



**CIGNUS Radio**

# CG-818

CG-818 BASE RADIO MANUAL



# TO USER

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Thank you for purchasing our serial transceiver. We appreciate your trust in our products and believe that its easy operation function would well serve your diverse communication needs.

## **MODELS COVERED BY THIS MANUAL**

The models listed below are covered by this manual.

**CG-818: VHF FM TRANSCEIVER**

**CG-818: UHF FM TRANSCEIVER**

# CONTENTS

1.SAFETY INFO.....	1
2.UNPACKING AND CHECKING EQUIPMENT SUPPLIED ACCESSORIES .....	2
<b>3.PREPARATION</b>	
MOBILE INSTALLATION .....	3-4
DC POWER CABLE CONNECTION.....	5
Mobile Operation .....	5-6
Fixed Station Operation .....	7-8
Replacing Fuses .....	9
ANTENNA CONNECTION .....	10
ACCESSORY CONNECTIONS .....	11
External Speaker .....	11
Microphone .....	11-12
PC Connection .....	12
<b>4.YOUR FIRST QSO.....</b>	<b>13-14</b>
<b>5.GETTING ACQUAINTED</b>	
FRONT PANEL .....	15-16
DISPLAY .....	17-18
REAR PANEL .....	19
MICROPHONE .....	20
Mic Keypad Direct Entry.....	21
<b>6.OPERATING BASICS</b>	
SWITCHING THE POWER ON/OFF .....	22
ADJUSTING THE VOLUME .....	22
ADJUSTING THE SQUELCH .....	22-23
TRANSMITTING .....	23
Selecting An Output Power.....	24

SELECTING A FREQUENCY .....	24
VFO Mode.....	24-25
MHz Mode.....	25
Direct Frequency Entry.....	25

## **7.MENU SETUP**

WHAT IS A MENU? .....	26
MENU ACCESS.....	26-27
MENU FUNCTION LIST .....	28

## **8.OPERATING THROUGH REPEATERS**

OFFSET PROGRAMMING FLOW .....	30
PROGRAMMING AN OFFSET .....	31
Selecting An Offset Direction .....	31
Selecting An Offset Frequency .....	32
TRANSMITTING A 1750 Hz TONE .....	32
REVERSE FUNCTION .....	33
SACNNING CTCSS OR DCS (SCAN CD) .....	34

## **9.MEMORY CHANNELS**

SIMPLEX & REPEATER OR ODD-SPLITMEMORY CHANNEL? .....	35
STORING SIMPLEX FREQUENCIES OR STANDARD REPEATER FREQUENCIES .....	36
STORING ODD-SPLIT REPEATER FREQUENCIES .....	36
CLEARING A MEMORY CHANNEL .....	37
NAMING A MEMORY CHANNEL .....	37-38
CHANNEL DISPLAY.....	39

## **10.SCAN**

Band Scan .....	40
All-Channel Scan .....	40
PRIORITY SCAN .....	41
Programming A Priority Channel.....	41
Using Priority Scan .....	41-42
MEMORY CHANNEL LOCKOUT .....	42
SCAN RESUME METHOD .....	43

## **11.SELECTIVE CALL**

CTCSS AND DCS .....	44
CTCSS .....	45
Selecting RX / TX CTCSS Frequency .....	45
Selecting RX CTCSS Frequency .....	46
Selecting TX CTCSS Frequency .....	46-47
Available CTCSS Code .....	47
DCS .....	48
Available DCS Code .....	48-49
Selecting RX DCS Frequency .....	49
Selecting TX DCS Frequency .....	50

## **12.AUXILIARY FUNCTIONS**

BEEP FUNCTION .....	51
BUSY CHANNEL LOCKOUT .....	51-52
FREQUENCY STEP SIZE .....	52
Automatic Backlight .....	53
LOCK FUNCTION .....	53-54
NARROW BAND FM OPERATION .....	54-55

POWER-ON MESSAGE .....	55
TIME-OUT TIMER .....	56
<b>13.OPTIONAL ACCESSORIES</b> .....	<b>57</b>
<b>14.TROUBLESHOOTING</b>	
MAINTENANCE .....	58
GENERAL INFORMATION.....	58
Service.....	58
Service Note .....	59
Cleaning .....	59
Initial Settings .....	59
TROUBLESHOOTING .....	60-61
<b>15. SPECIFICATIONS</b> .....	<b>62-63</b>

# 1. SAFETY INFO

## NOTICES 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.
- \* Refer service to qualified technicians only.

## SAFETY:

- \* It is important that the operator is aware of and understands hazards common to the operation of any transceiver.
- \* US does not guarantee the safety and operation of the transceiver when using accessories and /or attachments not sold by US.

## WARNING

### EXPLOSIVE ATMOSPHERES(GASES, DUST, FUMES, etc. )

- \* Turn off your transceiver while taking on fuel, or while parked in gasoline service stations.

## PRECAUTIONS

Observe the following precautions to prevent fire, personal injury and transceiver damage.

- \* Do not modify or attempt to adjust this transceiver for any reason.
- \* Do not expose the transceiver to long periods of direct sunlight, nor place it close to heating appliances.
- \* Do not place the transceiver in excessively dusty, humid, and/or wet areas, nor on unstable surfaces.
- \* If an abnormal odor or smoke is detected coming from the transceiver, switch OFF the power immediately and remove the optional battery pack from the transceiver. **Contact your dealer.**

## 2. UNPACKING AND CHECKING EQUIPMENT



Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

### SUPPLIED ACCESSORIES

Accessory	Quantity
Microphone	1
DC power cable	1
Fuse	1
Mounting bracket	1
Microphone hanger	1
Screw set	1
Instruction manual	1

### WRITING CONVENTIONS FOLLOWED IN THIS MANUAL

The writing conventions described below have been followed to simplify instructions and avoid unnecessary repetition.

Instruction	What to do
Press [KEY]	Press and release KEY.
Press [KEY](1s)	Press and hold KEY for 1 second or longer
Press [KEY1], [KEY2]	Press KEY1 momentarily, release KEY1, then press KEY2
Press [KEY1]+ [KEY2]	Press and hold KEY1, then press KEY2. if there are more than 2 keys, press and hold each key in turn until the final key has been pressed.
Press [KEY] + 	With the transceiver power OFF, press and hold KEY, then turn the transceiver power ON by pressing  (power switch)



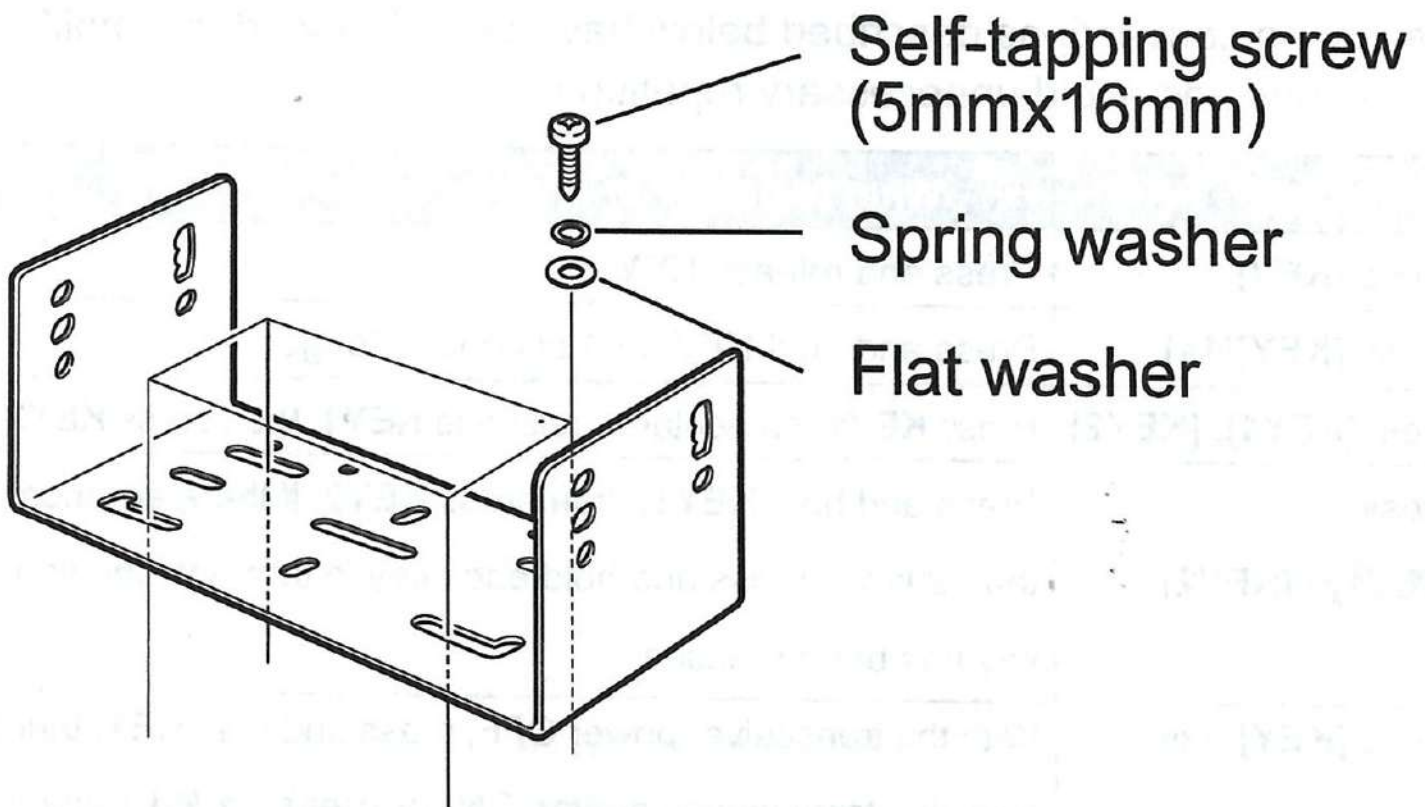
## 3.Preparation

### MOBILE INSTALLATION

To install the transceiver, 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 self-tapping screws (4), flat washers (4), and spring washers (4).

