

# User Manual

**claris**  
*i310D*

USB 2.0 Digital  
Intraoral Camera



Before attempting to connect or operate this product, please read these instructions completely

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Claris i310 TM

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## Indications for Use

Claris i310D intraoral camera system is indicated for use to provide the dentist and the patient with a view of the mouth before and after the dental procedure, which assists the dentist in describing the dental procedure being performed as well as showing the results.

## System Requirements

- Intel® Pentium® 4 1.5GHz or higher
- 256MB of RAM or higher
- XGA (1024x768) or higher resolution video adapter and monitor
- CD-ROM or DVD drive
- Available USB 2.0 port
- Microsoft® Windows® 2000/XP or later

# Safety Instructions

Illustrated below is the label on the camera.



THIS SYMBOL ALERTS THE USER THAT IMPORTANT LITERATURE CONCERNING THE OPERATION AND MAINTENANCE OF THIS UNIT HAS BEEN INCLUDED. THEREFORE, IT SHOULD BE READ CAREFULLY IN ORDER TO AVOID ANY PROBLEMS.

## CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER- SERVICEABLE PARTS INSIDE. REFER MAINTENANCE TO QUALIFIED SERVICE PERSONNEL.

**WARNING:** TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO MOISTURE.

## CAUTION

CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE MANUFACTURER COULD VOID THE WARRANTY.

## Cautions

- Federal law restricts this device to sale by or on the order of a Licensed Dental practitioner.

### Cautions on safety

- Be careful not to damage the USB cable. Be sure to hold the plug when disconnecting the cable.
- Do not leave the USB cable plugged into an USB 2.0 port without connecting it to the camera; fire or electronic shock may result.
- Do not place a container with water or liquid, or any small metallic objects on this unit. If water, liquid, or any metallic objects enters this unit, pull out the USB cable immediately and contact your dealer.
- When smoke, abnormal sound or smell occurs, disconnect the USB cable and contact your dealer.
- When the unit is not in use for a long time, pull out the USB cable.
- Do not apply impacts to this unit.

### Cautions on installation

- Do not install this unit in a poorly ventilated place, a dusty place, an unstable place, or where soot or steam occurs.
- Do not use this unit at high temperatures (higher than 40 °C) and at low temperatures (lower than 5 °C)
- Do not use in surgical theaters in hospitals where safety requirements are different from a standard dental clinic, which is the designated place for this device to be used.
- Any desktop or laptop that is used with the camera should meet medical standard (EN60601 certified)

### Cautions on cleaning

- Pull out the USB cable before cleaning.
- Do not wipe the surfaces using benzene, thinner, etc., as this may degrade the cover.
- Lightly wipe off dirt on the cover and the operation panel section with a soft cloth (i.e. flannel, etc.). When the cover is very dirty, rub it with a cloth moistened with diluted detergent, and finish with a dry cloth.

# Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacturing of our intraoral camera, we place significant effort to ensure safety in the design of our equipment.

This section lists important information that will help assure your safe and proper use of the equipment. Please read the instructions carefully before operating your camera and keep it in a handy place for future reference.

## Installation

1. **Read and Follow Instructions** – All of the safety and operating instructions should be read before the intraoral camera is operated. Follow operating and use instructions.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – Comply with all warnings on the camera and in the operating instructions.
4. This camera should be operated only from the type of power source indicated on the marketing label. If you are not sure of the type of power supply in your home/office, consult your dealer or local power company.
5. **Attachments** – Do not use attachments unless recommended by the camera manufacturer as they may cause hazards.

### CAUTION

MAINTAIN ELECTRIC SAFETY. POWER LINE OPERATED EQUIPMENT OR ACCESSORIES CONNECTED TO THIS UNIT SHOULD BEAR THE UL LISTING MARK OR CSA CERTIFICATION MARK ON THE ACCESSORY ITSELF AND SHOULD NOT HAVE BEEN MODIFIED SO AS TO DEFEAT THE SAFETY FEATURES. THIS WILL HELP AVOID ANY POTENTIAL HAZARD FROM ELECTRIC SHOCK OR FIRE. IF IN DOUBT, CONTACT QUALIFIED SERVICE PERSONNEL.

