

NEW
SL-D Series
 DIGITAL SLIT LAMP



*Subject to change in design and/or specifications without advanced notice.

IMPORTANT

In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.



Certificate No.JP00/18661QA
 TOPCON CORPORATION



Certificate No.EC97J1081
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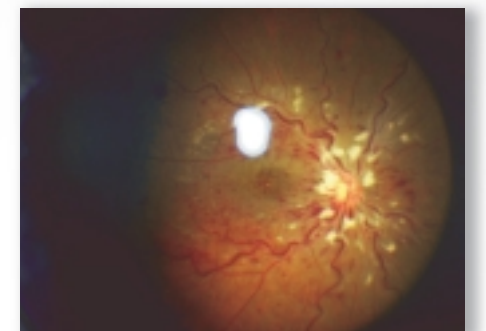
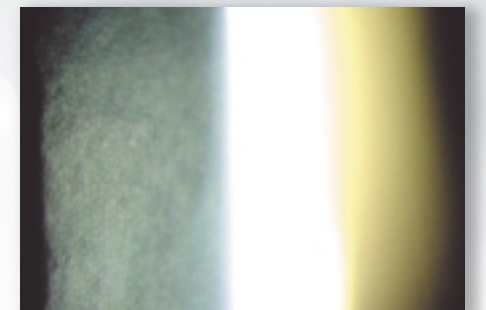
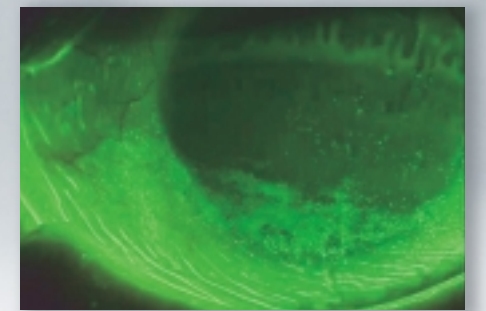
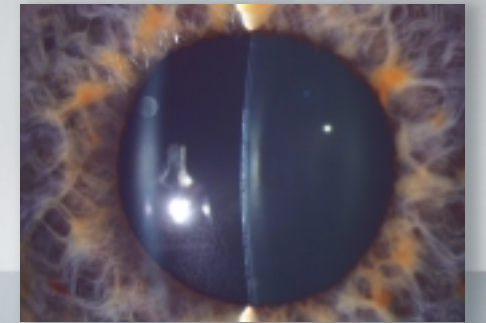
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Unsurpassed Optical Quality in The First "Real" Digital Slit Lamp Series

Ready for Digital Imaging

The Topcon SL-D Series is the first "true" digital slit lamp series that combines high optical performance with versatile digital capability. The SL-D Series incorporates excellent optics that assure optimal visualization of all the structures of the eye. The instruments also incorporate unique filters to improve their clinical efficiency. The concept of the "true" digital slit lamp is based on the extensive range of optional digital capture devices that can be mounted on these outstanding clinical instruments. Paramount among these is the dedicated DC-1 Digital Camera that provides easy - to - capture, high quality digital images. To increase their 'digital-ready' potential, auto left/right eye detection functions are incorporated into the slit lamps. The SL-D Series are the premier diagnostic instruments that offer superior clinical performance with unmatched digital capability.

SL-D Series



Camera Digital
DC-1
(Optional Accessory)

The DC-1 Digital Camera is built exclusively for the SL-D Series to provide superb digital images. A variety of image capture modes can be used including still or video options. The DC-1 incorporates the beam splitter, PC card storage and the high-resolution digital camera into one unobtrusive and compact system. The images captured by the DC-1 can be transmitted directly via a USB cable, or rapidly downloaded to any PC imaging software package from a Compact Flash Card. The DC-1 is supplied with the ImageLink software as standard which allows video recording as well as still image capture. Furthermore all of the SL-D Digital Slit Lamps can be connected to Topcon's IMAGENet™, Slit Lamp Imaging Systems.

