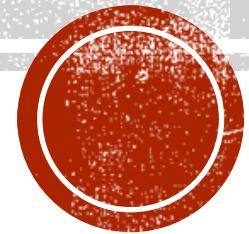


STATION MAINTENANCE

Annual cleaning and updating



OVERVIEW

- Annual maintenance for an amateur radio station can vary depending on the complexity of the setup and equipment involved.
- The following slides are some general areas to consider when performing annual maintenance for an amateur radio station.
- *Remember to follow appropriate safety precautions during the maintenance process and consult the user manuals and manufacturer's guidelines for specific equipment maintenance procedures.*



ANTENNA SYSTEMS

- Inspect and clean antennas, feedlines, and connectors for any signs of damage, corrosion, or wear.
- Check the antenna SWR (Standing Wave Ratio) and adjust as needed.
- Look for any loose or broken connections and repair or replace them accordingly.
- Verify all connections are properly tightened.
- Check grounding of antenna tower/pole.
- This is a good time to replace antennas, if necessary.



TRANSCIVER AND EQUIPMENT

- Clean the transceiver and other equipment using appropriate methods.
- Inspect the controls, buttons, and connectors for any signs of wear or damage.
- Check the power output, receive sensitivity, and audio quality.
- Perform firmware updates if available.
- Ensure all connections are tightened properly.
- Inspect and check equipment to ensure it is properly grounded.



POWER SUPPLY

Inspect Power supply unit for any physical damage or unusual noise.

Check Output voltage under load to ensure it meets the specifications.

Verify All connections are properly installed and connected properly.

Remove Any dust or debris that may have accumulated.

Clean Cooling fans to dust buildup, clean with compressed air.



BATTERIES

- If your station uses batteries, check their condition and performance.
- Inspect for any leakage or corrosion.
- Replace batteries if necessary.
- Lithium batteries are rated for up to 5,000 cycles at 80% depth-of-discharge.
- Basically, LiFePO₄ batteries last about 5 to 10 years compared to lead-acid batteries that need to be replaced every 1-3 years.
- Check electrolyte levels for lead-acid batteries.
- Inspect charging connections and equipment for visual damage and perform manufacturer recommend maintenance.



OTHER EQUIPMENT

- Perform firmware updates if available.
- Test and calibrate any additional equipment like amplifiers, tuners, or filters.
- Ensure all connections are tightened properly.
- Inspect and check equipment to ensure it is properly grounded.





GROUNDING SYSTEM

- Verify the integrity of your station's grounding system.
- Ensure that all grounding connections are secure and free from corrosion.
- Test the grounding resistance to ensure it meets safety standards.



CABLE AND CONNECTORS

Inspect

Inspect all cables and connectors for any signs of wear, damage, or loose connections.

Clean

Clean connectors and apply contact cleaner if needed.

Replace

Replace cables or connectors that are faulty or damaged.





SOFTWARE AND COMPUTER SYSTEMS

- Update computer operating system.
 - Security patches released throughout the year.
 - Update hardware drivers.
 - Update peripheral hardware's firmware.
- If your station utilizes computer-based software for logging or digital modes, check for software updates and install them if available.
- Perform system maintenance tasks such as disk cleanup, virus scans, and backups.
- Uninstall old software that is no longer used.



STATION ERGONOMICS

- **Desk**
 - Your station desk should be 29 – 30 inches from top to floor.
 - Desktop should have enough space to hold your station and monitors.
- **Chair**
 - Choose a chair that supports your spine.
 - Adjust the height of the chair so that your feet rest flat on the floor or use a footrest, so your thighs are parallel to the floor.
- **Keyboard and Mouse**
 - Put your computer keyboard in front of you so your wrists and forearms are in line and your shoulders are relaxed.
 - Place your mouse or another type of pointer device within easy reach, on the same surface as your keyboard.



ERGONOMICS

Monitor

- Place monitor straight in front of you, directly behind your keyboard, about an arm's length away from your face.
- The monitor should be no closer to you than 20 inches and no further away than 40 inches.
- The top of the screen should be at or slightly below eye level. If you wear bifocals, lower the monitor an additional 1 to 2 inches for more comfortable viewing.

Microphone

- Headsets should have wires routed around your workspace.
- Desk microphone should be placed in comfortable position to keep you from slouching forward to talk or strain your neck.
- It should not block your view of your monitor or station.





DOCUMENTATION

- Ensure license is up to date.
- Review and update your station documentation, including licenses, and permits.
- Review technical and service documents and manuals to ensure they are up to date.



SUMMARY

- Preventive maintenance will keep your station running, especially when you need it most.
- Catching potential problems early can prevent damage to equipment and costly repairs.
- Update or replace old hardware and software.
- This is a perfect time to reorganize your station.
- An ounce of prevention is worth a pound of cure.

