

**STANLEY**

77-250

# IntelliSensor™ DigiScan

INSTRUCTION  
MANUAL



## IntelliSensor™ (77-250) DigiScan

The Stanley® IntelliSensor™ DigiScan uses electronic signals to locate the exact position of studs, joists or live AC wires through drywall and other common wall materials. Once the edge of the stud has been detected, the IntelliSensor™ DigiScan LCD display gives visual and audio indications that allow you to easily pinpoint the stud's center position. A pencil line allows you to quickly note the location of the stud edges.

The IntelliSensor™ DigiScan allows the user to locate wood studs with two different depth sensitivities: Up to 3/4 inch for most common applications and "Deep Read" 1-1/2 inch for thicker materials such as tiled or plaster and lath walls. Two levels of Live AC wire sensitivity allow for quick detection and location of live wires.

The IntelliSensor™ DigiScan provides automatic calibration in both standard and Deep Read modes with over stud calibration indication, auto shut off and heavy duty ABS construction.

ILLUSTRATION 1

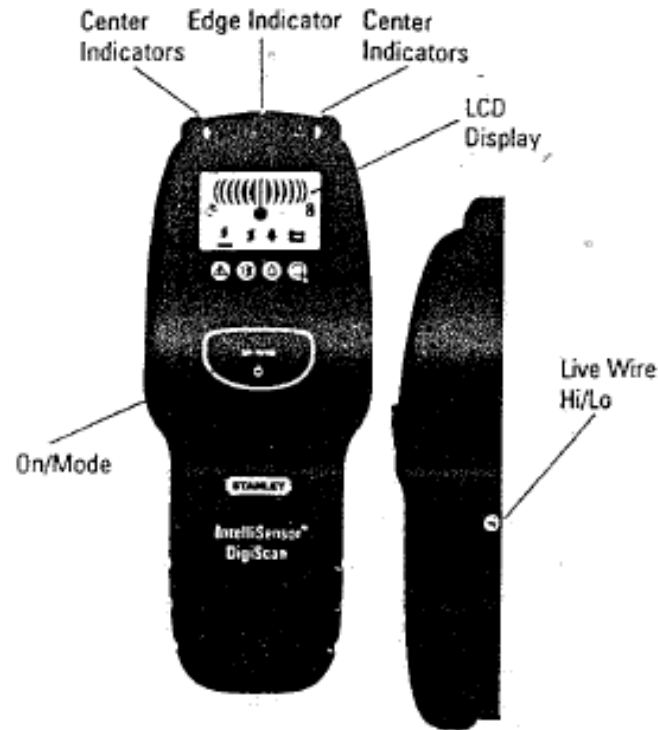
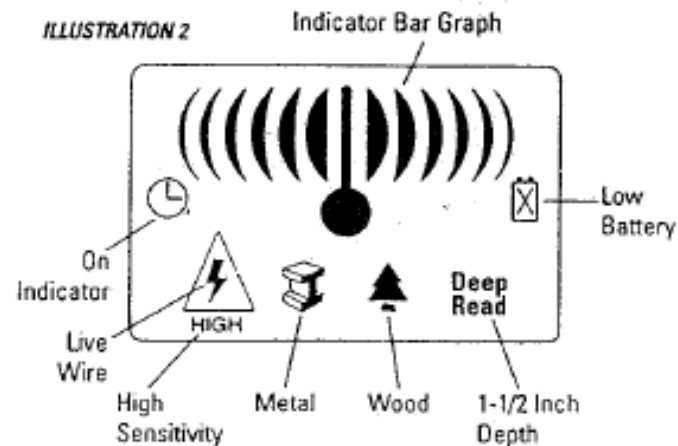


ILLUSTRATION 2



## Operating Instructions

### Battery

Open door on back of unit and connect a 9-volt battery to clip. Place battery back into case and slide battery door on.



ILLUSTRATION 3

### Calibration

Calibrate the unit on wall before scanning for wood or metal.

**Pre-set the Live Wire switch to the "HI" or "LOW" position prior to calibration, depending on detection requirements. When set to "HI" the "High" indicator will be shown in the lower left corner of the display.**

**Note:** While calibrating, the IntelliSensor™ DigiScan must not be placed directly over a stud, dense material such as metal, wet or newly painted areas as this will prevent the unit from calibrating properly. If this is done over wood the unit will give no indication when moved away from the area and over wood studs. It will indicate metal. If this is done over metal the unit will give no indication when moved away from the area. Move to a different location and try again.

### Standard Depth 3/4"

1. Hold the IntelliSensor™ DigiScan flat against the surface, making firm contact. Press and release the "ON / Mode" button. All indicators on the LCD are displayed while the unit goes through its' 1 to 2 second calibration cycle. When calibrated all indicators except the "ON" clock will disappear.
2. The unit is now ready to look for studs

### Deep Read 1-1/2"

1. Hold the IntelliSensor™ DigiScan flat against the surface, making firm contact. Press the "ON / Mode" button and hold for 1 second. This will place the unit in the "Deep Read" mode
2. Calibrate the unit as outlined in the Standard Depth section. When calibration is finished now both the ON clock and the Deep Read indicators will be shown.
3. To return the unit to Standard Depth press and hold the "ON / Mode" for 1 second.

### Metal Calibration:

The Metal detection depth sensitivity is set during calibration and is adjusted according to the presence of metal. To set the sensitivity to a desired depth, place the unit over a metal object at the desired depth and turn unit on. It will now sense metal at this depth and closer. If no metal is detected the unit is set to maximum sensitivity. The actual depth will vary with type and size of metal detected.

