



Joe Ennis



## Greetings from the President

### Looking forward...to serving you

Over the past decade, we've made a lot of changes at General to grow our business. Those initiatives continue to bear fruit. Last year, they contributed—once again—to the best year we've ever had, both in terms of new product launches and revenue generated.

At General, the quality of our tools and instruments is something we work hard to improve every day. As an example of initiatives bearing fruit, take a closer look at the housing of our newest instruments. On them you'll find many new compliance markings that represent the end result of many new QA and QC policies and procedures. You can feel more confident than ever that your new precision instrument from General meets or exceeds all industry-standard testing requirements.

Our QA/QC initiative has also yielded better instrument precision. This, in turn, has allowed us to add many more instruments to our NIST certification program. Our full-line catalog now reflects this important performance option by using the NIST logo to identify qualifying products. If your application requires testing that is traceable to a national standard, we can provide a turnkey solution with NIST compliance.

At General, we haven't forgotten that we're in business to satisfy your demand for new productivity tools and instruments. So it is with great pride that I announce our first full line of electrical instruments for the industry professional. On pages 124 to 143 of this catalog you'll find the features and specifications of many new clamp meters, multimeters, electrical testers and multi-component kits targeted to contractors and

MRO professionals. We've even provided comparison charts for the clamp meters and multimeters to help you choose. With rugged mechanical designs, state-of-the-art electronics, improved CAT ratings and unique features, these can be considered "best of breed" electrical instruments that offer the best value in the market.

"Best of breed" is a term that applies equally well to our high-performance and Seeker families of video inspection borescopes. In 2013, General added VGA resolution probes with anti-glare and light boost to our high-performance line. Last year also saw the introduction of what has become the fastest-growing product in company history: the iBorescope. We think video inspection—using the iBorescope—may prove to be a "killer app" for those millions of iOS and Android smartphones and tablets now taking the world by storm. But our first-generation iBorescope only scratches the surface of tasks that compact, WiFi-enabled scopes can perform more quickly and conveniently. Keep an eye out for even more exciting video inspection products soon.

At General, we value your data as much as we value having your business. Whether your data is a series of home inspection images, a video clip of a commercial drain system, on-site thermal images of a power plant, a week's worth of logged temperature/humidity points, or voice annotation of a water-damage restoration project, General Tools & Instruments gives you the wherewithal to make precision measurement and inspection your business as well.

Joe Ennis, President and CEO

**We Call Our Video Borescopes  
 “High-Performance Systems”  
 for Several Good Reasons:**

- They use our thinnest probes, with diameters as small as 3.9mm (0.15 in.). Even our thickest general-purpose high-performance probe, at 6mm across, is no thicker than a No. 2 pencil lead.
- The probes have superior optical specs, including close-focus and far-focus depths of field.
- Probe choices abound. Just pick the probe type (flexible-obedient or soft metal), probe diameter (3.9mm, 4.9mm, 5.5mm or 6m), probe length (1m to 30m) and viewing angle (front view, articulating or switchable front/side view) you need; one of our probes is sure to fill the bill.
- The borescopes themselves also come in several styles—for example, wired or wireless, and recording or non-recording. Whichever model you choose, your high-performance borescope will have passed a 60,000-cycle performance test, sport a color monitor, and come in a custom protective hard case.



# Rugged Non-Recording Camera Scope

## RUGGED NON-RECORDING VIDEO INSPECTION SYSTEM – DCS280

Ideal for real-time applications.

### FEATURES & BENEFITS:

- Big, bright color LCD for crystal-clear real-time video imaging
- 9mm (0.35 in.) diameter x 1m (39 in.) long camera-tipped probe is thin enough to fit into very narrow spaces
- 2m and 3m long x 9mm diameter probes are available
- Super thin 5.5mm dia. probes in 1m, 2m and 3m lengths are also available
- All probes are oil, water and dust-proof to IP67 standard. The DCS280's wand-type grip and monitor are IP54 splash -proof.
- Four adjustable LEDs in camera head illuminate dark areas
- Unit is drop-resistant to 1m height and comes in a protective hard case
- Invert what you see 180° to read labels right-side up and ZOOM video up to 200% to show details
- Pays for itself quickly: Avoid the cost and trouble of tearing down engines
- One-handed operation frees your other hand to use tools
- AV Out jack enables video connection to any NTSC television
- Includes four useful probe tip accessories

