BelFone

www.belfone.com

BF-TD506

Commercial Portable Radio

Notice to the user

Operation of unlicensed radios within the territories under government control will be prohibited and punishable by fine and/or imprisonment.

THANK YOU!

BelFone, founded in 1989, is a leading technology and solution provider of mission and business critical communications, dedicated to bringing the best out of the evolvement of different communication technologies and empowering customers with integrated radio solutions.

Thank you for choosing BelFone!

This manual is applicable to

BF-TD506R series

WARNING !

◆ **In an explosive atmosphere (the mixture with air, under atmospheric conditions, of flammable substances in the form of gases, vapors or dust), please turn off the radio.**

Instructions before Use

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

◆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. Protect the radio from extreme heat, dampness, dusty places and 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.

◆If there is any problems with the radio, please turn 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 with a mild detergent.

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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.
After carefully unpacking the radio, 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.

Accessories

items	Quantity
Antenna	1
Strap	1
Belt Clip	1
Charger	1
Li-ion Battery	1
Screws	1
Instruction Manual	1
Warranty Card	1
Certificate	1

Antenna

Strap

Charger

Li-ion Battery

Belt Clip

Screws

Installation of Accessories

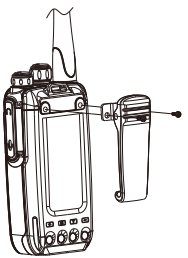
Installation/ removing the antenna

Hold the antenna base, screw it into the connector at the top of the radio until fasten.

Turn the antenna anti-clockwise to remove it.

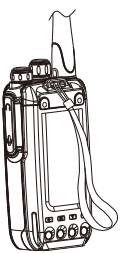
Attaching/Removing the belt clip

Attach the belt clip using the two supplied3*4mm binding screws.



Attaching/Removing the Strap

Thread the hand strap to the loop back of the two-way radio.

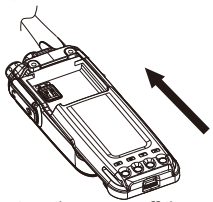


Attaching/Removing the Battery

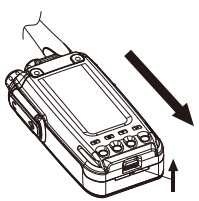
Warning !

- 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.

Match the guides of the battery with the corresponding grooves on the rear of the radio, then push the battery until a click is heard to lock it in place.



To remove the battery, please turn the power off then push the latch to unlock the battery and pull the battery away from the radio.



Note: Don't attach / remove the battery if the radio turned on.

Battery Information

The new battery hasn't been fully charged before shipped, please charge more than 5 hours at the first use. The maximum battery capacity and performance is achieved after three full charge/discharge cycles. If the battery power runs lows, 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 bodily injury and property damage.

Battery Tips

1.When charging battery, keep it at a temperature among 5℃—40℃. Temperature out of the limit may cause battery leakage or damage.
2.Prior to charging 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℃. Please prepare a spare battery in cold weather. A battery not work properly in a cold environment does not mean that it is damaged. Please keep the battery and reconfirm at room temperature.
2.The dust on the battery contact point may cause battery faulty, please cleaning it by a dry cloth before using.

Battery Storage

1.Fully charge a battery before storing it for a long time, to avoid battery damage due to over-discharge.
2.Recharge a battery after several months' storage, to avoid battery capacity reduction due to over-discharge.(NI-MH batteries:3 months, Li-Ion& Li-polymer batteries: 6 months)
3.Store battery in a cool, dry place under room temperature, to reduce self-discharge.

Charging the battery

Use only the charger specified by the manufacturer, the charge indicator indicates the charging progress.

Charger Status	Charger Indicator
Standby(No-load)	Charge Indicator glows green
Battery is charging	Charge Indicator glows red
Battery is fully charged	Charge Indicator glows green

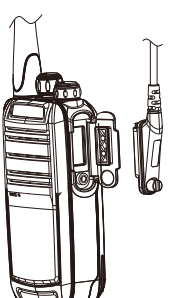
Charge Steps:

1.Plug the AC connector of the switching power into the AC outlet socket.
2.Place the battery or the radio attached with a battery in the charger.
3.Make sure the battery is connected to the charger, the charging process initiates when the charger indicator glows red.
4.The charger indicator glows green when the battery fully charged, please remove the battery then.