- **Easy-Capture With Joystick Button On Slit Lamp**
- **Still Images & Digital Video Recording**
- **2x and 4x Zoom Function**
- **Download JPEG Images Via Compact Flash Card or USB Cable**
- **Compact and User-Friendly Design**
- **Low-Flash Requirements For Patient-Comfort**
- **Multi-Language Menu Selection**

SL-D SERIES FEATURES

Digital Slit Lamp



Photo Attachment

SL-D7 and D8Z Models

The Topcon Photographic Attachment is specially designed for the SL-D7 and SL-D8Z to allow various DSC/CCD cameras to be used with the unique FD-21 Flash Device. The entire illumination used for image capturing is produced by a high-intensity flash tube with very short exposure time to produce superb images showing additional details. Superior clarity, color-balance, resolution and depth-of-field, assist in accurate examinations. The Photographic Attachment Set accepts and supports an extensive range of DSC/CCD cameras, such as:

- Topcon Digital Camera DC-1
- Nikon Digital Camera D1X/D1H/D100/Coolpix
- Fuji Digital Camera S2 Pro
- Sony CCD Camera DXC-990P/390P
- Other 1/2" and 1/3" Mount CCD Cameras



Flash Device FD-21



Imaging Solutions

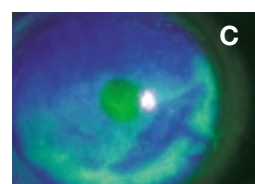
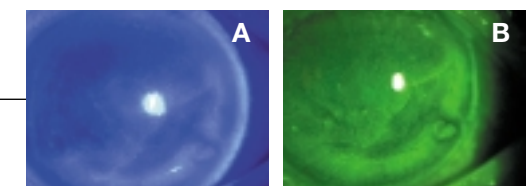
The Topcon SL-D Digital Slit Lamp Series is capable of inputting images and data into the Topcon ImageLink or IMAGENet 2000 System for versatile diagnostic processing and interpretation. The digital images generated can be captured for use in research, education, and clinical applications. The Topcon Imaging solutions are full-function, state-of-the-art digital imaging solutions for faster, more efficient acquisition, storage, retrieval and analysis of various types of ophthalmic images.

Fluorescein Observation of the Anterior Segment

*SL-D7 and SL-D8Z Models (Factory Option *)*

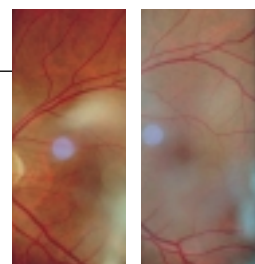
The optional filter combination enables the practitioner to obtain superb fluorescein images and videos. Image(A) shows the result that can be obtained with conventional cabalt blue illumination. Image(B) indicates the superior image that is achieved when the fluorescein observation filter combination is used. Image(C) demonstrates the significant contrast that can be achieved when the image is enhanced with IMAGENet 2000 System.

*Since the filters are built into the instruments, this combination must be requested at time of order.



Amber Filter

The SL-D Digital Slit Lamp Series incorporates an amber filter, which can be easily inserted or removed and improves the contrast and color depth of the images.



Amber

No Amber

SL-D SERIES LINE-UP

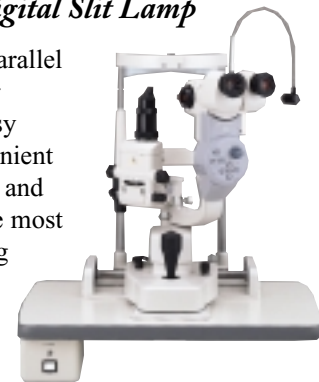
A complete range of digital-ready slit lamps is available to meet the clinical needs of every eye-care specialist. From the versatile SL-D2/D4/D4Z to the premier SL-D7/D8Z photographic slit lamps, the SL-D Series provides unprecedented image clarity, color fidelity, image definition and light transmission.

