GENERAL®

THE SEEKER™ 100

USER'S MANUAL

DCS100
WIRELESS USB
VIDEO INSPECTION SYSTEM

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

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INTRODUCTION

Thank you for purchasing the The Seeker™100 Wireless USB Video Inspection System from General Tools & Instruments. We strongly suggest that you read this user's manual carefully before using the product.

The Seeker 100 is a unique member of General's award-winning Seeker family of video inspection system. Its wireless USB connection and Skype™-enabled streaming video function (working in concert with the RCV100 Wireless USB Video Receiver) make it uniquely suited for a wide variety of inspection applications—such as inspecting buildings for mold, leaks or pests; inspecting ducts and pipelines for corrosion or leaks; reading parts and serial numbers of equipment in industrial and manufacturing settings; and inspecting the engines of motor vehicles, airplanes and marine craft all at a great value. Like its siblings, the Seeker 100 offers a cost-effective way for technicians, mechanics, contractors and repairmen—as well as the home DIY user—to visually inspect inaccessible or hazardous areas and thus diagnose hidden system problems without the need for a complete disassembly or teardown.

TWO MAIN COMPONENTS

One component is a compact, ergonomic grip that mates with a high-strength, "flexible-obedient", 1m (3.28 ft.) long, 12mm diameter camera-tipped probe with adjustable LED lighting. The grip contains a wireless transmitter that works with the other main component: a small wireless receiver— the RCV100. It plugs into, and is powered by, the USB 2.0 or 3.0 port of any recent computer running Windows® 7, Windows® XP or Windows® Vista (with a Pentium IV microprocessor or later and at least 1 GB of RAM). Working in concert, the grip and the receiver allow "live" (real-time) video to be monitored, stored and processed on a laptop or desktop computer at a wireless distance up to 10m (33 ft.). The RCV100's software also supports streaming of live video over the Internet via the Skype application, and it can store video on the user's computer as well.

The Seeker 100 comes in an impact-resistant carrying custom case that also contains a battery charger, a video cable (for wired connection of the grip and receiver), and several accessories (a mirror, a magnet and a pick-up hook) that mount on the end of the probe to facilitate inspections. The unit ships with a 12mm (0.47 in.) diameter probe that is water, oil and dustproof. However, the grip also can accept 9.0mm and 5.5mm probes available from General, as well as extensions that increase the maximum overall probe length to 5m (about 10 ft.).

KEY FEATURES

- The grip's integrated transmitter wirelessly sends video to the receiver plugged into a computer up to 10 meters away.
- The RCV100 software is Skype-enabled, allowing streaming of real-time camera probe-video over the internet.
- The RCV100 has four (4) wireless selectable channels to maximize video quality.
- 320 x 240 pixel camera resolution and two adjustable-intensity LEDs yield crisp, clear video; camera's minimum focal length is 4 in. (102mm).
- Compatible with Windows® 7[*2], Windows® Vista[*2] and Windows® XP[*2] operating systems.
- Flexible and strong 1 meter long (3.28 ft.), 12mm (0.47 in.) diameter camera-tipped probe retains configured shape.
- Accepts General's thinner 9.0mm and 5.5mm camera-tipped probes as well as the 1, 2 and 3m extensions for the 12mm probe.

SAFETY INSTRUCTIONS

The probe is not electrically insulated, so do not bring it into contact with exposed AC wiring.

Although the probe and camera head are water, dust and oil proof, refrain from immersing them in liquids. Doing so could increase the risk of electrical shock.

Because the grip contains a polymer Lithium-ion battery, do not dispose of it in an incinerator, because that could cause an explosion.

SYSTEM INTRODUCTION

1. THE SEEKER 100 SYSTEM

The Seeker 100 system (the grip and a 1m long, 12mm diameter probe) comes fully assembled in a custom carrying case along with the following components:

• The RCV100 Wireless USB Video Receiver and its components and user's manual

• A 5.5VDC adapter for a 110 VAC power supply

• A set of three 12mm probe tip accessories (a mirror, a magnet and a pick-up hook)

• This user's manual

2. THE RCV100 WIRELESS USB VIDEO RECEIVER COMPONENTS
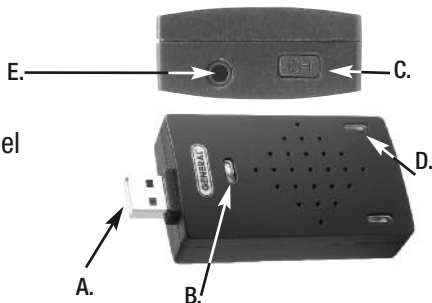
The RCV100 ships with an installation CD, a 3 ft. long USB extension cable and a video input cable.