6. **Water and Moisture** – Do not use this camera near water. In effect, do not use near a bathtub, washbowl, kitchen sink, laundry tubes, or swimming pool, or in a damp basement.

7. Accessories – Do not place this camera on an unstable cart, stand, tripod, bracket, or table. The camera may fall causing injury to a child or adult and serious damage to the device. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the camera. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
8. A device and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the device and cart combination to overturn.

## USE

9. Cleaning – Unplug this camera from the USB port before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
10. Objects and Liquid Entry – Never push objects of any kind into the camera through openings as they may touch dangerous voltage points or may cause a short circuit that could result in a fire or electric shock. Never spill liquids of any kind on the camera.
11. Lightning – For added protection for this camera during a lightning storm- or when it is left unattended and unused for long periods of time, unplug it from the USB port. This will prevent damage to the camera due to lightning and power-line surges.
12. Do not point the LED to the patient's eye which may cause eye damage.

## SERVICE

16. Servicing – Do not attempt to service this camera yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all maintenance to a qualified technician.
17. Conditions Requiring Service – Unplug this camera from the USB port and refer servicing to a qualified technician under the following conditions:
  - a. When the USB cable or USB port is damaged.
  - b. If liquid has been spilled, or objects have fallen into the camera.
  - c. If the camera has been exposed to rain or water.



- d. If the camera does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustments of any other controls may result in damage and will often require extensive work by a qualified technician to restore the camera to its normal operation.
  - e. If the camera has been dropped or the cover has been damaged.
  - f. When the camera exhibits a distinct change in performance.
18. Replacement Parts – When replacement parts are required, have the service technician verify that the replacements he or she uses have the same safety characteristics as the original parts. Use of replacements specified by the camera manufacturer can prevent fire, electric shock or other hazards.
19. Safety Check – Upon completion of any service or repairs to the equipment, make sure to perform safety checks recommended by the manufacturer to determine that the camera is in safe operating condition.

## Software Setup

**It is important to install the Claris i310D driver BEFORE plugging your Claris i310D into your computer. Please refer to the following procedures for detailed installation instructions.**

1. Insert the driver CD into CD-ROM or DVD drive.
2. Claris i310D setup screen will appear.



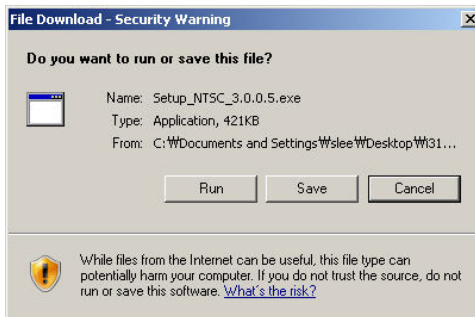
3. Click "Read First" to read the important information before installing driver.



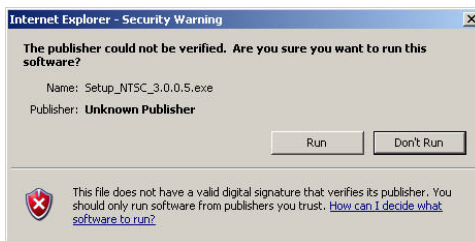
4. After reading “Read First”, click “Install Driver”.



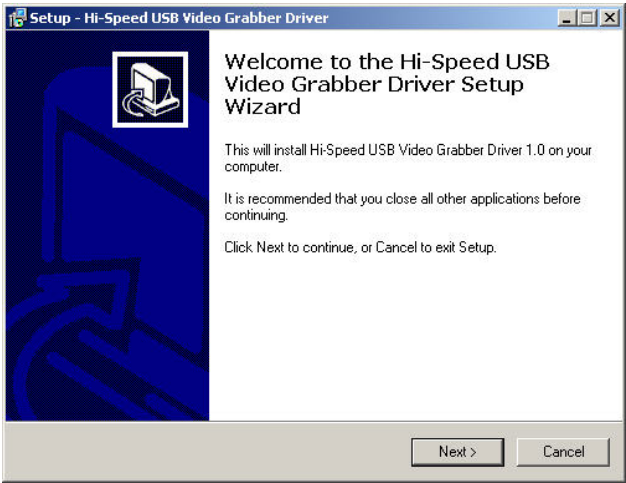
5. Click “Run” to continue.



