

Operation Manual

Dual Channel Illuminator

SomaLux 800



Owner's Record

Model Number

Serial Number

Date Purchased

Location Purchased

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Symbols Used in this Manual or on the Device

NOTE:

This term contains important information regarding set-up and operation to facilitate ease of use and obtain effective results.



This term contains critical information regarding safe handling and use of this system. Device malfunction or property damage could result if these instructions are not followed.



This symbol cautions that surfaces may be hot and could be a burn hazard.

WARNING:

This term contains critical information by identifying conditions or practices that may result in injury or loss of life if these instructions are not followed.

Warning - This device emits intense illumination that can be harmful.



Risk of Damage from Intense Light

Hazard

Actions To Be Taken/
Prevented

When operating, the halogen lamp produces intense levels of visible radiation.

Never look directly at the lamp or at light reflected from the lamp or the output from the liquid light guide. Do not expose skin directly to the output of the liquid light guide. Never operate the lamp with the light guide disconnected from a suitably configured microscope.

Warning - This device presents a risk of fire.



Risk of Fire

Hazard

The lamp produces significant amounts of heat.

Actions To Be Taken/
Prevented

Do not operate the unit near any flammable materials including flammable gases or liquids. Maintain at least 6" of clearance around all sides of the light source for adequate ventilation.

Warning - This device presents a burn risk.



Burn risk to personnel.

Hazard

The lamp produces significant amounts of heat.

Actions To Be Taken/
Prevented

Always allow the light source components to cool to ambient temperature before attempting any adjustments or replacement of parts.

Warning - This device presents a risk of electrical shock.



Hazard

Actions To Be Taken/
Prevented

This device contains high voltage circuits (110-240 volt).

Only qualified personnel shall inspect the unit for internal damage.



Risks of
Electrical Shock

Only operate the equipment in a professional manner as set forth in this manual.

Employ only authorized and properly trained personnel to perform maintenance functions.

Warning - The internal components of this device can be damaged.



Risk of Damage to Internal Components

Hazard

Bulb life is shortened by excessive restarts.

Removing power from the Metal Halide Lamp before it has reached its normal operating temperature will significantly shorten the life of the lamp.

Un-qualified personnel can create hazardous conditions and damage internal components.

Actions To Be Taken/Prevented

Use gloves when handling the lamp.

Operate the equipment only in a professional manner as set forth in this manual.

Employ only authorized and properly trained personnel to perform maintenance functions.

Do not turn the lamp unless it has been operating for a **minimum** of 3 minutes or unless it is an emergency.

Avoid turning off and restarting the bulb during daily use unless it will not be used for an extended time. For typical daily use it is best to let it continuously run.

All maintenance including lamp replacement to be performed by qualified personnel only.

Warning - This device emits electromagnetic energy which may be harmful.



Risk of
Electromagnetic
Interference

Hazard

This equipment has passed testing for EMI / RFI radiation and susceptibility; however, if not installed and used in accordance with the instructions, interference to other devices in the near vicinity may occur.

Electromagnetic energy can travel through the power cord or through the

Actions To Be Taken/
Prevented

Select an appropriate location for the unit.

Ensure there is adequate separation distance between the unit and any device, which may be affected by the electromagnetic energy coming from the Unit.

Power the Illuminator from a circuit different from any circuit that contains a device which could be affected by the electromagnetic energy coming from the Illuminator.

Equipment Classifications

Type of protection against electric shock	Class I
Degree of protection against ingress of water	IPX0
Degree of safety of application in the presence of flammable mixtures	Equipment not suitable for use in the presence of flammable mixtures
Mode of operation:	Continuous operation
Refer to IEC 60601-1 clause 5.1, 5.3, 5.5 and clause 6.8.1.	

Description

The SomaLux800 Dual Channel Illuminator is a light source for powering fiber optic illumination cables.

