

SoonTone[®] ST-108 PREMIUM MOBILE CB RADIO



Win-Win



POCC MY.MJ110.B01999



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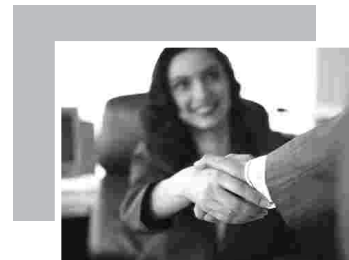
USER'S MANUAL

Thank you very much for purchasing this excellent Mobile CB Radio. We adopt the advanced technology, it has been tested carefully at our factory for your long term use.

Please read this manual completely to learn all functions. We made efforts to write this manual to be as comprehensive and easy to understand as possible. Please note that some of the operations may be explained in previous chapters. So if you read just one part of the manual, you may not understand the complete explanation of the function.



POCC MY.MJ10.B01999



*Your need
is our service purpose!*

Please contact the local authorized dealer if you have any questions. We are not responsible for any typographical errors that may be in this manual. Standard accessories may change without notice, getting your understanding for any inconveniences.

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MOBILE CB RADIO

FEATURES

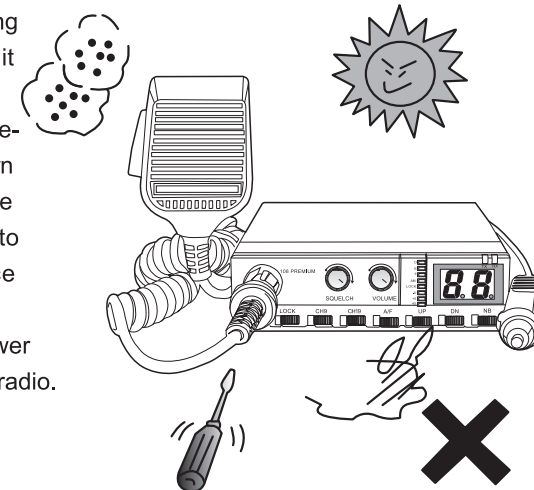
This new CB radio adopts some most advanced functions and reliable engineering features all over the world, which is accordance with our innovation and practicability principle, including (**some functions are supplied for E market only**):

- " D, E, F" band, each band with 45 channels.
- LED display
- AM/FM mode
- EU/RU mode
- SQ function
- Emergency call channel available (CH19, CH9)
- External speaker
- Keypad Lock function

PRECAUTIONS

Please observe the following precautions to prevent fire, personal injury, and/or transceiver damage:

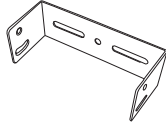
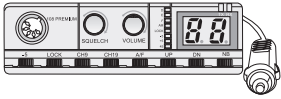
- ⚠ Do not attempt to configure your transceiver while driving; it is simply too dangerous.
- ⚠ This transceiver is designed for a 13.8 V power source. Never use a 24 V battery to power the transceiver.
- ⚠ Do not place the transceiver in excessively dusty, humid or wet areas, nor on unstable surfaces.
- ⚠ Keep the transceiver away from TV, generator or other equipment when it is interfered.
- ⚠ Do not expose the transceiver to long periods of direct sunlight nor place it close to heating appliances.
- ⚠ If an abnormal odor or smoke is detected coming from the transceiver, turn OFF the power immediately. Ensure the transceiver is safe, then send it to the authorized and closest service station for inspection.
- ⚠ Do not transmit with high output power for a long time, it may overheat the radio.



SUPPLIED ACCESSORIES

Carefully unpack the radio and confirm the following items except this manual:

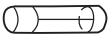
- CB Radio
- Microphone
- Mounting bracket



- Hardware kits for fixing radio
- Hardware kits for fixing bracket
- MIC hanger



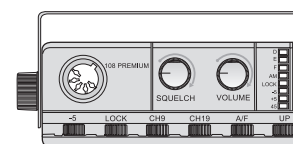
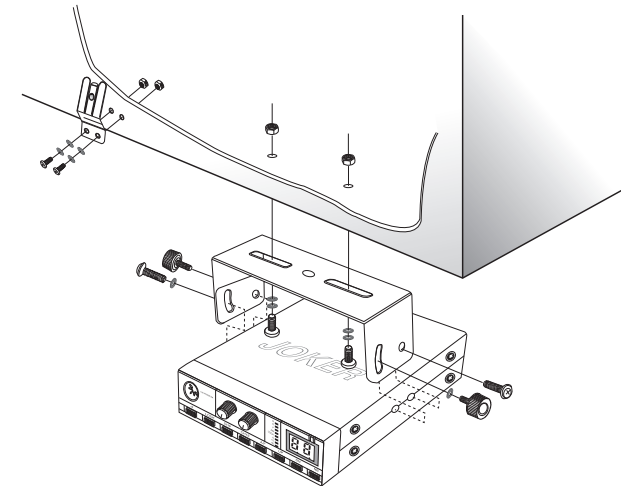
- Fuse



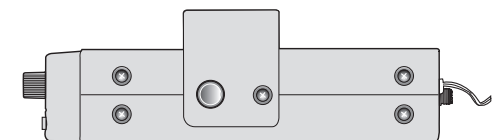
MOBILE INSTALLATION

To install the radio, select a safe, convenient location inside your vehicle that minimizes danger to your passengers and yourself while the vehicle is in motion. Consider installing the unit at an appropriate position so that knees or legs will not strike it during sudden braking of your vehicle. Try to pick a well ventilated location that is shielded from direct sunlight.