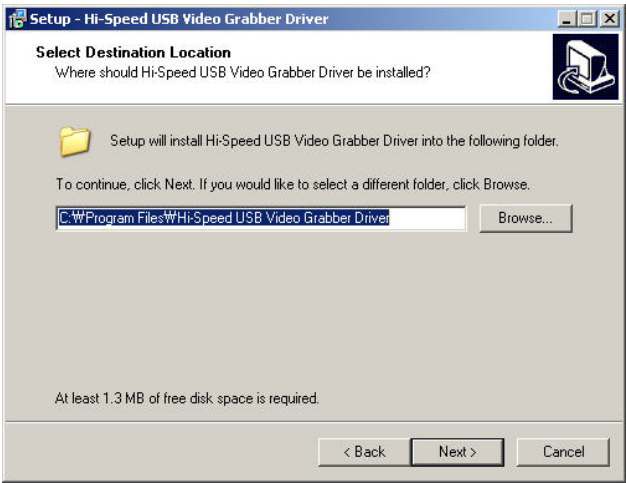
6. Click “Run” to continue.



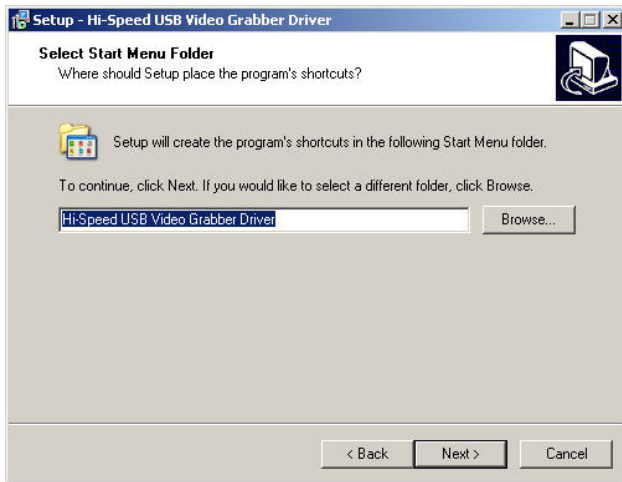
7. Driver Setup will start. Click “Next”.



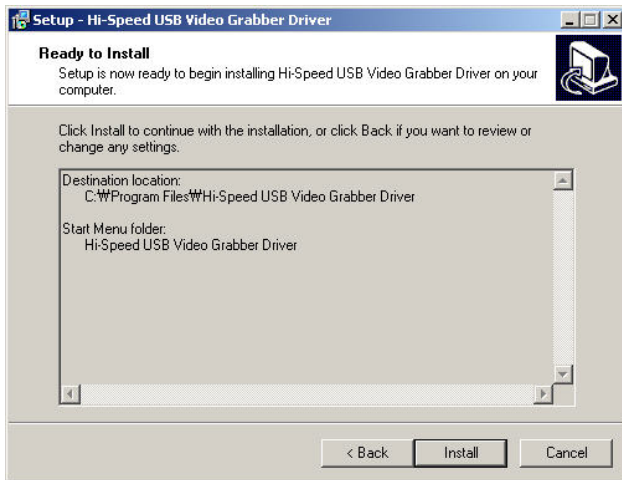
8. Click “Next”.



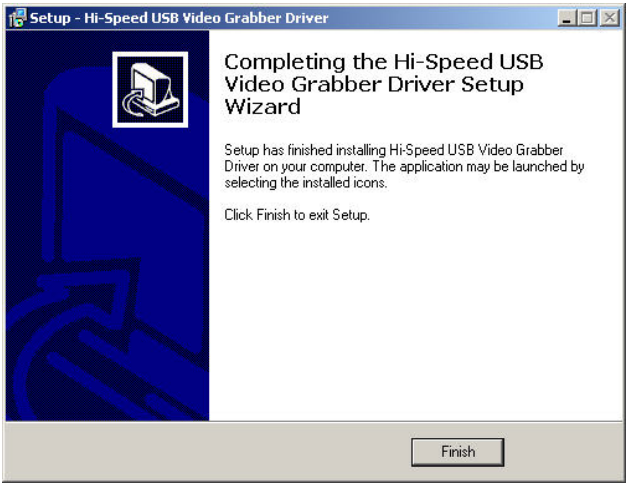
9. Click “Next”.



