

Operating Instructions

claris
i310 ■



 **sota**
PRECISION OPTICS

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 i310 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.

Safety Instructions

POWER SUPPLY: DC 9~12 V 1.5 A. The Power On/Off Switch located on the back panel of the Claris i310 Intraoral Camera docking station switches the unit on and off.

Illustrated below is the label on the power adapter of your unit.



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 power cord. Be sure to hold the plug when disconnecting the cord.
- Do not leave the power cord plugged into an AC electric outlet without connecting it to the camera; fire or electronic shock may result.
- Never open the cover because there is a high voltage section inside.
- 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 power cord immediately and contact your dealer.
- When smoke, abnormal sound or smell occurs, disconnect the power cord and contact your dealer.
- When the unit is not in use for a long time, pull out the power cord.
- Do not apply impacts to this unit.

Cautions on installation

- When a TV set is directly stacked on this unit or vice versa, the TV picture may be distorted. In this case, separate this unit from the TV set.
- 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.

Cautions on cleaning

- Pull out the power cord 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. **Grounding or polarization** – This camera adapter is equipped with a 3-wire grounding-type plug, a plug having a third (ground) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
5. **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.
6. **Overloading** – Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock. Overloaded DC outlets and extension cords are dangerous; and so are frayed power cords, damaged or cracked wire insulations and broken plugs. They may result in a shock or fire hazard. Periodically examine the cords and have them replaced by your service technician if appearance indicates damage or deteriorated insulation.
7. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the device.
8. **Ventilation** – Slots and openings in the docking station are provided for ventilation to ensure reliable operation of the intraoral camera and protect it from overheating. These openings must not be blocked or covered. Placing the camera on a bed, sofa, rug, or other similar surface should never block the openings. This camera should not be placed in a built-in installation such as a bookcase or rack unit unless proper ventilation is provided.

9. 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.

10. 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.
11. 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.
12. 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

13. Cleaning – Unplug this camera from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
14. 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.
15. 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 wall outlet. This will prevent damage to the camera due to lightning and power-line surges.

SERVICE

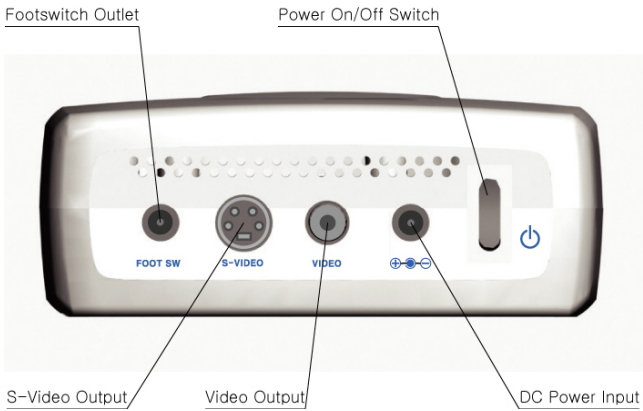
16. Servicing – Do not attempt to service this camera yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all maintenance to a qualified technician.
17. Conditions Requiring Service – Unplug this camera from the wall outlet and refer servicing to a qualified technician under the following conditions:
 - a. When the power supply cord 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.

Controls and Functions

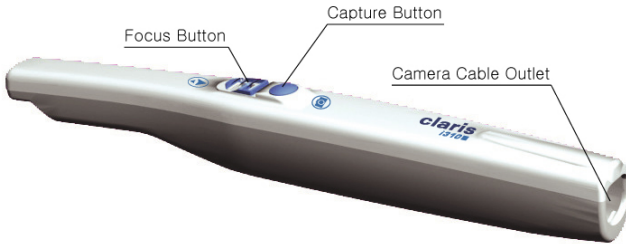
Docking Station Front View



Docking Station Rear View



Handpiece view



1. **Power On/Off Switch on Docking Station**
Located on the back of the camera docking station, it turns the docking station power on and off.
2. **LED Light On/Off Switch**
Located on the front of the camera docking station, it turns the light source on and off without affecting the other functions. User can take X-Ray images with the LED light OFF as other camera functions will still be on.
3. **Capture & Power On/Off Button on Handpiece**
Located on the handset, it captures the image when pressed upon. When pressed and held down for several seconds, it turns the handpiece ON and OFF.
4. **FOCUS Button**
Located on the handset, it slides up and down to focus in and out of the image.
5. **DC Power Input**
Connects to the camera docking station and is used to connect it to power.
6. **Composite Video Output**
The connector is a standard RCA female. This outputs a composite video.
7. **Y/C (S-Video) Video Output**
The connector is a standard female 4 pin mini din. This outputs separate Y (luminance) and C (chrominance) signals. This is also known as super VHS or S-Video.
8. **Cradle**
Place the handpiece in the cradle to turn the handpiece OFF automatically. Re-lifting the handpiece from the cradle will turn the handpiece back on.