1. Wireless receiver
2. Installation CD
3. USB extension cable
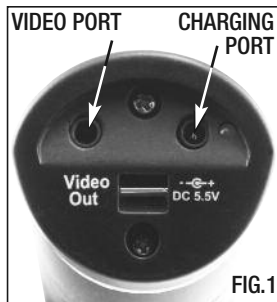4. Video cable

3. ANATOMY OF THE RCV100 RECEIVER

A. USB plug

B. "Connected" light

C. Black CH button for channel selection

D. Power/Channel indicator light; number of flashes corresponds to channel numbers from 1 to 4

E. Video in jack

SETUP INSTRUCTIONS

Before using the Seeker 100, make sure it is assembled and fully charged. If the 1m probe is not already attached to the grip, connect the two components by inserting the keyed end of the probe into the connector at the front of the grip, making sure that the alignment key at the end of the probe lines up with the flat on the connector's housing. Then tighten the connection by turning the collar clockwise. Finally, remove the rubber cap that protects the camera and the LEDs on the other end of the probe.
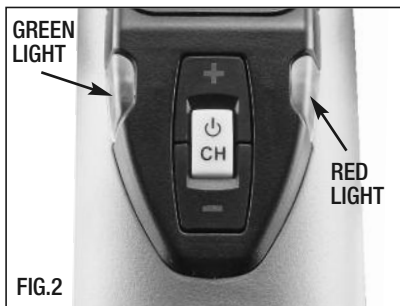
The battery of a new Seeker 100 is possibly in a fully discharged state. To charge it, plug one end of the supplied AC adapter into a 120-V socket and the other into the jack at the upper right of the base of the grip labeled "DC 5.5V" below it (Fig.1).

VIDEO PORT   CHARGING PORT

Video Out   DC 5.5V

FIG.1

Unlike other electronic devices, a fully discharged Seeker 100 cannot be run on AC power. The battery in the grip must be at least partially charged for the system to work. When you plug in a Seeker 100 grip "right out of the box", the only control on its front panel that will generate a response is the "⏻ CH" button (Fig.2). If you press that button, a light to the right of the front panel will briefly flash red. This indicates that the system is not yet ready for use. Keep the grip plugged in. If the LED just to the right of the jack on the bottom of the grip continues to glow red, the battery still needs charging. Keep the adapter plugged into the power outlet until the LED on the bottom of the grip turns green. This may take as little as 15 to 30 minutes, or as much as four hours.

Once the Seeker 100 has been assembled and fully charged, turn it on by pressing the "⏻ CH" button on the grip's front panel and holding it for five seconds. Now you're ready for installation/setup, which is a two-step procedure. It requires that you:

1. Copy the ScopeView software on the CD for the RCV100 to your computer's hard drive.
2. Plug the RCV100 into a USB 2.0 or 3.0 port on your computer.

GREEN LIGHT

RED LIGHT

FIG.2

INSTALL THE SOFTWARE

1. Place the installation disk CD in your computer's CD/DVD drive and close the drawer. After the CD loads, the "Welcome to the Scope View Setup Wizard" screen will appear. Click Next to continue.

   ### *(Using the ScopeView Setup Wizard)*

   In addition to installing the ScopeView application, you can also use the ScopeView Setup Wizard to:

   • Remove ScopeView from your computer.

   • Repair errors in the most recent installation by fixing missing and corrupt files, shortcuts and registry entries

   • Change the way features are installed.

   To perform any of these tasks, place the installation disk in your CD/DVD drive and close the drawer. You can also uninstall ScopeView by following the path "Start"->"All Programs"->"ScopeView"-> "Uninstall ScopeView" and clicking "Enter" to confirm the uninstall.)

