

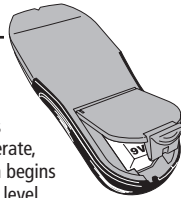
# MultiScanner® HD900c Multifunction Wall Scanner

The MultiScanner® HD900c, with advanced ColorTrip™ Display, lights green in StudScan and DeepScan®, blue in Metal Scan, and red in AC Scan mode. When AC WireWarning® is detected in StudScan, DeepScan®, or Metal Scan modes, screen will light, or flash, red.

- StudScan: Locates the centre and edges of wood and metal studs up to 19 mm deep
- DeepScan®: Locates the centre and edges of wood and metal studs up to 38 mm deep
- Metal Scan: Detects ferrous (magnetic) metal (such as 13 mm rebar) up to 76 mm deep and non-ferrous (non-magnetic) metal up to 38 mm deep
- AC Scan: Detects live unshielded AC wires up to 51 mm deep

## 1. INSTALLING THE BATTERY

Push in the battery door tab and open the door. Insert a **new** 9V alkaline battery, matching the positive (+) and negative (-) terminals and replace the door.



**Low Battery Indicator:** The Low Battery Indicator icon displays when the battery level is getting low. While the tool will still operate, the battery will need to be replaced soon. When the battery icon begins to flash and is the only icon displayed on the screen, the battery level is too low and not sufficient to power the tool for proper operation. Please replace the 9V battery with a brand new battery immediately.

Zircon® stud finders and detectors, particularly those with LCD screens, require and consume a great deal of current from batteries.

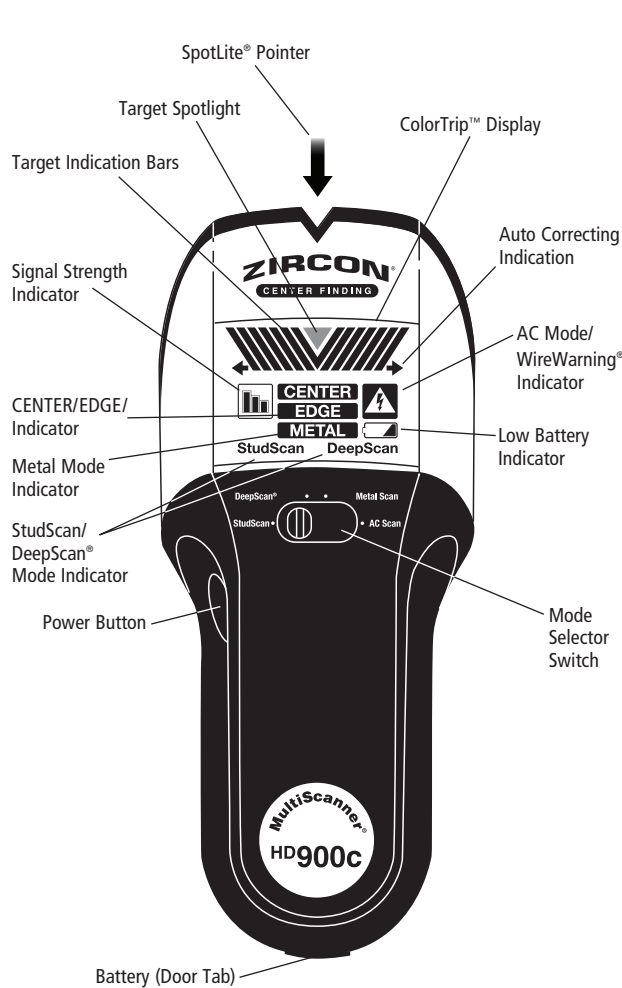
For optimal performance, brand-new, recently purchased alkaline batteries are strongly recommended for use in these tools.

If you are experiencing any trouble with your tool, please replace the battery in your tool with a brand-new one, or contact your Zircon® dealer or e-mail info@zircon.com.

## 2. OPERATING TIPS

For optimum scanning results, it is important to properly hold the MultiScanner® HD900c and move slowly when scanning. The following tips will provide more accurate scanning results:

- Grasp the handle with your thumb on one side and your fingers on the other side.



Make sure your fingertips are resting on the handle and not touching the surface being scanned or the scanning head of the tool.

- Hold the tool straight up and down, parallel to the studs, and do not rotate the tool.
- Keep the tool flat against the wall and do not rock, tilt, or press hard when slowly sliding across the surface being scanned.
- Avoid placing your other hand, or any other part of your body, on the surface being scanned. This will interfere with the tool's performance.
- If you're receiving erratic scanning results, it may be a result of humidity, moisture within the wall cavity or drywall, or recently applied paint or wallpaper that hasn't fully dried. While the moisture may not always be visible, it will interfere with the tool's sensors. Please allow a few days to several weeks for the wall to dry out.
- 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.
- To avoid surprises, remember that studs or joists are normally spaced 41 or 61 cm apart and are 38 mm in width. **Anything closer together or a different width may not be a stud, joist, or firebreak.**
- If display lights, or flashes, red in StudScan, DeepScan®, or Metal Scan, WireWarning® detection has indicated the presence of live AC electricity. Exercise extreme caution before nailing, cutting, or drilling.

