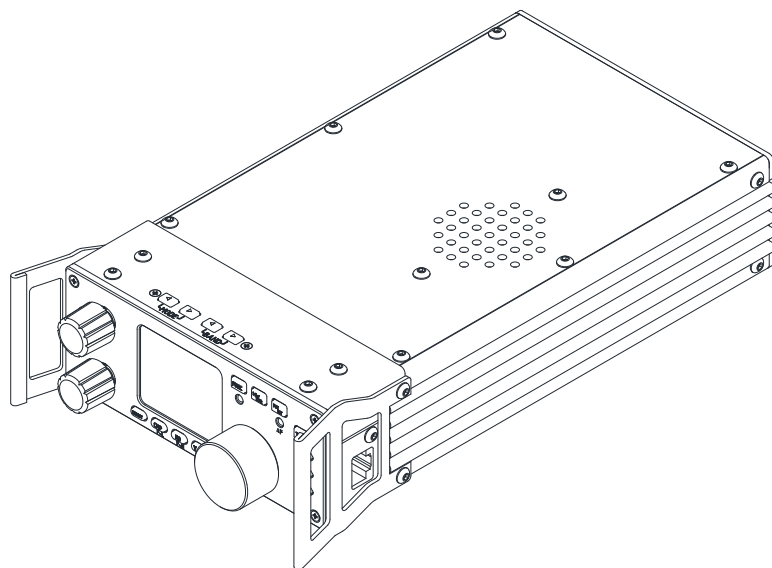




- SDR portable HF Transceiver

# G90

Operation Manual



V1.00.0 (Temporary)

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**Important reminder:**

Before operating the equipment please study this instruction manual carefully, and retain it for future reference.

Characteristics

- **SDR portable HF Transceiver**
- built-in auto antenna tuner
- Spectrum image and Waterfall image display
- The display unit and the case can be separated.
- High-performance front-end ESC preselector.

**Safety considerations:**



Do not use equipment during an electrical storm.



Do not expose the unit to moisture.



Use this device responsibly and observe all local laws and regulations.



Caution! High RF voltage at antenna connector.

Packing List

	Qty
① G90 case.....	1
② Power cable.....	1
③ Data cable.....	1
④ Comm cable.....	1
⑤ Service card.....	1
⑥ Certificate.....	1

## 一、 parameter

### 1.1 basic parameter

Receive frequency range: 0.5MHz~29.999999MHz

Transmit frequency range: 1.8~2.0MHz  
3.5~4.0MHz  
7.0~7.3MHz  
10.1~10.15MHz  
14.0~14.35MHz  
18.068~18.168MHz  
21.0~21.45MHz  
24.89~24.99MHz  
28.0~29.7MHz

Operating mode: SSB/CW/AM

Receive sensitivity: 0.25uV @12dB Sinad (PRE:ON)

Adjacent channel suppression: 60dB

Select: SSB 2.4kHz  
CW 300Hz

Dynamic Range: 90dB

Frequency stability:  $\pm 2$ ppm (after power on 30 min)

Operating voltage range: 11~16V DC

Standby current: 750mA @ Max

Transmitting voltage: 8A @ Max

RF output: 20W

Carrier suppression:  $\geq 40$ dB

Spurious suppression:  $\geq 50$ dB

Sideband suppression:  $\geq 55$ dB

Audio output power: 0.5W@ 4 $\Omega$

Temperature range: 0 $^{\circ}$ C~55 $^{\circ}$ C

Case size: 120\*45\*210 mm (non include protrusions; display system and body combination status)

