Canon

Optical Coherence Tomography

OCT-A1
OCT-HS100

Ophthalmic Software Platform RX

RX Capture for OCT
RX Viewer
RX Server

Version 4.6

Operation Manual

CE 0197

Make sure you read this manual before using the instrument.
Keep this manual in a safe place so that you can use it in the future.

Thank you for purchasing the Canon Optical Coherence Tomography and software. This manual describes how to use the OCT-A1 and OCT-HS100 optical coherence tomography instruments and the RX Capture for OCT, RX Viewer, and RX Server. Be sure to read this manual thoroughly before using the instrument, and apply the information that you learn.

Important

- The user is responsible for managing the usage and maintenance of medical equipment. We suggest that a dedicated individual is assigned responsibility for maintenance to ensure that the OCT is kept in good condition and can be used safely.
- Connection of a system that uses the OCT to a network could result risks to patients, operators, or third parties. A dedicated individual who is assigned responsibility for maintenance should assess these risks in advance.
  The responsible person should also assess the risks when changes to the network (including changes in the network configuration, addition or disconnection of items to the network, or update or upgrade of equipment connected to the network) occur after connection.
- Rx Only (USA) Federal law restricts this device to sale by or on the order of a physician.

Operator Profile

- The OCT can only be used by a doctor or legally qualified person who has general knowledge of ophthalmology and can understand this manual.

Disclaimers

- Canon takes no responsibility for damage that occurs due to fires, earthquakes, third-party actions, other accidents, the user's intended or negligent misuse, or use under other abnormal conditions.
- Canon takes no responsibility for direct or consequential damages resulting from the use or the inability to use the OCT. In addition, no compensation is available for lost image data, regardless of the cause of the loss of the image data.
- Canon takes no responsibility for injuries or property damage that may occur if safety precautions are not followed or the instrument is used for something other than its intended purpose.
- Medical examinations are the responsibility of a doctor. Canon takes no responsibility for diagnostic results.
- The user is responsible for maintaining the confidentiality of image data and must follow the laws relating to the production, processing, analysis, and storage of medical images.
- The information in this manual may be changed without prior notice.
- Screen images in this manual may differ from those displayed on your computer due to customization, updates and improvements in the software.
- Although we have made every effort to ensure the accuracy of the information in this manual, if you have any questions regarding the contents, please contact your sales representative or local Canon dealer.

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Conventions Used in This Manual

Symbols to Indicate Safety Precautions

This manual uses the following symbols to indicate precautions that are important for using the OCT safely. Always follow these safety precautions.

⚠ WARNING	**A warning that incorrect operation could result in death or serious injury.**
⚠ CAUTION	**A caution that incorrect operation may result in injury.**
CAUTION	**A caution that incorrect operation may break the OCT or damage other devices.**
	**This symbol indicates actions that must not be taken (prohibited actions).**
	**This symbol indicates actions that must be taken.**
	**This symbol indicates important advice that we strongly recommend be followed while operating the OCT.**
	**This symbol indicates supplementary explanations or advice for operating the OCT.**

References

This manual uses the following style to indicate reference destination:
Example: (see page 15)

Where to Find Explanations

The explanations for each product are in the following sections.

Chapter in this manual		OCT-A1 OCT-HS100	RX Capture for OCT	RX Viewer	RX Server
1	Introduction	x	x	x	x
2	Safety	x	x	x	x
3	Part Names	x	x	x	x
4	Basic Operation	x	x	x	x
5	Patient Management	-	x	x	x
6	Capturing Images	x	x	-	-
7	Report	-	x	x	x
8	Settings	-	x	x	x
9	Maintenance	x	-	-	-
10	Troubleshooting	x	x	x	x

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1 Introduction

Overview

Optical Coherence Tomography (OCT)

The Canon Optical Coherence Tomography (referred to as “OCT” in this manual) takes digital photographic images of retinal form and tomogram images of patient’s eyes non-invasively with full automatic alignment.
Full automatic operations can decrease examination time and automatic tracking enables the OCT to take images with high reproducibility.

RX Capture for OCT

The RX Capture for OCT controls the OCT, manages the patient’s data and study information, observes the retina and anterior segment, and displays their tomogram images. It also analyzes a tomogram image of retina and displays a graph and a 3D image.
In addition, this software displays tomogram images and 3D images captured in the OCT-Angiography (referred to as OCTA in this manual) mode (optional product).

RX Viewer (Optional Product)

The RX Viewer is an application software that displays and analyzes the retinal data and patient information acquired by the Canon Optical Coherence Tomography or the retinal camera from another computer connected via a network and allows you to print a report.

RX Server (Optional Product)

The RX Server is an image filing software that manages patient information and image information acquired by the Canon Optical Coherence Tomography or the retinal camera.

- Up to three optical coherence tomography devices can be connected.
- Up to 15 licenses of RX Viewer (optional product) can be connected.
- By introducing the RX Capture for Retinal Camera license (optional product), up to four retinal cameras can be connected.

Normative Database

By comparing each layer thickness of the retina in a scanning area with the age-specific normative database (NDB), distribution states can be shown.

Indications for Use

The Canon OCT is an optical coherence tomography system indicated for the in-vivo imaging and measurement of the retina, retinal nerve fiber layer, and optic nerve head. The Canon OCT with Normative Databases is a quantitative tool for the comparison of retinal nerve fiber layer and the macula in the human retina to a database of known normal subjects.
It is intended for use as an aid in the diagnosis and management of posterior segment diseases.

Important

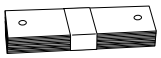
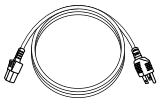
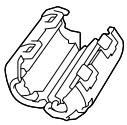
- The Canon OCT is not intended to be used as the sole diagnostic instrument for disease. A qualified doctor is responsible for the definitive diagnosis referring to other analysis results with other instruments.
- The values displayed in the report is calculated based on the OCT image. Please use the values as a reference for diagnosis.

Contraindication

Do not use the OCT for those patients who:

- Have an anamnestic history of photodermatosis.
- Have undergone photodynamic therapy (PDT) within a short period (refer to the product document of administered photosensitizer about the prohibition period).
- Are on medication with side effects that possibly cause photodermatosis.

Checking Items Included with the OCT

OCT		**Chin rest paper** 100 sheets provided.	
Power cord Connects the OCT to an AC outlet (3 m).		**Synchronous cable**	
Dust cover Use it to cover the OCT when the instrument is not being used.		**Ferrite core** Attached to the included cables.	
Objective lens cap Initially covers the objective lens.			
Cable fixing kit **Operation Manual — this document** Describes the handling precautions and operating instructions. **DVD-ROM — Opthalmic Software Platform** Software: RX Capture for OCT, RX Viewer, RX Server DICOM Conformance Statement **CANON SOFTWARE LICENSE AGREEMENT**			

Optional Products

Chin rest paper—500 sheets
Anterior Segment Adaptor ASA-1
External eye fixation lamp unit EL-1
RX Server Software (license)
RX Viewer Software (license)
RX Capture for Retinal Camera (license)
OCTA Capture (license)
OCTA 2 (license)
OCTA Analysis (license)
Intelligent denoise (license)
Mosaic Software

Software Operating Environment

Each software runs under the following operating environment.
For details on the system, contact your sales representative or local Canon dealer.

RX Capture for OCT-A1

Hardware or software	Specifications
CPU	Core i7 3.3 GHz or higher (6 or more cores)
RAM	8 GB or more 32 GB or more (when the progression for OCTA examination is enabled) 64 GB or more (when OCTA 2 is installed)
GPU	NVIDIA video card supporting Compute Capability 3.0 or later (graphics cards with a higher performance than Quadro K2200 and a video memory of 4 GB or more)
Display	Screen resolution: 1920 x 1080 pixels Screen colors: 24 bits or more
Hard disk	2 TB or more: RAID-1 (mirroring); for a local server (when not introducing the RX Server yet) 100 GB or more: For a remote server (when introducing the RX Server)
Interface	USB 2.0
Network	1000BASE-T or more
OS	Microsoft Windows 10 Pro Version 1903 (64-bit)* Microsoft Windows 10 Pro Version 1909 (64-bit)* Microsoft Windows 10 Pro Version 2004 (64-bit)*
Application software	Microsoft .NET Framework Version 4.8 Microsoft DirectX 11 End-User Runtimes SQL Server 2014 Express SP3 US version (64-bit) • When the Intelligent denoise license is installed or when using GPU Processing NVIDIA CUDA Toolkit 10.0
Camera link board	AVALDATA APX-3323
Mouse	Wheel mouse

* Touch screen operations are not supported.

RX Capture for OCT-HS100

Hardware or software	Specifications
CPU	Core i7 3.3 GHz or higher (6 or more cores)
RAM	6 GB or more 32 GB or more (when OCTA mode is installed) 32 GB or more (when the progression for OCTA examination is enabled) 64 GB or more (when OCTA 2 is installed)
GPU	NVIDIA video card supporting DirectX 11 (graphics cards with a higher performance than Quadro 4000 and a video memory of 1 GB or more) When Intelligent denoise license is installed or when using GPU progressing • NVIDIA video card supporting Compute Capability 3.0 or more (graphics cards with a higher performance than Quadro K2200 and a video memory of 4 GB or more)
Display	Screen resolution: 1920 x 1080 pixels Screen colors: 24 bits or more
Hard disk	2 TB or more: RAID-1 (mirroring); for a local server (when not introducing the RX Server yet) 100 GB or more: For a remote server (when introducing the RX Server)
Interface	USB 2.0
Network	1000BASE-T or more
OS	Microsoft Windows 10 Pro Version 1903 (64-bit)* Microsoft Windows 10 Pro Version 1909 (64-bit)* Microsoft Windows 10 Pro Version 2004 (64-bit)*
Application software	Microsoft .NET Framework Version 4.8 Microsoft DirectX 11 End0User Runtimes SQL Server 2014 Express SP3 US version (64-bit) • When the Intelligent denoise license is installed or when using GPU Processing NVIDIA CUDA Toolkit 10.0
Camera link board	AVALDATA APX-3323 National Instruments NI PCIe-1433
Mouse	Wheel mouse

* Touch screen operations are not supported.

RX Viewer

Hardware or software	Specifications
CPU	Core i3 2.4 GHz or higher
RAM	4 GB or more 8 GB or more (when OCTA 2 is installed) 16 GB or more (when displaying the OCTA Large square examination) 32 GB or more (when the progression for OCTA examination is enabled)
GPU	Full HD and 24/32-bit color compatible • When using the 3D image display NVIDIA video card supporting DirectX 11 (Graphics cards with a higher performance than Quadro 4000 and a video memory of 1 GB or more) • When the Intelligent denoise license is installed NVIDIA video card supporting Compute Capability 3.0 or later (graphics cards with a higher performance than Quadro K2200 and a video memory of 4 GB or more)
Display	Screen resolution: 1920 x 1080 pixels Screen colors: 24 bits or more
Hard disk	100 GB or more
Interface	USB 2.0
Network	1000BASE-T or more
OS	Microsoft Windows 8.1 Pro (64-bit)* Microsoft Windows 10 Pro Version 1903 (64-bit)* Microsoft Windows 10 Pro Version 1909 (64-bit)* Microsoft Windows 10 Pro Version 2004 (64-bit)*
Application software	Microsoft .NET Framework Version 4.8 Microsoft DirectX 11 End-User Runtimes • When the Intelligent denoise license is installed NVIDIA CUDA Toolkit 10.0
Mouse	Wheel mouse

* Touch screen operations are not supported.

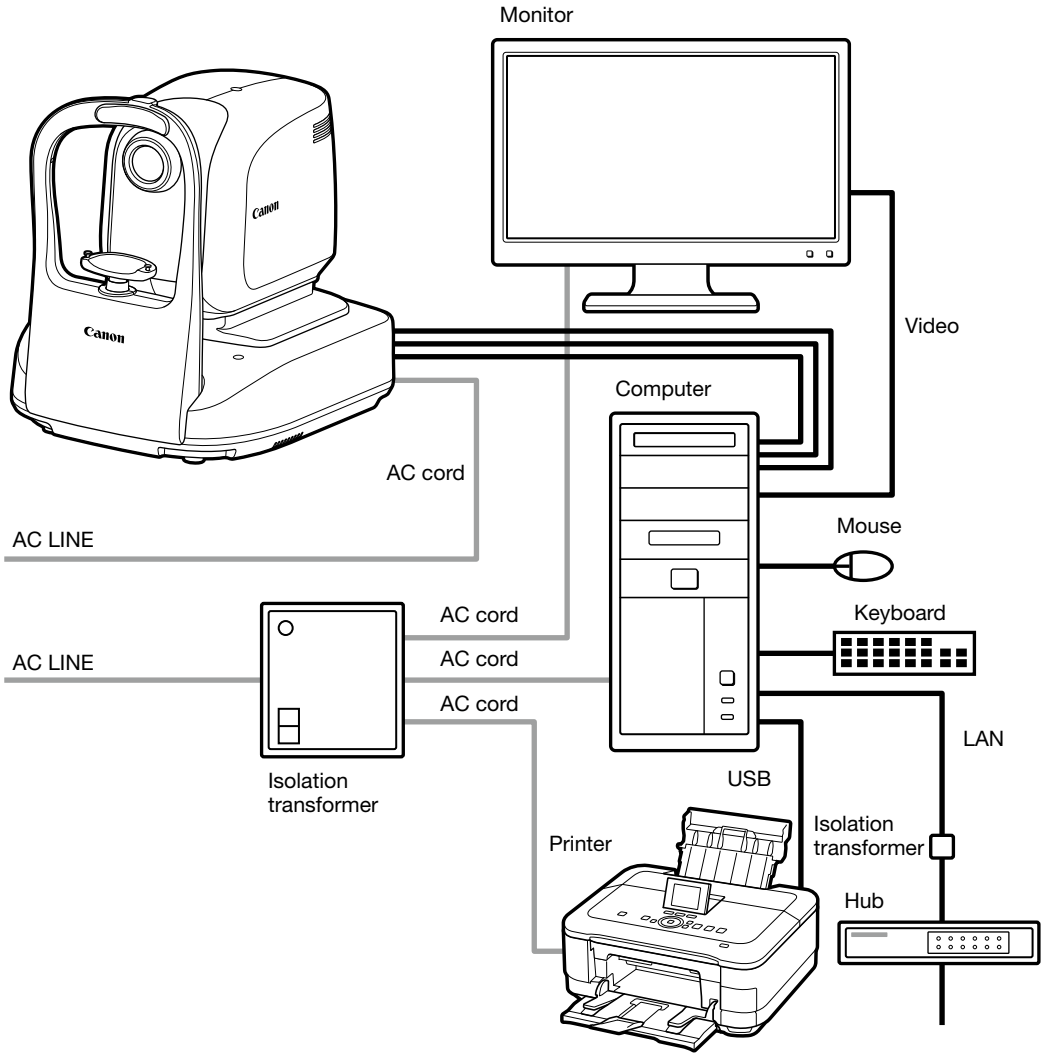
RX Server

Hardware or software	Specifications
CPU	Core i3 2.4 GHz or higher
RAM	4 GB or more 8 GB or more (when OCTA 2 is installed) 16 GB or more (when displaying the OCTA Large square examination) 32 GB or more (when the progression for OCTA examination is enabled)
GPU	Full HD and 24/32-bit color compatible • When using the 3D image display NVIDIA video card supporting DirectX 11 (Graphics cards with a higher performance than Quadro 4000 and a video memory of 1 GB or more) • When the Intelligent denoise license is installed NVIDIA video card supporting Compute Capability 3.0 or later (graphics cards with a higher performance than Quadro K2200 and a video memory of 4 GB or more)
Display	Screen resolution: 1920 x 1080 pixels Screen colors: 24 bits or more
Hard disk	2 TB or more: RAID-1 (mirroring); for a local server (when not introducing the RX Server yet) 100 GB or more: For a remote server (when introducing the RX Server)
Interface	USB 2.0
Network	1000BASE-T or more
OS	Microsoft Windows Server 2012 R2 Standard*
Application software	Microsoft .NET Framework Version 4.8 Microsoft DirectX 11 End-User Runtimes SQL Server 2014 Express SP3 US version (64-bit) • When the Intelligent denoise license is installed NVIDIA CUDA Toolkit 10.0
Mouse	Wheel mouse

* Touch screen operations are not supported.

System Configuration

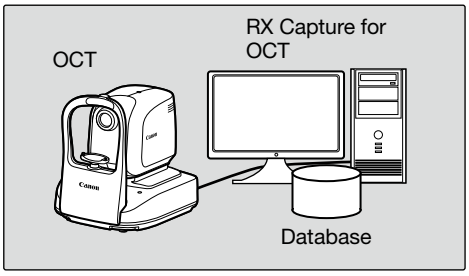
The standard system configuration is shown below.



Operation Examples

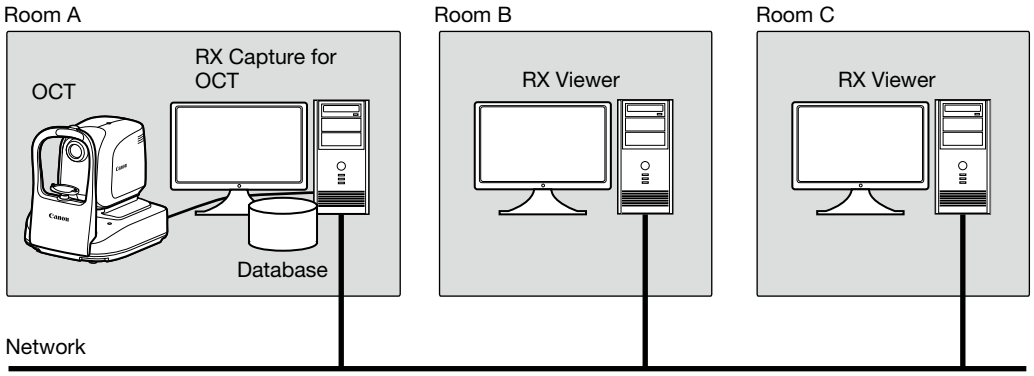
Using the RX Capture for OCT Only

This is an example to install only the RX Capture for OCT and operate it. In the RX Capture for OCT, perform all examination-related operations, such as entering patient information, capturing tomogram images, viewing reports, and setting for output.



