

Belfone

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BF - OG300

Analog Two-Way Radio

Notice to the user

Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.

Illegal operation is punishable by fine or imprisonment or both.

THANK YOU!

Founded in 1989, BelFone is a leading technology and solution provider of mission and business-critical communications, dedicated to bringing cut-edge communications technologies and empowering our customers with integrated radio solutions. With outstanding performance and excellent communication capabilities, BelFone products are the proper choices for mastering the overall situation and achieving intelligent dispatching and command delivery.

**This manual is applicable to
BF-OG300 series**

Warning!

- ◆ In explosive atmospheres (flammable gas, dust particles, much powder area, etc.), please turn the power off.

Instructions before Use

It's important for the operator to be aware of and understand hazards common to the operation of any radio .Please observe the following safety precautions to prevent radio damage and personal injury. The following precautions shall be observed during operation, service and repair of this radio.

- ♦It is recommended to use 1 minute for TX and 4 minutes for RX, when the radio is used in the transmission mode for many hours continuously, the radiator and chassis will become hot, allow the rear panel of the radio to contact a surface of low melting point /low Ignition point.
- ♦Don' t expose the radio to direct sunlight for a long periods of time. Also, don' t place the radio on sources of extremely heat, humid, dusty area, or unstable surfaces.
- ♦In areas where the use of radio devices is restricted or warned, please obey the regulation and turn off the radio.
- ♦Use of the radio while driving may be against traffic laws in some countries, please check local traffic laws before using the radio while driving.
- ♦If there is any problems with the radio, please turn the radio off immediately. Then contact the local dealer/technician. Do not modify this radio unless instructed by this manual. Please find a certified technician to repair it.
- ♦If secondary development is required, please contact BelFone or the local dealer for technical assistance.
- ♦Please keep the surface of radio clean and dry. To clean the radio, use a damp fabric soaked in mild washing liquid.

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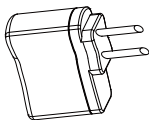
Unpacking and Device Inspection

Note: The following instructions regarding unpacking are only for BelFone's distributors, and service agencies or factories authorized by BelFone.

Carefully remove the radio from the packaging box, identify the items listed in the table below. If any items are missing or have been damaged during shipment, please contact dealer or BelFone immediately.

Standard Accessories

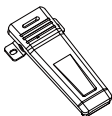
Items	Quantity
AC adapter	1
Charging line	1
Belt clip	1
Strap	1
Screw set	1
User manual	1



AC adapter



Charging cable



Belt clip



Strap

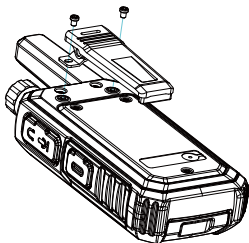


Screw set

Installation of Accessories

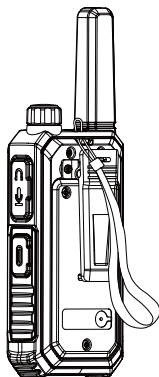
Install/Remove the belt clip

Fix the belt clip with two 2.5×4mm screws.



Attach the strap

Thread the strap into the loop on the back of the radio.

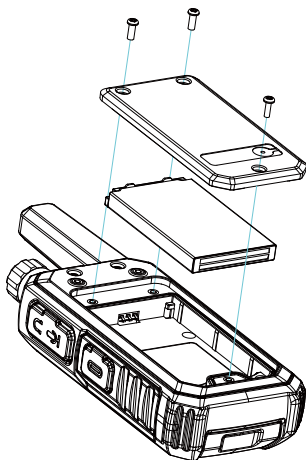


Install/Remove the battery

Warning!

- Don't short-circuit the battery, which may cause damaged or catch fire;
- Never attempt to remove the casing from battery, the battery terminals may short circuit;
- Battery is flammable objects, don't throw it into fire or don't use it on dangerous area.

When installing or removing the battery, please power off the radio first. During installation, align the battery with the corresponding slot on the back of the radio, then close the rear cover and tighten the screws.



Note: Do not install or remove the battery when the radio is powered on.

Battery Information

The new battery hasn't been fully charged before shipped, please charge the new battery before use. If the battery power is low during use, please recharge the battery.

Applicable Battery

To reduce the risk of injury, please only use the battery and charger specified by Belfone, other batteries may burst, causing person bodily injury and property damage.

Battery Tips

1. When charging the battery, keep it at a temperature among 5°C— 40°C. Temperature out of the limit may cause battery leakage or damage.
2. Prior to charge a battery with the radio, it is recommended to turn the radio off.
3. Avoid cut off the power supply or remove the battery during charging.
4. Please ensure that the battery is charged in a dry state before charging.
5. Please change the battery when working time is shorten than normal performance even if the battery is fully charged.

