

StudSensor™ HD70

Centre-Finding Stud Finder

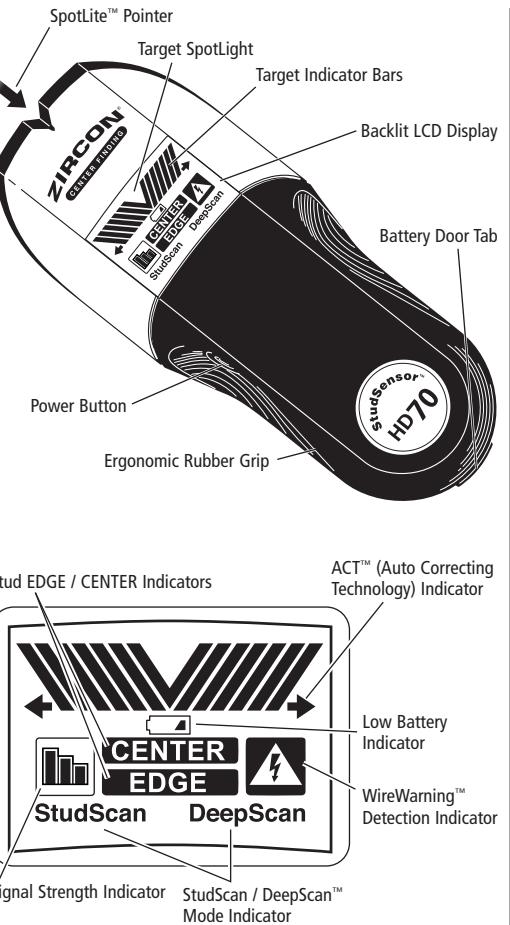
BEFORE YOU BEGIN

ZIRCON® STUD FINDERS WORK BY SENSING DENSITY CHANGES BEHIND THE WALL. OTHER OBJECTS CAN BE DETECTED ESPECIALLY IF THEY ARE VERY CLOSE TO THE WALL. **DO NOT ASSUME EVERYTHING DETECTED IS A STUD.**

- Always use a new 9V alkaline battery with an extended expiration date at least 3 years beyond the current date. Match battery direction to images inside of battery cavity.
- Do not rely exclusively on the scanner to locate items behind a surface. Use other information to help locate such items before penetrating the surface, including construction plans, visible points of entry of pipes and wiring into walls such as in a basement, and standard stud-spacing practices.
- Always start your scan in StudScan Mode which scans through surfaces up to 19 mm deep. Scanning in DeepScan™ Mode may detect an object further behind the wall that may or may not be a stud.
- Always scan for studs at several different heights on the wall and mark the location of every target indicated by the stud finder. This is called "mapping the wall." Pipes and other objects will likely not give consistent readings from floor to ceiling, like a stud would.
- Readings should always be consistent and repeatable.
- Zircon® stud finders are recommended for interior use only.
- Studs normally run from floor to ceiling, except above and below windows, and above doors.
- Other objects commonly contained in walls, floors, or ceilings are water pipes, gas lines, firestops, and electrical wiring.
- Sensing depth and accuracy can vary depending on scanning environment conditions such as mineral content, moisture, texture and consistency of the wall materials.
- Always turn off power when working near electrical wires.
- Depending on the proximity of electrical wiring or pipes to the wall surface, the scanner may detect them in the same manner as studs. **Caution should always be used when nailing, cutting, or drilling in walls, floors, and ceilings that may contain these items.**
- Studs and joists are normally spaced 40 or 60 cm apart on centre, are normally 38 mm wide, and may be separated by firestops. Anything closer together, or of a different width, may not be a stud or joist.

