

SeeSnake[®] CS1000[™]



⚠ WARNING!

Read this Operator's Manual carefully before using this tool. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.

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SeeSnake® CS1000™

SeeSnake® CS1000™



RIDGID®

SeeSnake® CS1000™

Record product serial number below as it appears on the nameplate.

Serial
No.

--

Safety Symbols

In this operator's manual and on the product, safety symbols and signal words are used to communicate important safety information. This section is provided to improve understanding of these signal words and symbols.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE indicates information that relates to the protection of property.



This symbol means read the operator's manual carefully before using the equipment. The operator's manual contains important information on the safe and proper operation of the equipment.



This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.



This symbol indicates the risk of electrical shock.

General Safety Rules

WARNING

Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire, and/or serious injury.

SAVE THESE INSTRUCTIONS!

Work Area Safety

- **Keep your work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate equipment in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Equipment can create sparks which may ignite the dust or fumes.
- **Keep children and bystanders away while operating equipment.** Distractions can cause you to lose control.

Electrical Safety

- **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electrical shock if your body is earthed or grounded.
- **Do not expose equipment to rain or wet conditions.** Water entering equipment will increase the risk of electrical shock.
- **Do not abuse the cord.** Never use the cord for carrying, pulling, or unplugging the power tool. Keep cord away

from heat, oil, sharp edges, and moving parts. Damaged or entangled cords increase the risk of electric shock.

- **If operating equipment in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.
- **Keep all electrical connections dry and off the ground.** Do not touch equipment or plugs with wet hands to reduce the risk of electrical shock.

Personal Safety

- **Stay alert, watch what you are doing, and use common sense when operating equipment.** Do not use equipment while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating equipment may result in serious personal injury.
- **Use personal protective equipment.** Always wear eye protection. The appropriate use of protective equipment such as a dust mask, non-skid safety shoes, a hard hat, and hearing protection will reduce personal injuries.
- **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
- **Dress properly.** Do not wear loose clothing or jewelry. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, and long hair can be caught in moving parts.

Equipment Use and Care

- **Do not force equipment.** Use the correct equipment for your application. The correct equipment will do the job better and safer at the rate for which it is designed.
- **Do not use equipment if the power switch does not turn it ON and OFF.** Any equipment that cannot be controlled with the power switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or the battery pack from the equipment before making adjustments, changing accessories, or storing.** Preventive safety measures reduce the risk of injury.
- **Store idle equipment out of the reach of children and do not allow persons unfamiliar with the equipment or these instructions to operate the equipment.** Equipment can be dangerous in the hands of untrained users.
- **Maintain equipment.** Check for misalignment or binding of moving parts, missing parts, breakage of parts, and any other condition that may affect the equipment's operation. If damaged, have the equipment repaired before use. Many accidents are caused by poorly maintained equipment.
- **Use the equipment and accessories in accordance with these instructions; taking into account the working conditions and the work to be performed.** Use of the equipment for operations different from those intended could result in a hazardous situation.
- **Use only accessories that are recommended by the manufacturer for your equipment.** Accessories that may be suitable for one piece of equipment may become hazardous when used with other equipment.
- **Keep handles dry, clean, and free from oil and grease.** This allows for better control of the equipment.

Battery Use and Care

⚠ WARNING

Read the battery charger manual before using the charger or batteries. Failure to read, understand and follow the contents of the charger manual may result in extensive property damage, severe personal injury, or death.

- **Recharge only with the charger specified by the manufacturer.** A charger suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use equipment only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **Do not probe battery with conductive objects.** Shorting of battery terminals may cause sparks, burns, or electrical shock. When the battery pack is not in use,

keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.

- **Under abusive conditions, liquid may eject from battery; avoid contact.** If contact occurs, flush with water. If liquid contacts eyes, seek medical help. Liquid ejected from the battery may cause irritation or burns.
- **Use and store batteries and chargers in dry, appropriate temperature areas.** Extreme temperatures and moisture can damage batteries and result in leakage, electrical shock, fire or burns. See charger manual for more information.
- **Do not cover charger while in use.** Proper ventilation is required for correct operation. Covering charger in use could result in fire.
- **Properly dispose of batteries.** Exposure to high temperatures can cause the batteries to explode; do not dispose of in a fire. Some countries have regulations concerning battery disposal. Follow all applicable regulations.

Service

Ensure a qualified repair person services your equipment using only identical replacement parts to maintain the safety of the tool. Remove the batteries and refer servicing to qualified service personnel under any of the following conditions:

- If liquid has been spilled or objects have fallen into product.
- If the product does not operate normally when following the operating instructions.
- If the product has been dropped or damaged.
- When the product exhibits a distinct change in performance.

Specific Safety Information

⚠ WARNING

This section contains important safety information that is specific to the CS1000. Read these precautions carefully before using the CS1000 to reduce the risk of electrical shock, fire, or other serious personal injury.

SAVE THESE INSTRUCTIONS!

Keep this manual with the equipment for use by the operator.

CS1000 Safety

- **The equipment is intended for indoor use when used with the AC power supply.** When powered by battery

protect it from exposure to weather. This product is not water resistant. Do not expose the equipment to moisture or rain. Water entering the unit housing can increase the risk of safety hazards and electrical shock. Only the camera and cable in a SeeSnake Pipe Inspection Reel are water-resistant.

- **An improperly grounded electrical outlet can cause electrical shock and/or severely damage equipment.** Always check work area for a properly grounded electrical outlet. Presence of a three-prong or GFCI outlet does not ensure that the outlet is properly grounded. If in doubt, have the outlet inspected by a licensed electrician.
- **Power the CS1000 only with a specifically designated battery or a double insulated power supply.** This minimizes the risk of electrical hazards from moisture or faulty electrical outlets.
- **Do not operate this equipment if operator or CS1000 is standing in water.** Operating CS1000 while in water increases the risk of electrical shock.
- **The CS1000 is not waterproof.** It is dust resistant and splash-resistant. Only the camera and push cable are waterproof. Do not expose the equipment to water or rain. This increases the risk of electrical shock.
- **Do not use where a danger of high voltage contact is present.** The equipment is not designed to provide high voltage protection and isolation.
- **Read and understand this operator's manual, the reel operator's manual, the instructions for any other equipment in use and all warnings before operating the CS1000.** Failure to follow all instructions and warnings may result in property damage and/or serious personal injury.
- **Always use appropriate personal protective equipment when handling and using equipment in drains.** Drains may contain chemicals, bacteria, and other substances that may be toxic, infectious, cause burns or other issues. Appropriate personal protective equipment always includes safety glasses and may include drain cleaning gloves or mitts, latex or rubber gloves, face shields, goggles, protective clothing, respirators, and steel toed footwear.
- **If using drain cleaning equipment at the same time as drain inspection equipment, only wear RIDGID drain cleaning gloves.** Never grasp the rotating drain cleaning cable with anything else, including other gloves or a rag. They can become wrapped around the cable and cause hand injuries. Only wear latex or rubber gloves under RIDGID drain cleaner gloves. Do not use damaged drain cleaning gloves.
- **Practice good hygiene.** Use hot, soapy water to wash hands and other body parts exposed to drain contents after handling or using drain inspection equipment. Do not eat or smoke while operating or handling drain inspection equipment. This will help prevent contamination from

toxic or infectious material.

The information supplied with this product cannot cover all possible conditions and situations that may occur, and should be used in conjunction with appropriate training, sound judgment, and good work practices. These factors cannot be built into the product, but must be supplied by the operator.

The EC Declaration of Conformity (890-011-320.10) will accompany this manual as a separate booklet when required. If you have any question concerning this RIDGID product:

- Contact SeeSnake Support for questions relating to SeeSnake HQ software or the CS1000 at HQSupport@seesnake.com.
- Contact your local RIDGID distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local RIDGID contact point.
- Contact RIDGID Technical Services Department at rtctechservices@emerson.com, or in the U.S. and Canada call 800-519-3456.

Description, Specifications, and Standard Equipment

Description

The CS1000 is designed to provide a convenient accessible portal for all your pipe inspection, recording, monitoring, and report generation needs. Use the CS1000 with RIDGID SeeSnake reels and cameras to make a complete inspection system.

The CS1000 will help you organize your inspections by grouping all the associated still photos, videos, autolog videos, text notes, job location information, and customer information into "Jobs." Jobs give you a convenient way to transfer inspection data from the CS1000, and they form the basis for creating "Reports" in the CS1000. As you work with your CS1000, Jobs are automatically assembled from the information you collect during the inspection process; making organization easy to understand.

Your CS1000 is fully compatible with SeeSnake HQ. SeeSnake HQ is a new report generating software that you can use to quickly generate customized reports for your customer that can then be emailed, printed, burned onto DVD, or exported for viewing online. You can download the latest version of SeeSnake HQ for free at www.hq.seesnake.com.



Figure 1 – Complete SeeSnake Inspection System

Specifications

Table 1 SeeSnake® CS1000 Specifications	
Weight:	
with two batteries	17.3 lb [7.84 kg]
without batteries	14.65 lb [6.64 kg]
Closed Dimensions:	
Length	14.3 in [36.3 cm]
Width	11.9 in [30.2 cm]
Height	12.4 in [31.5 cm]
LCD Display:	
Working resolution	VGA 640 x 480 pixels
Display size (HxV)	12.1 in [30.7 cm]
Contrast ratio	700:1
Brightness	500 cd/m ²
Power Source	100-240VAC/50-60Hz 1.5A or 18 VDC
Battery Type	2x 18 V Li-Ion, 2.2Ah
Operating Environment:	
Temperature	32°F to 104°F [0°C to 40°C]
Storage temperature	14°F to 158°F [-10°C to 70°C]
Humidity	5% to 95% RH
Altitude	13,120 ft [4,000 m]

