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> RAINLEOTI 3-in-1 Stud Finder Wall Scanner NF-513-New Instruction Manual

## RAINLEOTI NF-513

# RAINLEOTI 3-in-1 Stud Finder Wall Scanner NF-513-New Instruction Manual

This manual provides detailed instructions for the safe and effective operation of your RAINLEOTI 3-in-1 Stud Finder Wall Scanner. Please read thoroughly before use.

### **IMPORTANT SAFETY INFORMATION**

Always follow local electrical codes and regulations. Do not use this product near live electrical wires without proper safety precautions. If you are unsure, consult a licensed electrician. Ensure the device is calibrated correctly before each use to prevent inaccurate readings and potential hazards. Keep the device away from water and extreme temperatures.

### **PRODUCT OVERVIEW**

The RAINLEOTI NF-513-New is a versatile 3-in-1 stud finder wall scanner designed for accurate detection of various materials behind walls. It integrates three core functions: wood detection, magnetic and non-magnetic metal detection, and live AC wire detection. Equipped with an LCD display, audio alarms, and a positioning hole, this rechargeable device is an essential tool for DIY enthusiasts and professionals alike.



Image: The RAINLEOTI 3-in-1 Stud Finder Wall Scanner, showcasing its compact design and LCD screen.

## Product Demonstration

Video: A demonstration of the 3-in-1 Stud Finder Wall Scanner's features and functionality.

## PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 1 x NF-513-New Stud Finder
- 1 x USB Charging Cable
- 1 x User Manual



Image: The complete package contents of the RAINLEOTI NF-513-New Stud Finder, including the device, charging cable, and user manual.

## SETUP

### Battery Installation and Charging

The NF-513-New Stud Finder is equipped with a rechargeable Lithium Ion battery. To charge the device, connect the provided USB charging cable to the device's charging port and a compatible USB power source. The LCD display will indicate the charging status. A full charge typically provides several hours of operation.

# Practical and Thoughtful Design

## HD Color Screen

HD color display for clear visibility in any light, with intuitive color prompts for easy reading

## Real-Time Voice Broadcast

Real-time audio readings allow you to stay informed without looking at the screen, ensuring smooth, uninterrupted measurement.



Image: Close-up of the RAINLEOTI NF-513-New Stud Finder, highlighting the USB charging port.

## Calibration

Before each use, it is crucial to calibrate the stud finder for accurate results. Place the device flat against the wall in an area known to be free of studs, metal, or wires. Press and hold the calibration button (refer to the device's A+ content for specific button location) until the calibration process is complete, usually indicated by a beep or a change on the LCD display. This ensures the device is adjusted to the wall's density.

## Practical and Thoughtful Design

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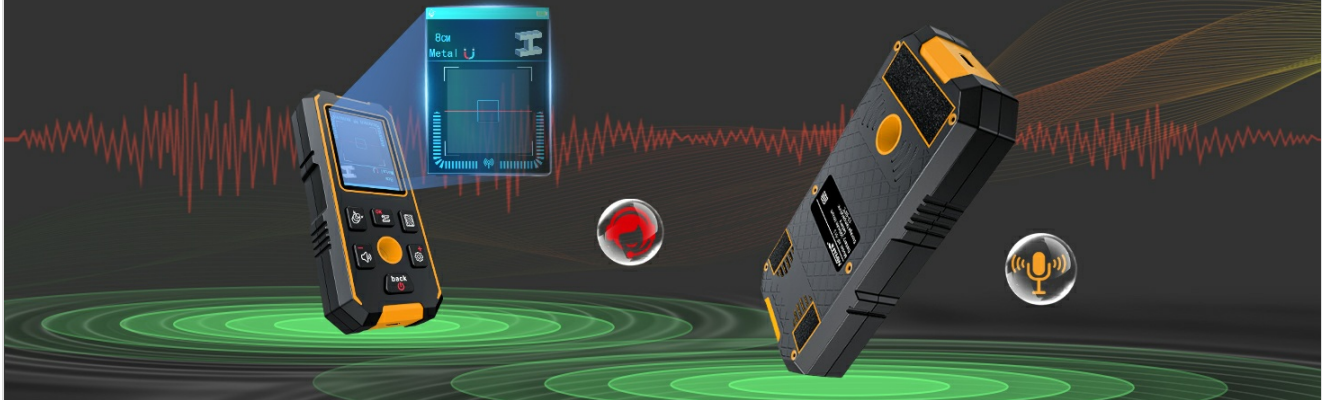


Image: Visual guide demonstrating the calibration process for the stud finder on a wall surface.

## OPERATING MODES

The NF-513-New offers three distinct detection modes:

### 1. Wood Detection Mode

This mode is designed to accurately locate wood studs, joists, and light steel keels behind gypsum boards, plywood, or bare floors up to 38mm (1.5 inches) deep. The built-in positioning hole allows for instant marking of drill points.

