

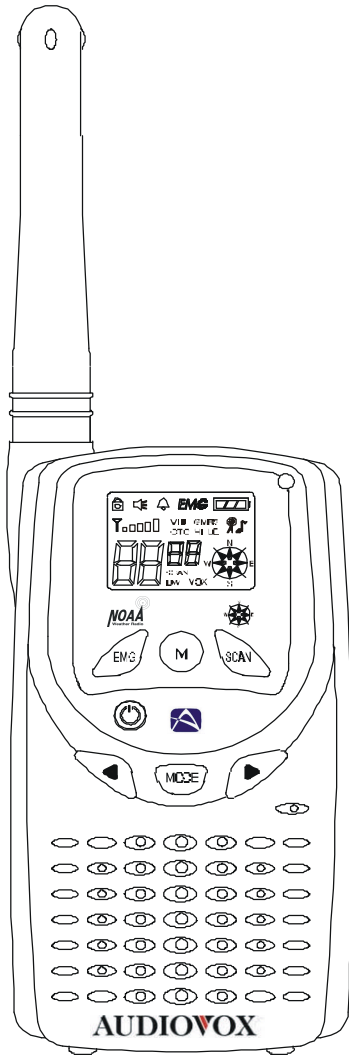


Instruction Manual

GMRS-1545

General Mobile Radio Service

462MHz,15CH



- * **38** CTCSS Sub Tone
- * Electronic Compass & Calibration mode
- * Vibrator Call
- * VOX mode
- * Scanning
- * Monitor
- * Key Pad Lock
- * Dual Watch
- * TX Power HI/LO
- * RSSI
- * Auto Power Save Mode
- * NOAA Weather Band (10CH)
- * Weather Alert
- * Battery Status Indicator
- * Emergency Channel
- * Back Light LCD Display
- * Choice of Battery
 - Rechargeable Battery
 - Standard Alkaline

INDEX

1. INTRODUCTION

	page
1) Product Description	3
2) Package Contents	3
3) Features	3
4) Front side Overview	4

5) Rear side Overview	5
6) Function and Feature Display	6
7) Mode (Function) key sequence - short press	7
8) Mode (Weather) key sequence - Long Press	7
9) Electronic Compass Calibration	7
2. INSTALLATION	
1) Installation of the batteries	7
2) Antenna	7
3. BASIC OPERATION	
1) On/Off & Volume control Switch	8
2) Setting the Channel and tone code(CTCSS)	8
3) VOX(Voice Operated Switching)	8
4) Beep Tone	8
5) Weather Alert	9
6) Vibrator	9
7) Setting the Transmit Power HI/LO	9
8) Roger Tone	9
9) Setting the DW(dual watch)	10
10) Call Ringer Selection Mode	10
11) Transmitting	10
12) Receiving	10
13) Channel Scanning	10
14) Emergency Channel	11
15) Call	11
16) Monitoring the channel	11
17) Keypad Lock	11
18) Backlight	11
19) Battery status indicator	12
20) External DC socket	12
21) External Speaker/Mic	12
4. Weather Radio	
1) Weather Radio setting	12
5. Calibrat the Electronic Compass	12
6. Calibration mode	13
7. INFORMATION	
1) Radio	13
2) Battery	13
8. SPECIFICATIONS	13
9. MAIN CHANNEL FREQUENCY TABLE	13
10. CTCSS TONE CODE TABLE	14
11. WEATHER CHANNEL FREQUENCY TABLE	14

1. INTRODUCTION

1) Product Description

GMRS-1545 General Mobile Radio Service has been designed to enable you to use for general purpose. This is a battery powered 462 MHz transceiver. The controls are easy to use and GMRS-1545 correspond to FRS for channel 1 to 7. Also it has a 38 CTCSS feature to get the clear communication without interference. GMRS-1545 has 10 NOAA weather channel and weather alert feature. GMRS-1545 is equipped with Electronic Compass and Vibrator Call feature.

