PortaScope®

Borescopes.us.com

Video Scope User Manual

Model: PVSWZ

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Safety recommendations

Warning
- Do not modify or disassemble the unit.
- Do not use this item in explosive atmospheres.

Caution
- Keep the device out of the reach of children.
- Do not look directly into the objective lens at the end of the insertion tube, your eyesight may be seriously damaged.
- Do not forcibly bend, twist or elongate the insertion tube.
- Strong impact on the device may result in the breakage of the objective lens (made of glass) at the tip of the insertion tube.
- Do not use or store the device at a temperature higher than 60 °C or lower than -20 °C.
- Don't use the device in the direct sunshine.
- Store the device in a dry and adequately ventilated environment.
- Keep the device away from acid or alkaline solutions, oil or petrol, and do not use it in an atmosphere containing their vapours.
- Do not remove the SD Memory Card while data is being saved to the card. This may cause the data to be lost or the card to be damaged.

1. Description

This wireless Video Scope is a compact handheld instrument that allows the user to view applications in restricted spaces that could not normally be seen with the naked eye.
This wireless Video Scope is supplied in a sturdy carrying case and consists of a display unit, insertion tube, main adapter and side view adapter. The display unit, with a 3,5" wide angle TFT LCD screen, has the capacity of viewing, storing and reviewing photos and video images. Images can also be displayed directly on a TV screen or stored and transferred to a PC for viewing later. The display unit is powered by rechargeable Li-polymer batteries and a multi-voltage charger is included. The 1 meter (3,3 ft) insertion tube has a tip of just 5,5 mm (0.22 in) and is equipped with powerful variable LED lighting. Other lengths are available, see section 12. Spares & accessories.
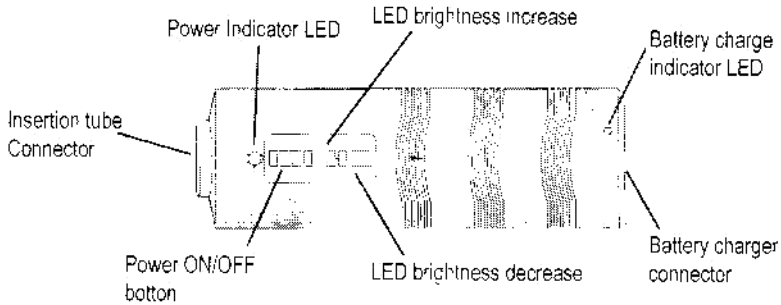
Wireless Inspection System Introduction and Applications

Wireless Inspection System is an outstanding feature of Video Scope. The wireless inspection camera lets you see a clear image of problems in hard to reach locations without the cable. The image can be sent to main unit up to 50 m (160') away. With the palm-sized probe handle you can inspect many applications. Video Scope includes wireless and direct input modes. You can choose the appropriate mode to meet your needs in different working applications. You can hold the wireless probe handle at a perfect height when checking somewhere unreachable and narrow ～ dark space. In some special working environments you may need a free hand to remove an obstacle during inspection. Simply place the main unit on a stable platform and manipulate the probe with a single hand. Besides, we can have a long time inspection away from the target observed with Wireless Inspection System if the probe handle is set up fixed.

