

Xiegu XIEGU G90

Xiegu G90 HF Radio SDR 20W SSB/CW/AM Transceiver User Manual

Brand: Xiegu | **Model:** XIEGU G90

1. INTRODUCTION

The Xiegu G90 is a portable 20W amateur shortwave transceiver built on an SDR (Software Defined Radio) architecture. It is designed to provide superior receive and transmit capabilities for both novice and experienced operators. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your G90 transceiver.

This device supports SSB, CW, and AM operating modes, allowing users to engage in various communication styles. It is equipped with a built-in high-efficiency automatic antenna tuner and SWR scanner, simplifying your setup process. The G90 features a 1.8-inch high-brightness color TFT LCD screen, offering $\pm 24\text{k}$ bandwidth spectrum display and waterfall display for clear and detailed information. Its detachable control head design allows for flexible positioning of the main unit, making it convenient for mobile and field operations.

2. WHAT'S IN THE BOX

Upon unboxing your Xiegu G90, please ensure all the following components are present:

- 1 x Xiegu G90 HF Transceiver
- 1 x Hand microphone
- 1 x Microphone cable
- 1 x Power cable
- 1 x DB9 Serial Port Docking Cable
- 1 x USB cable
- 1 x Product brochure
- 1 x Product Warranty Card

3. SETUP

Follow these steps to set up your Xiegu G90 transceiver for initial operation:

1. **Connect the Microphone:** Plug the hand microphone cable into the designated port on the front panel of the G90.
2. **Connect the Antenna:** Attach your HF antenna to the 'ANT' (SO-239) connector on the rear panel of the transceiver. Ensure a secure connection.
3. **Connect Power:** Connect the provided power cable to the 'DC IN' port on the rear panel. The new version of the G90 utilizes Anderson Power Pole connectors for reliable power connection. Connect the other end to a stable 13.8V DC power supply (not included).
4. **Optional: Detachable Control Head:** The G90 features a detachable control head for flexible installation. To separate the head, carefully remove the four screws securing it to the main unit. Then, connect the provided DB9 serial port docking cable between the main unit and the control head. This allows for remote mounting of the control panel.



Figure 3.1: Xiegu G90 Transceiver with connected hand microphone.



MULTI-FUNCTION INTERFACE

Better Device Experience

Figure 3.2: Rear panel connections including antenna, power, and accessory ports.



DETACHABLE HEAD

Customized for small spaces

Figure 3.3: The detachable control head and main unit of the G90.

Setup Overview Video

Your browser does not support the video tag.

Video 3.1: An overview of the Xiegu G90 HF Transceiver, demonstrating its physical features and connections. This video is provided by the seller, Ham Club.

4. OPERATING INSTRUCTIONS

The Xiegu G90 offers a range of features for amateur radio operation. Familiarize yourself with the controls and display for optimal performance.

4.1 Power On/Off

Press and hold the power button (usually located near the volume knob) to turn the unit on or off. The 1.8-inch color TFT LCD screen will illuminate.

4.2 Display and Controls

The high-brightness color TFT LCD screen provides critical information, including frequency, mode, signal strength, and spectrum/waterfall displays. The main tuning knob allows for frequency adjustment, while various function buttons (FUNC, TUNE, POW, KEY, LOCK) control specific features.



Figure 4.1: Front panel of the G90, highlighting the 1.8-inch LCD screen with spectrum and waterfall display.

4.3 Mode Selection

Use the 'MODE' button to cycle through available operating modes: SSB (Single Sideband), CW (Continuous Wave), and AM (Amplitude Modulation). The selected mode will be indicated on the display.

4.4 Automatic Antenna Tuner (ATU)

The G90 features a built-in high-efficiency automatic antenna tuner. To initiate a tune cycle, press the 'TUNE' button. The ATU will automatically adjust to achieve the lowest possible SWR (Standing Wave Ratio) for your connected antenna. The SWR value is displayed on the screen.



SDR 20W SSB/CW/AM

Built-in Auto Antenna Tuner

Figure 4.2: The G90's compact design, emphasizing its SDR architecture and built-in ATU.

4.5 Power Output Adjustment

The G90 provides up to 20W of output power. Use the 'POW' button to access power output settings and adjust as needed for your operating conditions.

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Xiegu G90 transceiver.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Avoid using abrasive cleaners or solvents that could damage the finish or screen.
- **Ventilation:** Ensure the transceiver has adequate ventilation. Do not block the vents on the top or sides of the unit. The new version of the G90 has improved bottom vents for better cooling.
- **Environmental Conditions:** Avoid exposing the unit to extreme temperatures, high humidity, or direct sunlight, especially during extended operation. While designed for portable use, prolonged exposure to harsh conditions can affect performance.
- **Firmware Updates:** Periodically check the official Xiegu website or contact Ham Club for the latest firmware updates. Keeping your firmware up-to-date can improve performance and add new features.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your Xiegu G90.

- **Unit Does Not Power On:**
 - Check the power cable connection to both the transceiver and the power supply.
 - Verify that your DC power supply is providing the correct voltage (13.8V DC) and sufficient current.
 - Inspect the power cable and connectors for any damage.
 - Ensure the power button is pressed correctly.
- **No Audio Output:**
 - Check the volume knob and ensure it is turned up.

- Verify that an external speaker or headphones are properly connected if used.
- Ensure the correct operating mode is selected.

- **Antenna Tuner Fails to Tune:**

- Ensure your antenna is properly connected and not shorted or open.
- Verify that the antenna is suitable for the frequency band you are attempting to tune.
- Some antennas may have an SWR too high for the internal tuner to match. Consider an external tuner or adjusting your antenna.

- **Poor Receive/Transmit Performance:**

- Check antenna connections and ensure the antenna is resonant for the operating frequency.
- Verify power output settings.
- Consider local noise sources that might be interfering with reception.
- Band conditions can significantly affect performance; check propagation reports.

For issues not covered here or for advanced troubleshooting, please refer to the detailed manuals available from Radioddity or contact Xiegu technical support.

7. SPECIFICATIONS

Feature	Specification
Item Weight	3.5 pounds (approx. 1.6 kg)
Product Dimensions	8.27 x 4.72 x 1.77 inches (210 x 120 x 45 mm)
Item Model Number	XIEGU G90
Brand	Xiegu
Color	Black
Number of Channels	4 (Memory channels)
Special Feature	Portable, High-Efficiency Automatic Antenna Tuner
Frequency Range	0.5 MHz - 30 MHz
Talking Range Maximum	5000 Kilometer (Theoretical, depends on conditions)
Tuner Technology	HF
Voltage	16.5 Volts (DC)
Manufacturer	Xiegu



Figure 7.1: The portable size of the Xiegu G90.

8. WARRANTY AND SUPPORT

Your Xiegu G90 HF Transceiver comes with an **18-month manufacturer's warranty**.

For any technical assistance, product inquiries, or after-sales service, Ham Club provides dedicated support for Xiegu products. Xiegu professional technicians are available to assist you with any issues or questions you may have. If there is a need to upgrade the official firmware, you can also contact them for guidance and the latest firmware version information.

For further information and detailed guides, please visit the official Xiegu website or contact Ham Club directly through their Amazon store page.