

REED

Model R9090

Stud, Metal
and Voltage
Detector



Instruction Manual

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Table of Contents

| | |
|--|-----|
| Safety | 3 |
| Features..... | 3 |
| Applications..... | 4 |
| Specifications | 4 |
| Instrument Description | 5 |
| Display Description | 5 |
| Operating Instructions..... | 6-9 |
| <i>Stud Scan</i> | 6-7 |
| <i>Metal Scan</i> | 7 |
| <i>AC Scan</i> | 8 |
| <i>Operating Tips</i> | 9 |
| <i>Conventional Construction</i> | 9 |
| <i>Surface Differences</i> | 9 |
| Auto Power Off..... | 10 |
| Battery Replacement..... | 10 |



Safety

The following warnings must be followed to avoid injury.

- **DO NOT** remove the warning labels
- Shielded wires or live wires in metal conduits, casings, metal walls or thick dense walls will not be detected
- Use caution when nailing, cutting or drilling in walls, ceiling and floors that may contain wiring or pipes near the surface
- When working near ac electrical wires, always turn off the wires' power
- Depending on the proximity of electrical wiring or pipes to the wall surface, the unit may detect them in the same manner as studs. Caution should always be used when nailing, sawing, or drilling into walls, floors, and ceilings that may contain these items



Caution

- Shielded or non-powered wiring will not be detected as live wires
- Always remember that studs or joists are normally spaced 16 inches or 24 inches apart and are 1-1/2 inches in width
- When working near AC electrical wires, always turn off the power

Note: The unit is designed to detect 110 volts for AC in live electrical wires

Features

- 3-in-1 stud, metal and AC voltage detector
- Ergonomically designed for comfort and grip
- Bargraph allows for quick and accurate detection
- Easy operation
- Auto power off
- Includes battery



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3

Applications

- Hang household items (mirrors, pictures and shelves)
- Trace hot wires behind building materials
- Locate metallic pipes in concrete

Specifications

Detection Depth

| | |
|----------|--------------------|
| Stud: | Up to 0.98" (25mm) |
| Metal: | Up to 2.56" (65mm) |
| Voltage: | Up to 1.96" (50mm) |

General Specifications

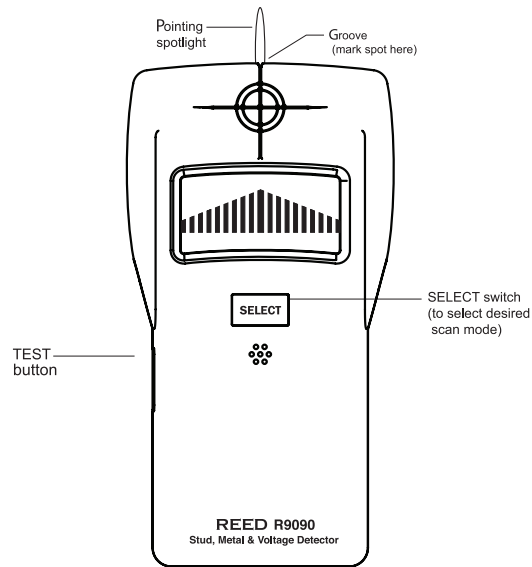
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|-------------------------|------------------------------------|
| Display: | LCD Display with bargraph |
| Auto Power Off: | Yes (after 20 seconds) |
| Low Battery Indicator: | Yes |
| Power Supply: | 9V Battery |
| Product Certifications: | CE |
| Operating Temperature: | 19.4 to 104°F (-7 to 40°C) |
| Storage Temperature: | 4 to 122°F (-20 to 50°C) |
| Dimensions: | 6.3 x 3.2 x 1.3" (159 x 82 x 32mm) |
| Weight: | 7.2oz (203g) |
| Optional Accessories: | Soft Carrying Case (CA-05A) |



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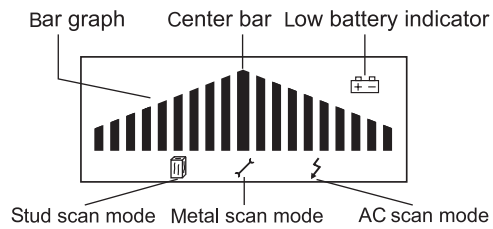
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Instrument Description



Press TEST button for about 2 seconds to turn on the unit.

Display Description



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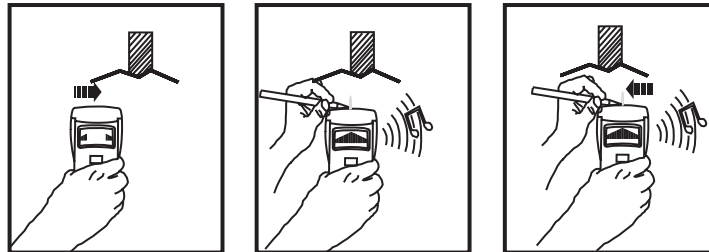
5

Operating Instructions

Stud Scan

- Select **STUD SCAN** mode and place the instrument against the wall. Press and hold **TEST** button until the unit gives two short beeps. Slowly move the unit sideways across the wall while pressing and holding the **TEST** button.
- When the center bar appears, stop moving. It means this unit has detected an edge of a stud. Mark this spot at the groove.
- Continue moving sideways across the wall until the center bar turns off, and then, still holding the button, reverse direction and locate other edge by using the same procedure. The midpoint between the two marks is the center of the stud.

