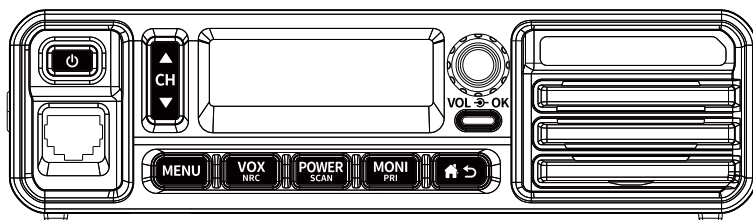

Radioddity

DB35-G Manual



FCC compliance statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference including received interference that may cause undesired operation.

The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment shall be installed and operated with minimum distance 134cm between the radiator & body.

The maximum allowed gain for the vehicle antenna is 3 dBi (0 dBi typical).
The product does not come with an antenna.

1. Overview

- ✧ The DB35-G is a GMRS analog mobile transceiver.
- ✧ It includes a main radio unit, a handheld microphone, and a mounting bracket.

2. Product Features

- ✧ LCD display with 7 selectable backlight colors
- ✧ TX/RX indicator LED
- ✧ Main unit with display
- ✧ Keypad on Main Unit and Microphone
- ✧ RJ45 interface between main unit and microphone
- ✧ Frequency Range: TX: GMRS; RX: 400–480 / 136–174 MHz
- ✧ 80 Programmable channels
- ✧ PC programming support
- ✧ High/Low power selection
- ✧ Wide/Narrow bandwidth selection
- ✧ Priority Channel (PRI)
- ✧ Scan
- ✧ Monitor (MONI)
- ✧ Squelch (SQL)
- ✧ Transmit Timeout Timer (TOT)
- ✧ CTCSS/DCS
- ✧ Noise Reduction (NRC)
- ✧ Key Beep
- ✧ VOX (5 levels)
- ✧ Mic Gain (3 levels)
- ✧ Cooling fan

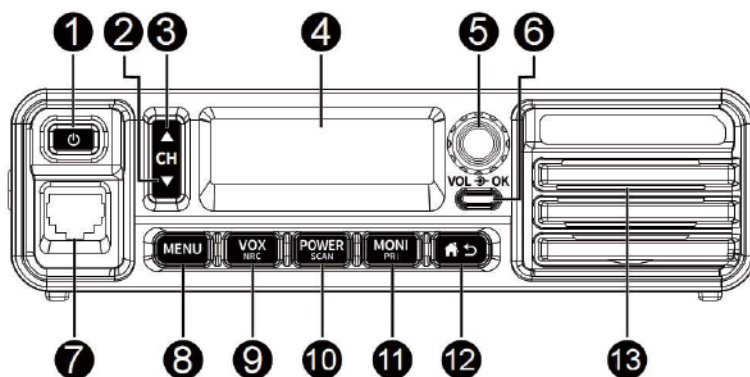
3. Technical Specifications

GENERAL	
Frequency Range	TX:GMRS Band RX:400–470 / 136–174 MHz
Channel Spacing	12.5KHz/25KHz
Channel Capacity	22 channels+8 Repeater channels+50 Programable channels(Support GMRS Frequency only)
Frequency Stability	±300Hz
Operating Temperature	-30℃~+60℃
Operating Voltage	13.8V
Size	169*167*46

TRANSMITTER	
Power Output	High: 35W/ Low: 5W
Emission current	High: 10A/Low: 2.5A
Modulation Limiting	Narrow: $\cong 2.5\text{KHz}$ /Wide: $\cong 5.0\text{KHz}$
Adjacent Channel Power	Narrow: $\cong 60\text{dB}$ /Wide: $\cong 65\text{dB}$
Hum& Noise	$\cong 40\text{dB}$
Audio Distortion	$\cong 5\%$
Mic Sensitivity(@L2)	5-10mV
Antenna port hum	9KHz-1GHz: $\cong -50\text{dBc}$ 1GHz-12.75GHz $\cong -55\text{dBc}$
RECEIVER	
Sensitivity	$\cong -119\text{dBm@SINAD}=12\text{dB}$
Audio Distortion	$\cong 5\%$
Hum& Noise	$\cong 45\text{dB@25KHz}/\cong 40\text{dB@12.5KHz}$
Adjacent Channel Selectivity	$\cong 60\text{dB@12.5KHz}/\cong 60\text{dB@25KHz}$
Inter Modulation	$\cong 60\text{dB}$
Blocking or Desensitization	$\cong 84\text{dB}$
Co-Channel Rejection	$\cong -12\text{dB}$
Max Audio Output@1KHz 8 Ω	$\cong 1\text{W}$
Standby Current	$\cong 360\text{mA}$