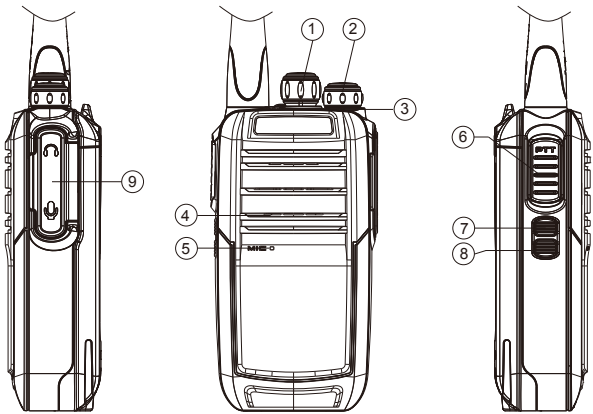
Note: While charging the temperature out of the limit the LED indicator of charger will flash red and green; If battery has damaged or battery is not connected to the charger correctly, the LED indicator of charger also will flash red and green.

Attaching the Speaker/ Microphone

Open the accessory jack cover, then align the plug with the accessory jack and tighten the screw on the plug.



Getting Acquainted



①**Channel Selector Knob**

Turn the knob to select channel 1-16, if a channel is available, there will be a channel number sounds.

②**Power switch/volume adjust keys**

Rotate clockwise to power on, after the radio is powered on, rotate clockwise to increased volume, anti-clockwise to decrease the volume. Rotate anti-clockwise fully to power off.

③**LED Indicator**

When the radio is transmitting, the LED will glow red; when receiving the LED will glow green; when scanning the LED will flash red; when battery gets low, the LED will flash red.

④**Speaker**

⑤**Microphone**

⑥**PTT Key**

Press and hold down the PTT key then speak into the microphone to transmit.

⑦**Button 1**

Press to activate the programmable function. (The function can be customized by cps.)

⑧**Button 2**

Press to activate the programmable function. (The function can be customized by cps.)

⑨**MIC-SP Jack**

Connect to optional speaker/MIC and programming cable.

Basic Operation

Turning the power on /off

Rotate the power switch/volume adjusting keys clockwise to power on. A current channel number and current zone number sounds.
Rotate the power switch/volume adjusting keys anti-clockwise to power off.

Adjusting the volume

After the radio is powered on, rotate the power switch/volume adjust keys to adjust the volume level, rotate the knob clockwise to increase the volume, or rotate the knob anti-clockwise to decrease the volume.

Selecting a Channel

Rotate the channel selector knob to select channel 1 to 16, rotate the knob clockwise to increase the channel number, or rotate the knob anti-clockwise to decrease the channel number. While all tone alert is enabled, the channel number will sound when change channel.

Note: While the channel is un-programmed, a prompt tone:" no channel "sounds.

Selecting a Zone

The radio supports up to 32 zones, each zone with a maximum of 16 channels, all 32 zones can support up to 160 channels. Via the programming software 2 desire zones can be selected at most. Select a desire zone through by setting zone toggle function to button 1 or button 2, then handover zone. While all tone alert is enabled, select zone and a zone number will sound.

A/D Modes Switching

The 【AD Switch】buttons can be switched AD mode and DA mode each other. If the current channel is D/A mode , press【AD Switch】button to switch to A/D mode; If the current channel is A/D mode, press 【AD Switch】button to switch to D/A mode.

Note: AD Switch function only switches the channel mode temporarily. Restart the radio or rotate channel selector knob, the current channel will return to its default channel mode.
A/D mode is analog compatible digital mode.
D/A mode is digital aompatible analog mode.