1. Install the mounting bracket in the vehicle using the supplied mounting bracket, self-tapping screw, screw, flat washer, spring washer, nut.
 - There are two set of accessories to fixup the bracket: You can choose self-tapping screw/ spring washer/flat washer; or screw/spring washer/flat washer/nut as per your need.
 - Double check that all hardware are tightened to prevent vehicle vibration from loosening the bracket or transceiver.
2. After installing the mounting bracket, Position the transceiver, then insert and tighten the supplied adjustment knob(2pcs), screw(2pcs)and rubber washers(2pcs).
 - Determine the appropriate angle of the transceiver by the adjustment screw.
 - Double check that all hardware is tightened to prevent vehicle vibration from loosening the bracket or transceiver.



Front Panel



Profile

DC POWER CABLE CONNECTION

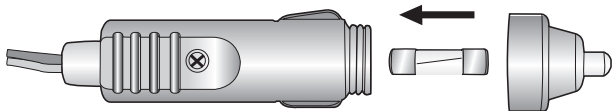
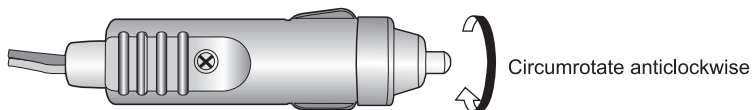
Locate the power input connector as close as to the radio as possible. The vehicle battery must have a nominal rating of 12 V. Never connect the radio to a 24 V battery. Be sure to use a 12 V vehicle battery that has sufficient current capacity. If the current to the transceiver is insufficient, the screen may darken during transmission, or transmit output power may drop excessively.

1. After confirming the voltage of battery, you can insert the supplied cigar-lighter plug into cigar plug jack.
2. The entire length of the cable must be dressed to isolated from heat, moisture, and the engine secondary (high voltage) ignition system/cables and tie down the full run of cable.
3. If using a noise filter, it should be installed with an insulator to prevent it from touching metal on the vehicle. Never remove the fuse holders from the cable.

NOTE: If you use the radio for a long period when the vehicle battery is not fully charged, or when the engine is OFF, the battery may become discharged, and will not have sufficient reserves to start the vehicle. Avoid using the transceiver under these conditions.

REPLACING FUSES

If the fuse blows, determine the cause, then correct the problem. After the problem is resolved, replace the fuse. Replacement shown as the picture follows: take the ends of the cigar plug, circumrotate left side of cigar plug anticlockwise, spill the fuse and reset new one. If newly installed fuses continue to blow, contact your authorized dealer or an authorized service center for assistance.



Fuse location	Fuse current rating
Cigar-lighter plug	2A/250V
Standard bag	2A/250V

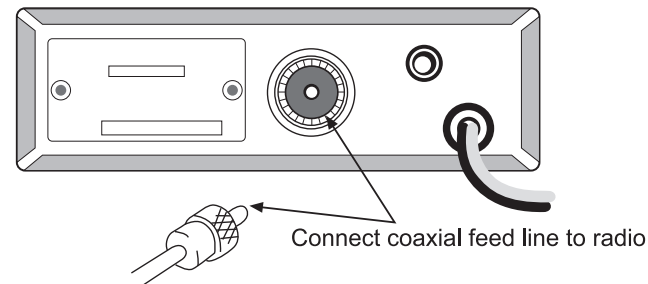
NOTE: Only use fuses of the specified type and rating; otherwise the transceiver could be damaged.

ANTENNA CONNECTION

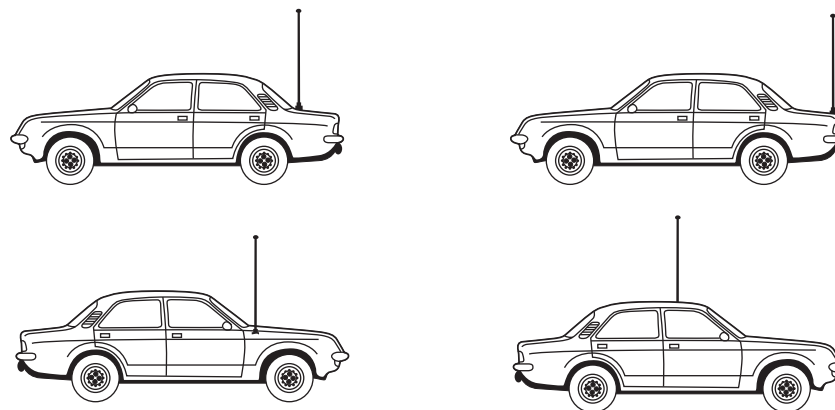
Before operating, install an efficient, well-tuned antenna. The success of your installation will depend largely on the type of antenna and its correct installation. The transceiver can give excellent results if the antenna system and its installation are given careful attention.

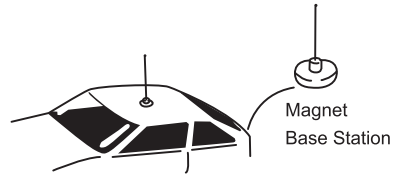
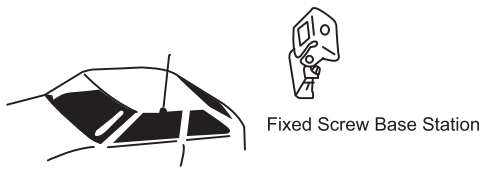
Use a 50Ω impedance antenna and low-loss coaxial feed line that has a characteristic impedance of 50Ω, to match the transceiver input impedance. Coupling the antenna to the transceiver via feed lines having an impedance other than 50Ω reduces the efficiency of the antenna system and can cause interference to nearby broadcast television receivers, radio receivers, and other electronic equipment.