Extend Battery Life

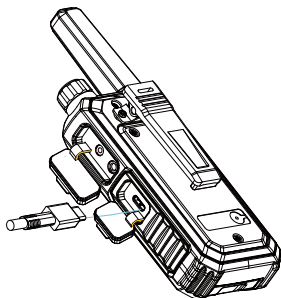
1. The battery performance will be decreased under 0°C. Please prepare a spare battery in cold weather. A battery does not work properly in a cold environment; this does not mean that it is damaged. Please keep the battery and reconfirm at room temperature.
2. Dust on the battery contacts may cause malfunctions. Clean them with a dry cloth before use.

Battery Storage

1. Before long-term storage, fully charge the battery to prevent damage from over-discharge.
2. Recharge a battery after several months' storage, to avoid battery capacity reduction due to over-discharge. (NI-MH batteries: Every 3 months, Li-Ion & Li-polymer batteries: Every 6 months)
3. Store batteries in a cool, dry environment at room temperature to minimize self-discharge.

Battery Charge

Use only the BelFone-approved charger for battery charging.

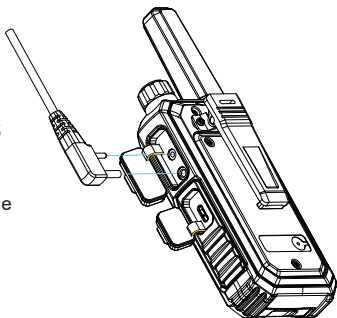


Charging Procedure:

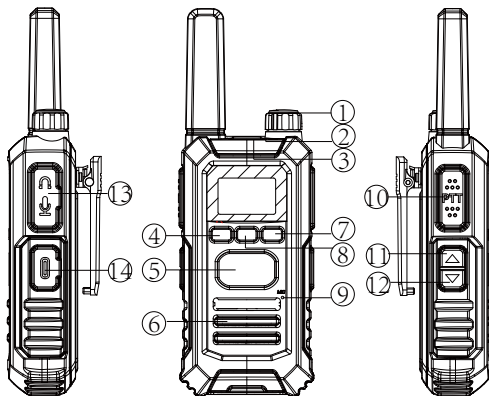
- 1 Connect the charger's AC plug to a power outlet.
- 2 Insert the charging cable into the device's USB Type-C port. The pulsing battery icon indicates charging is in progress.
- 3 Charging is complete when the battery icon becomes static and fully illuminated.

Attach external speakers/microphones

Open the earphone cover and plug the speaker/microphone earphone directly into the speaker/microphone jack.



Getting Acquainted



1 Power switch/Volume controller

Turn clockwise to power on the radio;
When the radio is on, rotate to adjust the volume level;
Turn counterclockwise to power off the radio.

2 LED indicator light

Lights red during transmission and green during reception.

3 SOS key

Long-press to trigger an emergency alarm, and press again to exit the emergency alarm.

4 Menu button

Short-press to enter menu settings; each subsequent press cycles to the next function.

5 Deputy PTT

In dual standby mode, press and hold to initiate a call on the sub-channel.

6 Speaker

7 Lock key

Long press to lock/unlock the button;

In menu setting mode, short-press to confirm and exit.

8 Call button

Press and hold to send a call alert tone.

9. Microphone (MIC)

10. Main PTT

Press and hold to initiate a call.

In menu setting mode, press and hold to exit and initiate a call.

In dual standby mode, press and hold to initiate a call on the primary channel.

11. UP key

Long press to monitor the currently selected channel;

In menu setting mode, short press upwards to select parameters.

12. DOWN button

Long press to enable the scanning function, and long press again to disable it;

In menu setting mode, short press downwards to select parameters.

13. MIC-SP jack

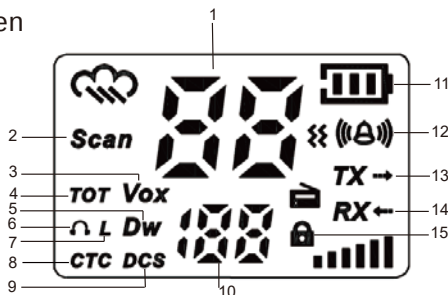
For external speaker/microphone or programming cable connection.

14. USB Type-C interface

For charging cable connection.