Lamp / Filter / Attenuator System

The SomaLux 800 Lamp Assembly contains dual fiber optic ports, two lamps, and an attenuator. The upper and lower lamps are identical 150 watt halogen lamps. The use of two identical lamps provides redundancy to facilitate rapid changeover in the event of lamp failure. This is ideal for critical mission applications.

Because of the intense brightness, the lamp assembly includes an attenuating device that allows the user to reduce the light that is delivered to the microscope.

The lamp assembly contains dual internal IR/UV filters to reduce the amount of undesirable infrared radiation (IR) and ultraviolet (UV) radiation. However, the resulting illumination contains sufficient optical energy to present the various hazards as outlined in the warnings section at the front of this manual.

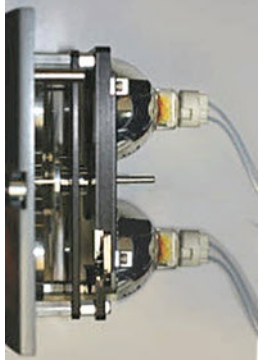


Photo above shows lamp assembly which includes the lamps, filters, and attenuator.

Description

Light Guide

The illumination is directed to the microscope via a light guide. A light guide is a semi-flexible cable, which efficiently transports radiation presented at one end to the other end. The light guide limits heat delivery to the microscope and provides flexibility in the placement of the main body of the light source.



Photo above shows a light guide installed into the upper port.

Power Plug

Power is fed to the unit via a standard IEC power connector. Input power source is selected by a switch located on rear of system.

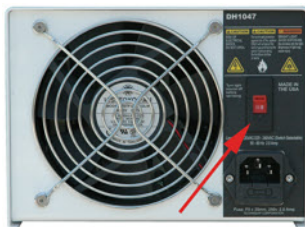


Photo above shows the input power selector switch.

Safety Interlock Switch

The unit contains a safety interlock switch / circuit to prevent operation with the lamp assembly removed.

This feature is embedded in the Lamp Assembly and should not be disabled.

Front Panel Control Buttons

There are two controls on the front panel – one to turn the unit on and one to select between Lamp 1, Lamp 2, and idle.



Photo above shows the front panel controls – the Lamp Selector Switch has 3 positions:

- TOP for Halogen 1
- CENTER for Idle
- LOWER for Halogen 2

Camera Power Jack and Main ON/OFF Indicator

The *optional* front panel contains a power jack for operating a camera (12 VDC, 0.5 amps – center pin positive). It also contains an LED indicator which provides a visible indicator of ON/OFF status. (**OPTIONAL**)



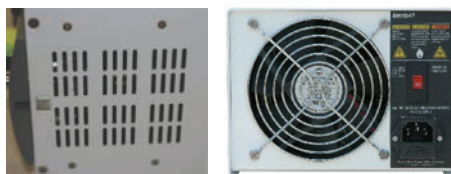
Unpack

Carefully unpack all components giving particular care to the light guide. If necessary, the ends can be cleaned with isopropyl alcohol and a soft cloth. Inspect all components for any signs of damage, which may have occurred during shipping.

If shipping damage is suspected, notify Techniquip Inc or your authorized Techniquip distributor immediately.

Select an Appropriate Location / Mount in Dedicated Housing Location

Set the Illuminator on a flat surface in a place that allows for adequate air ventilation on all sides. Do not position the unit so that any of the sides (including the back or the top) are up against a wall or other equipment. Be mindful of the EMC considerations discussed in the Warnings Section.



Photos above show the vents underneath and on the rear of the unit – be careful not to block these vents or damage to the unit may occur. Also note the input power selector switch.

Insert the Light Guide

Insert light guide into the port or ports that you will be using.

Connect the Power Cord

IMPORTANT - Select the proper input power (120 or 240VAC) prior to inserting the power cord receptacle end into the AC receptacle in the back of the unit and applying power.

See the SPECIFICATIONS section in this manual for power requirements.

Maintenance (Other than Lamp Replacement)

If the unit should malfunction, and this troubleshooting matrix does not correct the problem, then contact technical assistance.

