



WET/DRY VIDEO INSPECTION SYSTEM

USER'S MANUAL



**DCS600A
DCS605**

Please read this manual carefully and thoroughly before using this product.

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INTRODUCTION

Thank you for purchasing General Tools & Instruments' (General's) DCS600A or DCS605 Wet/Dry Video Inspection System. Please read this user's manual carefully and thoroughly before using the instrument.

The DCS600A and DCS605 are two of only four video inspection systems on the market with an IP67 waterproof grip and monitor as well as an IP67 waterproof camera-tipped probe. The other two systems are General's DCS660A and DCS665, recording versions of the DCS600A and DCS605.

The only differences between the DCS600A and DCS605 are the diameter and depth of field of their probes. The DCS600A comes with an 8mm diameter, 1m (3.3 ft.) long, far-focus probe with a depth of field of 2.4 in. to 10 ft. (60mm to 3m). The DCS605 comes with a 5.5mm diameter, 1m (3.3 ft.) long, close-focus probe with a depth of field of 1.2 to 2.4 in. (30 to 60mm). The remainder of this manual refers to either system as “the Wet/Dry Scope” or simply “the scope”.

The Wet/Dry Scope's water tightness makes the system ideal for plumbing-related tasks like inspecting water or sewer lines carrying running water. The system also can be used to inspect parts of boats, ships or bridges just below the surface. Because the entire unit is impervious to water you can use it freely around water without worrying about accidentally “dunking” the grip and monitor. No other camera scope with an integral monitor—other than the DCS660A and DCS665—is completely watertight.

Because the Wet/Dry Scope has only three controls (a power on/off button and brightness up and down buttons), the instrument is very easy to learn to use. Video within the probe's field of view is displayed on a large, crystal-clear 3.5 in. (89mm) diagonal color LCD. Alternatively, video can be viewed on an NTSC-format television by plugging a supplied cable into a jack on the side of the scope's monitor. Video shown on the monitor can be inverted by pressing both brightness buttons at the same time. This feature aligns the probe's field of view with its real-world surroundings and makes it easier to read upside-down serial numbers by flipping them right-side up.

The Wet/Dry Scope and its accessories are packaged in a hard plastic protective case along with this user's manual. The unit is powered by four “AA” batteries, which are not included.

KEY FEATURES

- Makes it possible to inspect water and sewer lines carrying running water. Other “waterproof” inspection systems lack watertight grips and monitors
- Allows a diver or snorkeler to view inspection video under water in real time. Ideal for marine search and rescue operations
- For plumbers and boat owners, eliminates concerns about accidentally dropping or dunking grip or monitor in water
- Grip, probe and monitor are guaranteed leakproof to depth of 1m; all three components will also resist leaks at depths up to 2m for short periods (1 hour, max)
- Includes 8mm (0.31 in.) or 5.5mm (0.22 in.) diameter, 3.3 ft. (1m) long camera-tipped probe with adjustable LED lighting; longer, articulating and special-purpose optional probes are available (see p. 11).
- Waterproof probe is flexible-obedient, meaning it retains its shape
- 3.5 in. (89mm) color LCD makes videos and images large and crystal-clear
- Video shown on monitor can be inverted 180°
- Includes three probe tip accessories (45° mirror, pickup hook and magnetic pickup)
- Video Out jack for connection to NTSC television
- One-year warranty
- Powered by four “AA” batteries (not included)

SAFETY INSTRUCTIONS

- Do not use the scope to inspect environments known or suspected to contain exposed electrical wiring.
- Do not use it in the presence of flammable or explosive gases.
- Do not use the system to perform medical inspections.

WHAT’S IN THE CASE

The Wet/Dry Scope and its accessories come in a custom molded plastic case. The scope itself has two main components: a pistol grip permanently connected to an LCD monitor, and an 8mm diameter or 5.5mm diameter flexible-obedient camera-tipped probe. Also in the case is a large Ziploc plastic bag containing:

- Three probe tip accessories (a 45° mirror, a pickup hook and a magnetic pickup) in their own small Ziploc bag
- A composite NTSC video cable with a black mini-plug on one end and a yellow RCA plug on the other
- This user’s manual

PRODUCT OVERVIEW

Fig. 1 shows the labels and positions of the controls and connectors on the front panel, top, bottom and right side of the Wet/Dry Scope. Familiarize yourself with the controls' functions before moving on to the Setup Instructions.