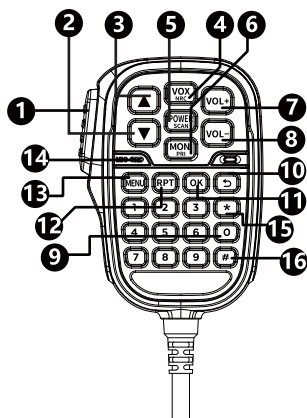
4. Structural Appearance

◇ Main Unit



No.	Name	Short Press	Long Press
1	Power Key		Power On/Off
2	▽	Channel Down	Scroll Down Continuously
3	△	Channel Up	Channel Up Continuously
4	LCD Display		
5	Volume Knob	Adjust Volume / Menu Select	
6	TX/RX Indicator		
7	RJ45 Interface		
8	MENU Key	Enter Menu	Keypad Lock On/Off
9	VOX / NRC	VOX On/Off	NRC On/Off
10	Power / SCAN	Power Switch	Scan On/Off
11	MONI / PRI	Monitor On/Off	Set Priority Channel
12	Back Key	Return to Previous Menu	Return to Home Screen
13	Speaker		

✧ Microphone



No.	Name	Short Press		Long Press
1	PTT	Transmit		
2	CH-	Channel Down	Menu Select	Scroll Down Continuously
3	CH+	Channel Up	Menu Select	Channel Up Continuously
4	VOX / NRC	VOX On/Off		NRC On/Off
5	Power / SCAN	Power Switch		Scan On/Off
6	MONI / PRI	Monitor On/Off		Set Priority Channel
7	VOL+	Increase Volume		Increase Volume Continuously
8	VOL -	Decrease Volume		Decrease Volume Continuously
9	Keypad (0-9)	Input Frequency		
10	Back Key	Return to Previous Menu		Return to Home Screen
11	OK	Confirm		
12	RPT	Enable/Disable Repeater Function		
13	MENU	Menu Access		Lock Functions
14	MIC	Microphone		
15	*	Add/Remove Scan List		Enter/Exit WX Mode
16	#	Recall Priority Channel		Enter VFO Mode

5. LCD Display Indicators



CH01	Channel Number /VFO Mode	N	N: Narrowband W: Wideband	
WX	Weather Mode Indicator	RP	Repeater Icon	
NR	Noise Reduction	SC	Scan	
P	Priority Channel	MON	Monitor	
462.56250M	Frequency Display	CTC	CTC	CTCSS
			DCS	DCS
R	R/T: RX or TX Indicator	Hi	Hi	High Power
			Lo	Low Power
m	Scan List Indicator	V	VOX	
			Busy Channel Lock	
	RX/TX Signal Level	BCL	Volume Level Display – Shown when adjusting volume	

6. Function Introduction

6.1 Power on/off

Press and hold the Power Key for 2 seconds to turn the radio on or off.

High Voltage Alert:

If the input voltage exceeds 16V, the radio will emit a high-voltage warning tone and transmission will be disabled.

Low Voltage Alert:

If the voltage drops below 10V, the radio will emit a low-voltage warning tone.

Low Voltage Shutdown:

If the voltage drops below 9V, the radio will automatically shut down to protect the circuit.

6.2 Channel Selection

You can select the operating channel by using the Δ/∇ keys on the main unit or the microphone.

You may also enter a channel number directly using the numeric keypad and press OK to jump to that channel.

6.3 Volume Adjustment

Rotate the Volume Knob clockwise/counterclockwise on the main unit or use the microphone keys **VOL+** / **VOL-** to increase or decrease the speaker

6.4 Transmit & Receive

To communicate between two radios, both units must be set to the same frequency and same CTCSS/DCS (if used).

To transmit a call, press and hold the PTT key and speak toward the microphone at a normal voice level.

For best audio clarity, hold the microphone 2–3 inches (5–7 cm) away from your mouth.

During TX, the LCD will display the TX icon continuously.

6.5 Squelch Level Adjustment

The squelch level can be adjusted through the menu.

-
- 0 - Squelch Open
 - 1 - Highest sensitivity (lowest squelch)
 - 5 - Medium sensitivity (medium squelch)

6.6 CTCSS/DCS Settings

To communicate between two radios, both units must be set to the same frequency and same CTCSS/DCS (if used).

To transmit a call, press and hold the PTT key and speak toward the microphone at a normal voice level.

For best audio clarity, hold the microphone 2–3 inches (5–7 cm) away from your mouth.

During TX, the LCD will display the TX icon continuously.

6.7 Power Level Setting

The radio provides High and Low power levels.