### APPLICATIONS:

- Inspecting cylinders, valves, diesel injectors and glow plugs
- Viewing behind body panels and under the dashboard for electrical wiring and connections problems
- Examining for corrosion and wear in hard-to-see areas
- Inspecting fluid lines and leaks

### INCLUDES:

- Video Inspection System with Wand-type Grip and 2.4 in. (61mm) Color LCD
- 1m (39 in.) Long x 9mm (0.35 in.) Diameter Flexible-obedient Probe
- Four Probe Tip Accessories (Thread Protector, Magnetic Pickup, Pickup Hook, 45° Mirror)
- Video cable
- 4 "AA" Batteries
- Custom Hard Case
- User's Manual
- 3 Year Limited Warranty

### SPECIFICATIONS:

- ◆ Display Size/Type: 2.4 in. (61mm) diagonal TFT color LCD
- ◆ Display Resolution: 320 x 240 pixels
- ◆ Monitor Controls: 180° flip, 1 to 2X zoom in 0.2 steps, brightness + and –
- ◆ Probe Diameter/Type: 9mm (0.35 in.) flexible-obedient
- ◆ Probe Length: 1m (39 in.)
- ◆ Probe Field of View: 60°
- ◆ Probe Depth of Field: 1 in. to 10 ft. (25mm to 3m)
- ◆ Camera Light Source: 4 adjustable-brightness white LEDs
- ◆ Impact Resistance: To height of 1m (39 in.)
- ◆ Water, Dust, Splash Resistance Levels: Camera-tipped probe designed to meet IP67; Grip and LCD designed to meet IP54
- ◆ Operating Temperature/Humidity: 32° to 113°F (0° to 45°C) @ 5 to 95% RH
- ◆ Dimensions of Console: 10 x 3.6 x 2.3 in. (254 x 91 x 58mm)
- ◆ Weight of Console: 1 lb. (454g)
- ◆ Dimensions of Case: 15 x 11 x 3.5 in. (381 x 279 x 89mm)
- ◆ Weight of Case and Contents: 4 lb. (1.8 kg)
- ◆ Power Source: 4 "AA" batteries (included)

### UPC

01572 8

### NO.

DCS280



DCS280



The rugged DCS280 shrugs off the accidental bumps typical of industrial work



Perfect for driveway mechanics

# The SEEKER™ Series Camera Scopes

## THE SEEKER™ 100 WIRELESS VIDEO INSPECTION SYSTEM – DCS100

Wirelessly transmits video and images to your computer up to 33 feet away; included software enables streaming video for remote viewing over the Internet.



DCS100

### FEATURES:

- Built-in radio transmitter wirelessly transmits live video signal to the RCV100 USB video receiver up to 10m away, enabling the video to be viewed on a Windows PC and streamed live over the Internet
- Works with Windows® 7, Windows® Vista and Windows® XP†
- 12mm (0.47 in.) diameter x 1m (3.28 ft.) long flexible-obedient far focus\*2 camera-tipped probe is water, oil and dust proof to IP67 standard
- Optional probe extensions of 1m, 2m, and 3m (3.28 ft., 6.56 ft., 9.84 ft.) are available for the 12mm probe
- In addition to the standard 12mm (0.47 in.) diameter far-focus\*2 probe, the DCS100 handle can also accept optional 9.0mm (0.35 in.) and 5.5mm (0.22 in.) diameter close-focus\*1 camera-tipped probes
- Adjustable light intensity from two camera-lighting LEDs
- Flexible-obedient probes retain configured shape

### SPECIFICATIONS:

- ◆ Wireless Frequencies: 2414MHz, 2432MHz, 2450MHz, 2468MHz
- ◆ Wireless Range: Up to 10m (33 ft.)
- ◆ Operating Temperature: 32° to 103°F (0 to 45°C)
- ◆ Operating Humidity: 5% to 95% RH non-condensing
- ◆ Storage Temperature: -4° to 140°F (-20° to 50°C), □85% RH
- ◆ Dimensions: 3.26 x 1.65 x 0.74 in. (83 x 42 x 19mm)
- ◆ Weight: 1.23 oz. (35g)