Call

Each digital channel may initiate a private call, a group call or an all call; on analog channel press PTT key to directly initiate an analog voice call. On D/A channel press PTT key to set up a digital voice call; On A/D channel press PTT key to set up an anolog voice call;
To transmit press and hold down the PTT key, LED indication glows red, speak into the microphone, hold the palm microphone approximately 3 to 4 centimeters away from mouth.

1.Group Call

●If a group call contact is preset for current digital channel. press PTT key to set up the group call;
●Set the One Touch Call key as group call feature, then press programmed key to set up the group call.

2.Private Call

If the feature “private call ACK” is enabled, to set up a private call, it needs to confirm whether the called is activated on the current channel.
●If a private call contact is preset for current digital channel, press PTT key to set up the private call;
●Set the One Touch Call key as private call feature, then press programmed key to set up the private call.

3.All Call

If an all call contact is preset for current digital channel, press PTT key to set up the all call.

Note: While talk permit indication feature is enabled, and the channel is available, press PTT key to transmit a tone will sound.

Receiving and responding to a call

On digital channel, while a private call is received, press the PTT key within the hang time to set up the private call. On D/A or A/D channel, the radio will detect digital and analog signal (must have a subsonic) simultaneously when receiving, and if matching signal detected, the current call can be called back within the hang time.

Note: While channel free indication feature is enabled, the transmitter releases PTT key, a tone will sound.

Button Setting

For enhanced convenience, button1, button2 can be programmed, short and long press of a key can be assigned with different functions.
Programmable keys are including functions listed below:

●**Unassigned**：The key is not assigned with any functions.
●**One Touch Call 1~6**：Allow user to initiate digital group call, digital private call, or send preset message or send call alert via the one touch call function.
●**Emergency on/off**：Enable the emergency call or disable emergency call.
●**Monitor**：Enable monitor function.
●**Scan on/off**：Allow user to enable or disable the scan function.
●**All alert tone on/off**：Allow user to enable or disable all alert tones.
●**Battery Indication**：It's convenient to know battery capacity. If battery strength level is 70%-100%, a Power High sounds; if battery strength level is 30%-70%, a Power Middle sounds; if battery strength level is 15%-30%, a Power Low sounds.

Note: If the battery gets lower, a "Please Charger" tone will sound, at the time press programmed" Battery Indicator" key, battery capacity indication will not sound.

●**Zone Toggle**：Allow user to change zones, if the radio contains 2 zones, press programmed button a zone number will sound. If the radio only adds a zone, this feature is useless.
●**Priority Interrupt**：Interrupt activity of current channel forcibly
●**AD Switch**: Temporarily switch channel mode to AD or DA
●**High/Low Power**：User can switch the TX power level between high and low power by pressing the programmed High/Lower Power key.

●**Repeater/talk around**：Allow radio connect through repeater or achieve standalone communication in talk around mode.
●**VOX on/off**：If VOX level is set as 1 to 8 via programming software, press the programmed VOX on/off key to enable or disable the VOX feature. Press to activate the VOX feature and a VOX on will sound; disable the VOX feature and a VOX off will sound.

Note: Only when the earpiece is plugged into the accessory jack of the radio, will the VOX feature be effective.

●**Nuisance Delete**：While scanning on, If receiving unwanted activities on the channel, press the programmed Nuisance Delete key to remove the channel from the scan list temporarily. Next scanning on the channel will be recovery.
●**Permanent Monitor**：Permanent monitor feature is the same as monitor, but permanent monitor feature only can be set as long press key. Long press the programmed Permanent Monitor key to exit this feature.
●**Site Lock/Unlock**：Quickly to enable or disable lock site function.
●**Manual Site Roam**：Quickly to search the available site manually.
●**Channel Lock**：Quickly to enable or disable channel lock function.

Note：
●Short or long programmable key-press can be assigned any of the functions.
●On analogy mode, programmable keys are including effective functions list: Unassigned、monitor、backlight automatic on/off、keypad lock、scan on/off、all alert tone on/off、Battery Indicator 、Zone Toggle、High/Low power、repeater/Talk around、VOX on/off、Nuisance Delete、Permanent Monitor、Channel Lock.