You can select the appropriate level depending on your environment and communication distance requirements.

6.8 Priority Channel - Set / Recall / Watch

Set Priority Channel:

Select your desired channel, then long-press the "MON/PRI" key to set it as the priority channel.

The "PRI" icon will appear above the channel name.

Priority Recall:

During operation, short-press the "#" key to toggle instantly between the current channel and the priority channel.

Priority Watch:

When Priority Watch is enabled (Pri Watch), the radio will intermittently check the priority channel while scanning other channels.

6.9 Scan Function

The radio supports scanning to locate active channels (only channels included in the scan list).

Start / Stop Scan:

Long-press the POWER/SCAN key to begin or exit scanning. While scanning, the SC icon flashes on the LCD.

Scan Behavior:

When an active signal is detected, the radio stops and enters receive mode. After the signal disappears, the radio stays on that channel for 5 seconds, then continues scanning.

If you press PTT during scanning, it will transmit on the current active channel. Once PTT is released, the radio remains on that channel for 5 seconds, then continues scanning.

Adding/Removing Channels from the Scan List

You can manage the scan list through the Scan Menu:

Select Scan → the current channel is added to the scan list.

Select Skip → the current channel is excluded from the scan list.

When a channel is in the scan list, the SC icon will remain displayed above the channel. If the SC icon is not shown, the channel is not in the scan list.

6.10 VOX (Voice-Operated Transmit)

The radio is equipped with VOX for hands-free operation.

When VOX is enabled, speaking toward the microphone will automatically trigger transmission without pressing PTT.

VOX provides 5 sensitivity levels:

The higher the level, the stronger the voice signal required to activate VOX transmission.

6.11 Noise Reduction (NRC)

When NRC is enabled, the radio reduces (but does not completely eliminate) background noise received from the transmitting radio, improving overall audio clarity and listening comfort.

6.12 Busy Channel Lockout (Busy Lock)

When Busy Lock is enabled:

If the radio is receiving a signal and you press PTT, transmission will be blocked.

The radio will emit a continuous prohibition tone until PTT is released.

This prevents users from transmitting over an active channel.

6.13 Transmit Timeout Timer (TOT)

The TOT function limits the maximum continuous transmission time.

After TOT is enabled and a time limit is set:

The radio starts counting once you press PTT.

When the preset time is reached, transmission will automatically stop.

To continue transmitting, release PTT and press it again.

This prevents users from transmitting over an active channel.

6.14 Microphone Gain Adjustment

You may adjust the microphone gain through the menu.

The radio provides 3 levels (L1 / L2 / L3):

The higher the level, the higher the microphone sensitivity.

6.15 NOAA Weather Radio (Scan / Monitor / Alert)

The DB35-G is equipped with NOAA Weather Receive and Weather Alert functions.

It can receive severe weather warnings and emergency alerts broadcast by the National Weather Service (NWS), allowing you to take timely safety actions.

WX Band Channels

Channel Number	Frequency (MHz)
1	162.550
2	162.400
3	162.475
4	162.425
5	162.450
6	162.500
7	162.525
8	161.650
9	161.775
10	163.275

Weather Scan

Long-press the * key for 2 seconds to enter Weather Mode. The radio will automatically scan all active NOAA weather channels. The WX icon flashes during scanning.

When a valid weather broadcast is received, scanning stops and the radio enters monitoring mode.

Press the Δ/∇ keys to resume scanning.

Long-press the * key again for 2 seconds to exit Weather Mode (WX icon

Weather Monitor

While in Weather Scan mode:

Long-press POWER/SCAN to stop scanning and enter Weather Monitor Mode.

The WX icon continues to flash.

To resume scanning: short-press POWER/SCAN again.

Weather Alert

While in Weather Monitor Mode:

1. Use the channel keys to select the desired NOAA weather alert channel.
2. Short-press the MENU key to enter the Weather Alert setting.
3. Use channel keys to select ON or OFF.

When Weather Alert is enabled:

In Weather Mode:

Any NOAA channel that receives a 1050 Hz alert tone will immediately trigger an alert.

In Normal Radio Mode:

The WX icon continues flashing, and the radio silently monitors the previously selected weather alert channel in the background.

6.16 Frequency Mode (VFO)

You may manually enter operating frequencies within the following ranges:
400-480MHz/136-174MHz.

How to Enter VFO Mode:

Long-press the # key to enter VFO mode.

You may directly input a frequency using the numeric keypad.

Or use Δ/∇ to adjust the frequency according to the selected step size.