2. Read the End-User License Agreement and accept its terms by checking the box at lower left and clicking Next.

3. On the Custom Setup screen that appears next, note the advisory that ScopeView will be installed in the ProgramFiles folder of your computer's C drive by default. This is the recommended location. Unless you want ScopeView to be installed elsewhere on your computer, click Next.

4. On the screen that appears next, click Install to begin the installation.

5. The next screen that appears is a Windows User Account Control dialog box. Respond to the question, "Do you want to allow the following program from an unknown publisher to make changes to your computer?" by clicking "Yes".

6. When the notification, "Completed the ScopeView Setup Wizard" appears, click Finish.

7. Show your desktop. Note that the installation has placed a ScopeView icon on your desktop. Also note that a ScopeView folder containing applications, application extensions and drivers has been added to your ProgramFiles folder.

INSTALL AND SYNC THE HARDWARE

1. Run ScopeView. Before plugging in the RCV100, run ScopeView, either by double-clicking its desktop icon or by following the path "Start"->"All Programs"->"ScopeView" and clicking on the application's icon. Doing so will cause the following screen to appear:

2. Plug in the RCV100. Plug the RCV100 into an empty port on your computer, either directly or using the supplied USB extension cable if the port has insufficient clearance.
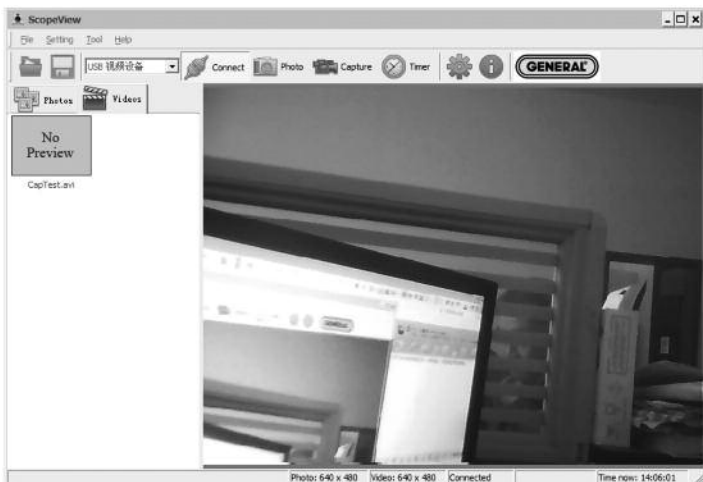
Note that plugging in the RCV100 causes its Channel indicator light to begin flashing. The number of flashes—1, 2, 3 or 4—corresponds to its channel setting.

3. Sync the receiver and transmitter. Now power on the Seeker 100 and make sure that the transmission channel of its grip matches the reception channel of the RCV100. Both units should be producing the same number of green flashes. **To change the transmission**

channel of the Seeker 100, press the + or – button on the grip (see Fig. 2). **To change the reception channel of the RCV100**, press the black CH button on its end (see page 6) as many times as necessary to sync it with your Seeker 100.

4. **Select the Seeker 100**. Once you have confirmed that the RCV100 and the Seeker 100 are operating on the same channel, check that the text "KC362" (for Windows XP computers) or "WDM2861 Capture" (for Windows7 computers) appears in ScopeView's Device window (the third item from the left on its toolbar).

5. **Deselect the laptop camera**. If you are using a laptop computer equipped with a video camera, the camera is likely to be the default device. Using the pulldown menu in the Device window, deselect the camera, select either KC362 or WDM2861, and click [Connect] (the tab to the right of the Device window).

When you click Connect, the main screen of ScopeView should begin showing a live video feed from your Seeker 100 that looks like this:

Note that once the RCV100 is connected, the green LED below the General logo will light, indicating its readiness to receive video and photos.
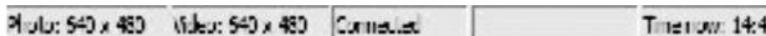
OPERATING INSTRUCTIONS

NORMAL OPERATION

In most cases, you will perform some or all of the following steps each time you use the Seeker 100 and RCV100 for an inspection session:

- Start ScopeView
- Power on your Seeker 100 and sync it to the RCV100
- Plug the RCV100 into your computer
- Configure the connection (set video and photo resolutions, formats and storage locations)
- Capture videos and pictures
- Browse, edit and play back videos and pictures
- Print pictures

To perform these tasks, you will use six features of ScopeView:

- The main menu | File Setting Tool Help
- The toolbar below the main menu
- The Preview Pane at the left of the main window
- The Photos and Videos tabs of the Preview Pane
- The Photo Control bar (+) (-) (1:1) (◀◀) (▶▶) (↺) (↻) at the bottom of the main window
- The status bar at the bottom of the ScopeView window

Photo: 540 x 480   Video: 540 x 480   Connected   Time now: 14:4

To view live video, start ScopeView, power on your Seeker 100 and click the 🔍 Connect tab. You can change the size (horizontal x vertical pixels) of the live feed that appears in ScopeView's main window by right-clicking on the video. The options include ten different combinations of size and aspect ratio, plus maximum size.

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To start capturing video, click the ▦ Capture icon on the toolbar. When you do so, note that on the right side of the status bar the word "Connected" changes to "Capturing…" and that a stopwatch begins running at its right.

To stop capturing video, click the ▦ Capture icon again. Note that this stops the stopwatch on the status bar and creates a thumbnail of the video just captured in the Preview Pane.

To play back a captured video, click its thumbnail in the Preview Pane. The video will play from start to finish in the main window over a video control bar ▮ 00:00:01 ▬ 00:00 that indicates both its total duration (at the right) and the current time position (at the left). Use the play, pause and stop icons to control playback.

To preview, save, delete, or change the name or storage location of a captured video, or display its properties, right-click the video's thumbnail in the Videos tab of the Preview Pane and left-click the desired action.

By default, all videos and photos captured by the Seeker 100 are stored in a folder called ScopeView that the application creates in your MyDocuments folder. **To change the default storage location** of videos and/or photos, left-click the Settings tab of the main ScopeView menu. On the screen that appears, you can also change the default format and size of photos and the size and type of compression applied to videos. The Settings tab also lets you change the default language of ScopeView from English to Mandarin Chinese.

(All of the functions accessible through the Settings tab on the main menu are also available from the ⚙ tab on the toolbar. Similarly, the Tool tab on the main menu provides access to the Connect, Photo, Capture and Set Timer functions accessible from the toolbar.

To take a picture of what your Seeker 100's probe is currently viewing, click the ▣ Photo icon on the toolbar. Note that doing so creates a thumbnail of the picture (often called a screen capture or vidcap) under the Photos tab of the Preview Pane.

To view a captured photo in the main window, double-click its icon in the Preview Pane. Note that when a picture is displayed in the main window, the Photo Control bar ![control bar] also appears below it. Use the controls on the bar **to zoom in or out on the picture or rotate it 90º in either direction. To view the next or previous photo**, either click the right or left arrows on the control bar or click the yellow directional arrows that appear within the main window to the right and left of the displayed image.

To configure the RCV100 and its connected Seeker 100 to automatically capture videos and/or photos on a regular schedule, click the ![Timer] tab on the toolbar. You can choose a daily, weekly or monthly schedule, or specify a date and time or a duration (for a video).

To disconnect the RCV100 from your computer, first close the ScopeView application. Then click the Safely Remove Hardware and Eject Media icon on your computer's system tray and click on "Eject USB Composite Device."

WIRED OPTION

If the video that appears on your computer is "noisy" (has streaks or flickering lines running through it), the probable cause is an electrically noisy environment. With so many electrical and electronic devices in use everywhere today, many environments in which the RCV100 will commonly be used have enough electromagnetic interference to negatively affect wireless signals.

To remedy the problem, you can override wireless operation by "hard-wiring" the RCV100 to your Seeker 100. To do so, use the provided cable with standard mini-RCA plugs at both ends. Both the RCV100 and your Seeker 100 are equipped with video ports for that purpose. On the Seeker 100, the video out port is on the bottom of the pistol grip, opposite the DC power input jack.

When you insert a mini-RCA plug into the video out jack of a Seeker 100, or into the video in jack of an RCV100, the computer screen showing probe video will go blank momentarily, and then resume showing live video.