Case quality: about 1.85kg

### 1.2 ATU parameter

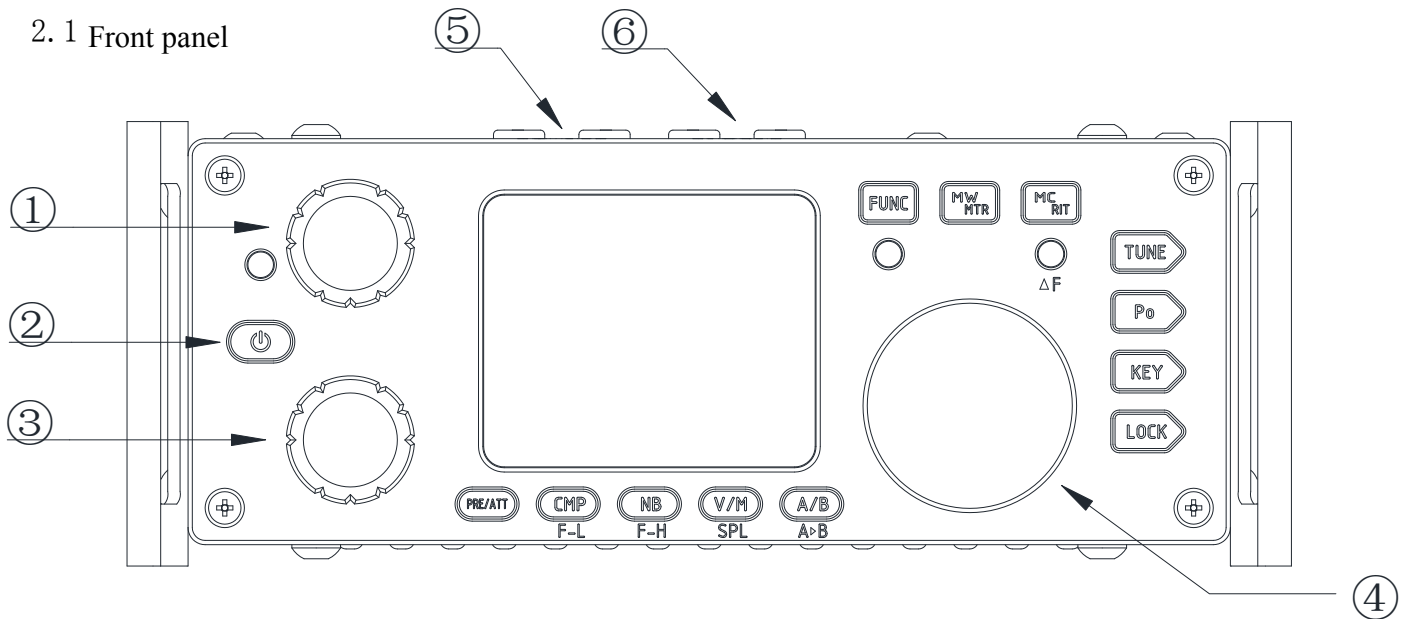
Initial tuning time:  $\leq 10$ s

Reentry tuning time:  $\leq 50$ ms

Tuned impedance range: 15 $\Omega$ ~250 $\Omega$

二 Device Description

2.1 Front panel



① Volume/headphone knob

② Power

Press and hold this button for 2 seconds to power on.  
Press and hold this button for 2 seconds to power off.

③ Automatic knob

Default: 100kHz position step knob  
Short press: custom function

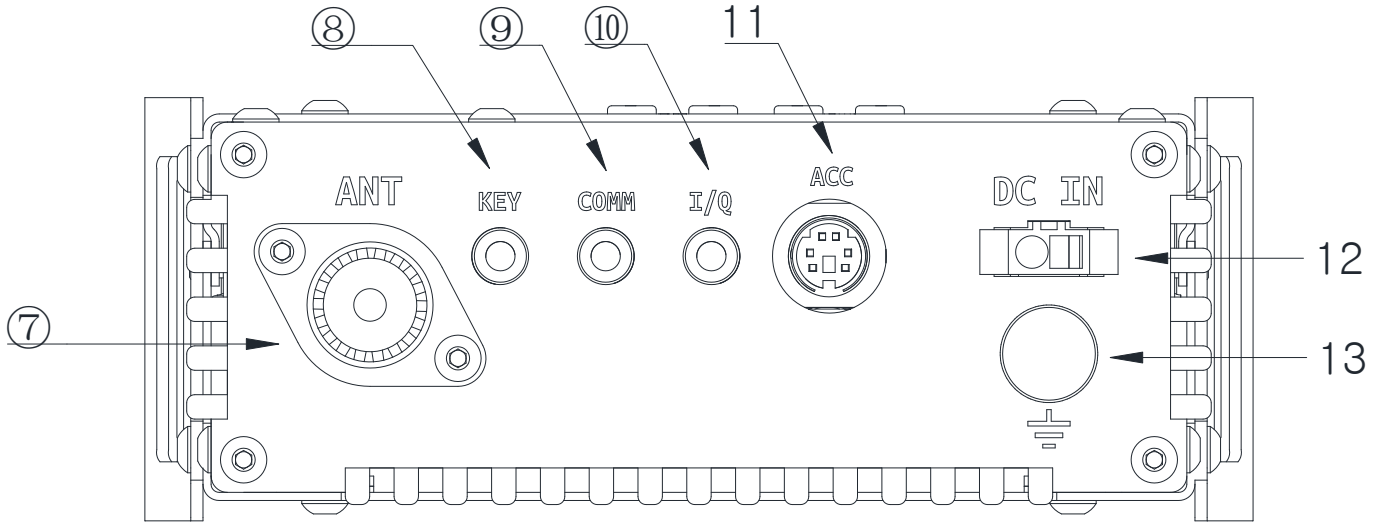
④ Large knob

Frequency stepping, setting parameter.

