3) VOLUME adjustment

When power supply is lighted, decrease if volume increases and turns for class
clockwise if operate [VOL/PWR] handle for clockwise .

2 . Currency function . ? [PTT] (Push To Talk) button utilization

1) Status that do not click any button is automatic reception air status.
2) If click side [PTT] button, get into transmitter state. When click [PTT] button, transmit message to other person.
This time, "TX" icon appears to LCD.
3) If message delivery ends, put [PTT] button. Come into in reception air state.

3 . SCAN/MONITOR function

1) SCAN function
a. If click side [MON] shortly, search use frequency.
b. While search channel, if click [   ]/[   ] channel search direction increase of each channel or Convert for
decreasing direction.
c. Finish While search channel, receive signal until reception ends in relevant channel if there is reception
lake, and reception two, [after 5 seconds] automatically from next time channel search begin
d. If click side [MON] again shortly, stop channel search and return before channel search to channel.

2) MONITOR function .
a. If click side [MON] long, regardless of ton code, signal that enter to established channel plain number.
b. If there is no aural signal to established channel, background noise is heard. Reception indication icon
"BUSY" of LCD appears.

4 . LAMP/LOCK function

1) LAMP function
If press [F]/[   ]/[   ], LCD is lighted for 5 seconds.

2) LOCK function . - Button fastening function .
a . Can prevent case that change If click [F] long, get into button fastening state and "Key indication" icon of
LCD appears channel or tone code to a mistake.
b . If press [F] again long, LCD is "Key indication" icon this getting into button fastening cancellation state.

5.CALL function .
If press [ENTER] in reception stand-by status, CALL signal is sent out to other person.

6 . Channel selection & ton code (CTCSS) selection .

1) Channel selection(1~22)
a. [F] 1st repeatedly channel selection mode select .
b. Set -channel using [   ]/[   ] while channel blinks.
c. [ENTER] repeatedly established channel store .

2) Ton code (CTCSS) selection(01~38)
a. [F] 2nd repeatedly ton code mode select .
b. Establish Channel using [   ]/[   ] while Tone Code blinks.
(If select '00', can receive signal regardless of other person's ton code.)
c. [ENTER] stores establishment repeatedly.

3) channel & frequency spectrum designation
Specified frequency and channel are marked alternately in LCD when press [F]
and [ENTER] at the same time.

7 . DUAL WATCH function
By function that can receive channel separately except existent established channel the two channels
alternately reception signal inspect .
1) [F] 3rd repeatedly DUAL WATCH mode select .

2) "DCH OFF" is blinker to LCD.
3) Select channel that want using [   ]/[   ].
4) [ENTER] stores establishment repeatedly.
5) When cancel, press side [MON] shortly.

8 . Transmission of a message output HI/LOW establishment function .
　　1)[F] 4th repeatedly transmission of a message output HI/LOW establishment mode select .
　　　2)"TPr HI" is blinker to LCD.
　　3) After use [   ]/[   ] and do so that do "TPr Lo", press [ENTER].
　　　　Transmission of a message output is stored by LOW mode.
　　　　RF output can become 0.5 W and spare battery in LOW mode.
　　　　It is useful function if use in near distance.
　　　　 off 8CH ~ 14CH LOW mode fixing channel be .

9 . CALL sound establishment function
　　　1) [F] 5th repeatedly CALL sound establishment mode select .
　　　2) "CAL 1" is blinker to LCD.
　　　3) Using [   ]/[   ] CALL sound [CAL 0] ~ [CAL 5] select .
　　　4) [ENTER] stores establishment repeatedly.

10 . BEE sound (sound that ring when press button) establishment(ON)/cancellation(OFF) function .
　　　1) [F] 6th repeatedly BEEP sound establishment(ON)/cancellation(OFF) mode select .
　　　2) "BP ON" is blinker to LCD.
　　　3) Choose set/revocation using [   ]/[   ].
　　　4) [ENTER] stores establishment repeatedly.

11 . Roger Beep establishment(ON)/cancellation(OFF) function
　　　After send a letter [PTT] repeatedly by signal that inform transmission of a message end, can hear short
　　　melody when remove [PTT] hand . Can enter if Beep sound is established, and can not enter if Beep
　　　sound is defrosted.
　　　1) [F] 7th repeatedly Roger Beep establishment mode select .
　　　2) "Rb ON" is blinker to LCD.
　　　3) Select establishment (ON)/cancellation (OFF) using [   ]/[   ].
　　　4) [ENTER] stores establishment repeatedly.