### INCLUDES:

Custom Hard Case, Transmitter Handle with 12mm Diameter x 1m Long Flexible Obedient Probe, 3 Accessory Tools: (45° Mirror, Magnetic Pick-Up, Pick-Up Hook), RCV100 Wireless USB Video Receiver, USB Extension and Video Cables, Software on Mini-CD, User's Manual, 1 Year Limited Warranty (Hardware Only)

\*1 - General's 12mm close focus probe has a defined depth of field of 0.25 to 4 in. (6.4 to 101.6mm)

\*2 - General's 12mm far focus probe has a minimum focal distance of 4 in. (101.6mm) and is in focus from there to 8 ft. (2.4m)

UPC	NO. PROBE	DIAMETER
01443 1	DCS100	12mm (0.47 in.)

Recommended use		Indoor
Viewable angle		60°
Focal length	12mm standard	50mm and 50cm for your choice
	9mm optional	50mm
	5.5mm optional	10mm
Outer diameter of camera head	Standard	12mm
	Optional	9mm 5.5mm
Probe length for choice	12mm camera	1m/2m/3m or customized (max length 5m including extension)
	9mm camera	1m/2m/3m or customized (max length 5m including extension)
	5.5mm camera	1m/2m/3m or customized (max length 15m including extension)
Extension for choice		1m, 2m, 3m
Connection		Standard USB interface
Valid pixels		300 thousand pixels
Image size		640x480
Wireless transmission frequency		2414MHz、2432MHz、2450MHz、2468MHz
Wireless transmission distance		Up to 10M; If no obstacles, will more than 10M.
Attachment		USB cable、Signal cable、CD ROM
Probe and camera head protection		IP67
Light source		High lighting LED
Adapter	INPUT	AC 100~240V (50~60Hz)
	OUTPUT	DC 5.5V 1.5A
Inside battery		Polymer Lithium battery
Battery capacity		1200mAh
Charging time of inside battery		About 3 hours
Battery life		About 2 hours
Operating temperature		0°C ~ 45°C
Operating humidity		RH 5% ~ 95% non-condensing
Storage temperature		-20°C ~ +60°C, ≤85% (w/o battery)
Dimension	Grip	266mm x 73mm x 80mm
	Receiver	83mm x 42mm x 19mm
Weight	Grip	About 159g (w/o camera probe)
	Receiver	About 35g

## The Seeker 355 Video Inspection System DCS355

Compact video camerascopes for the visual inspection of inaccessible areas.

### Overview

DCS355 Video inspection has been designed as a user friendly and economical way of solving hidden problems and increasing productivity. (e.g. Inspect vent pipe and system of air conditioner, machine equipment, engine and so on). It's easy for you to make fast diagnosis of equipment, welding, loose parts etc, which can help you to trouble shooting, save the cost, improve the efficiency of your work.

DCS355 with 3.5" high resolution full color LCD screen and clear image. The camera head of the probe with adjustable LED lights, which helps you to reach gaps and holes. The camera head can equip with several accessories, which makes it flexible. The magnetic tip is used to pick up small metal objects. The mirror tip is easy to view the 90° angle. The hook is used to grab onto objects.

The product has features of 2X image zoom and 180° image rotation. It also has the advantages of small size, clear image, stable performance, easy operation and portability. It is widely used in applications such as the industry, the building, the aviation, the vehicles maintenance, mining industry, archaeology and etc. It can provide excellent performance for your observation, It become as a right-hand man in your daily work and equipment maintenance.

### FEATURES:

- View inspection video instantly on the 3.5 in. (89mm) color LCD screen
- Separate monitor buttons for 2x zoom and 180° image flip
- System includes a 1m (3.28 ft.) long, flexible obedient, camera-tipped probe
- Camera-tipped probes have built-in adjustable LED lighting
- Probes are flexible, strong and slim enough to perform automotive engine check-up
- Interchangeable probes are water, oil and dust proof to IP67 standards.