10. Click “Install”.



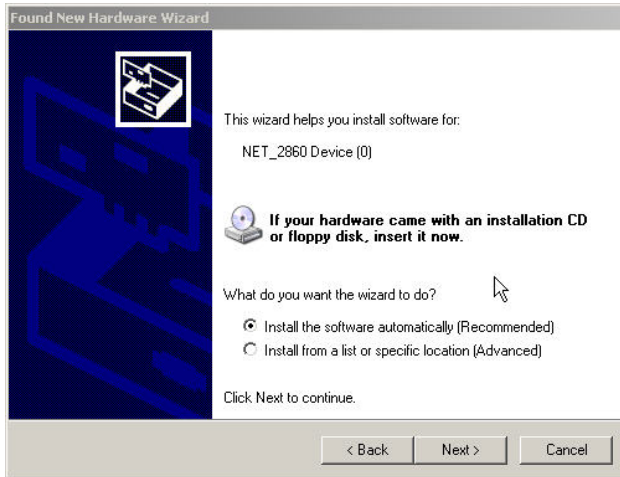
11. Click “Finish”.



12. **Plug your Claris i310D into your computer.** Windows will recognize your Claris i310D automatically. Select “No, not this time”, then click “Next”.



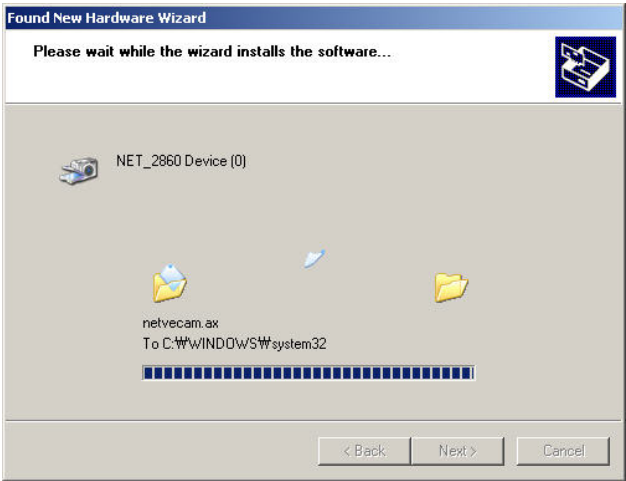
13. When Asked for the driver, select “Install the software automatically...”, then click “Next”.



14. When “Hardware Installation” window appears, click “Continue Anyway”.



15. Driver installation will start.



16. Click "Finish" to complete installing the driver.

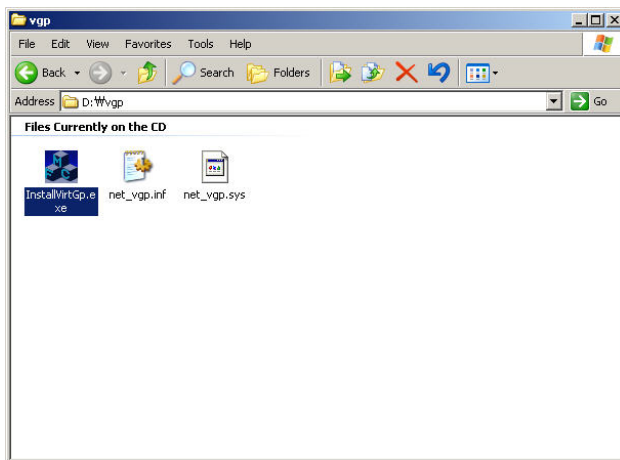




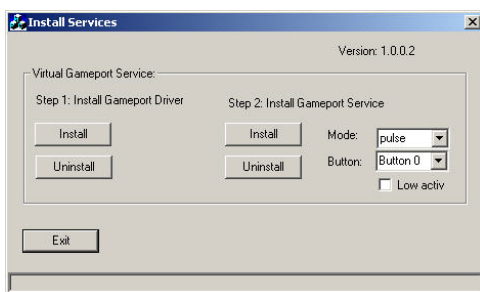
17. Now go back to Claris i310D setup screen. Click “Install Gameport”.