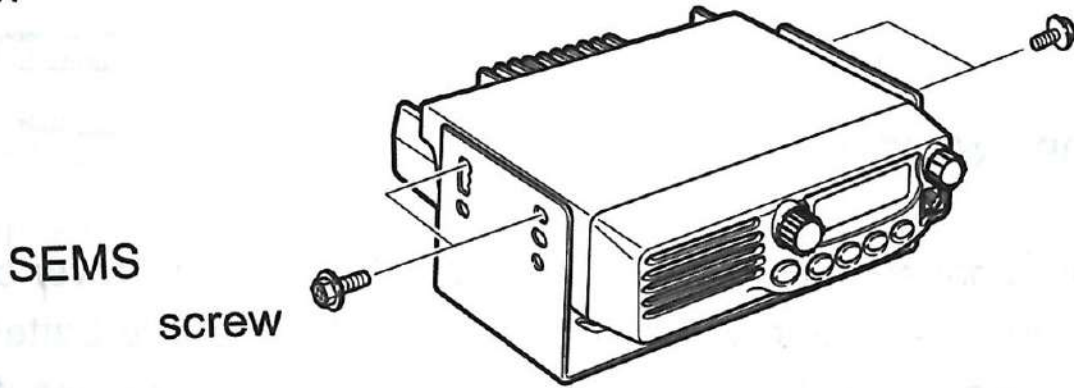
- The bracket must be installed so that the 3 screw hole positions on the side of the mounting bracket are towards the rear of the bracket.



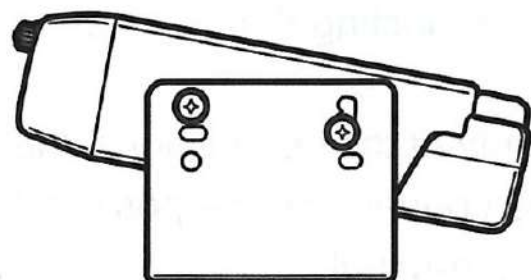
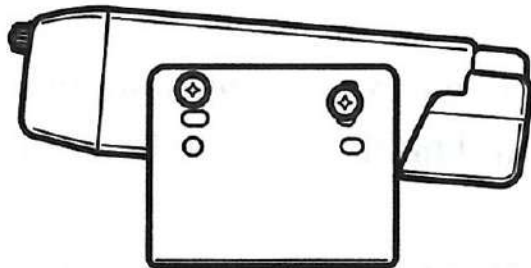
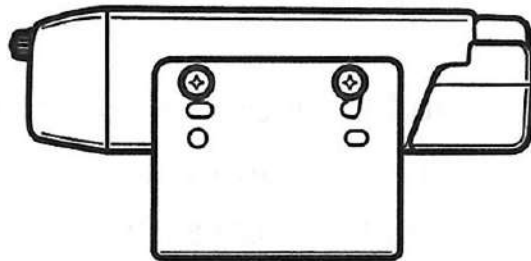
### 3.Preparation

2. Position the transceiver, then insert and tighten the supplied hexagon SEMS screws (4) and flat washers (4).

- Double check that all hardware is tightened to prevent vehicle vibration from loosening the bracket or transceiver.



- Determine the appropriate angle of the transceiver, using the 3 screw hole positions on the side of the mounting bracket.

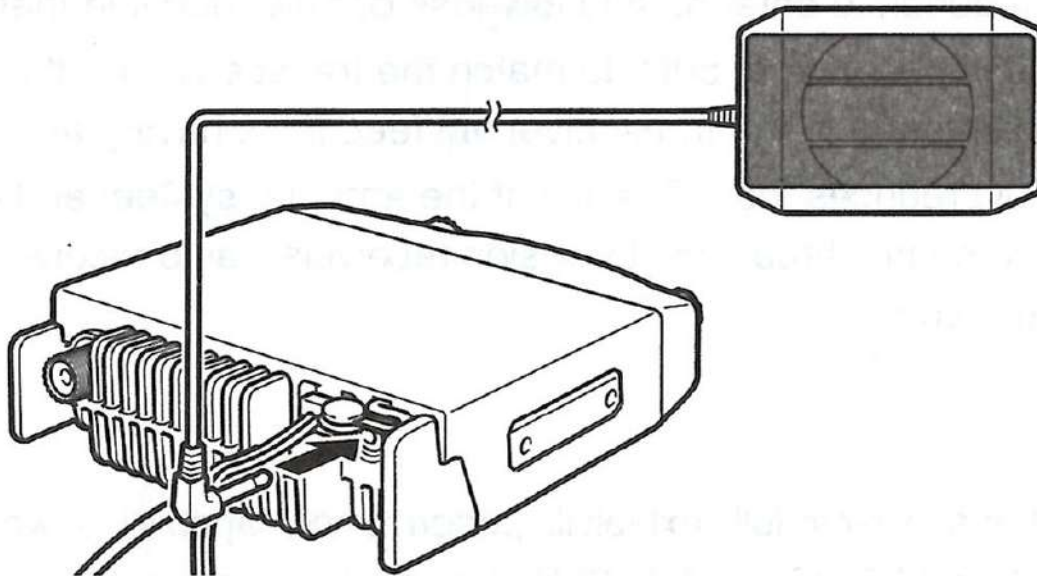


# 3.Preparation

## ACCESSORY CONNECTIONS

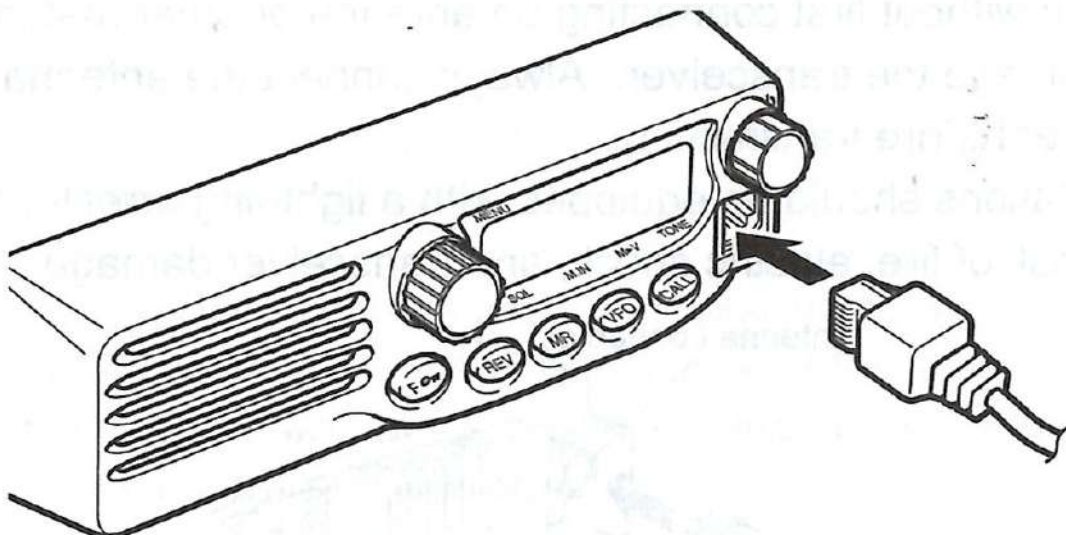
### EXTERNAL SPEAKER

If you plan to use an external speaker, choose a speaker with an impedance of  $8\Omega$  . The external speaker jack accepts a 3.5 mm (1/8") mono (2-conductor) plug. We recommend using the SP-50B speaker.



### MICROPHONE

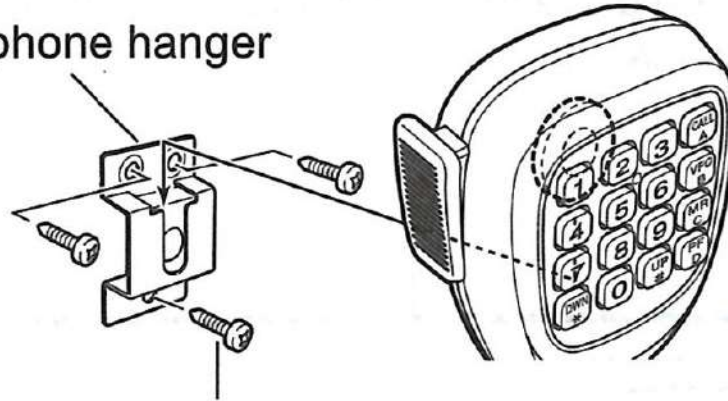
For voice communications, connect a  $600\Omega$  microphone equipped with an 8-pin modular plug into the modular socket on the front of the main unit. Press firmly on the plug until the locking tab clicks.