Using the RX Capture for OCT and the RX Viewer (Optional Product)

This is an example to install the RX Capture for OCT and up to two licenses of RX Viewer on computers in separate rooms and operate them. In the RX Capture for OCT, enter the patient information and capture the tomogram image. In the RX Viewer, search patients and view their reports. The RX Viewer can also display 3D images by using a computer which meets GPU requirements.



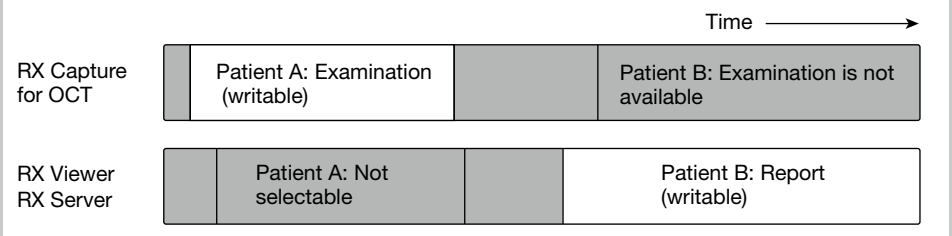
Information

When two or more users select the same patient

The user who selected the patient first can modify or delete the patient information. Users who select the patient later can view the information in read-only mode. In the read-only mode, the color of highlighting for the data selected in the patient list or examination list turns from yellow to gray.

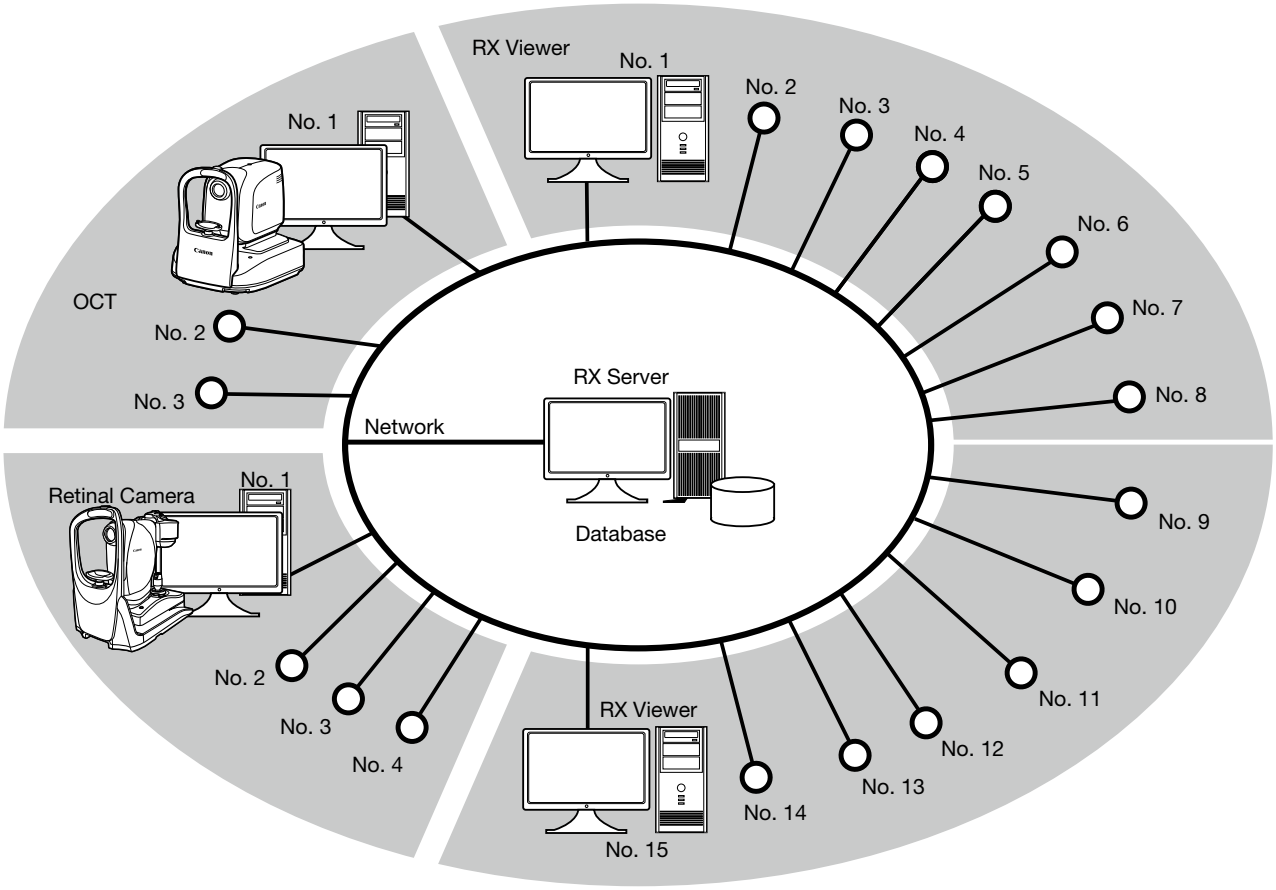
However, the data of a patient whose eye is being captured in the RX Capture for OCT cannot be viewed with other computers.

When a user who selects the patient later captures images of the patient's eye, he/she can request the user who selected the patient first to deselect the patient (see page 110).



Using the RX Server (Optional Product)

This is an example to install the RX Server, the RX Capture for OCT and the RX Viewer on computers in separate rooms and operate them. The RX Server is used as a database. In the RX Capture for OCT, enter the patient information and capture the tomogram image. In the RX Viewer, search patients and view their reports. The RX Viewer can also display 3D images by using a computer which meets GPU requirements.
Additionally, by using the RX Capture for Retinal Camera (optional product), your retinal cameras can be connected.



2 Safety

Regulatory Information

Device Classification

Type of protection against electric shock	Class 1 equipment
Degree of protection against electric shock	Type B applied parts (chin rest and forehead rest)
Degree of protection against ingress of water	IPX0
Degree of safety of application in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide	Not suitable
Mode of operation	Continuous operation

Safety Precautions

To prevent injuries and data loss, operate the OCT correctly by following the safety precautions.

⚠ WARNING		**To avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.**
	 Prohibited	**Do not damage the power cord.** • **Do not place anything heavy onto the power cord.** • **Do not damage or modify the power cord.** • **Do not forcibly bend, twist or pull the power cord.** • **Do not hold the power cord when removing it from the AC outlet. Be sure to hold the plug.** **Handle the power cord carefully. If the cord is damaged, contact your sales representative or local Canon dealer for a replacement. A damaged cord could result in fire or electric shock.**
	 Prohibited	**Do not use a multiple power strip and an extension cable.** **Connect the power cord directly to the AC outlet. Do not use a multiple power strip and an extension cable with it.**
	 Prohibited	**Do not disassemble or modify.** **Otherwise, fire or electric shock could result. Because the OCT incorporates high-voltage parts that result in electric shocks, touching them could result in death or serious injury.**
	 Prohibited	**Do not remove the cover from the measurement unit.** **Eyes and skin could be exposed to laser radiation.**
	 Prohibited	**Do not leave alcohol, thinner, or any flammable chemicals near the instrument.** **Do not place a flammable solvent near the instrument. Fire could result if the solvent spills or evaporates and makes contact with internal electric parts. Some disinfectants are flammable. Be sure to take precautions when using them.**

⚠ WARNING		**Stop using immediately if there is an abnormality or problem.** **If an abnormality occurs, immediately unplug the power plug and turn off the power of all the devices.** • **Smoke is emitted** • **An unusual smell** • **An unusual noise** • **Foreign matter gets inside** • **Damaged** **Fire or electric shock could result if you continue using in such conditions. Immediately turn off the power of the OCT, unplug the power plug and turn off the power of all connected devices. Then, contact your sales representative or local Canon dealer.**
	 Prohibited	**Do not place anything on top of the device.** **Fire or electric shock could result if water or any other liquid or a needle, paper clip or any foreign matter gets inside the OCT.**
	 Prohibited	**Do not use a power supply voltage other than the one specified on the rating label.** **Do not use any power cord other than the one supplied.** **Use the power supply voltage specified on the rating label. Otherwise, fire or electric shock could result.** **The supplied power cord is designed exclusively for this product. Do not use any other power cord.**
	 Prohibited	**Do not plug or unplug the power plug with wet hands.** **Do not plug or unplug the power plug with wet hands. Otherwise, it could result in electric shock.**
		**Unplug the plug periodically and remove any dust or dirt around the plug and the AC outlet.** **If the cord is kept plugged in for a long time in a dusty, humid or sooty environment, dust around the plug will attract moisture, resulting in possible insulation failure that could result in a fire.**
		**Insert the power plug completely.** **Insert the power plug completely into the AC outlet.** **If a pin of the power plug makes contact with metal or any conductive object, fire or electric shock could result.**
	 Prohibited	**Do not clean the OCT with flammable solvent.** **For cleaning the OCT, do not use alcohol, benzine, thinner or any other flammable solvent.** **Otherwise, fire or electric shock could result.**

⚠ WARNING		**Turn off the power before cleaning.** **For safety reasons, before cleaning the OCT, be sure to turn off the power of all the devices and unplug the power cord from the AC outlet.** **Otherwise, fire or electric shock could result.**
		**Turn off the power before inspection.** **For safety reasons, before inspecting the OCT or cables, be sure to turn off the power of all the devices.** **Otherwise, electric shock could result.**
		**If a user who has an electronic medical implant experiences an aberration during instrument use, he/she should keep a safe distance from the auxiliary lens.** **The auxiliary lens contains magnets. If a user who has an electronic medical implant experiences an aberration during instrument use, he/she should keep a safe distance from the auxiliary lens.**
	 Prohibited	**Do not touch conductive parts of non-medical equipment and the patient simultaneously.** **Otherwise, electric shock could result.**

⚠ CAUTION	 Prohibited	**Do not install in locations exposed to water, steam, moisture or dust.** **Doing so may cause problems or malfunctions.**
	 Prohibited	**Do not install in locations exposed to salt, sulfur or corrosive gas.** **Doing so may result in corrosion of the instrument, problems or malfunctions.**
	 Prohibited	**Do not install in locations that are unstable or exposed to vibration.** **The vibration may knock over the instrument or the instrument may become unbalanced and fall, resulting in a malfunction or injury.**
	 Prohibited	**Do not place anything near the power plug.** **To make it easy to unplug the power plug at any time you want, avoid putting any obstructions near the AC outlet.** **Fire or electric shock may result if the power plug is not unplugged during an emergency.**
	 Prohibited	**Do not block the vent holes.** **Doing so cause the internal temperature to rise and may result in malfunction or fire.**

⚠ CAUTION	Prohibited	**Do not place your hands or fingers under the chin rest or around the measurement unit.** **Your hands or fingers may be pinched and injured. Similarly, instruct the patient not to place he/she hands under the chin rest around the measurement unit.**
	Prohibited	**Do not place your hands or fingers between the measurement unit and the base.** **Your hands or fingers may be pinched and injured when the measurement unit moves in any direction. Similarly, instruct the patient not to place his/her hands or fingers between the measurement unit and the base.**
		Be sure to turn off the power before moving the OCT. **Before moving the OCT, make sure that the power is turned off, the power plug is unplugged from the AC outlet, and any cables that are connected to other devices are disconnected.**
	Prohibited	**Do not hold the face rest or the measurement unit when moving the OCT.** **When moving the OCT, hold the indentations for lifting of the base, and keep the OCT level. Do not hold it by the face rest or the measurement unit, as they may come off and result in injury.**
		Lift the OCT with at least one other person when moving it. **The OCT weighs approximately 29 kg (64 lbs). It should only be lifted by two or more people. Use the indentations for lifting.**
		Hold the OCT when connecting or disconnecting a cable. **For safety reasons, when connecting or disconnecting the power cord or any cable, be sure to hold the OCT. Otherwise, the OCT falls over and it may result in injury.**
		Ensure that the entire system conforms to IEC 60601-1-1. **Use the equipment conforming to IEC 60601-1 in the patient environment.** **In the patient environment, use a computer and monitor that conform to the system standard IEC 60601-1 for the OCT. A computer and a monitor conforming to IEC 60950-1 can be also used. However, be sure to use an isolation transformer. For details on the patient environment, see “Patient Environment” (see page 264).** **Otherwise, electric shock may occur. For details, please contact your sales representative or local Canon dealer.**

⚠ CAUTION		**Keep the forehead rest and chin rest clean.** **To prevent the risk of infection, wipe the forehead rest with disinfectant ethanol for each patient. Similarly, to prevent the risk of infection, replace the chin rest paper for each patient. For details on how to disinfect, consult a specialist. The forehead rest may corrode if a disinfectant other than those above is used.**
		**Slowly move the measurement unit towards the patient's eye when taking an image.** **When adjusting the position of the measurement unit in the front-back direction, slowly bring the measurement unit closer to the patient while looking at the patient's face from the side. The patient's eye may be injured if the objective lens makes contact with it.**
		**Check the image before using the OCT.** **Before using the OCT, be sure to take a test image to ensure that there is no foreign matter that can affect image readings or diagnosis.**
		**Be sure to turn off the power when not in use.** **For safety reasons, be sure to turn off the power of all the devices when the OCT is not being used.** **Also, unplug the power plug from the AC outlet and put on the cover when the OCT is not going to be used for a long time. Otherwise, dust or any foreign matter may accumulate and result in fire.**
		**Make sure that the patient's name, ID, birth date, and sex match those that are entered for the patient.** **If the entered information is in error, patient identities may be incorrect. This may result in misdiagnosis and physical injury to the patient.**
		**During anterior segment tomography, be sure to attach the auxiliary forehead rest and auxiliary chin rest.** **Attaching the auxiliary lens changes the working distance. Without the auxiliary forehead rest and auxiliary chin rest, the patient’s eye may be injured if the lens makes contact with it.**

CAUTION	 Prohibited	**Do not touch the measurement unit while it is moving.** **The measurement unit moves to the center position when the OCT is turned on. Do not touch the measurement unit while it is moving. Keep the patient's chin away from the chin rest.**
		**Before packing the OCT, move the measurement unit to the position for packing.** **See "Moving the Product" (see page 250) for details.**
		**Use the product's packaging to transport it.** **When transporting the OCT, use the original packaging to protect it from vibration and shock.** **Vibration and shock may cause failure of or damage to the OCT. For details, please contact your sales representative or local Canon dealer.**
		**Inspect daily and regularly.** **For safety reasons, before using the OCT, be sure to perform the daily inspection.** **Have a periodically inspection performed for the OCT at least once a year by a Canon designated representative to maintain its performance and reliability.**
	 Prohibited	**Do not turn off the OCT or the computer during image capture, data transfer or backup.** **Doing so may damage the computer or corrupt the data.**
	 Prohibited	**Do not change the OS settings (e.g. screen resolution, date format, date, or language) while the software is running.** **Otherwise, the software may not function properly.**
	 Prohibited	**Do not operate the software until importing or transferring of the image is completed.** **Otherwise, the software may not function properly.**
	 Prohibited	**Do not disconnect the cable between the OCT and the computer during image capture or data transfer.** **Doing so may damage the computer or corrupt the data.**
	 Prohibited	**Do not install any other software after installing the software.** **Do not install any software other than that specified by your sales representative or local Canon dealer. Otherwise, the software and the OCT may not function properly.**
		**Have a network administrator configure and manage the network to connect the system to the network.** **When connecting to the network, the network administrator should configure the settings and check if the network is working properly.**

CAUTION		**Scan for computer viruses when importing the external data.** **When connecting a USB memory device or hard disk drive or importing data from another computer, scan for computer viruses. If the computer has been infected with a virus, patient information and examination data may be damaged or taken by unauthorized individuals.**
		**Perform backup of the data to an external memory device on a regular basis.** **Otherwise, stored patient data may be inaccessible in the event of a software or computer malfunction.**
		**Be sure to log off from the software when not using it.** **To prevent unauthorized operation, be sure to log off from the software when it is not being used.**
		**Maintain and manage the operating environment of the software properly.** **If you add, change or update the OS, driver, or other software after installing the software, the software may not function properly. Contact your sales representative or local Canon dealer beforehand.**
	 Prohibited	**Do not change the [Windows Update] settings.** **Otherwise, the updates and upgrades for Windows automatically start. While updating or upgrading Windows, the software may operate slowly or may not be able to operate. The software also may not function properly after updating or upgrading Windows.**

Laser Safety

This product complies with 21 CFR Chapter 1 Subchapter J as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Also, this product is certified as a Class 1 laser product under IEC 60825-1:2007, IEC 60825-1:2014, EN 60825-1:2007 and EN 60825-1:2014. Since radiation emitted inside the device is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

Notes on Use

Before Use

- Inspect the OCT daily. Make sure that no foreign matter is present that can affect image readings or diagnoses.
- Any dirt or scratches on the objective lens appear as black spots which may affect the image quality. Check and clean the objective lens before taking an image.
- Sudden heating of a room during winter or in cold regions may cause condensation to form on the objective lens or on optical parts inside the OCT, resulting in an inability to obtain optimal images. In this case, wait until condensation disappears before taking images.

After Use

- After using the OCT, turn off the power, attach the objective lens cap to protect the objective lens from dust, and place the dust cover over the OCT. You cannot take good images if the objective lens is dusty.

Cleaning and Disinfecting

- Do not allow the blower to touch the lens.
- Do not wipe or rub the lens if there is dirt or dust on it.
- Do not wipe the lens with ethanol solution, eyeglass cleaner, or silicone-coated paper. Doing so could damage the surface of the lens or leave streaks.
- Do not clean the exterior of the OCT with lens cleaner. Doing so could damage the exterior of the OCT.
- Do not use alcohol, benzine, thinner, or other solvents to clean the exterior of the OCT. Doing so damages the exterior of the OCT.
- Do not use ethanol solution to clean the exterior of the OCT, except the forehead rest and the chin rest. Otherwise, damage may occur to the exterior of the OCT.
- If the chin rest paper is not being used, disinfect the chin rest for each patient in the same manner as you do for the forehead rest.

Environment of Use

- Use, store, and transport the OCT in an environment that is within the range of the following conditions. Use the original packaging to store or ship it.

	Temperature	Humidity	Atmospheric pressure
Environment of use	10 to 35 °C	30 to 90% RH (no condensation)	600 to 1060 hPa
Storage and transportation environment	- 30 to 50 °C	10 to 95% RH (no condensation)	600 to 1060 hPa

- Do not install, store, or leave the OCT in a very hot or humid environment. Also, do not use the OCT outside. Doing so may cause problems or malfunctions.
- Always try to keep the room as clean as possible. After many years of usage, airborne dust in the room may get on the objective lens and the optical parts inside the measurement unit. You cannot take good images if the equipments are dusty.
- When the OCT is not being used, attach the objective lens cap and place the dust cover over the OCT.