USING SKYPE TO STREAM VIDEO

1. Make sure that your Windows computer is connected to the Internet

2. Download the Skype application (be sure it is version 4.2.0.169 or later) from www.skype.com

3. Install the Skype software on your computer, complete the user profile and set up a Skype account

4. Open Skype

5. Under the "Tools" tab of the main screen, click on "Options"

6. In the left pane of the screen that appears, choose "Video Settings"

7. On the next screen, under the "Select Webcam" tab, choose "KC362 USB Video" (Windows XP) or WDM2861 Capture (Windows 7)

That's it. You're now ready to make video calls to one or more parties while streaming the video captured by your Seeker 100's probe over the Internet.

SHUTTING OFF THE GRIP

To shut off the Seeker 100 grip, press the "⏻ CH" button and hold it for five seconds. If you forget to shut off the grip after each inspection session, its battery will fully discharge if the grip is left on for hours or overnight, and the grip will not power on the next time you try to use it—even with the AC adapter plugged in. If this happens, you'll have to wait up to four hours for the battery to recover its charge, with the adapter plugged in. Because the Seeker 100 grip lacks an automatic shutoff feature, it is critical that you shut it off manually within an hour or two after every use.

[1] Skype is a trademark of Skype Limited
[2] Windows® 7, Windows® Vista and Windows® XP are registered trademarks of Microsoft Corporation.

SPECIFICATIONS

The Seeker 100	DCS100
Image size	320 x 240 pixels
Minimum focal distance	4 in. (102mm)
Viewable angle	60°
Probe length	1m (3.28 ft.)
Probe diameter	12mm (0.47 in.)
Wireless transmission range	10m (33 ft.), greater with no obstacles
Transmission frequencies	2.414 GHz, 2.432 GHz, 2.450 GHz, 2.468 GHz
AC adapter input	120 VAC @ 60 Hz
AC adapter output	5.5 VDC, 1.5 A
Battery type, capacity	Polymer Lithium-ion, 1200mAh
Charging time	3 hours (nominal), 4 hours (maximum)
Discharge time	2 hours (normal operation)
Operating temperature	32° to 113°F (0° to 45°C)
Operating humidity	5% to 95%, non-condensing
Storage temperature	-4° to 140°F (-20° to 60°C) at less than 85% RH
Dimensions of grip	10.47 x 2.87 x 3.15 in. (266 x 73 x 80mm)
Dimensions of receiver	3.27 x 1.65 x 0.75 in. (83 x 42 x 19mm)
Weight of grip (without probe)	5.6 oz. (159g)
Weight of receiver	1.23 oz. (35g)

MAINTENANCE TIPS

The Seeker 100 requires no routine maintenance other than periodic cleaning. To clean the instrument, use a soft dry cloth. Never use a wet cloth, solvents or water.

Although the probe and camera head are water, dust and oil proof, refrain from immersing them in liquids or allowing them to come into contact with corrosive chemicals. Remember that the grip and the receiver are not waterproof.

Never open up the unit; the battery cannot be replaced by the end user. Use only the supplied battery charger. Fully charge and discharge the battery the first three times the unit is used. If the Seeker 100 has not been used for more than 3 months, it's a good idea to fully charge the grip.

Never forcibly insert or bend the probe. Nor should you bend it more than 2 inches, or use it like a stick to clear pathways or debris.

Remember to replace the camera head's protective rubber cap after each use of the Seeker 100. If your videos have spots, gently clean the camera head with a clean, dry cloth.

REPLACEMENT PARTS

The Seeker 100 comes with one 12mm (0.47 in.) probe that is 1m (3.28 ft.) long. For thinner probes and probe extensions, visit www.generaltools.com for more information.

WARRANTY INFORMATION

The Seeker 100 Wireless USB Video Inspection System from General Tools & Instruments (General®) 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, it is determined by General to be defective in material or workmanship.

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 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 any cost, attorneys' fees, expenses, losses alleged to be as a consequence of any damage due to failure of, or defect in any product including, but not limited to, any claims for loss of profits.

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 a RGA# (Return Goods Authorization) before forwarding the unit via prepaid freight to the attention of our Service Center at this address:

> General Tools & Instruments
> 80 White Street
> New York, NY 10013
> 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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