Functions and Operations

Scan

For scan to work, the current channel must be added to the scan list and the list must contain 2 channels at least. Scan is useful for monitoring signals on the radio channels. While scanning, the radio checks for a signal on each channel and only stops on a channel if a signal is active. Press programmed Scan on/off key to begin scanning, while scanning on, a “scan on” sounds, LED indicator flashes red. While scanning off, a “scan off” sounds.

●**Scan Hang Time**：When a signal is detected on a channel, scan pauses on that channel, the radio will remain on the busy channel until the signal is no longer present. When the signal "drop out" the radio will remain on the channel momentarily before scan resumes.

●**Talkback**：When a signal is detected on a channel, press PTT key can talk back on the channel if enable “Talk Back’ feature; if “Talk Back” isn’t checked, press PTT key may talk back on the designated channel.

●**TX Designated Channel**：During scanning, Press PTT key the radio will transmit on TX designated channel.

Auto Scan

If Auto Scan feature is enabled for a channel, the radio will automatically enter scan mode when switching to this channel. To stop scanning, press programmed Scan On/Off key or switch to other channels. Returning to the channel will enter scan mode directly.

Monitor and Permanent Monitor

Monitor：Both analog and digital channel support to monitor current channel activities and receive weak signals. Press the programmed Monitor key to activate the monitor function, if a signal is detected, until the signal is no longer present the radio will exit monitor mode.

Permanent Monitor：Permanent monitor feature is the same as monitor, but long press the Permanent Monitor key to enter monitor mode, the radio will remain on monitor mode until long press it again to exit.

Message

On digital channel and digital analog compatible channel, message text can be edited via programmable software and sent by programmed one touch call key.

One Touch Call

On digital channel and digital analog compatible channel, one touch call feature contains: send messages or set up a call to a group contact, send messages, send call alert or set up a call to a private contact.

● **Group Call**

On one touch call menu, set the call member to a group call contact, set the call type to group call, and set the programmed key as one touch call. Then press the programmed key a high-pitched tone sounds, with 5 seconds press PTT key to set up the group call.

● **Group Message**

On one touch call menu, set the call member to a group call contact, set the call type to short message, select a message text from preset message list, and set the programmed key as one touch call. Then press the programmed key to send a message to the group call.

● **Private Call**

On one touch call menu, set the call member to a private call contact, set the call type to private cal, and set the programmed key as one touch call. Then press the programmed key a high-pitched tone sounds, with 5 seconds press PTT key to set up a private call.

● **Private Message**

On one touch call menu, set the call member to a private call contact, set the call type to short message, select a message text from preset message list, and set the programmed key set as one touch call. Then press the programmed key to send a message to the private call.

● **Call Alert**

On one touch call menu, set the call member to a private call contact, set the call type to call alert, and set the programmed key as one touch call. Then press the programmed key to send call alert to the private call.

Talk Around

When repeater malfunctions, or the radio is out of repeater's range, communications can be continued in talk around mode. While talk around feature is enabled, TX frequency will be set the same as RX frequency. Press the programmed Repeater/Talk Around key to switch between repeater modes and talk around mode. Switch to talk around, a "talk around" sounds; switch to repeater mode, a "repeater" sounds.

Note: **To enable this function, TX frequency should be different from RX frequency, and the channel will set as allowing talk around on the programming software.**

TX Power

Power levels can be switched to Low or High. If communicating with radios located at a distant place please select High power; if communicating with radios located at a close place please select Low power to save battery. Press the programmed High/Low Power key to switch between high power and low power. Switch to high power, a "high power" sounds; switch to low power, a "low power" sounds.

Bandwidth

On analog mode, there are two types of bandwidth available, wide (25 KHz) or narrow (12.5 kHz) can be chosen.

Squelch Level

On analog mode, this feature can adjust the squelch threshold for the radio to receive audio. High level requires stronger signal for the radio to un-mute.