Fig. 1. The Wet/Dry Scope's components, controls, indicators and accessories

- 1. Video jack** (behind waterproof door on right side of monitor)
- 2. 3.5 in. (diagonal) color LCD**
- 3. Brightness down** (☼) button
- 4. Power on/off** (⏻) button
- 5. Brightness up** (☼) button
- 6. Battery compartment** (on bottom)
- 7. 1m long, 8mm or 5.5mm diameter flexible-obedient probe**
- 8. Camera head**

- 9. Battery Low** (🔋) LED (flashes red)
- 10. Power On** (⏻) LED (steady green)
- 11. Triangular hanger hook** (on front of monitor)

ACCESSORIES IN THE CASE

- 12 or 12A. 45° mirror**
- 13 or 13A. Pickup hook**
- 14 or 14A. Magnetic pickup**
- 15. Video cable**

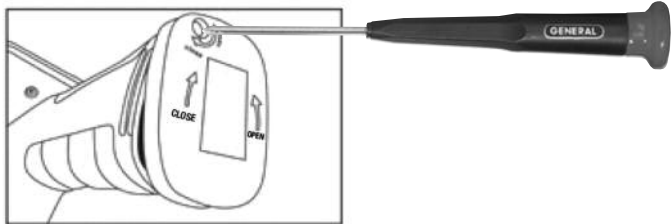
SETUP INSTRUCTIONS

INSTALL BATTERIES

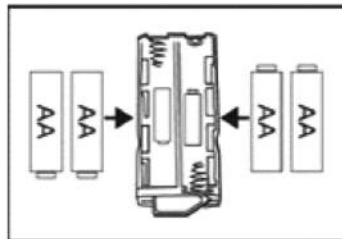
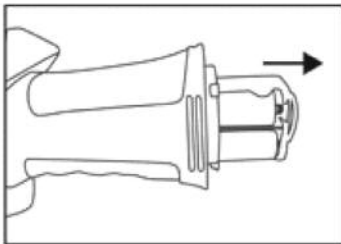
The scope's battery compartment is accessible from the bottom of the pistol grip (Fig. 1, Callout 6).

To open the battery compartment,

1. Use a Phillips-head screwdriver to turn the screw securing the compartment's cover counterclockwise until the head of the screw pops up, flush with the surface. It is not necessary to remove the screw.
2. Turn the cover slightly counterclockwise (about 2°) to release it from the grip (see figure below). Set the cover (still holding the screw) aside.



3. Extract the yellow battery magazine from the grip by pulling on the tab at its end (see left figure below).
4. Load four "AA" batteries into the magazine, using the polarity markings within it as a guide (see right figure below).



5. Push the loaded magazine back into the grip (it fits only one way).
6. Retrieve the battery compartment cover and position it 2° left of center, relative to the bottom of the grip.
7. Pressing on the cover, twist it 2° clockwise until it "catches" the grip housing.
8. Turn the Phillips-head screw clockwise until it is tight, with its head below the surface.

Notes:

1. Make sure your hands are completely dry before opening the battery compartment.
2. Take extra care to properly secure the cover of the battery compartment after installing batteries. The battery compartment is one of three places where water could enter the Wet/Dry Scope, potentially causing irreversible damage. The other two places are the connection between the camera-tipped probe and the grip, and the waterproof door protecting the Video out jack. The remainder of this section explains the proper procedures for maintaining water tightness at these points.

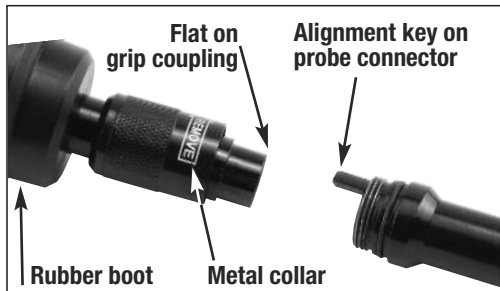
ATTACH PROBE

The probe must be attached to the grip or the LCD will show a blank screen.

To attach the probe,

1. Slide the metal collar of the grip's coupling back until it touches the rubber boot on the grip's housing.
2. Line up the alignment key on the probe connector with the flat on the coupling (see photo below).
3. Push the two ends together until they mate.
4. Tighten the connection by turning the collar in the direction opposite that indicated by the **REMOVE** arrow on the collar. Double-check the tightness of the connection; if it is not tight, water may enter the system later and ruin it.

To detach the probe, perform the attachment procedure in reverse. To loosen the connection between the two components, turn the collar in the direction indicated by the **REMOVE** arrow.



ATTACH VIDEO CABLE (OPTIONAL)

If you wish to view video captured by the scope's probe on an NTSC-format television, insert the mini-plug end of the supplied video cable into the Video jack on the right side of the monitor (Fig. 1, Callout 1). Plug the yellow RCA connector at the other end of the cable into the television's "Video In" jack.

However, be aware that using the video cable exposes the scope's monitor to water damage because doing so requires leaving the waterproof door over the Video jack open.

With the video cable attached, you can still use the probe to perform underwater

inspections. But if you accidentally "dunk" the unit, it will be permanently damaged. Such "accidental damage" is specifically NOT covered by the Wet/Dry Scope's limited warranty (see p. 11).