Standard Equipment

- CS1000
- Operator's Manual
- Quick Start Guide
- Instructional DVD

CS1000 Components



Figure 2 – CS100 Front View

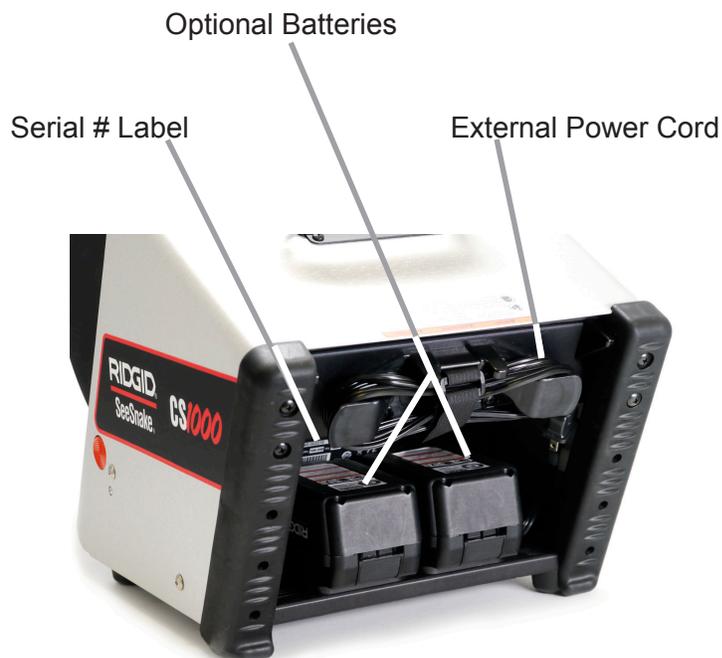


Figure 3 – CS1000 Rear View



Figure 4 – CS1000 Keyboard

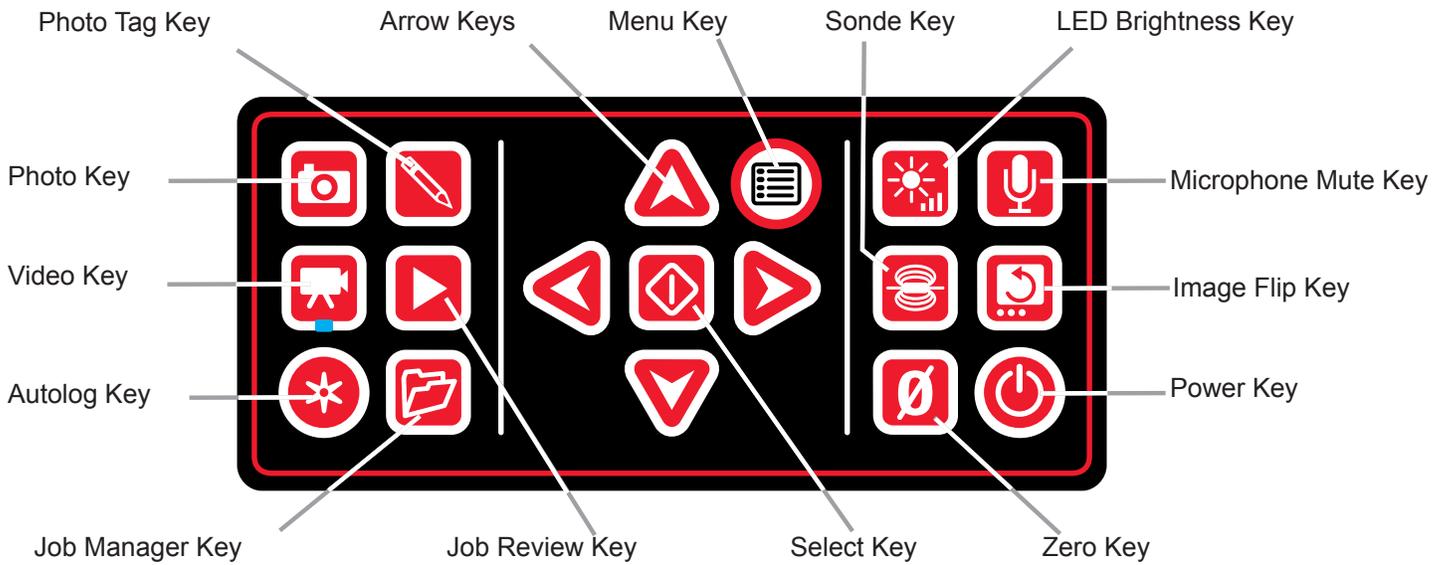


Figure 5 – Main Keypad

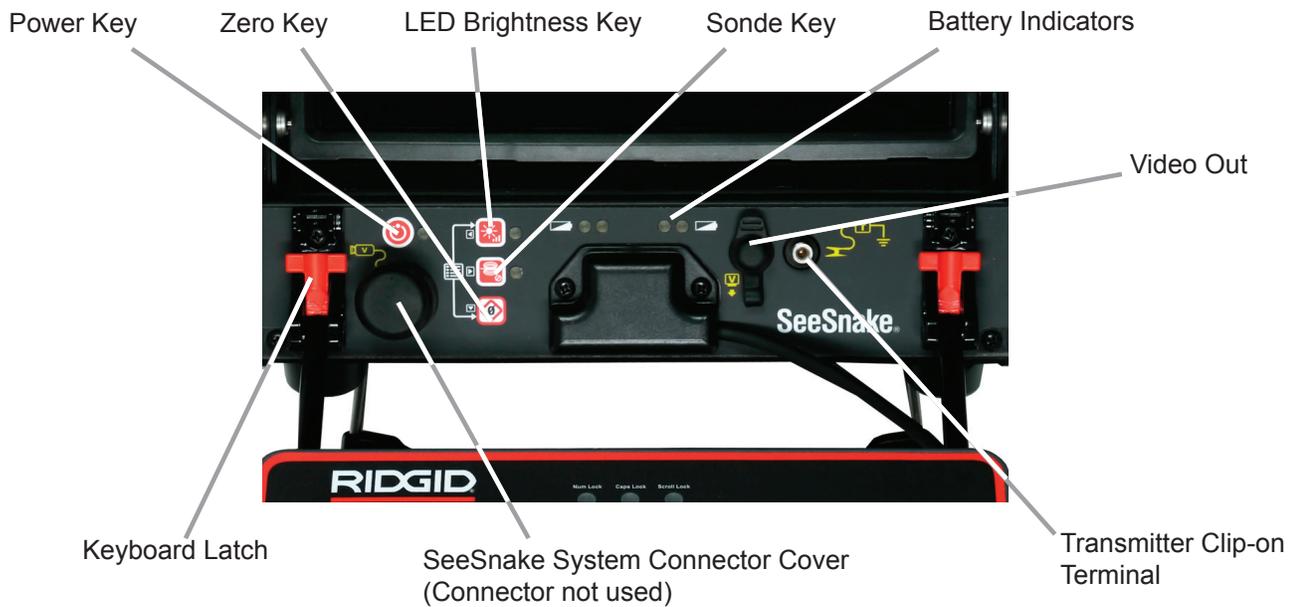


Figure 6 – Mini Keypad and Connections

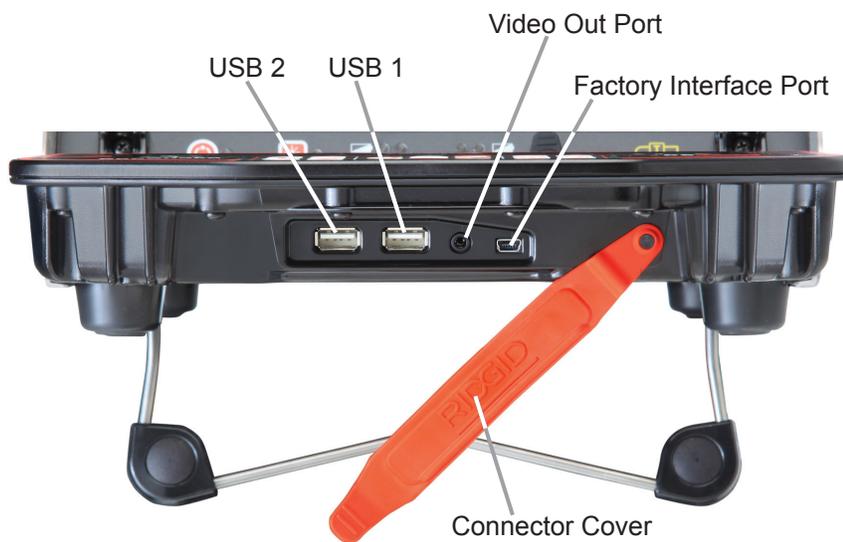


Figure 7 – Keyboard Connections

Icon Legend

Table 2 CS1000 Keypads and Icons	
Main Keypad	
	Power Key
	Select Key
	Arrow Keys
	Menu Key
	Photo Key
	Photo Tag Key
	Autolog Key
	Video Key
	Job Review Key
	Job Manager Key
	LED Brightness Key
	Sonde Key
	Zero Key
	Microphone Mute Key
	Image Flip Key
Mini Keypad	
	Power Key
	LED Brightness Key
	Sonde Key
	Zero Key

1. Confirm that the power is OFF, that any external power and cords are disconnected, and that the battery is removed. Inspect the cords, cables, and connectors for damage or modification.
2. Clean any dirt, oil, or other contamination from the CS1000 to aid in inspection and to prevent the unit from slipping from your grip during transport or use.
3. Inspect the CS1000 for any broken, worn, missing, misaligned or binding parts, or any other condition which might prevent safe, normal operation.
4. Inspect any other equipment being used per its instructions to make sure it is in good, usable condition.
5. If any problems are found, do not use the equipment until the problems are corrected.

Work Area and Equipment Setup

⚠ WARNING



Set up the CS1000 and work area in accordance with these procedures to reduce the risk of injury from electrical shock, fire, and other causes and to prevent damage to the CS1000.

1. Check work area for the following:
 - Adequate lighting.
 - Flammable liquids, vapors, or dust that may ignite. If present, do not work in area until sources have been identified and corrected. The CS1000 is not explosion proof. Electrical connections can cause sparks.
 - Clear, level, stable dry place for operator. Do not use the machine while standing in water.
 - Clear path to electrical outlet that does not contain any potential sources of damage for the power cord when using external power.
2. Inspect the work to be performed. If possible, determine the drain access points, sizes and lengths. Determine the presence of drain cleaning chemicals or other chemicals. If chemicals are present, it is important to understand the specific safety measures required to work around the chemicals. Contact the chemical manufacturer for required information.
3. Determine the correct equipment for the application. The CS1000 is made to view and record inspections with a SeeSnake inspection camera. Inspection equipment for other applications can be found in the Ridge Tool Catalog or online at www.RIDGID.com or www.RIDGID.eu.
4. Make sure all equipment has been properly inspected.

Pre-Operation Inspection

⚠ WARNING



Before each use, inspect your CS1000 and correct any problems to reduce the risk of serious injury from electrical shock or other causes and prevent machine damage.

5. Evaluate the work area and determine if any barriers are needed to keep bystanders away. Bystanders can distract the operator during use. If working near traffic, erect cones or other barriers to alert drivers.
6. If needed, remove fixture (water closet, sink, etc.) to allow access.

Placement

Place the CS1000 to allow easy access and viewing while manipulating the camera and push cable for inspection. Setup the CS1000 so its screen is easy to see. Adjust the controls so they are easy to reach during use. In brightly lit areas, point the screen away from bright light sources and/or use the monitor's front cover as a sun shade to reduce glare. Make sure that the location is not wet and will not let the CS1000 and other equipment get wet during use. The CS1000 is not waterproof and exposure to wet conditions can cause electrical shock or equipment damage.

Place camera and reel as instructed in their operator's manual. Ensure the CS1000 and cable reel are stable.

Tilt Stand

You can use the tilt stand to customize the viewing angle of the screen and the positioning of keyboard depending on the inspection environment and personal preference.



