

COLPOSCOPE MODEL 955 LED OWNER'S MANUAL





We are here to serve you!

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Register your product warranty online:
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INDICATIONS FOR USE

The Seiler Colposcope is intended to provide magnified visualization of the tissues of the vulva, vagina, cervix, and anogenital area. It is used to evaluate these tissues, select areas for biopsy, as necessary, and to facilitate related procedures, e.g., LEEP, conization, etc.

Caution: Federal law restricts this device to sale by or on the order of a physician or practitioner trained in its use.

This manual is intended to give assistance in the assembly and operation of the Colposcope Model 955.

This handbook includes a chapter to acquaint the user with the assembly process.

Read this handbook carefully prior to operating the colposcope.

Do not allow persons unfamiliar with the equipment to operate the colposcope.

TECHNICAL DATA

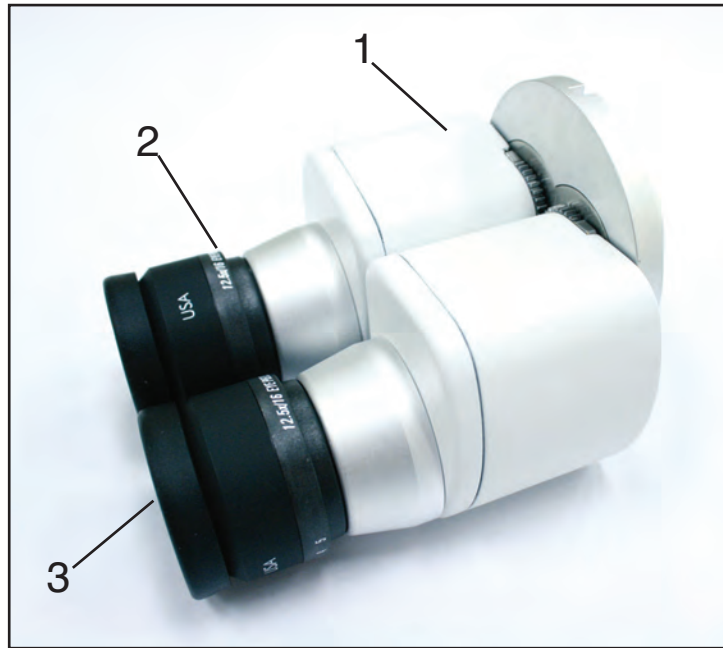
A - Colposcope Head

Microscope	Galilean System
Binoculars	F= 170 MM (optional: Inclined, F=135 mm)
Objective (focus)	300 mm (optional: 200 – 400 mm)
Eyepieces	Wide angle type 12,5x, adjustable (-6 to +6 dioptries)
Magnification	See table
Observation field	See table
Illumination field	See table
Interpupillary distance	Adjustable between 42 mm and 75 mm
Illumination System:	
Source	LED Illumination System
Filter	Green filter
Focusing:	
Macro	Moving the pantographic arm
Micro	Manual, with rack and pinion
Total weight of the head	3.0 Kg

B- Colposcope stand

Horizontal reach	725 mm. - first arm 600 mm, second arm 110 mm.
Angular rotation (arms)	340°
Distance between the floor and the objective	635 mm to 1295 mm
Load adjustment	4 to 7 kg
Base	Base with five casters, two with brakes
Total floor stand set weight	34 kg

BINOCULARS



1. Binoculars body
2. Eyepieces with diopter adjustment
3. Eye Protectors

OBJECTIVE

The Colposcopes are factory shipped with the following objective:

F = 300 mm

The following optional objectives are available:

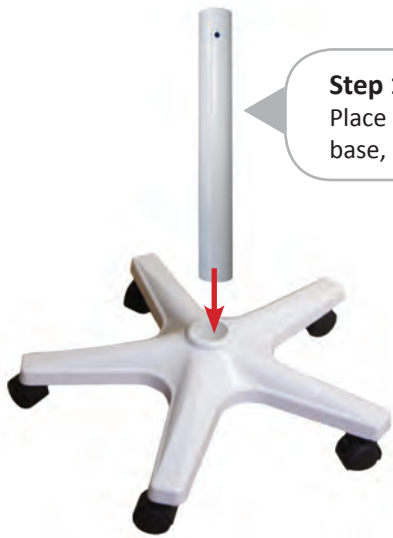
F = 200 mm

F = 250 mm

F = 300 MM

F = 400 mm

COLPOSCOPE ASSEMBLY



Step 1
Place post into base with pin in base, lined up with notch in post.



Step 2
Install bolt and tighten securely with Allen wrench (provided).



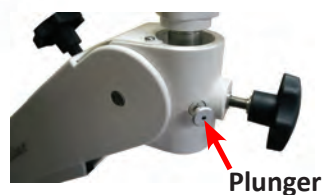
Step 3
Place Pantographic arm into Lighthouse.



Step 4
Install Light Guide into bottom cover of arm.



Step 5
Install extension arm by pulling plunger and inserting into Pantographic arm.





Step 6

Install Optic Pod into the extension arm.



Step 7

Install Binocular Head onto the Optic Pod and tighten thumb screw.

Remove these parts from the packing case, with maximum care:

- a) Optical Head Support
- b) Binoculars

Introduce the spindle into the terminal. Screw the safety knob and lock the spindle with the knob.

At first release the screw. Place the binoculars on the flange of the body making sure the pin fits into the slit of the binoculars flange. Tighten the fixing screw and make sure that the binoculars are firmly secured to the Colposcope.

The correct position of the Binoculars to the Colposcope

Align the guide-pin to the groove, adjust the base of the Binoculars to point the flange, and tighten the set screw. Finally check if the Binoculars are well secured and do not move.

The Binoculars Eyepieces

The eyepieces are mounted to the binocular housings. Make sure that they are well seated.

The Eye Protectors

The Eye Protectors are threaded to the Binoculars. The Eye Protectors protect the eyes, prevent the intake of lateral lights and create a suitable darkroom to the observer.

Precautions

The Binoculars contain optical parts internally that cannot be cleaned without disassembly.

It is therefore advisable to keep the eyepieces inserted in the eye tubes at all times in order to keep impurities from getting inside the housing. It is recommended that if the eyepieces are removed, a clean cloth be placed over the openings.

COLPOSCOPE HANDLING

a- MAGNIFICATION SELECTOR

The magnification selector has 6 positions, engraved from 1 to 5. Note that the position 3 repeats. The position being used is the one aligned to the black dot, engraved on the body. The magnification factors are found in the table appended.

b- PANTOGRAPHIC ARM BALANCING

The Colposcope Model 955 is factory adjusted for balancing, using the regular optical head, and may only require adjustment at the tension knob when accessories are added.

HOW TO FOCUS THE COLPOSCOPE

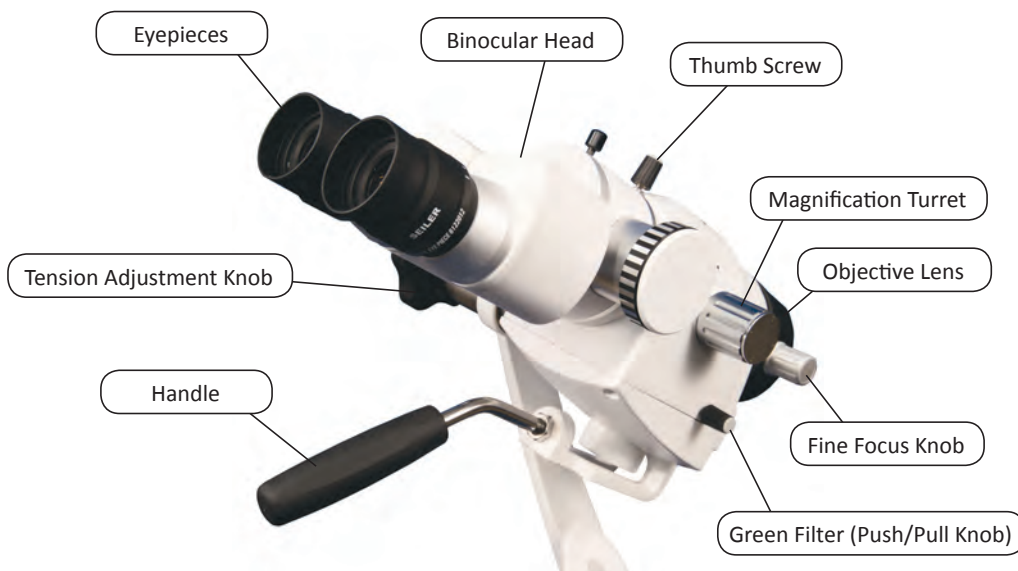
Preliminarily:

Displace the Articulated Arm of the stand set where the colposcope is fixed, and point its objective to the direction of the field to be observed. For an objective with focal distance of 300 mm, keep a gap of about 300 mm between the lens and the specimen.

NOTE: It is easier to focus when the illumination system is on. The illuminated field coincides with the focused object.

Parfocalizing Procedure:

- 1) Depress the orange tab on each eyepiece and rotate the zero (0) marking on the index line on the eyepiece tube.
- 2) Turn the magnification drum to the highest setting (5) and focus sharply on a target, such as a piece of paper with an "X" drawn on it, by using the focusing knobs.
- 3) Turn the magnification drum to the lowest setting (1) and focus by turning eyepieces clockwise or counter clockwise until you reach sharp focus. Be sure to depress the orange tab when turning the eyepiece.
- 4) Now the microscope is in focus for your eyes throughout all the magnification settings.



OPTICAL AND FIELD MAGNIFICATION TABLE

The optical magnifications achieved with the Colposcope are determined by 3 variables: the objective focal distance, the position of the Magnification Selector and the by eyepiece used.

The table shows the optical magnification and the observed field diameters, in millimeters, depending on those variables. At the bottom line of the table the illuminated field is shown, corresponding to the light disk incident on the field, with a diameter that depends only on the focus of the work objective.

The magnification selector has 6 positions: 1, 2, 3, 4, and 5. The 3 position is repeated in the selector. The working position is the one aligned to the red dot mark.

Magnification Table for 985

Binocular Head Focal Length: F=170mm

Eyepiece	Position of Button	Objective Lenses											
		175		200		250		300		400			
		Magnification	Field	Magnification	Field	Magnification	Field	Magnification	Field	Magnification	Field		
10X/18	1(0.4)	3.89	46.32	3.40	52.94	2.72	66.18	2.27	79.41	1.70	105.88		
	2(0.6)	5.83	30.88	5.10	35.29	4.08	44.12	3.4	52.94	2.55	70.59		
	3(1.0)	9.71	18.53	8.50	21.18	6.80	26.47	5.67	31.76	4.25	42.35		
	4(1.6)	15.54	11.58	13.60	13.24	10.88	16.54	9.07	19.85	6.80	26.47		
	5(2.5)	24.29	7.41	21.25	8.47	17.00	10.59	14.17	12.71	10.63	16.94		
12.5X/16	1(0.4)	4.86	41.18	4.25	47.06	3.40	58.82	2.83	70.59	2.13	94.12		
	2(0.6)	7.29	27.45	6.38	31.37	5.10	39.22	4.25	47.06	3.19	62.75		
	3(1.0)	12.14	16.47	10.63	18.82	8.50	23.53	7.08	28.24	5.31	37.65		
	4(1.6)	19.43	10.29	17.00	11.76	13.60	14.71	11.33	17.65	8.50	23.53		
	5(2.5)	30.36	6.59	26.56	7.53	21.25	9.41	17.71	11.29	13.28	15.06		
16X/16	1(0.4)	6.22	41.18	5.44	47.06	4.35	58.82	3.63	70.59	2.72	94.12		
	2(0.6)	9.33	27.45	8.16	31.37	6.53	39.22	5.44	47.06	4.08	62.75		
	3(1.0)	15.54	16.47	13.60	18.82	10.88	23.53	9.07	28.24	6.80	37.65		
	4(1.6)	24.87	10.29	21.76	11.76	17.41	14.71	14.51	17.65	10.88	23.53		
	5(2.5)	38.86	6.59	34.00	7.53	27.20	9.41	22.67	11.29	17.00	15.06		
Illuminated Field		65		72		90		108		144			