Parts and function
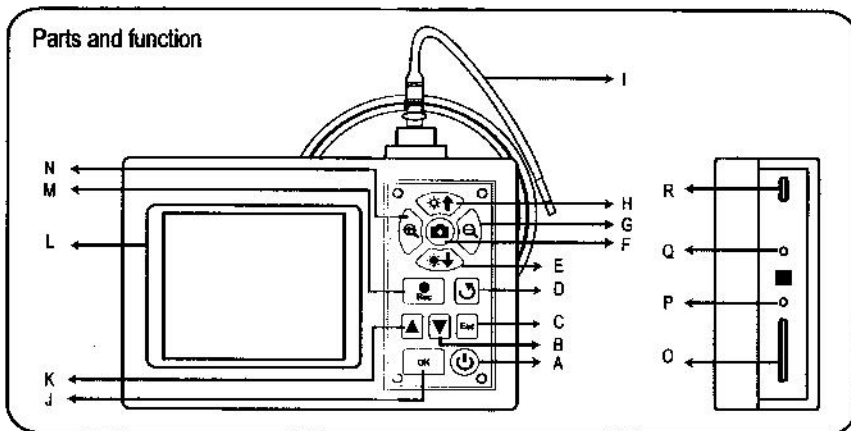
A. POWER button	G. Zoom out	M. REC button
B. DOWN button	H. LED brightness increase	N. Zoom in
C. Escape	I. Insertion tube	O. SD slot
D. Mirror Image and Rotate	J. OK button	P. Video Out
E. LED brightness decrease	K. UP button	Q. DC-in
F. PHOTO button	L. Display unit	R. USB Port

Wireless Inspection Device Parts and Function

Power Indicator LED · LED brightness increase · Battery charge indicator LED · Insertion tube Connector · Power ON/OFF botton · LED brightness decrease · Battery charger connector

2. Preparation for use
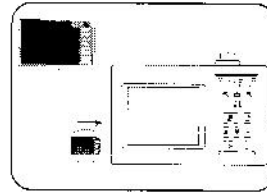
On first use it is important that the
SD card is inserted as Fig.1 shown.

Fig.1

Connect the insertion tube to the display
unit as shown in the figure and tighten
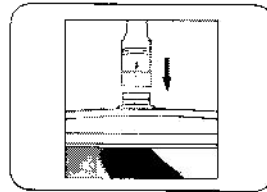the locking collar:Fig.2

Fig.2

Press the POWER button for 3-5
seconds to turn the display unit on.
The Start-up screen is shown briefly
followed by the status screen for five
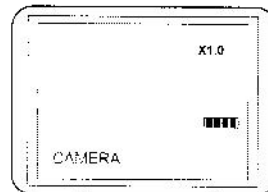seconds.Fig.3

X1.0

CAMERA

Fig.3

The status screen shows the capacity of the SD card and the internal battery.
If the Video Scope has been stored for a long time then the display might not able to turn on.
The most likely cause is that the battery has run out.Please use power adapter to re-charge
the battery.

Directly on the screen, a "live" picture can be seen. This is the camera mode.

It is strongly advised to properly set-up the Video Scope before first use. The indexing of saved photos and video is based on date and time only. Other parameters, if set before first use, can make the operation of the Video Scope easier in the future.

Press POWER button for 3-5 seconds to turn the display unit off.

The side view adapter included, is ideal for viewing pipe walls.
To fit the side view adapter, unscrew the chrome tip of the insertion tube and replace with the side view adapter.

3. Menu set up

• Switch the unit on, Ensure that camera mode is active (i.e. a "live" picture can be seen)
• Press the OK button to access the menus. Use the UP or DOWN button to select the menu item. Press OK to confirm.

The options displayed are as follows;
- Delete all
- Video output
- Date / time setup
- Language
- Video format
- Auto power off
- Input Source

Delete All

Take care in selecting this option, as everything will be deleted from the SD card!
Navigate to DELETE ALL in the menu, press the OK button. Select YES or NO using the UP or DOWN buttons. Confirm with the OK button.

Video Output

This function allows live pictures or recorded photos and videos to be displayed on a TV screen or beamer. First make sure that the Video format is set correctly to the used TV system (PAL or NTSC). (See the Menu set up section.)

Connect the scope video cable to the display unit TV out jack. Ensure that the other end of the video cable is well connected to the TV or beamer.
Press the OK button to select menu options, select Video Output and press the OK button. The scope unit screen will turn black and the display will be shown on the TV. You can transfer the screen back to the display unit by selecting the same function.