Digital Emergency

In case of an emergency the user can enter emergency mode to ask for help, short press programmed "Emergency on" key to send emergency information, long press "Emergency off" to exit emergency mode. On regular type alarm, after sending emergency information, when ACK command is received or the

alarm cycles expires, the radio will exit the emergency mode automatically. On silent type alarm, after sending emergency information, press PTT key to exit emergency mode.

●**Emergency Type**: Options such as Disable, Regular, Silent, Silent with voice can be set, the Disable option is unable to transmit emergency information.

●**Emergency Mode**: Options such as Emergency Alarm, emergency alarm with call, emergency alarm with voice to follow can be set.

●**Revert Channel**: Revert channel is used for digital emergency, only channels with a default address of group call contact can be set as revert channel.

●**Impolite Retries**: The number of times an emergency information should be sent when there is activity on the current channel.

●**Polite Retries**: The number of times an emergency information is sent only when there is no activity on the current channel.

●**Hot MIC Duration**: If the emergency mode is set as emergency alarm with voice to follow, after sending emergency information, voice and background noise will be transmitted automatically without the need to press PTT key within hot MIC duration.

Note: while the short press is set as emergency on, the long press will be set as emergency off default.

Time out Timer (TOT)

The purpose of TOT is to prevent any user from occupying a channel for an extended period. If a channel is busy, the time will glow shorter. If the preset time expires, the radio will generate beep and terminate transmission automatically.

Voice Encryption

The voice encryption can encrypt the audio to guarantee the privacy of the communication, via the programming software the user can select encryption type as static or dynamic. If the encrypt feature is enabled, the transmitter and receiver must be set as the same encryption type and voice encryption key, otherwise the receiver can not get the normal audio .

Note: This feature is effective on digital channel.

VOX

If VOX feature is enabled, user can enjoy hands-free communication, the radio will automatically begin transmitting when speaking, and terminate transmitting when stopping talking with no need of PTT press. When the environment is too much noise, VOX level will be higher, when the environment is quiet, VOX level will be lower. If the VOX level is set as off via the programming software, pressing programmed VOX on/off key can't enable VOX feature, if the VOX level is set as 1 to 8, pressing programmed VOX on/off key can enable or disable VOX feature.

Note: The VOX feature shall work with a dedicated earpiece.

Warning Tones

Voice Indication

If voice indication feature is enabled, the radio will give tone indication for channel change, zone change, power level switch, scan feature enable or disable, VOX on or off, low battery alert, repeater mode or talk around mode switch and etc.

Channel Free Indication

On digital mode, if Channel Free Indication feature is enabled, the receiver gives a high-pitched tone indication while the transmitter releases PTT key to stop transmitting.

Talk Permit Indication

There are four options are available for Talk Permit Indication feature: None (the radio does not give any tone indication for transmission on analog and digital channel), Analog (the radio gives tone indication for transmission on analog channel), Analog& Digital (the radio gives tone indication for transmission on analog and digital channel), Digital (the radio gives tone indication for transmission on digital channel).

Reject Stranger Call

On digital mode, if reject strange call feature is enabled,, and the call ID is not exist in the contacts list, the call will be unable to transmit or receive. On group call or all call, the caller's ID and group call ID or all call ID must be preset on address list.

Direct Mode Operation

If DMO function is enabled users can transmit with different frequency directly. Only the transmitter and receiver are set direct mode simultaneously and the TX frequency of the transmitter is the same as the RX frequency of the receiver, can the radio directly communicate in DMO mode.

Roam

This feature allows the radio communicate between available sites in the IP Site Connection system. If the Roaming feature is enabled, the radio can communicate via any site in the IP Site Connection system, thus ensuring seamless communication in the system. The radio supports start roam automatically and site roam manually.

Note: It allows the user to associate one of a scan list or roam list to the current channel, but not allows to enable both feature at the same time.

TDMA Direct Mode

If TDMA direct mode is enabled, the members in the same group call must use the same slot, and one frequency supports calls in two slots synchronously in order to avoid interfering communications in the other slot.

Note: This feature is available only in digital mode.

