Special Tone Selection Mode
    - I. '\*': \*
    - II. '#': #
    - III. P0: 'A' tone
    - IV. P1: 'B' tone
    - V. P2: 'C' tone

## VI. P3: 'D' tone

- ④ '#': Delete
- TX Code Select & Enter
  - ① PTT: Code Save & Send
  - ② Monitor: Cancel (Exit without Save)
  - ③ Up / Down: Code Selection
- Redial
  - ① Redial Key: Display the recent sent DTMF code
  - ② PTT: Send
  - ③ Monitor: Cancel (Exit)

Note: Error beep out if there is no Redial Code.

## 2) 5-Tone

### - Transmission

- TX Code Select Mode
  - ① TX Code Select & Enter Key: Enter to the TX Code Select Mode
  - ② Up / Down Key: Select the code
  - ③ Call Key: Send the code
- TX Code Enter Mode
  - ① TX Code Select & Enter Key (in TX Code Select Mode): Enter to the TX Code Enter Mode
  - ② Up / Down Key: Edit the code digit
  - ③ TX Code Select & Enter Key (in TX Code Enter Mode): Change the digit
  - ④ To return to the TX Code Select Mode push the TX Code Select & Enter Key after the last code editing.
- PTT Key: Save & Exit
- Monitor Key: Cancel (Exit without Save)
- Up / Down
  - ① Code Select Mode: Code Selection
  - ② Code Enter Mode: Digit Code Edit (0 ~ 9, \*)



### 3) 2-Tone

- Transmission
  - TX Code Select & Enter
    - ① PTT: Code Save & Send
    - ② Monitor: Cancel (Exit without Save)
    - ③ Up / Down: Code Selection

## (2) Signaling Functions and Receiving

### 1) ANI (DTMF & 5-Tone)

- Display the received code on the LCD.
- Display the alias text if the received code matches with one of the code in the RX Code List.
- Display time is 10 seconds.

### 2) Selcall (DTMF & 5-Tone)

- The radio will do the correspondent action if the received code matches with current channel ID.
- Action
  - LED: LED(Amber Color) Blink Effect
  - ICON: Icon Blink Effect
  - Alert Tone: Alert Beep Effect
  - Squelch: Squelch Effect

### 3) Code Match Operation

- The radio will do the correspondent action if the received code matches with one of the code in the RX Code List.
  - LED: LED(Amber Color) Blink Effect
  - ICON: Icon Blink Effect
  - Alert Tone: Alert Beep Effect
  - Squelch: Squelch Effect

- Stun

- ① When receiving the Stun Code display the stun message until the stun mode is released.



- ② All keys are disabled except the EMG key. (Only Emergency Call and receiving are possible.)
- ③ Key pressing except the EMG Key will make Error BEEP.

- Revive

- ① When receiving the Revive code in stun mode the radio return to normal mode.
- ② When releasing the Stun Mode Cancel BEEP out and the revive message will be displayed on the LCD for a second.