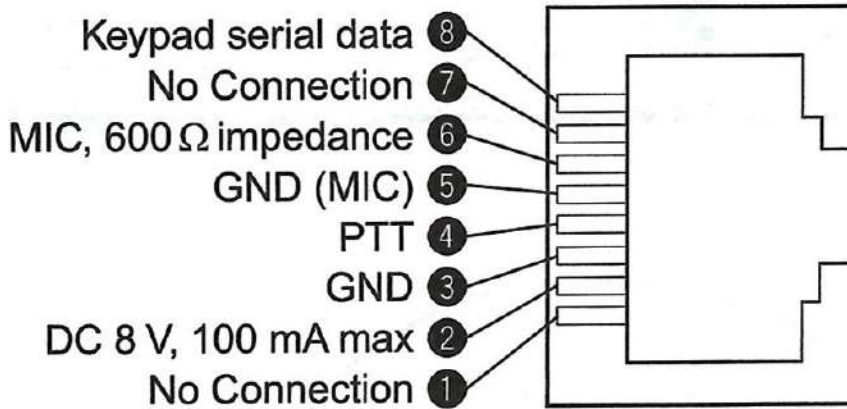
# 3.Preparation

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

Microphone hanger



Microphone hanger screw (3 mm x 10 mm)



## PC CONNECTION

To utilize the optional MCP-1A software, you must first connect the transceiver to your PC using an optional.

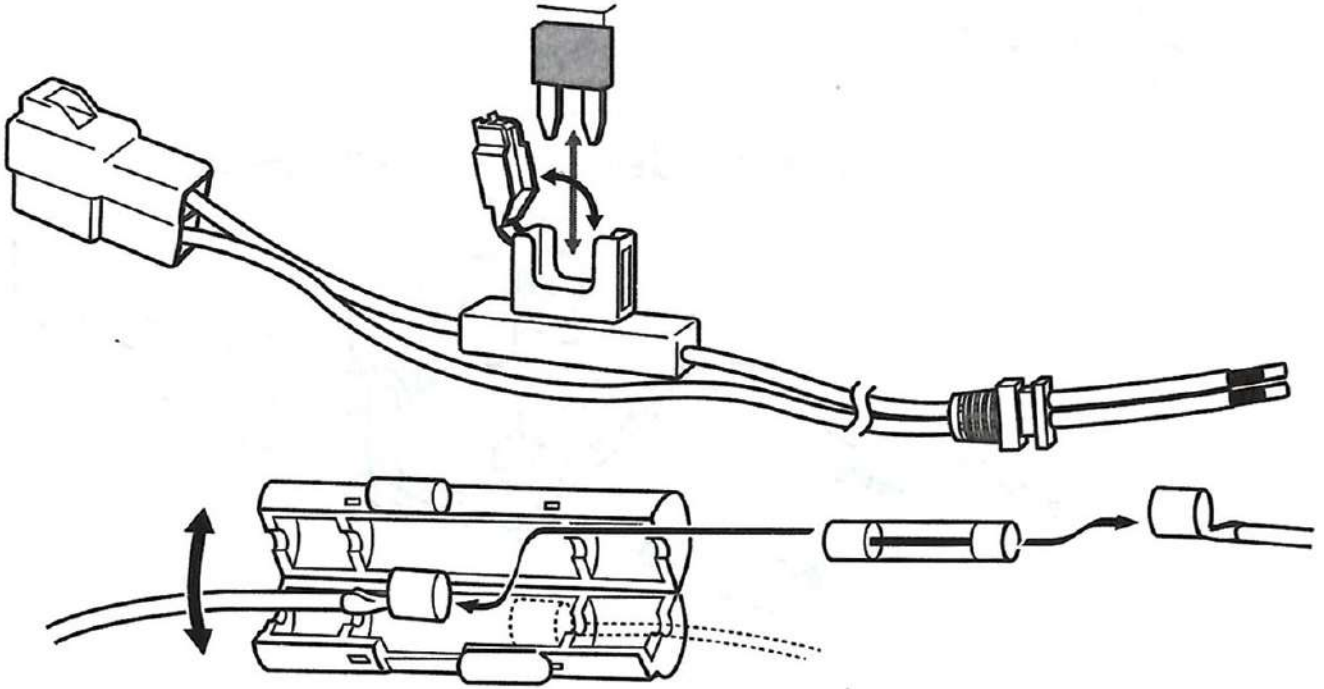
Programming Cable (via the microphone jack). The MCP-1A is free downloadable software available from US

**Note:** Ask your dealer about purchasing a Programming Cable.

# 3.Preparation

## REPLACING FUSES

If the fuse blows, determine the cause, then correct the problem. After the problem is resolved, replace the fuse. If newly installed fuses continue to blow, disconnect the power cable and contact your authorized New Century dealer or an authorized New century service center for assistance.



Fuse Location	Fuse Current Rating
Transceiver	15 A
Supplied Accessory DC Power Cable	20A

### CAUTION

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

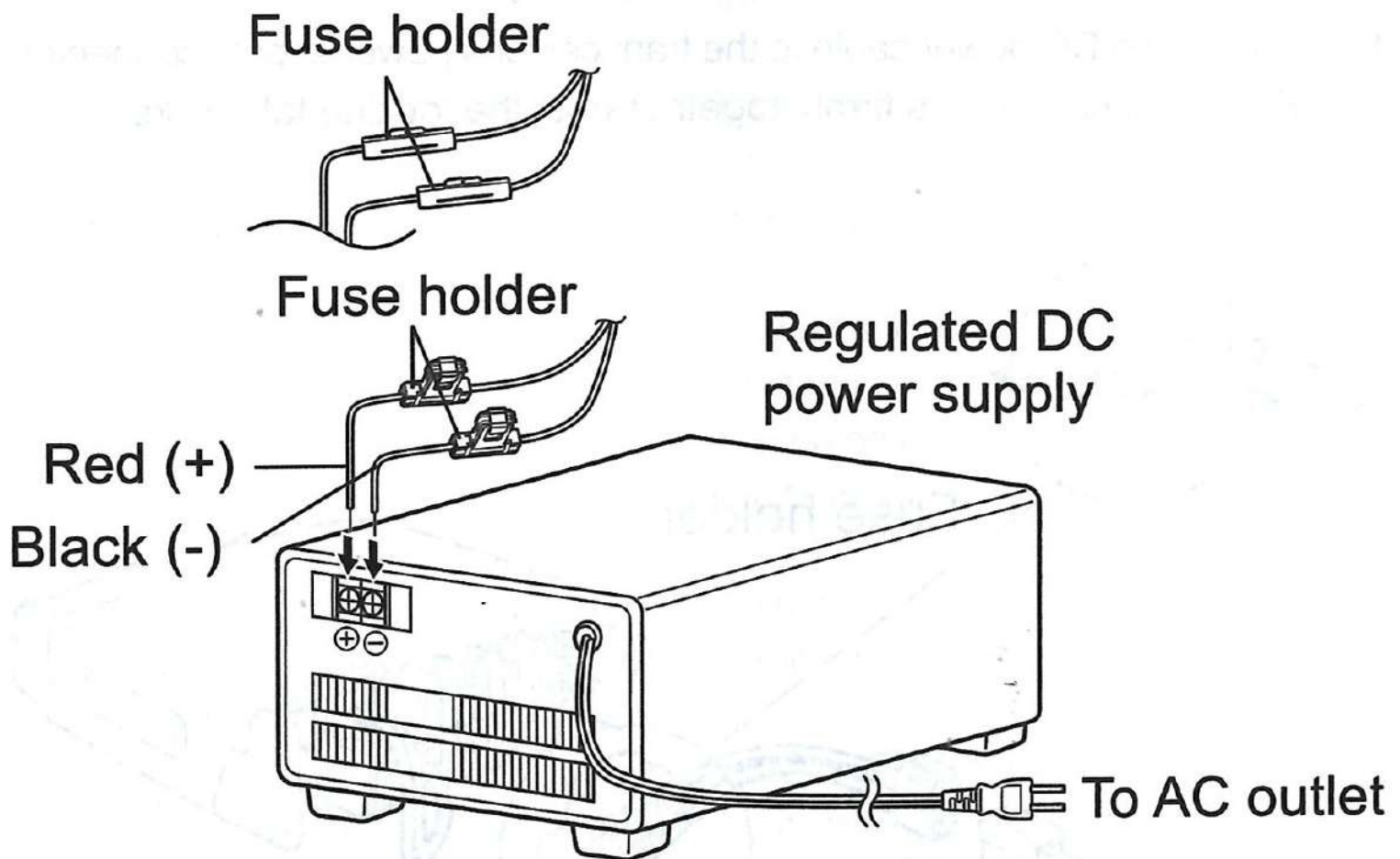
**Note:** If you use the transceiver for a long period when the vehicle battery is not fully charged, or when the engine is OFF, the battery may become discharged, and will not have sufficient reserves to start the vehicle. Avoid using the transceiver under these conditions.

## 3.Preparation

### FIXED STATION OPERATION

In order to use this transceiver for fixed station operation, you will need a separate 13.8 V DC power supply (not included). The recommended current capacity of your power supply is 12 A.