**Always turn off power when working near electrical wires.**

### SCANNING DIFFERENT SURFACES

**Wallpaper:** MultiScanner® HD900c 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:** May take one week or longer to dry after application.

**Lath & plaster:** Due to irregularities in plaster thickness, it is difficult for MultiScanner® HD900c to locate stud in stud modes.

Change to Metal Scan mode to locate the nail heads holding wood lath to the studs. If the plaster has metal mesh reinforcement, MultiScanner® HD900c may be unable to detect through that material.

### Extremely 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. If irregular scanning results are received, switch to Metal Scan mode to locate nails or drywall screws that line up vertically where a stud or joist is positioned.

### Wood flooring, subflooring, or gypsum drywall over plywood sheathing:

Use DeepScan® mode and move the tool slowly. The Signal Strength Indicator may only display 1 or 2 bars when the tool locates a stud through thick surfaces.

MultiScanner® HD900c cannot scan for wood studs and joists through tile, concrete or carpet and padding. In problematic situations, try using Metal Scan to locate nails or screws that may line up vertically where a stud or joist is positioned.

*Note: Sensing depth and accuracy can vary due to moisture, content of materials, wall texture, and paint. Indoor use only.*

**WARNING** Do not rely exclusively on the detector to locate items behind the scanned surface. Use other information sources to help locate items before penetrating the surface. Such additional sources include construction plans, visible points of entry of pipes and wiring into walls, such as in a basement, and in standard 41 and 61 cm stud spacing practices.

## 3. SELECTING THE MODE

Move selector switch to the desired mode. ColorTrip™ Display will light green in StudScan for finding wood or metal studs; green in DeepScan® for scanning walls over 19 mm thick; blue in Metal Scan for locating metal; and red in AC Scan for locating live AC wiring.

Unit will remain off if Power Button is not pressed.

## 4. TURNING ON/CALIBRATING THE TOOL

- Place MultiScanner® HD900c against the wall **before** pressing the Power Button in StudScan or DeepScan® mode.

- Once powered on, the tool will automatically perform all calibrations. The LCD will display all icons until calibration is complete. Upon completion of calibration, the SpotLite® Pointer and buzzer will momentarily activate and the tool will begin continuous measurements. Continue to hold the Power Button down and keep the tool flat against the wall and begin scanning.

*Note: It is important to wait for calibration to complete (1-2 seconds) before moving the scanner.*

### ACT™ (Auto Correcting Technology)

During scanning, the tool will automatically recalibrate itself when needed. This recalibration is transparent and no indication is made. If an arrow icon illuminates, the tool calibrated near or over a stud and then moved away. The arrow indicates the direction of the missed stud.

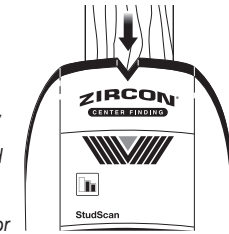
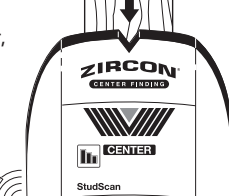
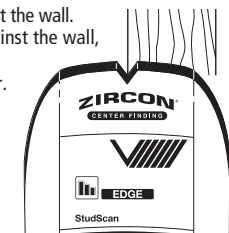
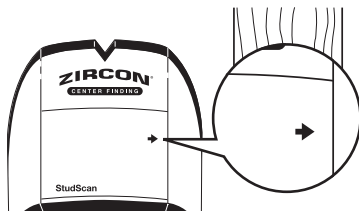
## 5. FINDING A STUD

**Always scan for studs with the scanner placed flat against the wall.** Move the mode switch to StudScan, place the tool flat against the wall, then press and hold the Power Button. Wait for beep to confirm calibration has completed before moving scanner. Display will light green with the word "StudScan" to indicate the mode.

Slowly slide the tool across surface. EDGE indication will illuminate, indicating location of the stud edge.

Continue sliding the tool. When the centre of a stud is located, the three bars on the Signal Strength Indicator, the middle segments of the Target Indication Bars, CENTER indication, and SpotLite® Pointer will all illuminate and the buzzer will sound.