## Metal Detection

- 1. Default Mode & Access:**

Powers on in Metal Detection Mode. Press the button briefly in any other mode to switch to Metal Detection. Metal Detection Mode features metal localization, depth indication, and metal type identification capabilities. Detects ferrous/non-ferrous metals unaffected by wall materials.
- 2. Detection & Initial Feedback:**

Hold correctly, move slowly over area. Detects metal → screen shows "Metal", icon, signal strength, and the target depth. Audio announces "Metal" + beeps. Signal/beep rate increases near target.
- 3. Target Localization:**

Continue slow movement. Stronger signal = closer target. Peak signal → center marker lights → target located below sensor.
- 4. Precise Localization Method:**

Post-detection: Move slowly in different directions. Precise target location is below the stud finder tool where signal bar peaks and the center marker lights up. Then precise mark with positioning holes.

Three screenshots of the metal detection mode screen. The top one shows '0.0m Metal' with a red signal bar and a center marker. The middle one shows '0.5cm Metal' with a red signal bar and a center marker. The bottom one shows '0.2cm Metal' with a red signal bar and a center marker.

Image: Instructions and visual representation of the wood detection mode in action.

### 2. Metal Detection Mode


Detects both magnetic metals (steel/iron pipes) and non-magnetic metals (copper wires) up to 80mm (3.15 inches) deep. This helps prevent accidental drilling into pipes or hidden metal structures during renovations.



Image: Detailed guide on using the metal detection mode, showing signal strength and depth indication.

### 3. AC Live Wire Detection Mode

Identifies live AC wires and cables up to 50mm (1.97 inches) deep. The device provides instant audio alarms and LCD display indicators to alert users, enhancing safety near electrical outlets. Note: Non-live cables without metal components may be detected as metal.



## Wooden Detection


- 1. Mode Activation:**  
Briefly press the  button in non-wood detection mode to enter Wood Detection Mode; identifies hidden objects behind surfaces by scanning for material density variations
- 2. Detection Scope:**  
It detects hidden objects such as wooden studs and metal framing (steel studs) behind drywall, bare wood flooring, plywood, and finished wooden walls.
- 3. Operation Protocol:**
  - Keep sensor fully flush with surface
  - Move scanner slowly
  - Detection indicators: · Audible "Rib" alert · On-screen visual prompt · Signal bar strength display
- 4. Calibration Methods:**  
Supports two calibration options: a.Auto Calibration Mode b.Manual Calibration Mode
- 5.Precise Localization Method:**  
Post-detection: Move slowly in different directions. Precise target location is below the stud finder tool where signal bar peaks and the center marker lights up. Then precise mark with positioning holes.

Image: Visual instructions for activating and interpreting results in AC detection mode.

## GENERAL OPERATION GUIDELINES

For optimal accuracy and safety, follow these guidelines:

- **Slow and Steady:** Move the scanner slowly across the surface. The signal bar on the LCD will increase as you approach a target.
- **Pinpoint Accuracy:** After detecting a target, slowly move the device in different directions to pinpoint the exact center where the signal strength is highest and the center marker lights up.
- **Avoid Interference:** Do not wear jewelry or anything magnetic on your hands while operating, as this can cause false readings, especially in metal detection mode.
- **Hand Placement for AC Detection:** When detecting live AC wires, place your free hand on the wall surface away from the scanning area to create a complete circuit for more accurate detection.

# Easy To Use

## User-Friendly Design & Intuitive Operation

Tips: After detecting the target, you can slowly move in different directions and use the signal bar to pinpoint the target's location as the signal strength increases, decreases, and increases again.