All SL-D Slit Lamps allow the DC-1 Digital Camera to be easily attached at any time and all models incorporate a new amber filter for clear and high-contrast fundus observation. The SL-D Series employs 12.5x hi-eyepoint eyepieces and Topcon's unique converging binocular tubes with a parallel magnification body for remarkably sharp and comfortable stereoscopic observation. A wide assortment of optional accessories further expands the clinical efficiencies of the 'D' series.

SL-D2

Three Magnification Digital Slit Lamp

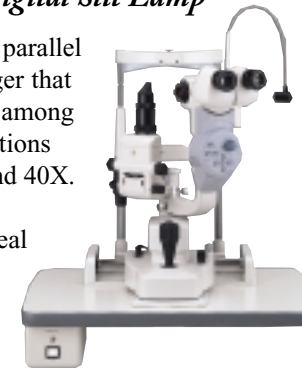
The SL-D2 incorporates a parallel drum magnification changer that allows for quick and easy selection among three convenient magnifications of 10X, 16X and 25.6X. The SL-D2 offers the most cost-effective digital imaging solution with optimal clarity, color resolution and depth-of-field.



SL-D4

Five Magnification Digital Slit Lamp

The SL-D4 incorporates a parallel drum magnification changer that allows for quick selection among five convenient magnifications of 6X, 10X, 16X, 25.5X and 40X. The 40X magnification is especially useful for Corneal Endothelium observation. Encompassing a variety of ophthalmic applications, the demanding eye care specialist can produce excellent images of both the anterior and posterior structures of the eye.



SL-D7

Five Magnification Digital Slit Lamp

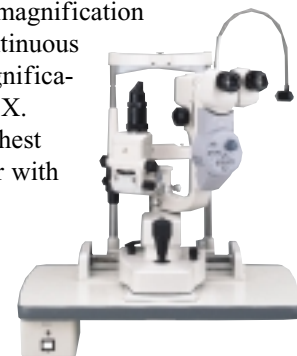
The SL-D7 incorporates a parallel drum magnification changer that allows for quick selection among five convenient magnifications of 6X, 10X, 16X, 25.5X and 40X. When the optional FD-21 Flash Device is incorporated, the SL-D7 converts to a 'true' digital photographic slit lamp providing exceptional images of the cornea, endothelium and fundus to provide accurate documentation.



SL-D4Z

Zoom Magnification Digital Slit Lamp

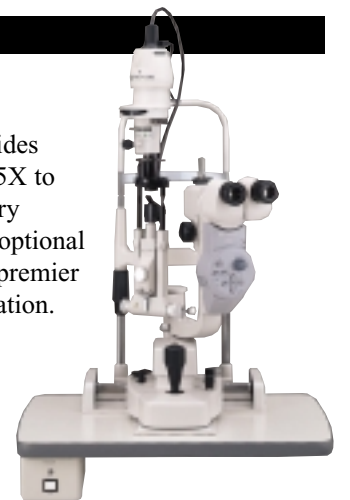
The SL-D4Z offers a zoom magnification changer, which provides continuous observation through the magnification range of 6.35X to 31.75X. The SL-D4Z assures the highest optical performance together with optimal digital capability.



