



Digital Ophthalmoscope

F-10



Experience Spectacular Retinal Imaging with the new NIDEK F-10 Digital Ophthalmoscope

The F-10 was developed to give Ophthalmologists a high definition (HD) diagnostic imaging system. Designed to provide astonishing infrared scanning images, high contrast FA Images with streaming video plus super IA choroidal views. Auto fluorescence is also available for early dry AMD patients/ studies.

The F-10 is the Next Generation of Scanning Laser Ophthalmoscope. It is equipped with the latest in Laser Digital Technology, providing unsurpassed image quality for every detail of the retina and choroid. It is very useful in identifying minute details of any retinal and choroidal pathology.

Optimized Catadioptric System of the F-10 captures crystal clear images of the retina even on periphery areas with minimized affects of aberration. The F-10 Digital Ophthalmoscope provides exceptional capillary details without any post-exam image processing.

The F-10's four light sources for each unique wavelength are applicable for various clinical applications.

The F-10 is capable of both IA and FA streaming video and digital images, or simultaneous imaging of both. The F-10's high-speed capture rate enables clinicians to locate the exact location of retinal irregularities.

As well as angiography, the F-10's IR scanning offers the possibility of its utilization as a daily routine examination device.

The F-10 Digital Ophthalmoscope also provides new techniques such as DCO - Differential Contrast Ophthalmoscopy and Dark Field Imaging.



Image is Everything.

Fabulous

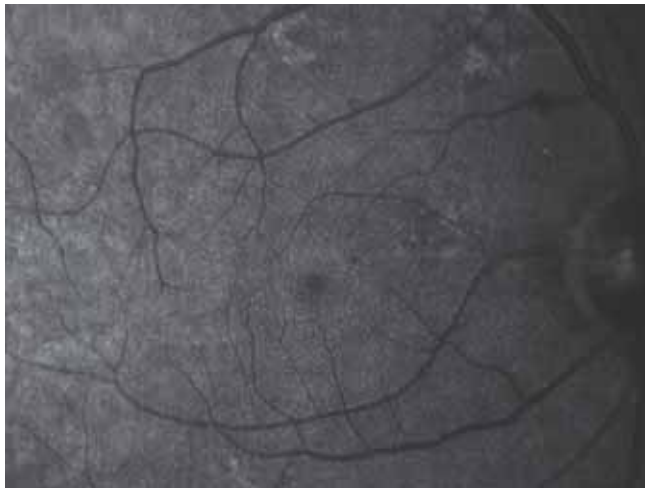
Outstanding Images

Futuristic Technology

Ahead of its Time

Fundamental

Foundation of Basic Disease Detection



IR Image

IR Imaging utilizes invisible wavelength for examination so it is quite patient friendly. Deeper penetration of IR with confocal technology offers better potential of observing deeper layers of the retina. Confocal IR imaging also provides better imaging through dilated pupil of older patient or patient with diabetic retinopathy, or even with imaging through cataract.

Each Fluorescein Angiography (FA), ICG Angiography (IA) and simultaneous imaging of both with high frame rate enables clear observation of pathology from the early stage of examination

FA



BRVO (Branch Retinal Vein Occlusion) - FA with 60 degrees wide-angle adaptor

60 degrees wide-angle adaptor enables practitioners to capture details of pathology in peripheral area of retina, as well as macular area.

Fabulous - Outstanding Images

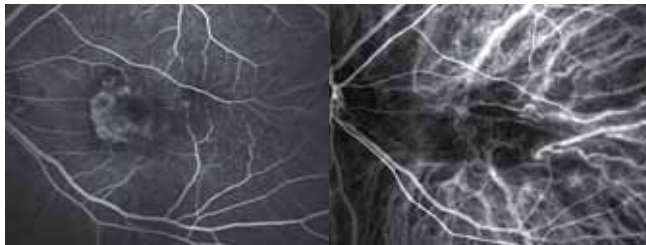


Retinopathy - Panoramic Imaging with Preset Fixation Points

Panoramic Imaging of the F-10 is useful in capturing details of retinopathy in central and peripheral areas of the patient's retina.