2) Package Contents

When you open the package,you should have;

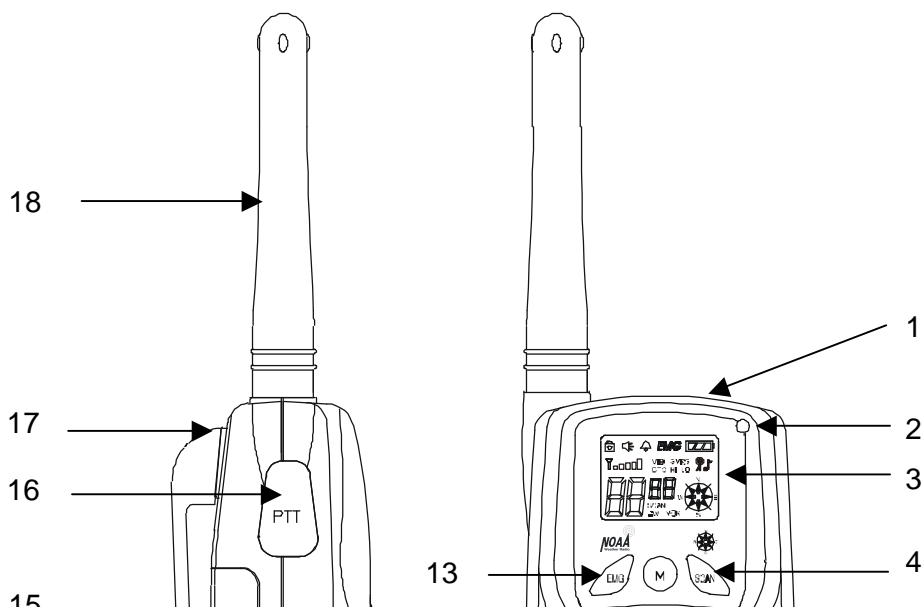
* GMRS-1545 Radio Unit

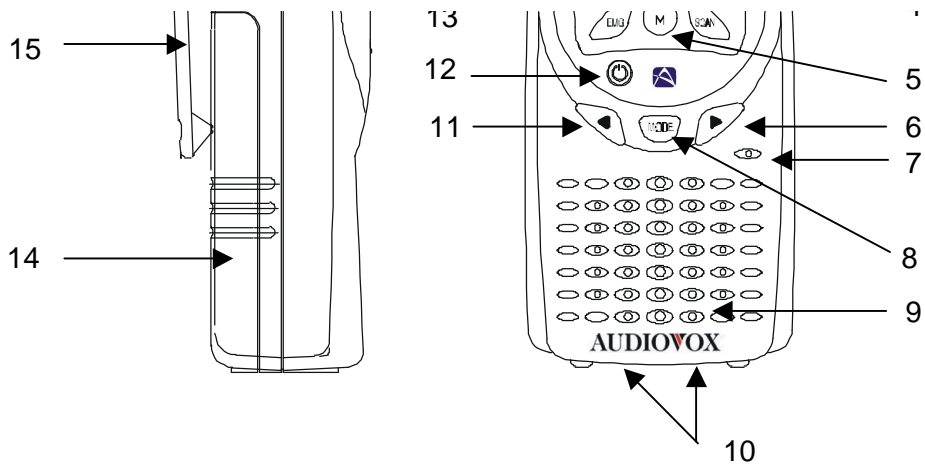
- * Antenna
- * Wall charger
- * Rechargeable Battery (AA x 5)
- * User's Manual

3) Features

- * CTCSS(38 Frequency)
- * **Electronic Compass**
- * Calibration mode for Compass
- * Vibrator Call
- * VOX(Voice Operated Switching)
- * Scanning
- * Monitor
- * Keypad Lock
- * Dual Watch
- * TX Power HI/LO
- * AUto Squelch
- * RSSI(Received Signal Strength Indicator)
- * PSC(Auto Power Saving Control)
- * NOAA Weather Band(10CH)
- * Weather Alert
- * Battery Status Indicator
- * Emergency channel
- * LCD Back lighting
- * Transmitting LED
- * Call Signal (5 ringer signal)
- * Beep ON/OFF
- * Roger beep ON/OFF