In cases of deeper studs (thicker walls), when the centre of the stud is located, only two bars will show on the Signal Strength Indicator and only the SpotLite® Pointer and middle segments of the Target Indication Bars will illuminate. If you still cannot locate a stud, try DeepScan® mode. Display will light green with the word "DeepScan" to indicate the mode. *Note: To determine if the object located was a wood stud, metal stud, or pipe, scan the location in Metal Scan mode. In Metal Scan, only the metal drywall screws will be found in wood studs, while metal will be indicated throughout the entire metal stud or pipe. To better determine if the target object is a metal stud or pipe, studs usually run floor to ceiling whereas a pipe may not.*



## 6. WIREWARNING® DETECTION

Zircon's WireWarning® Detection feature works continuously in StudScan, DeepScan®, and Metal Scan modes. When live AC voltage is detected, the AC icon will appear in the display and the display will light red until AC is no longer detected. If scanning begins directly over an area with live AC wire, the AC icon and display will flash red continuously. Use extreme caution under these circumstances or whenever live AC wiring is present.

**WARNING** Electrical field locators may not detect live AC wires if wires are more than 51 mm from the scanned surface, in concrete, encased in conduit, present behind a plywood shear wall or metallic wall covering, or if moisture is present in the environment or scanned surface.

**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 POWER, 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. *Always turn off power when working near electrical wires.*

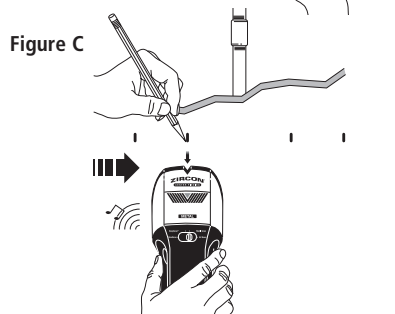
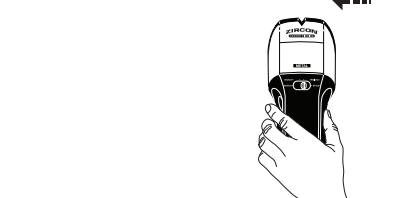
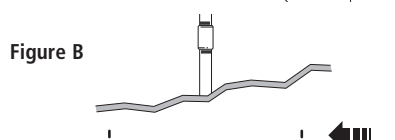
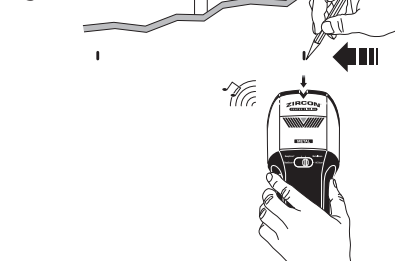
## 7. SCANNING IN METAL MODE

1. Move mode switch to Metal Scan. Place the tool flat on the wall, then press and hold the Power Button. Wait for the tool to beep to confirm calibration has completed. The display will light blue and show the Metal Icon to indicate the mode.
2. (Figure A) While holding the Power Button, slowly slide the tool across the surface. Mark the location where you get the highest metal indication (the most Target Indication Bars on the screen). If the signal is strong, the SpotLite® Pointer will also illuminate and a steady beep will sound. Continue in the same direction until the display bars reduce.
3. Without releasing Power Button, reverse direction (back towards the previous mark) and mark the location where the display bars peak. The midpoint of the two marks centre of the object. If you calibrate directly over metal, you probably will not detect any metal. Move the unit 5-8 cm right or left, release the Power Button, and start over.

### INTERACTIVE CALIBRATION

Interactive calibration is the act of calibrating the tool closer to the target to reduce the tool's sensitivity. In Metal Scan, you can perform interactive calibration to adjust the tool's sensitivity to metal. If your scan indicates metal over a large area, you can refine the scanning area and narrow the location of the AC target by following Step 4 below.

4. (Figure B) To further pinpoint the location of the metal target, release the Power Button. Place the tool on the wall over one of your previous marked locations, calibrate, and scan the area again. This will reset the tool to a lower sensitivity and



narrow the scan area. This procedure can be repeated multiple times to narrow the scan area even further (Figure C).

### MAXIMUM SENSITIVITY

Unlike interactive calibration, maximum sensitivity is ideal when only an approximate location of metal needs to be determined. To achieve maximum sensitivity, calibrate the tool in the air, away from any obvious metal, by pressing and holding the Power Button. Then follow Steps 2 and 3 above. (Only Metal Scan mode can be calibrated off the wall to achieve maximum metal sensitivity.)