NOTE: Transmitting without first connecting an antenna or other matched load may damage the transceiver. Always connect the antenna to the transceiver before transmitting. All fixed stations should be equipped with a lightning arrester to reduce the risk of fire, electric shock, and transceiver damage.



There are many possible antenna locations on a car. Four of the most popular locations are shown and discussed as following:

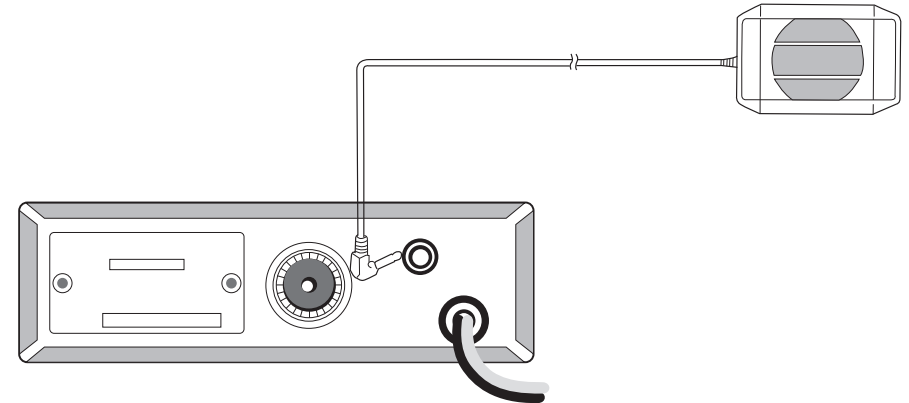




NOTE: After antenna installation, ensure that you may have the best SWR. High RF environments may cause severe interference to the unit. Ensure that you are not in a high RF environment when operating the radio.

EXTERNAL SPEAKER

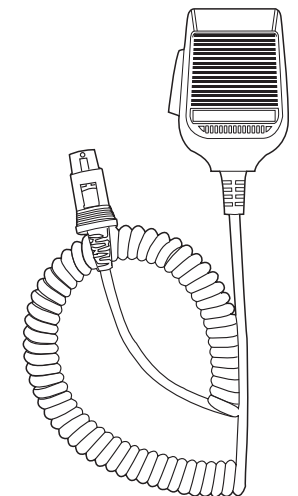
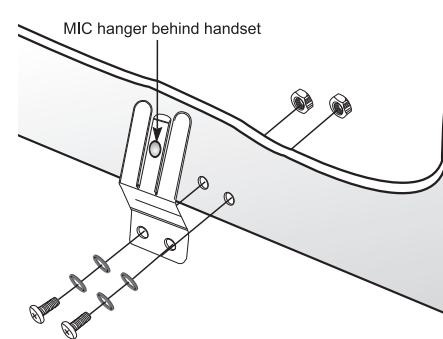
If you plan to use an external speaker, choose a speaker with an impedance of 8 Ω. The external speaker jack accepts a 3.5 mm (1/8") mono (2-conductor) plug.



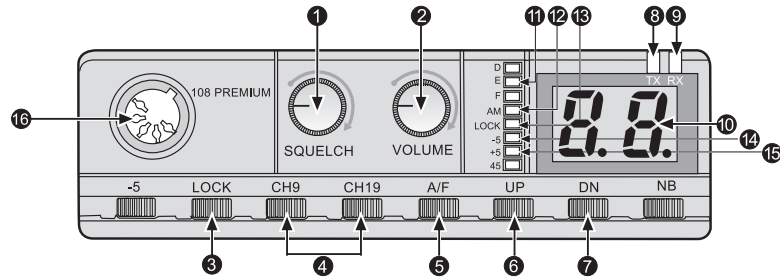
MICRCOPHONE

For voice communications, connect a microphone equipped with an 5-pin modular plug into the modular socket on the front of the main unit at the top left corner, the sound "click" means finished.

Install the supplied microphone hanger in an appropriate location using the screws included in the screw set.



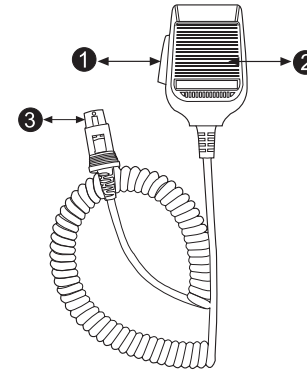
FRONT PANEL



1	SQUELCH	SQUELCH KNOB Circumrotate left to add the squelch level, circumrotate right to reduce the squelch level
2	VOLUME	VOLUME / POWER ON / OFF
3	LOCK	Keyboard Lock
4	CH9 CH19	Emergency calling key Press to switch to the relevant channel immediately, and it gleams. In this case, press CH9/CH19 again to exit, otherwise the other keys can not work as they have been locked
5	A/F	AM/FM switch key Press to switch AM/FM model. LED indicates accordingly
6	UP	Channel Up key
7	DN	Channel Down Key
8	TX	Transmitte indicator Lights when transmitting
9	RX	Receive indicator Lights when receiving
10	88	Channel display
11	E	E Band Indicator Radio work in E Band when the indicator lights
12	AM	AM mode indicator
13	LOCK	Keyboard lock indicator
14	-5	RU system indicator
15	+5	EU system indicator
16	PORT FOR MICROPHONE CONNECTION	