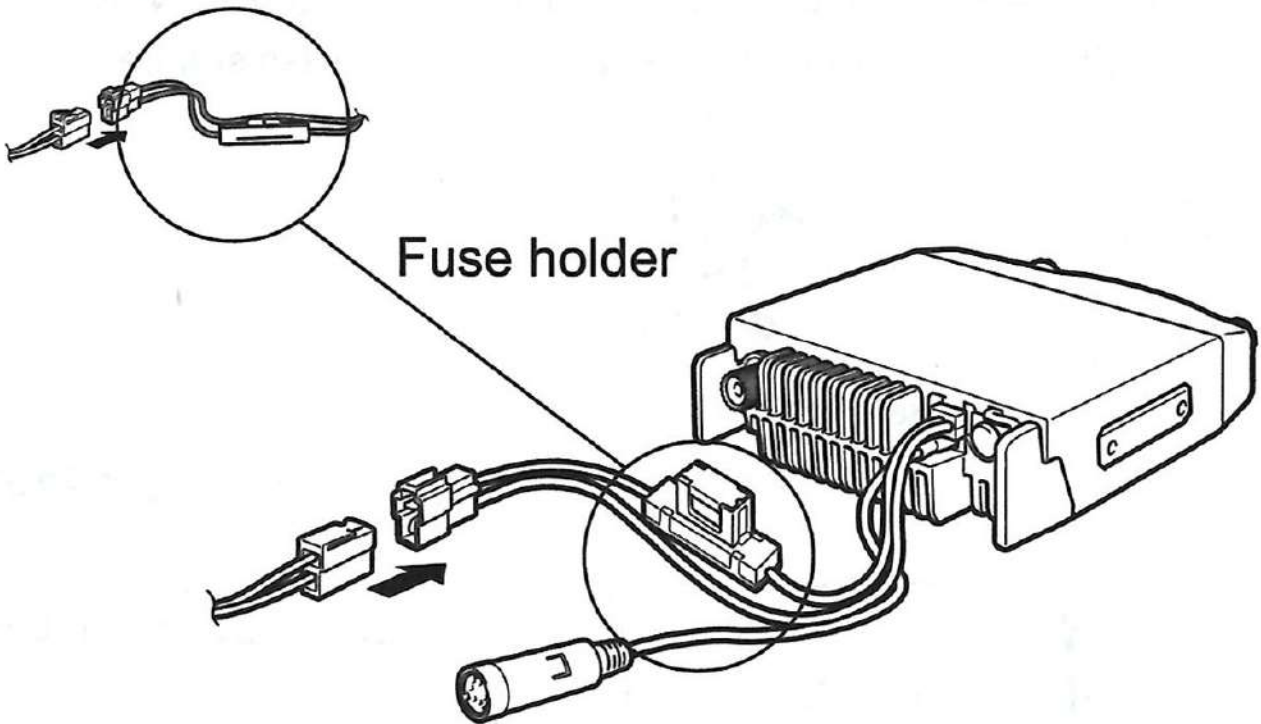
- 1 Connect the DC power cable to the regulated DC power supply and ensure that the polarities are correct (Red: positive, Black: negative).
  - Do not directly connect the transceiver to an AC outlet.
  - Use the supplied DC power cable to connect the transceiver to a regulated power supply.
  - Do not substitute a cable with smaller gauge wires.



## 3.Preparation

2 Connect the transceiver's DC power connector to the connector on the DC power cable.

- Press the connectors firmly together until the locking tab clicks.



### Note:

- For your transceiver to fully exhibit its performance capabilities, we recommend using the optional PS-33 (20.5 A, 25% duty cycle) power supply.
- Before connecting the DC power supply to the transceiver, be sure to switch the transceiver and the DC power supply OFF.
- Do not plug the DC power supply into an AC outlet until you make all connections.

# 3.Preparation

## DC POWER CABLE CONNECTION

### CAUTION

Locate the power input connector as close to the transceiver as possible.

## MOBILE OPERATION

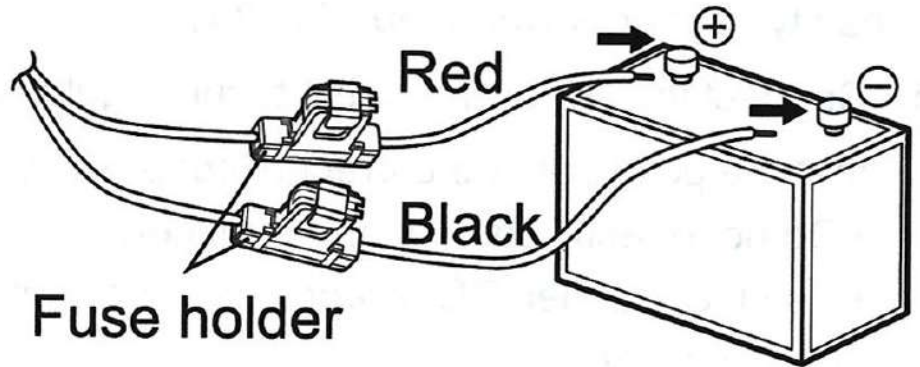
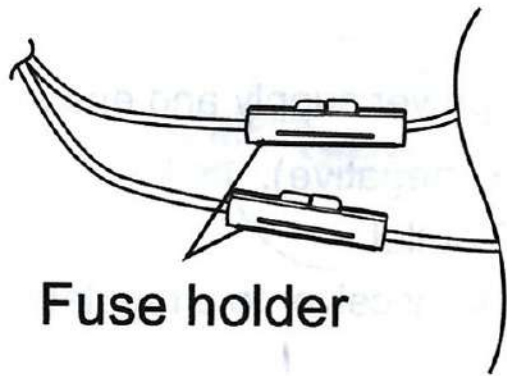
The vehicle battery must have a nominal rating of 12 V. Never connect the transceiver to a 24V battery. Be sure to use a 12V vehicle battery that has sufficient current capacity. If the current to the transceiver is insufficient, the display may darken during transmission, or transmit output may drop excessively.

1. Route the DC power cable supplied with the transceiver directly to the vehicle's battery terminals using the shortest path from the transceiver.
  - If using a noise filter, it should be installed with an insulator to prevent it from touching metal on the vehicle.
  - We recommend you do not use the cigarette lighter socket as some cigarette lighter sockets introduce an unacceptable voltage drop.
  - The entire length of the cable must be dressed so it is isolated from heat, moisture, and the engine secondary (high voltage) ignition system/ cables.
- 2 After the cable is in place, wrap heat-resistant tape around the fuse holder to protect it from moisture and tie down the full run of cable.
- 3 To prevent the risk of short circuits, disconnect other wiring from the negative (–) battery terminal before connecting the transceiver.
- 4 Confirm the correct polarity of the connections, then attach the power cable to the battery terminals; red connects to the positive (+) terminal and black connects to the negative (–) terminal.

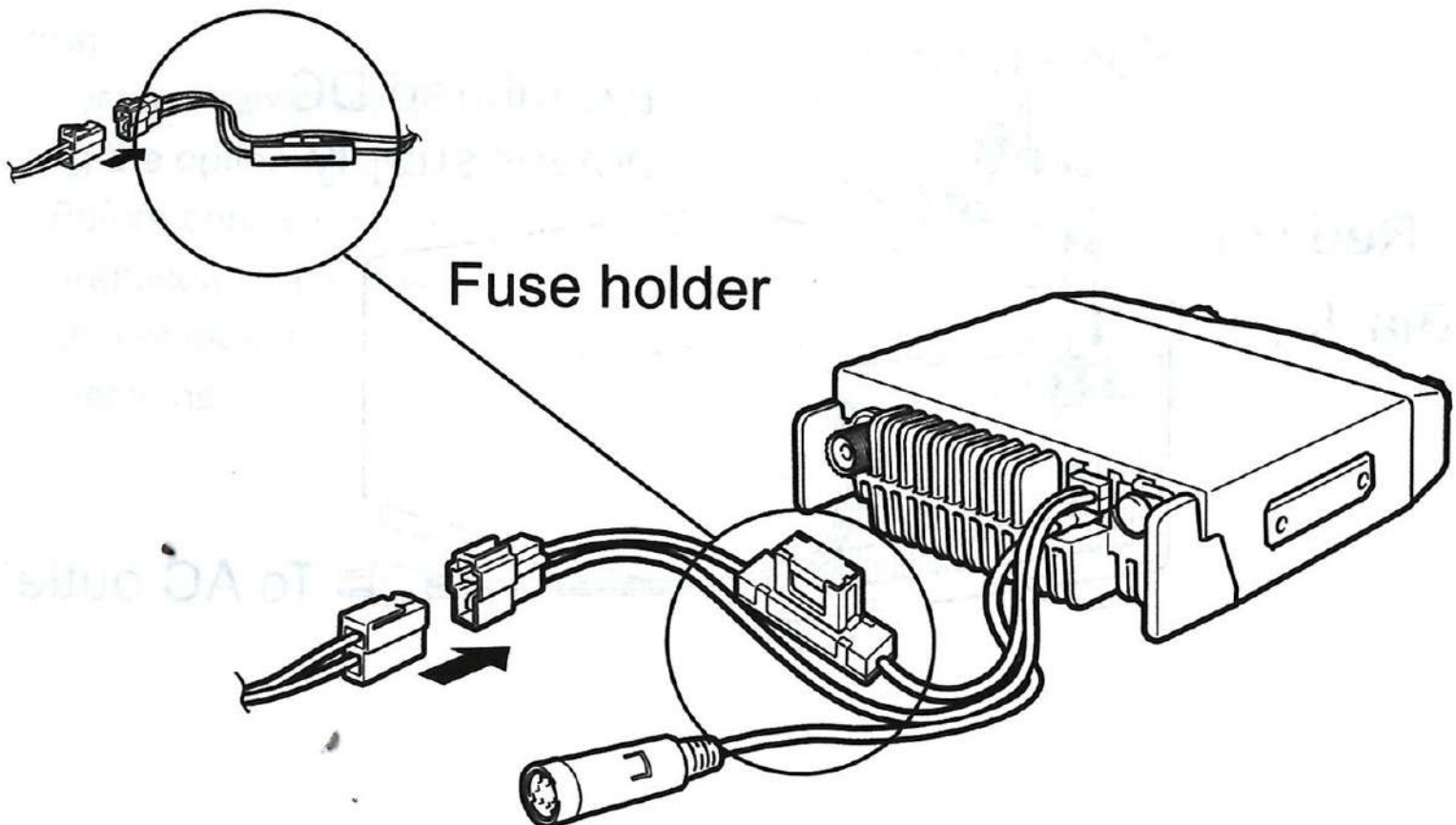


### 3.Preparation

- Use the full length of the cable without cutting off excess even if the cable is longer than required. In particular, never remove the fuse holders from the cable.