## 8. SCANNING IN AC MODE

**AC Scan will only detect live (hot), unshielded AC wiring. Please refer to the WARNING statements in Section 6. WIREWARNING® DETECTION for more important details and warnings about AC detection.**

1. Move mode switch to AC Scan. Press the tool flat against the wall, then press and hold the Power Button. Wait for the beep to confirm calibration has completed before moving the tool. The display will light red with the AC icon to indicate the mode.
2. (Figure A) While holding the Power Button, slowly slide the tool across the surface. Mark the location where you get the highest AC indication (the most Target Indication Bars on the screen). If it is a strong signal, the SpotLite® Pointer Pointing System will illuminate, a steady beep will sound, and the Target Indicator Icon will be displayed. Continue in the same direction until the Target Indication Bars reduce.
3. Without releasing Power Button, reverse direction (back towards the previous mark) and mark the location where the display bars peak. The midpoint between the two marks is the approximate location of the live AC wiring. As with Metal Scan, you can perform interactive calibration in AC Scan to adjust the tool's sensitivity to live AC. If your scan indicates live AC over a large area, you can refine the scanning area and narrow the location of the AC target by following Step 4 below.
4. (Figure B) To further pinpoint the location of the live AC target, release the Power Button. Place the tool on the wall over one of your previous marked locations, calibrate, and scan the area again. This will reset the tool to a lower sensitivity and narrow the scan area. This procedure can be repeated multiple times to narrow the scan area even further (Figure C).

If you directly calibrate over an area with live AC, the middle Target Indicator Icon, the AC Icon, and the red screen will flash on and off. Release the Power Button, slide the tool 5-8 cm to the left or right, and begin your scan again.

## 9. HELPFUL HINTS (See also Section 2, OPERATING TIPS)

Situation	Probable Cause	Solution
Detects other objects besides studs in StudScan mode. Finds more targets than there should be.	• Electrical wiring and metal/plastic pipes may be near or touching back surface of wall.	• Scan the area in Metal Scan and AC Scan to determine if metal or hot AC is present. • Check for other studs equally spaced to either side 30, 40, or 60 cm apart or for the same stud at several places directly above or below the first scan area. • A stud reading would measure approximately 38 mm apart from each edge; anything larger or smaller is most likely not a stud if not near a door or window.
Area of voltage appears much larger than actual wire (AC only).	• Voltage detection can spread on drywall as much as 30 cm laterally from each side of an actual electrical wire.	• To narrow detection, turn unit off and on again at the edge of where wire was first detected and scan again.
Difficulty detecting metal.	• Tool calibrated over metal object. • Metal targets too deep or small.	• The scanner may have been calibrated over a metal object, reducing sensitivity. Try calibrating in another location. • Scan in both horizontal and vertical directions. Metal sensitivity is increased when metal object is parallel to sensor, located under Zircon® logo.
Image of metal object appears wider than actual size.	• Metal has greater density than wood.	• To reduce sensitivity, recalibrate MultiScanner® HD900c over either of first two marks (Metal mode only).
Constant readings of studs near windows and doors.	• Double and triple studs are usually found around doors and windows. Solid headers are above them.	• Detect outer edges so you know where to begin.
Display flashing red.	• Tool calibrated directly over an area where live AC was detected.	• Release Power Button, slide the tool a few centimeters to the left or right, and begin your scan again.
You suspect electrical wires, but do not detect any.	• Wires are shielded by metal conduit, a braided wire layer, metallic wall covering, plywood shear wall, or other dense material. • Wires deeper than 51 mm from surface might not be detected. • Wires may not be live.	• Try Metal Scan mode to see if you can find metal, wire, or metal conduit. • Use extra caution if the area has plywood, thick wood backing behind drywall, or thicker than normal walls. • If a switch controls an outlet, make sure it is ON for detection, but turned off when working near electrical wires. <b>Use CAUTION when nailing, sawing, or drilling into walls, floors, and ceilings where these items may exist.</b>
Tool not operating. Flashing Low Battery Indicator.	• Battery level low for proper operation.	• Replace with brand new 9V alkaline battery.

ACT, ColorTrip, DeepScan, MultiScanner, SpotLite, WireWarning, and Zircon are registered trademarks or trademarks of Zircon Corporation.

Visit [www.zircon.com](http://www.zircon.com) for the most current instructions.

### LIMITED 2 YEAR WARRANTY

Zircon Corporation, ("Zircon") warrants this product to be free from defects in materials and workmanship for two years from the date of purchase. Any in-warranty defective product returned to the place of purchase with proof of purchase date will be replaced at retailer's option. This warranty is limited to the electronic circuitry and original case of the product and specifically excludes damage caused by abuse, unreasonable use or neglect. This warranty is in lieu of all other warranties, express or implied, and no other representations or claims of any nature shall bind or obligate Zircon. Any implied warranties applicable to this product are limited to the two year period following its purchase.

IN NO EVENT WILL ZIRCON BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM POSSESSION, USE OR MALFUNCTION OF THIS PRODUCT.

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