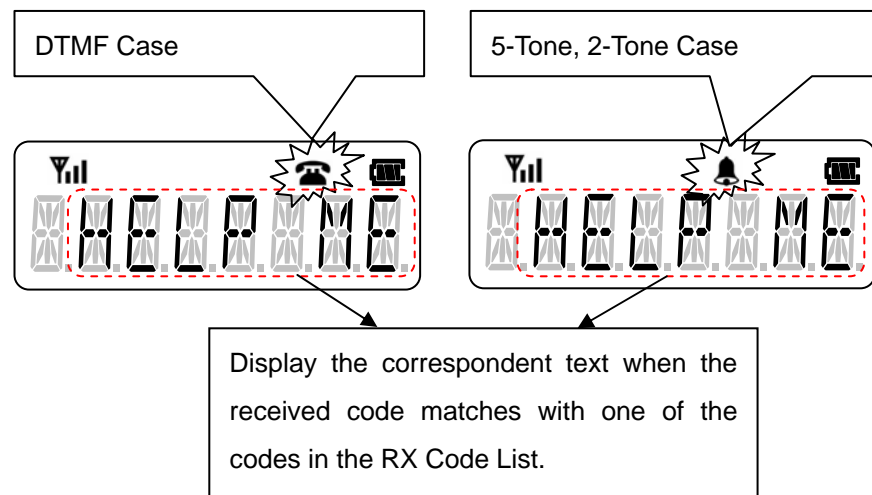


- Text: The text correspondent with the received code will be displayed,

#### 4) Optional Functions

- Transponder: This function is to send the Alert Tone automatically when the received code matches with current channel ID.
- Auto Reset Time: After matching status(the received code matches with current channel ID or one of the codes in the RX Code List) if Auto Reset Time is elapsed with no busy status return to call standby status.
- Push the monitor key to return to call standby status before Auto Reset Time is elapsed.

- Remind Time: After matching status if there is no key input correspondent call icon will be blinked while reminding time.
  - Push any key to stop the icon blinking.
  - Receiving status will be displayed until any key input.



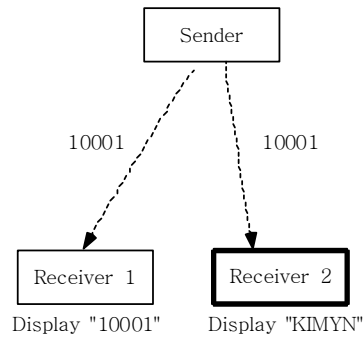
## (3) Signaling Operation Example

### 1) DTMF

**ANI:** Displays the received DTMF code.

Receiver2's DTMF RX Code List

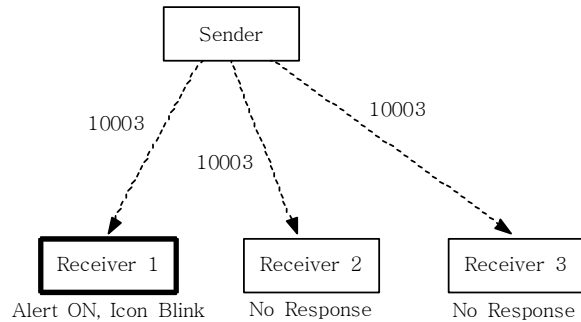
	Code	Name	Actions
1	10001	KIMYN	X
2	10002	RYUJG	SQL Open
3	10003	KIMY	Alert ON
4	10004	KIMCG	LED ON
5	00001	NOTHING	X
6	00002	BUSY	X
7	00003	READY	X
8	00004	COMEON	X



**Command:** Carries out designed actions if the transceiver receives a valid code.

Receiver1's DTMF RX Code List

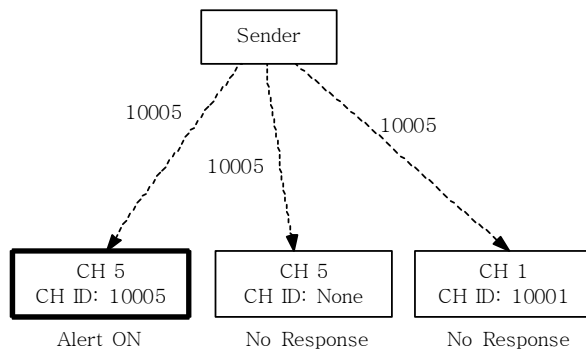
	Code	Name	Actions
1	10001	KIMYN	X
2	10002	RYUJG	SQL Open
3	10003	KIMY	Alert ON, Icon Blink
4	10004	KIMCG	LED ON
5	00001	NOTHING	X
6	00002	BUSY	X
7	00003	READY	X
8	00004	COMEON	X



**Alert:** Beeps out if the received DTMF code and Ch. ID are the same.

Channel Data

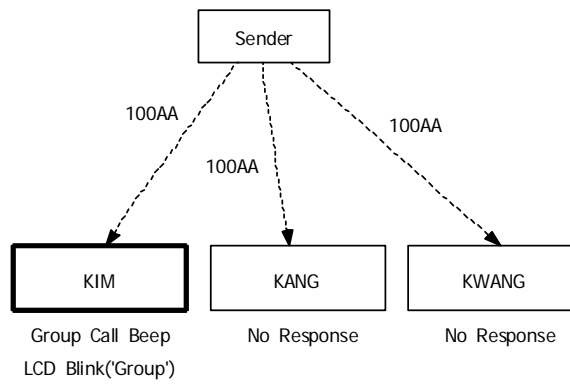
CH NO.	Signaling	CH ID	Name
CH 1	DTMF	10001	KIMYN
CH 2	DTMF	10002	RYUJG
CH 3	DTMF	10003	KIMY
CH 4	DTMF	10004	KIMCG
CH 5	DTMF	10005	TWR_SW
CH 6	DTMF	10006	TWR_HW
CH 7			
CH 8			