Figure 8 – Placing the CS1000 and Setting Up the Tilt Stand

1. Use the handle (Item 1, Figure 8) on the top of the CS1000 to place the unit in the desired location.
2. Tilt the unit back slightly and pull forward on the tilt stand (Item 2, Figure 8) until it locks in place.
3. To store the tilt stand, tilt the unit back slightly, and push the tilt stand toward the back of the unit until it lays flat against the base of the unit.

Front Cover

The CS1000 front cover serves two purposes: it protects the unit during transportation and storage, and it acts as a sun hood to reduce glare during inspections.

Opening the Front Cover



Figure 9 – Opening the Front Cover

1. Depress the orange Front Cover Release Buttons (Item 1, Figure 9) on each side of the unit.
2. Raise the front cover (Item 2, Figure 9) to its uppermost position where it will lock securely into place.
3. Lower the keyboard (Item 3, Figure 9) into its operating position.
4. (Optional) Use the keyboard latches (Item 4, Figure 9) to adjust and secure the position of your keyboard. Pull the red T-shaped latches toward you to lock the keyboard into an upwardly angled position.

Closing the Front Cover

1. Disconnect all connections, including USB.
2. Fold up the keyboard.
3. Keeping fingers clear of the front cover, depress the orange Front Cover Release Buttons on both sides of the unit to drop the cover to the lower position. Press front cover into place until it locks.

Connecting the CS1000

System Connector



Figure 10 – Connecting SeeSnake System Cable to CS1000 System Connection

1. Unwrap the SeeSnake System Cable from its holder and insert the System Cable plug into the SeeSnake System Connector (Item 1, Figure 10) on the front edge of the keyboard.
2. To join the connectors, align the guide pin to the guide socket, push the connector straight in. A guide ridge (Item 2, Figure 10) molded into the top of the cable connector will point up when the plug is correctly aligned.
3. Tighten the outer locking sleeve (Item 3, Figure 10).

NOTICE When connecting or disconnecting the System Cable, twist only the locking sleeve! To prevent damage to pins, never bend or twist the connector or cable!

Additional CS1000 Ports

There are four ports located behind the red rubber connector cover on the front edge of the keyboard.



Figure 11 – CS1000 Ports

NOTICE The areas behind the connector cover, containing the USB ports, Video Out Port, and Factory Interface Port are not internally sealed. Keep the connector cover in place in wet or moist conditions to prevent damage to the ports.

USB Ports

The two USB ports are suitable for thumb drives or other storage devices. Use any one USB port at a time.

Video Out Port

The Video Out Port enables you to connect the CS1000 to an external monitor for video display. The Video Out Port only outputs audio on video playback and not during recording.

Factory Interface Port

To perform diagnostics the manufacturer will use the Factory Interface Port. Do not use the Factory Interface Port for other devices.

Connection Icons

Table 3 Connection Icons	
	Video Out
	Transmitter Clip-on Terminal

Powering the CS1000

The CS1000 can be powered with one or two RIDGID Li-Ion rechargeable battery or plugged into an outlet using a AC/DC power converter. Battery power is the preferred powering method to reduce the risk of electrical shock. The power converter is not rated for outdoor use. Only use the CS1000 indoors when powered with the AC/DC converter.

Battery Power

1. With dry hands, insert one or two 18 V Li-Ion batteries into the battery docks in the back of the unit. The unit can be tilted forward and rested on the closed face for convenience.
2. The batteries are rated for 2.2 amp-hours each. Actual operation time on batteries will vary depending on use. The CS1000 will run for approximately 1.75 hours with a single, fully charged battery, and approximately 4.5 hours with two fully charged batteries.
3. Only recharge the batteries with the approved charger. Attempting to charge batteries with the wrong charger can damage the batteries.

Checking Battery Status: Icons

You can monitor your battery levels using the two battery icons in the bottom left corner of the screen. Table 4 shows the on-screen battery indicator icons.



Figure 12 – On-Screen Battery Icons

Table 4 On-Screen Battery Icons	
	Full charge
	Partial charge
	Battery low
	No charge
	AC power

Checking Battery Status: LEDs

The CS1000 has four battery indicator LEDs, two for each battery, located just below the screen.



Figure 13 – Battery Indicator LEDs

When the unit is turned ON and there are batteries in the battery docks, the LEDs on the CS1000 will reflect the state of each battery as shown in Table 5.

Table 5 Battery Status LED Indicators	
LED Behavior	Meaning
Left LED is Green Right LED is OFF	Battery full charge
Left LED is Green Right LED is Red	Battery partial charge
Left LED is OFF Right LED is Red	Battery low
Blinking red and beeps	Replace batteries immediately. Shutdown in 1 min
Solid red and continuous tone	Dead batteries. Shutdown in 5 sec
Slow blink	External power in use. Beeps when disconnected

Outlet Power

NOTICE The provided external power supply is intended for indoor use only.

For plug-in operation, a double insulated AC/DC power cord is supplied to reduce wall outlet voltage to the correct voltage for the CS1000.

1. To power the system using AC power with the power cord, locate the power cord on the back of the unit. Unhook the Velcro® strap and remove the plug from its holder.
2. With dry hands, plug the power cord into an approved outlet. If using an extension cord ensure the use of adequate wire gauge. For cords no greater than 25 ft [7.6 m] long, use a wire gage of at least 18 AWG is required. For cords longer than 25 ft [7.6 m], use a wire gauge of at least 16 AWG.
3. Never power the unit from AC using the power cord in a wet environment.

Sometimes you may need to move locations during a job. If you are running your CS1000 using AC power and have at least one battery in the rear battery docks, you can unplug the CS1000 to move it without powering it OFF.

Interface Overview

Software Overview

The on-screen interface has three regions: Live View, Dashboard, and Status Bar.

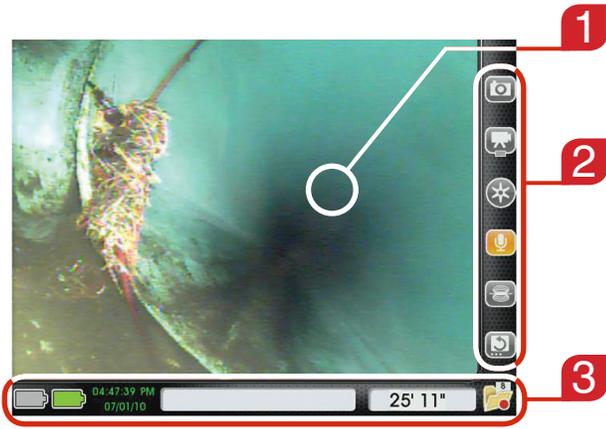


Figure 14 – Live View, Dashboard, and Status Bar

Live View

The largest area of the screen, where the live video feed appears, is called “Live View” (Item 1, Figure 14).

Dashboard

The Dashboard (Item 2, Figure 14) is visible when you are viewing live video and in the Menus and Job Manager. Dashboard icons have two states: default and alternate. Table 6 explains the Dashboard's default and alternate states.

Table 6 Dashboard Icon States and Meanings			
Default State	Alternate State	Icon Name	Meaning
		Photo	Highlights red when a photo is being taken or when a photo tag is created. The on-screen icon will also briefly highlight red at the beginning of autolog and video recordings.
		Video	Highlights red when a video recording is in progress. A splash screen will appear in Live View, at the beginning of a video recording.

Default State	Alternate State	Icon Name	Meaning
		Autolog	Highlights red when an autolog video recording is in progress. A splash screen will appear in Live View.
		Microphone Mute	Highlights yellow when the microphone is ON. When muted, the icon will appear gray with a slash through it. The Microphone Mute Key can be used to disable audio recording during an inspection or to mute audio during video or autolog video playback.
		Sonde	Highlights green when Sonde is activated. Additionally, when the sonde is activated, an overlay will appear on bottom of the Live Video.
		Image Flip	Highlights red and flips when the screen image is flipped vertically and mirrored horizontally.

Status Bar

The Status Bar (Item 3, Figure 14). is located at the bottom of the screen. The Status Bar lets you keep an eye on your batteries and internal drive's storage space. When the CS1000 is ON, the status bar is visible from every screen and menu. Figure 16 shows an example of what the Status Bar can look like on a CS1000.



Figure 15 – Status Bar

Status Bar Folder Icon

In the bottom right corner of the screen you will see a folder. This folder communicates useful information about the number of jobs being stored on your internal hard drive and the status of your current job. Table 7 explains the different folder icon variations.

Table 7 Status Bar Folder Variations		
Icon	Meaning	Details
	No Job open	The number in the icon signifies the number of Jobs stored on your internal hard drive.
	Job open	The red dot signifies that you currently have a Job open.
	Job paused	The pause symbol signifies that you have a Job open, but it is paused. To learn more about pausing a Job see page 25.
	Job stopped	A black square on the folder signifies that a Job has been stopped.

Keypad Overview

Navigating the Menus and Screens

The CS1000 keypad Arrow Keys     and keyboard arrow keys can both be used to navigate through menus and screens in the equipment's interface. Use the Select Key  or the keyboard's Enter Key to make selections and to apply changes.

Use the CS1000's Menu Key  or the keyboard's Esc Key to move backwards through the various menus and screens.

Table 8 Main Keypad		
Icon	Key	Function
	Power Key	Turns the CS1000 ON or OFF.
	Arrow Keys	Used to navigate menus and screens. The keyboard's arrow keys can also be used to navigate menus and screens.
	Select Key	Used to select menu items. The keyboard's Enter Key may also be used to make selections and apply changes.
	Menu Key	Brings up the Main Menu.
	Photo Key	Takes a photo.

Icon	Key	Function
	Photo Tag Key	Takes a photo and opens a form where custom text or issue tags can be added. Issue tags are a set of descriptions and definitions of common problems encountered during pipe inspections.
	Video Key	Starts and stops video recording. When a video is recording, the LED located on the bottom of the Video Key will be highlighted red.
	Autolog Key	Starts and stops autolog video recording. Autolog videos are made up of continuous audio recording and still-image frames taken at regular intervals and saved in a compressed format.
	Job Review Key	Allows review of any photos or clips in the currently open Job. Also allows editing Report Fields and selecting clips or photos for inclusion in reports. A preview of the report can also be accessed from this screen.
	Job Manager Key	Opens the Job Manager where you can choose to close a job, add a new session, preview the report, edit job information, or access the Job Browser.
	Sonde Key	Toggles the Sonde ON or OFF.
	LED Brightness Key	Press to step up or down through various brightness levels or press once and then use the arrow keys to step through the brightness levels. An indicator bar will appear in the progress bar at the bottom of the screen.
	Zero Key	Press the Zero Key once to reset a temporary relative zero point for intermediate measurement. Relative zero will appear in parenthesis. Press the Zero Key a second time to stop relative zero and return to your actual count. You can also press and hold the Zero Key to reset the count to zero.
	Microphone Mute Key	Toggles the microphone ON or OFF. Also mutes audio on video playback.
	Image Flip Key	Flips the image top to bottom, but not left to right.

