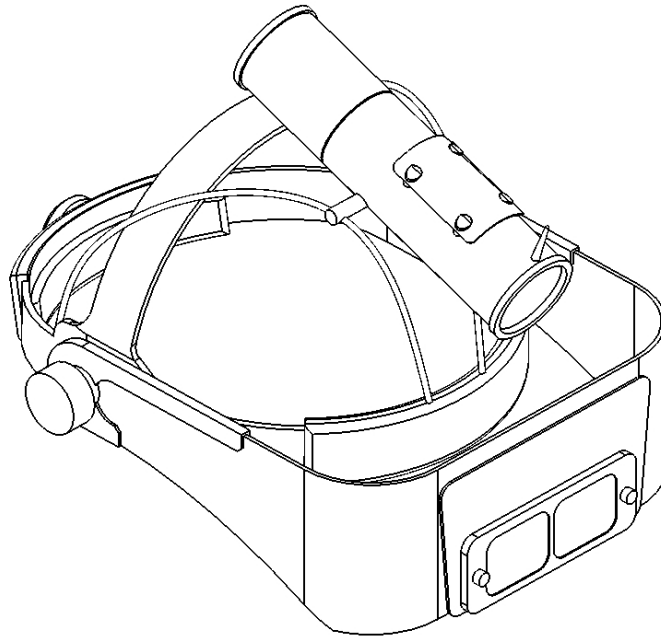


Owners Manual

Revision 3
(July 2004)



Syris Scientific, LLC

v300TM/v600TM Visualization System

Contact Information

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Introduction

Thank you for purchasing the Syris Scientific v300/v600 Visualization System. This unique, patented Visualization System is the result of many years of research, development, testing, and field application. You will enjoy many years of procedural benefits by following the care and use instruction provided in this manual. Please do not hesitate to call our service group at 800.714.1374 or 207.657.7050 if we can be of any assistance in the use of your new system.








Syris Scientific, LLC

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Legend

The following symbols can be found on components of the v300 and v600 Visualization Systems.

Symbol	Title	Definition
	Attention!	Consult accompanying documents
	Dangerous Voltage!	Warning, dangerous voltage present
	CE Conformity Mark	Product conforms to the requirements of applicable EU directives
	On	
	Off	
	Direct Current (DC)	
	Alternating Current (AC)	
VDC	Volts Direct Current	
A	Amperes	

Safety Warnings and Hazards!

General Hazards

- Only individuals familiar with the operation and safe use of this system should operate it.
- Keep the system out of reach of children.
- Do not walk on or wheel objects over cables and cords.
- Do not overextend the cables and cords to prevent premature wear.
- Do not drop any component of the system. Physical shock may cause permanent damage.
- Do not clean the components of the system with abrasives or solvents.
- Do not autoclave any component of the system.
- Do not insert objects into any opening of a component of the system.
- Do not direct light from the Illuminator Module at the eyes of anyone, or look into the Illuminator Module while it is on.
- Do not use the system as a light to navigate your environment.

Electrical Hazards

- Never immerse any component of the system in water or other liquids.
- Use only an approved, grounded outlet.
- Do not allow metal objects or body parts to touch electrical connections.
- Do not use any other power supply with this system. Damage resulting from use of a power supply other than the Power Supply Module voids the warranty.
- Always use the Power Control Module when using your system. The system is intended to function with the module to provide a safety interface between the user and the power supply.
- Unplug the Power Supply Module when connecting or disconnecting cables to any component of the system.

Fire Hazards

- Do not operate the system in a flammable or explosive atmosphere.
- Do not block any opening of the system. Doing so may cause overheating of the Illuminator Module.
- Avoid operating the system in dusty environments.

