

Ham Radio Diagnostic Checklist

aired by WB5YYQ

A practical, step-by-step guide to diagnosing and fixing problems in your ham radio station. Use this checklist to systematically isolate faults, record findings, and ensure long-term reliability.

1. Define the Problem Clearly

Write down what's wrong, when it started, and what conditions it happens under.

2. Check the Basics (Power & Connections)

Confirm the rig has proper voltage, fuses are intact, and all cables, plugs, and ports are tight and corrosion-free.

3. Verify the Antenna System

Measure SWR, inspect coax for damage or moisture, and test with a dummy load to isolate antenna issues.

4. Test by Substitution (Isolation Method)

Swap one component at a time—mic, coax, power supply, or antenna—to pinpoint the faulty part.

5. Observe, Measure, and Record

Collect data: SWR, power output, voltage, audio reports, noise levels. Log everything for comparison.

6. Analyze and Hypothesize

Interpret the results logically. Eliminate what isn't wrong to find what is. Look for consistency across bands.

7. Implement a Fix

Apply your chosen repair or adjustment, such as replacing cables, retuning the antenna, or adjusting software settings.

8. Document and Learn

Record each problem, test, and fix in your troubleshooting logbook. Build a reference for future issues.

9. Prevent Future Problems

Seal outdoor connectors, secure coax, and perform periodic inspections of SWR, grounding, and cables.

Quick Reference Summary

Area	Check For	Tools
Power	Voltage, fuse, connections	Multimeter
Audio	Mic gain, connector, settings	On-air test, monitor
RF	SWR, coax continuity, connectors	SWR meter, dummy load
Antenna	Match, corrosion, alignment	Antenna analyzer, multimeter
Digital	COM ports, sound card, software	PC, rig control tools
Environment	RFI/EMI from devices	Portable receiver, ferrites