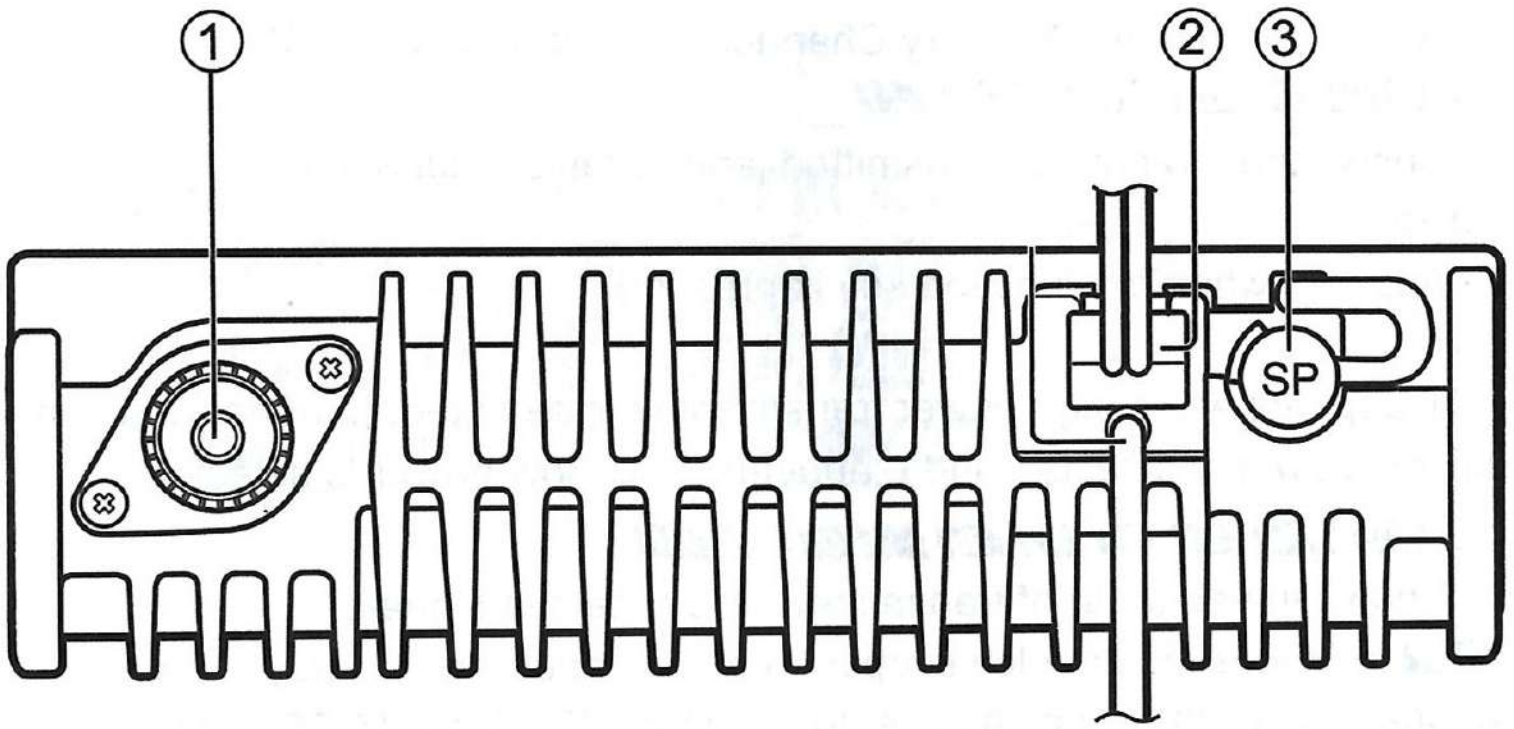


5. Reconnect any wiring removed from the negative terminal.
6. Connect the DC power cable to the transceiver's power supply connector.
  - Press the connectors firmly together until the locking tab clicks.



## 5.GETTING ACQUAINTED

### REAR PANEL



#### ①. Antenna connector

Connect an external antenna here. When making test transmissions, connect a dummy load in place of the antenna. The antenna system or load should have an impedance of 50 \* .

#### ②. Power Input 13.8 V DC cable

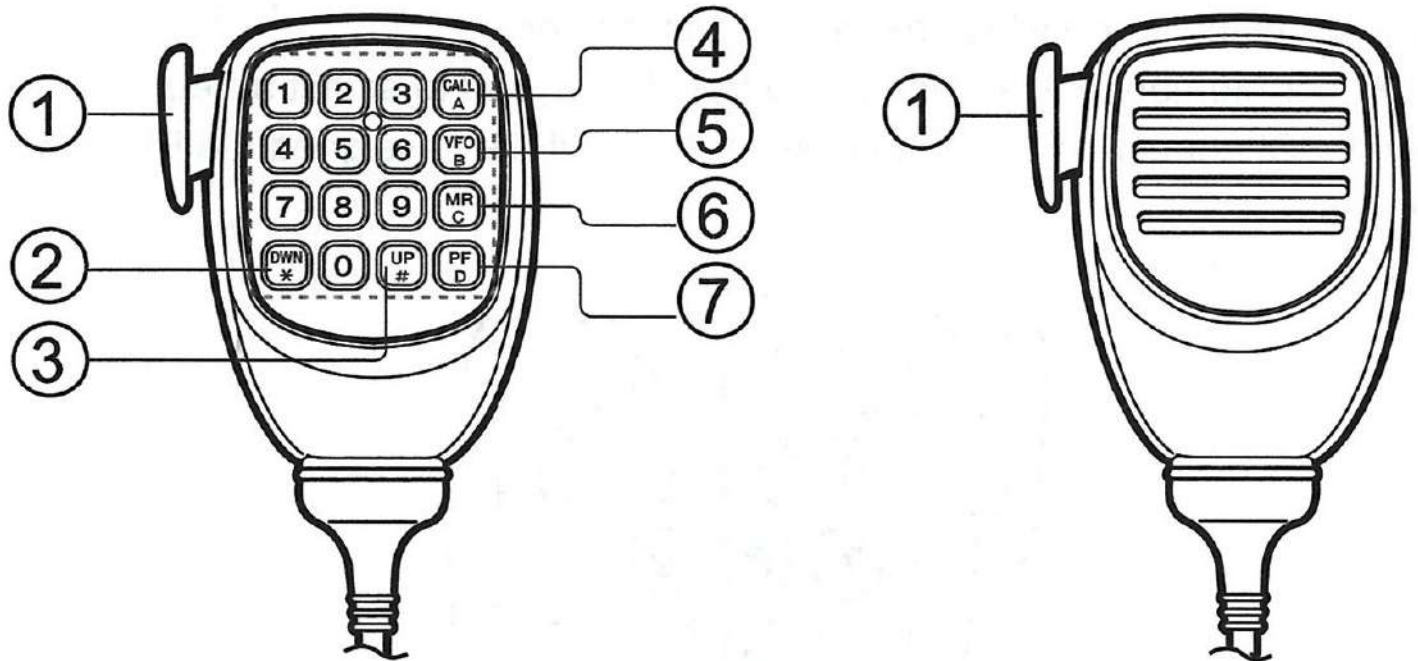
Connect a 13.8 V DC power source here. Use the supplied DC power cable .

#### ③. SP (speaker) jack

If desired, connect an optional external speaker for clearer audio. This jack accepts a 3.5 mm (1/8") mono (2-conductor) plug.

# 5.GETTING ACQUAINTED

## MICROPHONE



### 1. PTT (Push-to-Talk) switch

Press and hold to transmit. Release to receive.

### 2. DWN/ \* key

Press to lower the operating frequency, Memory Channel number, Menu Number, etc. Hold down to repeat the action.

### 3.UP/# key

Press to raise the operating frequency, Memory Channel number, Menu Number, etc. Hold down to repeat the action.

### 4. CALL/A key

Identical to the front panel **CALL** key.

### 5. VFO/B key

Identical to the front panel **VFO** key.