FA

IA

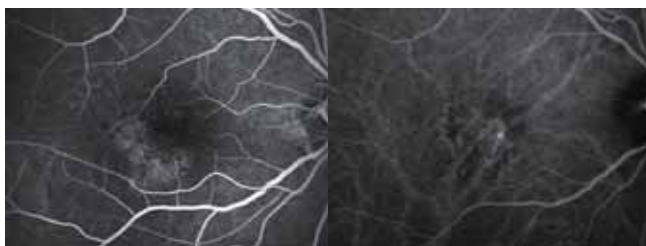


AMD (Age Related Macular Degeneration) - Using simultaneous FA and IA

Choroidal Neovascularization is clearly observed from an early stage of fluorescence imaging

FA

IA



PCV (Polypoidal Chroidal Vasculopathy)

Capillary irregularities of vessel with polypoid are clearly observed



IR Imaging



Dark Field (Choroidal layer)

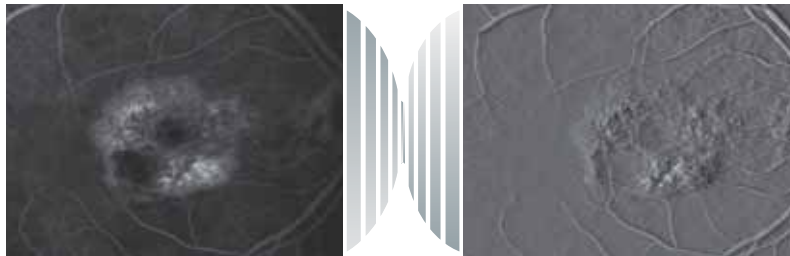


Dark Field (Retinal upper layer)



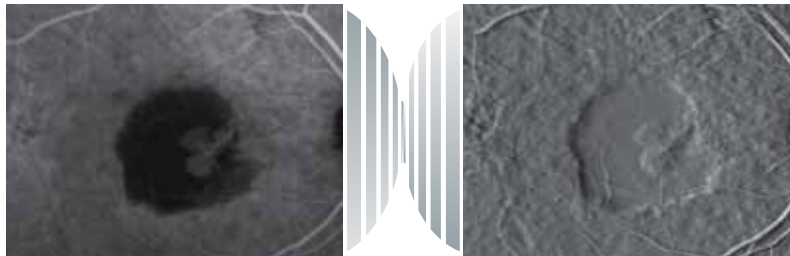
IR light is invisible, thus does not require pupil dilation. Since IR Imaging with the F-10 does not require injection or eye drops, it is comfortable for the patients, thus easily used in routine examinations.

DCO (Differential Contrast Ophthalmoscopy) on FA Image



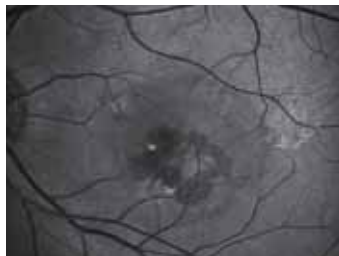
Overlay of vessel over pathology is clearly observed

DCO on IA Image



By utilizing DCO, it is easy to observe details of capillary and Choroidal Neovascularization

532nm Red Free



The F-10's unique 532nm Laser Imaging provides clear observation of blood leakage, that can be very helpful as pre-operational examination before PDT or TTT.

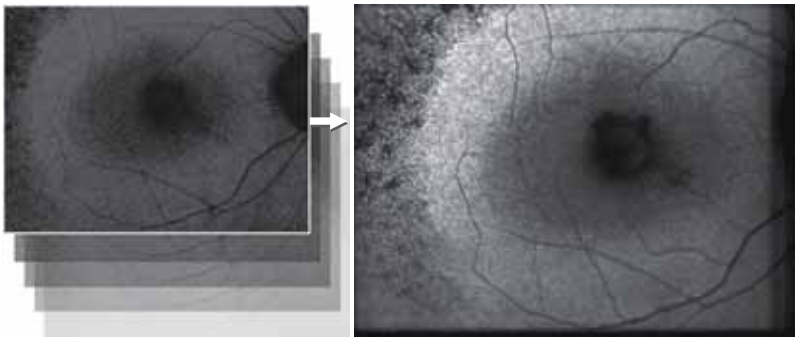
532nm Red Free



532nm laser imaging is useful in monitoring patient with Glaucoma by looking at the RNFL.