CLEANING

The Objective, pointed to the field under clinical or surgical treatment, is exposed to blood and other bodily fluids. Spots on the objective dim the passage of the light. Stains blur the light, reducing the luminosity of the optical observation.

Cotton padding wetted in alcohol rubbed softly, in CIRCULAR MOVEMENTS over the optical surface, is enough to clean the stains, except those of clotted blood. Clotted blood shall be cleaned with cotton and hydrogen peroxide.

If the eyepieces are too dirty, change the cotton at each circular friction motion to avoid spreading out the dirt.

On the other hand, there is an effective protector for the objective, fitted under pressure at the outer edge of the lens which protects the objective against "splatter" and contamination.

To have the eyepieces and objective well cleaned for clinical use, it is sufficient to use cotton.

The metallic parts (chrome-plated or painted) can be cleaned with cotton and alcohol.

TROUBLESHOOTING TIPS

ELECTRIC CONNECTIONS

Ensure that none of the following are present:

- Broken wires inside the cable.
- Loose wires at the connector.
- Broken wires at the fixation, inside the connector.
- Oxidized connectors terminals.

LED LIGHTSOURCE

1. INTRODUCTION

Congratulations on the purchase of your new SSL-2000 Light Source! This user-friendly LED light source is a high efficiency light source utilizing state-of-the-art superior illumination technology. It offers a variety of features such as:

- 6500° K daylight brightness for good color definition
- Quiet operation
- Long life, 50,000 hrs.
- Compact and light weight
- Pulse-width Modulation (PWM) Electrical Dimming

This section of the manual will help you to install the device and optimally integrate it with other components of your system. It will also instruct you how to operate the LED Light Source and how to keep it clean. It will give you maintenance and service guidelines as well as recommendations for best performance results.

1.1 INDICATIONS FOR USE: The LED Light Source is used to illuminate the site of surgery during minimally invasive surgical procedures. The light is transmitted from the light source through a fiber optic cable and a scope.

2. WARNINGS

To prevent fire or electric shock, do not open or expose the LED light source unit to rain or moisture. Refer all servicing to qualified personnel only.

Not suitable for use in presence of flammable anesthetic mixture with air or with oxygen or nitrate oxide.

To prevent any potential electro-magnetic interference, do not use any kind of cellular phone near the light source.

This product should be used only with type BF endoscopic instruments which have been certified according to IEC 601-1 for medical equipment and IEC 601-2-18 for endoscopic equipment.



Caution: This product is not provided as sterile.



Caution: All devices connecting to the LED Light Source must be classified as medical equipment. When additional information processing equipment is connected to the LED Light Source, the operator must determine that all equipment complies with the appropriate end-product standards (such as IEC 60950 or IEC 60065 and the Standard for Medical System, IEC 60601-1-1).

Caution: The LED Light source can cause permanent eye damage if viewed directly with unprotected eye. To reduce the chance of eye damage, set the intensity control always to the minimum level and plug the fiber optic cable into the unit before turning on the power.

EQUIPMENT CONNECTION



Caution: The fiber optic cable must be a NON-CONDUCTIVE CABLE. It should not have conductive shielding or any other conductive connection between the patient and equipment. Such connection will impair safety of the equipment. It must be rinsed free of soaking/disinfectant solution and dried before plugging into the LED light source receptacle. Ensure the optical surface is clean before engaging into the light source.

