Instructions for Dual Band Vehicle Transceiver

Remind:

QPurchase and use of this equipment belongs to set up using the radio (station)behavior,we must apply the law to establish the station approval procedures to obtain a radio station license.When using the machine，it should work in accordance with the station license approved projects. Arbitradly set using a radio(station)，interference of radio services，not according to the approved project work and other violationsof radio r egulationsby the radio management organizations subjecc to administrative penalties.

Thank you very much for purchasing our products.Our company devotes to supply the best quality and expeditionary vehicle transceiver.We believe that you would be satisfied with our products.

Note：

Please obey following rules，SO that can avoid fire，the harnl on person or damage on vehicle transceiver.

- When you are driving，please do not try to setting the vehicle transceiver，otherwise it will lead to dangerous consequences
- This vehicle transceiver should be connected to 1 3. 8V DC power supply!Do not use 24V power supply to operate this vehicle transceiver
- Please do nottransmit by high powerfor a long lime，othenMse the vehicle transceiverwill be over–heated and the lifespan will be shortened.
- Please do not put vehicle transceiver under the sun overlJme，and do not put in beside the heating equipment.
- Please do not put the vehicle transceiver in the place where is dusty and moist，and do not put in one the uneven fiat.
- If there is smell or smog from vehicle transceivers. please tum Off the power and contact the dealer.
- Using vehicle transceiver when driving may violate traffic rules，please obeylocaltraffic rules.

Unpacking and Inspection: Standad Configuration

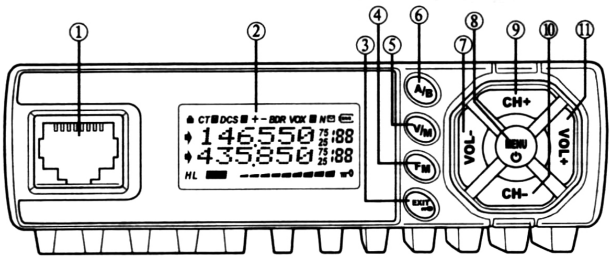
Welcome to use radio. Beforeusing,
we suggest you：

◆Please check the packaging of this product if there is damage.

◆Please carefully open the box checking whether the products are as following listed table.

◆If the re iS any damzage or lost of product and its accesso ries during transportaliOn，please contact deale immediately.

ITEMS	QTY
Machine body	1
Hnd microphone	1
Assembly supporting rack	1
Power line	1
Screws	1
Instructions	1



1.Hand microphong/Frequency writing connedion hole
2.Display screen
3.Quit/locking key
4.Radio button
5.Working mode switch
6.Upper and lower frequency switching
7.Volume down
8.Power switch / function button
9.Up
10.Down
11.Volume up

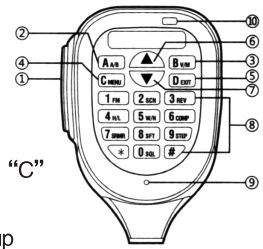
Display screen

Picture	Instruction
----------	When transmitting, the screen indicates transmittingsignalvvstrength and when receiving, the screen in dicates receiving signal strength.
188	In channel mode, channel serial number is shown under the frequency and channel name. When setting the menu, screen shows the current menu number.
146550 435850	Indicating receiving and transmitting frequency. FMfrequency.menu.menu value and other status.

Picture	Instruction
	This symbol is undefined.
CT	Indicating CTCSS, when it shows during transmitting, it indicates CTCSS is during transmitting.
T	Indicating the scrambler function is opening.
DCS	Indicating digital sound, when it shows during transmitting,it indicated DCS is during transmitting.
D	Indicating companding function is opening.
+	When this symbol shows under the frequency mode, it indicatesv the transmitting frequency is receiving frequency plus a slip frequency.
-	When this symbol shows under the frequency mode, it indicates transmitting frequency is receiving frequency minus a slip frequency.
BDR	This symbol shows when repeater function is opening.
VOX	This symbol is undefined.
R	The receiving and transmitting frequency is reversed. when in frequency and channel mode.
N	This symbol shows when channel working in narrowband way.
	This symbol is undefined.
	This symbol is undefined.