Installation

- Ask your sales representative or local Canon dealer to install it.
- Use a USB cable that is attached to the supplied ferrite core. Ask your sales representative or local Canon dealer to attach the ferrite core. Also, use a USB cable that is 2 meters long or less.
- Fix the data cable with the supplied cable tie and cable fixed base. Ask your sales representative or local Canon dealer to attach the data cable. Also, use a data cable that is 2 meters long or less.
- A strong shock to the OCT may put it out of alignment. Please handle the unit carefully.

Disposal

Disposal of this product in an unlawful manner may have a negative impact on human health and on the environment. Therefore, when disposing of this product, be absolutely certain to follow the procedure which conforms with the laws and regulations applicable to your area.

Only for European Union and EEA (Norway, Iceland and Liechtenstein)

This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2012/19/EU) and national legislation. This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service.
For more information regarding return and recycling of WEEE products, please visit www.canon-europe.com/weee.

Software

(1) Ask your sales representative or local Canon dealer to install and update the software and drivers.

(2) For instructions on operating the computer and Windows software, refer to the respective operation manuals.

(3) The software can be used only by users with [Users] or [Administrators] privileges.

(4) When the following operations are performed, on the [Security] tab of the drive/folder property, allow [Modify] for the [Users] group and [Full control] for the [Administrators] group.
- Add an HDD on the [Storage Management] screen.
- Output DICOM, JPEG, and BMP data.
- Import CSV files of the patient information.
- Import retinal images.
- Perform backup of the data to the backup drive.
- Import and export examination data.

(5) Do not use [Switch User] (which switches users without logging off) in Windows. When two or more users are using the software, be sure to select [Log Off], and then log on again as a different user.

(6) Be sure to set the screen saver, power options and font settings on the computer as shown below.

Items	Settings
Screen saver	None
Turn off the display	Never
Put the computer to sleep	Never
Turn off hard disks	Never
When I press the power button	Shut down
Start menu power button	Shut down
Font size	Smaller - 100% (default)

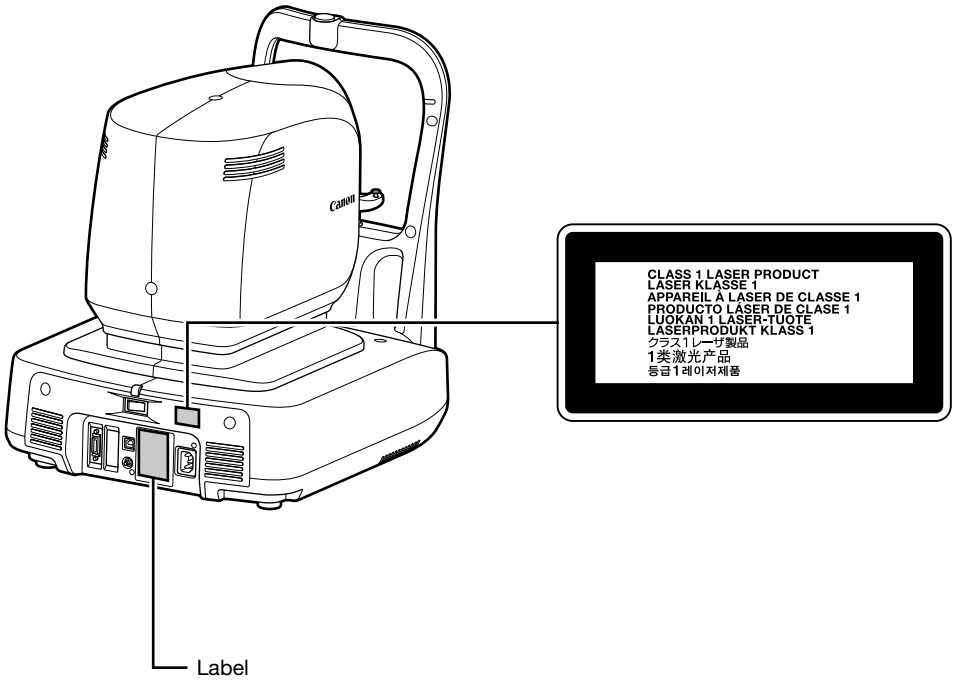
(7) Do not put the Windows computer into sleep or hibernate mode.

(8) If an application error appears or the software freezes during use, follow the instructions below.
1) Turn off the power to the computer.
2) Turn off the power to the OCT.
3) Turn on the power to the OCT.
4) Turn on the power to the computer.

(9) Do not update or upgrade Windows while the software is running. While updating or upgrading Windows, the software may operate slowly or may not be able to operate.

Product Labels

The labels and the marks attached to the OCT are shown below.
Follow the information on the label to use the OCT appropriately.



The following table describes the marks and indications on the OCT.

USA and Canada

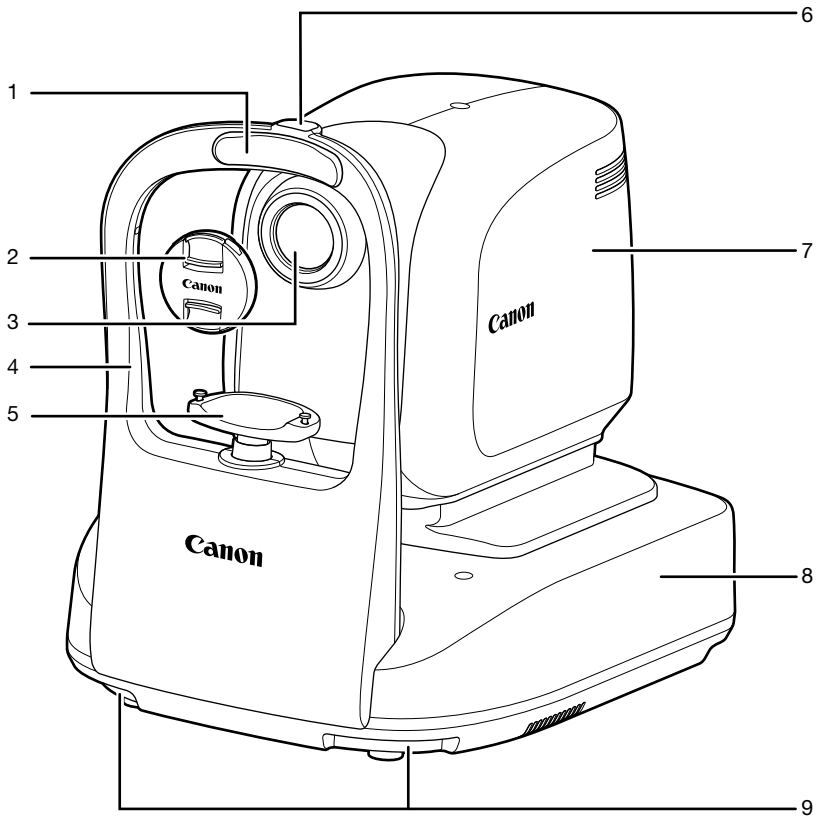
	Alternating current	
	Type B applied part	
	Certification mark that indicates the product has met ANSI standard and Canada national standard in the USA and Canada issued by TÜV Rheinland.	
Rx only	Caution: Federal law (USA) restricts this device to sale by or on the order of a physician.	
S/N	Serial number in SIX digits	Example: 123456
MANUFACTURED:	Year and month of manufacture	Example: October 2012

Others

	Alternating current	
	Type B applied part	
	This mark shows compliance of the equipment with Directive 93/42/EEC.	
	This mark indicates that a user's manual is supplied with this equipment.	
	Product that WEEE directive, Directive on Waste Electrical and Electronic Equipment, requires separate collection.	
	Manufacturer's name and address	
SN	Serial number in SIX digits	Example: 123456
	Year and month of manufacture	Example: October 2012

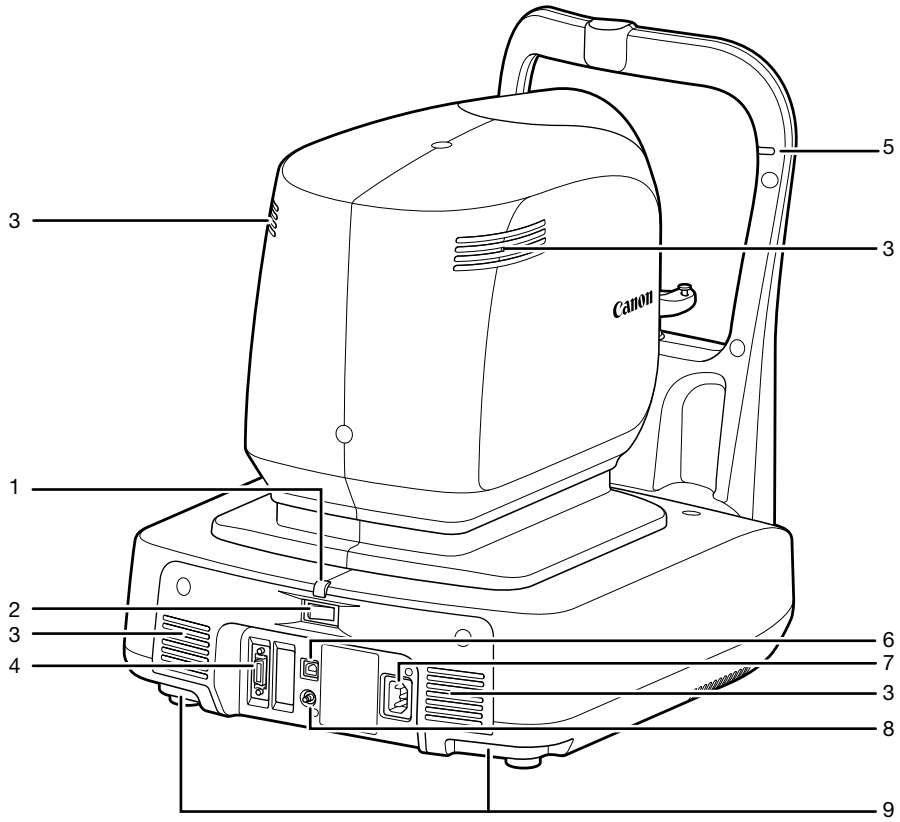
3 Part Names

Patient’s Side



1 Forehead rest
2 Objective lens cap
3 Objective lens
4 Face rest
5 Chin rest
6 Connector for the external eye fixation lamp (with cap)
The external eye fixation lamp is sold separately.
7 Measurement unit
8 Base
9 Indentation for lifting

Examiner’s Side



1 POWER lamp
2 Power switch
3 Vent hole
4 Data cable terminal
5 Height adjustment mark
6 USB connector
7 AC power connector
8 Synchronous cable terminal
9 Indentation for lifting

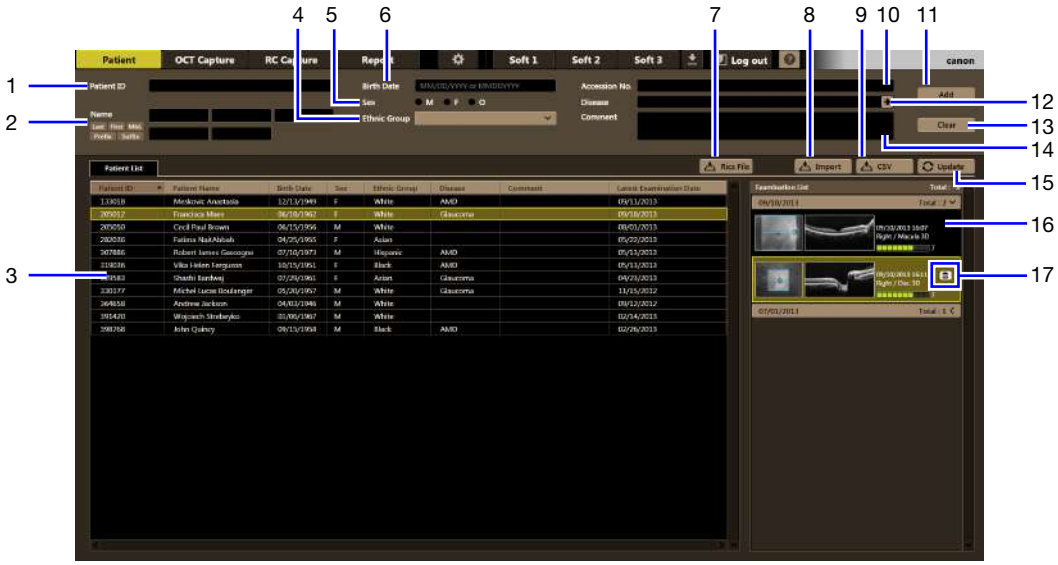
Screen Configuration

Menu Bar

1 [Patient] tab
2 [OCT Capture] tab*
3 [RC Capture] tab**
4 [Report] tab
5 Output display*
6 Settings button
7 Launcher buttons
8 Minimize button
9 [Log out] button
10 Operation manual button
11 Logged in user's name

* The [OCT Capture] tab and output display are only shown for RX Capture for OCT.
** The [RC Capture] tab settings are enabled by using the RX Capture for Retinal Camera (optional product) in RX Capture for OCT.

[Patient] Screen



1 Patient ID
2 Patient name
3 Patient list / Worklist
4 Ethnic Group
5 Sex
6 Birth date
7 [Rics File] button**
8 Patient data importing button
9 CSV file importing button
10 Accession number
11 [Add] button
12 Disease name
13 [Clear] button
14 Comment area
15 [Update] button
16 Examination List
17 Archive mark

** The [Rics File] tab settings are enabled by using the RX Capture for Retinal Camera (optional product) in RX Capture for OCT.

[OCT Capture] Screen

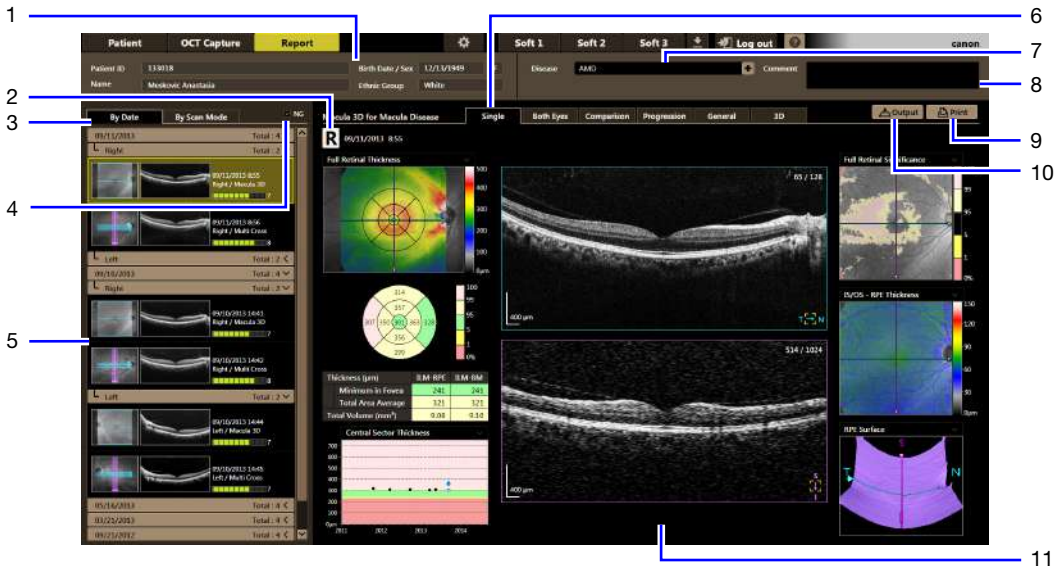
Standby Screen/Live View Screen

1	Scan mode	10	Recent examination list
2	Examination set	11	[Start] button/[Stop] button
3	Adjustment mode button	12	[Capture] button
4	Right and left eyes button	13	Fixation lamp button
5	[Z Adjustment] button	14	Patient information
6	[Chin Rest] button	15	OCT live image
7	Anterior segment image	16	C-Gate slider
8	SLO live image	17	Tilt adjustment button
9	Focus slider	18	Image quality indicator

Confirmation Screen

1 SLO image
2 Projection image
3 OCT image

[Report] Screen

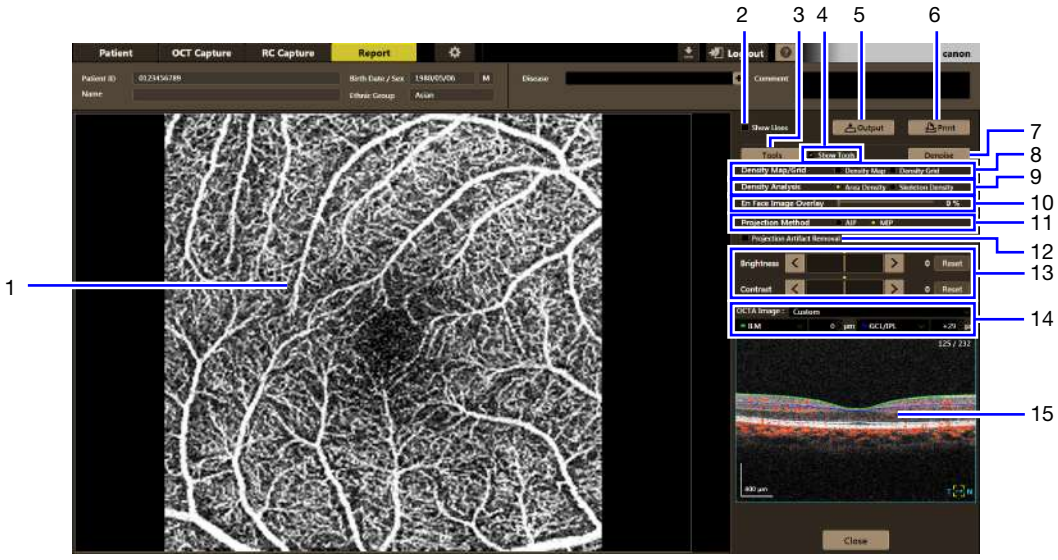


1 Patient information
2 Right/left eye indicator
3 Examination sort tab
4 NG image check box
5 Examination list
6 View mode tab
7 Disease name
8 Comments area
9 Print button
10 Output button
11 Analysis result