⑤ Mode switch button

⑥ Band switching button

2.2 Tail interface description



⑦ **ANT**  
Antenna interface, Type : SL16-K.

⑧ **KEY**  
CW key socket.

⑨ **COMM**  
Communication port

⑩ **I/Q**  
Signal output

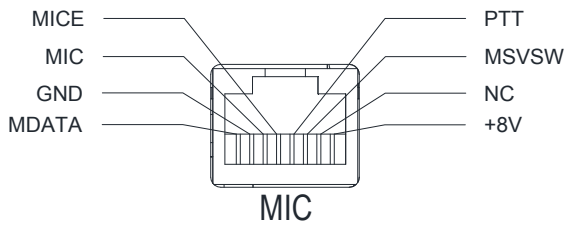
⑪ **ACC**  
Data connection port

⑫ **DC interface**  
External DC power interface

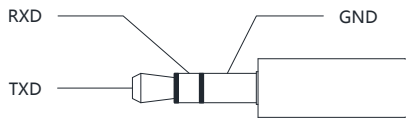
⑬ **Ground**

Interface description:

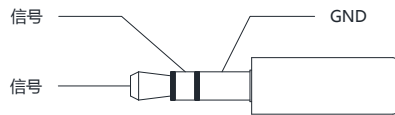
1、MIC interface



2、COMM port

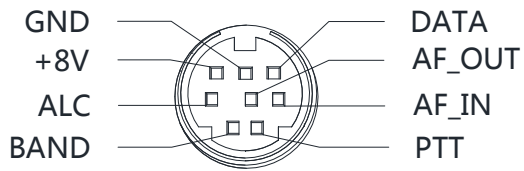


3、headset

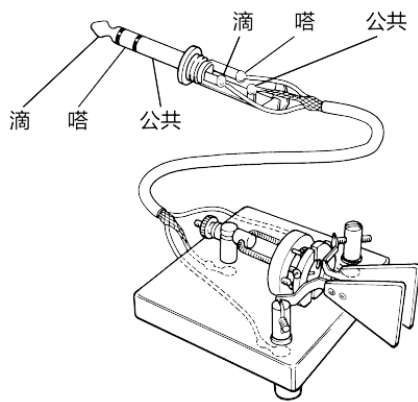


Note: 信号 (signal)

