NOYAFA NF-8301

NOYAFA NF-8301 Circuit Tracer User Manual

Introduction

The NOYAFA NF-8301 is a versatile circuit tracing and testing device designed for identifying wire paths, breakpoints, and short circuits in various electrical systems. It combines the functionality of a circuit tracer with an integrated digital multimeter, making it suitable for professionals and DIY users. This manual provides instructions for the safe and effective use of the NF-8301.

Package Contents

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

- Transmitter (x1)
- Receiver (x1)
- Test Pen (x1)
- Test Clip (x1)
- Test Cables (Red and Black) (x1 set)
- Grounding Rod (x1)
- Charging Cable (x1)
- User Manual (x1)
- Tool Kit Bag (x1)

Key Features

The NF-8301 offers several features to assist in electrical testing and tracing:

- **Advanced Circuit Tracing:** Accurately tracks energized and de-energized circuits to locate wire paths, cable breaks, and short circuits.
- **8-Level Adjustable Sensitivity:** The receiver features 8 sensitivity levels for detecting signals through various materials like drywall, concrete, brick, and underground.
- **Signal Strength Indicator:** Provides audible alerts and a visual display bar for clear feedback on

wire direction and target cables.

- **Built-in Flashlight:** An integrated LED flashlight on the receiver assists in low-light working conditions.
- **Non-Contact Voltage (NCV) Tester:** Quickly checks if wires are live without direct contact, enhancing safety.
- **Integrated Digital Multimeter:** The transmitter supports measuring AC/DC voltage, continuity, resistance, current, and frequency.

Image: The NF-8301 Circuit Tracer in use, demonstrating its ability to accurately trace hidden cables, pipes, and heating lines, and to quickly locate cable breaks, short circuits, outlets, and junction boxes.

Image: The NF-8301 Circuit Tracer in an outdoor setting, illustrating its function as an underground cable wire locator.

Image: The NF-8301 Circuit Tracer illustrating its detectable distance range, showing a maximum depth of 9.84ft/3m and a maximum length of 1640ft/500m for tracing wires.

