

EXPANDING YOUR VISION



**ZISTOS**<sup>®</sup>  
PORTABLE VIDEO SYSTEMS



## Utility Inspection System

Remotely inspect vaults and confined spaces or potentially hazardous, inaccessible areas.

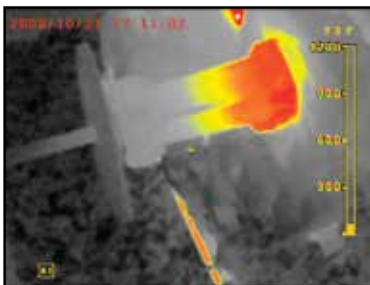
A Zistos Utility Inspection System enables inspections to be carried out from a safe distance outside of a confined space or hard to reach, hazardous area.

The System increases worker safety, reduces costs, improves productivity and provides video documentation of inspection findings. Zistos inspection systems are modular and expandable, with a variety of camera and pole technologies to utilize as needed.

## Steam Vault JPEG Images



10:1 Color Zoom Camera



Optional Thermal Camera

## Still Images of Vault Using Dual Mode Thermal Camera



Video Image



Thermal Image

## Confined Space Entry & Assessments

The Utility Inspection System allows the user to complete a visual assessment of underground utility vaults, tanks, large vessels, voids and other difficult to reach, or hazardous areas without the need to enter a confined space or other dangerous area.

This initial visual assessment allows the inspector to understand the nature of any potential equipment problem or hazard, (entanglement, flooding, arcing, vermin infestation, etc.) while safely out of harm's way. Avoiding this initial confined space entry during the inspection/assessment phase of the process increases both the efficiency and overall safety of any maintenance-repair operation.

## Recording & Documentation

The system's recording option allows live and still video images to be captured and stored onto a removable SD memory card for inclusion into reports or for off-site analysis.

## System Configuration

The system consists of a display and a 10x optical zoom camera mounted on a telescoping, articulating pole that is submersible in water. The operator views the images on a body-worn or tripod-mounted, 5.6" sunlight-readable display. Optional thermal camera components allow the operator to "see" overheated splices and other hot spots visually – even through smoke. Other compatible accessories include: different camera types, displays, and poles of different styles and lengths.

The Zistos Utility Inspection System increases inspection safety and efficiency, while reducing operating costs. All of our systems are weatherproof, battery-powered, portable, durable, lightweight, compact, and made in the USA.

## Applications

- Confined space/entanglement safety inspection
- Triage and safety inspection of vault and tunnel failure events
- Preventive maintenance of degrading components (hot spots) with thermal imagery
- Asset inventory & maintenance documentation

## Features & Benefits

- Cost-effective solution – increases safety and efficiency
- Portable, rugged, weatherproof and battery-operated
- Interchangeable camera options: Dual View Thermal/B&W, self-illuminated 10:1 color zoom and a variety of self-illuminated cameras
- Tripod mounted or body-worn display
- Various length, telescoping fiberglass extension poles – fixed, adjustable end or remote articulating
- Built-in DVR for documentation of findings
- Optional thermal imager sees temperature differences through smoke and in total darkness

# Utility Inspection System



10X optical zoom for close-up, higher detail images

180 degree (+/- 90 degree) articulation with a twist of the hand grip allowing for vertical and horizontal panning

Pole has easy to use locking collars between sections and is waterproof and submersible. Poles quickly connect and disconnect from the display.

WalkAbout® DVR is a battery-powered, weatherproof, video monitor and DVR, with on-screen indicators for battery life and LED intensity.



**System includes:** 5.6" LCD WalkAbout DVR display, WPC-2.5 color zoom camera, AP-T14 telescoping/articulating 14' pole, two NiMH rechargeable batteries & charger, tripod with bracket and universal chest harness for display and custom hard carry case.

## Recommended Additions:

### THC-50D Dual-mode Thermal Camera\*

Locate elevated temperature components through smoke and darkness. Switch to visible light camera for better object identification.

### Tough Grabber USB Receiver and WXMT Transmitter

Wireless connection and software to a laptop for a "second pair of eyes" and recording capability (laptop not included).

### USB Cable Laptop Interface

Low-cost wired connection from Walkabout display to laptop. Includes software for recording and photo annotation.

### ExplorerSCOPE®

Gain visual access into compartments through openings as small as .4" (10mm). This self-contained scope can generate images of objects that are 40' (12M) away – in pitch darkness.

### AAM Audio Module

Omni-directional microphone with high gain amplifier. Mounts between camera and pole. Used to listen for arcing noise.

### Additional Poles

Pole lengths available from 2' to 40' (.7-12M), in both articulating and flex-end extension styles. 20'+ available in lightweight, carbon fiber (conductive) with flex-end only.

### Cable Reel

Reel contains 166' (50M) of ultra low loss video and audio signal transmission cable that has depth markers every five feet. The cable provides constant video and audio signals even while it is being spooled on and off the reel.



### NEW Accessory! Pole Support Brace (PSB)

enables inspectors to safely use the Utility Inspection System "hands-free" while supporting the pole and camera during an inspection.

The **PSB** allows the angle and position of the camera to change, as needed. It can be used flat on the ground as well as with fall protection barriers. It's easy to assemble and packs quickly.