Pesudo Trunk

If the slot is set as Dual slot, and one time slot is already occupied, it can transmit and receive on another free time slot. If the Specify Transmit Slot is set as “NONE”, both time slot 1 or time slot 2 can transmit. If the Specify Transmit Slot is set as 1, press PTT key to transmit voluntary only in time slot 1 and if the Specify Transmit Slot 2, press PTT key to transmit voluntary only in time slot 2. The Specify Transmit Slot set is invalid for replying.

Note: In order to guarantee the stability of communication, the transmitter and the receiver should enable Virtual Trunking function at the same time.

Priority Interrupt

The call priority feature allows the user to interrupt the currently on-going call forcibly. This means a call can interrupt other on-going calls with lower priority to release the channel for itself. There are 5 voice priorities available, level 0 is lower, level 3 is higher, and emergency call is the highest. To transmit the Priority Interrupt command, press the programmed [Priority Interrupt] key to make the channel free for new call or message transmission.

Note: This feature is available only in digital mode.

TX Permission

Digital Channel

This feature can restrict the channel from transmitting if it is already in use. If always is set, whenever pressing PTT key, the radio will transmit directly. If color code free is set, the radio will be unable to transmit on the channel if a radio with that color code is already in using the channel. If channel free is set, the radio will be unable to transmit on the channel if the channel is already in use. If the channel is busy, press PTT key, a low-pitched tone will sound.

Analog Channel

This feature is available in the analog mode and can restrict the channel if it is already in use. If off is set, whenever pressing PTT key, the radio can transmit directly. If carrier is set, the radio will be unable to transmit on the channel if the channel is being used by others. If CTCSS/CDCSS is set, the radio will be unable to transmit on the channel if a radio with the same CTCSS/CDCSS code in using the channel. If the channel is busy, press PTT key a low-pitched tone will sound.

Battery Saver

This feature allows an idler radio to automatically enter battery saver mode, which will extend battery service life, but response time may be delayed. Battery saver time ratio can be set, the smaller the time rate is, the more obvious the power saving.

Low Battery Warning

When the battery gets low, LED indicator glows red and there will be a warning tone: “Please Charge”， please replace the battery or charge the battery in time, otherwise the radio will turn off automatically while battery is too low.

CTCSS/CDCSS

On analog channel, unique CTCSS/CDCSS can be set to guarantee the privacy of the communication, on digital compatible analog channel or analog compatible digital channel, CTCSS/CDCSS must be set. If CTCSS/CDCSS has been set on the current channel, CTCSS/CDCSS match from the transmitting radio is required for the radio to receive an incoming signal.

● **Decode**: Only when the received call containing matching the decode, can it be heard.

● **Encode**: The CTCSS/CDCSS will be attached to the signal before transmitting. The transmitted signal will only be heard by parties whose CTCSS/CDCSS signaling matches .

PC Mode

At first, connect the radio with computer by data line and turn on the radio; Secondly，start the software（BFP-DH500）that the data will be write or read by users.

CTCSS Standard Frequency Table

CTCSS No.	Freq. [Hz]	CTCSS No.	Freq. [Hz]	CTCSS No.	Freq. [Hz]	CTCSS No.	Freq. [Hz]
1	67.0	11	94.8	21	131.8	31	186.2
2	69.3	12	97.4	22	136.5	32	192.8
3	71.9	13	100.0	23	141.3	33	203.5
4	74.4	14	103.5	24	146.2	34	210.7
5	77.0	15	107.2	25	151.4	35	218.1
6	79.7	16	110.9	26	156.7	36	225.7
7	82.5	17	114.8	27	162.2	37	233.6
8	85.4	18	118.8	28	167.9	38	241.8
9	88.5	19	123.0	29	173.8	39	250.3
10	91.5	20	127.3	30	179.9		