SL-D8Z

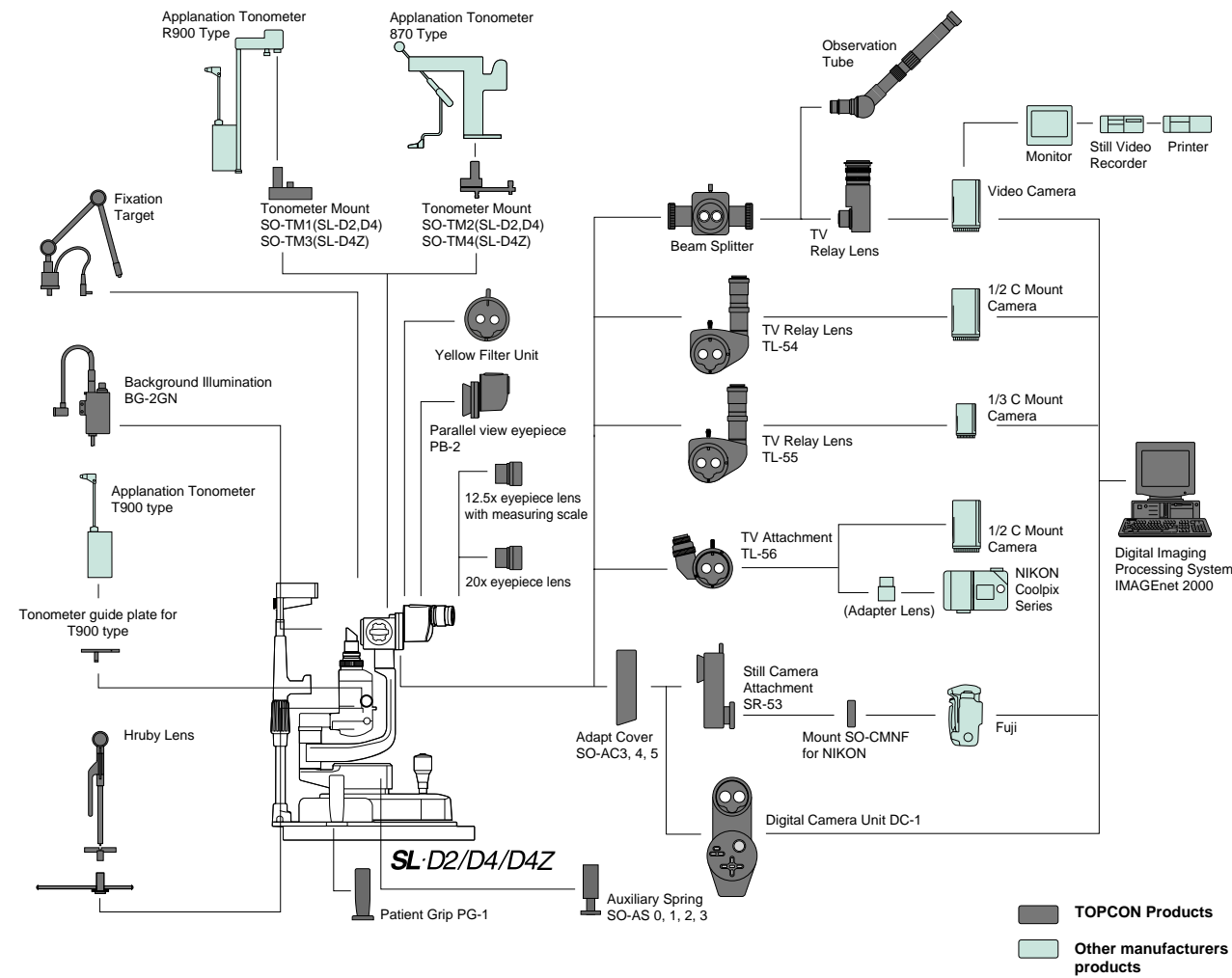
Zoom Magnification Digital Slit Lamp

The SL-D8Z offers a zoom magnification changer, which provides continuous observation through the magnification range of 6.35X to 31.75X. The highly efficient zoom optics allow for extraordinary visualization of minute anterior segment conditions. When the optional FD-21 Flash Device is incorporated, the SL-D8Z becomes the premier zoom photographic slit lamp for unparalleled digital documentation.