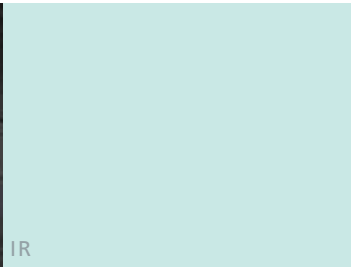

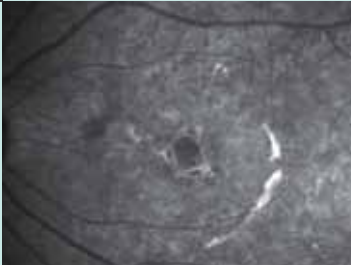

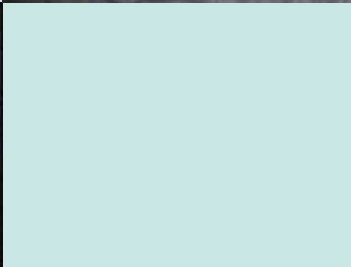
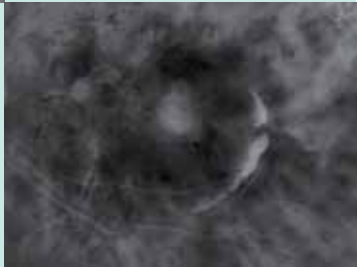
Futuristic Technology - Ahead of its Time

AUTOFLUORESCENCE - Autofluorescence Imaging



490nm wavelength light source of the F-10 enables Autofluorescence Imaging. Since Autofluorescence imaging requires no injections to the patient, it is comfortable for the patient, yet offers high quality images for early AMD diagnosis.

Routine examination procedure, with / without dilation

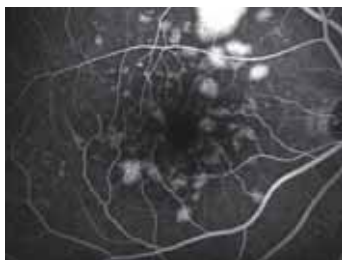
532nm Red Free		DCO
		
<p>↑ With dilation By dilating the patient's pupil, 532nm laser scan or Autofluorescence by 490nm laser scan is capable of detecting minute abnormalities</p>		<p>↑ Without dilation IR Imaging without dilation, capable for DCO and Darkfield imaging</p>
490nm Red Free↓		Dark Field↓
		



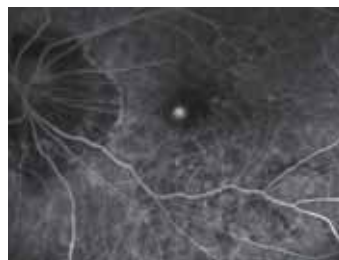
*Early stage RPE
Degeneration-
FA*



*Pre-Proliferation
Diabetic
Retinopathy-FA
FA with 60°
wide-angle
adaptor*



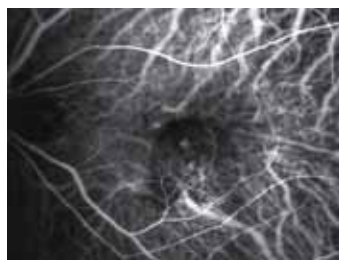
*Retinal Pigment
Epithelium
Detachment
(PED) - FA*



*CNV observation
on patient with
a High Myopia
(-15D) - FA*



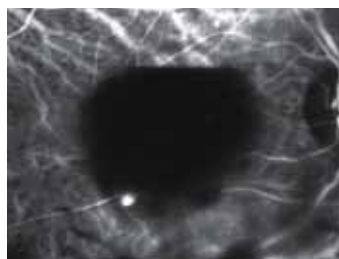
*Polypoidal
Choroidal
Vasculopathy
(PCV) - IA*



