



USER MANUAL

512 Hz Pipe Locator VS80-LCT-1



Advisories

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As with most electronic products, this equipment must be disposed of in an environmentally friendly way, and in accordance with existing regulations for electronic waste. Please contact your FLIR representative for more details.

Safety

⚠ CAUTION
To avoid electric shock and damage to this product, do not disassemble. The locator and battery are not user-serviceable.
Use only the supplied USB cable and charging adaptor to charge the device.
The ability of the locator to detect the transmitter can be affected by strong electrical interference, RF, and other disturbances.

Introduction

Thank you for selecting the FLIR VS80–LCT-1 Pipe Locator. The locator is intended for use with the FLIR plumbing spool camera probe VS80C30HD-30RM. The locator senses the 512 Hz signal that the probe transmits and directs the user to the probe location and then measures its depth.

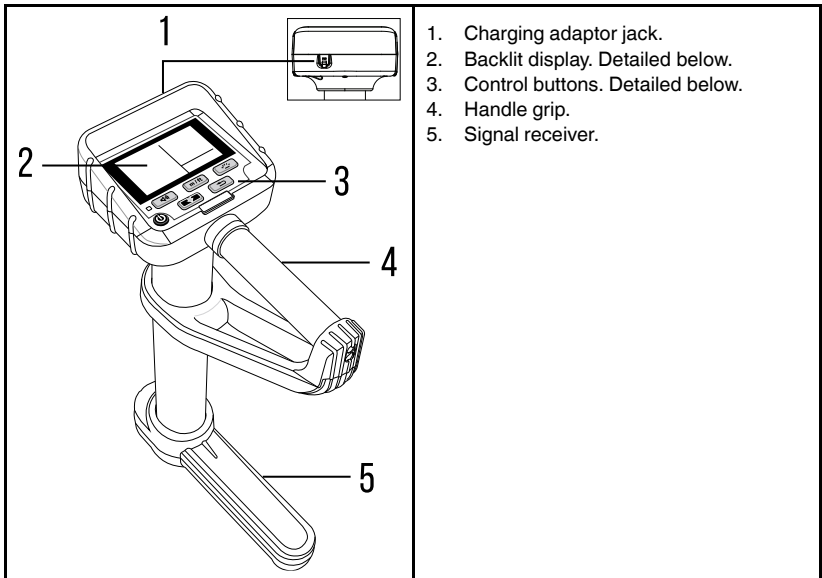
The locator is powered by a rechargeable lithium battery. The supplied wall charger connects to the jack at the top of the unit using the supplied USB cable.

The display shows navigation prompts, transmission signal strength, beeper status, low battery icon, and probe depth.

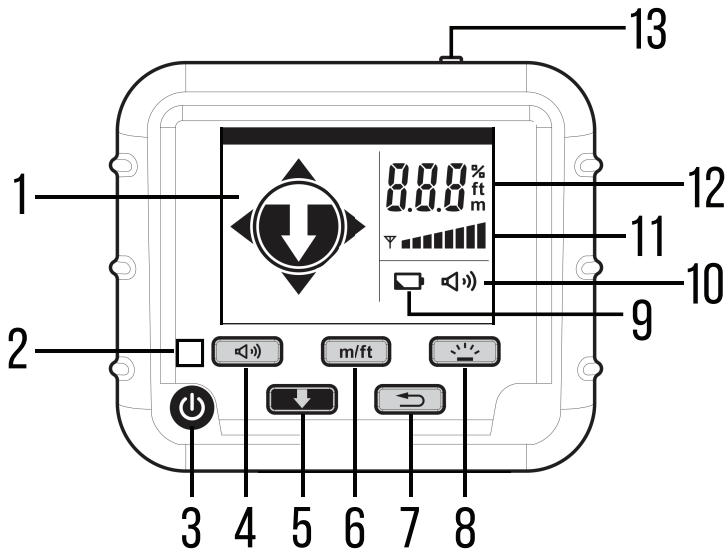
Careful use of this device will provide years of reliable service. Visit the FLIR website for customer support and the latest version of this user manual.

Product Description

Main Unit



User Interface Overview



1. Navigation prompt. See table below.
2. Power status LED.
3. Power ON-OFF button.
4. Beeper enable/disable button.
5. Depth measurement button.
6. Units selection button (meters/feet).
7. Reset button. Display refresh.
8. Display backlight ON-OFF button.
9. Low battery icon.
10. Beeper enabled icon.
11. Transmission signal strength bar graph.
12. Signal strength % display. Press the depth (down arrow) button to switch to the depth measurement display.
13. Charging adaptor jack.

Control Buttons

	Power	Press to power ON or OFF.
	Beeper	Press to enable or disable the audible alert. When enabled, the beeper icon is shown. The beeper interval shortens as the locator approaches the transmitter.
	Depth	Press to view the depth measurement on the upper right. By default, the display on the upper right shows the transmission signal strength in %.
	Units	Select units (meters or feet) for the depth measurement.
	Reset	Press to refresh the display.
	Backlight	Press to switch the display backlight ON or OFF.

Navigation Prompt

The small arrow pointers, on the perimeter of the navigation prompt, direct you to the probe by showing you which axis to follow. Move the locator slowly and at a uniform height.	
Display	Description
	No pointer arrows around the circle. Weak signal (< 30%). Difficult to verify the position of the probe.
	Pointer arrows appear when transmitter is detected (> 30% signal strength), indicating the axis of navigation.
	When both axes appear at the same time (four pointer arrows), the locator has determined the most likely position of the transmitter.
	When the depth button (down arrow) is pressed, the depth arrow is displayed and the locator indicates the transmitter depth.