Picture	Instruction
⊓0	This symbol shows when keyboard is locked，and it will be relived when long pressing “EXIT”.
H	Indicating the cu rrent transmitting frequency is a high frequency.
L	Indicating the current transmitting frequency is a low frequency. (The middle frequency will not indicate)
➧	Indicating the current working frequency of transmitting，receiving and standby.

Hand microphone



1. [PTT] :Transmitting
2. [A A/B] :A/B channel switch，character “A”
3. [B V/M] :Working mode switch，character “B”
4. [C MENU] :Function key，character “C”
5. [D EXIT] :Exit key，character “D”
6. [↑] :Frequency,channel and menu up
7. [↓] :Frequency，channel and menu down
8. Number key:Number “0 ~ 9，*，#”
9. Microphone:Press[PTI]，talk to microphone
10. Transmitting indicator:Transmitting indicator

Hand microphone shortcut key operation instruction

Function	Operation process
Frequency adjusting	Press [A A/B] →↑/ ↓ key to adjust frequency→ or input frequency needed directly by keyboard.
Working mode selecting	Press [B V/M]，(once the key pressed，the working mode is circulated in frequency mode→ channel frequency+ channel number→channelname +channel numberl)
FM radio	[C MENU] → [1FM] →↑(channel selection)→↓(channel selection),press [D EXIT] to exit.
Frequency scanning	C MENU] → [2SCN] ,press ↑/↓ can change up scanning or down scanning→ [C MENU] (stop in current channel) or [C EXIT] (stop in current scanning channel)
Reverse frequency setting	[C MENU] → [3REV] ,start receiving/transmitting exchanging and reliving:same movement
Transmitting frequency adjusting	[C MENU] → [4H/L] ,→↑(up)/↓(down)→ [C MENU] exit.
Channel working bandwidth	[C MENU] → [5W/N] ,→↑(up)/↓(down)→ [C MENU] exit.
Companding function	[C MENU] → [6CMP] ,→↑(up)/↓(down)→ [C MENU] exit.
Encryption function	[C MENU] → [7SPMR] ,→↑(up)/↓(down)→ [C MENU] exit.
Slip frequency direction	[C MENU] → [8SFT] ,→↑(up)/↓(down)→ [C MENU] exit.

Function	Operation process
Step frequency setting	[C MENU] → [9STEP] →↑(up)/(dpwn)(2.5k、5.0K、6.25K、10.0K、12.5K、25.0K、50K)→ [C MENU] exit.
SQL adjusting	[C MENU] → [0SQL] →↑/↓key(SQ0 ~ SQ9)→ [C MENU] exit.(SQ0 is SQL opening,there is rustle in the background,SQ1 is the most sensitive one,and SQ9 is lowes one)

Menu function setting operation

Menu setting step: [MENU key] → [MENU key] → [CH+key] or [CH–key] to select→ [MENU key] enter to select items→ [CH+key] or [CH–key] to adjust parameters → [MENU key] to storage→ [EXIT key] exit.

The right number in the screen is the item number:

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
01	R–CTS	Receive CTCSS	OFF	No CTCSS
			67. ~ 0254.1Hz	CTCSS standard series
02	R–DCSN	Receive digital sound positive code	OFF	No CTCSS
			D023N ~ D754N	Digital sound correcting code standard series
03	R–DCSI	Receive digital sound inverse code	OFF	No CTCSS
			D0231 ~ D7541	Receive digital sound radix–minus–one complement standard series.

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
04	R–MOD	The horn opening method	QT	The horn opens when CTCSS frequency matches.
			QT+ANI	The horn openswhen CTCSS frequency and cledenl~code both can bem atched.
05	T–CTC	Transmit CTCSS	OFF	NOCTCSS
			67.0 ~ 254.1Hz	CTCSS standard series
06	T–DCSN	Transmit digitalsound positive code	OFF	NO CTCSS
			D023N ~ D754N	Digital SOUnd positive code standard series
07	T–DCSI	Transmit digital soundhverse code	OFF	NO CTCSS
			D023I ~ D754I	Digital sound inverse code standard series
08	T–DTM1	Press PTT to transmit dual tone muzltiple frequency	OFF	Press PTT to stop transmit code
			DTMF1 ~ 8	Press PTT to transmit DTMF code
			D1 ~ 8+ANI	Press PTT to transmit DTMF and ANI code
			ANI	Press PTT to transmit and ANI code