### 6. MR/C key

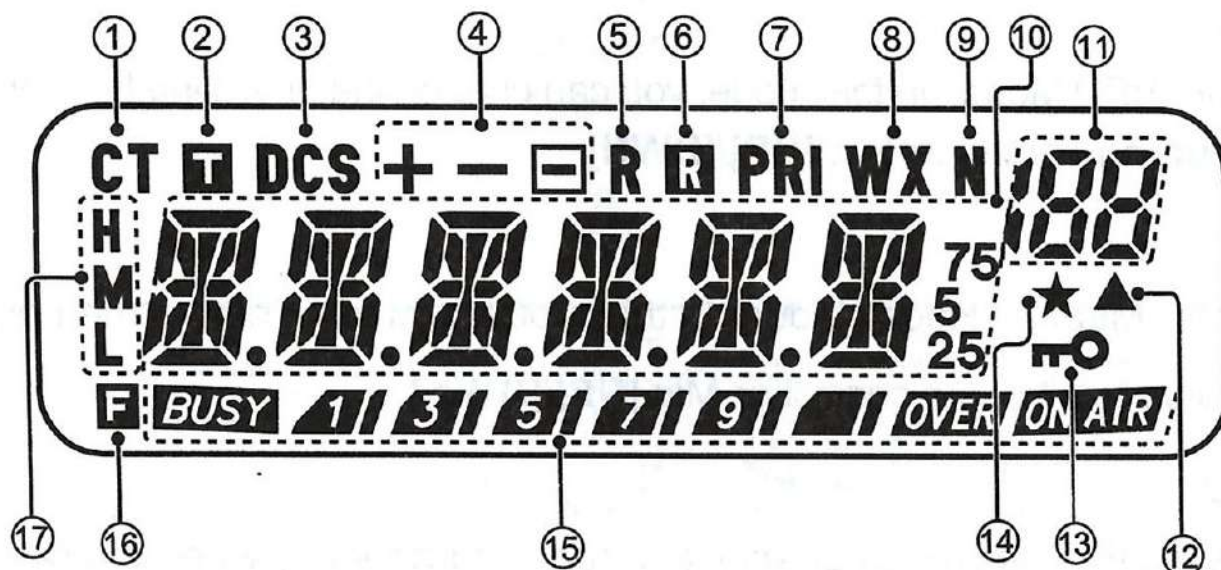
Identical to the front panel **MR** key.

### 7. PF/D key

Identical to the front panel **F** key.

# 5.GETTING ACQUAINTED

## DISPLAY



- CT**  
Appears when the it is calling.
- DCS**  
Appears when the DCS function is activated.
- + - □**  
Appears when the repeater shift function is activated. (“□” is not used on this transceiver.)
- R**  
Appears when the Reverse function is activated.
- PRI**  
Appears when the Priority Scan function is activated.
- N**  
Appears when narrow FM Mode is selected.
- 75  
5  
25**  
Displays the frequencies, Menu settings, Memory name and other information.
- 100**  
Displays the Menu No., Memory Channel number, and status.
- ▲**  
Appears when the displayed Memory Channel has data.
- π○**  
Appears when the Key Lock function is ON.

## 5. GETTING ACQUAINTED

11. ★

Appears when the Memory Channel Lockout function is ON

12. **BUSY** **1** **3** **5** **7** **9** **■**

Shows the strength of transmitted and received signals.

13. **F**

Appears when the function key is pressed

14. <sup>H</sup>  
<sub>M</sub>  
L

H appears when high power transmission is selected, M appears when middle power is selected and L appears when low power is selected.

15. **BUSY** **1** **3** **5** **7** **9** **■** **OVER** **ON AIR**

Shows the strength of transmitted and received signals.

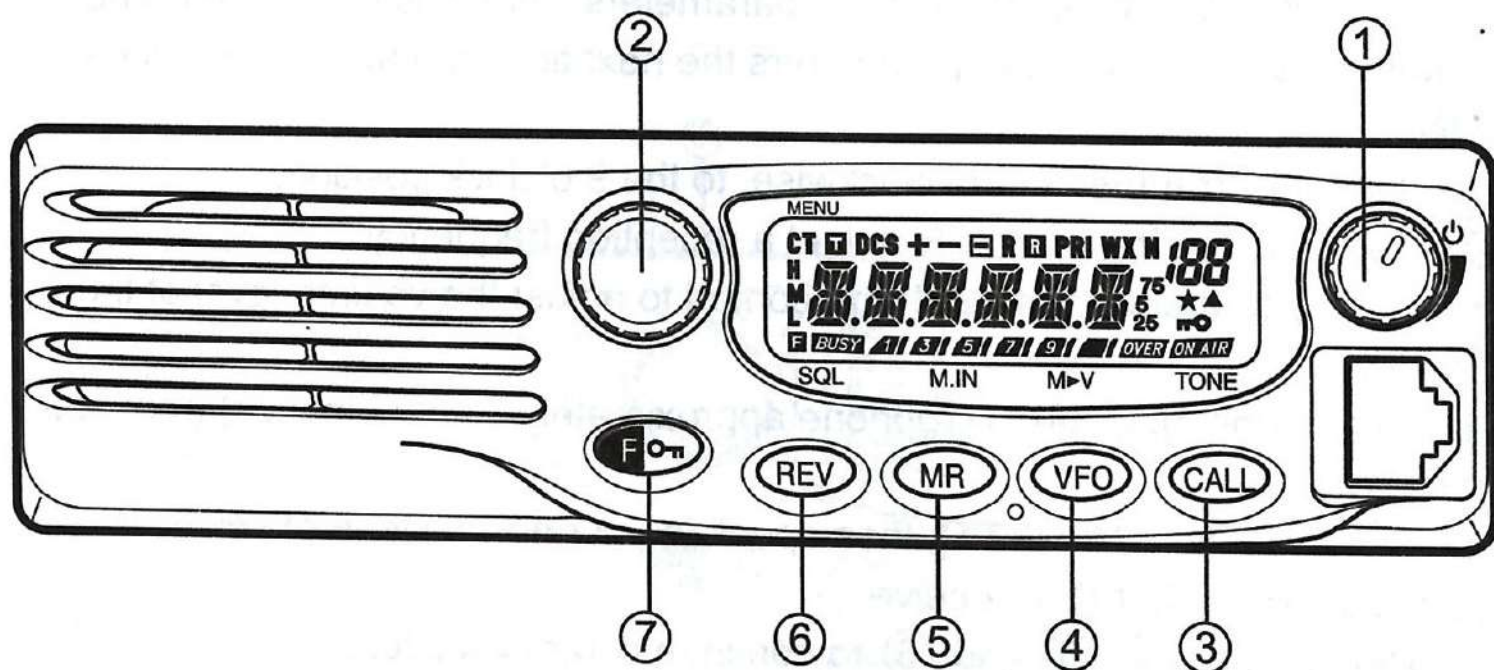
**BUSY** indicates the squelch is open and the frequency is busy. It also appears when the squelch is set to minimum. If using CTCSS or DCS, it indicates the squelch is open due to a received signal that contains the same CTCSS tone or DCS code that is set in your transceiver.

**1** **3** **5** **7** **9** **■** **OVER** acts as an S-meter while receiving and an RF power meter while transmitting. **ON AIR** indicates the transceiver is transmitting.

# 5. GETTING ACQUAINTED

## FRONT PANEL

**Note:** This section describes only the main functions of the front panel controls. Explanations for functions not described here are provided in the appropriate sections of this instruction manual.



### 1. ⏻ (Power) switch/ Volume control

Press to switch the transceiver power ON or OFF.

Turn to adjust the level of the receive audio from the speaker.

### 2. MENU button/ Tuning control

Press to enter MHz Mode. In this mode, you can change the operating frequency in 1 MHz steps using the **Tuning** control or Mic [UP]/[DWN]. Press and hold VFO for 3 seconds while in VFO Mode to begin **VFO** Scan or while in MR Mode to begin **Channel** Scan.

Press [F] then press [MENU] to enter Menu Mode.

Turn to select:

- Operating frequencies when in VFO Mode.
- Memory Channels when in Memory Recall Mod.
- Menu Nos. when in Menu Mode.
- Scan direction while scanning.

## 5. GETTING ACQUAINTED

### 3. CALL key

Press to call the current frequency or channel.

### 4. VFO key

Press to enter VFO Mode. In this mode, you can change the operating frequency using the **Tuning** control or Mic **[UP]/[DWN]**.

### 5. MR key

Press to enter Memory Recall Mode. In this mode, you can change memory channels using the **Tuning** control or Mic **[UP]/[DWN]**.

### 6. REV key

Press to switch the transmit frequency and receive frequency when operating with an offset or an odd-split Memory Channel.