OCT Image Screen

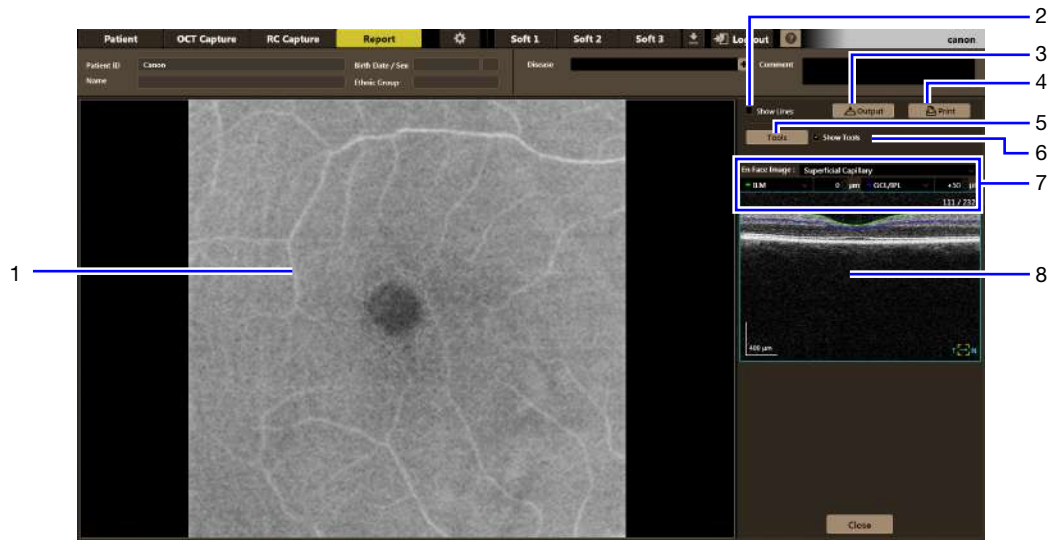
1 OCT image
2 Output button
3 Print button
4 Boundary display
5 Boundary editing / Disc and Cup editing
6 Distance Tool
7 Distance Tool display
8 Brightness / Contrast adjustment
9 OCT image display format
10 Projection image or SLO image

OCTA Image Screen



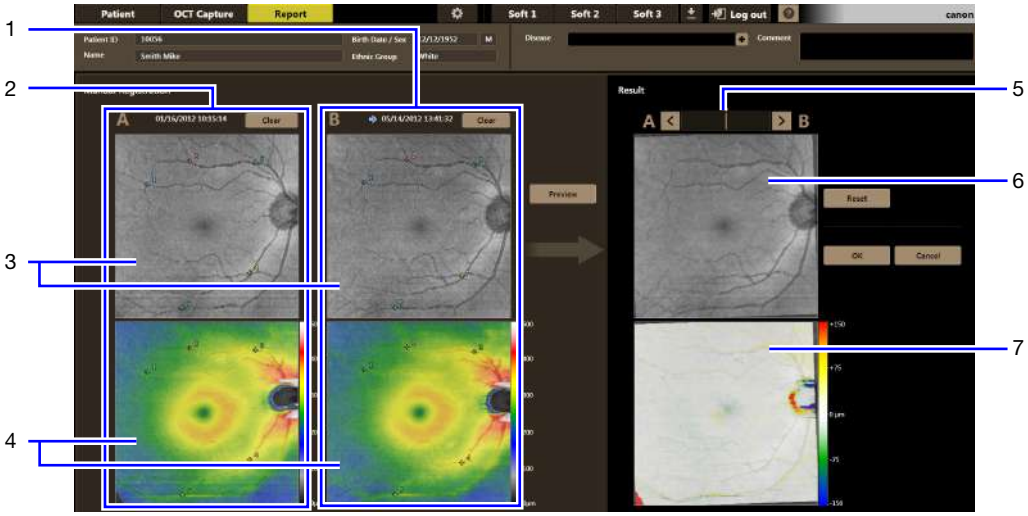
1 OCTA image
2 B-scan line display
3 Distance/Area/Density Tool
4 Distance/Area/Density Tool display
5 Output button
6 Print button
7 Denoise button
8 Density Map / Density Grid display
9 Density Analysis selection
10 En Face Image Overlay slider
11 Projection Method selection
12 Projection Artifact Removal
13 Brightness / Contrast adjustment
14 OCTA image display content
15 B-scan tomogram image

En Face Image Screen



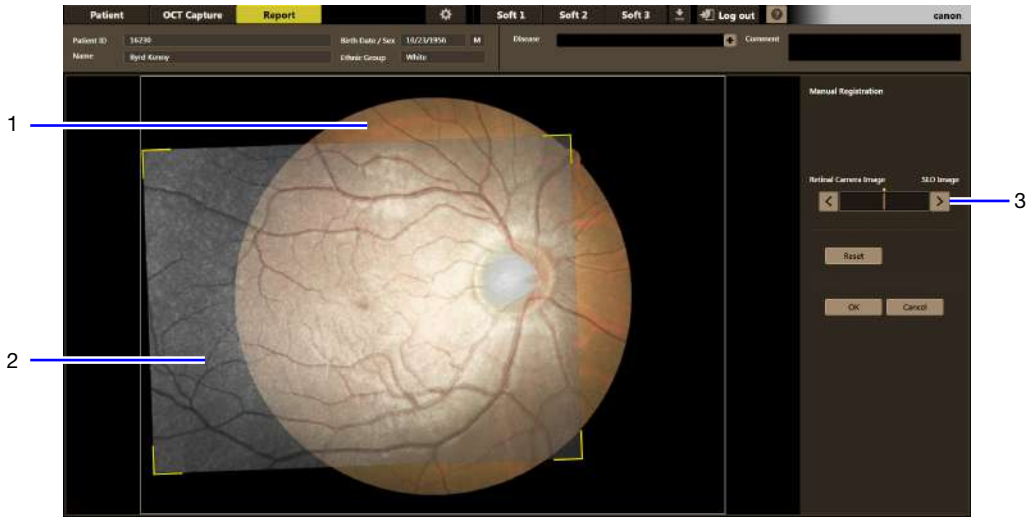
1	En Face image	5	Distance/Area Tool
2	B-scan line display	6	Distance/Area Tool display
3	Output button	7	En Face image display content
4	Print button	8	B-scan tomogram image

Registration Screen (Difference Map)



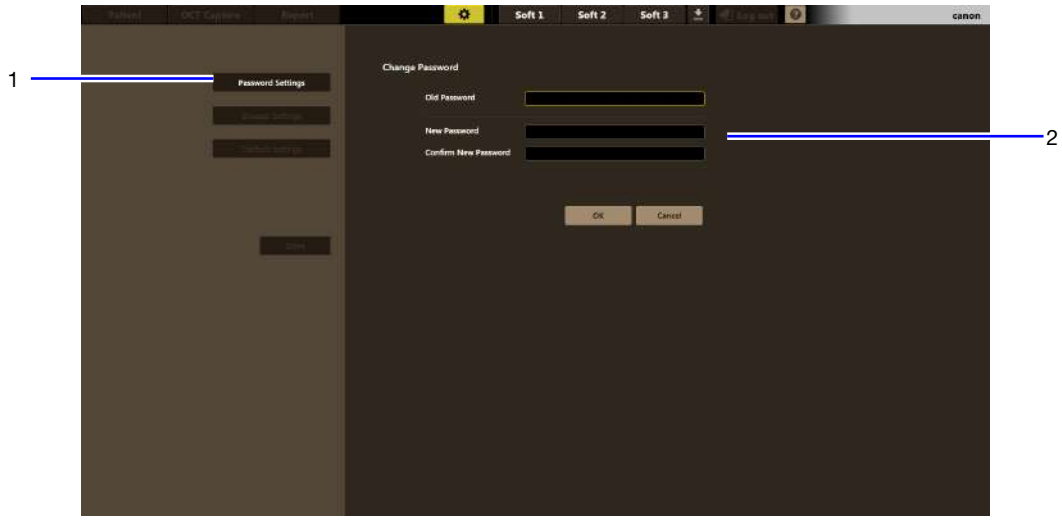
1	Selected examination	5	Overlay slider
2	Examination for comparison	6	Projection image (after alignment)
3	Projection image (before alignment)	7	Difference map
4	Thickness map		

Registration Screen (Retinal Image)



1 Retinal image
2 SLO image
3 Overlay slider

Settings Screen



1 Setting items
2 Settings

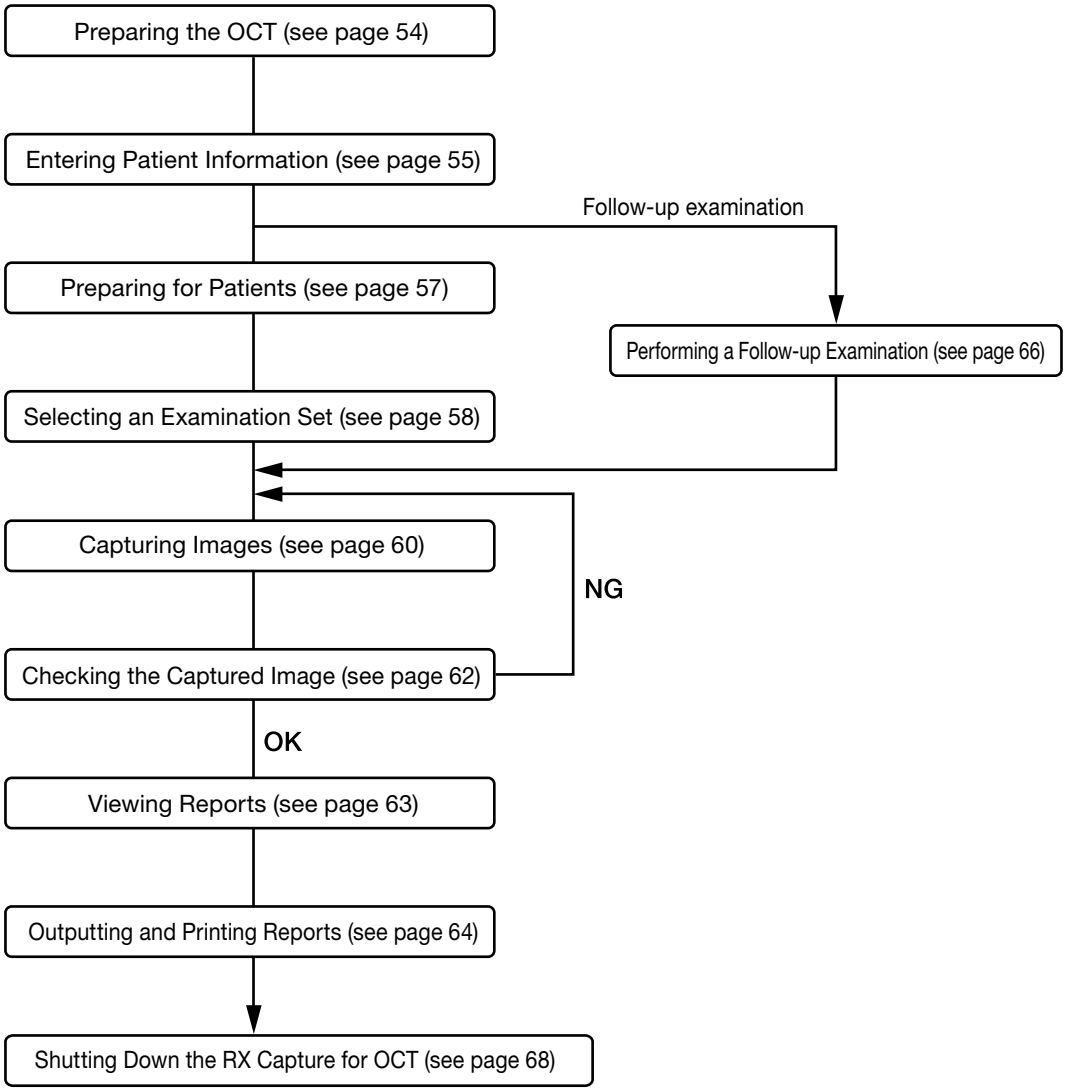
4 Basic Operation

This chapter describes "examination sets" and "scan modes," the basic knowledge required for operating the OCT. It also describes the basic procedures from turning on to turning off RX Capture for OCT, RX Viewer, and RX Server.

The basic procedures for “Selecting an Examination Set” and “Viewing Reports” in RX Viewer and RX Server are the same as in RX Capture for OCT.
For details, see the basic procedures for RX Capture for OCT.

Flow of Operation

These are the basic procedures for doing OCT capture.
The procedure to capture OCTA images (optional product) is the same as the one described in this chapter.



Examination Sets and Scan Modes

To capture images using optical coherence tomography (OCT), first select an examination set. Multiple scan modes (combinations of scan direction, area, and other conditions for capturing images) are registered in examination sets. You can select an examination set to capture images according to certain diseases and the anatomy being examined. Check the content of the examination sets beforehand and select one that is appropriate for image capture.

Types of Examination Sets

Five examination sets are registered in the RX Capture for OCT by default.

- **[Macula Disease]**
  This examination set captures OCT images by doing a horizontal B-scan of the macula. C-Gate (coherence gate) is set to the vitreous side.
  Scan modes: [Macula 3D] and [Multi Cross]

- **[Glaucoma]**
  This examination set captures OCT images by doing a vertical B-scan of the macula and optic disc.
  Scan modes: [Wide 3D] and [Cross]

- **[Choroid]**
  This examination set captures OCT images by doing a horizontal B-scan of the macula. C-Gate is set to the choroid side.
  Scan modes: [Macula 3D] and [Multi Cross]

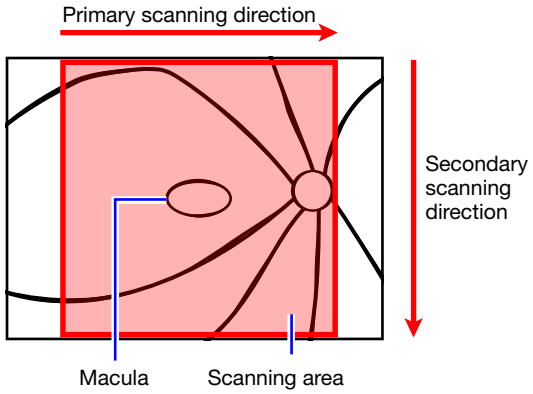
- **[Anterior]**
  This examination set captures OCT images by doing a horizontal B-scan of the anterior segment. The Anterior Segment Adaptor (optional product) is required.
  Scan modes: [Anterior 3D], [Anterior Cross], and [Anterior Radial]

- **[General]**
  This examination set lets you set the OCT image capture area, the B-scan direction, the C-Gate, and the internal eye fixation lamp position.
  Scan modes: [Custom 3D], [Multi Cross], [Cross], and [Radial]

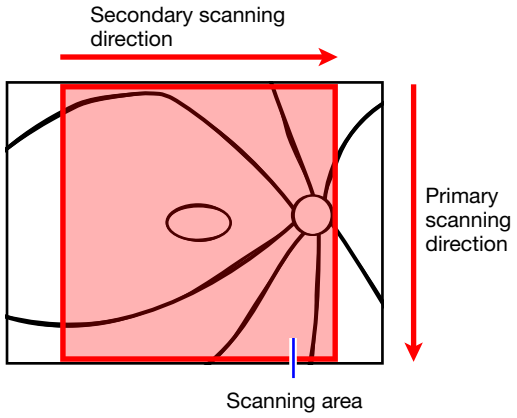
Types of Scan Modes

12 scan modes are available.

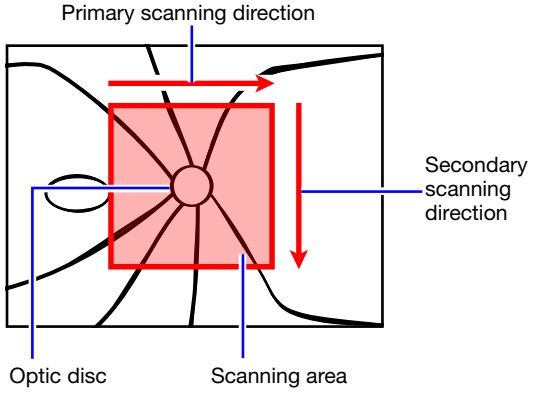
- **[Macula 3D]**
  In this mode, a 3D scan is done on the region centering on the macula. The scanning area is 10 x 10 mm, and the primary scanning direction is horizontal.



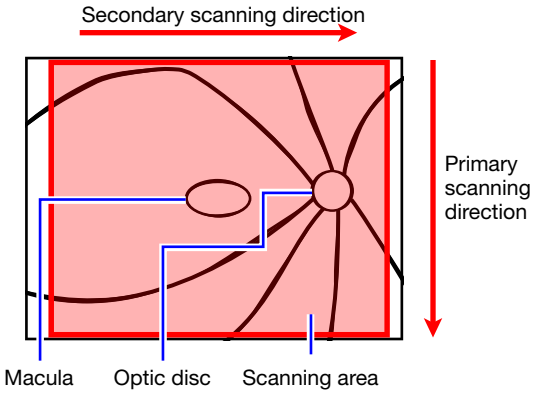
- **[Glaucoma 3D]**
  In this mode, a 3D scan is done on the region centering on the macula. The scanning area is 10 x 10 mm, and the primary scanning direction is vertical.



- **[Disc 3D]**
  In this mode, a 3D scan is performed on the region centering on the optic disc. The scanning area is 6 x 6 mm, and the primary scanning direction is horizontal.

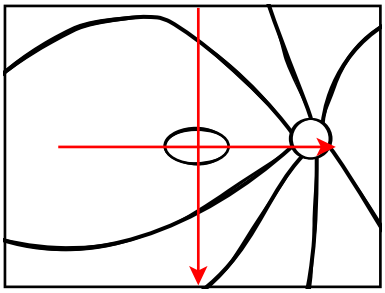


- **[Wide 3D]**
  In this mode, a 3D scan is performed on the region centering on the macula and the optic disc.
  The scanning area is 13 x 10 mm, and the primary scanning direction is vertical.

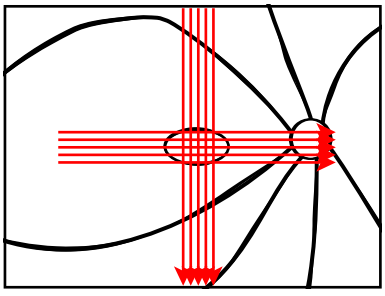


- **[Custom 3D]**
  In this mode, the scanned object, scanning direction, scanning area, and other conditions can be customized and set.