Table 9 Mini Keypad		
Icon	Key	Function
	Power Key	Closely resembles the Power Key on the Main Keypad. Both can be used to turn the CS1000 ON and OFF. The Mini Keypad's Power Key has a blue LED to the right that lights up whenever the unit is powered ON.
	LED Brightness Key	Press the key to step through the various levels of brightness. The blue LED next to the Mini Keypad's LED Brightness Key indicates the level of brightness by blinking. At minimum brightness the LED will be OFF and at maximum brightness the LED will be ON steadily. In between, it will blink faster the brighter the setting.
	Sonde Key	Both this Sonde Key and the one on the Main Keypad can be used to toggle the Sonde ON and OFF. The Mini Keypad's Sonde Key has a blue LED to the right that lights up when the Sonde is ON.
	Zero Key	Works exactly the same as the Zero Key on the Main Keypad despite a slightly different appearance.

Using the Brightness Key

The Brightness Key  modulates the camera's LED brightness. The levels of brightness can be selected gradually by pressing the Brightness Key  one step at a time or selected rapidly by holding the Brightness Key  down until the desired step is reached.

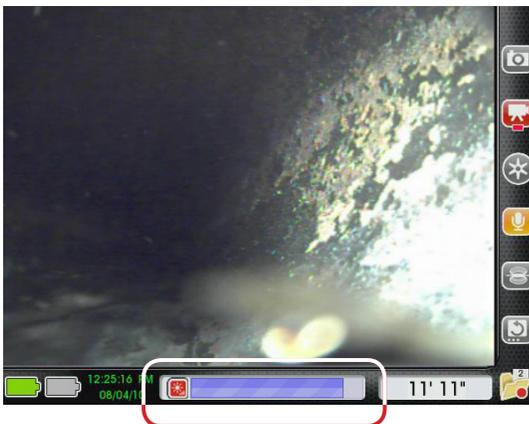


Figure 16 – Adjusting Brightness

When pressed and held down, the Brightness Key  will continue to gradually increase the brightness until it reaches maximum and will then decrease brightness until

it reaches minimum. At each end of the scale, a beep will sound; indicating that the progression is changing direction. Single-step mode (individual key presses) will increase the brightness step-by-step until it reaches maximum and then decrease until it reaches minimum.

LED brightness can also be controlled by pressing the Brightness Key  once and then using the keypad Arrow Keys .

Using the Zero Key

If your SeeSnake has the CountPlus distance counter, the Zero Key  will act in a similar manner as the Zero Key  on the CountPlus.

The Zero Key  enables you to measure two things:

1. The distance from the access point to the camera's current position.
2. The distance between any two points in the line.

The CS1000 has a Zero Key  on the Main Keypad and a Zero Key  on the Mini Keypad located just below the screen. Though different in appearance, these keys function in exactly the same way.

Relative Zero

Pressing the Zero Key  once will set a temporary “Relative Zero” point for intermediate measurement. This enables you to start a distance count from a preferred point such as the entry to a pipe or a particular branch line within a pipe. Relative zero will display in parenthesis on the Status Bar. Press the Zero Key  one more time to exit “Relative Zero” and return to the original count.



Figure 17 – Relative Zero in Parenthesis on Status Bar

Absolute Zero

You can reset the count to absolute zero at any point during your inspection by pressing and holding the Zero Key  until the display clears to read either 0” or 0 cm. This is a hard reset and will also zero the temporary counter.

Using the Image Flip Key

The image on the screen will orient according to the camera's position and view. If the camera gets turned, the image will also turn on the screen. Press the Image Flip Key  to flip the camera image top to bottom for easier interpretation of the situation in the line.

Using the Sonde Key

Modern SeeSnake cameras have a built-in 512 Hz transmitter, or Sonde, which can be controlled from the CS1000. The built-in Sonde is not always activated even though the system is ON.

Use either the Sonde Key  on the Main Keypad or the Sonde Key  on the Mini Keypad to toggle the Sonde ON and OFF.

When the Sonde is activated you may notice horizontal lines of interference on the monitor. The sonde symbol will appear as an overlay on the video (Item 1, Figure 18). The Sonde icon on the Dashboard (Item 2, Figure 18) will appear highlighted green as long as the sonde is active.



Figure 18 – Sonde Enabled

When the Sonde is ON, the blue LED by the Sonde Key  will be lit up, indicating that the system is sending a signal to the Sonde. The LED will be lit even if the Sonde is missing or not operational.

Locating the Camera with the Sonde

For normal camera operation, the Sonde should be turned OFF to save power until you want to locate the camera head underground using a locator.

When you are ready to activate the Sonde, press either the Sonde Key  on the Main Keypad or the Sonde Key  on the Mini Keypad.

When you are finished locating the Sonde, press the Sonde Key  again to turn it OFF.

Line Tracing the SeeSnake Push Cable

In addition to being able to locate the Sonde built into the system camera, it is possible to trace the path of the push cable underground by using a RIDGID SeekTech locator such as the NaviTrack II, Scout, SR-20, or SR-60.

To line-trace the SeeSnake push cable:



Figure 19 – Transmitter Clip-On Terminal

1. Connect a line transmitter with one connector well-grounded to the grounding stake, and the other connector clipped to the CS1000's Transmitter Clip-On Terminal (Item 1, Figure 19).
2. Press the Sonde Key  (Item 2, Figure 19) to activate the Sonde.
3. Set the line transmitter and the locator to the same desired frequency and use the locator to trace the line.

The built-in 512 Hz Sonde may be on at the same time. If your locator is equipped with SimulTrace dual-frequency capability, you can follow the push cable all the way to the camera's location and then detect the Sonde in the camera as you approach it above ground.

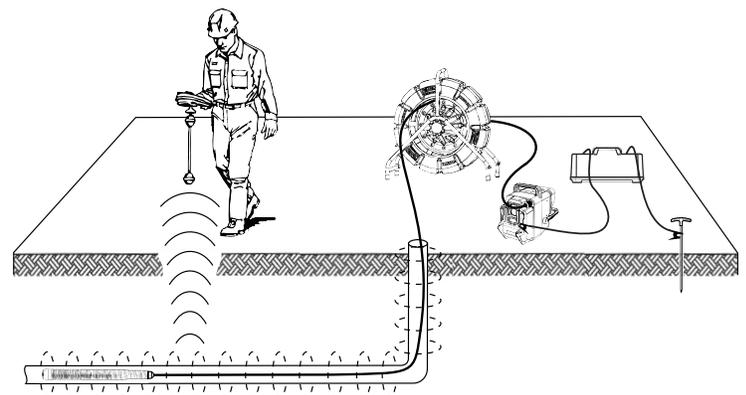


Figure 20 – Line Tracing the Push Cable

Alternatively, use a line transmitter and a locator to line-trace the push cable. When the signal fades, switch the locator to Sonde mode. Pick the 512 Hz signal up from where the line-trace frequency started to weaken and zero in on the in-line Sonde.

Because locating frequencies from transmitters can distort the image on the monitor, turn the Sonde and the line transmitters OFF while inspecting the interior of a line and turn them ON only when ready to do a locate.

Operating Instructions

⚠ WARNING



Always wear eye protection to protect your eyes against dirt and other foreign objects.

When inspecting drains that might contain hazardous chemicals or bacteria, wear appropriate protective equipment, such as latex gloves, goggles, face shields, and respirators to prevent burns and infections.

Do not operate this equipment if operator or machine is standing in water. Operating machine while in water increases the risk of electrical shock. Rubber soled, non-slip shoes can help prevent slipping and electric shock, especially on wet surfaces.

Follow operating instructions to reduce the risk of injury from electrical shock and other causes.

Starting a Job

Starting Up the CS1000

1. Check that the unit is properly set up.
2. Connect the CS1000 to both a power source and a SeeSnake camera inspection system.
3. Place the camera head into the inspection start point, typically the pipe entrance.
4. Power the CS1000 and camera ON by performing one of the following:
 - Pressing the Power Key  on the Main Keypad.
 - Pressing the Power Key  on the Mini Keypad.
 - Pressing the Autolog Key  on the Main keypad. This will power on the CS1000 and camera, start a new Job File, and start recording an autolog video.
5. (Optional) Zero the counter by pressing and holding the Zero Key .
6. Push the camera head through the line. Proceed with pipe inspection in accordance with your SeeSnake operator's manual.

Starting a New Job

Once ON, there are several ways to begin a new Job. If no Job file is open at the time, start a new Job by pressing one

of the following keys:

- Autolog Key : Opens a new job and starts recording an Autolog video.
- Video Key : Opens a new job and starts a video recording.
- Photo Key : Opens a new job and takes a photo.
- Photo Tag Key : Opens a new job, takes a photo, and brings up the Issue Tag and Note screen.
- Job Manager Key : Opens the Job Manager screen where you can use the Select Key  to choose “Start New Job” from the list.

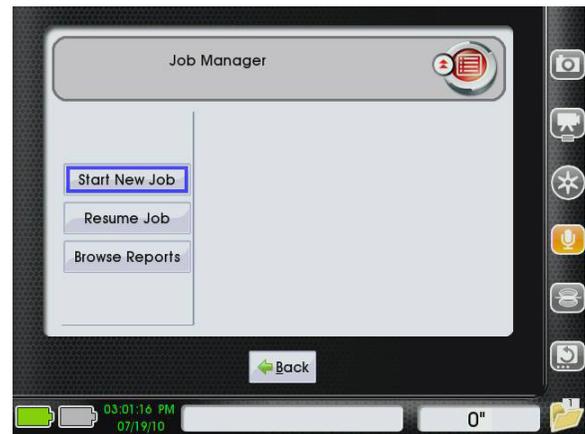


Figure 21 – “Start New Job” from the Job Manager

Capturing and Creating Media

Recording Autolog Video

Autolog video recording allows the entire inspection to be captured in a compressed format. The smaller Autolog file allows faster file exportation over standard video files.

Press the Autolog Key  once to start recording an Autolog video. A splash screen will appear at the start of each Autolog recording. The Autolog icon on the dashboard will highlight red to indicate that an Autolog video recording is in progress.

An Autolog recording saves screen images in a motion JPEG video format at the rate of 4 frames per seconds. If no change in position or view is detected from the counter because the camera is not moving, the CS1000 will stop adding new frames until the camera moves again.



Figure 22 – Autolog Splash Screen

The CS1000 records audio continuously during autolog video recording even if the camera is not capturing new frames. To record an Autolog video without audio, press the Microphone Mute Key .

You can capture additional photos or higher-quality video clips while recording an Autolog video by pressing the Photo Key , the Photo Tag Key , or the Video Key . To stop the Autolog video recording, press the Autolog Key  one more time.

Recording Video

Press the Video Key  to start recording a video. A splash screen will appear at the start of each video recording. The video icon on the dashboard will highlight red to indicate that a video recording is in progress.

To record video without audio, press the Microphone Mute Key  to mute the microphone.