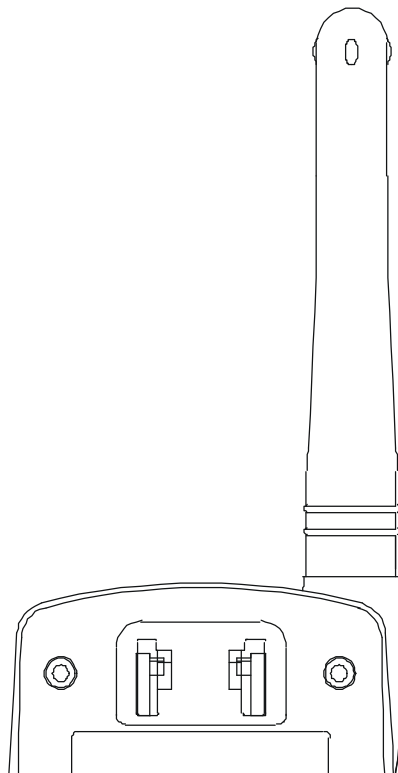
4) Front side Overview

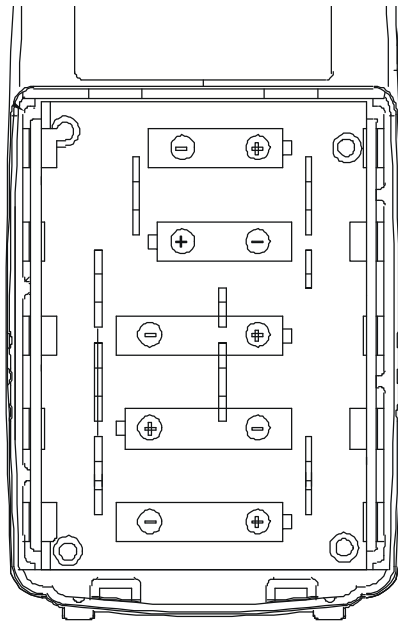




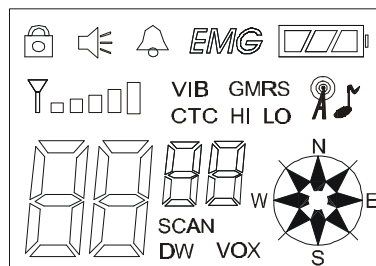
- | | |
|---------------------------------------------------------------|---------------------------------|
| 1 External Speaker/Microphone Jack
(External Charger jack) | 9 Built-in Speaker |
| 2 Transmit LED indicator | 10 Desk top charger terminal |
| 3 Liquid Crystal Display | 11 Channel & Volume DOWN button |
| 4 SCAN button | 12 Power ON/OFF button |
| 5 Monitor/Lamp button | 13 Emergency Channel button |
| 6 Channel & Volume UP button | 14 Battery Cover |
| 7 Built-in Microphone | 15 Belt Clip |
| 8 MODE button | 16 Push-To-Talk(PTT) button |
| | 17 Latch of belt clip |
| | 18 Detachable Antenna |

5) Rear side Overview





6) Function and Feature Display



Key lock indicator : Indicates that the key lock function is in



Monitor indicator



Beep ON/OFF indicator : Indicates that the key tone is in use.



Emergency Channel



Battery indicator : Indicates the battery status.



Receive signal indicator



Channel readout : Shows the current channel number



CTCSS tone code number



Weather Radio Indicator



Roger ON/OFF indicator : Indicates that the key tone is in use.

CTC CTCSS indicator: Indicates that the CTCSS function is in use.

HI TX power High setting Indicator

LO TX power Low setting Indicator

SCAN Scan indicator : Indicates that scan is

DW Dual Watch enable Indicator

VOX VOX (Voice Activated Transmit) Indicator



Electronic Compass Indicator

VIB Vibrator Call Indicator

7) Mode (Function) key sequence - short press

- * 1'st press -- Channel
- * 2'nd press -- CTCSS
- * 3'rd press -- VOX ON/OFF and sensitivity select
- * 4'th press -- Beep tone ON/OFF
- * 5'th press -- Weather Alert ON/OFF
- * 6'th press -- Vibrator ON/OFF select
- * 7'th press -- Tx power Hi / Low select
- * 8'th press -- Roger tone ON/OFF
- * 9'th press -- Dual watch channel select
- * 10'th press -- Call Ringer setting

8) Mode (Weather) key sequence - Long Press

- * 1'st press – Weather Channel select

9) Electronic Compass Calibration

- * While EMG button hold down,Power ON (2sec hold down)

2. INSTALLATION

Your GMRS-1545 is designed to operate both in five "AA" size rechargeable battery (supplied) or Alkaline Batteries(not supplied).

Cautions

Never attempt to charge Alkaline or Dry Cell Batteries. When recharging the rechargeable batteries, use only recommended one. Use of other batteries will cause damage to your GMRS-1545 transceiver. Other type of batteries may burst causing personal injury.

1) Installation of the batteries

- * Ensure that the GMRS-1545 sets to power off.
- * Hold the radio and battery cover with the back facing you.
- * Press and slide the battery cover.

* Install five "AA" size Alkaline batteries or rechargeable batteries.