12 . VOX establishment (ON)/cancellation (OFF)
　　　VOX(Voice activated transmission) is function that talk without pressing [PTT].
　　　If sound does not enter to MIC, get into reception stand-by status automatically .
　　　If turn on while put out power supply, VOX becomes cancellation (OFF).
　　1) [F] 8th repeatedly VOX establishment/cancellation establishment mode select .
　　2) "VOX OFF" is blinker to LCD.
　　3) After use [   ]/[   ] and do so that do "VOX ON", press [ENTER].
　　4) Enter by VOX mode "VOX 3" is blinker. Using [   ]/[   ] VOX sensitivity
　　　　after select [SEN 1]~[SAN 10], [ENTER] press .
　　　　 (Is sensitive number is low.)
　　5) "DLY 150" is blinker during VOX continuance time. [dLY 025] ~ after select [dLY 400]
　　　　Press [ENTER].
　　　　　 (VOX continuance time can select in "0.25 ~ 4 seconds" by TX (transmission of a message)
　　　　　preservation time.)

13 . Outside speaker/microphone connection function .
　　　If 3.5 ø terminals that can connect outside speaker or Mike be, and conne ct, interior speaker is intercepted.

14 . Charge function .
　　　- Can use using sold charger separately.

8. **Before think that is breakdown**

- Desire Before ask repair, to inquire to A/S center in case of is not solved after inspect following item.

Symptoms upper	Point sword four clauses
Power supply is not lighted.	1. Confirm whether battery is discharged. 2. Confirm whether new battery and old battery mix. 3. Confirm whether battery polarity is threaded wrongly.
Tone is not said.	1 . Confirm whether volume is established by smallest
Tone is not clean.	1. Confirm whether battery is discharged. 2. Is not very far away with other person?
BEEP sound is not said.	1 . Confirm whether is by BEEP sound OFF (cancellation) mode.
Power has turned off constantly.	1 . Confirm whether battery discharged.
Currency distance is short.	1. Hand or outside microphone etc . Confirm touches in antenna 2 . Confirm whether transmission of a message output is established by LOW mode.
When receive, "BUSY" twinkles and it does not become reception.	1 . Confirm whether other person and ton code conform.
Transmission of a message acts continually.	1 . Confirm whether VOX SEN LEVEL is established so low.
VOX do not act.	1 . Confirm VOX SEN LEVEL whether this so high establish.
Is broken Transmission of a message of VOX action every time.	1. Confirm whether VOX SEN LEVEL is established so high. 2. Confirm VOX DELAY TIME is established so shortly.
Is not Reception becomes Sometimes to On call.	1. Is not very far away with other person? 2. Confirm whether transmission of a message output is established by LOW mode.
Charger (Limitation box to person which buy addition) LED is not lighted.	1. Confirm whether terminal is raised properly. 2. Confirm whether adaptor is linked properly.

9. **Standard.**

1.GMRS-310 Product standard

1) RF Impedance   : 50 Ohm .
2) Frequency range   : 462.5625 MHz ~ 467.7250 MHz
3) Channel spacing   : 12.5KHz
4) Channel number   : 22 channels
5) Form of radio wave   : F3E
6) Modulation system   : FM
7) Maximum RF electric power   : High 0.5W/ Low 0.15W
                                                   (Conducted High 2W/Low 0.5W)
8) Channel frequency accuracy   :± 200Hz
9) Maximum frequency deviation   :± 2.5 KHz
10) Contiguity channel leakage power   : More than 50dB
11) Blow Copy   : More than 53dBc
12) Receiver sensitivity   : -120 dBm
13) Use temperature extent   : -20°C ~ 50°C
14) Size   : 163mm X 50.5mm X 24.5mm
15) Weight   : 138g (Battery included)
16) Use Voltage   : DC 6V
17) Use battery   : AAA TYPE size x 4

2 . Channel frequency list (MHz)

Channel	Frequency	Channel	Frequency
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250

Reference : It is FRS radios and official business that get thin channel 1 ~ 14.
     Transmission of a message output : 1 ~ 7 Ch(2W/0.5W), 8 ~ 14Ch(0.5W), 15 ~ 22Ch(2W/0.5W)

3 . CTCSS (ton code) frequency list (Hz)

Code	Frequency	Code	Frequency	Code	Frequency
1	67.0	14	107.2	27	167.9
2	71.9	15	110.9	28	173.8
3	74.4	16	114.8	29	179.9
4	77.0	17	118.8	30	186.2
5	79.7	18	123.0	31	192.8
6	82.5	19	127.3	32	203.5
7	85.4	20	131.8	33	210.7
8	88.5	21	136.5	34	218.1
9	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100.0	25	156.7	38	250.3
13	103.5	26	162.2		

FCC Information

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS :

(1) THIS DEVICE MAU NOT CAUSE HARMFUL INTERFERENCE, AND

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,

INCLUDING INTERFERENCE THAT MAY CAUSE UNDERSIRED OPERATION.

Safety Information For GMRS UNIT

Your wireless handheld portable transceiver contains a low power transmitter. When the PTT button is pushed it sends out radio frequency (RF) signals. This device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commission (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless devices.

Important: To maintain compliance with the FCC's RF exposure guidelines, hold the transmitter at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away. If you wear the handset on your body while using the headset accessory, DO NOT TRANSMIT. The GMRS-310 supplied belt clip is for storage purposes ONLY. Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

Normal Position: Hold the transmitter approximately 1" from your face and speak in a normal voice, with the antenna pointed up and away.