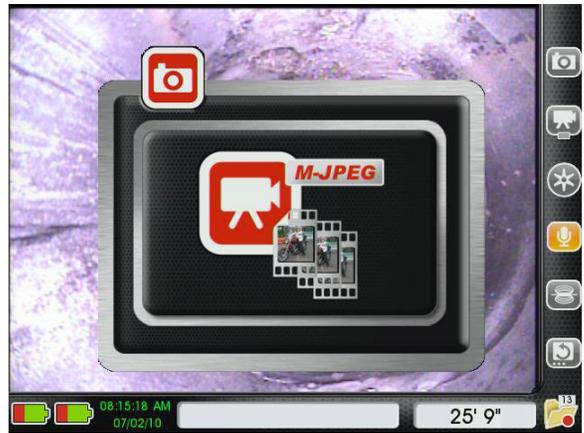


Figure 23 – Video Splash Screen

The CS1000 can record video and Autolog video simultaneously. The two recordings are independent of each other so if you start recording a video and then start recording Autolog video, you can start and stop both video types without affecting the other.

You can also capture additional photos by pressing the Photo Key  and/or Photo Tag Key . To stop the video recording, press the Video Key  one more time.

Taking Photos

To take a photo, press the Photo Key . A splash screen containing your photo will appear each time you take one. The photo icon on the dashboard will highlight red to indicate that a photo has just been taken. You can add notes to photos during Job Review or you can annotate your photos during your inspection process by using the Photo Tag feature.



Figure 24 – Photo Splash Screen

Adding Notes to Photos

Pressing the Photo Tag Key  will take a photo and open the Issue Tag and Note screen. The note screen has a text box where you can use the keyboard to add notes for your

customer. Notes entered here will be included in reports alongside its associated photo.

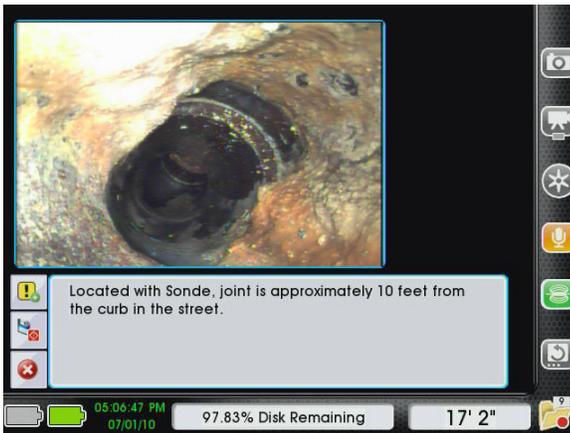


Figure 25 – Issue Tag and Note Screen

To add a note perform the following:

1. Press the Photo Tag Key .
2. Use the keyboard to type a note about the photo.
3. Press the the Select Key  on the keypad to save your note and to return to Live View.

Adding Issue Tags to Photos

The CS1000 has a built-in library of “Issue Tags” which can be attached to images. The Issue Tags describe common conditions found during pipe inspections such as cracks, root intrusions, and collapsed pipes. Refer to Table 14 on page 35 for a chart containing the Issue Tags in your CS1000’s library.

To add an Issue Tag perform the following:

1. Press the Photo Tag Key .
2. Use the left Arrow Key  to navigate to the “Add Issue Tag” button. When the blue highlight is around the “Add Issue Tag” button , press the Select Key  to open up the Issue Tag Library.



Figure 26 – Adding an Issue Tag

3. Use the Arrow Keys     to find the Issue Tag that describes the problem in the photo. The name of the Issue Tag will appear below the photo and the description will show up in the text box.
4. When the blue highlight is around the Issue Tag you want to choose, press the Select Key .

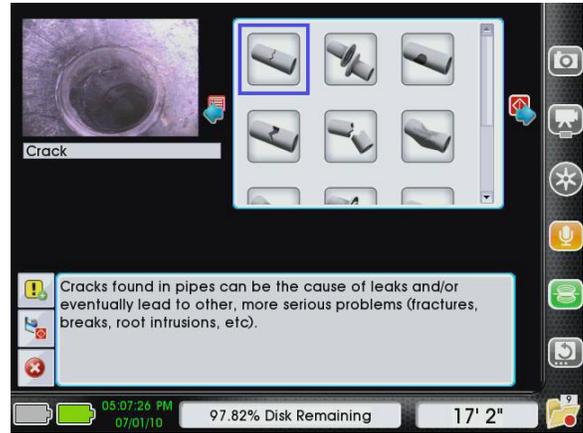


Figure 27 – Issue Tag Library

Some of the Issue Tags allow you to specify a second level of detail. For example, the Issue Tag for “crack” allows you to further specify if the crack is longitudinal, circumferential, or if there are multiple cracks visible in the photo.

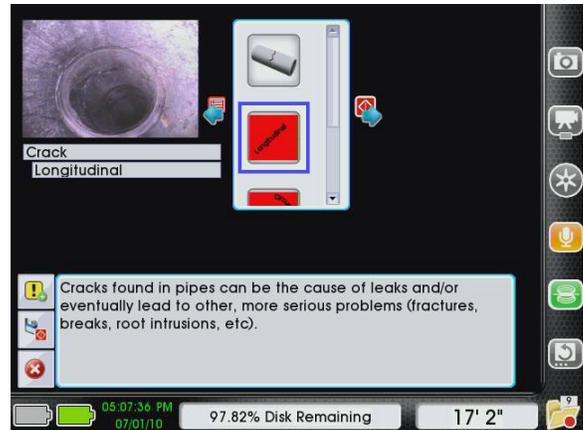


Figure 28 – Adding Specific Details with Issue Tags

5. Add details to Issue Tag.
 - To skip this step and to save the Issue Tag without any additional details, press the Select Key .
 - To include specific details, use the up and down Arrow Keys   on the keypad to navigate to your choice and then press the Select Key  to save it.

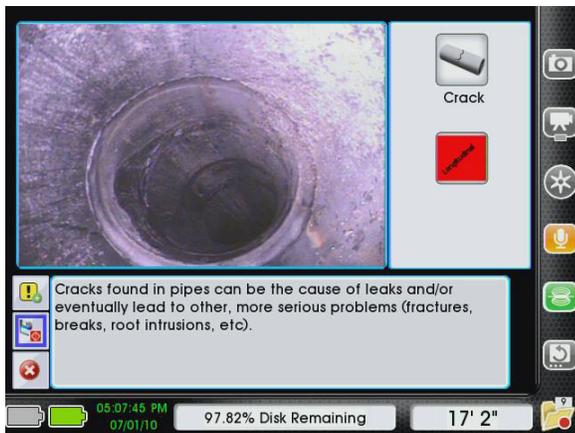


Figure 29 – Confirm Issue Tag Screen

6. From the Confirm Issue Tag screen you can save the Issue Tag as is, customize it, add a note, or add additional Issue Tags.

- To save the Issue Tag as is, press the Select Key . The “Save” button will be selected automatically, so pressing the Select Key will quickly save the Issue Tag without any additional details and return you to Live View.
- To customize or to add to an Issue Tag’s description, use the right Arrow Key to navigate into the text box. Use the keyboard to make edits. After making changes, press the Select Key to save the edited Issue Tag and to return to Live View.



Figure 30 – Adding a Text Note to an Existing Issue Tag

- Multiple Issue Tags can be added to a single photo. After selecting the first Issue Tag, instead of pressing the Select Key again to save it and return to Live View, press the up Arrow Key to navigate from the “Save” button to the Add Issue Tag button . Press the Select Key to add additional Issue Tags to the photo. Issue Tags appear in reports in the order added.

Photos can be saved to the job without adding a note or issue tag by simply pressing the Select Key when you first get to the Issue Tag and Note Screen.

You can also exit the Issue Tag and Note Screen without saving the photo, any notes, or tags by using the down Arrow Key to move to highlight the “Cancel” button and then pressing the Select Key .

Annotating an Inspection by Voice

When the CS1000 microphone is ON, the screen icon for the microphone will highlight gold.

The Microphone Mute Key will mute and unmute the mic and toggle the screen icon ON and OFF to indicate the state of the microphone.

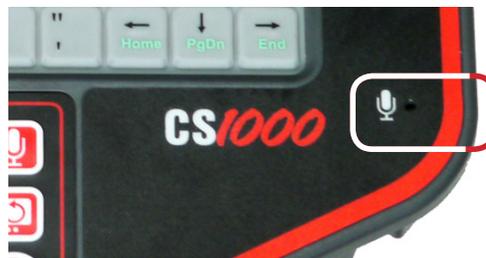


Figure 31 – Microphone on Keyboard

When the microphone is ON, comments made during Autolog or video capture will be recorded and attached to the video clip in the report.

You can mute the microphone at any point during a video or Autolog recording without affecting the video. This enables you to turn the sound recording off during portions of the video when you are not speaking directly to the customer; thus eliminating unwanted sounds or remarks from becoming part of the report or job file.

Adding Job Information

Job information can be added, edited, and deleted from either the Job Manager screen or the Job Review screen.

Job Manager

Add, edit, or remove a job’s information by opening the Job Manager and choosing from the five categories of information.



Figure 32 – Job Manager Screen

1. Press the Job Manager Key .
2. Use the Arrow Keys  and Select Key  to pick which of the five categories of job data you want to edit in the right column.
3. Use the keypad's Arrow Keys  to navigate between fields on each page.
4. After entering the information, use the down Arrow Key  to navigate to "Save" and select it by pressing the Select Key .



Figure 33 – Adding a New Session

To add a new session to a job:

1. Press the Job Manager Key .
2. Use the down Arrow Key  to navigate to "New Session."
3. When the blue highlight appears around "New Session," press the Select Key .

Table 10 Job Manager Categories and Fields	
Categories	Available Fields
Job Information	Job Name Job ID Inspection Type Purpose
Customer	Name Company Name Street Address, City, State, Zip code Phone Number (Home/Cell) Email Address
Inspector	Your Name Your Company Name Company Website Street Address, City, State, Zip code Phone Number (Work/Cell) Email Address
Job Address	Street Address, City, State, Zip code
Job Results	Summary Recommended Action Quote

Reviewing a Job

Playback videos and Autolog videos in the Job Review screen. Pressing the Job Review Key  during an inspection will open this screen with the most recent capture (photo, video, or Autolog video) highlighted.



Figure 34 – Last Capture Highlighted on Job Review

Playback Video

To watch a recently recorded video from the Job Review screen, use the right Arrow Key  to navigate from the thumbnail of the video you want to play to the “Play” button and then press the Select Key .



Figure 35 – Video and Autolog Playback Controls

You can mute the audio on video or Autolog video playback by pressing the Microphone Mute Key . From the playback screen you can use the left and right Arrow Keys   to move between the playback controls.

Job Review Status Bar

During during video or Autolog video playback, the appearance of status bar will change as follows:



Figure 36 – Status Bar Changes during Video Playback

- The time and date on the status bar will change to reflect the video date and frame time stamp. To indicate playback time and date instead of current time and date, the text will appear as red instead of green.
- The count value displayed on the status bar will also change during playback to reflect the distance covered in the video or Autolog video you are watching. The text will appear as red instead of black to indicate that it is reflecting playback distance count.