Product Description

This Owners Manual applies to the v300 and v600 Visualization Systems. A diagram and list of the components of each system are presented here.

v300 Visualization System (Figure 1)

Components	Part Number
1) v300 Headgear	Z2001-00
v300 Illuminator	Z2074-00
2) Upper DC Power Cable	Z1762-00
3) Power Control Module	Z2076-00
4) Lower DC Power Cable	Z2079-00
5) Power Supply	Z2077-00
6) AC Power Cable	
7) Power Control Module Belt	Z1763-00
8) Lens Wipes	

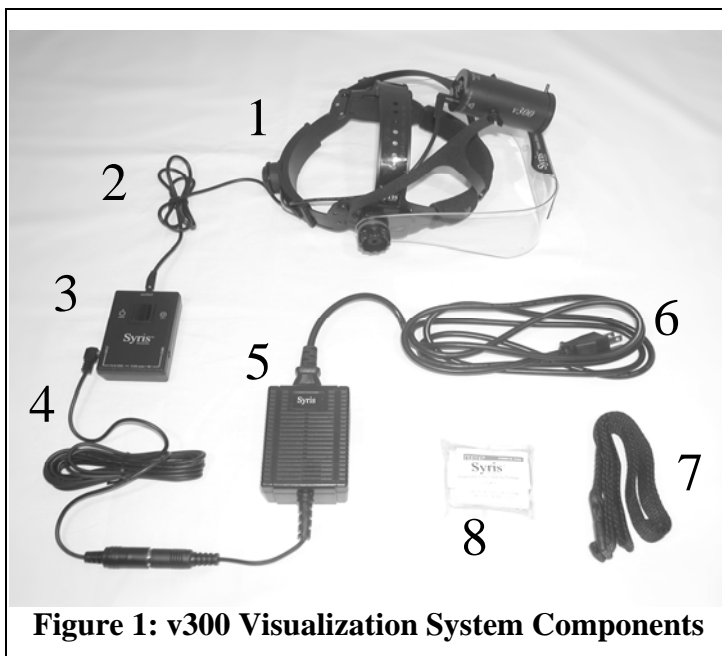
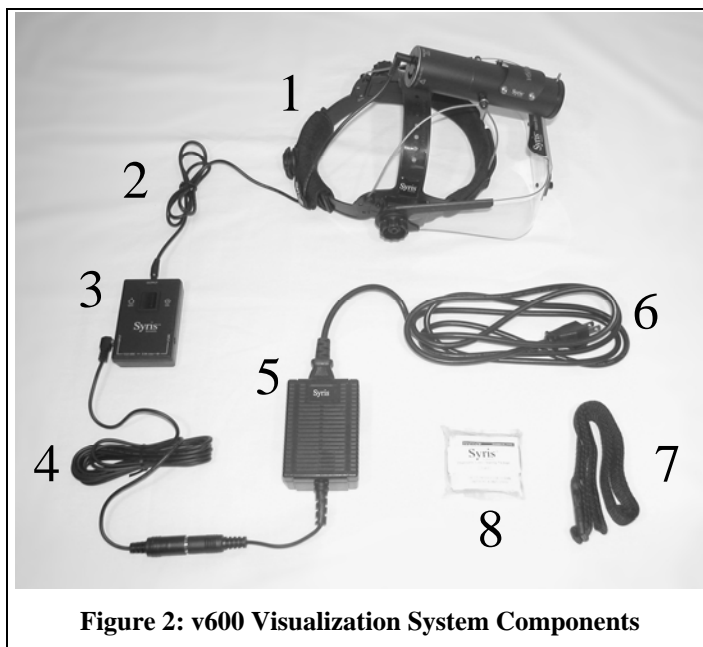


Figure 1: v300 Visualization System Components

v600 Visualization System (Figure 2)

Components	Part Number
1) v600 Headgear	Z1924-00
v600 Illuminator	Z2073-00
2) Upper DC Power Cable	Z1762-00
3) Power Control Module	Z2076-00
4) Lower DC Power Cable	Z2079-00
5) Power Supply	Z2077-00
6) AC Power Cable	
7) Power Control Module Belt	Z1763-00
8) Lens Wipes	



IMPORTANT! Syris Scientific is not responsible for any damage that may have resulted from shipping. Should you find any damage to your system, please call the shipping company immediately to fill out a claim.