Console Won't Power Up *CHECK* AC power and that cord is plugged in.
 CHECK Fuses are installed and in good order.
 CHECK On/Off switch on front panel is ON.
 CHECK If air vents are blocked or fans are not operating then the over-temperature thermal switch will open and remove power – correct cooling problem and retry.

Lamp Does Not Light *CHECK* Lamp Assembly not properly seated / installed. If Lamp Assembly is not properly seated / installed, lamp(s) will not light.
 CHECK Lamp has failed – replace lamp.
 CHECK Defective socket - replace socket

Temperature High or Exceeded *CHECK*..... Ambient air temp too high, improve air circulation.
 CHECK..... Air vents blocked or restricted.

Replacing the Fuses Use only rated fuses as marked on the rear panel are used.
 Replace the fuses as follows:
 1. Disconnect the device from the main power supply
 2. Retract fuse holder drawer on mains jack.
 3. Measure resistance of each fuse, and replace as necessary.
 4. Close fuse holder drawer.
 5. Re-attach mains power cable.

Cleaning Exterior surface cleaning with window cleaner.
 Do not attempt to clean any internal

General Instructions

The SomaLux 800 Dual Channel Illuminator's lamps must be properly installed to allow operation, proper cooling and alignment and to assure the longevity of the bulbs. Your unit is shipped with the lamps installed.

When removing the lamp, take care not to touch the lamp and reflector surfaces (inside or outside) as finger oils or contaminants will harm the bulb. The lamp connectors must be securely installed.

Step 1

Unplug the power cord before attempting to open the outer casing.

Step 2

Remove the lamp assembly by loosening the two thumbscrews and sliding the assembly out. Use caution to avoid pulling it out beyond the reach of the cables until the cables are disconnected.



Above photo shows the two thumbscrews that must be loosened in order to remove the lamp assembly.

Step 3

Remove and replace the relevant lamp. Dispose of the failed lamp properly.

Step 4

Reattach the cables and re-insert the lamp assembly.

Specifications

Width	7.125" (181 mm)
Height	5.25" (133 mm)
Depth	11.25" (286 mm)
Weight	10.0 lbs (4.5 kg)
Mains Cable / Jack	10 A/250 VAC IEC 320/C13
Power Supply	110 / 220 VAC User selectable
Fuses	5x20mm 3A 250V
Rated Life (Lamp 1)	50 Hours (Ushio EFR)
Rated Life (Lamp 2)	50 Hours (Ushio EFR)
Nosepiece	Techniquip 0.312" ports (2)
Lamp Power Consumption	150 Watt (Lamp 1); 150 Watt (Lamp 2)
Attenuator	Manual Iris

Environmental Limitations

	Operating Limits	Storage Limits
Temperature	10° to 25° C (50° to 77°F)	0° to +50° C (32° to 122°F)
Relative Humidity	30% to 75%	0% to 100% (Non-Condensing)
Air Pressure	700 hPa to 1060 hPa	Same

Accessories / Spare Parts**Light Guides**

200-500-0005	56" (1.42 m); 0.28" (7.1 mm) Borosilicate Fiber with PVC Overcoat
200-500-0006	64" (1.63 m); 0.28" (7.1 mm) Borosilicate Fiber with PVC Overcoat

Replacement Lamps

xxx-xxx-xxxx	Lamp 1, Halogen 15v/150w (EFR)
xxx-xxx-xxxx	Lamp 2, Halogen 15v/150w (EFR)

Limited Guarantee /Warranty

Nyoptics Inc warrants this product to be free from defects in material and workmanship for a period of 12 months following original purchase. The warranty excludes lamps, lamp sockets, and any other items that have been misused, neglected, damaged, altered, or used in any manner inconsistent with the instructions in this manual.

Nyoptics Inc's obligations under this warranty are limited to the repair, replacement, or reimbursement of the product only, and, in no event, is Nyoptics Inc liable for any consequential or special damages, or costs related to the transportation, installation, or any other costs related to a warranted product.

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