*Polypoidal
Choroidal
Vasculopathy
(PCV) - IA*



*Central Retinal
Vein
Occlusion
(CRVO) - FA*

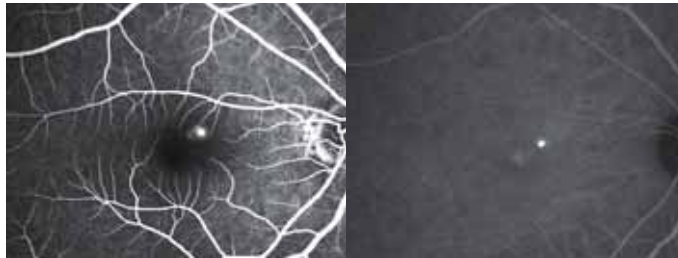


*Submacular
Hematoma in
BRVO - IA*

Fundamental - Foundation of Basic Disease Detection

FA

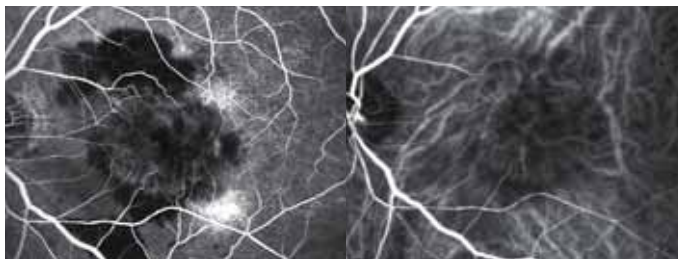
IA



*Central Serous
Chorioretinopathy (CSC)*
Simultaneous FA and IA

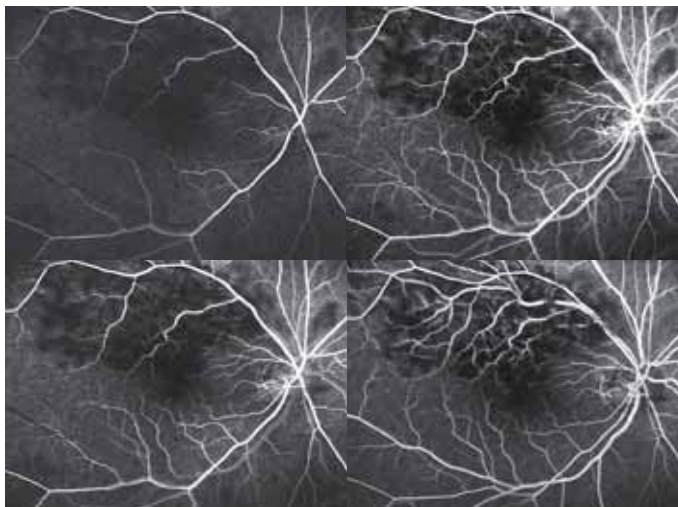
FA

IA



*Retinal Angiomatous
Proliferation FA and IA*

High Frame Rate



F-10 captures in-flow
fluorescent image with high
frame rate. This is important at
early stage of fluorescence
imaging both in FA and IA,
since in-flow imaging enables
to accurately localize where
the pathology exists, such as
CNV, Leakage, Vein Occlusion,
etc.

Feasible - Experience the Freedom



The NAVIS-Lite is the sophisticated and user-friendly data filing software, -NAVIS-Lite- allowing easy management of movie files and still images, as well as patient data management.