3. SPECIFICATIONS

Item	Specification
Light Source Type	LED (Light Emitting Diode)
Power	50 Watt
Color Temperature	6500° K
Led life	50,000 hours (typical)
Light guide adapter	
Brightness control	PWM (Pulse-width Modulation) – 0-100% Dimming
Input voltage	100-240V AC, 50/60 Hz
Rated Power	52 watt
Regulatory Approvals	UL60601-1,CAN/CSA C22.2 No.601.1 (SUP1+AM2),EN 60601-1-2 and CE marked
Equipment Class	Class I, BF-type
Mode of Operation	Continuous operation
Water Resistant	Not Protected Equipment, IPX0
Operating Environment Temperature Relative Humidity Air Pressure	+0° to +40° C (32° to 104° F) 0 to 85%rh, non condensing 700 to 1060 hPa
Storage Environment Temperature Relative Humidity Air Pressure	-20° to +60° C (-4° to 140° F) 30 to 95%rh, non condensing 700 to 1060 hPa
Dimensions	4.65" W x 3.32" H x 7.25" D
Weight	2.5 lbs./1.14 kg

4. OPERATING ELEMENTS, SYMBOLS AND FUNCTIONS

4.1 FRONT PANEL



No.	Name	Function
1	Power switch	Turns the light source on and off. Fan will operate
2	Light Guide Adapter	
3	Intensity Control	Electronically controls the light output

4.2 REAR PANEL

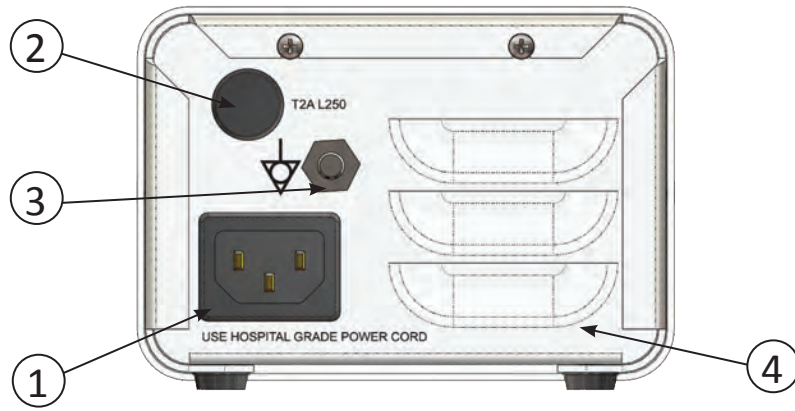


Figure 2. LED Light Source Rear Panel

No.	Name	Function
1	AC main inlet	Accepts AC power cord
2	Fuse	2A, 250V (1/4" x 1 1/4") time delay
3	Grounding Connector	For potential equalization
4	Venting grids	Allows adequate ventilation and cooling of the light source

4.3 Bottom Panel



Figure 3. LED Light Source Product Label

5. INSTALLATION

5.1 SETTING UP THE LED LIGHT SOURCE

Place the LED light source on a stable surface (cart, counter, stand, etc.).

NOTE: Avoid places where the light source may be splashed with liquid.
Absolutely DO NOT use in any environment with explosive or flammable gases.
DO NOT block the venting grids of the LED light source.

Make sure the power switch is in OFF position.
Connect AC power cord to the power inlet located on the rear panel of the light source.

CAUTION: Use only cords provided with the light source.
Plug the AC power cord into a wall outlet using the three-prong plug supplied with the unit.
CAUTION: To prevent electric shock, connect power cords of peripheral equipment through medical isolation transformers.

NOTE: When using medical isolation transformer, be sure to check the transformer power ratings.
Make sure that the power cord is connected to the main power with three-prong plug (USA use UL2601-1 rated isolation transformers and/or power strips only).