To access the Video jack, open the waterproof door covering it (see top photo above) by using your thumb to push the spring-loaded latch on the door up. Without removing your thumb, use it to slide the door to the right. Once you see the metal of the door's hinge at left, use your index finger to flip the door open and expose the Video jack (see bottom photo above).

When you are done using the video cable to view inspection video on an external monitor, remember to swing the door shut. The door is only secure and waterproof when you hear its spring-loaded latch click.

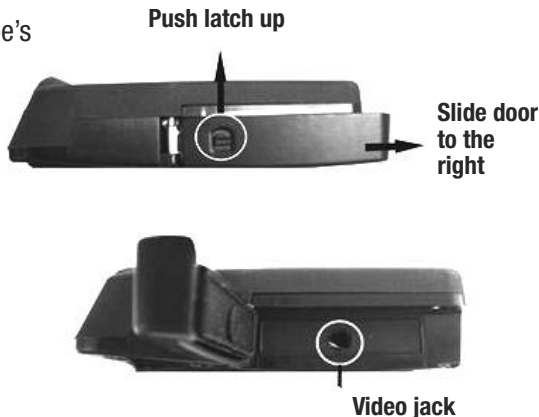
INSTALLING ACCESSORIES

The DCS600A and DCS605 each come with three accessories (see left photos on next page) in a Ziploc bag that attach to the camera-tipped end of the probe. Each accessory has a specific purpose:

- The 45° mirror lets the probe see around corners.
- The pickup hook lets you retrieve otherwise inaccessible items seen by the probe—for example, a wedding ring accidentally dropped down a sink drain.
- The magnetic hook lets you retrieve lost or dropped metal objects—nuts and bolts, for example—located by the probe.

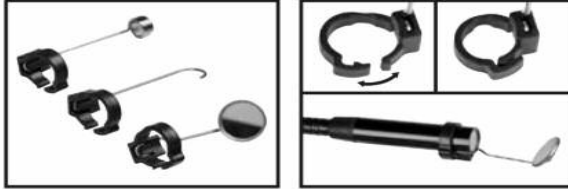
To attach an accessory to the DCS600A probe,

1. Hold its metal stem with your thumb and index finger.
2. Slide the accessory—plastic clasp first—past the camera head at the probe tip until the clasp is in the channel 1/4 in. from the end of the probe.
3. Squeeze the clasp until you hear a click (see top right photos on next page), indicating that the two halves have joined.



To detach an accessory from the DCS600A probe,

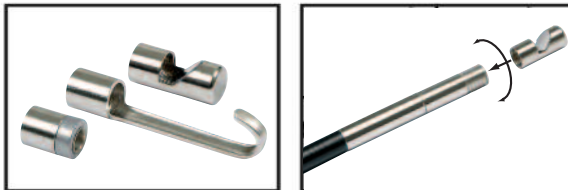
1. Use the nail of your index finger to unhook the clasp, opening it up.
2. Hold the accessory's metal stem with your thumb and index finger and slide the accessory and clasp past the camera head.
3. Put the accessory back in the Ziploc bag it came in.



The DCS600A's three snap-on probe-tip accessories

To attach an accessory to the DCS605 probe, simply screw it into the end of the camera head (see right photo below).

To detach an accessory from the DCS605 probe, unscrew it from the camera head.



The DCS605's three screw-on probe-tip accessories

OPERATING INSTRUCTIONS

Before using the scope for the first time, remove and discard the plastic film protecting the LCD.

Before using the scope for an inspection session, remove the black rubber cap protecting the probe's camera head. Remember to replace this cap after each and every inspection session.

To power on the scope, press the power on/off (⏻) button (Fig. 1, Callout 4). This will cause the green Power on (⏻) LED (Callout 10) to light. The LCD will illuminate and show real-time video from the camera at the tip of the probe.

To increase the brightness of the display, press the ☀️ button (Callout 5). **To decrease the brightness,** press the 🌑 button (Callout 3).

To invert the display, press and hold the 🌑 and ☀️ buttons at the same time until the video "flips". Use this feature to align the probe's field of view with its real-world surroundings, or to make it easier to read equipment labels and serial numbers.

Video exported to a TV monitor cannot be flipped.

Because the probe is flexible-obedient, you can maneuver it into various positions to aim at different targets and it will hold its shape.

The Wet/Dry Scope is designed to be powered for up to five hours by the same set of four “AA” batteries. When the batteries’ total charge drops below a preset threshold, the red Battery low indicator LED (Callout 9) will begin flashing. To replace the batteries, follow the procedure in the Setup Instructions section of this manual.

To power off the scope, press the  button.