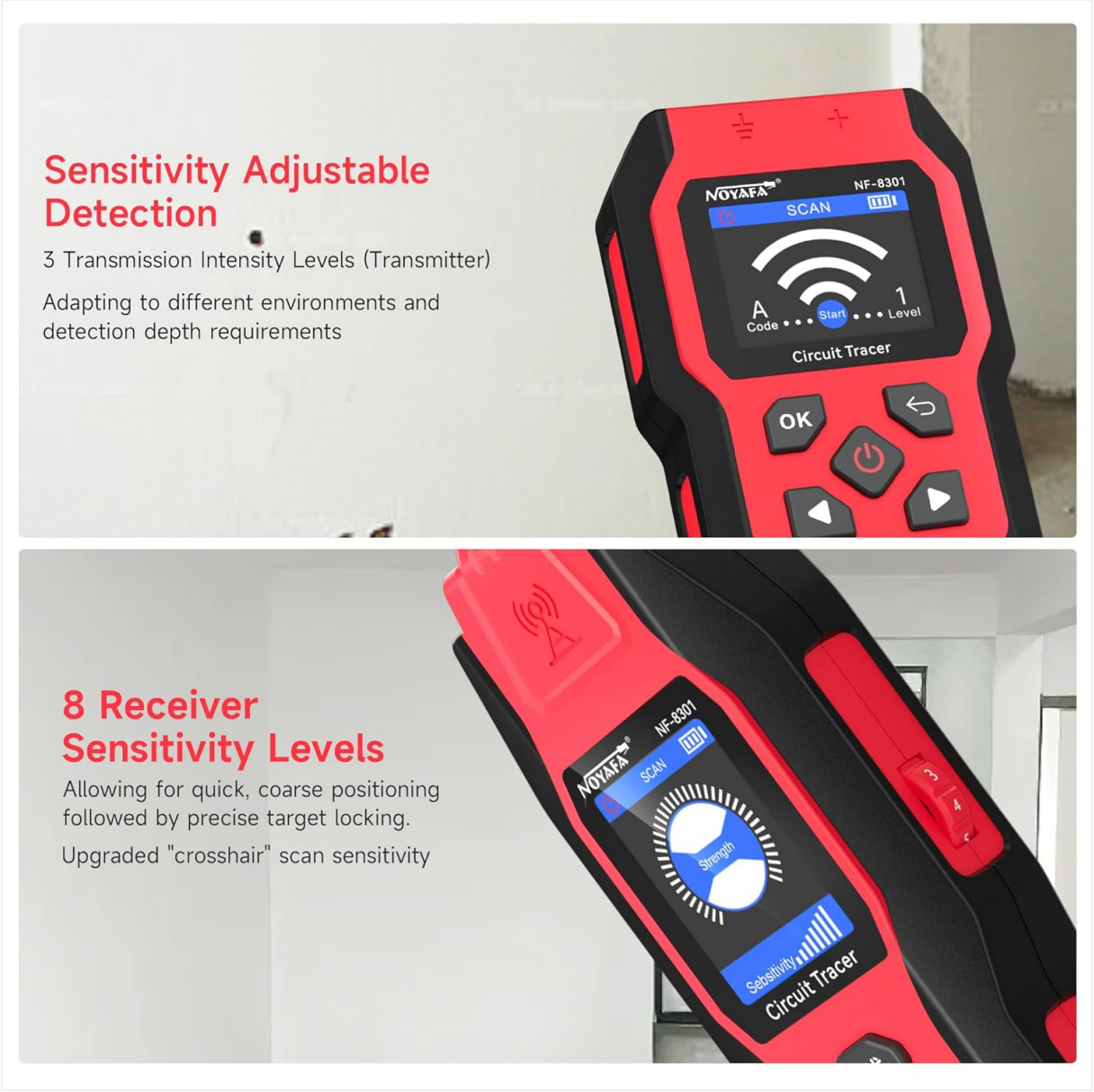

Image: Close-up of the NF-8301 Circuit Tracer's transmitter and receiver displays, highlighting the 3 transmission intensity levels for the transmitter and 8 receiver sensitivity levels for precise detection.

Image: The NF-8301 Circuit Tracer transmitter and receiver units, displaying their respective battery capacities (3000mAh for transmitter, 1800mAh for receiver) and charging ports, indicating long battery life.

Safety Information

Read and understand all safety warnings and operating instructions before using this product. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Always assume circuits are live until verified otherwise.
- Do not use the device if it appears damaged or is not functioning correctly.
- Ensure proper connection of test leads to avoid short circuits or damage to the device.
- Use appropriate personal protective equipment (PPE) when working with electrical systems.
- The NCV function is for quick checks; always confirm with a known voltage source if possible.
- Keep the device away from water and extreme temperatures.

Setup

Before first use, ensure both the transmitter and receiver are fully charged using the provided charging cable.

1. **Charging:** Connect the charging cable to the charging port on both the transmitter and receiver, then connect to a suitable USB power source. The battery indicator will show charging status.
2. **Power On/Off:** Press and hold the power button on both the transmitter and receiver to turn them on or off.
3. **Connecting the Transmitter:** For circuit tracing, connect the transmitter to the circuit you wish to trace. Use the test leads and alligator clips for direct connection to wires or terminals. For underground tracing, connect one lead to the wire and the other to the grounding rod inserted into the earth.