TROUBLESHOOTING & CONSTRUCTION TIPS

SITUATION	LIKELY CAUSE	SOLUTION
All display elements turn on at the same time and the tool beeps continuously.	Tool not held flat against wall.	<ul style="list-style-type: none"> • Hold the tool with thumb on one side and fingers on the other side. Do not touch the surface being scanned or the scanning head of the tool. • Move the tool straight up and down, parallel to the studs. Do not rotate the tool.
	Tool tilted or lifted during scan.	<ul style="list-style-type: none"> • When scanning an uneven surface, place thin cardboard on the surface to be scanned and scan over the cardboard in DeepScan™ Mode. • With tool on, quickly release and re-press the Power Button to enter DeepScan™ Mode.
	Scanning surface is too dense or too wet for tool to operate.	If you are using tool on a recently taped, painted, or wallpapered wall, allow time to dry and try again.
Tool detects objects other than studs, or finds more studs than should be there.	Electrical wiring and metal or plastic pipes may be near or touching the back of the wall surface.	Check for other studs equally spaced to either side at 30, 40, or 60 cm, or check for the same stud at spots directly above or below the first scan area. Studs will run straight up and down, from floor to ceiling, while pipes may change direction. Standard studs measure approximately 38 mm between edges. Anything larger or smaller is likely not a stud (unless near door or window).
Area of voltage detection is too large.	Voltage detection can spread on drywall by as much as 30 cm on each side of the wire.	Narrow the scan detection: 1. Turn tool off. 2. Turn it on again at the edge of where the wire was first detected. 3. Repeat scan.
Electrical wires suspected but WireWarning™ Detection does not alert.	Wires are shielded by a metal conduit, braided wire or metallic wall covering.	If there is an outlet switch, turn it to ON position while scanning, but turn OFF when working near the wires. Use extra caution if the area has plywood, thick wood backing behind drywall, or walls that are thicker than normal.
	Wires deeper than 50 mm from the surface might not be detected.	See above.
	Wires may not be live.	Plug a lamp into the outlet and turn it on to test whether wires are live.
Low Battery Indicator flashes and tool does not operate.	Low battery.	Install a new 9V alkaline battery with an extended expiration date.



POWER UP

To activate tool, press and hold Power Button. If button is not pressed and held, unit shuts off.

FIND A STUD

For best results, hold the tool as shown (**Figure A**) and move slowly when scanning. **Do not touch the surface during calibration or scan.**



Figure A

1. Hold tool flat against wall, then press and hold Power Button. In 1 – 2 seconds, the unit will calibrate. A short beep confirms that calibration is complete.

DO NOT MOVE TOOL DURING CALIBRATION.

2. While holding down the Power Button, slide the tool slowly along the wall. When tool finds the edge of a stud, EDGE displays. (**Figure B**)

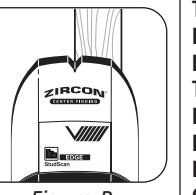


Figure B

3. Continue sliding. When tool finds the centre of a stud, Centre displays, light illuminates, 3 bars show signal strength, and a buzzer sounds. (**Figure C**)

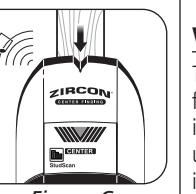


Figure C

NOTE: If only two signal bars show (Figure D), stud may be too deep. Switch to DeepScan™ Mode, and repeat scan.

4. Use the SpotLite™ Pointer to mark the location of the centre of the stud. (**Figure E**)

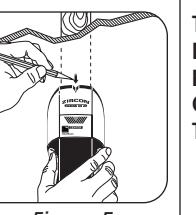


Figure E

Tool automatically recalibrates when in use. If arrows appear on the display (**Figure F**), the tool was calibrated too close to a stud, then moved away. This is **ACT™ (Auto Correcting Technology)**.

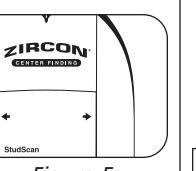


Figure F

DEEPSCAN™ MODE

DeepScan™ Mode will detect studs up to 38 mm deep, or twice the depth of StudScan.

To activate DeepScan™ Mode:

1. Place the tool flat against the wall.
2. Quickly press the Power Button twice, and hold it down after the second press. The DeepScan™ Mode Indicator will light. (**Figure G**)
3. To find a stud, follow steps 2 – 4 under FIND A STUD.