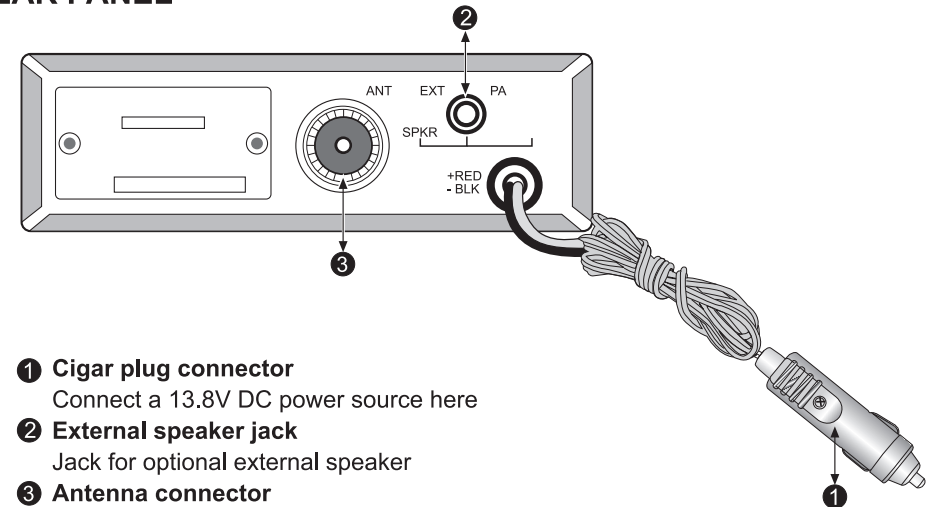
Note: Some functions only supply in E market.

MICROPHONE



- 1 "PTT" Transmitting key
- 2 MIC
- 3 5-pin standard plug

REAR PANEL



- 1 **Cigar plug connector**
Connect a 13.8V DC power source here
- 2 **External speaker jack**
Jack for optional external speaker
- 3 **Antenna connector**
Using for connecting the 50 ohms coaxial cable to antenna

SWITCHING THE POWER ON/OFF

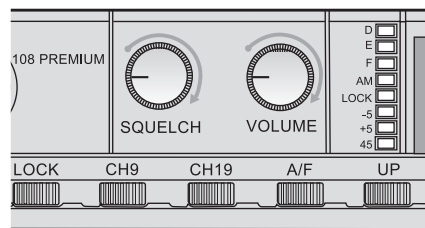
Turn the Volume knob clockwise until a click appears to turn on the radio and counterclockwise until a click appears to turn off the power.

ADJUSTING THE VOLUME

Turn the Volume knob clockwise to increase volume and counterclockwise to decrease volume

ADJUSTING THE SQUELCH

The purpose of Squelch is to keep the speaker mute when no signals are presented. If manual squelch has been selected, you can set the squelch voltage by turning squelch knob (SQ). If the selected squelch level is too high, it can not hear weaker signal; if the selected squelch is too low, the background noise will appear. Switch clockwise can raise the squelch level, switch anticlockwise can reduce the squelch level. The appropriate squelch level depends on the ambient RF conditions.



CHANNEL SELECTION

Press "UP" or "DN" key to select the channel, the LED show the corresponding channel; "AM" indicator lights, radio in Amplitude Modulation mode. "AM" indicator dies, radio in Frequency Modulation mode.

TRANSMITTING

1. To transmit, hold the microphone approximately 5 cm (2 inches) from your mouth, then press and hold Mic [PTT] and speak into the microphone in your normal tone of voice.
2. After finishing speaking, release Mic [PTT]

RECEIVING

Release Mic [PTT], radio automatically get into receiving state. When radio has received signals whose strength is enough to reach squelch level, radio opens speaker and sounds the voice from opposite party.

LOCK FUNCTION

After pressing "LOCK" key, all key buttons are locked. Now except key PTT, SQUELCH, VOLUME, CH9, CH19, the other keys disable. Synchronously the "LOCK" indicator light lights, indicating it has been locked.

UNLOCK

To unlock, press "LOCK" again to enable all keys, and indicator light dies.

GENERAL INFORMATION

This product has been factory aligned and tested to specification before shipment. Under normal circumstances, the transceiver will operate in accordance with these instructions. All adjustable trimmers, coils, and resistors in the transceiver were preset at the factory. They should only be readjusted by a qualified technician who is familiar with this transceiver and has the necessary test equipment. Attempting service or alignment without factory authorization can avoid the transceiver warranty.

When operating properly, the transceiver will provide years of service and enjoyment without requiring further realignment. The information in this section gives some general service procedures requiring little or no test equipment.

SERVICE

If it is ever necessary to return this equipment to your dealer or service center for repair, pack it in its original box and packing material. Include a full description of the problems experienced. Include your telephone number, fax number, and e-mail address (if available) along with your name and address in case the service technician needs to call you for further information while investigating your problem. Do not return accessory items unless you feel they are directly related to the service problem.

You may return this product for service to the authorized dealer from whom you purchased it, or any authorized service center. A copy of the service report will be returned with the transceiver. Please do not send subassemblies or printed circuit boards; send the complete transceiver. Tag all returned items with your name and call sign for identification. Please mention the model and serial number of the transceiver in any communication regarding the problem.