Adding and Editing Notes and Issue Tags

You can also add notes and edit Issue Tags from the Job Review screen. To edit a note or Issue Tag’s description, press the right Arrow Key  to navigate to the text box. After editing, use the down Arrow Key  to navigate to the “Save” button and press the Select Key .



Figure 37 – Editing Notes from the Job Review Screen

Use the Photo Key  to add notes to photos by following the same steps you would take to edit notes or Issue Tag descriptions.

Excluding Media from Reports

From the Job Review screen you can choose which media elements you want to include and exclude in reports. Use the Select Key  to check or uncheck the box of a selected media element in the left column.



Figure 38 – Included (left) and Excluded (right) Elements

Excluded media elements will remain in the job file, but will not show up in reports you create for your customer.

Editing Job Information During Job Review

Add, edit, and delete job information from the Job Review screen by performing the following:

1. Press the Job Review Key .
2. Use the up Arrow Key  to navigate to the top of the left column where it says “Report.”



Figure 39 – Report Fields in Job Review Screen

- When “Report” appears highlighted in blue, press the right Arrow Key to navigate to the first information field in the list.
- Move between fields as you add and/or edit information using the Arrow Keys .

Previewing Reports

Preview reports from the Job Review screen.

To preview a report from the Job Review screen, use the down Arrow Key to move to the bottom of the left column to “Preview Report” and press the Select Key to generate a preview of your customer report.



Figure 40 – “Report Preview” from Job Review Screen

You can also preview your report anytime from the Job Manager screen by pressing the Job Manager Key and then using the down Arrow Key to navigate to “Preview Report” and pressing the Select Key .



Figure 41 – Preview Report in Job Manager

Customer Report Preview

Figure 42 shows what your customer will see if you export the report directly to a thumb drive.

- Inspector’s company name and address, Inspector’s name and contact information.
- Customer’s name, address, and contact information and Job address.
- Job information, including Job name, ID, and purpose.
- Two sample sessions. The first session contains a video and a photo tag, the second session contains a photo.
- Job results, including summary, recommended action, and quote.

This is strictly a report preview and therefore is not editable. To edit the information and media elements included in your report, press the Menu Key to make changes from the Job Review Screen.



Figure 42 – Expanded Customer Report Preview

Closing a Job

After completing the inspection and after adding images, text comments, and video clips close the job by pressing the Job Manager Key and then, with “Close Job” highlighted, press the Select Key . The data associated with the job will be saved in a report.



Figure 43 – Closing a Job

Resuming a Closed Job

You can re-open and modify closed jobs by performing the following:

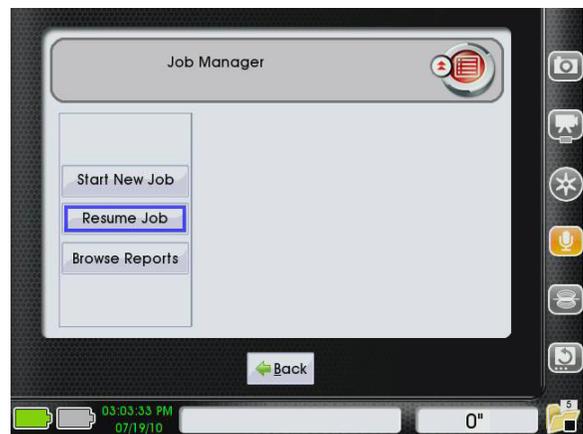


Figure 44 – Resume Job from Job Manager

1. Press the Job Manager Key
2. Use the down Arrow Key to navigate to “Resume Job” and press the Select Key .
3. Use the up and down Arrow Keys to navigate to the job you want to resume. When the blue outline is around the “Resume Job” icon of the job you want to resume press the Select Key .



Figure 45 – Resuming a Closed Job

If a job has been interrupted by the unit being shut down unexpectedly, such as by a power outage, a prompt asking you if you want to resume the job will appear when the unit is started up again.

Powering OFF the CS1000

Power OFF your CS1000 by pressing the Power Key either on the Main Keypad or on Mini Keypad. There will be a 3-second power down countdown after you press the Power Key . Cancel the power down countdown by pressing any of the keys on the main keypad.

Abnormal Shutdown

If the CS1000 powers OFF abnormally, the equipment will perform a systems check to inspect and repair any damage the next time it powers ON. A systems check can take a few minutes. The following events may result in a systems check:

- An unexpected power outage during use.
- Unplugging the CS1000 when it is still ON.

Close or Pause a Job

If you try to power OFF the CS1000 when a job is open you will be asked if you want to close or pause the job before powering down.

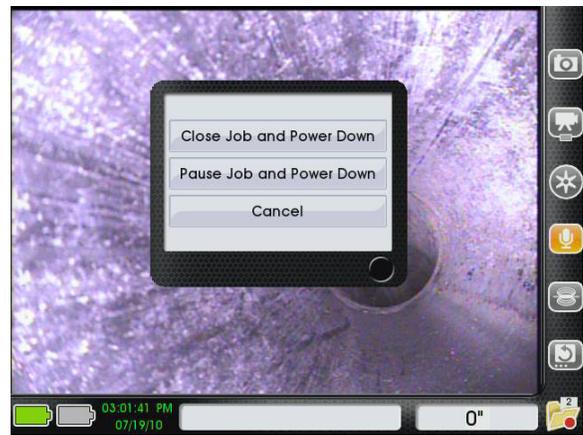


Figure 46 – Close or Pause a Job

- Choose **“Close Job and Power Down”** to close the job and turn OFF the CS1000. To resume the job in the future select if from your “Resume Job” list.
- Choose **“Pause Job and Power Down”** to pause the job and turn OFF the CS1000. The next time you turn the CS1000 ON you will be asked if you want to resume your paused job. This is especially convenient if you want to take a quick break without using your batteries or if you want to move to a new inspection entry point at the same job location.

Recycling Jobs

Remove Jobs from the Job Browser by sending them to the Recycle Bin.



Figure 47 – Select Jobs to Recycle

1. Open the Job Browser using one of the following methods:
 - Press the Menu Key , use the right Arrow Key to navigate to the Job Browser icon , and press the Select Key to open the Job Browser.
 - Press the Job Manager Key , use the down Arrow Key to navigate to “Browse Reports,”

and press the Select Key  to open the Job Browser.

2. Use the Select Key  to check the jobs you want to recycle and to uncheck the jobs you want to leave in the Job Browser.
3. Use the right Arrow Key  to navigate to the “Recycle” button and press the Select Key .

To exit the Job Browser without recycling any jobs, navigate to the “Back” button in the lower right corner and press the Menu Key  on the keypad.

Configuring the CS1000

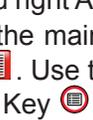
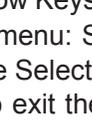
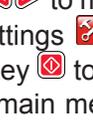
After configuring, the CS1000 will save and use the settings everytime the system starts.

Main Menu

Press the Menu Key  to access the main menu.



Figure 48 – Main Menu

Use the left and right Arrow Keys   to move between the three icons in the main menu: Settings , About , and Job Browser . Use the Select Key  to open the menus. Use the Menu Key  to exit the main menu and to return to Live View.

Customizing Settings

Select the Settings icon  to bring up the configuration menus. From these menus you can modify various preferences and settings.



Edit Target Media

From the Edit Target Media menu you can use the up and down Arrow Keys   to choose how to store jobs. You can store jobs to the internal drive, a USB drive, or both. The default setting only writes jobs to the internal drive.



Figure 49 – Set Job Storage Mode

If writing new job data to “USB Drive Only” or “USB + Internal Drive” insert a USB drive into one of the USB ports on the front of the CS1000 and open a new job to capture new media.



Edit Video Options

Select Edit Video Options  to open the video menu. Select between MPEG4 and MJPEG Capture Mode.

MPEG4 has a higher compression rate and results in smaller files, but may not be compatible with your computer system when you want to transfer the files.

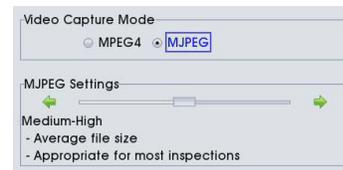


Figure 50 – Video Menu

CS1000’s default capture mode, MJPEG is less compressed but is more widely compatible on different PC and Mac platforms.

You can further specify MJPEG settings further by using the down Arrow Key  to move into the “MJPEG Settings” box and then the left and right Arrow Keys   to move through three file size options. Refer to Table 11 to learn more about the differences between the file size options.

Table 11 MJPEG File Size Settings	
Size	Description
Medium	Smallest file size. Good for long inspections
Medium-High	Average file size. Good for most inspections
High	Largest file size. Uses memory quickly. Not recommended

To apply changes, use the down Arrow Key  to navigate to “Save” at the bottom of the screen and press the Select Key . This will take you back to the settings menu. Press the Menu Key  on the keypad to return to the settings menu.



View Recycled Jobs

Select the Recycle Bin icon to bring up a list of recycled and to recover or permanently delete jobs. Restoring a job will return it to the Job Browser . Permanently deleted jobs are not recoverable.



Figure 51 – Restore Selected Jobs

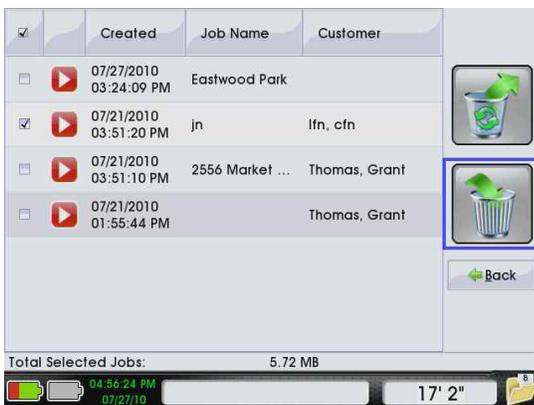


Figure 52 – Permanently Delete Selected Jobs

Use the Select Key to check boxes in the left column to select which Jobs. Use the right Arrow Key to navigate to the right column and the Select Key to either restore or permanently delete.



Control Reel Overlay

Select the Control Reel Overlay icon to open the “CountPlus Settings” screen. This screen has a video preview in the left column and a CountPlus Overlay in the right column. To toggle between enabling and disabling the overlay press the Select Key .

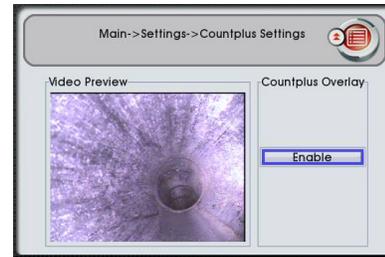


Figure 53 – Enable Overlay

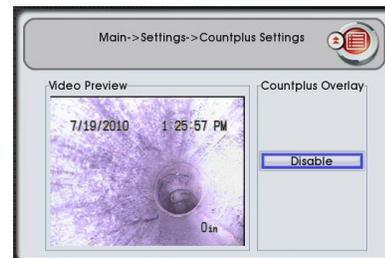


Figure 54 – Disable Overlay

Press the Menu Key to return to the Settings Menu.