Note : Carefully observe the polarity of the batteries before installing.

* Replace the cover.

2) Antenna

The antenna is detachable type. You can replace it to external antenna.
Keep the Antenna at 1 inch away from your head and body.

3. Basic Operation

1) On/Off & Volume control Switch

Radio ON : Press the power button at least for 2 seconds. You will hear confirming melody to indicated the unit is on.

Radio Off : Press the power button at least for 2 seconds.

Volume setting : Press up[] or down[] button to adjust a level that is most comfortable for you while monitor is active.

2) Setting the Channel and tone code(CTCSS)

GMRS-1545 has 15 main channels and 38 sub-channels.

* 15 Frequency channels

* 38 CTCSS Code (indicated by **CTC** icon on the LCD)

To select the channel

* Turn the radio on

* Press **MODE** button once, [**XX**] digit will blink on the LCD. XX is a channel

* Press up[] or down[] button to choose the channel.

* Press the PTT button or MODE button to confirm.

To set the tone codes(CTCSS)

* Press **MODE** button once more, [**XX 00** up to **38**] will appear and CTC icon and tone code digit will blink on the LCD. " **00** " means no CTCSS code.

* Press up[] or down[] button to choose the desired sub-channel to use.

* Press the PTT button or MODE button to confirm.

3) VOX (Voice Operated Switching)

This option enables you to have hands-free conversation. You do not have to operate the PTT button each time when you want to transmit.

You can also choose the VOX sensitivity to suit your environment of operation.

(Ex ; noisy road, motor bike, factory etc.)

To set the VOX mode.

* Press the MODE button until the [**Uo** or **xx**] appears. **xx** is a vox level

* **VOX** icon will be appeared on the LCD.

To set the VOX level

* Press the up[] button or down [] button to set the VOX level from 1 to 5.

" **oF** " is disable the VOX function.

" **01** " is least sensitive.

" **05** " is most sensitive.

* Press the PTT button or MODE button to confirm.

4) Beep tone

To set the beep tone

- * Press the Mode button until [**bP on** or **oF**] and the **BELL** icon blink on the LCD.
- * Press the up[] button or down [] button.
- * Press the PTT button or MODE button to confirm.

5) Weather alert setting

Alert setting is available in **GMRS** mode only.

To set the Weather alert receiving mode

- * Press the **MODE** button until the [**AL on** or **oF**] blinks.
- * Press the up[] button or down [] button to set the alert function.
- * While the alert is ON, **weather icon** will blink both in GMRS and weather mode.
- * **Weather icon** will stop the blinking on the LCD when the alert is OFF.

** While the unit is in GMRS mode, if the alert signal is received, the unit will set to Weather Radio mode automatically and warning beep tone will generate.

** While the unit is in Weather mode, if the alert signal is received, the unit will generate the warning beep tone.

6) Vibrator Call

The unit will vibrate when receive the call from other party.

To set the vibrator Call

- * Press the Mode button until [**Ub on** or **oF**] and the **VIB** icon blink on the LCD.
- * Press the up[] button or down [] button.
- * Press the PTT button or MODE button to confirm.

7) Setting the Transmit Power HI/LO

- * HI : 2.0W TX power
- * LO : 500mW TX power

To set the TX output power

- * Press the MODE button until the [**Po Lo** or **HI**] appears.
- * Press the up[] button or down [] button to set the TX power
- * Press the PTT button or MODE button to confirm.
- * **HI** or **LO** will appear on the LCD.

** If the battery is in low condition, the TX Power will be switched to LO automatically. even though the TX power is set to HI.

8) Roger tone

This feature will give the tone signal to other parties when transmitting finished (when PTT button is released.)

To activate or disable the Roger tone

- * Press the Mode button until [**rb on** or **oF**] and the **roger** icon blink on the LCD.
- * Press the up[] button or down [] button.
- * Press the PTT button or MODE button to confirm.

9) Setting the DW(dual watch)

To set the DW mode

- * Press the MODE button until the [**oF** or **01 up to 15**] and **DW icon** blink on the LCD.

* **DW** icon will appear on the LCD.

To set the dual watch(DW) channel

- * Press the up[] button or down [] button to choose the channel.
- " **oF** " means no DW mode.
- " **01** up to **15** " means the channel that is dual-watched.
- * Press the PTT button or MODE button to confirm.

10) Call Ringer Selection Mode

This feature provides 5 user selectable call ringer signal.

To set your favorite call ringer signal.