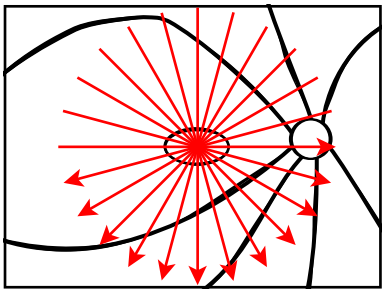
- **[Cross]**
  In this mode, a cross scan is performed on the region centering on the macula or optic disc along one line for each direction.



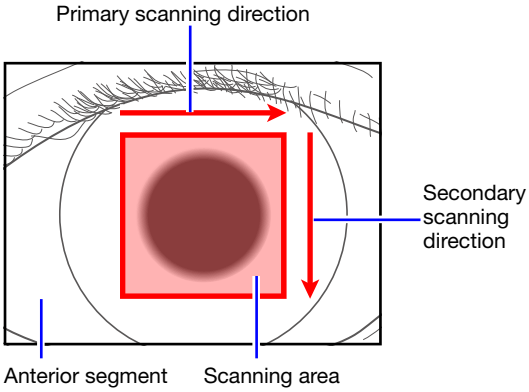
- **[Multi Cross]**
  In this mode, a cross scan is performed on the region centering on the macula or optic disc along five lines for each direction.



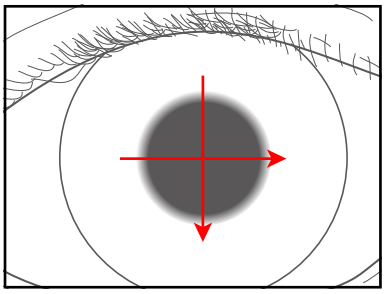
- **[Radial]**
  In this mode, a radial scan is performed on the region centering on the macula or optic disc along 12 lines.



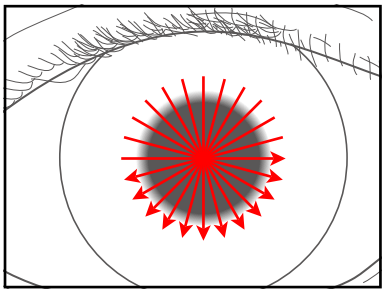
- **[Anterior 3D]**
  In this mode, a 3D scan is performed on the anterior segment. The scanning area is 6 x 6 mm, and the primary scanning direction is horizontal.



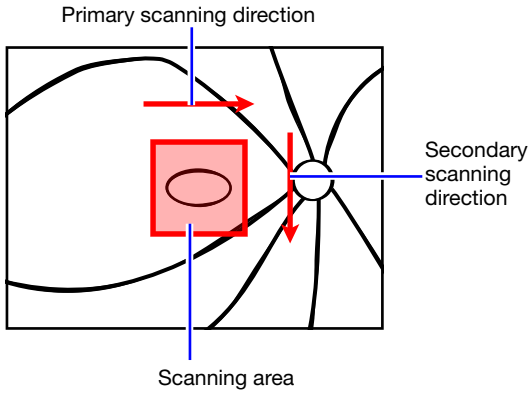
- **[Anterior Cross]**
  In this mode, a cross scan is performed on the anterior segment along one line for each direction.



- **[Anterior Radial]**
  In this mode, a radial scan is performed on the region centering on the anterior segment along 12 lines.



- **[OCTA] (optional product)**
  In this mode, a 3D scan is performed on the region centering on the macula or optic disc. The scanning area can be 3 x 3 mm, 4 x 4 mm, 5 x 5 mm, 6 x 6 mm, or 8 x 8 mm. The primary scanning direction is horizontal.



Information

When OCTA 2 is installed, the scanning area can be set to 9 x 9 mm, 10 x 10 mm, 9 x 3 mm, 12 x 4 mm, or 3 x 9 mm.

Preparing to Capture Images

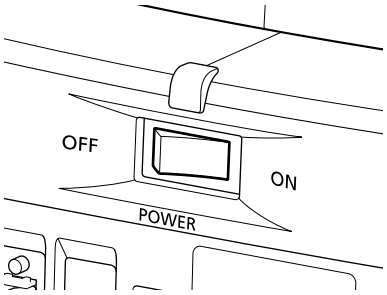
Preparing the OCT

1 **Remove the dust cover and the objective lens cap.**

2 **Insert the power plug all the way into an AC outlet.**

3 **Turn on the power to the OCT.**

The OCT does an initialization sequence (internal check and positioning of the measurement unit). After the initialization, the measurement unit moves and stops at its initial position.



⚠ CAUTION	**The measurement unit moves during initialization - keep the patient's chin away from the chin rest and do not touch the measurement unit. There is a risk of injuring the patient.**

4 **Turn on the power to the computer and the monitor.**

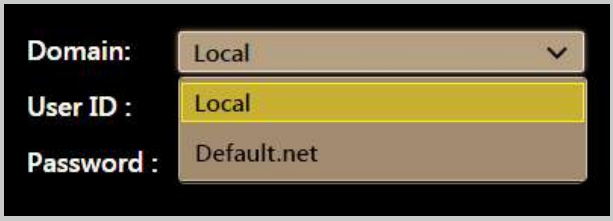
The RX Capture for OCT is started automatically, and the login screen appears.

5 **Enter the user ID and password, and then click [Log In].**

The [Patient] screen appears.

Information

To operate the software using the user information already registered in the domain, select the directory service server from the domain list box on the login screen. The domain list box appears on the login screen when LDAP authentication is enabled on the [LDAP Settings] screen.



Information

The names of the registered software and the numbers of licenses for each appear on the login screen.

Entering Patient Information

1 Enter the patient ID of a new patient.

Make sure that there is no patient with the same patient ID shown in the patient list.

If patient IDs are duplicated or the patient is already registered, patients with the same patient ID are shown in the patient list.

If patient IDs are duplicated, check the patient IDs, and enter the correct patient ID.
If the patient is already registered, do a follow-up examination (see page 66).

Important

When you select a patient, users who select the patient with other computers later can view the information in read-only mode. If you do not need to select the patient, click [Clear]. The patient is deselected.

2 Enter other patient information.

Important

To perform a comparison and an analysis with the normative database, be sure to enter a birth date and an ethnic group.

Information

Click [Clear] to delete all the entered patient's information at once.

Information

"* (Asterisk)" is displayed on the input-mandatory items.

3 Click the [OCT Capture] tab.

The entered patient information is registered in the patient list, and the [OCT Capture] screen appears. The measurement unit moves.

Important

A dialog box appears while the measurement unit is moving. To stop the movement of the measurement unit, click [Cancel].

Preparing for Patients

⚠ CAUTION	**To prevent the risk of infection, wipe the forehead rest with disinfectant ethanol for each patient.** **For details on how to disinfect, consult a specialist. The forehead rest may be corroded if a disinfectant other than those above is used.**

1 Disinfect the forehead rest and replace the chin rest paper.

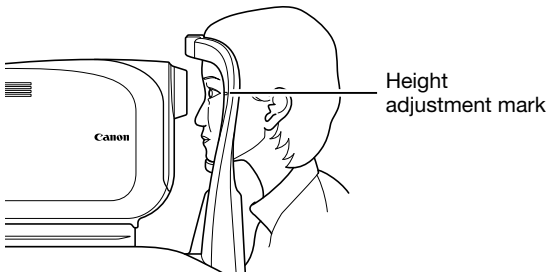
2 Instruct the patient how to sit in front of the OCT.

- Place the patient's chin on the chin rest.
- Place the patient's forehead against the forehead rest.

Instruct the patient to remove his/her contact lenses or glasses, if he/she is wearing them.
Adjust the heights of the optical bench and chair so the patient is comfortable.

3 Adjust the height of the chin rest.

Click the [Chin Rest] button, and align the patient's eye with the height adjustment mark.



Capturing Tomogram Images

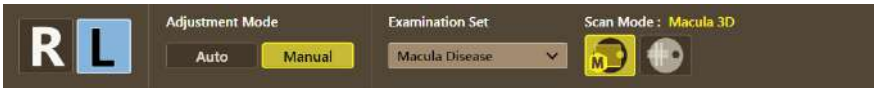
There are the standby screen, the live view screen, and the confirmation screen of captured images in the [OCT Capture] screen.

Selecting an Examination Set

This section describes operations that are needed to be done in the standby screen. The following includes an example of the process to follow when the right eye, automatic adjustment mode and the [Macula Disease] examination set are selected.

CAUTION	**Do not place your hands or fingers near the measurement unit or between it and the base. Your hands or fingers may be pinched and injured when the measurement unit moves. Caution the patient to keep his/her hands and fingers clear of the measurement unit and base.**

1 Click [R].

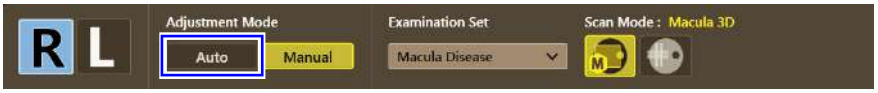


The measurement unit moves to the patient's right eye.

Important

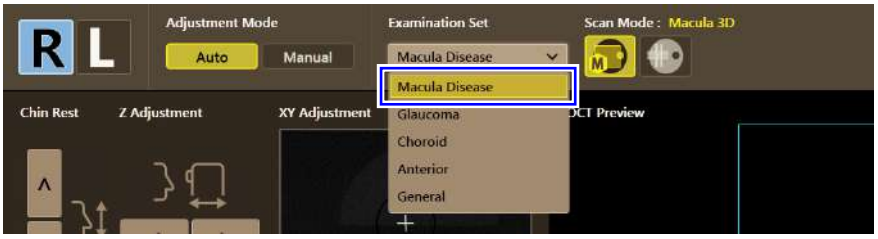
A dialog box appears while the measurement unit is moving. To stop the movement of the measurement unit, click [Cancel].

2 Click the automatic adjustment mode button.



The button is highlighted.

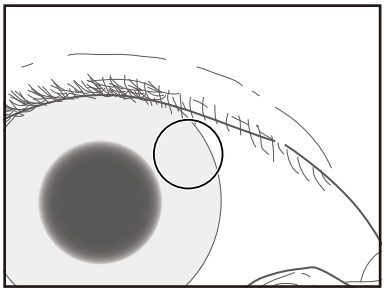
3 Select the [Macula Disease] examination set from the list box.



The scan modes registered in [Macula Disease] appear. Image capture starts in the initially registered [Macula 3D] mode.

4 View the pupil.

Click the anterior segment image. The clicked point moves to the center position. Adjust to view the pupil.

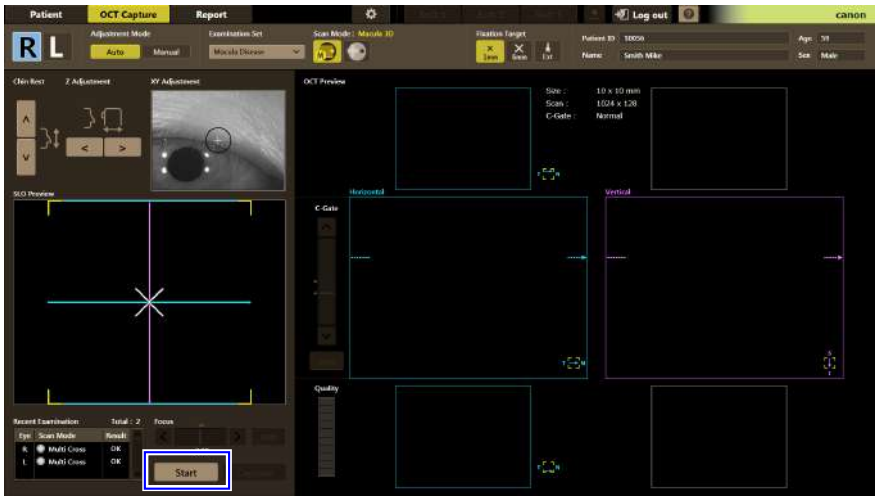


Information

If part of the pupil appears in the anterior segment image, the anterior segment is automatically aligned when the screen is switched to the live view screen.

5 Click [Start].

Or, right-click on any part of the screen.



The measurement unit moves, and the focus of the SLO image, the focus of the OCT image and the vertical position of the OCT image are adjusted automatically.

Important

A dialog box appears while the screen switches to the live view screen from the standby screen. To stop the movement of the measurement unit, click [Cancel].

Important

If the alignment of the anterior segment fails, a dialog box appears when the adjustment ends.

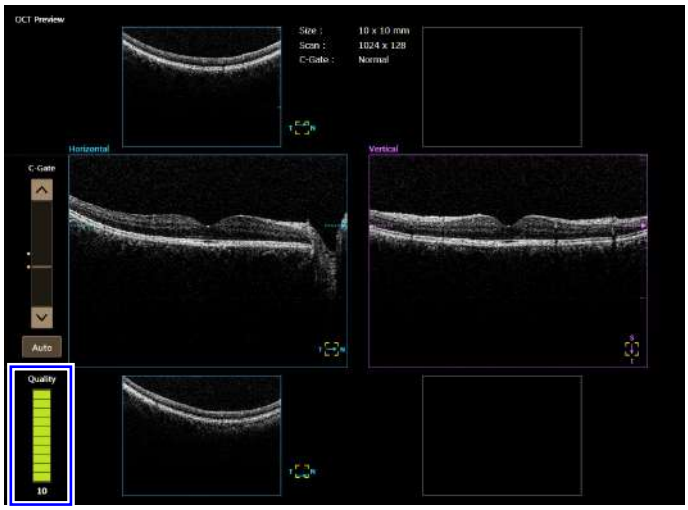
Make sure that the position of the patient's eye is aligned with the height adjustment mark on the face rest.
Make sure that the pupil appears in the center of the anterior segment image on the live view screen.

After checking these items, click the automatic adjustment mode button again to start automatic adjustment.
If the same dialog reappears, adjust the alignment of the anterior segment, focus adjustment of the OCT image, and C-Gate adjustment of the OCT image manually.

The screen switches to the live view screen after adjustment is finished.
The button display changes to [Stop] on the live view screen. Click [Stop] to return to the standby screen.

Capturing Images

1 Make sure that the image quality indicator has changed its color to green.

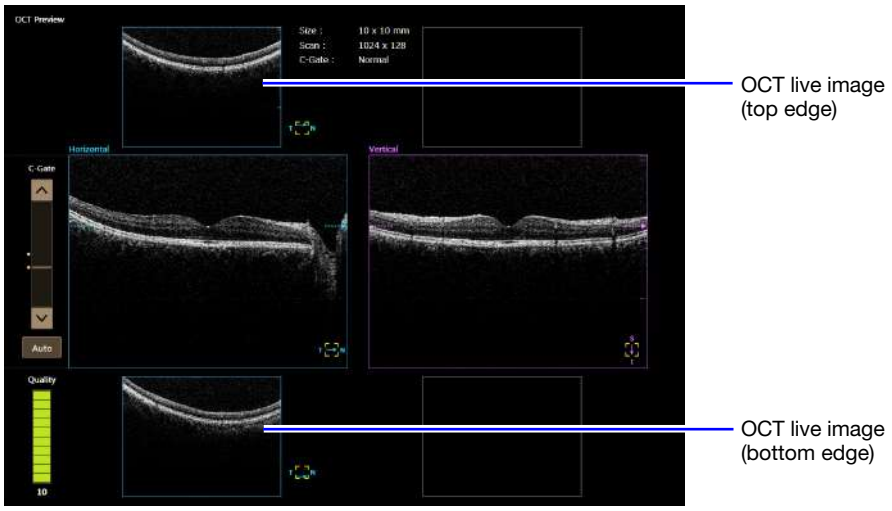


Information

- If the color of the image quality indicator has not changed to green, operate the focus slider and C-Gate slider to adjust the image.
- The image quality indicator may not be green when there is opacity inside the patient's eye.

2 Make sure that the OCT live images at the top and bottom edges appear.

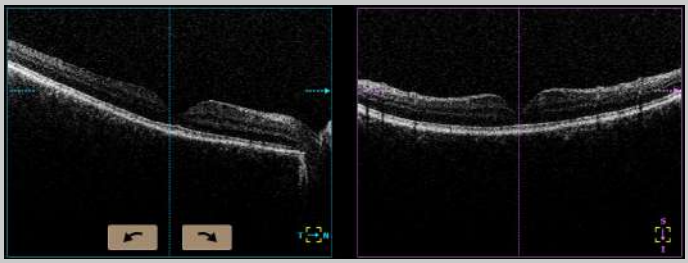
If the images at the top and bottom edges do not appear or are faint, adjust the scanning area. See "OCT Scanning Area" (see page 97) for details.



Information

Showing the Central Guideline

When [Display a guide line on the center of OCT Preview] is selected on the [Capture Settings] screen, the guideline appears on the center of the OCT live image.



3 Adjust the tilt of the tomogram image.

Move the cursor onto the OCT live image to show the tilt adjustment buttons. Click the tilt adjustment buttons to adjust the tilt of the tomogram image.

4 Click [Capture].

Or right-click on any part of the screen.

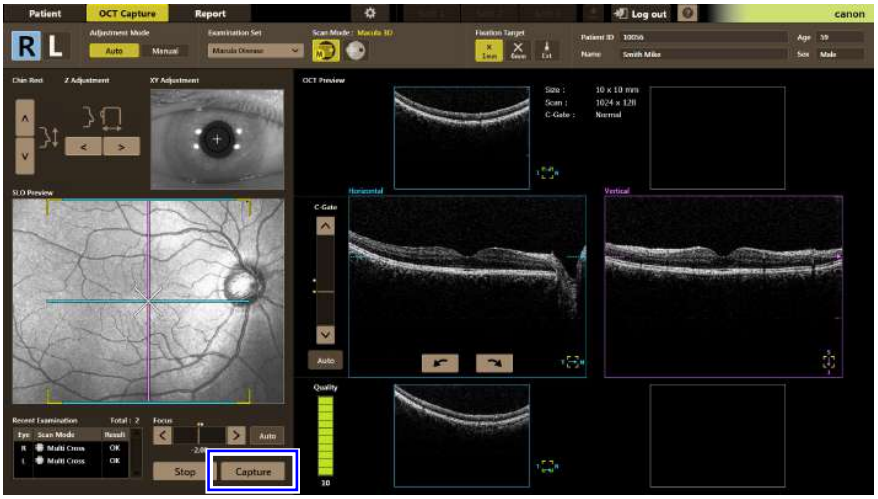


Image capture starts. A confirmation screen appears when image capture ends.