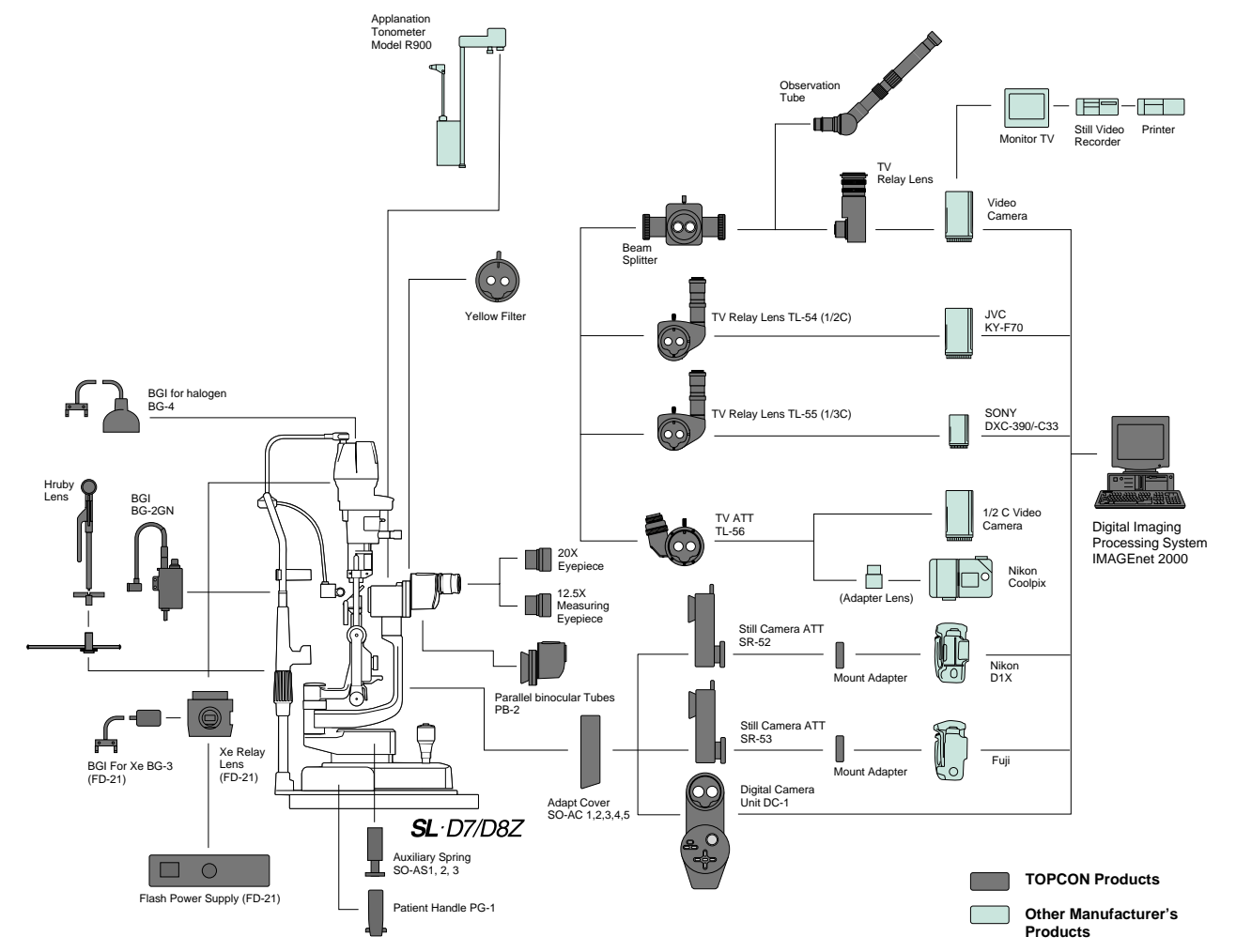


SL-D SERIES ACCESSORIES

SYSTEM CONFIGURATION (SL-D2/D4/D4Z)



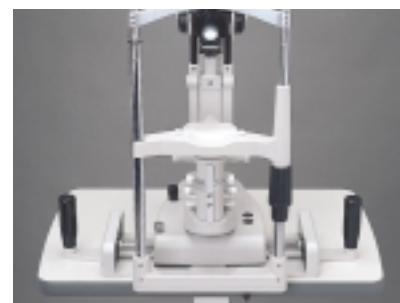
SYSTEM CONFIGURATION (SL-D7/D8Z)