Date/Time Set up

Press UP button & DOWN button to select year/month/day or hour/minute/second. Press PHOTO button to increase the value and the REC button to decrease the value.
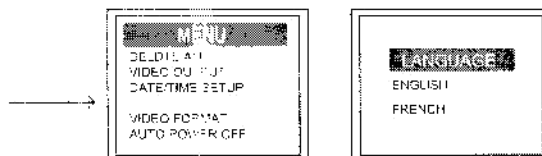
The date and time can be displayed in the preview image mode. Use either the PHOTO or REC button to toggle between display "ON" and "OFF":
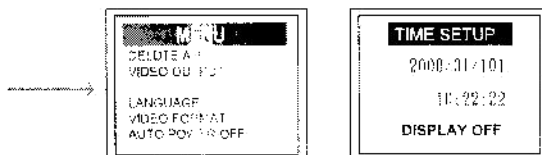
Confirm selection and exit menu by pressing OK.

Language

Navigate to LANGUAGE in the menu, press the OK button. Select the required language using the UP or DOWN buttons and confirm with the OK button.

Video Format

Navigate to VIDEO FORMAT in the menu, press the OK button. Select the required video format (NTSC or PAL) using the UP or DOWN buttons. Confirm with the OK button.

Auto Power Off

Navigate to AUTO POWER OFF in the menu, press the OK button. Select the required auto power off time (5, 10, 15, 30 minutes or Disable) using the UP or DOWN buttons. Confirm with the OK button.
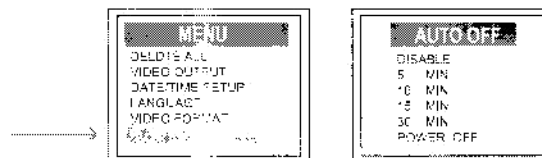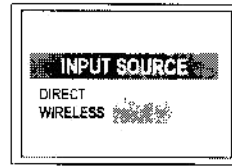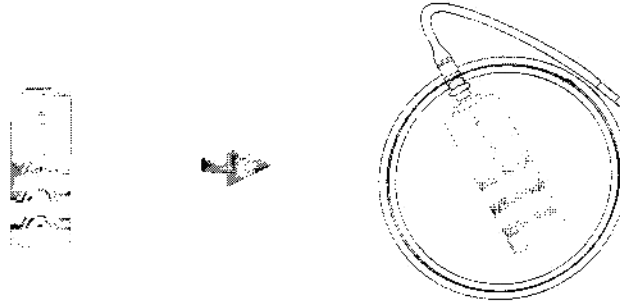
Wireless Inspection Device Operation

In the Menu page, press the OK button while the INPUT SOURCE slot is selected.

Press the OK button while the WIRELESS
slot is selected.
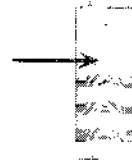
INPUT SOURCE

DIRECT
WIRELESS

Connect the insertion tube to the wireless handle unit as shown in the figure and tighten the
locking collar.

Press the POWER button (⏻) of the   ,
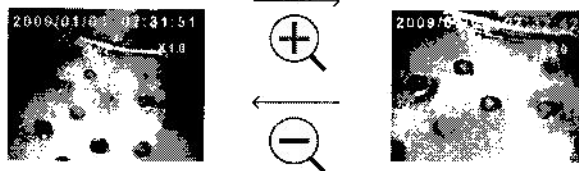wireless handle unit to start the wireless
inspection.

Press the [   ][   ] button of the wireless
handle unit to adjust the insertion cable LED
brightness.

4. Digital Zoom

The picture in preview mode could be magnificated by the user as themselves wish.
The zoom ratio is two times. Press Zoom in button and Zoom out button to select ratio from
1.0 to 2.0 divided by each 0.1 difference.

5. LED Adjustment

This function is designed for user adjusting the brightness of LED to choose a suitable illumination condition for different environment. The button ▢ is for increasing brightness and ▢ is for decreasing brightness.