Operating Instructions

Circuit Tracing (Live & De-energized Wires)

1. **Connect Transmitter:** Connect the transmitter to the circuit as described in the Setup section. Ensure a secure connection.
2. **Power On:** Turn on both the transmitter and receiver.
3. **Adjust Transmitter Intensity:** On the transmitter, select the appropriate transmission intensity level (3 levels available) based on the environment and desired detection depth. Higher intensity for deeper or longer traces.
4. **Scan with Receiver:** Hold the receiver and move it along the suspected path of the wire. The receiver will provide audible beeping alerts and a visual signal strength bar on its display.
5. **Adjust Receiver Sensitivity:** Use the 8-level sensitivity adjustment on the receiver. Start with higher sensitivity for a broad scan, then reduce it for precise positioning and to minimize interference when nearing the target wire.
6. **Locate Target:** Follow the strongest signal indication (both audio and visual) to pinpoint the exact location of the wire, break, or short circuit.

Non-Contact Voltage (NCV) Detection

1. **Activate NCV:** On the receiver, press the NCV button to activate the non-contact voltage detection mode.
2. **Scan for Voltage:** Bring the tip of the receiver close to the wire or outlet you want to test.
3. **Interpret Indication:** The receiver will provide audible and visual alerts (e.g., flashing LED, changing display) if live AC voltage is detected.

Image: The NF-8301 Circuit Tracer receiver demonstrating its Non-Contact Voltage (NCV) detection capability by indicating the presence of live electrical lines near an outlet.

Digital Multimeter Functions

The transmitter unit integrates digital multimeter capabilities:

1. **Connect Test Probes:** Insert the test pen and test clip into the appropriate ports on the transmitter.
2. **Select Function:** Use the mode selection buttons on the transmitter to cycle through available measurement functions: AC/DC voltage, continuity, resistance, current, and frequency.
3. **Perform Measurement:** Apply the test probes to the circuit or component you wish to measure. The reading will be displayed on the transmitter screen.

Image: The NF-8301 Circuit Tracer transmitter displaying its integrated digital multimeter functions, including AC voltage, DC voltage, continuity, resistance, current, and frequency measurements.

Troubleshooting

If you encounter issues with your NF-8301, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No signal detected	Transmitter not powered on; low battery; incorrect connection; signal too weak.	Ensure transmitter is on and charged. Check connections. Increase transmitter intensity. Adjust receiver sensitivity.
Weak or inconsistent signal	Low battery; high interference; signal attenuated by material.	Charge devices. Reduce receiver sensitivity to filter noise. Move closer to the wire. Ensure proper grounding.
False readings or multiple signals	High receiver sensitivity; proximity to other electrical sources.	Decrease receiver sensitivity for precise targeting. Move away from known interference sources.

Problem	Possible Cause	Solution
Digital Multimeter not functioning	Incorrect mode selected; test probes not connected; low battery.	Verify correct measurement mode. Ensure test probes are securely connected. Charge transmitter.

Maintenance

Proper maintenance ensures the longevity and accuracy of your NF-8301 Circuit Tracer.

- **Cleaning:** Wipe the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in its carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Battery Care:** Recharge the batteries regularly, even if the device is not in frequent use, to maintain battery health. Avoid fully discharging the batteries for extended periods.
- **Inspection:** Periodically inspect test leads and connections for any signs of wear or damage. Replace damaged components immediately.

Specifications

Specification	Detail
Model Number	NF-8301
Brand	NOYAFA
Power Source	Battery Powered (Rechargeable)
Transmitter Battery	3000mAh (Internal)
Receiver Battery	1800mAh (Internal)
Max Tracing Depth	9.84 ft (3 meters)
Max Tracing Length	1640 ft (500 meters)
Receiver Sensitivity	8 adjustable levels
Transmitter Intensity	3 adjustable levels
Digital Multimeter Functions	AC/DC Voltage, Continuity, Resistance, Current, Frequency
Safety Compliance	CE, RoHS, UL
Item Weight	1.98 pounds (0.9 Kilograms)
Package Dimensions	10.24 x 7.4 x 3.03 inches

Warranty and Support

Warranty information for the NOYAFA NF-8301 Circuit Tracer is typically provided with the product packaging or available on the manufacturer's official website. For technical support, troubleshooting

assistance, or warranty claims, please refer to the contact information provided by NOYAFA in your product documentation or visit their official support channels.