SERVICE NOTE

If you desire to correspond on a technical or operational problem, please make your note short, complete, and to the point. Help us help you by providing the following:

- Model and serial number of equipment
- Question or problem you are having
- Other equipment in your station pertaining to the problem
- Meter readings
- Other related information (menu setup, mode, frequency, key sequence to induce malfunction, etc.)

Do not pack the equipment in crushed newspapers for shipment! Extensive damage may result during rough handling or shipping.

CLEANING

The keys, controls, and case of the transceiver are likely to become soiled after extended use. Remove the controls from the transceiver and clean them with a neutral detergent and warm water. Use a neutral detergent (no strong chemicals) and a damp cloth to clean the case.



Avoid using impregnant, like benzene, alcohol etc, they may damage the surface of the transceiver.

TROUBLE SHOOTING

MOBILE CB RADIO

The problems described in the following tables are commonly encountered operational malfunctions. These types of difficulties are usually caused by improper hook-up, accidental incorrect control settings, or operator error due to incomplete programming. These problems are usually not caused by circuit failure. Please review these tables and the appropriate section(s) of this instruction manual before assuming your transceiver is defective.

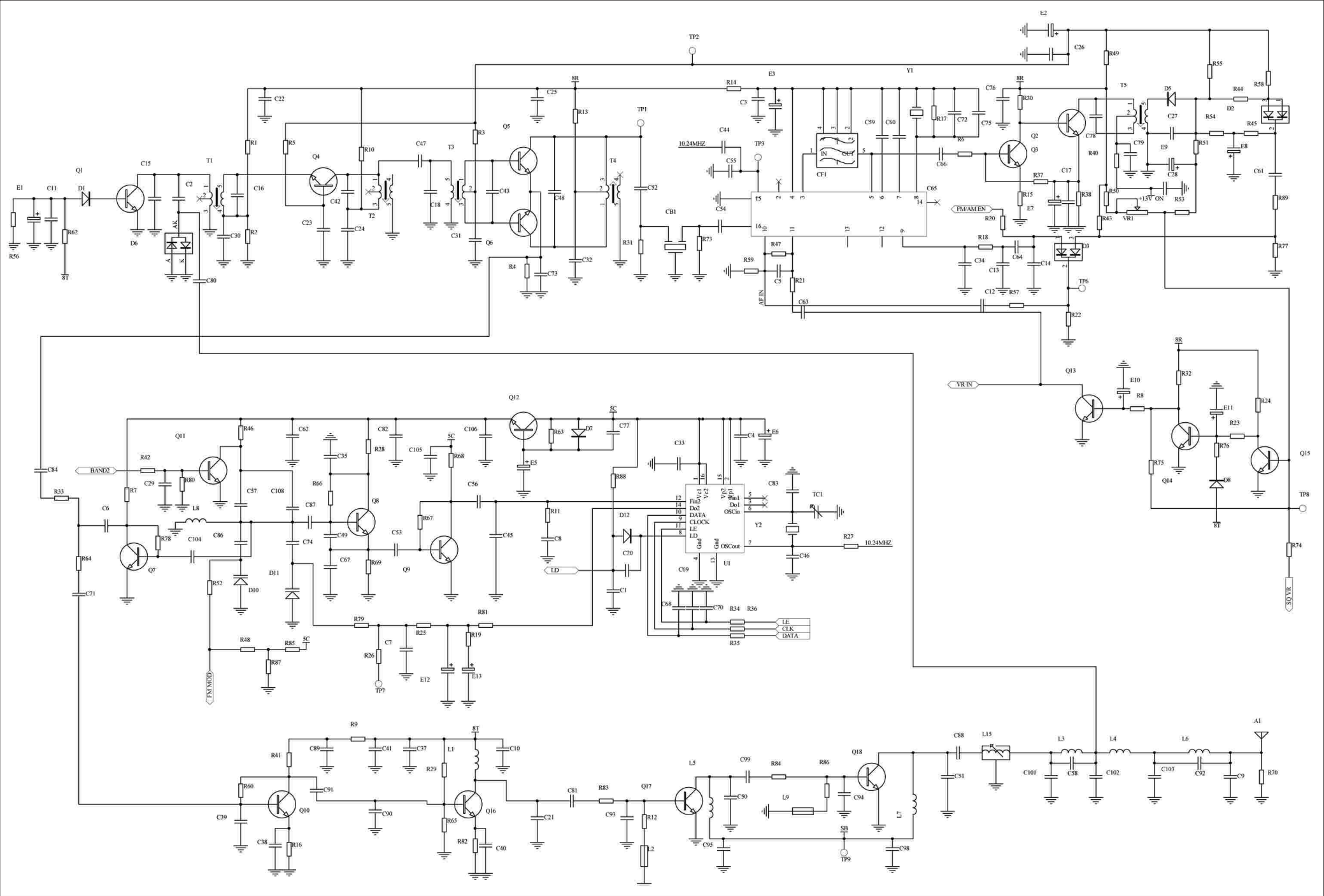
PROBLEM	PROBABLE CAUSE	CORRECT ACTION
The transceiver will not power up after connecting a 13.8V DC power supply and pressing the [VOL] (power) switch. Nothing appears on the display	1.The power cable was connected backwards. 2.One or more of the power cable fuses are open	1.Connect the supplied DC power cable correctly, Red (+),Black (-). 2.Look for the cause of the brown fuse(s), After inspecting and correcting any problems, install a new fuse(s) with the same ratings.
The display is too dim	The supplied voltage is too low	The supplied voltage requirement is 13.8V, DC $\pm 15\%$ (11.7V-15.8V DC) If the input voltage is outside this range ,adjust your regulated power supply and or check all power cable connections.
You can not transmit even through you press Mic [PTT]	The microphone plug was not inserted completely into the front panel connector.	Switch off the power, then insert the microphone plug and fasten it by locking the exterior fixed screws.