Note:Adjust the insertion cable LED brightness with ▢ and ▢ button of the wireless handle unit during Wireless Inspection System operation.
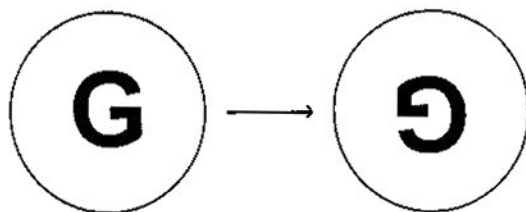
6. Mirror / Reflecting Object Surface

The Wireless Video Scope have the mirror image function. When you press the ↻ button, you can get a mirrored image to original image. The phenomenon is shown as follows:
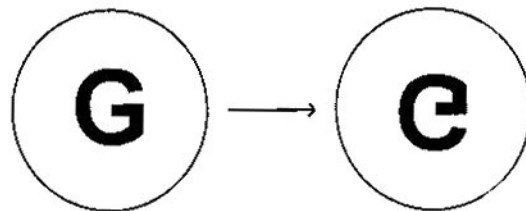
Press ↻ button first time:
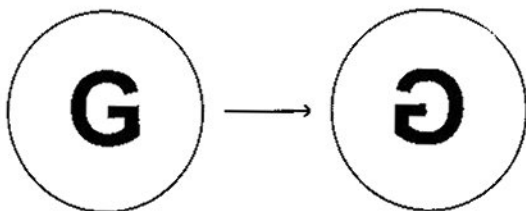
Press ↻ button second time:

Press ↻ button third time:

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7. Snapshot and Recording functions

Snapshot
In preview mode, press the PHOTO button to take a photo.
The photo is stored to the SD card in jpg format with a file name of running number. For example IMG00001.jpg.

Users can capture the picture that they wanted during the video playing and recording by pressing the PHOTO bottom

Recording
In preview mode, press the REC button to take a video. The video icon is shown in the top right corner.

To stop recording, press the REC button again. The video icon disappears. The display reverts to preview mode.
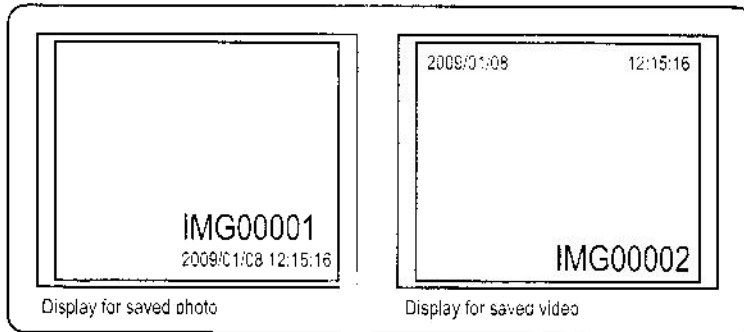
The video is automatically stored to the SD card in avi format with a file name of running number.
For example IMG00002.avi.

8. Surfing mode
In the preview mode, press the UP or DOWN key, the last photo or video will be displayed. Press the UP or DOWN keys to navigate to the photo or video to be viewed.

| Display for saved photo | Display for saved video |

To play the video, press the REC button. Press the REC button again to pause, and adjust the video volume by pressing [ ] button.

To revert to preview mode, press the ESC button
To delete a saved photo, press the OK button whilst it is displayed. To delete a saved video, make sure the video is not in play mode, press the OK button. A delete menu will show. Toggle between the Yes and No options using the UP and DOWN buttons. Press the OK button to confirm.

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9. Transferring Photos and Videos to a PC
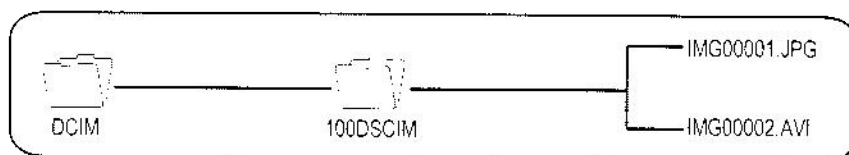
The computer must be running MS WindowsTM 2000 or later.