Product Setup

The following procedures may be used to adjust the headband and complete the wiring setup for either the v300 or v600 Visualization System.

Headband Adjustment (Figure 3)

- 1) Begin by adjusting the height of the top strap of the Headgear.
This strap is adjusted by separating the strap and sliding it to a new position. The strap is secured by locking the plastic buttons on the lower strap into the holes of the upper strap.
- 2) Loosen the Headgear headband by pushing the knob at the back of the headband and turning it counter-clockwise.
- 3) Position the Headgear on your head, ensuring that the front of the headband sits comfortably above your eyebrows. If the Headgear sits too high or too low on your head, repeat step one.
- 4) Tighten the headband by pushing the knob at the back of the headband and turning it clockwise.
- 5) Adjust the position of the Visi-Shield by turning the knobs on either side of the Headgear. When properly positioned, the magnifying lens should be in your normal line of sight.

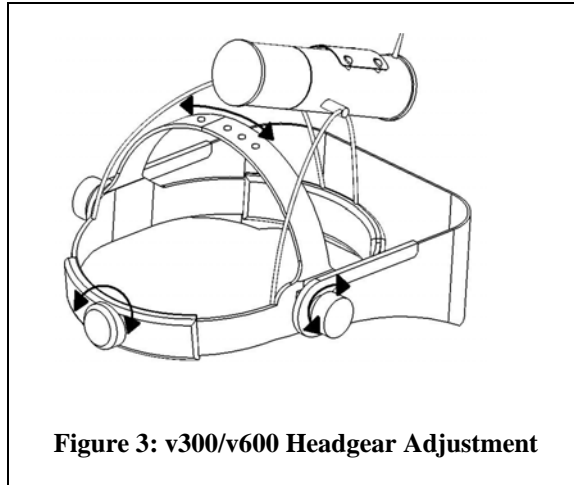


Figure 3: v300/v600 Headgear Adjustment

Wiring Setup (See Figures 1 or 2)

- 1) Plug the Upper DC Power Cable into the back of the Illuminator Module.
- 2) Plug the phone plug of the Upper DC Power Cable into either side of the Power Control Module.
- 3) Plug the phone plug of the Lower DC Power Cable into the remaining side of the Power Control Module.
- 4) Plug the female DIN connector of the Lower Power Cable into the male DIN connector of the Power Supply.
- 5) Plug the IEC connector of the AC Power Cord into the IEC port on the Power Supply.
- 6) Plug the AC plug of the AC Power Cord into an approved outlet.

After completing the wiring setup procedure, turn the switch of the Power Control Module to on. You should immediately hear the fan of the Illuminator Module turn on. To prevent shock to the Illuminator Module, the system is designed to gradually turn on the Illuminator over a five second period.

Important! If there is no evidence of the light or fan when you turn the system on, immediately turn off the Power Control Module. Check the wiring setup again.

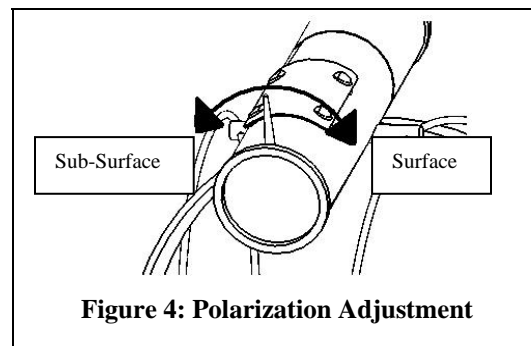
Product Operation

The v300/v600 Visualization System is intended to enhance the vision of medical professionals when used in the patient environment during inspections and procedures.

The v300/v600 Visualization System is designed to enhance the surface or the sub-surface features of a patient's skin. This is accomplished by parallel-polarizing or cross-polarizing the light emitted from the Illuminator Module. To change between surface and sub-surface viewing mode, use the following simple procedure:

- 1) While wearing the Headgear, locate the Illuminator Module with your free hand.
- 2) Slide your hand down the Illuminator Module until you locate the adjustment peg located at the front of the barrel.
- 3) Gently grasp the adjustment peg and rotate it as shown in Figure 4.
- 4) As worn on the head, the surface (parallel-polarized) mode will be seen when the adjustment peg is at the 10 O'clock position. The sub-surface (crossed-polarized) mode will be seen when the adjustment peg is at the 2 O'clock position.