- * Press the MODE button until the [**C 01** or up to **05**] appears on the LCD.
- * Press the up[] button or down [] button to select the call melody type.
- * Press the PTT button to confirm.
- * To activate the call , click the "**PTT**" button twice quickly.

11) Transmitting

- * Press and hold the PTT button (The "TX" LED will light with red color)
- * Speak slowly and clearly
- * To stop the transmission,release the PTT button
- * If there are no more receiving signal for 5 seconds,the unit will go into power save mode and then the "TX" LED will blink with green color.

12) Receiving

The coding feature reduce the possibility of interference and provide enhanced communication.You can only listen to a call that has correct matching code.

Important ;

- Before transmitting or receiving to the other parties ;
- * Correct channel is selected (1 to 15) and
- * Correct code is set (00 to 38)

13) Channel Scanning

This feature allows you to monitor all activated channels while scanning.

To activate the Scan

- * Press the **Scan** button
- * Radio will begin scanning..
- * When in scan mode,the display will show each scanning channel.
- * After an activated channel is scanned and received signal and then if there is no more signal,the scan will resume automatically.

To disable the Scan

- * Press the **SCAN** button, the unit will stop the scanning.
- * **SCAN** icon indicator will disappear from the LCD
- * The unit will return to home channel.

14) Emergency Channel

The emergency function is to set the emergency channel immediately.

Press the **EMG** button,the emergency channel will display on the LCD

EMG icon will appear on the LCD

Press the **EMG** button again,the ubit will return to home channel.

15) Call

- * Click the PTT button twice quickly.(The "TX" LED will light with red color.)

16) Monitoring the channel

It is used for listening the weak signal or to hear all activities on the channel by manually overriding channel sub tone code setting.

To activate the Monitor feature

- * Press and hold the "M" (monitor) button for over two seconds.
- * When you hear the sound, release the "M" (monitor) button.
(The **monitor** icon will appear on the LCD.)

To disable the Monitor feature

- * Press and hold the "M" (monitor) button for over two seconds.
(The **monitor** icon will disappear on the LCD.)

17) Keypad Lock

The lock function is to avoid the accidental changes to channel with other radio settings. All buttons will be locked except the Power, PTT, EMG and monitor button.

To lock the keypad

- * Press and hold down the **SCAN** button for over 2 seconds.
- * Keypad will lock. (**LOCK** icon will appear on the LCD)

To unlock the keypad

- * Press and hold down the **SCAN** button for over 2 seconds.
- * Keypad will unlock. (**LOCK** icon will disappear on the LCD)

18) Backlight


To activate the Backlight

- * Press and hold the "M" (monitor) button in a moment.

To disable the Backlight

- * Press and hold the "M" (monitor) button in a moment once again.

19) Battery status indicator

The  icon will blink when the radio is in low battery power. Charge the rechargeable battery or replace the batteries.

- * Full battery - three segments are displayed.
- * Low battery - one segment is displayed.
- * Low battery warning - Battery indicator will be blinking.

20) External charger socket

MIC socket can be used for the charging purpose. It should use the recommended rechargeable battery and wall charger.

21) External Speaker - Mic

Use the approved accessories only to have the optimum performance.

- * Speaker/Mic unit
- * Ear/Mic unit

4. Weather Radio

GMRS-1545 has 10 NOAA channel and Weather alert receiving feature.

1) Weather Radio setting

- * Press the **MODE** button for over 2 seconds.
- * **Weather** icon will appear on the LCD.

To adjust the Volume level

- * Press the up[] button or down [] button.

To set the Weather Radio channel

- * Press the **MODE** button once, the [**XX**] will blink. XX is a channel.
- * Press the up[] button or down [] button to find a broadcast channel.
(Refer to area service channel.One or two channel is available)

To return to GMRS mode

- * Press the **MODE** button for over 2 seconds,the unit will return to GMRS mode.

5. Calibration the Electronic Compass

- * When the compass is used for the first time.
- * When the compass is used in a different location other than where previously calibrated.
- * **When the magnetic distortion occurs.**

To calibrate the Electronic Compass

- * While **EMG** button hold down,Power ON (2sec hold down)
- * "CAL" will appear on the LCD
- * Turn the unit one cycle (360) at least 5 seconds per circle to complete on the flat level in outside.
- * Press the PTT button.Calibration is now complete.
- * The calibration data will store in the unit.You do not need to calibrate everytime.