### SPECIFICATIONS:

- Supplied Probe: 5.5mm diameter, 1m long
- Light Source: 4 adjustable-brightness LEDs
- Field of View: 60°
- Tip Accessories: Thread protector, ball guide and mirror

### INCLUDES:

- Custom Hard Case, Pistol Grip Camera Handle
- with 1m Long Flexible-Obedient Probe,
- 3 Accessory Tools, 1 "9V" Battery,
- Mini Screwdriver, User's Manual



<b>Recommended usage</b>		Indoor
<b>Viewable angle</b>		60 degrees
<b>Focal length</b>	12mm lens	50mm、50cm for your choice
	9mm lens	50mm
	5.5mm lens	10mm
<b>Outer diameter of camera head</b>	Standard	12mm (attachments: magnet, hook and mirror)
	Optional	9mm (accessories: magnet, hook, mirror and screw thread protector)
		5.5mm (accessories: mirror, ball guide and screw thread protector)
<b>Probe length (Optional)</b>	12mm lens	1m/2m/3m
	9mm lens	1m/2m/3m
	5.5mm lens	1m/2m/3m
<b>Probe extension optional</b>		1m、2m、3m
<b>Image display</b>		3.5" TFT/LCD
<b>LCD resolution</b>		320×240 pixel
<b>Image rotation</b>		180°
<b>Image magnification</b>		1.0~2.0 times
<b>Probe and camera head ingress protection standard</b>		IP67
<b>Light source</b>		Ultra high brightness LED
<b>Power supply</b>		One 9V alkaline battery (6LR61)
<b>Battery life</b>		Over 2hours
<b>Working temperature</b>		0℃~45℃
<b>Working moisture</b>		5%~95%RH non-condensing
<b>Storage</b>		-20℃~+60℃, ≤85% (w/o battery)
<b>Dimension of device</b>		215mm×156mm×96mm
<b>Weight</b>		About 256g (w/o battery and probe)

# The SEEKER™ Series Camera Scopes

## The Seeker 700w WIFI Video Inspection System– DCS700W

Wirelessly transmits video and images to your mobile.

### OVERVIEW:

DCS700W WIFI video inspection has been designed as a user friendly and economical way of solving hidden problems and increasing productivity. (eg. Inspect vent pipe and system of air conditioner, machine equipment, engine and so on).

The unit uses WIFI technology and supports iPad/ iPhone/ Android .etc, and computers with WINDOWS system and wireless network card which comply with IEEE-802.11n. The unit allows multiple devices to connect at the same time and displays clear real-time images. It includes Windows PC software, APK application of Android, IPA application for iPad/iphone. It is convenient for the real-time review, photo and video.

The unit equips with a detachable bracket which can facilitate the installation of the mobile phone. When needed, use the bracket to install the phone above the unit's grip. The unit has a probe with the length of 1m and diameter of  $\phi$ 9mm. Four adjustable LED lights set around the camera head help the user to see inside dark gaps and holes. Several accessories can be equipped on the tip of the probe, making it more flexible. The accessories include magnetic, mirror, hook and screw protector.

DCS700W has built-in polymer lithium battery, also could use 5V DC adapter or USB port for charging with LED indicator. It has the advantages of small size、stable performance、easy operation and portability. It is widely used in applications such as the industry, the building, the aviation, the vehicles maintenance.



### SPECIFICATIONS:

- ◆ WIFI range: more than 25 meters in wide open spaces
- ◆ camera head focus : 50mm
- ◆ Visible range : 12.7 to 305mm
- ◆ Camera head accessories : Magnet, hook, mirror and screw thread protector
- ◆ Image sensor : VGA CMOS (300,000 pixels)
- ◆ Compress mode : Motion-JPEG-N
- ◆ Support WIFI platform : Support iPad / iPhone / Android / WINDOWS and other smart platform.
- ◆ Attachment : USB charging cable (use adapter of ipad and iphone, compatible with all computer)