Error correction: If the LCD starts blinking and beeping, move over a few inches and start again.



Notes

- The stud detection can be carried out normally on wall-papered walls. However, it may not function on some types of foil backed or metallic fabric surfaces.
- If by chance the unit is placed over a wall batten or stud to start, the center bar will not appear when an edge of batten or wall stud is under the unit.
- The surface of the wall along which you want to detect should be flat.

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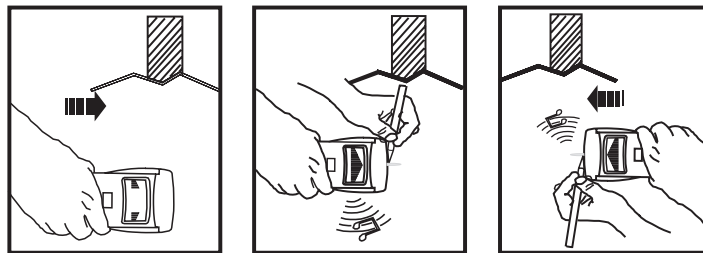
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6

- We recommend carrying out metal/voltage detection to make sure the detected batten or wood stud is not a piece of pipe or cable. Please note that some small securing screws or nails may be detected.
- To avoid disturbance, keep your other hand away from the unit when in use.

Metal Scan

- Select **METAL SCAN** mode. While holding this unit away from any metal objects, hold the **TEST** button until the unit gives two short beeps. Place it on the wall and slowly move it across the surface.
- When the center bar appears, stop moving. It means this unit detects an edge of a metal object. Mark this spot at the groove.
- Continue moving in the same direction until the center bar turns off, and then, still holding the button, reverse direction and locate the other edge. Mark this spot. The midpoint between the two marks is the center of the metal object.



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7

AC Scan

For maximum sensitivity, begin by placing this unit at a known position away from hot wiring.

- Select **AC SCAN** mode. While holding this unit away from any metal objects, hold the **TEST** button until the unit gives two short beeps. Place it on the wall and slowly move it across the surface.
- When the center bar appears, stop moving. It means this unit detects an edge of a metal object. Mark this spot at the groove.
- Continue moving in the same direction until the center bar turns off, and then, still holding the button, reverse direction and locate the other edge. Mark this spot. The midpoint between the two marks is the center of the metal object.

Notes

- Wires deeper than the detection limit from surface, in conduit, or behind plywood shearwall will not be detected. Use caution under these circumstances.
- Rubbing or banging the unit on the wall may generate static electricity and cause a false indication.
- **Leakage Currents:** Because of the extremely small current required to cause a signal, an apparent false indication may appear in some situation, i.e. a conductor with poor insulation touching a damp wall. In this situation, the unit is indicating a potential hazard which should be checked with a voltmeter.



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8

Operating Tips

Conventional Construction

Doors and windows are commonly constructed with additional studs and headers for added stability. This unit detects the edge of these double studs and solid headers and emits and holds an audio signal as it crosses over them.

Surface Differences

Wallpaper: there will be no difference in the function of the stud sensor on surfaces covered with wallpaper or fabric unless the coverings contain metallic foil or fibers.

Plaster and Lath: unless the plaster and lath is exceptionally thick or has metal mesh in it, there will be no problem with the unit functioning properly.

Ceiling or Textured Surfaces: when dealing with a rough surface such as a sprayed ceiling, place a piece of cardboard under the unit when scanning the surface. Run through the calibration technique described earlier with the piece of cardboard between the stud sensor and the surface. Also, it is particularly important in this application to remember to keep your free hand away from the unit.




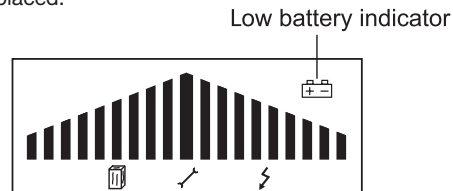
Auto Power Off

If you do not use the detector for about 20 seconds, it will power off automatically. To turn it on again, press the **TEST** button for about 2 seconds.

Note: Detection depth and edge detection may vary due to moisture content of materials, wall texture, paint, etc.

Battery Replacement

When the “” symbol appears, it means that the battery is low and should be replaced.



Remove the battery door, connect a 9V battery to cable and place inside.
Replace battery door.

For service on this or any other REED product or information on other REED products, contact REED Instruments at info@reedinstruments.com

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10

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