<b>Part Number/Ordering</b>	<b>IAD-USZT-A14<sup>1</sup></b>			1) Add a <b>"-N"</b> to system part number to specify a Universal Power Supply.  Order power cord separately at no charge.
	<b>DISPLAYS</b>	<b>TRIPOD</b>	<b>POLES</b>	
	IAD=Detached WalkAbout w/DVR IAD=Standard WalkAbout w/DVR IS=Detached WalkAbout w/o DVR IA=Standard WalkAbout w/o DVR	T=Tripod Blank=No Tripod	A9=9' Articulating Pole A14=14' Articulating Pole 14=14' Gooseneck Pole	

WalkAbout III (w/o DVR)		WalkAbout DVR	
<b>Display Size &amp; Weight</b>	<b>Standard:</b> 6.9"W x 9.4"H x 3.7"D / 3.5 lbs. (17.6 x 24 x 9.4cm / 1.58kg) <b>Detached Base:</b> 5.5"W x 3.7"H x 2.7"D / 1.5 lbs. (13.9 x 9.4 x 6.9cm / .66kg); <b>LCD:</b> 6.6"W x 7.5"H x 1.3"D / 2.5 lbs. (16.9 x 19.1 x 3.5cm / 1.13kg)		<b>Standard:</b> 8.8"W x 9.3"H x 4.3"D / 3.6 lbs. (22.4 x 23.6 x 10.9cm / 1.65kg) <b>Detached Base:</b> 6.3"W x 4.3"H x 2.9"D / 1.7 lbs. (15.9 x 10.9 x 7.3cm / .79kg); <b>LCD:</b> 6.6"W x 7.5"H x 1.3"D / 2.5 lbs. (16.9 x 19.1 x 3.5cm / 1.13kg)
<b>Construction</b>	Rubber encapsulated aluminum LCD case for shock resistance and weatherproofing		
<b>Display Size</b>	5.6" (14.2cm) measured diagonally		
<b>Resolution</b>	640 x 480		
<b>Operating Temperature</b>	-4°F to 158°F (-20°C to 70°C)		-14°F to 158°F (-10°C to 70°C)
<b>LCD Controls</b>	Brightness, contrast, color, tint, mirror, backlight & sharpness		
<b>Mounting Options</b>	Display can be worn on vest, belt or harness; detached display can also be handheld		
<b>Video Format</b>	Auto switches between NTSC (American) or PAL (European)		
<b>Charger</b>	12VDC from either power supply or vehicle adapter		
<b>Batteries</b>	NiMH, 7.2V, 2.7AH		
<b>Discharge Time</b>	2 hrs. with LEDs off		1.66 hrs. with camera LEDs off
<b>Charge Time</b>	2 hrs. when fully discharged		
<b>Base Controls &amp; Indicators</b>	On/Off switch & LED; Camera illumination control & LED; Low battery LED;		On/Off switch & LED; Camera illumination control & LED; Low battery LED; DVR controls
<b>Connections</b>	Camera (pole), A/V output, DC input (7.2V to 12V)		
<b>DVR</b>	None		Up to 32GB SD card; 250 stills per GB; 1hr per GB for H.264 videos

Camera		
Model	WPC-2.5Z	THC-50D* (optional)
<b>Construction</b>	Submersible enclosure with hard-coated window	Dual Mode Thermal camera with temperature display
<b>Size &amp; Weight</b>	2.5"D x 4.0"L/0.66 lbs. (64mm x 102mm/0.3kg)	1.9" dia. X 6.5" long/0.82 lbs. (49mm x 166mm/0.37kg)
<b>Features</b>	24 Bright white LED illuminated, color camera, 480 TV Lines, 10:1 optical zoom (5° to 46° FOV)	Microbolometer thermal sensor and B&W LED illuminated video, switchable from display unit. 50° FOV

Cases			
Model	A-CASE	T-CASE	
Part of System	IAD-USZT-A9	IAD-USZT-A14	IAD-USZT14
<b>Construction</b>	Rugged, watertight, plastic carry case with foam inserts having compartments for all components.		
<b>Size</b>	53" x 17" x 6" (135 x 44 x 16cm)		
<b>Weight loaded</b>	37 lbs. (17kg)	40 lbs. (18kg)	38 lbs. (17kg)

Poles			
Model	AP-T9	AP-T14	T-FNS-14
Part of System	IAD-USZT-A9	IAD-USZT-A14	IAD-USZT14
<b>Construction</b>	3 Section telescoping pole, 2 internal aluminum sections and an external fiberglass section with foam grip	6 Section telescoping pole, 5 internal aluminum and an external fiberglass section with foam grip	4 Section fiberglass telescoping
<b>Collars</b>	Rugged, break-proof, easy grip, twist collars for each pole section.		
<b>Articulation</b>	Mechanical pull cable system operated by an easy-to-use twist handle. Camera range of ± 90° with detents. Twist collar allows camera angle to be locked at any position.		1 foot flexible gooseneck can be flexed into any position
<b>Collapsed Length</b>	4 ft. 3 in. (1.3M)	4 ft. 1 in. (1.2M)	4 ft. (1.22M) with gooseneck folded
<b>Extended Length</b>	8 ft. 7 in. (2.6M)	14 ft. 1 in. (9.3M)	13 ft. 11 in. (4.24M)
<b>Weight</b>	6.4 lbs. (2.9kg)	8.1 lbs. (3.7kg)	5.3 lbs. (2.4kg)

\*This product is subject to the Export Administration Act, 50 U.S.C. 2401-2420 and the Export Administration Regulations, 15 C.F.R. 730-774, under the jurisdiction of the U.S. Department of Commerce, Bureau of Industry and Security (BIS). A license may be required for export of this product and/or technical information relating thereto, depending on the applicable Export Control Classification Number (ECCN), country of export (or country of nationality of the foreign national in question, for technical information), and purchasing entity. Foreign person means any natural person who is not a U.S. citizen/U.S. green card holder/refugee or asylee lawfully admitted into the U.S., and any foreign corporation, entity or government. Zistos products which are EAR99 may be exported to all destinations other than embargoed destinations. Please contact us if you have any questions.