How to Set Frequency Step:

- 1.Short-press MENU → enter menu.
- 2.Use Δ/∇ to select Step.
- 3.Press MENU to enter the Step menu.
- 4.Use Δ/∇ to select the desired step size.
- 5.Press OK to confirm.

Available step sizes:

2.5 / 5.0 / 6.25 / 12.5 / 25 / 50 / 100 kHz

Factory Default: 12.5 kHz

Saving a Custom Channel

After setting the desired frequency:

- 1.Press OK to confirm the frequency.
- 2.Long-press MENU to begin channel storage.
- 3.The radio will jump automatically to the nearest empty channel; the channel number will flash.
- 4.Use Δ/∇ to choose the target channel.
- 5.Long-press MENU again to save.

6.17 Repeater Mode

Repeater Mode allows your radio to communicate with a repeater, which receives your signal and retransmits it at a higher power or from a better location. This greatly extends your communication range and helps overcome obstacles that block direct radio signals.

In normal simplex mode, your radio transmits and receives on the same frequency. When buildings, hills, or metal structures are in the way, signal quality can degrade significantly due to obstruction.

When using Repeater Mode, your radio transmits on one frequency, the repeater receives it, and then retransmits it on another frequency—enabling long-distance communication

Enabling/Disabling Repeater Mode

You can enable or disable Repeater Mode by short-pressing the RPT key on the microphone.

Once Repeater Mode is enabled, 8 repeater channels will be added to the existing channel list.

Example:

Before enabling Repeater Mode:

CH01 – CH02 – CH03 – ... – CH15 – CH16 – CH17 ... – CH22

After enabling Repeater Mode:

CH01 – CH02 – CH03 – ... – CH15 – CH15RP – CH16 – CH16RP – CH17 – CH17RP ... – CH22 – CH22RP

6.18 Reset (Restore Factory Settings)

You may restore factory settings through the Reset menu.

Select Yes → the radio resets to factory defaults.

Select No → cancel and exit the Reset menu.

Select No → cancel and exit the Reset menu:

Channel	GMRS 01	CTC/DCS	OFF
SQ	1	NRC Level	L2
Scan List	All Channels	VOX	OFF
Key Beep	ON	VOX Level	L1
Roger Beep	ON	Backlight Color	Blue
Backlight Brightness	L2	Noise Reduction (NRC)	OFF
Busy Channel Lockout	OFF	Transmit Timeout Timer (TOT)	ON (180S)
Backlight Timeout	30S	Priority Channel	02
Mic Gain	L2	Priority Watch (Pri Watch)	On
BandWidth	Narrow	VFO Step	12.5KHz

7. Menu Description

Main Menu	Submenu	Option	Description
Scan	Scan/Skip		Scan: channel included in scan list. Skip: channel excluded from scan list.
CTCSS/DCS	OFF/CTC/DCS	38 CTCSS / 208 DCS	Sets sub-audio signaling.
PRI Watch	ON/OFF		ON: the radio periodically checks the priority channel during scanning. OFF: The priority channel is not scanned.
VOX	L1/L2/L3/L4/L5		Enables VOX. VOX level determines sensitivity.
NRC	L1/L2/L3/L4/L5		Enables noise reduction during RX.
Bandwidth	Narrow/Wide		Select wideband or narrowband.
Backlight	OFF/L1/L2/L3		LCD backlight brightness level.
Backlight Color	White / Blue / Green / Red / Cyan / Purple / Yellow		LCD backlight color selection.
Backlight Time	Always/10s/ 20s/30s		Backlight timeout duration.
Key Beep	ON/OFF		Enables or disables keypad tone.
SQL	0-9		Squelch level adjustment.
TOT	OFF/ON		TX timeout limit.
Roger Beep	ON/OFF		Enables or disables transmission end tone.
Mic Gain	L1/L2/L3		Microphone sensitivity level.
Busy Lock	ON/OFF		ON: Transmission prohibited during reception. OFF: Transmission permitted during reception.
Step	2.5KHz/5.0KHz/6. 25KHz/12.5KHz/2 5KHz/50KHz/100 KHz		Default: 12.5kHz
Reset	Yes/No		Yes: Start resetting. No: Do not reset.
Version			Firmware version.