NOTE: In order to observe the effects of the system, the user must be looking through the Visi-Shield



Illuminator Replacement

As with any intense illumination source, the v300/v600 Illuminator Module will wear out with use. High output cooling of the Illuminator Module extends the expected life to 400+ hours under normal conditions. Spare Illuminator Modules can be purchased to enable the user to continue use with minimal interruption in the event of an Illuminator Module failure. It is highly recommended that a spare Illuminator Module be kept on hand.

Please use the following procedures to replace the Illuminator Module in either your v300 or v600 Visualization System. If you have any questions, please contact our service group at 800.714.1374 or 207.657.7050.

Illumination Condition Indicator

The v300/v600 Series is equipped with one of the most sophisticated diagnostic systems of any lighting or vision system in the medical world. A powerful microprocessor constantly monitors the entire system of the lighting and cooling to ensure maximum performance. Part of this computer's function set is a display of the *Illuminator Module's* (1 in Fig 1) condition. Three colored LED's are installed to be visible through the air outlet vents on the rear of the illuminator.

- Green: Will remain visible for the first 75% of its life expectancy.
- Yellow: Will indicate 5-24% of life expectancy remains.
It is suggested to order replacement at this point.
- Red: Will indicate less than 5% of life expectancy remains.
The bulb will alternate dim and bright 7 times at startup during this critical stage showing that the illuminator module has reached its life expectancy.

The LED's flash a readout of the elapsed hours on the Illuminator Module 30 seconds after the power is applied. The red LED flashes the number of hundreds of hours, the yellow flashes the number of 10s of hours and the green flashes the number of single hours, so 124 hours would be 1 red, 2 yellow and 4 green. This is followed in another 15 seconds by a second series of flashes showing the number of on/off cycles. This sequence differs from the first in that it is divided by 10, so 120 would be 1 yellow and 2 green flashes.

A typical life span for an *Illuminator Module* (1 in Fig 1) is in excess of 400 hours. Should your illuminator fail prior to 400 hours, a pro-rated warranty will apply.

v300 Illuminator Module Replacement

- 1) Turn off the v300 Visualization System and disconnect the AC Power Input Cable from the wall outlet. Disconnect the Upper DC Power Cable from the old Illuminator Module.
- 2) Allow the old Illuminator Module to cool at least ten minutes before proceeding.
- 3) Loosen the plastic wing nuts on either side of the old Illuminator Module approximately one turn, and remove it from the Headgear frame.
- 4) Install the new Illuminator Module on the Headgear frame and tighten the plastic wing nuts.
- 5) Connect the Upper DC Power Cable to the Illuminator Module, and plug AC Power Input Cable into a wall outlet.
- 6) Turn the system on and make sure the both the lamp and fan are functioning.

v600 Illuminator Module Replacement

- 1) Turn off the v600 Visualization System and disconnect the AC Power Input Cable from the wall outlet. Disconnect the Upper DC Power Cable from the old Illuminator Module.
- 2) Allow the old Illuminator Module to cool at least ten minutes before proceeding.
- 3) Remove the new Illuminator Module from the packing tube. Enclosed in the packing tube is a cotton glove. Please use this glove for handling the new Illuminator Module.
- 4) Remove the old Illuminator Module from the optics tube by rotating it counter-clockwise as shown in Figure 5.
- 5) With a gloved hand, remove the new Illuminator Module from its plastic wrapper.

Important! Do not allow the Illuminator Module bulb or reflector to come in contact with exposed skin or other foreign material. This may cause premature failure of the Illuminator Module.

- 6) Install the new Illuminator Module in the optics tube by screwing it clockwise.