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
09	T–DTM2	Loose PTT to transmitdual dual tone murdple fmquencyz	OFF	Loose PTT to stop transmit code
			DTMF1 ~ 8	Loose PTT totransmit DTMF code
			D1 ~ 8+ANI	Loose PTT to transmit DTMF and ANI code
			ANI	Loose PTT to transmit ANI code
10	POWER	Set transmitting frequency	HIGH	Transmit with high frequency
			MIG	Transmitwith middle frequency
			LOW	Transmitwith low frequency
11	W/NA	Select bandwidth	WIDE	Wide band working
			NARR	Narrow band working
12	COMP	Voice companding	OFF	No companding function
			ON	Open companding function(improving communication clarity)
13	SRMR	Voice encryption	OFF	No voice encryption function
			ON	Open voice encrypoon funclion(b make voice encryption on communication)

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
14	SFT	Slip frequency direction	OFF	Inthefrequencymode, transmitting frequency and receiving frequency have not slipfrequency
			+	In the frequency mode, transmitting frequency is receiving frequency plus slip frequency
			–	In the freqUency mode, transmitting mode is recelv!ng freqUency minus slip frequency
15	OFFSET	Slip frequency	00.0000–90.0000	In the frequency mode. the slip frequency between ttransmitting and receiving frequency
16	STE	Stepped frequency	2.50K	In the frequency mode, press UPand DOWN to change frequencystep value
			5.00K	
			6.25K	
			10.00K	
			12.50K	
			25K	
			50.00K	
17	CH–MEM	Channel store	000 ~ 127	When storing channel. it indicates the storage channel number
18	CH–DEL	Channel delete	000 ~ 127	When deleting channel, it indicates the deleting channel number

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
19	WT–LED	Select standby backlight	OFF	Close standby backlight
			PURPLE	In the standby mode, purple indicator opens
			BLUE	In the standby mode, blue indicator opens
			ORANGE	In the standby mode, orange indicator opens
20	RX–LED	Select receMng backlight	OFF	Close receiving backlight
			PURPLE	In the receiving mode. Purple indicator opens
			BLUE	In the receiving mode. blue indicator opens
			ORANGE	In the receiving mode. orange indicator opens
21	TX–LED	Select transmitting backlight	OFF	Close transmitting backlight
			PURPLE	In the transmitting mode, purple indicator opens
			BLUE	In the transmitting mode. blue indicator opens
			ORANGE	In the transmitting mode. blue indicator opens
22	LED–SW	The backlight switch	AUTO	In the standby mode, donot haveany operation, the backlight will dose automatically
			NO	In the standby mode. backlight is on

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
23	BEEP	Warning tone	OFF	Close operauon warning tone
			ON	Open operation waming tone
24	RING	Ringing time	OFF	Close calling warning tonel
			1 ~ 9S	When receiving matched signal,machine sends out voice,when the voice times out,the hom will be opened
25	BCL	Busy lock	OFF	When the chanRel is occupied,it's allowed to transmit
			ON	When the channel is occupied it's not alowed to transmit
26	TOT	Transmitting time limit	OFF	There is nottime limitwhen continuous transmitting
			30S ~ 600	When pressing PTT key,the transmitting time iS the longest
27	TONE	Pict frequency	1000Hz	When tmnsmiting, press EXIT key to adjust frequency and active relay station
			1750Hz	When transmiting. press EXIT keyto adjust frequency and active relay station
			1450Hz	When transmitling, press EXIT keyto adjust frequency and active relay station