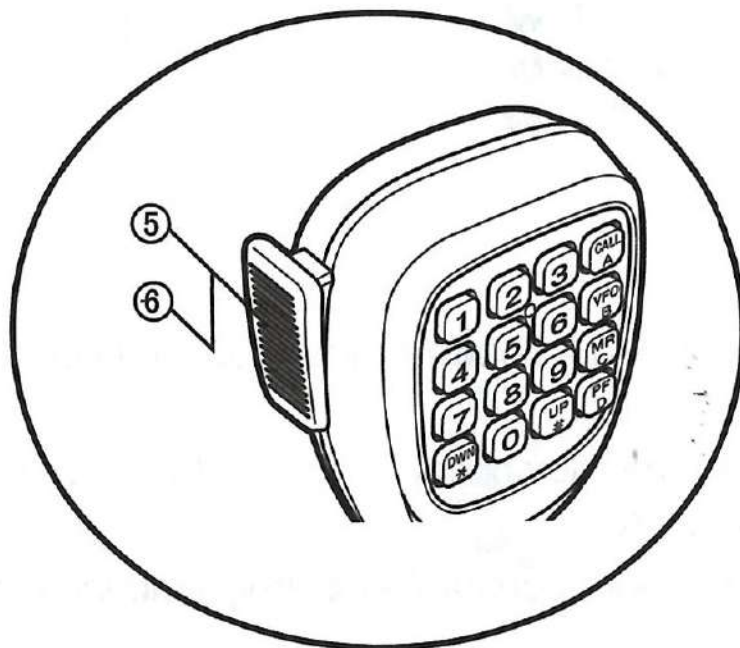
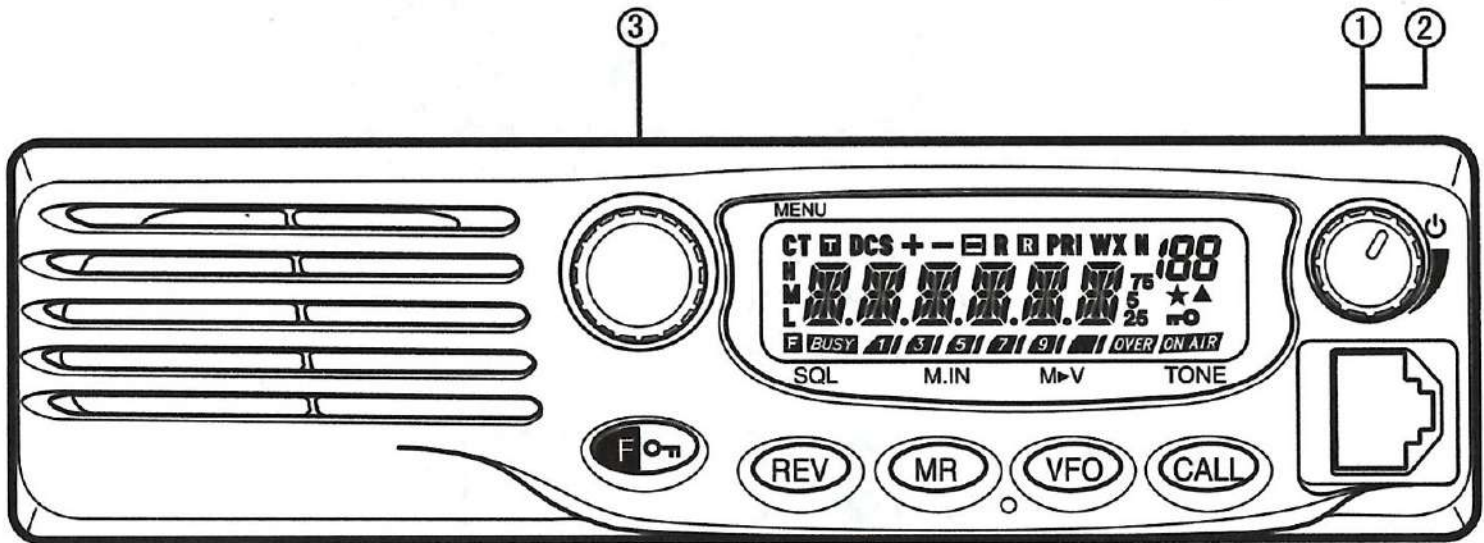
Press **[F]** then press **[REV]** and rotate the **Tuning** control to increase or decrease the squelch level.

### 7. $\mu$ / F key

Press and hold for 3 seconds to lock the transceiver keys. Press momentarily to access the second functions of the transceiver keys.

# 4.YOUR FIRST QSO

Are you ready to give your transceiver a quick try? Reading this section should get your voice on the air right away. The instructions below are intended only as a quick guide. If you encounter problems or there is something you would like to know more, read the detailed explanations given later in this manual.





## 4.YOUR FIRST QSO

- ① Press [**⏻**] (Power) briefly to switch the transceiver power ON.
  - A high pitched double beep sounds and a Power-on message appears momentarily. The various indicators and the current operating frequency appear on the LCD.
  - The transceiver stores the current parameters when it is turned OFF and automatically recalls those parameters the next time you turn the transceiver ON.
- ② Turn the **Volume** control clockwise, to the 9 o'clock position.
- ③ Turn the **Tuning** control to select a reception frequency.
  - You may further turn the **Volume** control to adjust the volume level of the signal.
- ④ To transmit, hold the microphone approximately 5 cm (2 inches) from your mouth.
- ⑤ Press and hold Mic [**PTT**], then speak in your normal tone of voice.
- ⑥ Release Mic [**PTT**] to receive.
- ⑦ Repeat steps④,⑤ and ⑥ to continue communication.

## 6. OPERATING BASICS

- Press and hold Mic **[UP]/[DWN]** to step the frequency repeatedly.

### MHZ MODE

If the desired operating frequency is far away from the current frequency, it is quicker to use the MHz Tuning Mode.

To adjust the MHz digit:

- 1 While in VFO or Call Mode, press **[MENU]**.
  - The MHz digit blinks



- 2 Turn the **Tuning** control to select the desired MHz value.
- 3 Press any key to set the selected frequency and return to normal VFO Mode.
- 4 Continue adjusting the frequency as necessary, using the **Tuning** control or Mic **[UP]/[DWN]**.

### DIRECT FREQUENCY ENTRY

In addition to turning the **Tuning** control or pressing Mic **[UP]/[DWN]**, there is another way to select the frequency. When the desired frequency is far away from the current frequency, you can directly enter a frequency using the Mic keypad (keypad models only).

- 1 Press **[VFO]**.
  - You must be in VFO mode to make a direct frequency entry.

**Note:** If the entered frequency does not match the current frequency step size, the frequency is automatically rounded down to the next available frequency. When the desired frequency cannot be entered exactly, confirm the frequency step size.

# 7.MENU SETUP

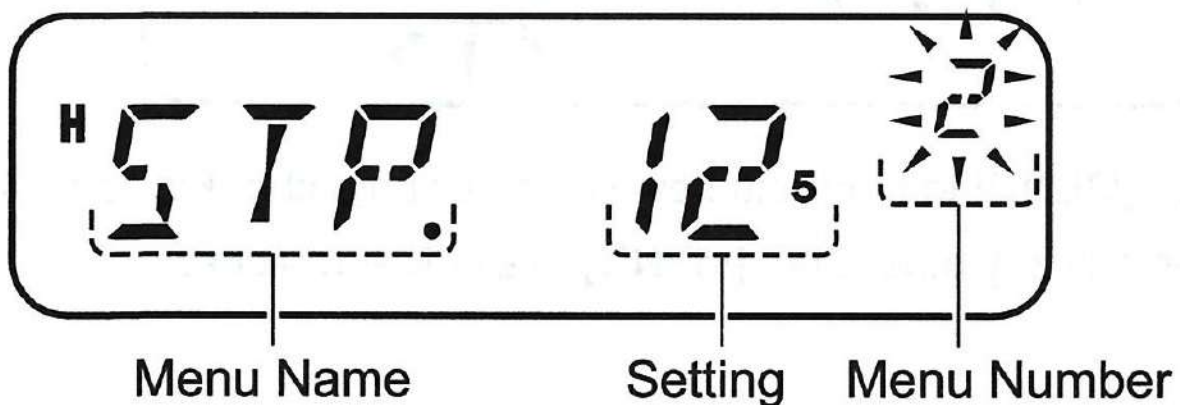
## WHAT IS A MENU

Many functions on this transceiver are selected or configured via a software-controlled Menu rather than through the physical controls of the transceiver. Once you become familiar with the Menu system, you will appreciate its versatility. You can customize the various timings, settings, and programming functions on this transceiver to meet your needs without using many controls and switches.

## MENU ACCESS

### 1. Press [F], [MENU].

- A brief explanation of the menu, and the setting and Menu No. appear on the display

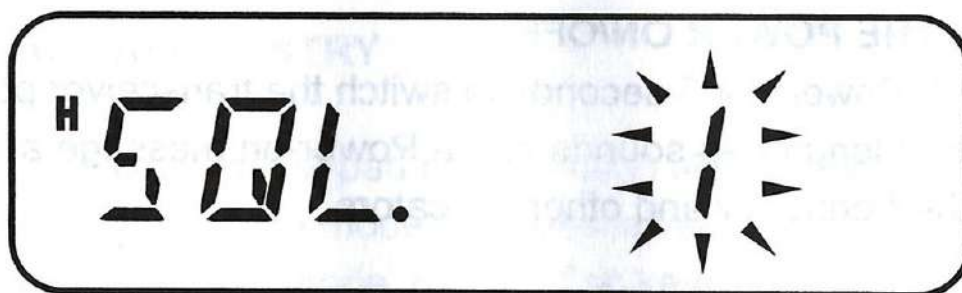


### 2. Turn the **Tuning** control to select your desired Menu.

- As you change the Menu No., a brief explanation of each menu appears along with its current parameter.



## 6. OPERATING BASICS



2 Turn the **Tuning** control to adjust the level.

- Select the level at which the background noise is just eliminated when no signal is present.
- The higher the level, the stronger the signals must be to receive.
- 10 different levels can be set. (0: Minimum ~ 9: Maximum; 1 is the default value)

3 Press any key other than [ **⏻** ] (Power) to store the new setting and exit the squelch adjustment.

### 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.

**BUSY** and the RF Power meter appears. The RF Power meter shows the relative transmit output power ( **BUSY** )

- if you press Mic [ **PTT** ] while you are outside the transmission coverage, a high pitched error beep sounds.