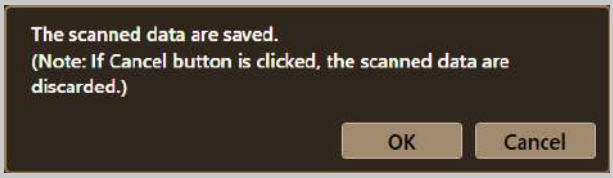
Information

The background of the logged-in user's name turns green on the live view screen when capture setup is complete.
Images can be captured while the background is green.
The background of the logged-in user's name turns pink either when the confirmation screen appears or if capture setup is incomplete.

Information

Canceling Capture

If you want to cancel capturing, click [Cancel], and then select whether to save the data that has been captured.



Checking the Captured Image

The SLO image, OCT image and projection image appear in the confirmation screen.

1 Click [OK] or [NG].

When you are satisfied with the image, click [OK].
To capture the image again, click [NG]. The [OCT Capture] screen reappears.

Clicking [OK] automatically switches to the next scan mode, which is [Multi Cross]. The [OCT Capture] screen appears. Perform the procedure from "Capturing Images".

To capture the image of another patient's eyes, click the [Patient] tab. From here on, repeat the procedure from "Entering Patient Information".

If you are displaying the [OCT Capture] screen, the selected patient’s data cannot be viewed with other computers. If you do not need to capture, switch the screen to the [Patient] screen.

Viewing Reports

Viewing Reports

The following describes an example of how to view reports in the [Single] mode. See "7 Report" (see page 111) for details on how to view reports in other modes.

1 After the capturing is completed, click the [Report] tab.

The [Report] screen appears.

If you are displaying the [Report] screen, users who select the patient later can view the information in read-only mode. If you do not need to view the reports, switch the screen to the [Patient] screen.

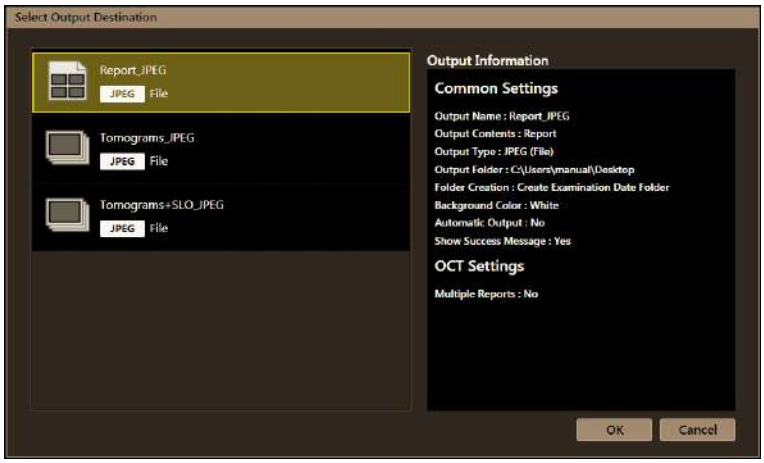
Outputting and Printing Reports

The displayed report can be saved as an image file or printed.

1 Click [Output].

The [Select Output Destination] screen appears.

2 Select the output destination, and then click [OK].



The image file is saved to a pre-specified folder.

Information

See "Saving Reports as Image Files" (see page 156) for details on saving reports.

Information

Printing a Report
When [Print] is clicked, the print dialog box appears. Select the printer, and then click [Print].

To capture the image of another patient's eyes, click the [Patient] tab. From here on, repeat the procedure from "Entering Patient Information".

Recapturing

You can select a particular examination from the scan list in the report screen and then redo captures in the same mode.

1 From the examination list, select and right-click an examination you want to recapture, and from the menu select [Retry Capture].

The [OCT Capture] screen appears.
When this happens, [Retry Capture] is selected in [Examination Set], and capturing is done in the scan mode used previously.

Performing a Follow-up Examination

A follow-up examination is done using the same conditions for capturing images as those in a previous examination. A follow-up examination is automatically done when an examination is repeated.

1 Select a patient.

2 Select an examination.

Select the date of an examination for which you want to do a follow-up and then select an examination done on that day.

3 Click the [OCT Capture] tab.

The [OCT Capture] screen appears.

[Follow-up] is selected as the examination set in which all scan modes that were executed in the previous examination are registered.

From here on, repeat the procedure from step 4 of "Selecting an Examination Set". Clicking [OK] in the confirmation screen after capturing an image switches to the next registered scan mode.

Information

Examinations judged as “NG” are not included in the follow-up examination.

Information

To capture images using the regular procedure, select an examination set other than [Follow-up].

Shutting Down the RX Capture for OCT

1 **Click [Log out].**

The login screen appears.

Important

On the day when automatic backup is performed, exit lastly the software installed on the computer to be used for backup.

2 **Click [Shutdown].**

The computer turns off automatically after the RX Capture for OCT shuts down.

Information

Do not turn off the computer when the RX Viewer is in use.
Click and then click [Exit] to shut down the software without turning off the computer.

3 **Turn off the power to the OCT.**

4 **Disconnect the power plug from the AC outlet.**

5 **Attach the objective lens cap, and place the dust cover over the OCT.**

Starting RX Viewer

1 **Double-click on the desktop.**

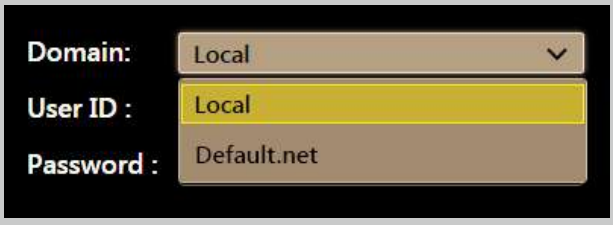
RX Viewer is started, and the login screen appears.

2 **Enter the user ID and password, and then click [Log In].**

The [Patient] screen appears.

Information

To operate this software using the user information already registered in the domain, select the directory service server from the domain list box on the login screen. The domain list box appears on the login screen when LDAP authentication is enabled on the [LDAP Settings] screen.



Shutting Down RX Viewer

1 **Click [Log out].**

The login screen appears.

Important

On the day when automatic backup is performed, exit lastly the software installed on the computer to be used for backup.

2 **Click [Exit].**

RX Viewer exits.

Starting RX Server

1 **Double-click on the desktop.**

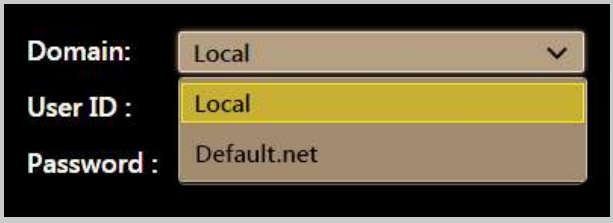
RX Server is started, and the login screen appears.

2 **Enter the user ID and password, and then click [Log In].**

The [Patient] screen appears.

Information

To operate this software using the user information already registered in the domain, select the directory service server from the domain list box on the login screen. The domain list box appears on the login screen when LDAP authentication is enabled on the [LDAP Settings] screen.



Information

The names of the registered software and the numbers of licenses for each appear on the login screen.

Shutting Down RX Server

1 **Click [Log out].**

The login screen appears.

Important

On the day when automatic backup is performed, exit lastly the software installed on the computer to be used for backup.

2 **Click [Exit].**

RX Server exits.

Seeing the Operation Manual

Clicking the operation manual button on the menu bar displays the operation manual.

Information

Contact your sales representative or local Canon dealer if the operation manual does not appear.

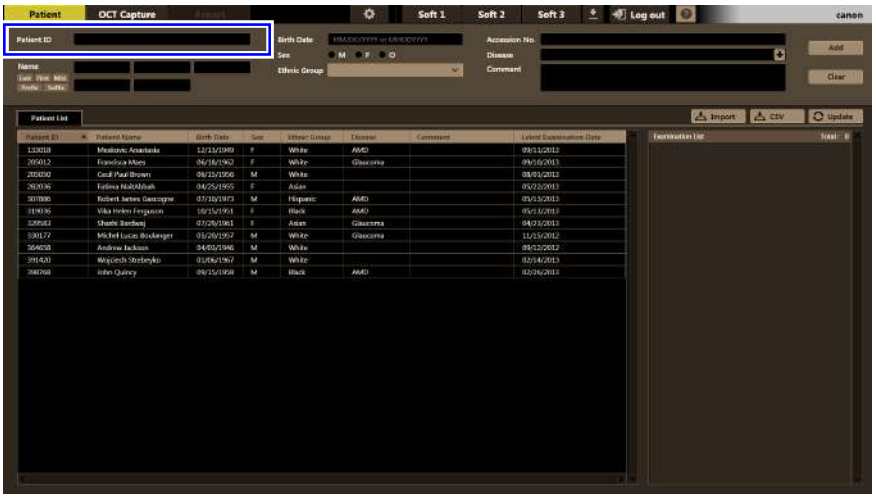
5 Patient Management

In the [Patient] screen, you can manage patient information that is registered to the patient list or import existing patient information. The software supports incremental searching (automatic filtered searching).

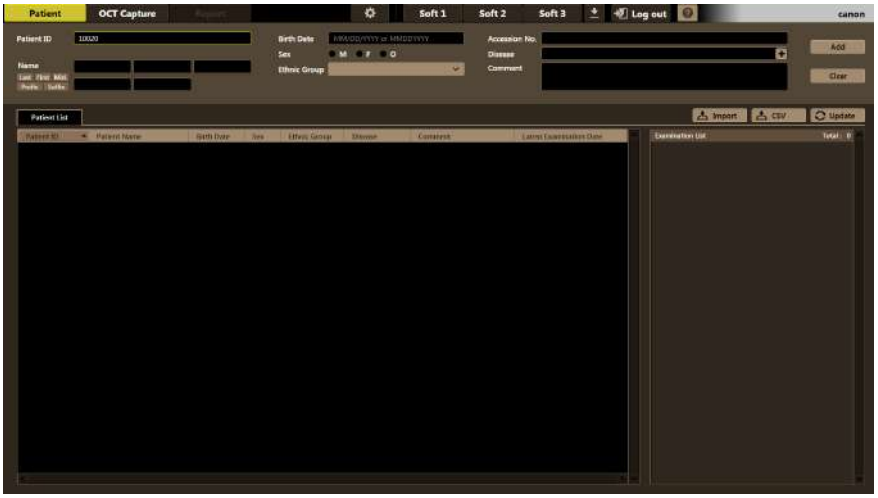
Registering the Patient Information of New Patients

Register the patient information of new patients to the patient list.

1 Enter the patient ID.



2 Make sure that the patient is not in the existing patient list.



3 Enter patient information other than the patient ID.

Important

To perform a comparison and an analysis with the normative database, be sure to enter a birth date and an ethnic group.

4 Click the [OCT Capture] tab.

The patient information appears on the patient list, and the [OCT Capture] screen appears.

Information

If [Log out] or [Report] tab is clicked while patient information is being entered, the information is not registered.

Information

An error screen appears if the [OCT Capture] tab is clicked while the required items are left blank. The required items are specified in the [Input restrictions] tab of the [Input Settings] screen.

Information

When adding a patient to the patient list without capturing an image, enter the patient information and click [Add].

Searching for a Patient

Patients that match the text entered in the patient information entry field appear. However, you cannot use an accession number for searching. This section describes how to search for the patient information by patient IDs and disease names.

Information

Searching for Patients by Magnetic Card or Bar Code Reader
Communications parameters and data must be set for the magnetic card or bar code reader to be used. For details, please contact your sales representative or local Canon dealer.

Searching by Patient ID

Enter a patient ID.
The matching patient appears in the patient list.

Information

When part of a patient ID is entered, patients whose patient ID includes the entered text string appear. To specify a patient, enter text in other entry fields to narrow down the search conditions.

Information

An incremental search is performed as text is entered so patient IDs that contain the entered text will appear in the patient list.

Searching by Disease Name

Enter a disease name.
Matching patients appear in the patient list.

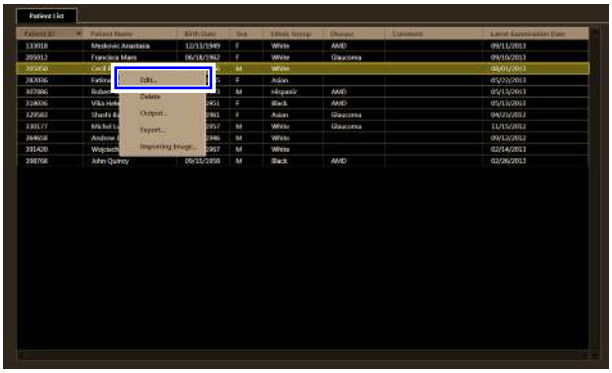
Information

Enter text in other entry fields to narrow down the search conditions if patients with the same disease are registered.

Editing Patient Information

This section describes how to edit patient information that is registered in the patient list.
To use this function, you need [Administrator] or [Super User] privilege.

1 Select and right-click a patient, and select [Edit] from the menu.



The [Edit Patient Information] screen appears.

2 Edit the patient information, and click [OK].

The [Patient] screen reappears. The patient information is updated.

Important

An error message appears when a patient ID that is already registered is entered and [OK] is clicked.
In this case, the patient information cannot be updated. Enter a patient ID that is not yet registered.

Information

Edits of patient information in the [Edit Patient Information] screen are not applied to content set in the [Input restrictions] tab of the [Input Settings] screen.

Deleting Patient Information

Patient information can be deleted from the patient list. If patient information is deleted, all examination results for that patient are also deleted.
To use this function, you need [Administrator] or [Super User] privilege.

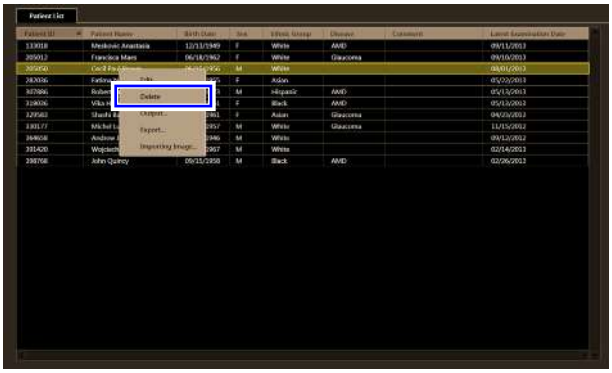
Information

Multiple items can be selected by Shift-clicking or Ctrl-clicking.

Important

Once deleted, patient information cannot be restored. Carefully check patients before deleting them.

1 Select and right-click a patient, and select [Delete] from the menu.



A message screen appears.

2 Click [Yes].

The patient information is deleted.

Selecting Study Orders from the Worklist

The worklist is retrieved from HIS/RIS. Set the maximum number of items that can be retrieved at one time in the [MWL Settings] screen (see page 226). Also, HIS/RIS can be notified when an examination is implemented.

1 Click the [Work List] tab.

The worklist appears.

2 Select a study order.

Information

Searching for Study Orders in the Worklist
Enter a text string in the patient information entry field. Matching study orders appear.

Updating the Worklist
Click [Update]. The worklist is re-acquired.

3 Click the [OCT Capture] tab.

The patient information registered to the study order is registered in the patient list, and the [OCT Capture] screen appears.

Information

If content that cannot be registered on the software is entered, a message screen appears. If [OK] is clicked, corresponding items are registered as blank. If [Cancel] is clicked, patient information is not registered to the patient list and the [OCT Capture] screen does not appear.

Information

When Duplicate Patients are Registered to the Patient List
A message screen appears if there are items that do not match existing patient information. If [OK] is clicked, the items that do not match are overwritten. If [Cancel] is clicked, the items are not overwritten and the [OCT Capture] screen does not appear.

Information

A follow-up examination cannot be performed from the worklist.

Changing the Patient List View

Patients can be sorted and specified items can be set as hidden.

Sorting Items

Click the column header of the respective item. Patients are sorted on the basis of the clicked item.

Information

Clicking the column header toggles between descending order and ascending order.

Changing Order of Displayed Items

Drag the column headers of each item. The items move to the position where the mouse button is released.

Changing Items to Show

Right-click on the column header of the items and click the selected items. Clicked items are deselected and do not appear in the patient list.

Changing the Column Width of Items

Drag the boundary of the column header.

Outputting Examination Results

Examination results (i.e. OCT images and reports) can be saved as image files from the [Patient] screen. Output settings must be made in advance to save data to DICOM, the local disk, or an external hard disk drive. For details on settings for outputting data, see "Output Settings" (see page 218).

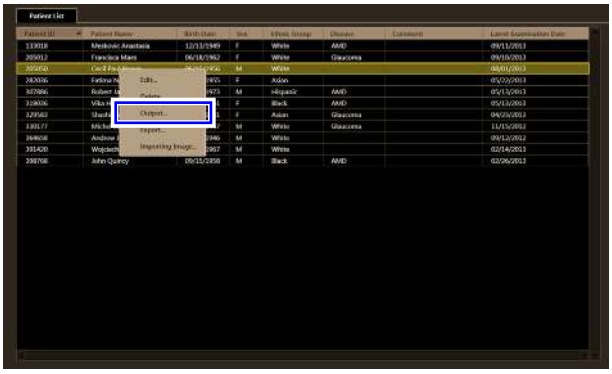
Information

Multiple items can be selected by Shift-clicking or Ctrl-clicking.

Outputting All Examination Results of Selected Patients

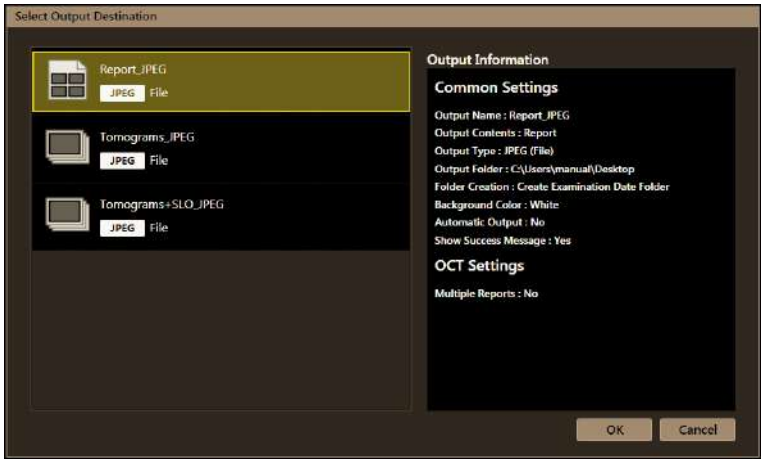
All OCT images and reports for selected patients can be output.