SPECIFICATIONS

Camera-tipped Probe Type/Diameter/Length: Flexible-obedient/8mm (0.31 in.)
or 5.5mm (0.22 in.) / 3.3 ft. (1m)

Probe Minimum Bending Radius: 1.77 in. (45mm)

Camera Field of View: 54°

Camera Depth of Field (DCS600A): 2.4 in. to 10 ft. (60mm to 3m)

Camera Depth of Field (DCS605): 1.2 to 2.4 in. (30 to 60mm)

Camera Resolution: 640 x 480 pixels (VGA)

Camera Light Source: 4 white LEDs

Display Type/Size: Color TFT/3.5 in. (89mm) diagonal

Display Resolution: 320 x 240 pixels

Video Out Resolution/Format: 640 x 480 pixels/NTSC

Video Out Cable Length: 39 in. (1m)

Power Source: (4) “AA” batteries (not included)

Operating Temperature: 14° to 122°F (-10° to 50°C)@15 to 85% RH

Weight of Grip, Console and Probe: 1.1 lb. (500g)

Dimensions of Carrying Case: 13.0 x 10.5 x 4.5 in. (330 x 267 x 114mm)

Weight of Carrying Case with Instrument, Probe and All Accessories: 51.2 oz. (1.45kg)

Power Source: (4) “AA” batteries (not included)

OPERATING & MAINTENANCE TIPS

The Wet/Dry Scope is not shock-resistant. Do not use it as a hammer or drop it. Also, do not use the camera-tipped probe to clear debris

If condensation forms inside the lens, let it evaporate before using the system again.

Remove the batteries if planning to store the unit for months or longer.

Properly dispose of used batteries. Exposure to high temperatures can cause batteries to explode, so do not incinerate them. Some countries regulate battery disposal. Please follow all applicable rules.

The Wet/Dry Scope is not equipped with an Auto Power Off (APO) function. So remember to power off the scope whenever you are not "actively" using it. If you do not, the batteries may discharge quickly, in as little as 3 hours.

OPTIONAL PROBES

The table below lists and describes all optional probes compatible with the Wet/Dry Scope. To order, visit www.generaltools.com.

Model No. (SKU)	Probe Description	Camera Head Diameter	Probe Length	Depth of Field
P608-1SR	VGA Resolution Flexible-Obedient Far-Focus Probe	8mm (0.31 in.) (-1SR included with DCS600A)	1m (3.3 ft.)	2.4 in. to 10 ft. (60mm to 3m)
P608-3SR			3m (9.8 ft.)	
P608-5SR			5m (16.4 ft.)	
P605-1SR	VGA Resolution Flexible-Obedient Close-Focus Probe	5.5mm (0.22 in.) (included with DCS605)	1m (3.3 ft.)	1.2 to 2.4 in. (30 to 60mm)
P605-1ART	VGA Resolution Soft Metal Articulating Probe (with $\pm 90^\circ$ articulation)	5.5mm (0.22 in.)		
P610-20PR	VGA Resolution Pipe & Duct Inspection Probe & Reel Set (includes handle/belt clip and two stainless steel guide balls)	10mm (0.4 in.)	20m (65 ft.)	1.2 to 6 in. (30 to 150mm)

WARRANTY INFORMATION

General Tools & Instruments' (General's) DCS600A or DCS605 Wet/Dry Video Inspection System is warranted to the original purchaser to be free from defects in material and workmanship for a period of one year. Subject to certain restrictions, General will repair or replace this instrument if, after examination, the company determines it to be defective in material or workmanship. The warranty period begins on the date of purchase. You are encouraged to register your product online. General will extend your warranty an additional 60 days if you register at www.generaltools.com/ProductRegistry.

This warranty does not apply to damages that General determines to be from an attempted repair by non-authorized personnel or misuse, alterations, normal wear and tear, or accidental damage. The defective unit must be returned to General Tools & Instruments or to a General-authorized service center, freight prepaid and insured.

Acceptance of the exclusive repair and replacement remedies described herein is a condition of the contract for purchase of this product. In no event shall General be liable for any incidental, special, consequential or punitive damages, or for any cost, attorneys' fees, expenses, or losses alleged to be a consequence of damage due to failure of, or defect in any product including, but not limited to, any claims for loss of profits.

Register now at www.generaltools.com/ProductRegistry to receive a 60-day extension to your warranty.

RETURN FOR REPAIR POLICY

Every effort has been made to provide you with a reliable product of superior quality. However, in the event your instrument requires repair, please contact our Customer Service to obtain an RGA (Return Goods Authorization) number before forwarding the unit via prepaid freight to the attention of our Service Center at this address:

General Tools & Instruments
75 Seaview Drive Secaucus, NJ 07094 212-431-6100

Remember to include a copy of your proof of purchase, your return address, and your phone number and/or e-mail address.



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