Important! Do not force the new Illuminator Module into the optics tube. If you are having difficulty installing the new Illuminator Module, rotate it counter-clockwise one turn and then re-attempt to gently screw it into the optics tube.

- 7) Connect the Upper DC Power Cable to the Illuminator Module, and plug AC Power Input Cable into a wall outlet.
- 8) Turn the system on and make sure the both the lamp and fan are functioning.

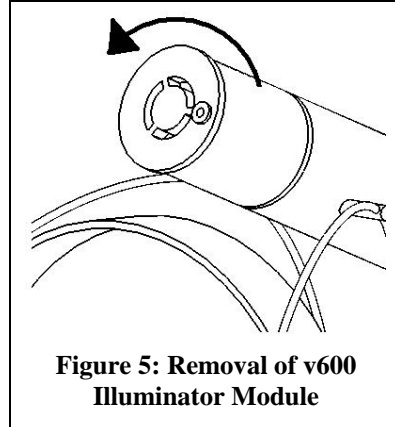


Figure 5: Removal of v600 Illuminator Module

Handling, Cleaning, and Storage

To keep your v300/v600 Visualization System in optimum condition, please follow the handling, cleaning, and storage guidelines.

Handling

- To avoid scratching or smudging the Visi-Shield, handle the system by grasping the headband.
- The Upper and Lower DC Power Cords are built to be lightweight and are therefore not armored. Use care when handling the power cords and ensure that they are not pulled or pinched. Damaged cords may not be covered by the limited product warranty.

Cleaning

- Clean the system after every use that may have caused contamination.
- Clean the entire product with approved disinfectant towelettes or towelettes containing isopropyl alcohol.
- Never clean any component of the system with hard or abrasive objects.
- After cleaning the system, it is recommended that the Visi-Shield and magnifying lenses be wiped with optical cloth or equivalent non-abrasive, non-linting cloth.
- Never autoclave any component of the system.

Storage

- To protect the system, it is suggested that it be stored in the box it was shipped in.
- For short term storage, the Power Supply may remain plugged in, but the Power Control Module should be turned off.
- For long term storage, Power Supply should be unplugged.

General Product Specifications

Shipping/Storage Dimensions

V300: 18 x 14 x 9 in (0,5 x 0,36 x 0,23 m)

V600: 23 x 13 x 10 in (0,58 x 0,33 x 0,25 m)

Shipping Weight

V300: 7 lb (3,1 kg)

V600: 8 lb (3,6 kg)

Power Supply

Input: 100-250 VAC, 50-60 Hz

Output: 13.8 VDC, 3 A maximum.

Parts/Accessories List

Please contact Syris Scientific at 800.714.1374 or 207.657.7050 if you would like to order any of the following parts or accessories for your v300 or v600 Visualization System.

Order Code	Description
Z1924-00	v600 Visualization System
Z2001-00	v300 Visualization System
Z2073-00	v600 Illuminator Module Kit
Z2074-00	v300 Illuminator Module Kit
Z2075-00	Visi-Shield with 3 Diopter (1.75 X mag.) Lens
Z2076-00	Power Control Module
Z2077-00	v300/v600 Power Supply
Z2079-00	Lower DC Power Cable
Z2383-00	Black Headbands, one front-one rear
Z2095-00	3 Diopter (1.75 X mag.) Lens Set
Z2098-00	5 Diopter (2.25 X mag.) Lens Set
Z1762-00	Upper DC Power Cable
Z1763-00	Power Control Module Belt

Warranty Information

Syris Scientific, LLC warrants this product to be free from defects in material and workmanship, according to the following terms and conditions;