8.CTCSS Table

CTCSS Number	Frequency Hz	CTCSS Number	Frequency Hz	CTCSS Number	Frequency Hz	CTCSS Number	Frequency 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		
10	94.8	20	131.8	30	186.2		

9.DCS Table

DCS-N Table

CDCSS Number	Octal Code	CDCSS Number	Octal Code	CDCSS Number	Octal Code	CDCSS Number	Octal Code
1	023N	27	152N	53	311N	79	466N
2	025N	28	155N	54	315N	80	503N
3	026N	29	156N	55	325N	81	506N
4	031N	30	162N	56	331N	82	516N
5	032N	31	165N	57	332N	83	523N
6	036N	32	172N	58	343N	84	526N
7	043N	33	174N	59	346N	85	532N
8	047N	34	205N	60	351N	86	546N
9	051N	35	212N	61	356N	87	565N
10	053N	36	223N	62	364N	88	606N
11	054N	37	225N	63	365N	89	612N
12	065N	38	226N	64	371N	90	624N
13	071N	39	243N	65	411N	91	627N
14	072N	40	244N	66	412N	92	631N
15	073N	41	245N	67	413N	93	632N
16	074N	42	246N	68	423N	94	654N
17	114N	43	251N	69	431N	95	662N
18	115N	44	252N	70	432N	96	664N
19	116N	45	255N	71	445N	97	703N
20	122N	46	261N	72	446N	98	712N
21	125N	47	263N	73	452N	99	723N

22	131N	48	265N	74	454N	100	731N
23	132N	49	266N	75	455N	101	732N
24	134N	50	271N	76	462N	102	734N
25	143N	51	274N	77	464N	103	743N
26	145N	52	306N	78	465N	104	754N

DCS-I Table

CDCSS Number	Octal Code	CDCSS Number	Octal Code	CDCSS Number	Octal Code	CDCSS Number	Octal Code
105	023I	131	152I	157	311I	183	466I
106	025I	132	155I	158	315I	184	503I
107	026I	133	156I	159	325I	185	506I
108	031I	134	162I	160	331I	186	516I
109	032I	135	165I	161	332I	187	523I
110	036I	136	172I	162	343I	188	526I
111	043I	137	174I	163	346I	189	532I
112	047I	138	205I	164	351I	190	546I
113	051I	139	212I	165	356I	191	565I
114	053I	140	223I	166	364I	192	606I
115	054I	141	225I	167	365I	193	612I
116	065I	142	226I	168	371I	194	624I
117	071I	143	243I	169	411I	195	627I
118	072I	144	244I	170	412I	196	631I
119	073I	145	245I	171	413I	197	632I
120	074I	146	246I	172	423I	198	654I
121	114I	147	251I	173	431I	199	662I
122	115I	148	252I	174	432I	200	664I
123	116I	149	255I	175	445I	201	703I
124	122I	150	261I	176	446I	202	712I
125	125I	151	263I	177	452I	203	723I
126	131I	152	265I	178	454I	204	731I
127	132I	153	266I	179	455I	205	732I
128	134I	154	271I	180	462I	206	734I
129	143I	155	274I	181	464I	207	743I
130	145I	156	306I	182	465I	208	754I

Frequency Table

Channel Number	TX Frequency MHz	RX Frequency MHz	Fixed Privacy	Band Width	TX Power
1	462.5625	462.5625	OFF	Narrow	Low
2	462.5875	462.5875	OFF	Narrow	Low
3	462.6125	462.6125	OFF	Narrow	Low
4	462.6375	462.6375	OFF	Narrow	Low
5	462.6625	462.6625	OFF	Narrow	Low
6	462.6875	462.6875	OFF	Narrow	Low
7	462.7125	462.7125	OFF	Narrow	Low
8	RX only	467.5625	OFF	Narrow – Fixed	
9	RX only	467.5875	OFF	Narrow – Fixed	
10	RX only	467.6125	OFF	Narrow – Fixed	
11	RX only	467.6375	OFF	Narrow – Fixed	
12	RX only	467.6625	OFF	Narrow – Fixed	
13	RX only	467.6875	OFF	Narrow – Fixed	
14	RX only	467.7125	OFF	Narrow – Fixed	
15	462.5500	462.5500	OFF	Wide	High
15RP	467.5500	462.5500	OFF	Wide	High
16	462.5750	462.5750	OFF	Wide	High
16RP	467.5750	462.5750	OFF	Wide	High
17	462.6000	462.6000	OFF	Wide	High
17RP	467.6000	462.6000	OFF	Wide	High
18	462.6250	462.6250	OFF	Wide	High
18RP	467.6250	462.6250	OFF	Wide	High
19	462.6500	462.6500	OFF	Wide	High
19RP	467.6500	462.6500	OFF	Wide	High
20	462.6750	462.6750	OFF	Wide	High
20RP	467.6750	462.6750	OFF	Wide	High
21	462.7000	462.7000	OFF	Wide	High
21RP	467.7000	462.7000	OFF	Wide	High
22	462.7250	462.7250	OFF	Wide	High
22RP	467.7250	462.7250	OFF	Wide	High
23					
24					