HERON
INSTRUMENTS INC.
For Good Measure

dipper – See Discovery

Professional Borehole Inspection

Camera with Sideview



Users Guide and Maintenance Manual

THANK YOU FOR YOUR PURCHASE

All of us at Heron Instruments appreciate your support and feel grateful to have you as a customer. If for any reason you need assistance, we are here to support you.

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User Guide and Maintenance Manual

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Product Contents

- Camera - dipper-See Discovery
- Alconox solution
- Battery 20V
- Battery Charger
- Centralizer
- Cleaning cloth
- Dongle for keyboard
- HDMI Cable
- Heavy duty wheeled case
- Keyboard
- Monitor cover
- Probe Bumper
- Retrieval hook
- Sun Visor
- Tooth brush for cleaning
- USB Memory Stick
- Users and maintenance Manual, quick start guide
- Well Belt

MONITOR BUTTON INTERFACE LEGEND

⏻	On/Off **(Hold button down for up to 3 seconds)** until light turns Off
●	Power ON and battery power indicator light. "Steady" – power is ON. "Flashing" Battery is low, (Replace immediately)
VIEW	Switches camera from down view to sideview and back. The arrows adjacent to the view button rotate the probe in each direction.
LAS	Laser Measurement Tool . A fixed 1" (25mm) space between two lasers to help you determine the size of what you are looking at.
REV	To change the on-screen depth counter between increment + or decrement.
	Brightness adjustment for probe lighting while immersed in water.
ZERO	Resets the on-screen depth display to 0. Only press when cable is at starting point.
M/FT	Choose measurement M – Meters or FT for Feet.
DEL	To Delete videos or pictures from your USB memory stick.
STOP	Stop recording.
REC	Record Start/Pause.
MIC	Microphone Hold down to voice record during video, release to stop.
PLAY	Used to play an existing video from the USB memory stick.
SNAP	Screenshot picture.
MENU	Camera Internal Settings. See Operating Instructions Detail>The Monitor> Menu Settings for a complete explanation of this function and how to navigate it.
ESC	Escape from a current screen, button brings you back to your previous screen. It reacts the same as a BACK button.
OK	Navigation and select buttons.

GENERAL CARE AND MAINTENANCE

ON/OFF: After recording, always wait a minimum 30 sec. before turning the unit off to ensure the DVR has fully captured your video recording.

SECURE CAMERA: Always ensure the camera and cables are secure during deployment.

WARNING MARKER: Use the blue safety warning marker on the cable to alert you that the probe is near the top of the well on wind-up. The marker should be positioned 1M/3Ft away from probe.

FREE FALLING: Do not allow the camera probe to “free fall” down a well. Cracked lenses or dented probes are not warrantied.

CABLE: Never allow the cable to be in contact with a square cut well casing edge, always use the roller guide to prevent scoring or nicking of the cable.

COUNTER: To help with counter accuracy, ensure the cable is rewound evenly across the reel and some tension is applied to the cable to keep the re-wind snug.

MOISTURE: Use a cloth to wipe moisture from the cable during re-wind to prevent storing a wet unit in a sealed case.

BATTERY: Only use a compatible 20V battery with this product.

STORAGE: Take care and be gentle removing and replacing the camera from the carrying case, do not force it. Lift it using the leg frames, do not lift it by the monitor or monitor neck, the camera fits. Always store the unit dry. Do not pack a wet unit into it's case.

MONITOR: Do not unscrew the monitor housing, this will void the warranty. Wipe the monitor screen dry using the micro fiber cloth supplied and replace the cover over the screen when not in use to prevent scratches.

CLEANING: Use mild soap and a micro fiber cloth to clean the monitor and other components of the camera, **do not use any harsh cleaning solutions.**

RECORDING: Always check your USB memory stick to ensure there is enough room to record another video. Always save your files on a separate device or carry a spare empty memory stick. See details on managing your memory stick under The Monitor>Menu Settings>Video

FORMATTING NEW USB MEMORY STICK: If you format an existing memory stick the system will delete everything that was existing including videos. See The Monitor>Menu Settings>Disk Settings for detailed information.

UNPACKING AND REMOVING THE CAMERA FROM THE CASE: After taking the camera out of the box, open the clips on the case by squeezing and lifting the clips. Always remove and replace the camera by the frame legs. Never handle the unit by the monitor or monitor neck. You may need to adjust the position of the monitor when placing the camera back into the case. It fits snug but just needs to be handled with care, do not push.

OPERATING INSTRUCTIONS DETAIL

THE PROBE:

The probe is **MODULAR** in three separate threaded sections: the cable with link, the rotation module and the camera module. In case of a failure or damage any one of these sections can be replaced for much less cost than an entire probe. Also, If You experience an issue with the rotation module, you can remove it and re-connect the camera module for down view operation while the rotation module is being serviced.

Features on the probe include **LED BRIGHTNESS CONTROL** for water conditions or larger boreholes, two camera lenses for both down and side viewing, **LASERS,** that can be turned on to help you size up the dimension of an issue. The lasers represent 25mm/1" as a constant up to 12"/30cm distance. ***NOTE: Class 3R laser. Follow all laser safety procedures when in use.*

Always use Silicone food safe grease on the "O" rings when threading the modules together.

THE REEL:

The reel is made of heavy gauge powder coated stainless steel. There is an **INTEGRAL COUNTER MECHANISM** in the hub that measures reel revolutions and decreasing spool diameter. The measurement will be displayed on-screen. For the best results, clean the cable after every use, wind it up evenly and tension the cable during wind-up.

MEASUREMENT GUIDE REEL: Over time your cable may eventually be wound onto the reel looser than it was when it came from the factory. Look on the inside of the plate and read the measurement guide. This measurement is the adjustment number used to calibrate the encoder and improve the accuracy of the counter. See how to do this under the Monitor>Menu Settings>Encoder Settings.