- 1) The limited warranty for the Product extends for one (1) year beginning on the date of purchase of the product with the exception of the Illuminators (Z2073-00 and Z2074-00). A typical life span for the Illuminator Module is in excess of 400 hours. Should your illuminator fail prior to 400 hours, a prorated warranty will apply.
- 2) The limited warranty for the product extends only to the original consumer purchaser (“Consumer”) of the product and is not transferable or assignable to any subsequent purchaser or end user.
- 3) During the limited warranty period, Syris Scientific will repair or replace, at the Company’s option, any defective parts, or any parts which will not properly operate for their intended use with new or factory rebuild replacement items. No charge will be made to the Consumer for any such parts, with exception of the Illuminator Module. The Company will also pay the labor charges incurred by Syris Scientific in repairing or replacing the defective parts. The external housing and cosmetic parts shall be free of defects at the time of shipment and, therefore, shall not be covered under these limited warranty terms.
- 4) Upon request from Syris Scientific, the Consumer must provide information to reasonably prove the date of purchase.
- 5) The Consumer shall bear the cost of shipping and any duties to Syris Scientific in Gray, Maine, USA. Syris Scientific shall bear the cost of shipping (but not duties) the product back to the Consumer after completion of any service which falls under the limited warranty.

- 6) The Consumer shall not have coverage of benefits under this warranty if any of the following conditions are applicable:
 - a. The Product has been subject to: abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of Syris Scientific, including damage caused by shipping and blown fuses.
 - b. Syris Scientific was not notified by the Consumer of the alleged defect or malfunction of the product during the applicable warranty period.
 - c. The product serial number or date codes have been removed, defaced, or altered.
- 7) If a problem develops during the limited warranty period, the Consumer should follow this procedure:
 - a. Call Syris Scientific at 800.714.1374 or 207.657.7050 to obtain a Returned Material Authorization Number (RMA).
 - b. Write a brief description of the problem, and include the Consumer daytime phone number, return address for shipping, proof of purchase, and the RMA number.
 - c. Ship the product prepaid and insured to:

Syris Scientific
22 Shaker Rd.
P.O. Box 127
Gray, ME 04039 U.S.A
Attn: Service Dept.
- 8) The Consumer will be charged for any parts, labor and/or shipping charges not covered by this limited warranty.

- 9) If the product is returned during the limited warranty period, but the problem with the Product can not be fixed under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired. All shipping charges will be billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned to Syris Scientific after the expiration of the warranty period, Syris Scientific normal service policies shall apply and the Consumer will be invoiced for all shipping charges.
- 10) Any implied warranty of the merchantability or fitness for a particular purpose or use, shall be limited to the duration of the foregoing written warranty. Otherwise, the foregoing warranty is the Purchaser's sole and exclusive remedy, and in lieu of all other warranties, expressed or implied, Syris Scientific shall not be liable of incidental or consequential damages or a loss of anticipated benefits or profits resulting from the purchase or use of the Product, or arising from the breach of the warranty even if Syris Scientific knew of the likelihood of such damages.
- 11) Some states do not allow the limitation of how long an individual warranty lasts, so the above limitations may not apply to the Consumer. Some states do not allow the exclusion, or limitations or exclusions may not apply to the Consumer. This warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.
- 12) Syris Scientific neither assumes nor authorizes any service center or any person or entity to assume for it any other obligation or liability beyond that which is expressly provided for in this limited warranty. The Consumer will be charged for any parts or labor charges not covered by this limited warranty.
- 13) Warranties for Syris Scientific supplied accessories and attachments are specifically defined within their own warranty cards and packaging.

Warranty Card

A Warranty Registration Card is included with this manual. Please complete and send this card to Syris Scientific at the following address. **Failure to return the Warranty Registration Card to Syris Scientific voids the limited warranty on your Visualization System.** If you have lost your Warranty Registration Card, remove the Warranty Registration Card from the bottom half of this page.

Syris Scientific
22 Shaker Rd.
P.O. Box 127
Gray, ME 04039 USA

(Cut on this line)

**Syris Scientific v300/v600 Visualization System
Warranty Registration Card**

Registration is necessary to activate the warranty. Fill in this card and return it by mail to Syris Scientific. Please write clearly.

Name _____
Address _____

Phone Area Code () _____
Fax Area Code () _____
Email _____

Date you received your Visualization System _____
Serial Number _____
What is your profession specialty? _____
What is the primary intended use for your system? _____