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
27	TONE	Piot frequency	2100Hz	When transmitting, press EXIT keyto adjust frequency and active relay station
28	DTM–TM	DTMF transmitting time	50MS	When sending DTMF code auto matically, lhe interval time between code and code
			100MS	When sending DTMF code auto matically, lhe interval time between code and code
			150MS	When sending DTMF code auto matically, lhe interval time between code and code
			200MS	When sending DTMF code auto matically, lhe interval time between code and code
29	SQL	SQL level	0 ~ 9	0 is to open SQL,,the SQL can be opened when the 1 ~ 9 value bigger,and signal strength is bigge
30	RPT	Crossseclion rely		This function is not opened yet
31	DTMF	Dual tone multiple frequency code	8sets	Send out these codes when need

Menu	Character displaying	Function description	Second level menu displaying character	Second level menu setting description
32	ANI–ID	Individual code		Its to observe machine's setting (only can be written by frequency writing program)
33	RESET	Initialization	RS–NO	Do not use menu initialization
			RS–YES	Menu initialization

Selected calling team calling and group calling

This machine equipped with function of sending and editing personal code as well as DTMF decoding.To achieve selected calling and group calling without using other equipment.

Note：When using any other radio in the group,should edit different individual code.

Following parameters should be set when using this function：

1. Set horn opening mothod(furlctiorl menu no.4) is QT+ANI (CTCSS+individual code).
2. Set ringing time(function menu no.24).

Group calling function

Press【PTT】key to transmit，input[*]key from keyboard. (input[*]digits is same asmachine’S ID code).

For example：If the ID code of called party is [1 2345]，then press【PTT】key to transmit，input five[*]key from keyboard.All thecalled party who have same digits will have ring.

Team calling function

Press[PTT] key to transmit，input[team number]+[*]key.
(input digits is sameas machine'S ID code)
For example：if the ID code of called party has[12345],[12789],[23888], then press [PTT] key to transmit，then input[12]+[***]key.All the called party who have [12] in the beginning will have ring.called pany who has [23] in the beginning will not have ring.

Selected calling function

Press [PTT] key to transmit,input the called party's individual code from keyboard.
For example：if the called party's ID code has [12345]，thenpress [PTT] key to transmit，input [12345] key.All selected radio willhavering.

Remote control function

Before using remote control function，the machine should beactive，at the same time,should set radio'S ID code that is main master code.
All the setting only can be done by frequency writing program.

1. Open frequency writing P rogram.
2. Vehicle transceiver connects with PC through frequenc writing cable. (8 needle crystal head insert to hand micro one port)

The precondition of using remote controlfunctionis to set IDcode.
Different remote control functionshould set different control code.
As following picture:(following value is for zreference)

- In the above table, the longest control code has 7 digits, the shortest has I digit. The length of control code should within 3–5 digits.
- The control code in the above only can beset by frequency writingprogram provided by our company.
- The opening code, stunning code, shaking code and monitoring code should begin with "#" ,

ANI code	12345
Master controllDcode	12345
Alarm	119
Identity display code	6
Revive	#77
Stun	#33
Kill	#44
Monitor	#22
Current status:	normal ▼

- Master ID code should be set the same with machine ID code.
- If don't want to be controlled, the control code is not need to input.

Remote stunning(prohibit to be transmitted by controlled party)

Press PTT+#33(stunning code)+12345(master control ID code),then loose PTT.
If the stunning code of controlled party is same as master ID code, the remote stunning function is prohibited.

Remote shaking code(the controlled party is prohibited to receiving and transmitting)

Press PTT+#44(shaking code)+12345(master ID code), then loose PTT.
If controlled party's shaking code is same as master's ID code，the remote shaking function is prohibited.

Remote monitoring (monitor the controlled Darty's environment Voice)

Press PTT+#22(monitoring code)+1 2345(master ID code)，then loose PTT.
If the controlled party's monitoring code iS same as master's ID code，then the controlled party will transmit automatically and start monitoring function. (monitoring time is 7 seconds)

Remote reliving Stunnlng and

Press PTT+#77(opening code)+1 2345(master ID code)，then loose PT T.
If the controlled party's opening code is same as master's ID code,then the function will be relived.

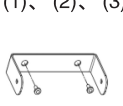
Alarm

Press PTT+119(alarming code)。then loose PTT.
If the controlled party's alarming code is same the sending one,then the controlled starts alarm.
If adding master's ID code or others in the end of alarm code，then the controlled party will display master'sID code and others after starts alarm，so that the controlled party can know which party starts alarm.