## 2) 5-Tone Group Call

### Channel Data

No.	Signaling Type	CH ID	CH. Name	
1	5-Tone	10001	KIM	Group A
2	5-Tone	10002	RYU	
3	5-Tone	10003	YONG	
4	5-Tone	20001	KANG	Group B
5	5-Tone	20002	CHUNG	
6	5-Tone	20003	JONG	
7	5-Tone	30001	KWANG	Group C



**(4) 5-Tone Table**

Tone	ZVE11	PZVEI	DZVEI	DDZVEI	PDZVEI	CCIR1	CCIR2	PCCIR	EEA	Euro signal	NATEL
0	2400	2400	2200	2400	2200	1981	1981	1981	1981	979.8	1633
1	1060	1060	970	1060	970	1124	1124	1124	1124	903.1	631
2	1160	1160	1060	1160	1060	1197	1197	1197	1197	832.5	697
3	1270	1270	1160	1270	1160	1275	1275	1275	1275	767.4	770
4	1400	1400	1270	1400	1270	1358	1358	1358	1358	707.4	852
5	1530	1530	1400	1530	1400	1446	1446	1446	1446	652.0	941
6	1670	1670	1530	1670	1530	1540	1540	1540	1540	601.0	1040
7	1830	1830	1670	1830	1670	1640	1640	1640	1640	554.0	1209
8	2000	2000	1830	2000	1830	1747	1747	1747	1747	510.7	1336
9	2200	2200	2000	2200	2000	1860	1860	1860	1860	470.8	1477
A	2800	970	825	885	825	2400	2400	1050	1055	---	1995
B	810	810	740	810	886	930	930	930	930		571
C	970	2800	2600	740	2600	2247	2247	2400	2400		2205
D	885	885	885	680	856	991	991	991	991		2437
E	2600	2600	2400	970	2400	2110	2110	2110	2110	1062.9	1805

## Note

- Group Tone: A (\*\*)
- Repeat Tone: E
  - Example: 11111 → 1E1E1

## 6. Other Functions

### (1) Memory Channel

#### 1) Description

- You can memory channels that are frequently used up to 10 memory channels.
- Programmable key and 10-keypad can be used as a memory channel key.

#### 2) Operation

- In case of no 10-keypad, you can memory channels up to 4 memory channels.
- If you push the memory channel key, current channel will be changed to correspondent memory channel like as Direct Channel Function.
- When memory function is activated, the rotary selector position can be different from current memory channel information.

### (2) Battery Indication

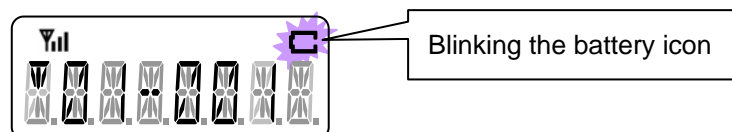
#### 1) The battery indicator shows approximately how much charge is left.

#### 2) Display (4-Step Display)



#### 3) Low Battery

- Battery Icon will be blinked and warning beep out when the battery is low.

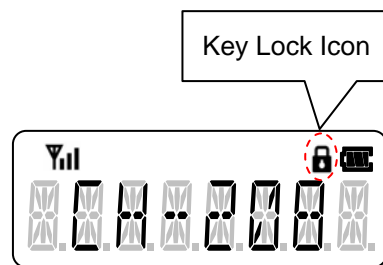


#### 4) Low Battery in Transmitting

- If battery is low when transmitting, next transmission will be inhibited.