CAUTION: When used in clinical or residential areas near radio or TV units, this equipment may be subjected to radio interference. To avoid adverse electromagnetic effects, DO NOT operate this equipment near RF energy equipment.

5.2 CONNECTING THE FIBER OPTIC CABLE

Turn intensity control to the minimum setting. Connect the light cable to the instrument and then plug the light cable endfitting into the port on the front panel.

6. OPERATION

6.1 POWERING UP THE LED LIGHT SOURCE

To operate the LED light source: Turn on the power switch. The indicator on power switch will light.

6.2 LIGHT BRIGHTNESS DISPLAY AND CONTROL

The light brightness adjustment enables the user to obtain a brighter or darker illumination of the object of observation. Adjust the light intensity by turning the intensity control knob.

7. CLEANING

NOTE: Always disconnect the power cord before cleaning the system.

The unit can be cleaned with any cleaning agent, which is used for external cleaning of electric equipment, according to instructions given by the manufacturer of the cleaning solution.

Do not allow excessive moisture or liquids to come in direct contact with the unit.

Do not use cleaning agents that are not permitted for use with plastics, i.e., ammonia, acetone, salty acids (HCl), etc.

Do not allow cleaning agents or liquids to enter the unit outlets.

8. DISINFECTION

8.1 DISINFECTING THE UNIT

NOTE: Always disconnect the power cord before cleaning the system.

Use any disinfectant agents which are commonly applied while disinfecting surfaces of electric medical equipment. Such

disinfectant agents are usually in the form of sprays or damp cloths.

Follow the instructions given by the manufacturer of the disinfectant solution.

9. SERVICING AND REPAIR

Defective items of equipment are to be serviced and repaired exclusively by persons authorized by the manufacturer. All repair work shall employ original manufacturer's parts only.

9.1 FUSE REPLACEMENT

CAUTION: Always disconnect power cord and turn main switch off before fuse replacement.

Turn light source off and unplug power cord. On back of unit remove fuse by turning fuse cover and pulling out fuse.

Replace fuse with 2 AMP (1/4" x 1 1/4") time delay 250V rated fuse. Insert back into fuse housing.

Re-connect the power cord and turn the LED light source on according to section 6.1.

9.2 LIMITED WARRANTY

Your LED light source carries a 1-year warranty from the date of shipment on workmanship and all defects of material, excluding replaceable sweatbands, headband, fiberoptic cable and lamps. Should your product prove to have such defects within one year of the shipment. Seiler Instrument will repair or replace the product or component part without charge. Should your LED Light Source product(s) need servicing under this warranty, please contact, Seiler Instrument return authorization documentation. You should carefully pack unit in a sturdy carton and ship it to the factory. Please include a note describing the defects, your name, telephone number and a return address. Warranty does not cover equipment subject to misuse, accidental damage, normal wear and tear or if transferred to a new owner without authorization from Seiler Instrument. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

POST WARRANTY REPAIRS: You may return your product(s) for repair, shipping prepaid to the factory. Your product will be inspected and an estimate of repair charges will be submitted to you for approval. Payment must be received before repairs are completed.

- In the US: 800-489-2282 (toll free)
- FAX number: 314-968-3601
- Customer Service: 314-218-6336

10. END OF PRODUCT LIFE

We encourage our customers to recycle this product whenever possible. Disposal of this unit must be performed in accordance with the applicable local environmental regulations.

In the United States a list of recyclers in your area can be found at: <http://www.eiae.org/>.

Please contact customer service to issue a return authorization to return product to manufacturer at the end of product life.

11. TROUBLESHOOTING

Problem	Solution
The power indicator (refer to 4.1) is not lit.	A. Check that the AC power cord is properly connected. B. Check the unit fuses. If necessary, replace.
The power indicator is lit, but the lamp will not ignite.	Turn intensity control knob clockwise to increase light output intensity.



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