<b>Recommended use</b>		Indoor
<b>WIFI range</b>		more than 25 meters in wide open spaces
<b>Camera head spec.</b>	Viewable angle	About 60°
	Outer diameter of camera head	Standard 9mm
	camera head focus	50mm
	Visible range	12.7 to 305mm
	Probe length	Standard 1m
	Light source	4 High lighting LED
	Protection	Probe and camera head IP67
<b>Video</b>	Camera head accessories	Magnet, hook, mirror and screw thread protector
	Image sensor	VGA CMOS (300,000 pixels)
	Compress mode	Motion-JPEG-N
	FPS	30fps
<b>Internet</b>	Image resolution	640×480 pixels
	Wireless network standard	WIFI 802.11 b/g/n
	Wireless Certification	WPA/WPA2/WEP and so on
<b>Attachment</b>		Support iPad / iPhone / Android / WINDOWS and other smart platform.
<b>Mobile phone bracket spec.</b>		USB charging cable (use adapter of ipad and iphone, compatible with all computer)
<b>Power supply</b>		Smart phone with the width of 55~85mm in width
<b>Inside battery capacity</b>		output 5V DC and input 3.7V polymer Lithium battery
<b>Charging time of inside battery</b>		3.7V/1200mAh
<b>Battery life</b>		About 3.5hours
<b>Operating temperature</b>		More than 2 hours
<b>Operating humidity</b>		0℃~45℃
<b>Storage temperature</b>		RH 5%~95% non-condensing
<b>Dimension</b>		-20℃~+60℃, ≤85% (w/o battery)
<b>Weight</b>		266mm×44mm×80mm (the probe length is about 1m, the fixture is not included)
		About 375g (1m probe is included, the bracket is not included)

## The Seeker 800MF Multi-function Video Inspection System– DCS800MF

Multifunction video inspection has been designed as a user friendly and economical way of solving hidden problems and increasing productivity.

### OVERVIEW:

DCS800MF has a high clarity color LCD of 3.5" size. The camera head is connected to the probe and with adjustable LED lights, which helps you to reach gaps and holes. The camera head can equip with several accessories, which makes it flexible. The magnetic tip is used to pick up small metal objects. The mirror tip is easy to view the 90° angle. The hook is used to grab onto objects.

DCS800MF can take a photo wirelessly. It has built-in polymer lithium battery, also could use AC adapter for charging with LED indicator. The screen can detach from grip, the back inside magnet facilitate hands-free operation, having functions of Micro SD interface、TV output interface、USB interface, supporting camera、video、image zoom、rotation、computer connection .etc. It has the advantages of small size、clear image、stable performance、easy operation and portability. It is widely used in applications such as the industry, the building, the aviation, the vehicles maintenance.



**Saves time and money in automotive maintenance and repair**



**Perfect for driveway mechanics**

<b>Recommended use</b>	Indoor	
<b>Viewable angle</b>	60°	
<b>Focal length</b>	12mm standard	50mm and 50cm for your choice
	9mm optional	50mm
	5.5mm optional	10mm
<b>Outer diameter of camera head</b>	Standard	12mm (attachments: magnet, hook and mirror)
	Optional	9mm (accessories: magnet, hook, mirror and screw thread protector)
		5.5mm (accessories: mirror, ball guide and screw thread protector)
<b>Probe length for choice</b>	12mm camera	1m/2m/3m or customized (max length 5m including extension)
	9mm camera	1m/2m/3m or customized (max length 5m including extension)
	5.5mm camera	1m/2m/3m or customized (max length 15m including extension)
<b>Extension for choice</b>	1m, 2m, 3m	
<b>Image display</b>	3.5" TFT/LCD	
<b>Image storage media</b>	Micro SD card (Support up to 16G)	
<b>Image resolution</b>	640×480 pixels	
<b>LCD Resolution</b>	320×240 pixels	
<b>Image zooming</b>	4 times	
<b>TV output format</b>	NTSC/PAL	
<b>Wireless transmission frequency</b>	2414MHz、2432MHz、2450MHz、2468MHz	
<b>Wireless transmission distance</b>	Up to 10M; If no obstacles, will more than 10M	
<b>Attachment</b>	Micro SD card、one into two cable、Micro SD to SD transition pocket、TV cable、USB cable	
<b>Probe length</b>	100cm or your required length	
<b>Probe and camera head protection</b>	IP67	
<b>Light source</b>	High lighting LED	
<b>Adapter</b>	INPUT	AC 100~240V (50~60Hz)
	OUTPUT	DC 5.5V 1.5A
<b>Inside battery</b>	Polymer Lithium battery	
<b>Battery capacity</b>	Grip	1200mAh
	Screen	1350mAh
<b>Charging time of inside battery</b>	About 3.5 hours	
<b>Battery life</b>	About 2 hours	
<b>Operating temperature</b>	0°C~45°C	
<b>Operating humidity</b>	RH 5%~95% non-condensing	
<b>Storage temperature</b>	-20°C~+60°C, ≤85% (w/o battery)	
<b>Dimension</b>	Grip	266mm×73mm×80mm
	Screen	100mm×82mm×26mm
<b>Weight</b>	Grip	About 155 g (w/o probe)
	Screen	About 175 g