Basic Operation

1. Be sure the camera is properly installed into the docking station, that the docking station is connected to power and that the docking station is connected properly to a monitor.
2. Press the ON/OFF button on the docking station so the blue light in front of the docking station is turned on. Make sure the LED Light ON/OFF button in front of the box is set ON, unless you are trying to take X-Ray images.
3. Turn the handpiece power on by pressing and holding down the Capture button or lifting from the Cradle (if it was placed on the Cradle).
4. When using the camera handpiece in the intraoral mode (inside a patient's mouth), you must place a disposable sheath on the handpiece. When using the camera handpiece in extraoral mode, it is not necessary to have a sheath on.
5. Place the camera handpiece in your hand, holding it like a pencil. Center the camera handpiece in your hand so it is comfortable and balanced. Make sure you can put your index finger on the Focus Mechanism / the Capture button.
6. Hold the camera handpiece 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 handpiece, refer to the "connections" section of this manual.
7. 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).
8. To turn the camera off, turn the docking station off by turning the switches off on both the front and back sides. To turn the handpiece off, either hold down the Capture button or place the handpiece in the Cradle.

How to use a disposable sheath

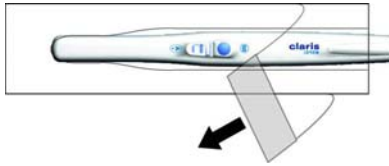
1. Handpiece Insertion

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

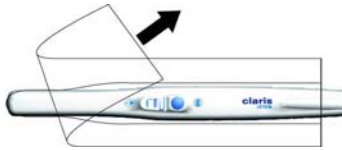


2. Protective Covering Removal

Hold the handpiece 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 handpiece, peel the paper backing in the direction shown as disregard. After use, dispose of sheaths properly.

**4. Handpiece Inserted in Sheath.****CAUTION**

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

Wireless Operation (optional)

1. Be sure the camera is properly installed into the docking station. Make sure that the receiver is connected to the monitor to be used. Maintain the separation

- between the docking station and the receiver to less than 300 feet of open space. If you expect significant interferences (such as other nearby wireless devices), you may want to reduce the separation distance.
2. Press the ON/OFF button on the back of the docking station and ensure that the blue light in front of the docking station is on. Make sure the LED Light ON/OFF button in front of the box is ON, unless you are trying to take X-ray images. Also, make sure that the receiver is connected to power and turned on.
 3. Follow steps 3 through 8 in Basic Operation.