MOBILE CB RADIO

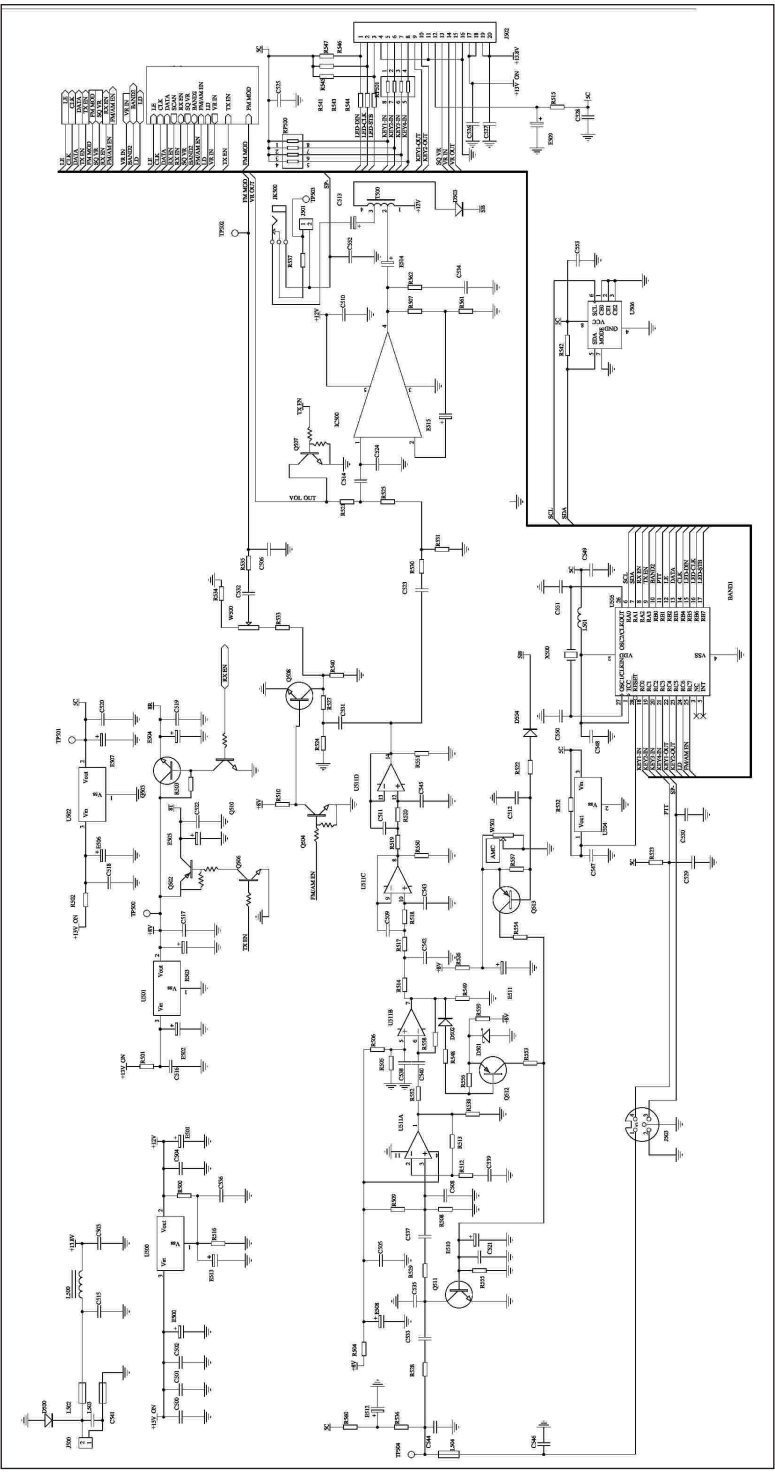
TECHNICAL SPECIFICATION

Receiver	
Frequency coverage	D. 26.515 to 26.955MHz E. 26.965 to 27.405MHz F. 27.415 to 27.855MHz
Sensitivity	1.0 uv or better for 20 dB SINAD
Adjacent Channel Rejection	60 dB at 10kHz; 70 dB for 20 KHz
Intermediate Frequency	1st IF=10.695 MHz; 2nd IF=455KHz
Audio Output power	4.5 watts max
Frequency Response(-6dB)	450-2500Hz
Cross Modulation	45 dB or better
Squelch	Adjustable from 1.2uv to 1mV
Transmitter	
Frequency coverage	D. 26.515 to 26.955MHz E. 26.965 to 27.405MHz F. 27.415 to 27.855MHz
Output Power	4 watts max
Type of modulation	AM/FM
Max Deviation	2.5KHz FM; 90%AM
Spurious Radiation	62 dB or better
Frequency Tolerance	Better than 0.002%
Antenna impedance	50 Ohm
Power supply	13.8V
Current Drain	FM:1.3A; AM:2A
Dimensions	124x38x190mm
Weight	1.2kg
Duty cycle TX	10%