WELL BELT: Is Included in your kit and is used to stabilize the reel on a well. It is particularly helpful in keeping the unit stable during long length wind-ups. Place the leg of the camera through the rubber grommet belt holes, strap to the well and tighten.

WELL HANGER: Is located on one of the legs of the unit. It allows you to hang the camera on the wall of a well casing.

THE MONITOR:

The monitor can be positioned for optimum viewing to any angle because it is connected to a movable arm. You can also attach the "Sun Visor" accessory with the built-in magnets to improve your view in sunlight conditions. You will see the date shown in the top left- hand corner and if it needs to be changed, this can be done using the **MENU** and navigation buttons. Menu>System>Time Setting.

The control buttons on the monitor are divided into two groups. All buttons on the left side of center, control probe functions such as down view/sideview, brightness and measurement. All of the buttons right of center control DVR recording functions and general camera settings.

MAKE A VIDEO RECORDING, Make certain the supplied USB memory stick is inserted into the back of the monitor before you begin. Press **REC** button to record/Pause/Restart. If you run out of space on your memory stick a warning will appear on the monitor.

ADD TEXT to the monitor screen and video: Make sure the keyboard dongle is connected to the back of the monitor and the keyboard is turned ON, you must press the SHIFT key to begin, see THE KEYBOARD for a more detailed explanation.

ADD VOICE NOTATIONS in your video by holding down the **MIC** button while you speak, release the button to end voice recording.

TAKE A PICTURE: Press the **SNAP** button. You can also type text using the keyboard and it will display within your picture. Type your text before you press the snap button.

RESET THE COUNTER: Press the **ZERO** button to reset the counter to "0". Typically, it should be fully wound to the starting point at the top of the well to reset at every use.

MENU SETTINGS:

The menu button will open a screen that displays 5 options available to you. Use the OK and arrow buttons to the right, to navigate all options within the menu screen.

VIDEO REVIEW: Navigate to the video section and press OK. This option will display all of the pictures, videos and files currently recorded on the USB memory stick provided it is plugged into the monitor. Navigate to a file and press OK, this action will allow you to play the video immediately. Please note that you will need to turn the internal speaker on by touching the monitors **ON** button once. You can also use the **STOP** and **PLAY** buttons on the monitor to manage your viewing. The **DELETE** button also on the monitor will delete a file or video from your USB memory stick.

PHOTO REVIEW: View existing photos recorded on your USB memory stick

SYSTEM: Opening this screen provides access to a sub screen with 6 available options.

LANGUAGE SETTINGS: choose 1 of 10 available languages.

ENCODER SETTINGS: This screen allows you to **CALIBRATE THE INTERNAL COUNTER**: Using the navigation arrows, go to the series of numbers just above Perimeter settings. Press OK, and a number screen will appear. Type in new numbers from the inside meter plate. The inside plate of the cable reel has a wind guide that gauges the looseness or snugness level of the manual cable wind. This guide number should correspond with the number you are entering. Nothing else should be changed within the encoder screen.

DISK SETTINGS: FORMAT NEW USB MEMORY STICK: All new memory sticks must be formatted before being used to record. Navigate and click OK on the DISK screen. Use arrows to get to format SD card and press OK. *Note: formatting any memory stick with previous files on it will delete all of the existing files and videos.*

RESET SETTINGS: Do not use this option, Factory settings only.

TIME AND DATE SETTINGS: This screen allows you to set the current date and time using the navigation buttons.

KEY SETTINGS: It is not recommended to set a password on the DVR. If you lose the password, you will need to replace the DVR as there is no password recovery option. This function will be used for future programming additions.

IMAGE: Do not use this option, Factory Settings only.

RECORD SETTINGS: Factory set recording settings for advanced users only.

THE KEYBOARD

To add text to a video or a picture, plug the keyboard dongle into the back of the monitor and then turn the keyboard ON. You must press the **SHIFT** key on the keyboard to activate the keys. It is also important to note that you can only add text while a video is being taken and active.
ADD VIDEO TEXT: While the video is recording, stop moving the camera, revert to the keyboard and add your notes. Once you stop recording you can no longer add text to a completed video.
ADD PICTURE TEXT: A picture is basically a screen shot of a single video frame. You must add the text to the frame before you press the **SNAP** button. You cannot go back to a completed picture and add text.

ACCESSORIES

CENTRALIZER: Slide the open end of the centralizer onto the cable then slide it downwards so it seats on the top of the probe. Next, push the other end of the centralizer onto the cable and adjust to your desired diameter.

RETRIEVAL DEVICES: Insert the cable onto the plastic end of the retrieval device and slide it down onto the probe.

PROBE PROTECTIVE BUMPER: Stretch the smaller end of the bumper onto the end of the camera probe first.

SUN VISOR: Used to improve monitor viewing in sunlight conditions. Connect it to the top rim of the monitor using the integral magnets.

WARRANTY

Probe: 1 year

All other components: 2 years

Batteries and Chargers: No Warranty

Heron Instruments Incorporated warrants to repair or replace all defects due to workmanship. Warranty will be determined in our factory if it is a product failure or improper use, storage or care. The customer is responsible for shipping fees to make the warranty determination.

The product warranty does not extend to the following: Rental Equipment, Product used in hazardous or contaminated environments. Product neglect including servicing and cleaning, any failure caused by misuse. Cuts, Nicks and wire breaks after use are not warrantied

QUALITY INSPECTED AND APPROVED FOR PURCHASE

Serial Number _____

Department Head _____

2nd Inspection _____

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- **Interface Meters**
- **Conductivity Meters**
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- **Well Depth Indicators**
- **Tag Lines**

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