## USAGE:

### Detecting Wood Studs

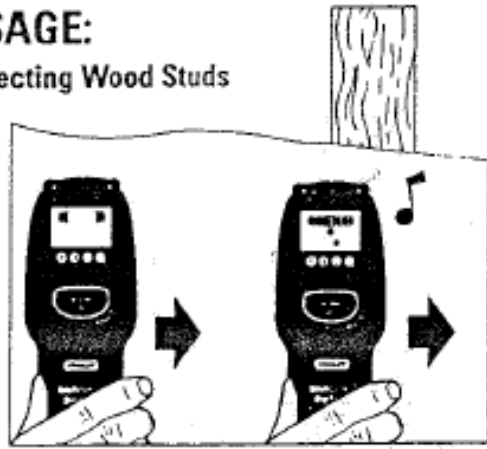


ILLUSTRATION 4

1. Slide the unit across the surface in a straight line as shown in illustration 4. As the unit moves closer to the stud the outer bar indicators will show. The closer the unit is to the stud the more bars will be shown. When the stud edge is detected the Wood indicator and the center bar will be shown and the unit will sound a repeating beep.
2. Use the indicator line to mark the stud edge.
3. Continue sliding past the stud. When the indicator turns off and the unit stops beeping the other edge has been detected.
4. Double check stud location by coming back from the other direction. Make additional markings.
5. The midpoint of the marks indicates the stud center.
6. The same procedure is used in the Deep Read mode.

### Detecting Metal Studs

1. Calibrate unit to desired depth sensitivity as described in the Calibration section.
2. For wall thickness greater than 3/4 inch use Deep Read mode for greater sensitivity.
3. Slide unit over wall as described in "Detecting Wood Studs".
4. When metal is detected the Metal indicator will appear and the outer bars will appear.
5. As the edge is approached more bars appear until center bar appears and unit begins to repeatedly beep. Note that the tone for metal is different than that for wood.
6. Mark location and continue sliding until unit stops beeping.
7. Double check stud location by coming back from the other direction. Make additional markings. The midpoint of the marks indicates the stud center.
8. When metal sensing is set to maximum depth sensitivity and the sensed metal object is close to the unit (example; metal stud behind 1/2 inch wallboard) the apparent width of the sensed metal can be very wide. To locate the true metal size place the unit in the approximate center of the indicated area and re-calibrate the unit as described in Metal Calibration. Then re-scan the area; repeat this procedure until the size of the metal is determined.

**Note:** If a small piece of metal, such as a nail is detected at the same time as a wood stud the unit will display both the Wood and Metal indicators. Simply move the unit to a lower location on the wall and rescan the area.

#### **Detecting Live Wires:**

The Live Wire Detection feature is always active and will be displayed whenever a Live Wire is detected. Its indicator will appear together with the Wood or Metal indicators. Two levels of detection sensitivity are available, Lo and High "High" is typically used for 2 x 6 inch wall construction or thick wall surfaces while "Lo" is for standard 2 x 4 inch construction.

Static electricity charges that can develop on drywall and other surfaces will spread the voltage detection area many inches to each side of the actual electrical wire. To aid in locating the wire position, scan holding the unit 1/2 inch away from the wall surface or place other hand on surface approximately 12 inches from sensor.

**Warning: shielded wires or live wires in metal conduits, casings, metalized walls or thick, dense walls, will not be detected. Always turn AC power off when working near wiring.**

The IntelliSensor™ DigiScan is designed to detect 110 and 220 volts AC in live electrical wires. It will also detect the presence of live wires having greater than 220 volts.

## **Cautions on Operating**

You should always use caution when nailing, cutting or drilling in walls, ceilings and floors that may contain wiring or pipes near the surface.

**Shielded, dead 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. To avoid surprises, be aware that anything closer together or of a different width may be an additional stud, joist or fire break.

**When working near AC electrical wires, always turn off the power.**

#### **Operating Tips**

##### **Prevent Interference**

To ensure best performance from the IntelliSensor™ DigiScan unit, the unit should be held properly with the hand on the lower portion of the unit. Keep your free hand at least 6 inches away from the unit while testing or scanning surfaces.

##### **Conventional Construction**

Doors and windows are commonly constructed with additional studs and headers for added stability. The IntelliSensor DigiScan 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. Best results will be typically achieved with the Deep Read mode.

**Ceiling or Textured Surfaces** — When dealing with a rough surface such as a sprayed ceiling, use a piece of cardboard 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.

## Specifications

\*Utilizing the procedure of scanning and marking from two sides, IntelliSensor™ DigiScan will find the center of wood or metal (iron or steel) studs through 3/4 or 1-1/2 inch surfaces with an accuracy of 1/8 inch.

Battery:	9 volt
Shock Resistance:	Resistant to shock from 6 feet when dropped onto a hard surface.
Operating Temperature:	+20°F to +122°F (-7°C to +50°C)
Storage Temperature:	-4°F to +150°F (-20°C to +66°C)

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## Warranty

The Stanley Works warrants the IntelliSensor™ DigiScan against defects in material and workmanship for one year from the date of purchase. Deficient products will be repaired or replaced at Stanley's discretion if sent to:

The Stanley Works  
Repair Department  
480 Myrtle Street  
New Britain, CT 06053

Stanley's liability under this warranty is limited to repair or replacement of the unit. Any attempt to repair the product by other than factory authorized personnel will void this warranty. Calibration, batteries and maintenance are the responsibility of the user. Where permitted by law, Stanley is not responsible for incidental or consequential damages. Agents of Stanley cannot change this warranty. Stanley is not responsible for damage resulting from wear, abuse or alteration of this product. The user is expected to follow ALL operating instructions.

This warranty may provide you with additional rights that vary by state, province or nation.