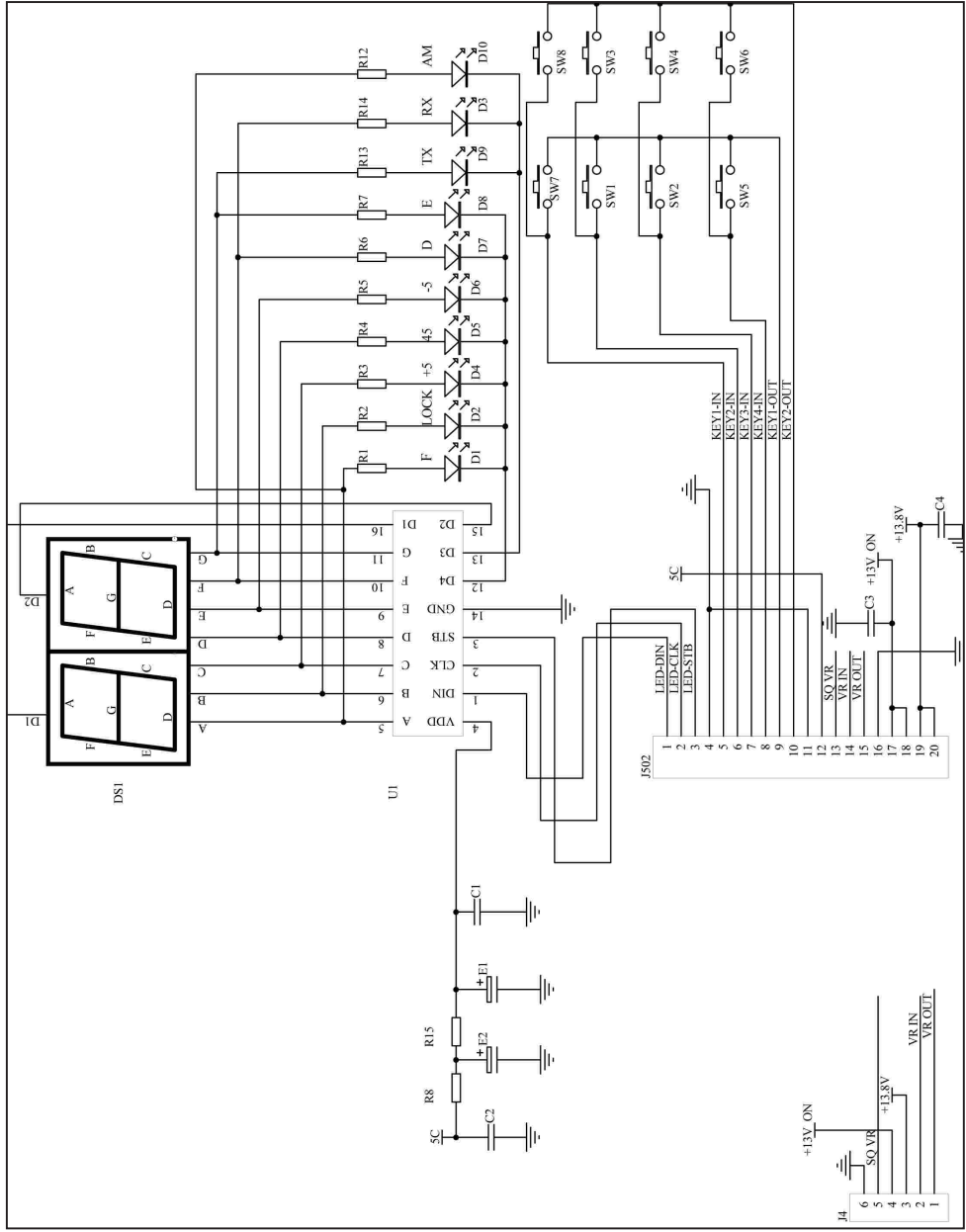
RF CIRCUIT



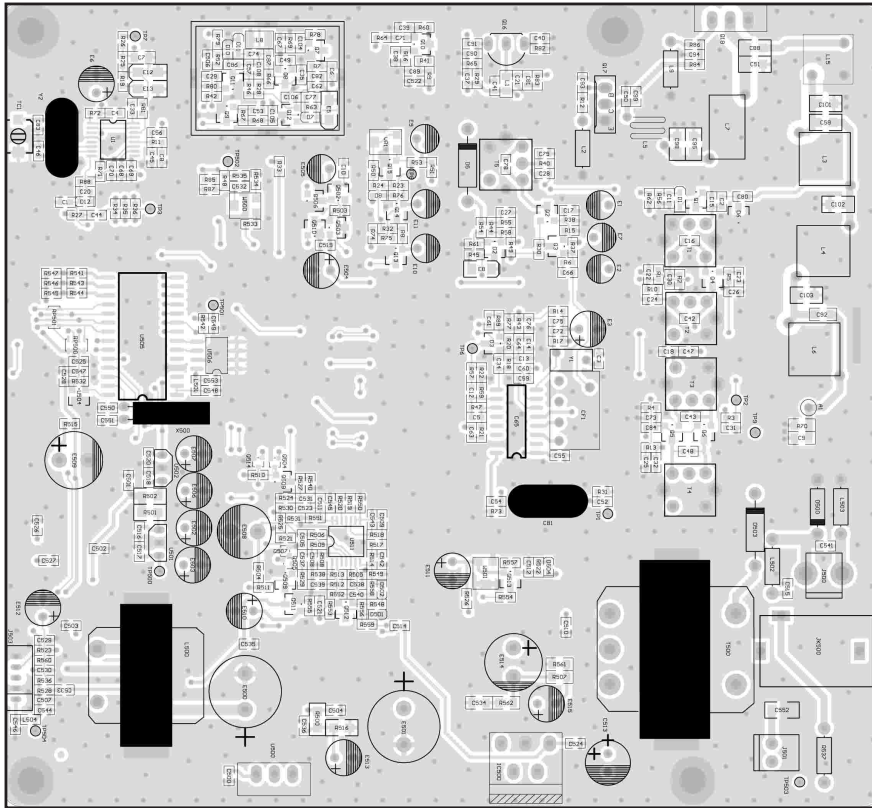
CONTROL CIRCUIT



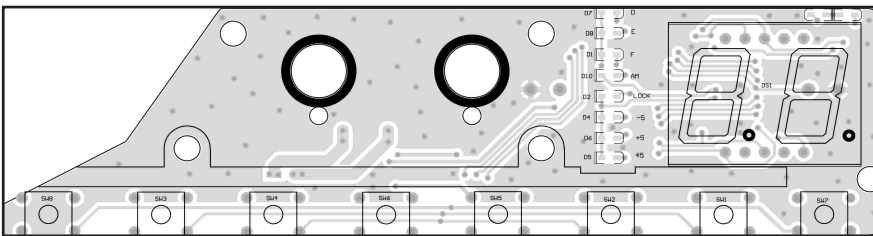
LCD CIRCUIT



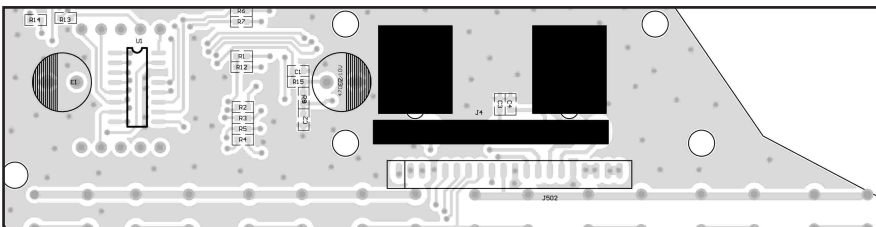
RF BOARD



FACADE OF LCD



INVERSE OF LCD



ST-108 AUTO MOBILE CB RADIO

We sincerely hope that this manual can bring you convenience!
With the development of the technology and the lapse of time, we reserve the right of revision in terms of the standard, technical requirement and all kinds of product specifications referred to in this manual. Please understand if not keeping you informed of the new information.



*Your need
is our service purpose!*

ST-108 AUTO

MOBILE CB RADIO

SPECIFIC FUNCTIONS(E market only)

SPREAD FUNCTION

Conventional Mode: Radio works only at E band.

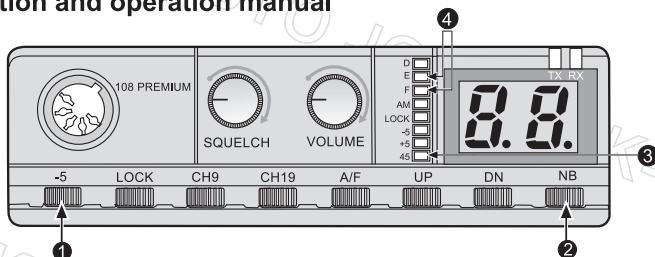
Spread Mode: Radio works at three bands altogether: D, E, and F, each band with 45 channels. Frequency range: 26.515-27.855MHz.

How to enter spread function

Simultaneously press and hold "-5"+"CH9"keys, and switch on the power,"45" indicator light lights then radio gets into spread mode. Press and hold "-5" keys for more than 2 seconds, "45" indicator light dies then radio return to conventional mode. Repeatedly operate to switch radio work between conventional mode and spread mode.

Note: When the radio works in spread mode, key functions and operations subject to the statement as follows, the ones not mentioned here keep same functions and operating characters in conventional mode.

Keybutton function and operation manual



① RU/EU switching key "-5"

Repeatedly press "-5"key less than 2 seconds, the radio receiving/transmitting frequency can be switched in RU/EU system. "-5"indicator lights, the radio is in RU(Russia) system. The frequency range is 26.510-27.850MHz; "+5" indicator lights, the radio is in EU (Europe)system. The frequency range is 26.515-27.855.

② Band switching key "NB"

Repeatedly press the key, the radio will switch among D-E-F. The band indicator will light corresponding .To communicate, press "NB" key to select the desired band and then turn "UP" and "DN" key knob to select the final desired channel. Frequency ranges on each band are shown on technical specification.

③ "45" indicator lights,radio works in spread mode

④ Working Band Indicator

"D" indicator lights, radio works in D band

"E" indicator lights, radio works in E band

"F" indicator lights, radio works in F band

Note: The working mode of the radio normally turned on subjects to the state that the radio is turned off last time.

RESTORATION OPERATION

Simultaneously press and hold "CH9+CH19", and switch on the power, release until all of the indicators on the housing light, the radio gets into conventional mode. After restoration, all the data stored in conventional mode and spread mode will restore as the data setting when out of factory.