1 Select and right-click a patient, and select [Output] from the menu.



The [Select Output Destination] screen appears.

2 Select the output destination, and then click [OK].



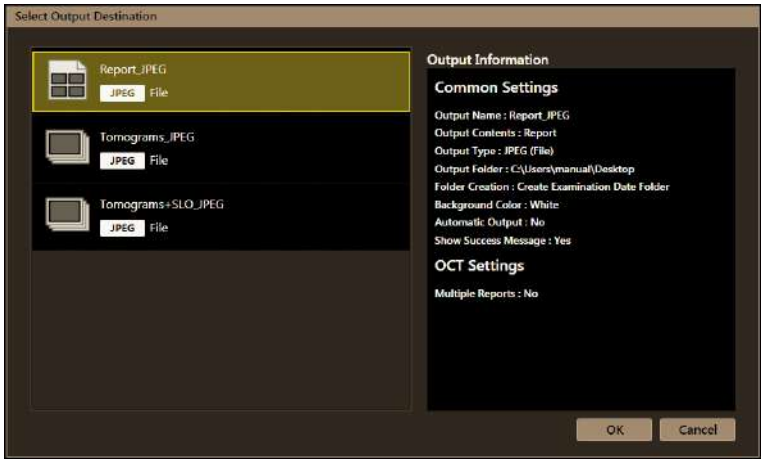
Outputting Selected Examination Results

The OCT images and reports of selected examinations can be output.

1 Select and right-click an examination, and select [Output] from the menu.

The [Select Output Destination] screen appears.

2 Select the output destination, and then click [OK].



Information

Printing an Examination
Select and right-click an examination, and select [Print] from the menu.

Changing the Assessment of Examination
Select and right-click an examination, and select [NG] from the menu.

Deleting an Examination on [Patient] Screen

Select and right-click an examination, and select [Delete] from the menu. Once an examination is deleted, it cannot be restored.
To use this function, you need [Administrator] or [Super User] privilege.

Importing Existing Patient Information

Existing patient information can be imported as CSV (Comma Separated Value) format files.

1 Set the order in which items are imported.

On the [CSV Import Settings] tab of the [Input Settings] screen, enter the [Column No.] of each item (see page 216). The patient information must be entered in the CSV file according to this column order.

2 Make a list of patient information in a CSV file.

Observe the following rules when entering patient information.

- To leave a field blank, do not enter anything.
- For sex, enter "M" for male, "F" for female and "O" for other.
- For ethnic group, enter "Hispanic", "White", "Black", or "Asian".

Example of CSV File

```
141362,Fatima NaitAbbah,10/15/1951,F,Asian
458286,Anastasia Meskovic,1/2/1948,F,White
158733,Isabel Yumiko de Sousa,2/26/1960,F,White
434824,Shashi Bardwaj,7/28/1961,F,Asian
198613,Francisca Maes,4/22/1959,F,White
589897,Lucineire Rocha Okamoto,5/20/1957,F,White
491100,Vika Helen Ferguson,6/18/1962,F,Black
378257,Lily Chang,11/14/1955,F,Asian
107765,Yalda Sheikh,2/26/1963,F,Asian
259666,Shana Van Het Kumtichshof,7/29/1961,F,White
223642,John Quincy,1/6/1967,M,Black
248359,Wojciech Strebeyko,11/15/1955,M,White
188062,Kuan-Yin Wong,9/15/1958,M,Asian
153792,Robert James Gascogne,11/12/1953,M,White
100973,Naranbaatar Khan,12/13/1949,M,Asian
266066,Cecil Paul Brown,7/21/1960,M,White
473700,Quaashie Kofi Wadiwe,4/25/1955,M,Black
418292,Michel Lucas Boulanger,8/13/1956,M,White
569971,Gaby Kiyohara Van De Welhaven,10/8/1951,M,White
694742,Andrew Jackson,5/26/1973,M,White
314766,Nait Abbah Fatima,5/26/1973,F,Black
642451,Yonat Ben-David,5/26/1973,O,Asian
564515,Eurgain Grant,5/26/1973,O,White
473090,Meskovic Anastasia,8/15/1945,F,White
327759,Bardwaj Shashi,4/3/1964,F,Asian
```

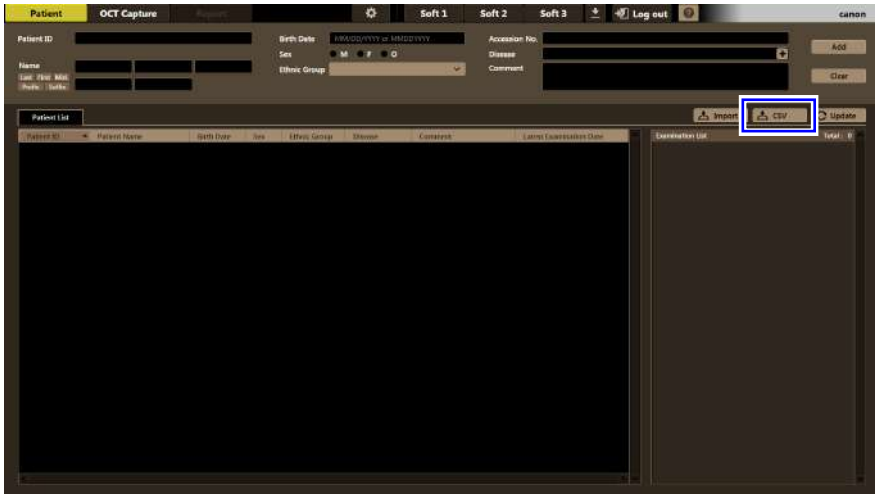
Information

Sex and ethnic group entry rules can be changed to any text string in the [Input Settings] screen.

Information

Content set on the [Input restrictions] tab of the [Input Settings] screen cannot be applied to the patient information that is imported.

3 Click [CSV].



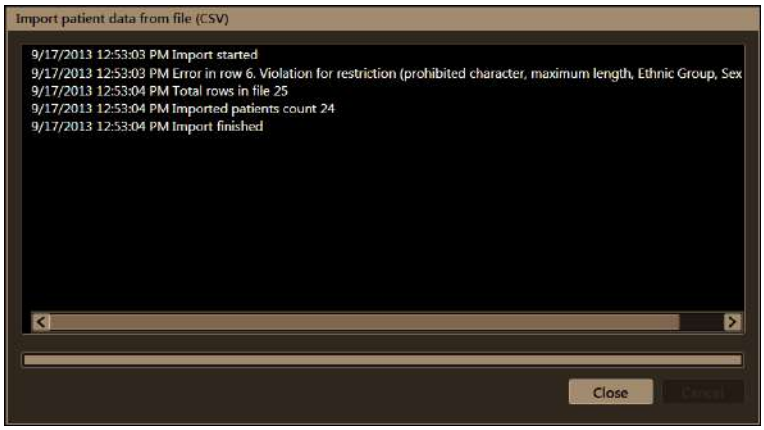
4 Select the CSV file, and then click [Open].

The [Import patient data from file (CSV)] screen appears, and importing of the CSV file starts.
When the import is completed, the [Close] button becomes active.

Information

When Duplicate Patients are Registered to the Patient List
A message screen appears if there are items that do not match existing patient information. If [Yes] is clicked, the items that do not match are overwritten. If [No] is clicked, the items are not overwritten. To manage two or more patients at a time, click [Yes to all] or [No to all].

5 Click [Close].



The [Patient] screen reappears. The imported patient information appears in the patient list.

Exporting Examination Data

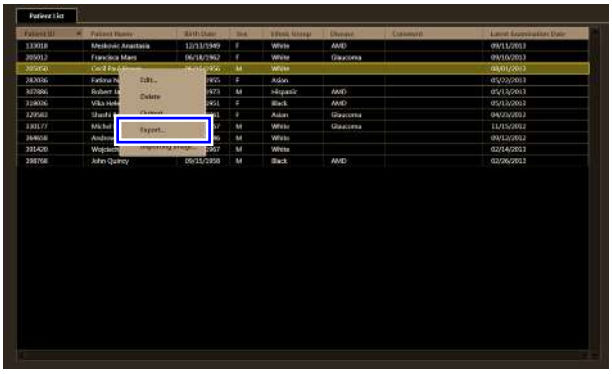
You can export data of an examination or all the examinations of a patient.

Information

Multiple items can be selected by Shift-clicking or Ctrl-clicking.

Exporting All the Examination Data of Selected Patient

1 **Select and right-click a patient, and select [Export] from the menu.**

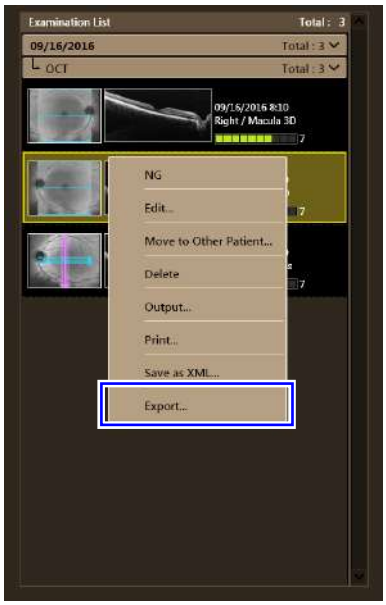


2 **Select the save destination, and then click [Save].**

3 **When the save is completed, click [OK].**

Exporting Selected Examination Data

1 **Select and right-click an examination, and select [Export] from the menu.**



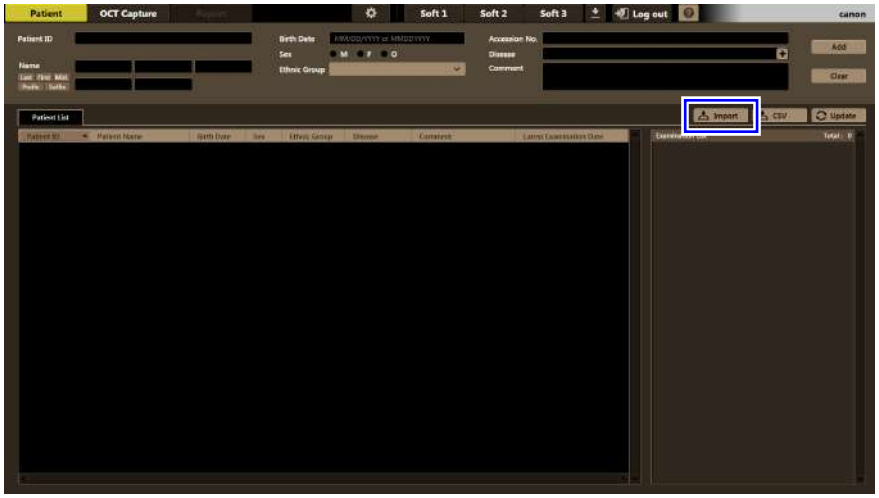
2 **Select the save destination, and then click [Save].**

3 **When the save is completed, click [OK].**

Importing Examination Data

Exported examination data with the extension “exd” can be imported.

1 On the [Patient] screen, click [Import].



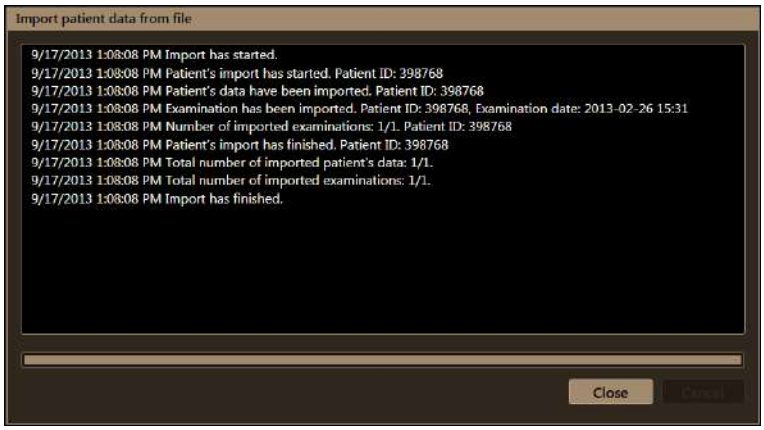
2 Select the examination data with the extension “exd”, and then click [Open].

The [Import patient data from file] screen appears, and a file import starts.
When the import is completed, the [Close] button becomes active.

Information

When Duplicate Patients are Registered to the Patient List
A message screen appears if there are items that do not match existing patient information. If [Yes] is clicked, the items that do not match are overwritten. If [No] is clicked, the items are not overwritten. To manage two or more patients at a time, click [Yes to all] or [No to all]. If [Cancel] is clicked, the file import is canceled.

3 Click [Close].



The [Patient] screen reappears. The imported patient information appears in the patient list.

Transferring Examination Data

You can transfer examination data to another patient list.
To use this function, you need [Administrator] or [Super User] privilege.

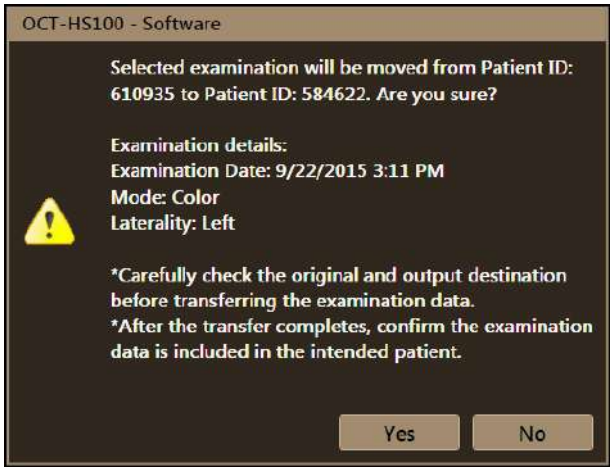
1 Select and right-click an examination, and select [Move to Other Patient] from the menu.

The [Choose destination patient] screen appears.

2 Enter a patient ID or select a patient as the output destination, and click [OK].

A screen confirming the transfer appears.

3 Click [Yes].



A message appears confirming the completion of the transfer.

4 When the transfer is completed, click [OK].

Important

Contact your sales representative or local Canon dealer if you are no longer sure of the output destination for the examination data.

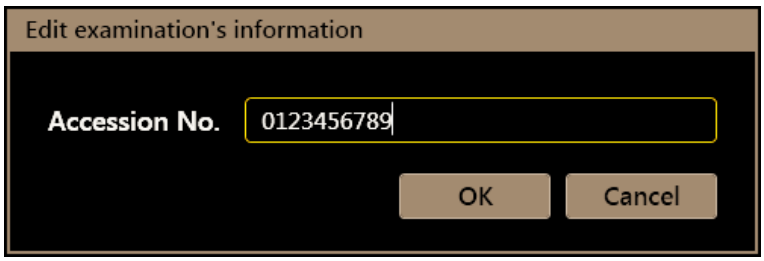
Editing an Accession Number

You can edit an accession number for examination information.
To use this function, you need [Administrator] or [Super User] privilege.

1 **Select and right-click an examination, and select [Edit] from the menu.**

The [Edit examination's information] screen appears.

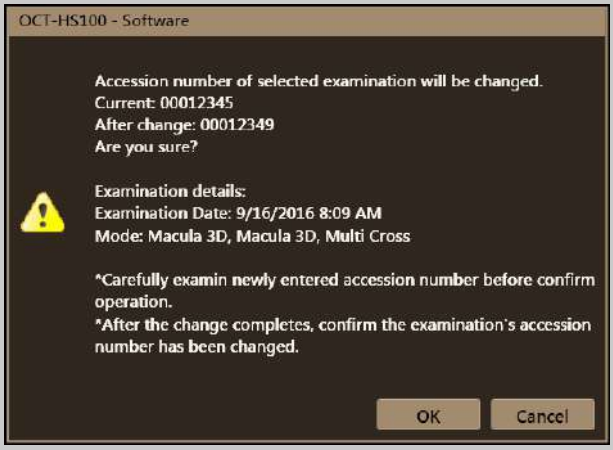
2 **Enter an accession number, and click [OK].**



A message appears confirming the completion of editing.

Information

In the screening mode, a message confirming the edit appears. Check the content of the message. To complete editing, click [OK] to close the message.



Important

Contact your sales representative or local Canon dealer if you are no longer sure of the edited accession number.

Saving Examination Data in XML Format

You can save examination data in XML format. The examinations that can be saved are only those captured in the [Macula 3D], [Glaucoma 3D], [Disc 3D], and [Anterior Radial] modes.

1 **Select and right-click an examination, and select [Save as XML] from the menu.**

2 **Select the save destination, and then click [Save].**

A completion message appears.

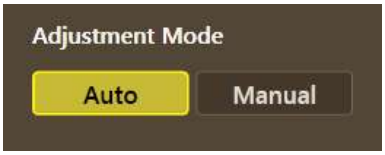
3 **When the save is completed, click [OK].**

6 Capturing Images

The [OCT Capture] screen has three screens: a standby screen, live view screen and captured image confirmation screen. In the standby screen, select the mode and perform other preparations. In the live view screen, adjust the focus or C-Gate while viewing the live SLO image and the live OCT images. Decide if the captured image is acceptable in the confirmation screen.

Changing the Adjustment Mode

Click the desired adjustment mode button. The button is highlighted.



In the automatic adjustment mode, the alignment of the anterior segment, focus adjustment of the SLO and OCT image, and C-Gate adjustment of the OCT image are automatically performed.

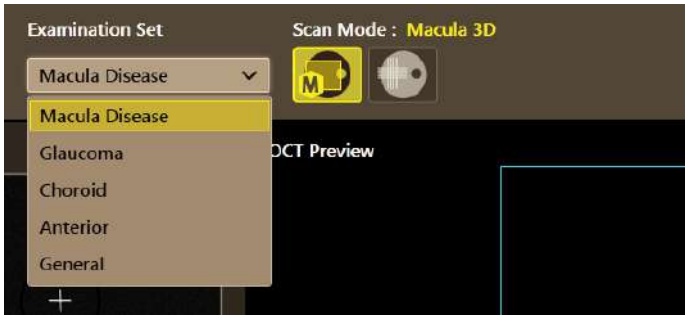
Information

Automatic adjustment may not produce acceptable results when examining the eyes of some patients. If this happens, adjust manually.