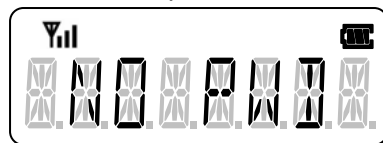
### (3) Key Lock

- 1) All keys are locked except EMG, PTT and Rotary Selector.
  - To release the key lock status, push the lock key once more.
- 2) Display of the Key Lock Status



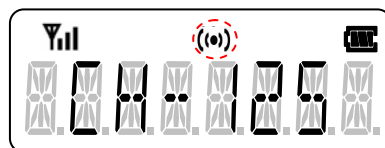
### (4) Transceiver Lock

- 1) This function is to prevent others from using the radio.
  - If you push the transceiver lock key, when the radio has no password Error BEEP out and Error Message will be displayed.



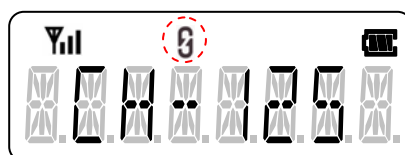
### (5) Comander

- 1) This function is to reduce noise components from the transmitting audio to provide clear voice quality.
- 2) Display: The comander icon appears when the function is on.



### (6) Scramble

- 1) This function is to prevent others from easily listening your call.
- 2) Display: The scrambler icon appears when the scrambler is on.





## **(7) Man Down**

→ Optional Function

## **(8) Lone Worker**

If there is no key input within the specified time, warning beep out while warning duration.

If there is no key input while warning duration, emergency call is transmitted automatically.

## 7. Function List & User Set Mode Function

Value	Function	Remark
0	None	
1	Backlight OFF / ON / AUTO	
2	Beep OFF / ON	Controls the whole beep.
3	Call	
4	Channel Down	Long Key
5	Channel Up	Long Key
6	Compander OFF / ON	
7	Group Down	Long Key
8	Group Up	Long Key
9	Key Lock	
10	Lone Worker`	
11	Lookback Channel Setting	
12	Man Down OFF / ON	
13	Memory Channel 1	
14	Memory Channel 2	
15	Memory Channel 3	
16	Memory Channel 4	
17	Priority Channel Setting	
18	DTMF Redial	
19	Scan List Setting	
20	Scan Start / Stop	
21	Scrambler OFF / ON	
22	Talk Around	
23	Tone Squelch1	
24	Tone Squelch2	
25	Transceiver Lock	
26	TX Code Select & Enter	
27	TX Power High / Low	
28	User Set Mode	
29	VOX OFF / ON	
30		
31		

Reserved	Compander	MIC Sense	Squelch Lv.	TOT	VOX	Backlight	BEEP
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## **Service Information**

### **Service**

Do not tamper with internal adjustments. Damage to the equipment and/or improper operation may result.

There are no user serviceable items inside the radio.

It is recommended that you return your radio to a qualified Maxon Dealer for any service or repairs.

### **Recycling/Disposal of Batteries**

The battery should be recycled at the end of its useful life. Under various state or local laws, such batteries must be recycled or disposed of properly and cannot be dumped in landfills or incinerators.

For further information on how to safely dispose of four used batteries, contact your reseller.

### **Maintenance**

Your SP7402 Radio is designed to be maintenance free. To keep your radio in good working condition:

Clean external surfaces with a clean cloth dampened in a solution of dishwasher detergent diluted in water.

Apply the solution sparingly to avoid any moisture leaking into cracks and crevices. Do not submerge the radio. Use a non-metallic brush to dislodge stubborn particles, if necessary. Dry the surface thoroughly with a soft, lint free cloth.

DO NOT use solvents or spirits for cleaning - they may permanently damage the housing.

Clean the battery contacts on the back of the radio with a lint free cloth to remove dirt, grease, or other foreign material that may impede good electrical contact.

### **Limited Warranty**

Maxon shall have no obligation to make repairs or to cause replacement required which result from normal wear and tear or necessitated in whole or in part by catastrophe, fault or negligence of the user, improper or unauthorized alterations, repairs to the Product, use of the Product in a manner for which it was not designed, or by causes external to the Product. This warranty is void if the serial number is altered, defaced or removed.

Maxon's sole obligation hereunder shall be to repair or replace the Product covered in the above warranty.