# The SEEKER™ Series Camera Scopes

## THE PALMSCOPE™ – DCS950

A rugged, full-featured video inspection system no bigger than a smartphone. Ideal for busy craftsmen, professionals and DIYers.

### FEATURES:

- Fits in your pocket or clips on your belt
- Affordable
- 1 meter drop-proof
- Long, thin camera-tipped probe penetrates tight, hard-to-reach spaces
- Probe is waterproof, holds its shape and coils inside clamshell case for storage
- Four camera-lighting LEDs produce bright, crisp video on large color LCD
- Four screen controls
- CE and RoHS approved

- ◆ Screen Controls: Brightness up and down, 1 to 4X zoom in 6 steps, 180° flip
- ◆ Case Impact Resistance: From height of 39 in. (1m) onto 2 in. (50mm) thick hardwood
- ◆ Dimensions: 5.4 x 2.9 x 1.5 in. (136 x 73 x 39mm)
- ◆ Weight: 9 oz. (250g)
- ◆ Power Source: (4) "AAA" batteries (not included)

### SPECIFICATIONS:

- ◆ Probe Length: 24 in. (0.6m)
- ◆ Camera Head Diameter: 0.35 in. (9mm)
- ◆ Probe/Camera Head Water/Dust/Oil Resistance: to IP67 standard
- ◆ LCD Size: 2.7 in. (686mm) diagonal
- ◆ LCD/Camera Resolution: 320 x 240 pixels (QVGA)
- ◆ Camera Depth of Field: 1 in. to 10 ft. (25mm to 3m)
- ◆ Camera Field of View: 60°

### INCLUDES:

Nylon Pouch with Belt Clip, Four Probe Tip Accessories (Pickup Hook, Magnetic Pickup, 45° Mirror, Thread Protector), User's Manual, 1 Year Limited Warranty)

UPC	NO.
01660 2	DCS950



DCS950



Recommended use	Indoor
Viewable angle	60°
Focal length	50mm
Visible distance	2.5cm-30cm
Diameter of camera head	φ9mm
Probe length	About 60cm
Image display	2.7" TFT/LCD
LCD resolution	320×240 pixels
Image rotation	180°
Image zoom	1.0~4.0x
Protection level	Probe and camera IP67
Light source	4 Ultra high brightness LEDs
Accessory	Mirror, Hook, Magnet, Thread protector and safety sling
Power supply	4pcs of AAA alkaline or rechargeable batteries (LR03 or KR03)
Battery continuous working time	>3 hours
Working temperature	0°C~45°C
Working humidity	5%~95%RH non-condensing
Storage Condition	-20°C~+60°C, ≤85% (w/o batteries)
Main body dimension	136mm (150mm) × 73mm×38mm
Main body weight	About 248g (w/o batteries)

DCS950 PalmScope has been designed as a user friendly and economical way of solving hidden problems and increasing productivity. (E.g. Inspect vent pipe and system of air conditioner, machine equipment, engine and so on).

DCS950 has 2.7" LCD screen, equipped with camera probe of 9mm head, length 60cm. The camera head of the probe has 4 bright LED lights that are unadjustable, which helps you to reach gaps and holes. The camera head equips with several accessories including magnetic tip, mirror tip and hook, which makes it flexible. DCS950 has features of 4X image zoom and 180° image rotation. The camera probe adopts unique patent structure which designs the camera probe in a built-in style. The product uses TPR and equips with safety sling and nylon bag which has a hanging buckle. It also has the advantages of small size, stable performance, easy operation and portability. It is widely used in applications such as the industry, the building, the aviation, the vehicles maintenance