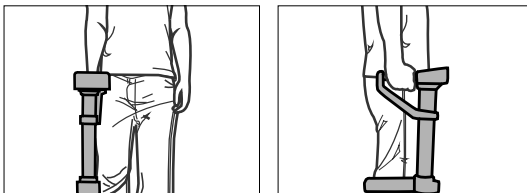
Operation

Getting Started

1. Carefully remove the unit from its packaging and check for shipping damage. Confirm that the package includes a USB cable, charging adaptor, and documentation.
2. When the plumbing spool and VS80 are ready and the probe is inserted in a pipe, switch ON the locator by pressing its power button .
3. If the display does not switch ON, or if there is a low battery indication, charge the locator using the supplied USB cable and adaptor. The adaptor jack is at the top of the unit.
4. Press the transmission soft button  on the VS80 screen, to initiate signal transmission. The soft button will highlight and the probe will transmit a 512 Hz signal.
5. The locator display will indicate the probe signal strength and navigation axis, as shown in the *User Interface Overview* and *Navigation Prompt* sections, above.
6. The locator display indicates transmitter signal strength, battery capacity, navigation prompt, and other information, as described in the product description sections, above.

Probe Detection

After inserting the probe in a pipe, power the locator and move it slowly and gently as you navigate to the probe. When moving, keep the locator at a uniform height from the ground.

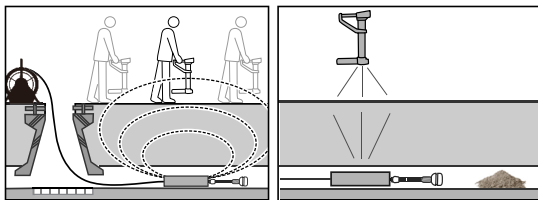


Monitor the transmitter signal strength on the locator display and with its audible beeper. The display shows the transmitter signal strength on the bar graph and on the signal strength percentage display, on the right side of the display.

To enable the beeper, press the beeper button  (the beeper icon will appear). The beeping rate increases as the locator approaches the transmitter. Move along the axis suggested by the pointer arrows to precisely pinpoint the transmitter location, as described in the *Navigation Prompt* section, above.

When both axes appear at the same time  (four pointer arrows), the locator has determined the most likely position of the transmitter.

The probe can only be located when it is in range. The horizontal detection range is 10 ft. (3 m). The depth range is 5 ft. (1.5 m). The signal strength must be > 30% for the locator to provide accurate navigation information.

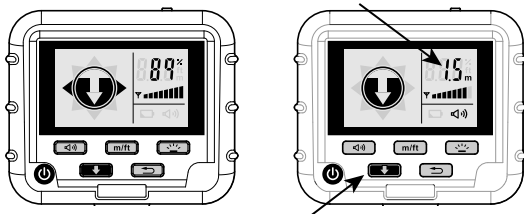


CAUTION

Electrical noise and other interference in the area of the transmitter can affect the locator's ability to receive the signal.

Depth Measurements

When the transmitter is located, press the depth measurement button  to view the transmitter's depth. Use the Units button  to select meters or feet. The depth measurement is shown on the upper right side of the display, as shown below.



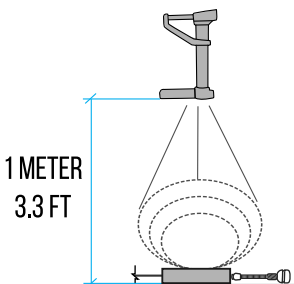
Measurement Considerations

- To save time, and to ensure continuous communication, monitor the probe often, and at short distance intervals.
- Move the locator slowly, gently, and at a uniform height, as you navigate to the probe on the axis of the displayed arrow pointers.
- As you approach the probe, more bar graph segments will light and the beeper rate will quicken. Stop when you reach peak signal strength.
- When the signal peak is reached, rotate the locator counter-clockwise to precisely pinpoint the probe.

Calibration Verification

Before inserting the probe into the inspection area, perform this calibration verification.

1. Hold the locator approximately 3.3 ft. (1 m) above the probe.
2. The signal strength should be at least 60%, as shown on the display.
3. If the signal strength is < 60%, push the reset button  to refresh the display. If the signal strength does not increase, check that the VS80 is powered and that its transmitter button is enabled.



Maintenance

Recharging the Battery

When the low battery icon appears on the display, or if the power LED glows red, charge the battery as soon as possible.

Charge the battery by connecting the supplied USB cable to the jack at the top of the unit and to the supplied charging adaptor. Connect the adaptor to an AC source to begin charging. Refer to the *Specifications* section for information on charge time and battery life.

Cleaning

Clean the product housing by wiping with a damp cloth, and mild detergent, when necessary. Do not use solvents, abrasives, or corrosives to clean this product.

Specifications

Receiver frequency	512 Hz
Horizontal location range	10 ft. (3 m)
Depth location range	5 ft. (1.5 m); electrical noise and other field conditions can affect reception.
Application field	Concrete, reinforced concrete, brick
Power	3.7 V (4900 mA) lithium battery
Power consumption	282 mA
Battery charge time	3 to 4 hours
Power charging adaptor	5 V (3 A)
Battery life	6 to 7 hours
Operating temperature	14 to 140°F (-10 to 60°C)
Storage temperature	-4 to 176°F (-20 to 80°C)
Operating and storage humidity	< 95 % RH, non-condensing
IP protection	IP 55
Dimensions (L x W x H)	11.5 x 5.7 x 19.2 in. (293.5 x 144 x 486.5 mm)
Weight	4.4 lbs. (2 kg)

Warranty and Support

Limited 3-Year Warranty

This product is protected by FLIR's Limited 3-Year Warranty. Visit www.flir.com/testwarranty to read the warranty document.

Customer Support

Customer Support Telephone List	https://support.flir.com/contact
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