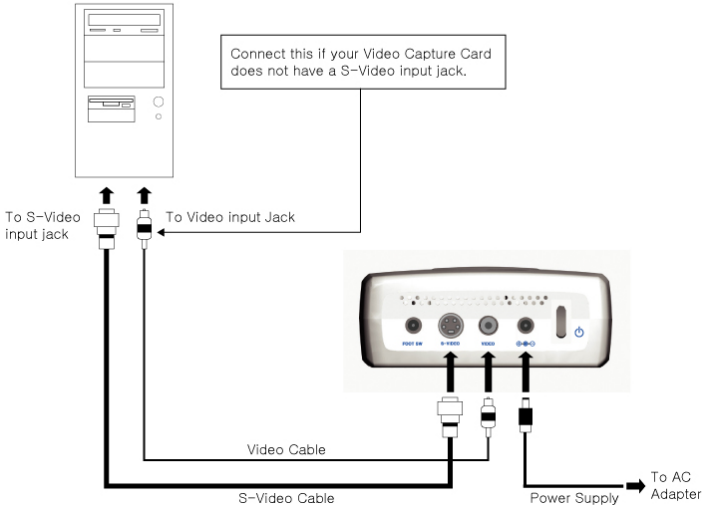
X-Ray Mode Operation

1. Be sure the camera is properly installed into the docking station and that the docking station is connected to power.
2. Press the ON/OFF button on the back of the docking station to turn the unit ON and make sure that the LED light switch in front of the docking station is OFF.
3. Turn the handpiece power on by pressing and holding down the Capture button or lifting from the Cradle (if it was placed on the Cradle).
4. Place X-Ray film against the X-Ray projector lights to view the image. Use the Claris i310 camera to take images of the X-Ray.
5. Center the camera handpiece in your hand so it is comfortable and balanced. Make sure you can put your index finger on the Focus Mechanism or the Capture button.
6. Hold the camera handpiece over the X-Ray image and see if you have an image on your screen. If you do not have an image, and you have light at the end of the camera handpiece, refer to the "connections" section of this manual.
7. Adjust the focus button as needed, for the desired shot. Press the Capture button to capture the desired shot. The captured image can now be printed (if connected to a printer) or digitized and stored (if connected to a computer).
8. To turn the camera off, turn the docking station off by turning the switches off on both the front and back sides. To turn the handpiece off either hold down the Capture button or place the handpiece in the Cradle.

Connections

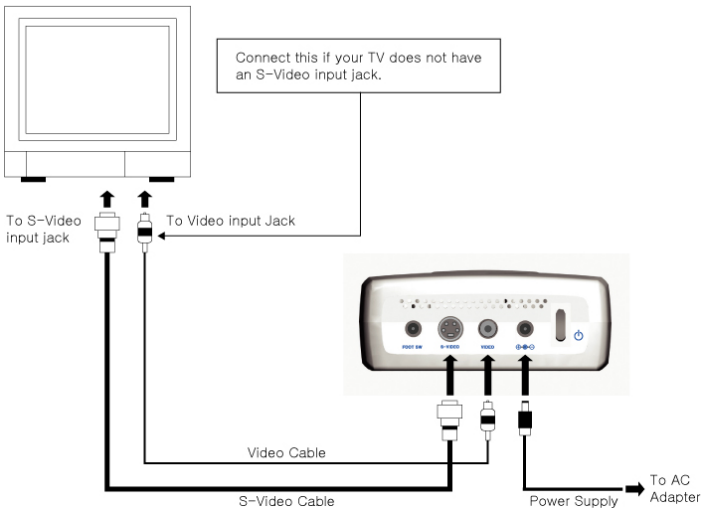
Connecting to a computer with a video capture card

Computer with a Video Capture Card

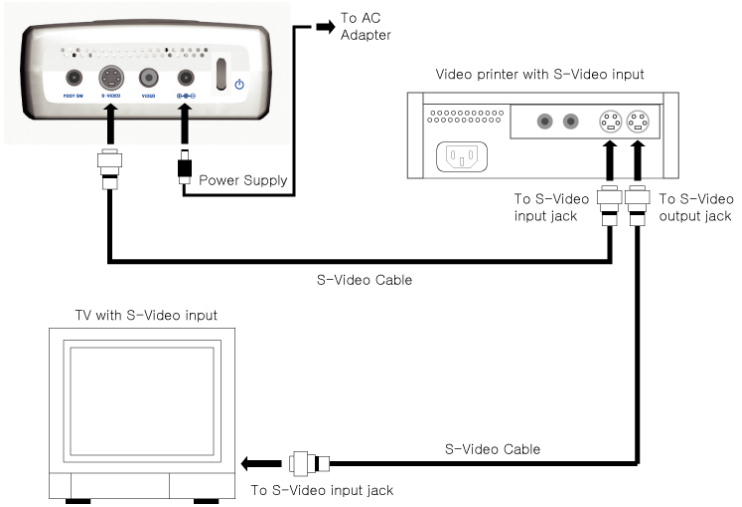


Connecting to a monitor(TV)