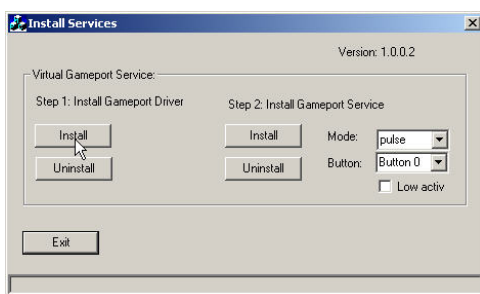
18. New window will appear. Double-click “InstallVirtGp.exe”.



19. Virtual Gameport installation will start.



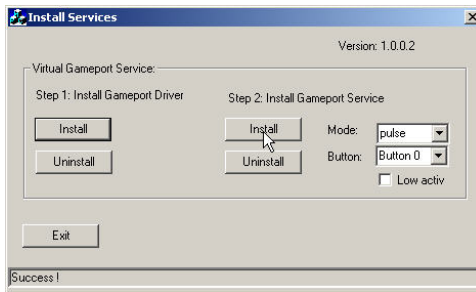
20. Click "Install" under Step 1.



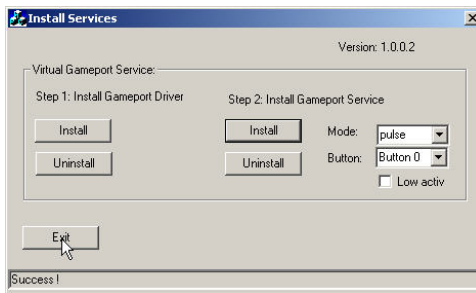
21. When "Hardware Installation" window appears, click "Continue Anyway".



22. When “Success!” appears in the status window, click “Install” under Step 2.

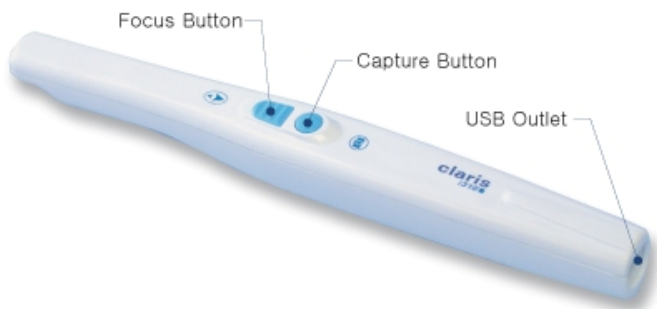


23. When “Success!” appears in the status window, click “Exit”.



24. Restart the PC to activate the driver.

## Controls and Functions



### **Capture Button**

Located on the handset, it captures the image when pressed upon.

### **FOCUS Button**

Located on the handset, it slides up and down to focus in and out of the image.

## Basic Operation

1. Be sure the camera is properly installed into the high-speed USB 2.0 port
2. When using the camera in the intraoral mode (inside a patient's mouth), you must place a disposable sheath on the camera. When using the camera in extraoral mode, it is not necessary to have a sheath on.
3. Place the camera in your hand, holding it like a pencil. Center the camera in your hand so it is comfortable and balanced. Make sure you can put your index finger on the Focus Mechanism / the Capture button.
4. Hold the camera over the desired object and you should have an image on your screen. If you do not have an image, and you have light at the end of the camera, refer to the "connections" section of this manual.
5. Adjust the Focus button as needed, for the desired shot. Push the Focus button out away from your hand for extraoral (70mm – 400mm) and pull the button in towards your hand for intraoral or closer focus (4mm – 70mm).
6. To turn the camera off, place the camera in the Cradle.

## How to use a disposable sheath

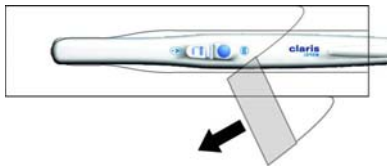
### 1. Camera Insertion

With the window side down towards the paper backing, slide the camera beneath the white tab into the sheath opening. Push the camera to the end of the sheath.



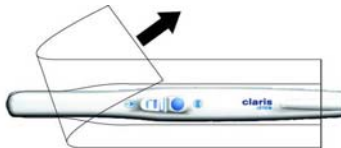
### 2. Protective Covering Removal

Hold the camera at the cable end and pull the blue tab removing the protective cover in the direction shown. Discard cover.