Basic Operation

Screen



1	Channel number	9	CDCSS
2	Scan	10	Parameter number
3	VOX	11	Battery level
4	Time Out Timer (TOT)	12	Emergency alarm
5	Dual Watch	13	Transmitting
6	Headphone is inserted	14	Receiving
7	Transmission power	15	The button is locked
8	CTCSS		

Note: Icons not specified are not used in this radio for the time being.

Power on/off

Rotate the Power switch/Volume controller clockwise to power on.

Rotate the Power switch/Volume controller counterclockwise to power off.

Adjust the volume

After powering on, rotate the power switch/volume adjust key to adjust the volume level, rotate the knob clockwise to increase the volume, or rotate the knob anti-clockwise to decrease the volume.

Note: Users can press and hold the [up button] to monitor the background noise and adjust the volume accordingly based on the level of background noise.

Select a Channel

In standby mode, short press the [MENU] key and the channel number flashes, entering channel selection. Press the [UP] key to increase the channel number, press the [DOWN] key to decrease it, and press the [Main PTT] key to confirm the selection and initiate a call. The radio supports 22 channels.

Menu settings

In standby mode, short press the [MENU] button to enter the menu setting mode, and the screen will display the currently set function icons and parameters. Press the [UP] or [DOWN] button to adjust the parameters, short press [MENU] to enter the next function setting, and press [MAIN PTT] to confirm the selection and exit the menu setting mode.

Transmitting

1. Ensure no other radio is transmitting on the current channel.
2. Press and hold the PTT button, and speak into the microphone.
 - Please keep a distance of 3~4cm from the microphone and speak in normal tone to ensure the best sound quality for the radio.
 - When the PTT button is pressed, the LED indicator lights up red, and the screen displays "TX->" indicating that transmission is in progress.
3. Release the PTT button, and the radio will exit the transmission state and enter the receiving state.

Receiving

When the channel is being called, the LED indicator light turns green, the screen displays "RX<-", and the call can be heard.

- If the signal is weak and the radio is set to a high squelch level, the call will not be received.
- If the radio is edited with CTCSS/DCS signaling, it can only hear calls from radios with the same CTCSS/DCS signaling, and other calls will not be heard.

Function and Operation

Scan

Scanning is used for monitoring signals programmed on the radio channel. The radio must be programmed with at least two channels, and the scanning function can only be enabled when the channel "Scan Add" option is set to "ON".

Start scanning: Press and hold the [DOWN] key for about 2 seconds, and the screen will display the "SCAN" icon. The radio starts scanning. The scanning starts from the current channel and increments by channel number, cycling through signal detection for each channel where "Add Scan" is set to "On". The screen displays the current scanning channel number and the CTCSS/DCS value.

When a signal is detected, the radio will stay on that channel until the signal disappears. Scanning will resume 5 seconds after the signal disappears, unless a new signal is detected within that delay time. Pressing the PTT button during scanning will cause the radio to transmit on the current scanning channel.

Disable scanning: Press and hold the [DOWN] key for about 2 seconds. The "SCAN" icon will disappear, and the radio will return to the channel it was on before scanning.

Monitor

Pressing and holding the [UP] key to monitor weaker signals that are difficult to hear during normal operation, or monitor background noise to adjust the volume when there is no signal on the channel.

Emergency alarm

Long press the [SOS] button to enable the emergency alarm. The radio will sound the alarm siren, and an icon (🚨) will flash on the screen. Press the [SOS] button again to exit the emergency alarm. The alarm is divided into local mode and remote mode. In local mode, only the radio will sound the siren. In remote mode, the alarm will be sent to other radios.

Dual watch

The radio supports a dual-watch mode, simultaneously monitoring activities on two channels. Short press the [MENU] key to enter menu settings. When the "DW" icon appears on the screen, press the [UP] or [DOWN] key to select the dual-watch secondary channel. Press the [MAIN PTT] to confirm the selection, and the screen will alternate between displaying the main channel and the sub-channel. In standby mode, press the [MAIN PTT] to initiate a call on the main channel, and press the [Deputy PTT] to initiate a call on the sub-channel. In receive mode, pressing either the [MAIN PTT] or [Deputy PTT] during the hang-up time will respond to the currently received channel. Long press the [DOWN] key to exit the dual-watch mode.

Squelch level

The squelch level is used to adjust the squelch threshold for received signals. The higher the squelch level, the stronger the squelch suppression capability. If the selected squelch level is too high, weaker signals may become inaudible. Conversely, if the selected squelch level is too low, signals may be overwhelmed by background noise.

Transmission Time Limit (TOT)

The TOT function prevents the current channel from being occupied by a single user for too long. For busy channels, a shorter TOT can be set. If the continuous transmission time exceeds the set value, the radio will emit an alarm tone and automatically end the transmission. After reaching the TOT reset time, press PTT again to transmit.