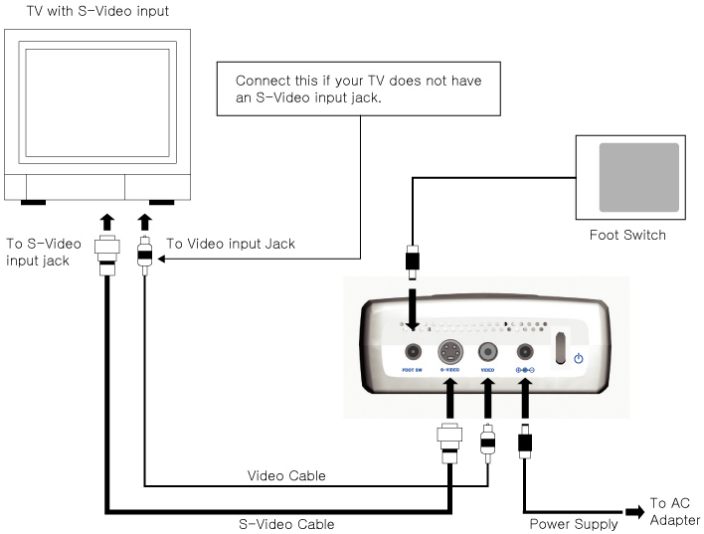
TV with S-Video input



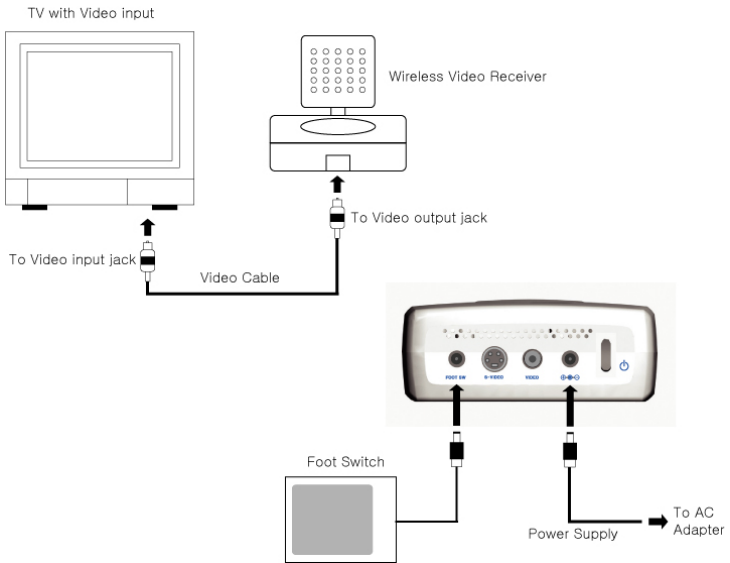
Connecting to a monitor(TV) and a video printer



Connecting to a monitor(TV) and a foot switch



Connecting to a monitor(TV) with wireless option



Features and Specifications

Camera Handpiece

- Polycarbonate construction
- Small handpiece (8.3 inches long, 0.85 inches wide; 0.15 lb)
- Proprietary custom built high-performance color video camera
- Sony DSP (Digital Signal Processing) Integrated Circuits (Sony 2130) that assures long-term stability and reliability
- 1/4" Sony HyperHad Grade 6 CCF (highest grade Sony CCD)
- Motorola microprocessor (Continually monitors video signal and adjusts camera)
- SuperSharp Technology (Microcomputer adjusts camera settings real time)
- Ergonomic, adjustable one-finger Focus Mechanism
- One-click Capture button: Holding down switches handpiece power On/Off

LED

- High Power Chip Type White LEDs
- 6.08cd from 8 bright LEDs with luminous intensity of 0.76cd each
- Low Current Consuming LEDs with 20mA

Optics

- High performance direct optical system
- 470 TV lines of resolution
- 768*494 Pixels (NTSC visible) and 752*582 Pixels (PAL 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

Docking Station

- Docking camera module (multi-op)
- Small integrated design 0.75 lb (wired) and 0.95 lb (wireless)
- Auto ON/OFF circuitry
- X-Ray mode (Turns camera light off for true grayscale X-rays)
- S-video and composite output
- Wall-mountable
- Foot switch compatible & available
- Compatible to most printers and monitors
- Compatible to imaging software and patient management systems

Disposable Sheaths

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

Wireless Option (Available Option)

- Transmitter open area range of 300 feet
- 4-channel selectable
- Rechargeable battery capable of 120 minutes of continuous usage

Foot Switch (Available Option)

- Use to capture and release image
- Cable range of 6 feet

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.

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 72 hours 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. There is a 15% restocking charge for any returned items. Defective products will be repaired or replaced per SOTA's warranty program. No returns are accepted more than 30 days after the order date. 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(7682) or at sales@sotaoptics.com.

Note:



Sota Precision Optics, Inc.
1073 North Batavia Street, Orange, CA 92867 U.S.A.
Tel: 714-532-6100
Fax: 714-532-6107
Website: www.sotaoptics.com