Turn the Video scope on. Connect the USB cable to the scope unit and the computer. Look for the drive with the SD card files, this should look similar to the following figure:

The files can then transferred and viewed on the PC. In general, on a PC running MS WindowsTM 2000 or later with WindowsTM Media player, no special software is required to display JPG and AVI files.

10. Troubleshooting

No image on the display after turning the power on:
Battery is exhausted. Connect the scope unit to the power adapter supplied and recharge batteries. The Video scope can be used when connected to ac power.

No image, only words on the LCD monitor after turning the power on:
Check that the insertion tube is correctly connected to the display unit.

Unable to take photos or record video:
SD card not present, wrongly inserted, full or faulty. Check SD card is present, check SD card insertion, check SD capacity, check if SD card is faulty (check if SD card works in other devices).

Shut down:
When all functions freeze or fail, insert an insulated needle into the hole on the back of the main unit. The system will restart automatically
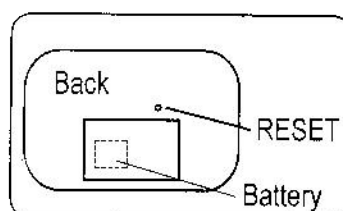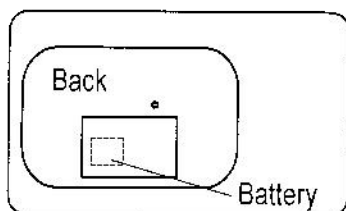
11. Technical data

Insertion Tube & Light Source	
Image Sensor	CMOS Image Sensor
Resolution (Dynamic / Static)	320 (H) X 240 (V) / 640 (H) X 480 (V)
Size Tip (Insertion Tube) Diameter	5.5 mm / 4.0 mm(optional)

VIDEO SCOPE

Tube length	1 M & Up
Field of View (FOV)	54 ° / 56 °
Depth of View (DOV)	1.5 cm - 5 cm (OD 5.5mm/OD 4.0mm)
Light Source	4 LEDs (OD 5.5mm/OD 4.0mm)
Probe Working Temperature	-20 to 60 °C (OD 5.5mm/OD 4.0mm)
Ingress Protection	IP57 (OD 5.5mm/OD 4.0mm)

Display Unit	
Power	DC5V
Display	3.5" TFT LCD Monitor 320 X 240 Pixels
Interface	Mini USB 1.1/ AV out
Battery (not user serviceable)	Rechargeable Li-Polymer Battery (3.7V)
Power adapter	100 - 240V AC in / 5.5V DC out.
Video Out Format	NTSC & PAL
Recording medium	SD card
Compression Format	MPEG4
Still Image Storage Format	JPEG (640 X 480)
Video Recording Format	AVI (640 X 480)
Working & Storage/Battery charging temperature range	-20 °C to 60 °C /0 to 40 °C
Functions	Snapshot, Video recording, Audio recording, Picture & videoreview on LCD screen, TV Out, transfer of picture & video from SD card to PC Digital Zoom, Reflecting, Wireless Insplection System

Wireless Inspection System

Transmitter	
Type	RF 2.4GH
Data	Video/Audio
Video System	NTSC/PAL
Audio type	Stereo
Operation temperature	-10~60°C
Storage temperature	-40~80°C

Receiver	
Type	RF 2.4GH
Sensitivity:	-87dBm(SNR=42dB, Fmod=15kHz)
Data	Video/Audio
Video System	NTSC/PAL
Audio type	Stereo
Operation temperature	-10~60°C
Storage temperature	-40~80°C

12. Spares & accessories(Optional)

〔1〕 90 ° side view camera tube	〔8〕 1 meter tube
〔2〕 Gooseneck tube	〔9〕 2 meter tube
〔3〕 70 ° mirror adapter	〔9〕 3 meter tube
〔4〕 90 ° mirror adapter	〔9〕 5 meter tube
〔5〕 110 ° mirror adapter	10〕 10 meter tube
〔6〕 Magnet	〔11〕 20 meter tube
〔7〕 Guide Ball	〔12〕 30 meter tube

For more information, please contact your dealer.