Country Preferences

Access the Country Preference menu by first navigating to the Settings menu from the Main menu. From within the County Preference menu, make changes to the region, language, count units, date format, and count format.



Figure 55 – Country Preferences Menu

- Customize the region by using the up and down Arrow Keys on the keypad to navigate to the arrow icons on the right side of the “Select region” section. Press the Select Key to toggle between the options.
- Customize the language preference by using the up and down Arrow Keys on the keypad to navigate to the arrow icons on the right side of the “Language” section. Press the Select Key to chose between English, Dutch, or Spanish.
- Use the left and right Arrow Keys to change

the count measurements display to either “feet” or “meters.” The selected choice will be highlighted in blue.

- Use the left and right Arrow Keys  to chose between “MM/DD/YYYY” or “DD/MM/YYYY” date formats. The selected choice will be highlighted in blue.
- Use the left and right Arrow Keys  to chose between decimals or commas to separate count measurements. The selected choice will be highlighted in blue.

Save your preferences by using the down Arrow Key  to navigate to “Save” at the bottom of the screen and pressing the Select Key . You will need to reboot the CS1000 when prompted to allow the changes to take effect.



Edit Time/Date

Select the Edit Time/Date icon  to open the date and time menu and to set the current time, date, and date format. Use the Tab key or the keyboard’s arrow keys to move to the field you want to change. Use the number keys on the keyboard or the up and down Arrow Keys  on the keypad to set the correct values.

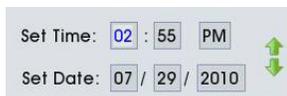


Figure 56 – Set Time and Date

Save changes by using the left and right Arrow Keys  to navigate to “Save” at the bottom of the screen and pressing the Select Key . Saving will return you to the settings menu. Alternatively, press the Menu Key  to return to the settings menu.

Delivering Reports

One of the most valuable features of the CS1000 is the ability to generate comprehensive formatted reports easily and quickly. In many cases you will be able to hand your customer a USB drive containing a report before leaving the job site.

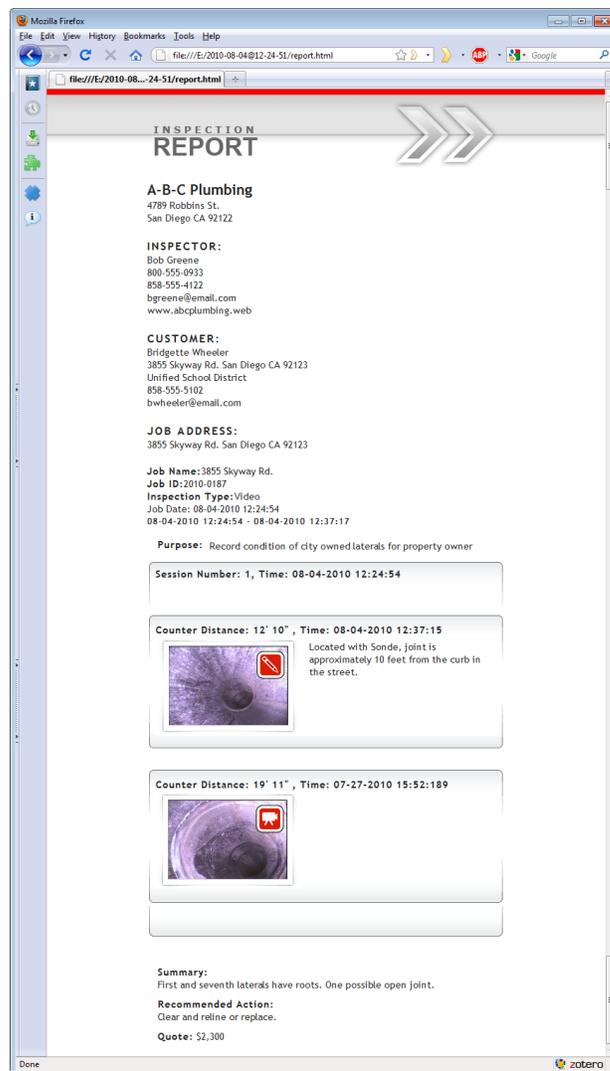


Figure 57 – Customer Report Viewed in Web Browser

“Direct Customer Reports” include photos, video, Autolog video, audio, Issue Tags, and text notes. You can also use the SeeSnake HQ software to create reports for printing, emailing, uploading to the internet, or to burn reports to DVD.

Customer Direct Reports

To save the current inspection as a report on a USB drive for the customer, perform the following:

1. Close the job.
2. Insert an empty USB drive into one of the USB ports.
3. Use the Select Key  to choose “Export Jobs.”



Figure 58 – Select USB Function, Export

If you still have a job open when you insert the USB drive, you will be asked if you want to close the job or keep it open. If the open job is the one you want to export, use the Select Key to choose “Close Job.”



Figure 59 – Close Job Prompt

- The Job Browser will open automatically. A list of jobs and reports on the CS1000's internal drive will appear in the Job Browser . Choose the job you want to deliver to the customer and use the Select Key to toggle its selection box checkmark ON. Make sure to uncheck the boxes next to any jobs and reports you do not want to export.
- Use the Arrow Keys to navigate to the “Customer Report” icon in the far right column. With the “Customer Report” icon highlighted, press the Select Key .



Figure 60 – Select to Export a Customer Direct Report

- After pressing the Select Key , you will see an export progress screen. The CS1000 will write a report to the thumb drive. The report will be in a format that can be read by most web browsers.

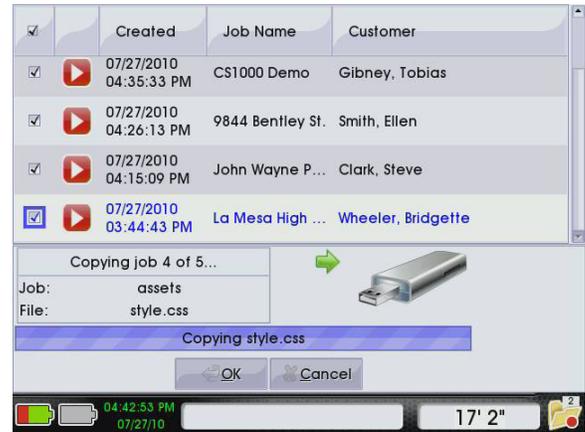


Figure 61 – Exporting Jobs to a USB Drive

- Exporting has finished successfully when “Copying Job” changes to “Copied Job” and the “OK” button has a blue outline. Press the Select Key to select “OK” and continue.



Figure 62 – Export Complete

- Next, you will be asked if you want to recycle the job you copied.
 - To move the job to the Recycle Bin, press the Select Key .



- To keep the job in the Job Browser , press the right Arrow Key  to navigate to the “Cancel” button and press the Select Key .



Figure 63 – Recycle Copied Jobs

- Remove USB drive and hand it to your customer. Instruct your customer to double-click the file called “report.html.” The report will open in their default web browser.

SeeSnake HQ Compatible Reports

The process for exporting reports to SeeSnake HQ is similar to the process for exporting Customer Direct reports, except you will choose the “Export to SeeSnake HQ” option from the Job Browser.

- Close the job.
- Insert an empty USB drive into one of the USB ports.
- Use the Select Key  to choose “Export Jobs.”



Figure 64 – Select USB Function, Export

- The Job Browser  will open automatically. A list of jobs and reports on the CS1000’s internal drive will appear in the Job Browser . Choose the job you want to deliver to the customer and use the Select Key  to toggle its selection box checkmark ON. Make sure to uncheck the boxes next to any jobs and reports you do not want to export.
- Use the Arrow Keys     to navigate to the “Export to SeeSnake HQ” icon in the far right column. With the “Export to SeeSnake HQ” icon highlighted, press the Select Key .



Figure 65 – Export to SeeSnake HQ

- The export process will begin. The export process for an SeeSnake HQ Compatible Report is the same as for a Customer Direct Report.
- Exporting has finished successfully when “Copying Job” changes to “Copied Job” and the “OK” button has a blue outline. Press the Select Key  to select “OK” and continue.
- Next, you will be asked if you want to recycle the job you copied.
 - To move the job to the Recycle Bin, press the Select Key .
 - To keep the job in the Job Browser , press the right Arrow Key  to navigate to the “Cancel” button and press the Select Key .
- Remove USB drive from your CS1000 and insert it into your PC laptop or desktop.

SeeSnake HQ Software



SeeSnake HQ can be used on a laptop or desktop PC. With SeeSnake HQ, you can organize Jobs, customize Reports, generate CD/DVD versions for customers, and put Reports into a variety of file formats for various distribution methods.

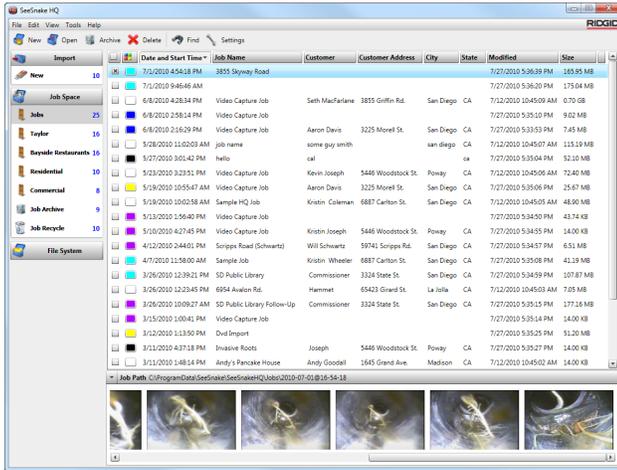


Figure 66 – SeeSnake HQ

SeeSnake HQ offers an array of tools to edit a Job's information, and to modify the report using a pre-built report style. You can create shorter video clips of video and Autolog video for your customers. You can also add audio notes to photos.



Figure 67 – Review and Edit Media in SeeSnake HQ

The printable version of the report can be printed or emailed as a PDF file. Alternatively, a multimedia report can be viewed in a web browser or on a DVD.



Figure 68 – Report Preview in SeeSnake HQ

SeeSnake HQ also allows you to upload reports to RIDGIDConnect, an online service for storing and sharing inspection reports.

To learn more, visit www.ridgidconnect.com.

For a complete description of SeeSnake HQ and how to use it, see the documentation online by visiting www.hq.seesnake.com or by contacting the SeeSnake HQ support team at HQsupport@SeeSnake.com.

Download SeeSnake HQ for free at www.hq.seesnake.com.

Maintenance Instructions

Software Updates

If Auto-Launcher is enabled on the SeeSnake HQ and if software updates for the CS1000 are available, an update notification will automatically appear on the computer. If Auto-Launcher is not enabled, manually check for software updates from the Home Window by either selecting "Check for Update" from the Help menu or by selecting "Device Manager" from the Tools menu. After performing a manual check, a notification will appear if updates are available.