2 When you finish speaking, release Mic [ **PTT** ].

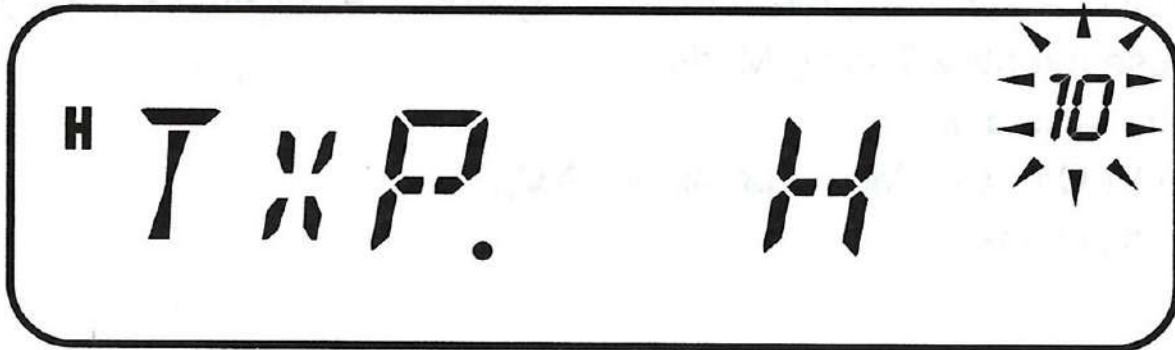
**Note:** If you continuously transmit for longer than the time specified in Menu No. 13 (default is 1 minutes), the internal time-out timer generates a warning beep and the transceiver stops transmitting. In this case, release Mic [ **PTT** ] and let the transceiver cool down for a while, then press Mic [ **PTT** ] again to resume transmission.

## 6. OPERATING BASICS

### SELECTING AN OUTPUT POWER

You can configure different power levels for transmission.

- 1 Press [F], [MENU] and turn the **Tuning** control to select Menu No. 10 (TXP).



- 2 Press [MENU] and turn the **Tuning** control to select “H” (high; default) or “L” (low) power.
- 3 Press [MENU] to store the setting or any other key to cancel.
- 4 Press any key other than [MENU] to exit Menu Mode.

### CAUTION:

- Do not transmit at high output power for an extended period of time. The transceiver could overheat and malfunction.
- Continuous transmission causes the heat sink to overheat. Never touch the heat sink when it may be hot.

### SELECTING A FREQUENCY

#### VFO MODE

This is the basic mode for changing the operating frequency. To enter VFO Mode, press [VFO].

Turn the **Tuning** control clockwise to increase the frequency and counterclockwise to decrease the frequency, or use Mic [UP]/[DWN]

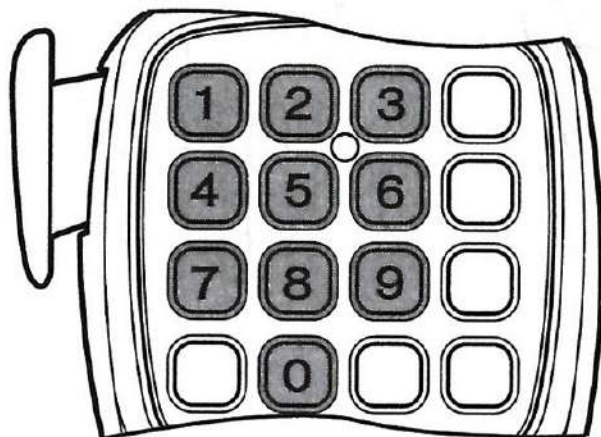


## 5.GETTING ACQUAINTED

### MIC KEYPAD DIRECT ENTRY

The microphone keypad (keypad models only) allows you to make various entries depending on which mode the transceiver is in.


In VFO or Memory Recall mode, use the Mic keypad to select a frequency or Memory Channel number. First press the Mic PF key assigned the ENTER function.



You can also use the Mic keypad to program a Memory Channel name, Power-on message, or other character strings.

## 6. OPERATING BASICS

### SWITCHING THE POWER ON/OFF

- 1 Press [  ] (Power) for 3 seconds to switch the transceiver power ON.
  - A high pitched long beep sounds and a Power-on message appears briefly, followed by the frequency and other indicators.




" 350.000



" 136.000



" 430.000

- 2 To switch the transceiver OFF, press [  ] (Power) (3s).

- When you turn the transceiver OFF, a low pitched long beep sounds.
- The transceiver stores the current frequency and parameters when it is turned OFF and recalls these parameters the next time you turn the transceiver ON.

### ADJUSTING THE VOLUME

Turn the **Volume** control clockwise to increase the audio output level and counterclockwise to decrease the output level.

- If you are not receiving a signal, press the Mic PF key assigned the **MONI** function {page 59}, then adjust the **Volume** control to a comfortable audio output level. Press the **MONI** key again to cancel the Monitor function.

### ADJUSTING THE SQUELCH

The purpose of Squelch is to mute the speaker when no signals are present. With the squelch level correctly set, you will hear sound only while actually receiving signals. The higher the selected squelch level, the stronger the signals must be to receive. The appropriate squelch level depends on the ambient RF noise conditions.

- 1 Press [F], [REV].

- The current squelch level appears.

## 13.OPTIONAL ACCESSORIES

### PS-33/53

Regulated DC  
Power Supply



### PG-2N

Programming Cable



DC Power Cable



**KMC-30**  
Microphone



**KMC-32**  
DTMF Microphone





# 14.TROUBLESHOOTING

## MAINTENANCE

### 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 void the transceiver warranty.

When operated 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.

## 14. TROUBLESHOOTING

### 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.)

### CAUTION

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

**Note:** Record the date of purchase, serial number and dealer from whom this product was purchased.

- For your own information, retain a written record of any maintenance performed on this product.
- When claiming warranty service, please include a photocopy of the bill of sale, or other proof-of-purchase showing the date of sale.

### 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.

### INITIAL SETTINGS

The factory defaults for the operating frequencies are as follows.

- Transceiver: 136.000 MHz

The Memory Channels have no data stored.

**Note:** When in Channel Display Mode or while Key Lock is activated, you cannot perform VFO reset or Full reset.

# 14.TROUBLESHOOTING

## TROUBLESHOOTING

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
The transceiver will not power up after connecting a 13.8V DC power supply and pressing the [⏻](power) switch. Nothing appears on the display.	<ol style="list-style-type: none"><li>1 The power cable was connected backwards.</li><li>2 One or more of the power cable fuses are open</li></ol>
The display is too dim, even though you selected a high brightness level.	The supply voltage is too low.
Most buttons/keys and the <b>Turning</b> control do not function	<ol style="list-style-type: none"><li>1 One of the Lock functions is ON.</li><li>2 The transceiver is in Channel Display mode.</li></ol>
Memory Channels cannot be selected by turning the <b>Turning</b> control or by pressing Mic <b>[UP]/[DOWN]</b> .	No data has been stored in any Memory Channels.
You cannot transmit even though you press Mic <b>[PTT]</b> .	<ol style="list-style-type: none"><li>1 The microphone plug was not inserted completely into the front panel connector.</li><li>2 You selected a transmit offset that places the transmit frequency outside the allowable transmit frequency range.</li><li>3 The external TNC is transmitting.</li></ol>

# 14.TROUBLESHOOTING

Corrective Action	Page Ref.
<p>1 Connect the supplied DC power cable correctly: Red → (+); Black → (-).</p> <p>2 Look for the cause of the blown fuse(s). After inspecting and correcting any problems, install a new fuse(s) with the same ratings.</p>	<p>5-6</p> <p>9</p>
<p>The supply voltage requirement is 13.8 V DC ±15% (11.7 V to 15.8 V DC). If the input voltage is outside this range, adjust your regulated power supply and/or</p>	<p>5-8</p>
<p>1. Unlock all of the Lock functions.</p> <p>2. With the transceiver power OFF, press [⏻](power) + [REV] to exit Channel Display mode.</p>	<p>36</p> <p>53 - 54</p>
<p>Store data in some Memory Channels.</p>	<p>36</p>
<p>1 Switch OFF the power, then insert the microphone plug until the locking tab clicks in place.</p> <p>2 Press [F], [MENU] and turn the Tuning control to select Menu No.5(SFT). Press [MENU] and turn the Turning control to select "OFF". Press [MENU] to store the setting, then press any key other than [MENU] to exit Menu Mode.</p> <p>3 Press Mic [PTT] after the TNC has finished transmitting.</p>	<p>11</p> <p>31</p> <p>—</p>

# 15. SPECIFICATIONS

Specifications are subject to change without notice due to advancements in technology.

General		
frequency range	VHF	UHF
	136-174MHz	350-390 MHz 400-470MHz
Mode	F3E (FM)	
Antenna impedance	50Ω	
Usable temperature range	-20°C ~ +60°C (-4°F ~ +140°F)	
Power supply	13.8 V DC 15% (11.7 ~ 15.8 V)	
Grounding method	Negative ground	
Current	13 A or less	
	1.0 A or less	
Frequency stability (-20°C ~ +60°C)	Within 2.5 ppm	
Dimensions (W x H x D projections not included)	160 x 43 x 137 mm/ 6 5/16" x 1 11/16" x 5 13/32"	
Weight	Approx. 1.2 kg/ 2.6 lb	

Transmitter		
Power output	High	VHF (60W) / UHF (45W)/350-390MHZ (45W)
	Low	Approx. 25 W
Modulation	Reactance	
Spurious emissions	-60 dB or less	
Maximum frequency deviation	Wide: 5 kHz	Narrow: 2.5 kHz
Audio distortion (at 60% modulation)	3% or less	
Microphone impedance	600Ω	

## 15. SPECIFICATIONS

<b>Receiver</b>	
Circuitry	Double conversion superheterodyne
Intermediate frequency (1st/ 2nd)	49.95 MHz/ 450 kHz
Sensitivity (12 dB SINAD)	Wide: 0.18 $\mu$ V or less Narrow: 0.22 $\mu$ V or less
Selectivity (-6 dB)	Wide: 12 kHz or more Narrow: 10 kHz or more
Selectivity (-60 dB)	Wide: 30 kHz or less Narrow: 24 kHz or less
Squelch sensitivity	0.1 $\mu$ V or less
Audio output (8 $\Omega$ , 5% distortion)	2 W or higher
Audio output impedance	8 $\Omega$