Figure G

⚠️ WARNING DO NOT ASSUME THERE ARE NO LIVE ELECTRICAL WIRES IN THE WALL. DO NOT TAKE ACTIONS THAT COULD BE DANGEROUS IF THE WALL CONTAINS A LIVE ELECTRICAL WIRE. ALWAYS TURN OFF THE ELECTRICAL, GAS, AND WATER SUPPLIES BEFORE PENETRATING A SURFACE. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN ELECTRIC SHOCK, FIRE, AND/OR SERIOUS INJURY OR PROPERTY DAMAGE.

WIREWARNING DETECTION

The Zircon® WireWarning™ Detection feature works continuously in both modes. When live, unshielded AC voltage is detected, the WireWarning™ Detection Indicator shows. If scanning begins over a live AC wire, the Indicator will flash continuously. (**Figure H**)



Figure H

Use extreme caution under these circumstances, or whenever live AC wiring is present.

⚠️ WARNING THE SCANNER MAY NOT DETECT LIVE CURRENT IF WIRES ARE MORE THAN 50 mm BELOW THE SCANNED SURFACE, IN CONCRETE, ENCASED IN CONDUIT, BEHIND A PLYWOOD SHEAR WALL OR METALLIC WALL COVERING, OR IF MOISTURE IS PRESENT IN THE ENVIRONMENT OR SCANNED SURFACE.

WORKING WITH DIFFERENT MATERIALS

Wallpaper This tool functions normally on walls covered with wallpaper or fabric, unless the materials are metallic foil, contain metallic fibers, or are still wet after application. Wallpaper may need to dry for several weeks after application.

Freshly painted walls Paint may take a week or longer to dry after application.

Lath and plaster Due to irregularities in plaster thickness, this tool is not recommended for use on lath and plaster.

Highly textured walls or acoustic ceilings

When scanning a ceiling or wall with an uneven surface, place thin cardboard on the surface to be scanned and scan over the cardboard in DeepScan™ Mode.

Wood flooring, subflooring, or gypsum drywall over plywood sheathing Use DeepScan™ Mode and move the tool slowly. The Signal Strength Indicator may only display one or two bars when the tool locates a stud through a thick surface.

This tool cannot scan for wood studs and joists through carpet and padding.

NOTE: Sensing depth and accuracy can vary depending on scanning environment conditions such as mineral content, moisture, texture, and consistency of the wall materials.

Electrical wiring and pipes Depending on the proximity of electrical wiring or pipes to the wall surface, the tool may detect them in the same manner as studs. **Caution should always be used when nailing, cutting, or drilling in walls, floors, and ceilings that may contain these items.**

Studs and joists are normally spaced 40 or 60 cm apart on centre and are 38 mm wide. Anything closer together, or of a different width, may not be a stud or joist.

LIMITED TWO-YEAR WARRANTY

Zircon Corporation ("Zircon") warrants to the original purchaser (or original user by gift) that this product will be free from defects in materials and workmanship for two years from date of purchase. This warranty is limited to the electronic circuitry of the product, and specifically excludes consumable parts, including batteries, and software, even if packaged with the product. Defects caused by abuse, modification, handling contrary to these instructions, other unreasonable use, or neglect are not covered under this warranty. No liability is accepted under this Limited Warranty for normal wear and tear and minor defects which do not detract from the function of the product. This Limited Warranty is in addition to the statutory rights to which purchaser is entitled and which are not excluded by this warranty, to the extent any such exclusion is permitted by law.

IN NO EVENT WILL ZIRCON BE LIABLE FOR ANY LOSS THAT IS NOT FORESEEABLE RESULTING FROM POSSESSION, USE, OR MALFUNCTION OF THIS PRODUCT.

Any in-warranty defective product returned to the place of purchase with original proof of purchase will be replaced or purchase price refunded at retailer's option. This Limited Warranty applies only to products purchased within the European Economic Area and United Kingdom. For warranties applicable to Zircon products purchased in other geographical areas, see www.zircon.com/warranty-registration.

For questions about this warranty or Zircon products, contact:

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