VOX

After enabling the VOX function on the radio, there is no need to press the PTT button. Simply speak into the microphone on the radio or headset to initiate transmission, and the transmission will automatically end when the voice stops. When the environment is noisy, adjust the VOX level to a higher level. When the environment is quiet, appropriately lower the VOX level.

Keyboard lock

After the keyboard is locked, all buttons except for the PTT, UP, CALL buttons, and the Power switch/Volume controller become inoperable. Long press the [Lock] button to lock the keyboard and the screen displays the icon . To unlock, long press the [Lock] button again, and the icon will disappear.

Battery Saving

When there is no operation on the radio for a period of time, it will automatically enter power-saving mode to extend the battery life.

Battery low prompt

When the battery level is low, the radio will emit an alarm sound. Please charge or replace the battery in time to avoid affecting normal use, otherwise the radio will automatically shut down due to low battery.

Sound prompt

The radio will emit a prompt when a button is pressed or an alarm occurs. The prompt sound is supported to turn on or off.

Call tone

Press and hold the [CALL button], and the radio will initiate a call ringtone to remind the other party to answer. The radio supports 10 types of ringtone settings.

PTT prompt tone

When pressing or releasing the PTT, the radio will trigger an audible prompt. It can choose to enable the prompt tone at the beginning of transmission, at the end of transmission, both, or disable it altogether. When set to "Start", a "beep" prompt tone will be heard when the PTT is pressed for transmission; when set to "End", a "beep" prompt tone will be heard when the PTT is released at the end of transmission; when set to "Both", prompt tones will be heard at both the start and end of transmission; when set to "Off", no prompt tone will be heard.

Beat frequency

The radio supports the beat frequency function, which prevents certain frequency points from generating mixed minor noise that could affect communication.

Transmission power

The radio supports setting the transmission power to high or low.

Bandwidth settings

The radio supports setting the channel spacing to either wideband (25kHz) or narrowband (12.5kHz).

Note: The bandwidths of the transmitting and receiving channels must be set to be the same, otherwise it will affect the call quality.

CTCSS and DCS

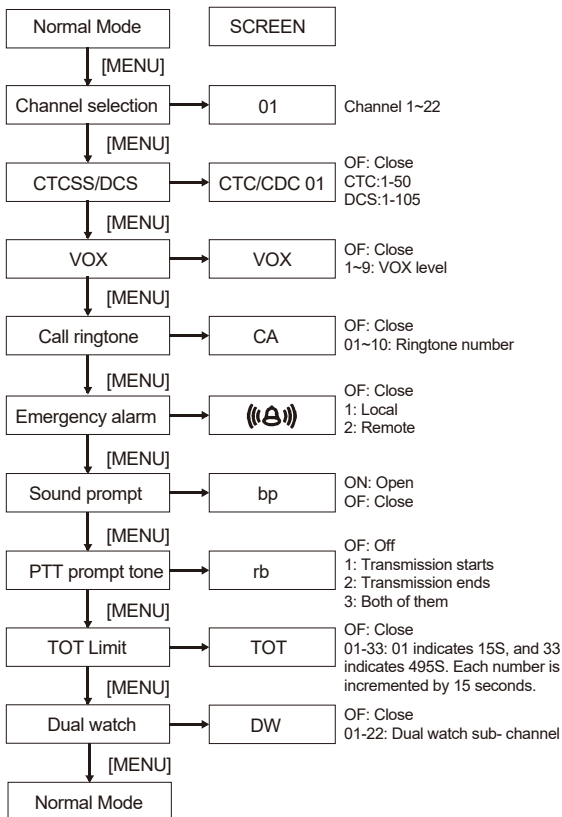
The radio supports the CTCSS/DCS function to ensure the quality of communication. When the channel is set with the CTCSS/DCS function, voice output is allowed only when the transmitted and received CTCSS/DCS frequencies match.

Set CTCSS and DCS through the menu:

1. Press the [MENU] key until the screen flashes the icon "CTC" or "DCS";
2. Press the [CALL] button to switch the CTCSS/DCS type. "CTC" indicates CTCSS, "DCS" indicates DCS, and "CTC DCS OF" indicates turning off the CTCSS/DCS function.
3. Press the [UP] or [DOWN] key to select the CTCSS or DCS number. The sub-tone values corresponding to each number are listed in the "CTCSS Frequency Table" and "DCS Digital Table".