OPTIONAL ACCESSORIES



Background Illumination **BG-2GN**



Patient Grip **PG-1**



TV Relay Lens **TL-55**



Background Illumination **BG-4**



Observation Tube



Yellow Filter Unit

SL-D SERIES SPECIFICATIONS

SPECIFICATION FOR SL-D SERIES					
Microscope	SL-D2	SL-D4	SL-D4Z	SL-D7	SL-D8Z
Type	Galilean magnification Charger with converging binocular tubes				
Magnification Selection	3 steps by drum rotation	5 steps by drum rotation	Variable Via Continuous Zooming (Click 10X, 16X, 25X)	5 steps by drum rotation	Variable Via Continuous Zooming (Click 10X, 16X, 25X)
Eyepiece	12.5x				
Magnification ratio (Field of view)	10x (22.5mm) 16x (14.1mm) 25x (8.8mm)	6x (35.1mm) 10x (22.5mm) 16x (14.1mm) 25x (8.8mm) 40x (5.6mm)	Continuous from 6X ~ 32X (35.2mm ~ 7mm)	6x (35.1mm) 10x (22.5mm) 16x (14.1mm) 25x (8.8mm) 40x (5.6mm)	Continuous from 6X ~ 32X (35.2mm ~ 7mm)
Slit Illumination					
Slit Width	Continuous from 14mm to 0mm (at 14mm, slit becomes a circle)				
Slit Length	Continuous from 14mm to 1mm (at 14mm, slit becomes a circle)				
Slit Angle	0 to 180 degrees with horizontal scanning capability				
Filters	Blue, Red-Free, Amber UV Cut (Normal Use), IR Cut (Normal Use)		Blue, Red-Free, Amber UV Cut (Normal Use), IR Cut (Normal Use) ND (13% Transmission), Heat Insulation Exciter / Barrier (Factory Option)		
Illumination Lamp	6V, 20W halogen lamp		12V, 30W halogen lamp		
Base					
Longitudinal Movement	90mm				
Lateral Movement	100mm				
Fine Base Movement	15mm				
Vertical Movement	30mm				
Chinrest					
Vertical Movement	80mm				
Fixation Target	Red-LED		Red-LED or White-Bulb		
Power					
Input (primary)	100-120V, 220-240V AC				
Frequency	50/60Hz				
Power Consumption	160VA				
Dimensions					
w/Table	550mm x 399mm x 558mm		550mm x 399mm x 760-790mm		
w/Unit Table	440mm x 379mm x 558mm		440mm x 399mm x 760-790mm		
wo/Table and Chinrest	329mm x 306mm x 415-445mm		329mm x 306mm x 652-682mm		
Weight					
w/Table	17kg		17.5kg	19kg	19.5kg
w/Unit Table	16kg		16.5kg	18kg	18.5kg
wo/Table and Chinrest	9.5kg		10kg	11.5kg	12kg

SPECIFICATION FOR DC-1 (OPTIONAL ACCESSORY)	
Image Quality of CCD	3.24 million pixel images
Exposure Mode	Auto / Manual (Shutter Speed 1-1/1000s)
Sensitivity	AUTO / ISO 100/200/400/800 (Equivalent to ISO)
Resolution	2048 x 1536 (Full size) , 1024 x 768 , 640 x 480
File Type & Image Compression	Bitmap ,TIFF,YUV, JPEG (1/8 , 1/16 , 1/32)
File Format	DPOF Compliant <small>(Name of File / Date / Time / Index)</small> Exif 2.1 Compliant
Movie Image	Motion JPEG QVGA (15fps) Maximum 60s
Digital Zoom	1x , 2x , 4x (not for movie image)
Video Out	NTSC / PAL
Interface	USB 2.0 , Output the signal of external trigger , R/L Auto Detection
Recording	Compact Flash™, Card (Type _/_ Maximum 512MB) Microdrive™, Maximum 512MB
PC Interface	TWAIN / Mass Storage Class
Dimensions	224(H) x 96(W) x 82(D)mm
Weight	0.96Kg
Power Source	DC12V
Power Consumption	12W