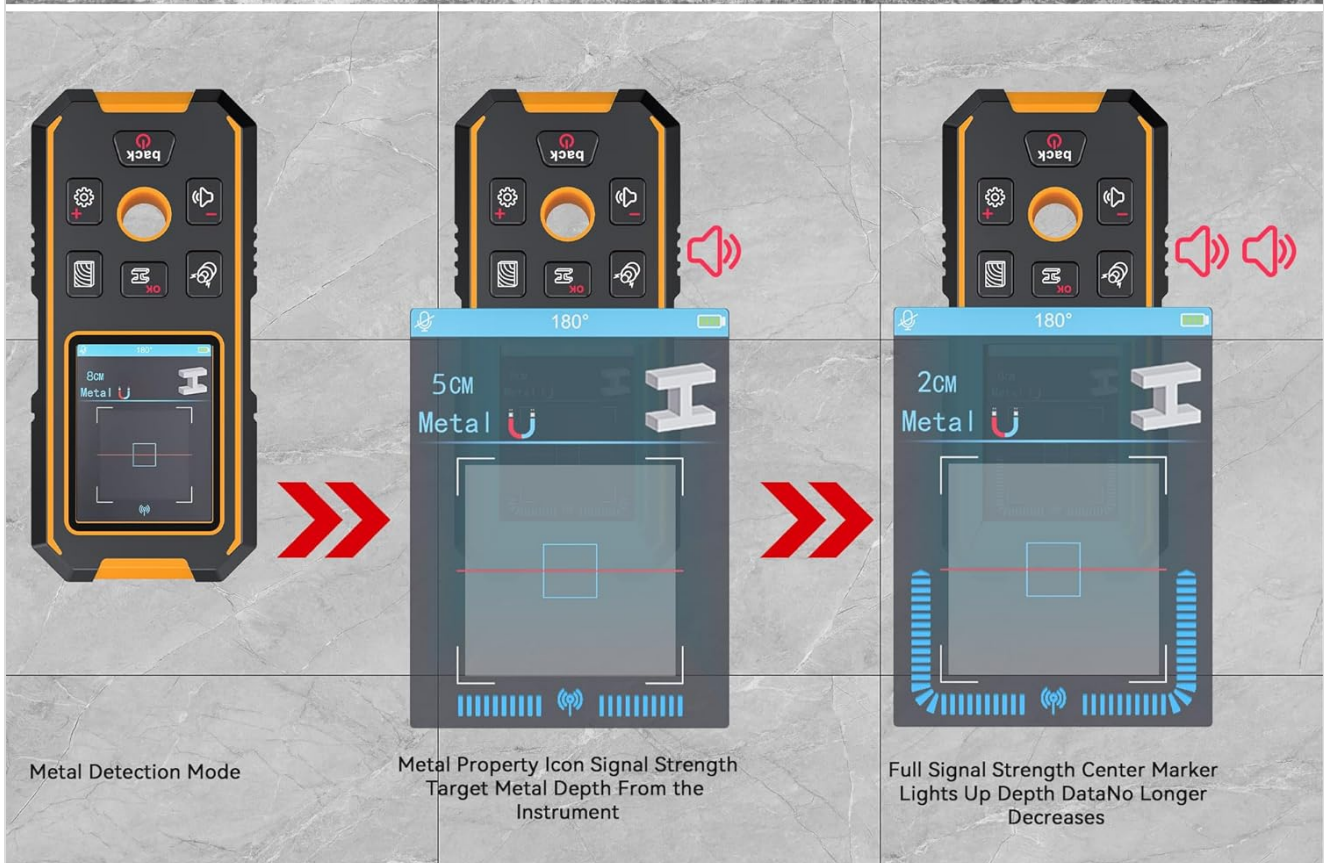


Image: Illustrates the user-friendly design and intuitive operation of the stud finder, showing how to pinpoint targets.

### Using the Positioning Hole

Once the center of a stud or pipe is located, the integrated positioning hole allows you to mark the exact drilling spot directly on the wall, ensuring precision and reducing errors.

# Precise Detection, Drill Safely

Stay Safe, Stay Smart – Spot Wood, Metal, and Wires with Ease!



✓ AC Wire ✓ Copper Pipes ✓ Stud ✓ Steel Bars ✓ Metal Pipes ✓ Nails ✓ Iron ✓ Non-Magnetic metal



House Renovation/Remodeling



Wall Decoration/Home Appliance Installation



Bridge/Highway Maintenance

Image: A user demonstrating precise drilling after locating a target with the stud finder's positioning hole.

## TROUBLESHOOTING

If you encounter issues with your stud finder, consider the following:

- **Inconsistent Readings:** Ensure the device is properly calibrated on a clear section of the wall before each scan. Static electricity or nearby electronic devices can sometimes interfere.
- **False Positives:** Thick or uneven wall textures, wallpaper with metallic elements, or excessive moisture can sometimes lead to inaccurate readings. Try scanning a different area or recalibrating.
- **No Detection:** Check the battery level. Ensure the device is held flat against the surface and moved slowly. Very deep objects may be beyond the detection range.
- **AC Wire Detection Issues:** Ensure the AC power is on for live wire detection. Non-live wires may not be detected or may register as general metal.

## Troubleshooting Video

Video: A brief overview of common issues and solutions for stud finders, including tips for accurate readings.

## SPECIFICATIONS

Feature	Detail
Brand	RAINLEOTI
Model Number	NF-513-New
Power Source	Battery Powered (1 Lithium Ion battery included)
Material	Acrylonitrile Butadiene Styrene
Wood Detection Depth	Up to 38mm (1.5 inches)
Metal Detection Depth	Up to 80mm (3.15 inches)
Live AC Wire Detection Depth	Up to 50mm (1.97 inches)
Display Style	LCD
Item Weight	7 ounces

## MAINTENANCE AND CARE

To ensure the longevity and optimal performance of your stud finder:

- **Cleaning:** Wipe the device with a soft, dry cloth after each use. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** Recharge the battery regularly, even if not in frequent use, to maintain battery health. Avoid fully discharging the battery for extended periods.

## WARRANTY AND SUPPORT

Your RAINLEOTI 3-in-1 Stud Finder Wall Scanner is covered by a standard manufacturer's warranty against defects in materials and workmanship. For warranty claims or technical support, please refer to the contact information provided on the product packaging or visit the official RAINLEOTI website.