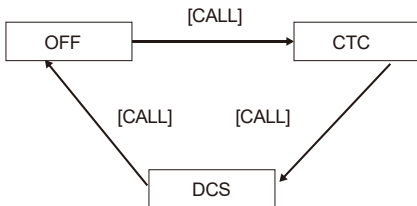
Menu settings

Short press the [MENU] key to enter the menu and set channel parameters.



notes:

1. When setting parameters, briefly press the [UP] or [DOWN] key to select a parameter, and briefly press the lock key to exit the menu setting mode;
2. When setting the CTCSS/CDCSS, press the



CTCSS Frequency Table

CTCSS No.	Frequency [Hz]	CTCSS No.	Frequency [Hz]	CTCSS No.	Frequency [Hz]	CTCSS No.	Frequency [Hz]
1	67.0	14	103.5	27	159.8	40	199.5
2	69.3	15	107.2	28	162.2	41	203.5
3	71.9	16	110.9	29	165.5	42	206.5
4	74.4	17	114.8	30	167.9	43	210.7
5	77.0	18	118.8	31	171.3	44	218.1
6	79.7	19	123.0	32	173.8	45	225.7
7	82.5	20	127.3	33	177.3	46	229.1
8	85.4	21	131.8	34	179.9	47	233.6
9	88.5	22	136.5	35	183.5	48	241.8
10	91.5	23	141.3	36	186.2	49	250.3
11	94.8	24	146.2	37	189.9	50	254.1
12	97.4	25	151.4	38	192.8		
13	100.0	26	156.7	39	196.6		

DCS Code Table

CDCSS NO	Code	CDCSS NO	Code	CDCSS NO	Code	CDCSS NO	Code
1	D023N	28	D155N	55	D325N	82	D516N
2	D025N	29	D156N	56	D331N	83	D523N
3	D026N	30	D162N	57	D332N	84	D526N
4	D031N	31	D165N	58	D343N	85	D532N
5	D032N	32	D172N	59	D346N	86	D546N
6	D036N	33	D174N	60	D351N	87	D565N
7	D043N	34	D205N	61	D356N	88	D606N
8	D047N	35	D212N	62	D364N	89	D612N
9	D051N	36	D223N	63	D365N	90	D624N
10	D053N	37	D225N	64	D371N	91	D627N
11	D054N	38	D226N	65	D411N	92	D631N
12	D065N	39	D243N	66	D412N	93	D632N
13	D071N	40	D244N	67	D413N	94	D645N
14	D072N	41	D245N	68	D423N	95	D654N
15	D073N	42	D246N	69	D431N	96	D662N
16	D074N	43	D251N	70	D432N	97	D664N
17	D114N	44	D252N	71	D445N	98	D703N
18	D115N	45	D255N	72	D446N	99	D712N
19	D116N	46	D261N	73	D452N	100	D723N
20	D122N	47	D263N	74	D454N	101	D731N
21	D125N	48	D265N	75	D455N	102	D732N
22	D131N	49	D266N	76	D462N	103	D734N
23	D132N	50	D271N	77	D464N	104	D743N
24	D134N	51	D274N	78	D465N	105	D754N
25	D143N	52	D306N	79	D466N		
26	D145N	53	D311N	80	D503N		
27	D152N	54	D315N	81	D506N		

Specifications

General	
Frequency Range	UHF: 400-480MHz
Channel Capacity	22
Channel Spacing	25 KHz /12.5 KHz
Operating Voltage	DC 3.7V (±20%)
Battery Capacity	1500mAh
Frequency Stability	≤±2.5 ppm
Antenna Impedance	50Ω
Dimensions (L×W×H)	60 (L) * 33(W)* 121(H)mm
Weight	193g (including battery)
Transmitter	
RF Output Power	≤2W
4FSK Modulation	11KφF3E/16KφF3E
FM Modulation	≤±2.5KHz /±5.0KHz
Adjacent Channel Power	60dB
Audio Distortion	< 5%
Receiver	
Sensitivity	≤-122dBm (12dB SINAD)
Intermodulation	≥60dB (wide)/ 55dB (narrow)
Adjacent Channel Selectivity	≥60dB (wide)/ 55dB (narrow)
Spurious Response Rejection	≥60dB (wide)/ 55dB (narrow)
Rated Audio Output Power	0.5W
Audio Distortion	≤5%
Environmental	
Operating Temperature	-20 C ~ +60 C
Storage Temperature	-30 C ~ +70 C

Statement

This manual is compiled to be accurate and complete for operator's use. For any doubt, please contact BelFone, we provide detailed assistance as soon as possible. As radio communication technologies develop rapidly, BelFone reserves the right to change product design and specification without prior notice to consumers.



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RECYCLABLE PACKAGING