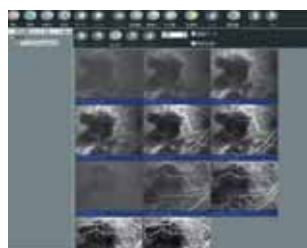


Capturing Mode

Operation enables easy capturing of movie or still image



Panoramic Imaging is built in feature of NAVIS Lite



Thumbnail, Still Image Review Mode



C/D ratio

Cup/Disk Ratio and other measuring functions are standard features of NAVIS Lite



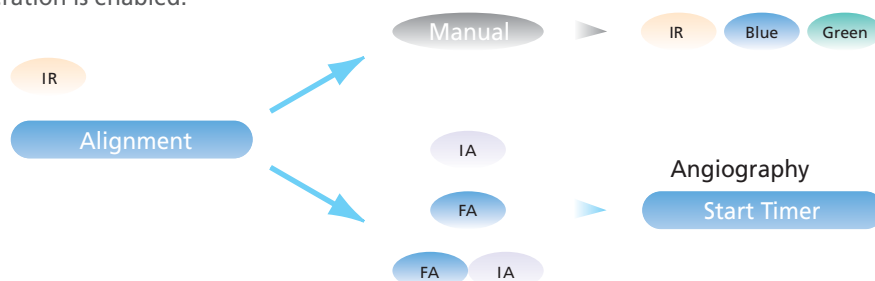
NAVIS Lite is equipped with sophisticated patient database



Autofluorescence Imaging Function is standard feature of NAVIS Lite

Improved User Friendliness

IR imaging is recommended as focal alignment at the first stage of the examination. Depending on various scene of clinical application, the operator can switch to manual selection of scanning laser wavelength, or enter FA, IA or simultaneous FA/IA mode. All switches required for operation is located at the front side of the device, thus intuit operation is enabled.



F-10 Specifications

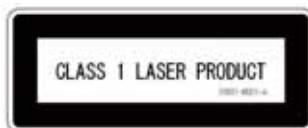
Field of View	40 (24 x 32) 60 (36 x 48) with Non Contact Wide Field Lens			
Focus Range	-15 to +15 dioptres spherical, increments of 0.5 dpt			
Progressive Scanning System				
Digital Image Size (pixels)	1600 x 1200	1280 x 960	800 x 600	640 x 480
[Single Display Mode]				
Display Image Size	1024 x 720	1024 x 720	800 x 600	640 x 480
Max. Image Frequency	10 Hz	12 Hz	20 Hz	26 Hz
Ref. / FAG / ICG / FAG and ICG				
[Dual Display Mode]				
Display Image Size	512 x 720 (x2)	512 x 720 (x2)	512 x 600 (x2)	512 x 480 (x2)
Max. Image Frequency	3 Hz	3 Hz	5 Hz	6 Hz
FAG and ICG				
Optical Resolution	16 µm to 20 µm.			
Fixation	Red Laser internal 2x2 LED			
Confocal Aperture	1.5 mm to 7 mm (5 increments) Dark Field (3 increments)			
Measurable Pupil Diameter	2.5 mm or larger			
Laser Source	ICG Excitation and IR Reflectance : Laser 790 nm (Class 1) FAG Excitation and Blue Reflectance : Laser 490 nm (Class 1) Green Reflectance : Laser 532 nm (Class 1) Red Reflectance : Laser 660 nm (Class 1)			
Image Mode	Fluorescein Angiography (FA) ICG Angiography (IA) FA + IA IR Reflectance (IR) Blue Reflectance Green Reflectance Red Reflectance Differential Contrast Ophthalmoscopy (DCO)			
Sensor Mode	Normal Sensor / Differential Contrast Sensor			
Output	NTSC LAN (10 / 100 Base-T)			
Software	- Export Function - Automatic Image Transfer to PC - Guided Fixation - List and Thumbnail Index available			
Power supply	AC 100 V-120 V or AC 220 V-240 V ±10% 50 / 60 Hz			
Power consumption	A maximum of 350 VA			
Dimensions / Weight	450 (W) x 610 (D) x 590-630 (H) mm / 55 kg 17.7 (W) x 24.0 (D) x 23.2-24.8 (H) " / 121.3 lbs.			



*Manufacturer
NIDEK Co., LTD.
34-14, Maehama, Hiroishi, Gamagori, Aichi 443-0038, Japan

Caution : U.S. Federal Law restricts this device to sale, distribution and use by or on the order of a physician or other licensed eye care practitioner.

Pending FDA Clearance
AC 220 V-240 V ±10% version is CE marked.



This device complies with class 1 Laser product.



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