To install a software update on the CS1000, click the "Yes" button from the notification pop-up window and select the CS1000 from the device manager. Insert a USB drive into the computer and select the "Copy" button from the pop-up window to download the software update. After downloading the software update, remove the USB drive from the computer and insert the USB drive into the CS1000. Select "Upgrade" from the window that pops up on the C1000. After the CS1000 copies, extracts, and verifies the update, click the power button to reboot the CS1000 when prompted to complete the installation.

Cleaning

⚠ WARNING

Disconnect all cords and cables and remove batteries prior to cleaning the CS1000 to reduce the risk of electrical shock.

Do not use liquid or abrasive cleaners on the CS1000. Clean the CS1000 with damp cloth. Only clean screen with cleaners approved for use on LCD screens to clean the screens. Do not allow any liquid to enter the CS1000.

Accessories

⚠ WARNING

The following accessories have been designed for use with the CS1000. Other accessories may become hazardous when used with the CS1000. To reduce the risk of serious injury, only use accessories specifically designed and recommended for use with the CS1000.

Table 12 SeeSnake® CS1000 Accessories		
Cat # US	Cat # EU	Description
32743	28218	18 V Li-Ion rechargeable battery
32068	32073	Battery charger
32648	32693	Dual battery kit with charger
32708	32713	Single battery kit with charger
Various		RIDGID SeekTech or NaviTrack Locator
Various		RIDGID SeekTech or NaviTrack Transmitters
Various		CountPlus Cable Counter cable-measurement system, normally built in to SeeSnake Pipe Inspection Systems

Transport and Storage

Remove batteries before shipping and before storing for extended periods. Do not expose to heavy shocks or impacts during transport. Store in temperatures from 14°F to 158°F [-10°C to 70°C].

Store electrical devices in a dry place to reduce risk of electrical shock.

Protect against excessive heat. The unit should be situated away from heat sources such as radiators, heat registers, stoves, amplifiers, and other products that produce heat.

Service and Repair

⚠ WARNING

Improper service or repair can make the CS1000 unsafe to operate.

Service and repair of the SeeSnake CS1000 must be performed by a RIDGID Independent Authorized Service Center.

For information on your nearest RIDGID Independent Service Center or any service or repair questions:

- Contact your local RIDGID distributor.
- Visit www.RIDGID.com or www.RIDGID.eu to find your local Ridge Tool contact point.
- Contact Ridge Tool Technical Service Department at rtctechservices@emerson.com or, in the U.S. and Canada, call 800-519-3456.

Disposal

For U.S. and Canada: Parts of the unit contain valuable materials that can be recycled. There are companies that specialize in recycling that may be found locally. Dispose of the components in compliance with all applicable regulations. Contact your local waste management authority for more information.



For EU countries: Do not dispose of electrical equipment with household waste! Recycle defective or used battery packs/batteries in accordance with 91/157/EEC. According to the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national legislation, electrical equipment that is no longer usable must be collected separately and disposed of in an environmentally-correct manner.

Battery Disposal

For U.S. and Canada: The RBRC™ (Rechargeable Battery Recycling Corporation) Seal on the battery packs signifies that RIDGID has already paid the cost of recycling the Li-Ion battery packs.



RBRC™, RIDGID®, and other battery suppliers have developed programs in the U.S. and Canada to collect and recycle rechargeable batteries. Normal and rechargeable batteries contain materials that should not be directly disposed of in nature and contain valuable materials that can be recycled. Help to protect the environment and conserve natural resources by returning your used batteries to your local retailer or an authorized RIDGID service center for recycling. Your local recycling center can also provide you with additional drop-off locations.

RBRC™ is a registered trademark of the Rechargeable Battery Recycling Corporation.

For EU countries: Defective or used battery packs/batteries must be recycled according to the guideline 2006/66/EC.

**Table 13
Troubleshooting**

Problem	Probable Fault	Solution
Video/Image not seen	No power to SeeSnake	Check power is correctly plugged in or battery is charged. Press power key on CS1000 body or keypad.
	Connections faulty	Check connections between CS1000 unit and SeeSnake. Make sure system cable is firmly connected to the System Connector on the front left edge of the keyboard.
	Batteries low	Recharge batteries or connect to external power supply.
Flashing battery warning appears	18 V Li-Ion batteries low	Recharge batteries. Switch to AC power (110/220VAC).

Table 14
Issue Tag Icons and Descriptions

Icon	Issue Tag	Second Level of Detail
	<p>Crack Cracks found in pipes can be the cause of leaks and/or eventually lead to other, more serious problems (fractures, breaks, root intrusions, etc.).</p>	<p>1. Longitudinal 2. Circumferential 3. Multiple</p>
	<p>Open Joint Joint is completely open.</p>	<p>1. Medium 2. Large</p>
	<p>Hole Holes, for example, can be formed in pipes during construction/work performed near the pipe (excavation, running cables, etc.).</p>	
	<p>Fracture Fractures found in pipes are causes of leaks and severe structural integrity loss.</p>	<p>1. Longitudinal 2. Circumferential 3. Multiple</p>
	<p>Broken A broken pipe generally needs to be replaced.</p>	
	<p>Deformed Deformed pipes are usually caused by pressure and indicate structural integrity loss.</p>	
	<p>Collapsed Collapsed drain or sewer.</p>	
	<p>Joint Displaced Joints are not lined up correctly, possibly because of ground movement.</p>	<p>1. Medium 2. Large</p>
	<p>Surface Damage Surface damage on the inner or outer surface of a pipe.</p>	
	<p>Roots Roots from trees can penetrate the tiniest openings in pipes and lead to cracks/blockage.</p>	
	<p>Attached Deposits Deposits attached to pipe (grease, calcium, etc.). Deposits can lead to blockages.</p>	

Notes

Notes

What is covered

RIDGID® tools are warranted to be free of defects in workmanship and material.

How long coverage lasts

This warranty lasts for the lifetime of the RIDGID® tool. Warranty coverage ends when the product becomes unusable for reasons other than defects in workmanship or material.

How you can get service

To obtain the benefit of this warranty, deliver via prepaid transportation the complete product to RIDGE TOOL COMPANY, Elyria, Ohio, or any authorized RIDGID® INDEPENDENT SERVICE CENTER. Pipe wrenches and other hand tools should be returned to the place of purchase.

What we will do to correct problems

Warranted products will be repaired or replaced, at RIDGE TOOL'S option, and returned at no charge; or, if after three attempts to repair or replace during the warranty period the product is still defective, you can elect to receive a full refund of your purchase price.

What is not covered

Failures due to misuse, abuse or normal wear and tear are not covered by this warranty. RIDGE TOOL shall not be responsible for any incidental or consequential damages.

How local law relates to the warranty

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights, and you may also have other rights, which vary, from state to state, province to province, or country to country.

No other express warranty applies

This FULL LIFETIME WARRANTY is the sole and exclusive warranty for RIDGID® products. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of the RIDGE TOOL COMPANY.



Parts are available online at RIDGIDParts.com



Ridge Tool Company
400 Clark Street
Elyria, Ohio 44035-6001

We
Build
Reputations™



EMERSON. CONSIDER IT SOLVED.™

Ce qui est couvert

Les outils RIDGID® sont garantis contre tous vices de matériaux et de main d'oeuvre.

Durée de couverture

Cette garantie est applicable durant la vie entière de l'outil RIDGID®. La couverture cesse dès lors que le produit devient inutilisable pour raisons autres que des vices de matériaux ou de main d'oeuvre.

Pour invoquer la garantie

Pour toutes réparations au titre de la garantie, il convient d'expédier le produit complet en port payé à la RIDGE TOOL COMPANY, Elyria, Ohio, ou bien le remettre à un réparateur RIDGID® agréé. Les clés à pipe et autres outils à main doivent être ramenés au lieu d'achat.

Ce que nous ferons pour résoudre le problème

Les produits sous garantie seront à la discrétion de RIDGE TOOL, soit réparés ou remplacés, puis réexpédiés gratuitement ; ou si, après trois tentatives de réparation ou de remplacement durant la période de validité de la garantie le produit s'avère toujours défectueux, vous aurez l'option de demander le remboursement intégral de son prix d'achat.

Ce qui n'est pas couvert

Les défaillances dues au mauvais emploi, à l'abus ou à l'usure normale ne sont pas couvertes par cette garantie. RIDGE TOOL ne sera tenue responsable d'aucuns dommages directs ou indirects.

L'influence de la législation locale sur la garantie

Puisque certaines législations locales interdisent l'exclusion des dommages directs ou indirects, il se peut que la limitation ou exclusion ci-dessus ne vous soit pas applicable. Cette garantie vous donne des droits spécifiques qui peuvent être éventuellement complétés par d'autres droits prévus par votre législation locale.

Il n'existe aucune autre garantie expresse

Cette GARANTIE PERPETUELLE INTEGRALE est la seule et unique garantie couvrant les produits RIDGID®. Aucun employé, agent, distributeur ou tiers n'est autorisé à modifier cette garantie ou à offrir une garantie supplémentaire au nom de la RIDGE TOOL COMPANY.

Qué cubre

Las herramientas RIDGID® están garantizadas contra defectos de la mano de obra y de los materiales empleados en su fabricación.

Duración de la cobertura

Esta garantía cubre a la herramienta RIDGID® durante toda su vida útil. La cobertura de la garantía caduca cuando el producto se torna inservible por razones distintas a las de defectos en la mano de obra o en los materiales.

Cómo obtener servicio

Para obtener los beneficios de esta garantía, envíe mediante porte pagado, la totalidad del producto a RIDGE TOOL COMPANY, en Elyria, Ohio, o a cualquier Servicentro Independiente RIDGID®. Las llaves para tubos y demás herramientas de mano deben devolverse a la tienda donde se adquirieron.

Lo que hacemos para corregir el problema

El producto bajo garantía será reparado o reemplazado por otro, a discreción de RIDGE TOOL, y devuelto sin costo; o, si aún resulta defectuoso después de haber sido reparado o sustituido tres veces durante el período de su garantía, Ud. puede optar por recibir un reembolso por el valor total de su compra.

Lo que no está cubierto

Esta garantía no cubre fallas debido al mal uso, abuso o desgaste normal. RIDGE TOOL no se hace responsable de daño incidental o consiguiente alguno.

Relación entre la garantía y las leyes locales

Algunos estados de los EE.UU. no permiten la exclusión o restricción referente a daños incidentales o consiguientes. Por lo tanto, puede que la limitación o restricción mencionada anteriormente no rija para Ud. Esta garantía le otorga derechos específicos, y puede que, además, Ud tenga otros derechos, los cuales varían de estado a estado, provincia a provincia o país a país.

No rige ninguna otra garantía expresa

Esta GARANTIA VITALICIA es la única y exclusiva garantía para los productos RIDGID®. Ningún empleado, agente, distribuidor u otra persona está autorizado para modificar esta garantía u ofrecer cualquier otra garantía en nombre de RIDGE TOOL COMPANY.