6.Compass mode

While the unit is power on, the compass works everytime. The compass detects when outside magnetic interference is compromising accuracy by blinking the compass icon on the LCD. Distortion occurs when there has been a significant change in the surrounding magnetic fields,such as when you are driving underneath an overpass or over a bridge.

7. INFORMATION

1) Radio

- * Never operate radio very close or touching to exposed parts of the human body.
- * Do not shock or vibrate the radio to keep the best condition.
- * Do not leave this radio under the direct ray of light(the sun) or high humid area.
- * Do not operate the radio in explosive atmosphere.
- * Never hold the antenna,while transmit,to get a good performance.

2) Battery

- * Alkaline Batteries(5x AA size) - not supplied
- * Rechargeable Ni-MH battery cell (supplied).
- * Charging time ; 10~12 hours
- * **Please do not overcharge the battery to conserve the battery lifetime.**
- * Never attempt to charge alkaline batteries.This will damage the radio.
- * Use approved battery charger only.If not,the radio will be damaged.
- * Avoid overcharging the rechargeable batteries,do not charge more than 20 hours.
- * Keep that battery contacts clean.

3) Operating temperature

The radio will work correctly under the temperature condition from -20 to +60 .

8. SPECIFICATIONS

1) GENERAL SPECIFICATIONS

* Channel Frequency	462.5500 ~ 462.7250 MHz
* Channel Capacity	15
* Frequency Control	PLL synthesizer
* Frequency Stability	± 0.00030%
* Channel Spacing	12.5 KHz
* Ambient temperature	-20 to +60
* Antenna	Fixed 1/4 Wave
* Power Supply	7.5V Alkaline (5 x AA) 6.0V Ni - MH (5 x AA)
* Battery Life	AL :2.0W - 30hr,2000mA - 5(TX):5(RX):90(Stand by) Ni-MH:1.8W -18hr, 1300mA - 5(TX):5(RX):90(Stand by)

2) TRANSMITTER

* RF Output	2.0W at high setting, 0.5W at low setting
* Modulation	F3E
* Audio Distortion	<5% at 1 KHZ
* TX current	750mA
* FM Hum & Noise	40dB Min
* Spurious and Harmonics emission	-60 dBc

3) RECEIVER

* Sensitivity 12dB SINAD	0.25 μ V
20dB Quieting	0.5 μ V
* Selectivity	>-55dB
* Intermodulation	-55dB
* Spurious and Image Rejection	-55dB
* Audio output power	500 mW
* FM Hum & Noise	-40dB

4) DIMENSIONS

*115 mm(H) x 60 mm(W) x 34 mm(D) without antenna

5) BASIC PACKAGE

- * Radio
- * Detachable Antenna
- * **Rechargeable Battery (5 x AA)**
- * **Wall charger**
- * User's manual

6) OPTION

- * Speaker / MIC
 - * Ear / MIC
- note : Jack diameter for Ear phone/Speaker-Microphone is 3.5 ϕ - 2.5 ϕ .

9. MAIN CHANNEL FREQUENCY TABLE (in MHz)

Channel	Freq(MHz)	Channel	Freq(MHz)
1	462.5625	8	462.5750

2	462.5875	9	462.6250
3	462.6125	10	462.6750
4	462.6375	11	462.5500
5	462.6625	12	462.6000
6	462.6875	13	462.6500
7	462.7125	14	462.7000
		15	462.7250

10. CTCSS FREQUENCY TABLE

No	Freq.(Hz)	No	Freq.(Hz)	No	Freq.(Hz)	No	Freq.(Hz)
1	67.0	11	97.4	21	136.5	31	192.8
2	71.9	12	100.0	22	141.3	32	203.5
3	74.4	13	103.5	23	146.2	33	210.7
4	77.0	14	107.2	24	151.4	34	218.1
5	79.7	15	110.9	25	156.7	35	225.7
6	82.5	16	114.8	26	162.2	36	233.6
7	85.4	17	118.8	27	167.9	37	241.8
8	88.5	18	123.0	28	173.8	38	250.3
9	91.5	19	127.3	29	179.9	00	No Tone
10	94.8	20	131.8	30	186.2		

11. WEATHER CHANNEL FREQUENCY TABLE (in MHz)

Channel	Freq(MHz)	Channel	Freq(MHz)
1	162.5500	6	162.5000
2	162.4000	7	162.5250
3	162.4750	8	161.6500
4	162.4250	9	161.7750
5	162.4500	10	163.2750