### 3. Paper Backing Removal

Beginning at the top end of the camera, peel the paper backing in the direction shown as disregard. After use, dispose of sheaths properly.



### 4. Camera Inserted in Sheath.



## CAUTION

The sheath must be removed after each patient use and the intraoral camera must be cleaned and disinfected after each patient use and prior to the replacement with a new sheath.

# Features and Specifications

## Camera Handpiece

- Polycarbonate construction
- Small handpiece (8.3 inches long, 0.85 inches wide; 0.24 oz)
- Proprietary custom built high-performance color video camera
- Sony DSP (Digital Signal Processing) Integrated Circuits that assures long-term stability and reliability
- 1/4" Sony Super HAD Grade 6 CCF (highest grade Sony CCD)
- Ergonomic, adjustable one-finger Focus Mechanism
- One-click Capture button
- Operating Voltage: 5V, powered by the USB port

## LED

- High Power Chip Type White LEDs
- 24000 mcd from 8 bright LEDs with luminous intensity of 3000mcd each
- Low Current Consuming LEDs with 20mA each

## Optics

- High performance direct optical system
- 768x494 Pixels (NTSC visible)
- 60 degree full field of view
- Range from 1/2 molar to full face (4mm to infinity)
- New ED Lens Technology (Extended Depth) gives longest depth of field available, which reduces user focusing
- No color smear like grin lens optical design
- No dark corners during the entire operational region
- No blue light effect common in LED cameras

## Disposable Sheaths

- Initial quantity of 50 sheaths provided
- Additional orders must be placed with Sota Precision Optics

## USB 2.0

- Hi-speed USB 2.0 interface
- Data transfer rate up to 480Mbits/second
- 30 frames per second at resolutions of up to 720x480
- Streaming video with zero compression
- Capture Rate: 30fps at VGA(640x480)
- Frame Size: QCIF(160x120) to VGA(640x480)
- Software Interface: Video for Windows, TWAIN interface, WDM driver
- Data Format: YUV 4-2-2, YUV 4-2-0, RGB

# Warranty

## Warranty Overview

This SOTA equipment is warranted to be free from defects in material and workmanship from the date of installation for a period of 24 months. Please contact SOTA representative for extended warranty program.

In the event the product is returned by the dealer or the end-user and the warranty has expired, SOTA reserves the right to collect a reasonable fee from the end user for services mutually agreed upon.

Any item returned to the factory in Orange, California, through SOTA's Authorized Dealer, will be repaired or replaced at our option at no charge provided that our inspection indicates it to have been defective. Dealer labor, shipping and handling charges are not covered by this warranty.

This warranty does not apply to damage due to shipping, misuse, or careless handling. Warranty is void if installed, repaired, or serviced by anyone other than an authorized SOTA Dealer service personnel. SOTA is not liable for indirect or consequential damage or loss of any nature in connection with this equipment.

This warranty is in lieu of all other warranties expressed or implied. No representative or person is authorized to assume for us any liability in connection with the sale of our equipment.

## Service Policy Guidelines

In the event that you have difficulty that requires factory service, please follow these instructions:

- Call (714) 532-6100 and request a return authorization (RA) number. Be sure to have the serial number, the nature of the problem, and a major credit card readily available to give our customer service representative. Please mark the number on the outside of the shipping box and packing slip. Items shipped without the RA written on the outside package will be returned to the customer at their cost. All non-warranty repairs will need a credit card, or some form of payment prior to the repair work being authorized.
- If your repair is deemed under warranty, SOTA agrees to repair or replace the item within 14 days from the time it was received and will then be shipped to the person or persons whose name appears on the shipping label.
- Returns are not accepted without prior written approval by SOTA. Defective products will be repaired or replaced per SOTA's warranty program. Sterile sheaths are considered perishable items and are not returnable under any circumstances unless defective. SOTA cannot be responsible for any missing items unless contacted within 72 hours of shipment received by the customer.



## Contact Us

We at SOTA are interested in your comments about our products. While we enjoy the good, it is more important that we are made aware of any problems you may have encountered with the sales, installation, training or technical support. We appreciate any suggestions or comments that will help us make Claris i310 a better tool. You can contact us at Phone: (888) 266-SOTA or at [sales@sotaoptics.com](mailto:sales@sotaoptics.com).



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