CDCSS Standard Code Table

NO	Normal	Inverted	NO	Normal	Inverted	NO	Normal	Inverted
1	D023N	D023I	29	D174N	D174I	57	D445N	D445I
2	D025N	D025I	30	D205N	D205I	58	D464N	D464I
3	D026N	D026I	31	D223N	D223I	59	D465N	D465I
4	D031N	D031I	32	D226N	D226I	60	D466N	D466I
5	D032N	D032I	33	D243N	D243I	61	D503N	D503I
6	D043N	D043I	34	D244N	D244I	62	D506N	D506I
7	D047N	D047I	35	D245N	D245I	63	D516N	D516I
8	D051N	D051I	36	D251N	D251I	64	D532N	D532I
9	D054N	D054I	37	D261N	D261I	65	D546N	D546I
10	D065N	D065I	38	D263N	D263I	66	D565N	D565I
11	D071N	D071I	39	D265N	D265I	67	D606N	D606I
12	D072N	D072I	40	D271N	D271I	68	D612N	D612I
13	D073N	D073I	41	D306N	D306I	69	D624N	D624I
14	D074N	D074I	42	D311N	D311I	70	D627N	D627I
15	D114N	D114I	43	D315N	D315I	71	D631N	D631I
16	D115N	D115I	44	D331N	D331I	72	D632N	D632I
17	D116N	D116I	45	D343N	D343I	73	D654N	D654I
18	D125N	D125I	46	D346N	D346I	74	D662N	D662I
19	D131N	D131I	47	D351N	D351I	75	D664N	D664I
20	D132N	D132I	48	D364N	D364I	76	D703N	D703I
21	D134N	D134I	49	D365N	D365I	77	D712N	D712I
22	D143N	D143I	50	D371N	D371I	78	D723N	D723I
23	D152N	D152I	51	D411N	D411I	79	D731N	D731I
24	D155N	D155I	52	D412N	D412I	80	D732N	D732I
25	D156N	D156I	53	D413N	D413I	81	D734N	D734I
26	D162N	D162I	54	D423N	D423I	82	D743N	D743I
27	D165N	D165I	55	D431N	D431I	83	D754N	D754I
28	D172N	D172I	56	D432N	D432I			

Specifications

General	
Frequency range	VHF:136-174 MHz / UHF:350-400 MHz UHF:400-480 MHz / UHF:450-520 MHz
Channel Capacity	1024
Zones	64
Channel Spacing	12.5KHz/25KHz
Operating Voltage	DC 7.4V (±20%)
Battery capacity	1800 mAh
Battery Life（5/5/90）	Digital 20 hours / Analog 14 hours
Frequency Stability	±1.5ppm
Antenna Impedance	50Ω
Dimensions (L×W×H)	56（L）* 32(W)* 109 (H)mm
Weight	216g(include battery)
Transmitter	
RF Output Power	≤5W
4FSK Modulation	12.5kHz only data：7K60FXD 12.5kHz data and audio：7K60FXE
FM Modulation	12.5 kHz：8K50F3E； 25 kHz：16KΦF3E；
Modulation Limiting	+/- 2.5kHz @ 12.5kHz; +/- 5kHz @ 25kHz
FM Noise	-40dB
Conducted Emission	-36 dBm≤1GHz/-30 dBm≥1GHz
Adjacent Channel Power	≤-60dB
Audio Response	+1/-3 dB
Audio Distortion	3%
Digital Voice coder Type	AMBE

Receiver	
Digital Sensitivity	5% BER: 0.25 uV
Analog Sensitivity	0.25 uV (12 dB SINAD)
Intermodulation	60 dB
Adjacent Channel Selectivity	60 dB
Spurious Response Rejection	60 dB
FM Noise	-40 dB
Audio Response	+1/-3 dB
Rated Audio output power	0.5W
Max Audio output power	1.2W
Audio Distortion	3% (Typical)
Conducted Spurious Emission	-36 dBm
Environmental Specifications	
Operating Temperature	-20℃—+60℃
Storage Temperature	-30℃—+85℃
Humidity	MIL-STD-810G Standard
Vibration & Shock	MIL-STD-810G Standard
Dustproof & waterproof	IP54

Statement

This manual is compiled to be accurate and complete for operator's use. For any doubt, please contact Belfone. The professional answers will be provided. As radio communication technologies develop rapidly, Belfone reserves the right to change product design and specification without prior notice to consumers.

BelFone

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