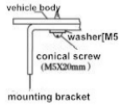
How to install the radio

Choose a safe and convenient location in your vehicle to reduce the damage to the passengers and your own when the vehicle is moving mobile radio can be considered installed under the dashboard in front of the passenger seat,so you can prevent your kness and legs crash the vehicle In case of an emergency brake,it's better to choose a well –ventilated place,avoid sun exposure and strongly illuminate.

1.Use the Random provide self–tapping screws(2PCS),Flat washers (2PCS),installed the mounting bracket in the vehicle!as shown in Figure (1)、(2)、(3).



Figure（1）

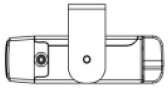


Figure（2）

Figure（3）

2.Fixed mobile radio,and then insert and tighten the Random provide hexagonal screws(2PCS).As shown in figure(4)

● Check carefully,ensure that all screws is tightend,Prevention the bracket and mobile radio get loose of vehicle vibration



Figure（4）

Connection method of power cord

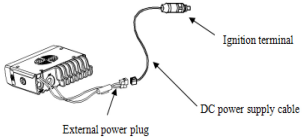
■ Mobile radio operation

Be sure to use fully charged 12V car battery, If the vehicle battery is low, the display will be darken or the output power may be decreased significantly during the transmission.never allow to connect to the mobile to the 24V battery. use of moblie radio in this case.

Note:If the vehicle battery is not fully charged or used mobile radio when engine shuts down, Battery discharge may cansu low battery,leading to vehicle start problems.It's better to avoid the. use of moblie radio in this case.

1.Using a vehicle equipped with a DC power supply cable connect to the mobile radio.

● Press th socket together until the locking tab "click"lock.



Figure(4)

2.Connect the DC power supply cable to the mobile radio and the vehicle ignition terminal.

Installation of antenna

Before operation,you must install high efficiency,precision–tuned antenna first.The succes of the installation depends on the type of antenna and its installation methodis correct or not,If you choose an appropriate antenna system and installed correctly,the mobile radio will have the hest effect.

Use the characteristic impedance of 50 ohm antenna and also have 50 ohms charactenistic impedance and low loss coaxial feeder to match the imput impedance of the mobile radio,If the impedance of feeder which connect with the antenna and mobile radio is not 50 ohm,it will reduce the effectiveness of the antenna system,Also will cause interference to the nearby radio and television receivers,radio receivers and other leectronic equipment,even damage to the mobile radio.

Attention

In the case of not connecting the antenna or other matche load, Absolutely forbidden from transmitting, Otherwise, it is easy to damage the mobile radio,before transmitting,the antenna must be connected to the mobile radio, transmitting after confirm the connection

All fixed stations shall be equipped with lightning arrester to reduce the risk of fire,electric shock or damage to the mobile radio

The position and the fixed pattem of the antenna are shown are shown in the following figure:

Specification

Working frequency scope	Working frequency	A model: VHF1: 136.000MHz–174.000MHz B model: VHF2: 220.000MHz–248.000MHz C model: UHF1: 400.000MHz–480.000MH
System	System :F3E(FM)	
Antenna impedance	Antenna impedance: 50Ω	
Frequency stability	Frequency stability: ±2.5ppm @ –10℃—+60℃	
Working environment temperature	Working environment temperature: –20℃—+60℃(–4° F—+140° F)temperature	
Input voltage	Input voltage: DC13.8V(±15%),negative grounding	
Output power	Output power: H:25W M:10W L:5W	
Max. Frequency deviation	±5KHz	
Flexibility	≤–60dB	
Noise radiation	≤0.2uV (12dB SINAD)	
Max.Audio output	2W@8Ω5% distortion	
Working current	Receive	0.3A(SQL)
	Transmit	5A(Max.)
Dimension	105X30X106mm (WidthXhightXdepth not inc luding the outparts)	
Weight	about 0.5kg	

Declaration

This manual has been sought during the preparation of accurate and complete, but for the errors and omissions that may appear on the text, the company is not responsible. The company has right to change product's design and specifications without prior notice.