4、ACC



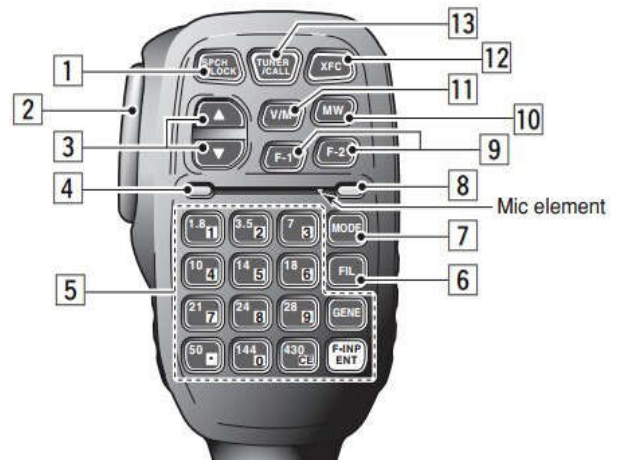
5、CW key welding diagram



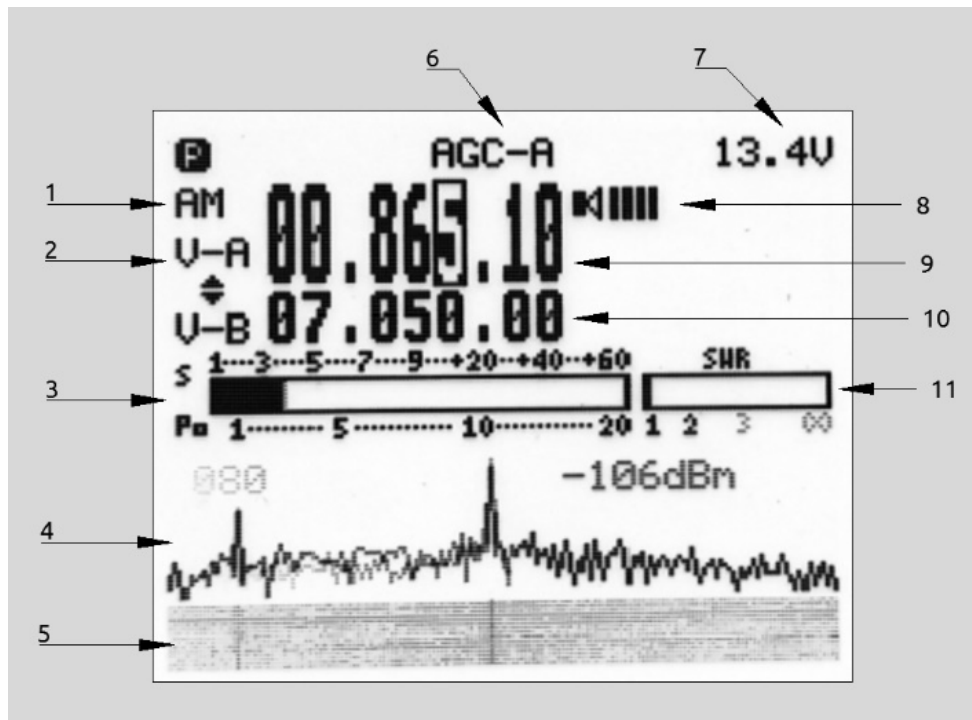
Note: 滴 (di) 嗒 (da) 公共 (common)

## Mic description

1、 LOCK button	Locking button
2、 PTT button	Transmitting ctrl button
3、 up/down	Frequency “+” or “- “
4、 Transmission display LED	MIC operate pilot lamp
5、 number key	
6、 FIL	FIL selection
7、 MODE	Operation mode selection
8、 function pilot lamp	<i>No</i>
9、 function Key	F1/F2 Custom settings
10、 MW	Memory operate
11、 V/M	frequency/channe switch
12、 XFC	<i>Temporarily no function</i>
13、 TUNER	Keep press the tuner to start up the auto tuner for tuning.



## 2.3 Display interface description



- 1、 Current operating mode
- 2、 Current VFO select
- 3、 S table / Power table
- 4、 Frequency image
- 5、 Waterfall image
- 6、 AGC state
- 7、 Current external put in voltage value
- 8、 Volume
- 9、 Current operating frequency
- 10、 Other VFO frequency
- 11、 Transmitting standing wave



## 三、Operating description

### 3.1 Power on/off

Power On: Power off state, keep press power switch 2 sec.

Power off: Power on state, keep press power switch 2 sec.

### 3.2 Volume adjustment

Left/right turn the volume knob, increase or decrease the volume.

### 3.3 headset mode switching

In using the built in speaker state, short press the volume knob to switching to headset mode, at the same time it has a icon to display in the screen.

### 3.4 Frequency step carry select

➤ 1kHz bit、10kHz bit: short press main knob, switching carry.

➤ 100kHz bit: turning the definition knob to change the current frequency.

### 3.5 Switching operation mode

Short press the MODE “+” / MODE “-“ button on the machine head-top, it will cycle switching mode between USB—LSB—CW—AM.

### 3.6 Switching current operation mode

Short press the BAND “+” / BAND “-“ button, it will cycle switching band between 10 amateur bands

### 3.7 multifunction operation

Press the FUNC button, the function pilot will lit, this time we can enter the second function.

### 3.8 PRE/ATT function

Short press PRE button, start up preamplifier.

Press hold PRE to turn on the ATT pre-attenuator.

### 3.9 CMP button function.

Short press CMP button, turn on voice compressor.

### 3.10 NB function

Short press NB button, open NB function.

Short press again, turn off NB function.

### 3.11 AGC function

Short press AGC button, turn on AGC function.

### 3.12 VM function

Short press VM button, switching between VFO mode and channel mode.

### 3.13 MW/MC function

Short press MW/MC button, storing channel

### 3.14 A/B function

Short press A/B button , switching between the VFO-A and VFO- B.

### 3.15 TUNE function

Short press TUNE button, turn on built in auto Antenna tuner.

Press hold, start tuning.

3.16 POW function

Short pow button, cooperating self- defining knob, adjusting transmitting power.

3.17 KEY function

Short press KEY button, enter the function settings relate to the cw.

3.18 LOCK function

Short press LOCK button, locking button.

四、 The machine head and case separation operation instructions.

In power off state, connecting the machine head and case with the cable, then operating the interface of machine head.

Note: In the power-on state, after the machine head is disconnected from the cable, the host will continue to work in the previous working state.

After the host connect the machine head again, wait for about 2 sec, the machine head can resume communication with the host.