Changing the Examination Set and Scan Mode

To change the examination set, select the desired examination set from the list box.

To change the scan mode, click the desired scan mode button. This switches the scan mode. The button is highlighted, and the name of the scan mode appears.



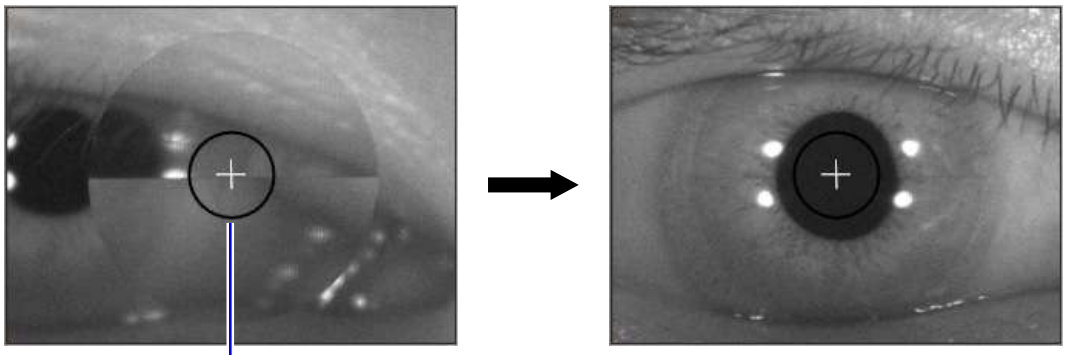
When the scan mode is changed, the content of operations performed so far returns to its initial state.

Manual Alignment

In the manual adjustment mode, align the anterior segment manually.

Align the pupil and the alignment circle to be concentric, and adjust the focus of the anterior segment image.

- Pupil vertical position adjustment: click the anterior segment image.
- Anterior segment image focus adjustment: click [Z Adjustment] button.



Information

Using the Mouse Wheel
You can do the same operation as [Z Adjustment] button by placing the cursor on the anterior segment image and turning the mouse wheel.

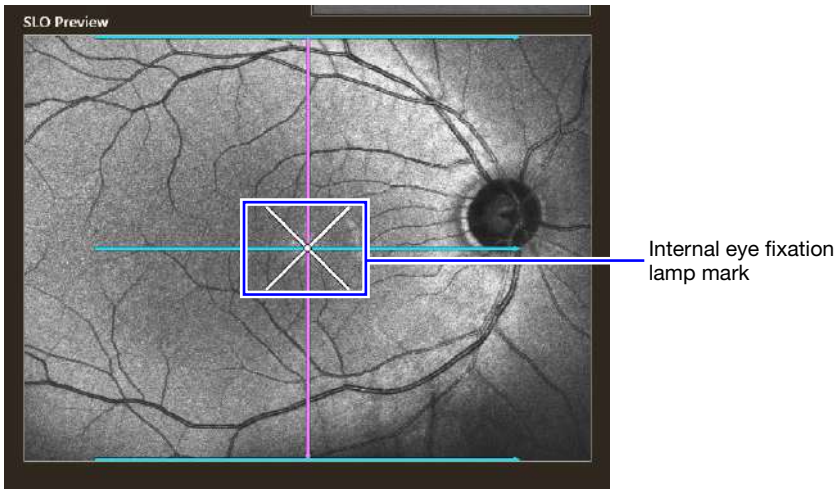
Eye Fixation Lamp

Changing the Size of the Internal Eye Fixation Lamp

Click the internal eye fixation lamp button. The button is highlighted.
Two sizes of internal eye fixation lamp can be selected: "1 x 1 mm" and "6 x 6 mm".

Moving the Internal Eye Fixation Lamp

Drag the internal eye fixation lamp mark in the SLO live image.



Making the Internal Eye Fixation Lamp Flash

Click the currently selected internal eye fixation lamp button. The internal eye fixation lamp flashes for about two seconds.

Information

If [Blink] is selected on [Internal Fixation Target] in the settings screen, the internal eye fixation lamp blinks continuously.

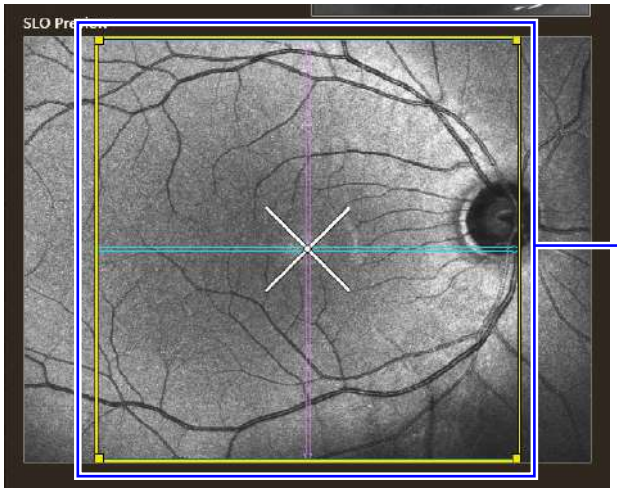
Using the External Eye Fixation Lamp (Optional Product)

Click the external eye fixation lamp button. The button is highlighted.

OCT Scanning Area

Displaying the Scanning Area

Move the cursor to inside the B-scan lines.
The inside of the square in yellow is the OCT image capture area.



Moving the Scanning Area

Move the cursor to inside the scanning area mark and drag the scanning area.

Resizing the Scanning Area

Move the cursor over the periphery of the scanning area mark and drag the periphery.
The scanning area can be resized in the [Cross], [Multi Cross], [Custom 3D], [Radial], and [Anterior Cross] modes.

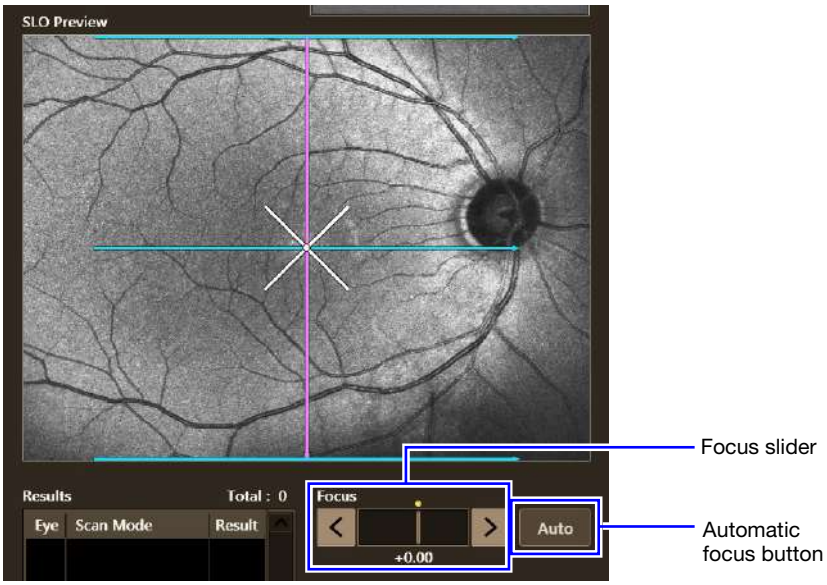
Changing the B-scan Line Interval

The B-scan line interval can be changed when the [Multi Cross] mode is selected. Drag the end line. The lines change those color to orange while the end line is dragged. As the interval narrows, it changes to three lines.

Adjusting the Focus

Adjust the focus to make the image sharper.

Operate the focus slider. Either click [<] or [>], or drag the orange dot.



Important

Checking the Result of Focus Adjustment
Adjust the focus so that the OCT live image is at the sharpest position.

Information

Using the Mouse Wheel
You can do the same operation as the focus slider by placing the cursor on the SLO live image and turning the mouse wheel.

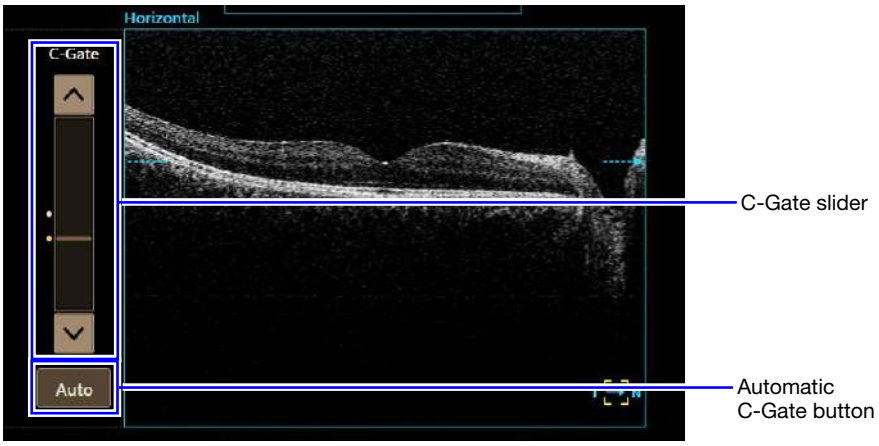
Automatic Focus
The focus is automatically adjusted by clicking the automatic focus button.

Showing the Focus Adjustment Value
The adjustment value appears under the focus slider. Use this as a reference when adjusting the focus.

Adjusting the C-Gate of the OCT Live Images

Adjust the vertical position of the OCT live image so that the region to capture is visible.

Operate the C-Gate slider. Either click ^ or v, or drag the orange dot.



Information

Using the Mouse Wheel
You can do the same operation as the C-Gate slider by placing the cursor on the OCT live image and turning the mouse wheel.

Automatic Adjustment of Vertical Position
The vertical position of the OCT live image is automatically adjusted by clicking the automatic C-Gate button.

Confirmation Screen

Checking the Captured Image

Check the following images and confirm if they are acceptable.

- SLO image
- Projection image (OCTA image)
- Slide show of OCT image

To stop the slide show, click [Stop]. While stopped, the button changes to [Play]. Click [Play] to start showing images again automatically.

Information

The OCT images appear as a list in the [Cross], [Multi Cross], [Anterior Cross] and [Radial] modes. The projection image does not appear in the scan modes above.

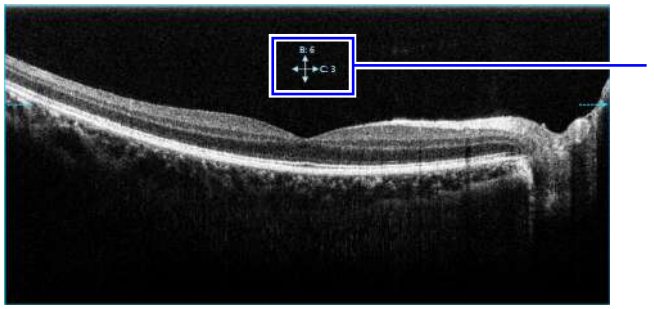
Information

In the [OCTA] mode, the projection image appears just after you capture images, and then it switches to the OCTA image.

Adjusting the Brightness and Contrast of Captured Images

Move the cursor over the OCT image and drag the cursor up, down, right, or left.

- Dragging up and down: Adjusts the brightness.
- Dragging right and left: Adjusts the contrast.



Information

Resetting Brightness and Contrast After Adjustment
Right-click the OCT image, and select [Reset Brightness/Contrast] from the menu.

Changing the Color of Captured Images

Right-click the OCT image, and select the item from the menu.

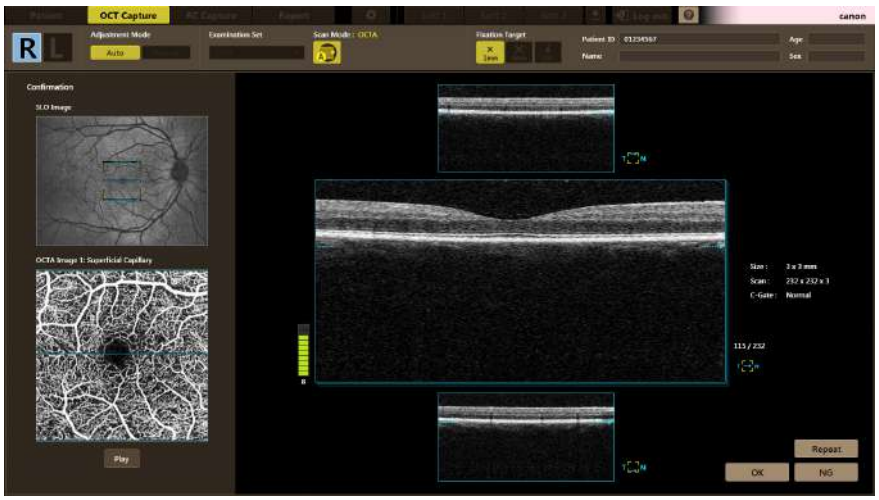
- [Gray Scale]: Show in gray scale (default)
- [Invert]: Show in inverted gray scale
- [False Color]: Show in color

Capturing OCTA Examination Images Repeatedly

To perform repeat capturing in the [OCTA] scan mode, click [Repeat].

Information

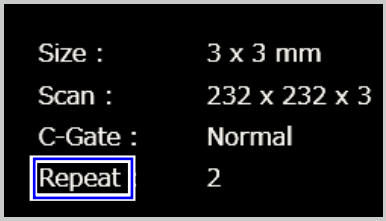
To perform repeat capturing in the [OCTA] scan mode, the OCTA Capture license (optional product) and the OCTA 2 license (optional product) are required.
The [Repeat] button appears when the OCTA 2 license is enabled.



Click [Repeat] to display the [OCT Capture] screen.

Information

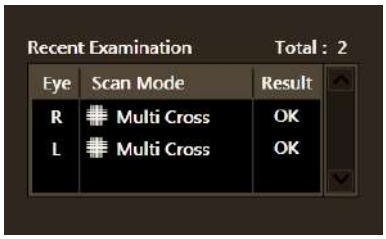
During repeat capturing, the number of captures ([Repeat]) appears on the [OCT Capture] screen.



Changing the Assessment of Captured Images

The assessment made in the confirmation screen can be changed in the [OCT Capture] screen.

1 **Double-click the examination displayed in the [Recent Examination].**



The confirmation screen appears.

2 **Click [OK] or [NG].**

The standby screen reappears. The scan mode that was selected before moving to the confirmation screen remains effective.

Information

You can also change assessments in the [Patient] screen and [Report] screen.

Anterior Segment Tomography

If the Anterior Segment Adaptor (optional product) is installed on the OCT, the OCT images of the anterior segment, including the cornea and chamber angle, can be captured.

⚠ WARNING	**If a user who has an electronic medical implant experiences an aberration during instrument use, he/she should keep a safe distance from the auxiliary lens.** **The auxiliary lens contains magnets. If a user who has an electronic medical implant experiences an aberration during instrument use, he/she should keep a safe distance from the auxiliary lens.**

⚠ CAUTION	**Be sure to attach the auxiliary forehead rest and auxiliary chin rest.** **The working distance changes when the auxiliary lens is attached. The patient's eye may be injured by making contact with the objective lens if the auxiliary forehead rest and auxiliary chin rest are not attached.**

⚠ CAUTION	**Be sure to keep the patient's face away from the chin rest and forehead rest when selecting the [OCT Capture] tab in the [Patient] or [Report] screen with the Anterior Segment Adaptor still attached. Otherwise, a patient may be injured by the Anterior Segment Adaptor making contact with him/her when the measurement unit moves in any direction.**

Preparing Anterior Segment Tomography

1 Select the [Anterior] examination set.

The measurement unit moves to the furthest position from the patient side.
The message screen appears.

2 Attach the Anterior Segment Adaptor.

Refer to the Anterior Segment Adaptor operation manual.
[Start] appears when the auxiliary lens is attached correctly.

3 Click [OK] on the message screen.

4 Seat the patient in front of the OCT and instruct the position.

- Place the patient's chin on the auxiliary chin rest.
- Place the patient's forehead against the auxiliary forehead rest.

Instruct the patient to remove his/her contact lenses or glasses, if he/she is wearing them.
Adjust the heights of the optical bench and chair so the patient is comfortable.

5 Adjust the height of the chin rest.

Click [Chin Rest] button to align the patient's eye with the height adjustment mark.

6 Click [Z Adjustment] button to move the measurement unit toward the patient.

Move the measurement unit toward the patient until the distance between his/her eye and the auxiliary lens is approximately 20 mm.

Important

Be sure to visually confirm the auxiliary lens position while moving the measurement unit towards the patient.

Performing Anterior Segment Tomography

Information

Use the external eye fixation lamp (optional product) when capturing the chamber angle.

1 **Click [Start].**

The live images are shown on [XY Adjustment] and [SLO Preview].

2 **Click the anterior segment image, and perform the alignment.**

The clicked point moves to the center position. Adjust to set the capturing part at the center.

3 **Click [Z Adjustment] button to adjust the position of the OCT live image.**

Adjust to set the capturing part at the center.

4 **Operate the focus slider to adjust the focus and brightness of the SLO live image.**

5 **Click [Capture].**

The following procedures are the same as for retinal tomography.

6 **Remove the Anterior Segment Adaptor.**

Refer to the Anterior Segment Adaptor operation manual.

Important

A message screen appears if a scan mode other than [Anterior 3D], [Anterior Cross] or [Anterior Radial] is selected while the Anterior Segment Adaptor is attached. Remove the Anterior Segment Adaptor, and click [OK] on the message screen.

Performing OCTA Mosaic Capturing (Optional Product)

You can create a mosaic image by capturing several OCTA images and combining them. To use this function, the OCTA Capture license (optional product) and the OCTA 2 license (optional product) are required.
On the [Examination Settings] screen in [Initial Settings], register an examination set for mosaic capturing beforehand.

Information

Registering Examination Sets for Mosaic Capturing
Select the [OCTA] scan mode on the [Examination Set Settings] screen in the [Examination Settings] screen (see page 208), and then select [Mosaic 4x] or [Mosaic 5x] from the [Fixation Position] setting.

Performing OCTA Mosaic Capturing

1 Select an examination set registered for mosaic capturing from the list box.

2 Click [Capture].

This step is the same as for retinal tomography.

3 Click [OK] or [NG].

When you are satisfied with the image, click [OK].
The [OCT Capture] screen appears and the internal eye fixation lamp moves to the next setting position.
To capture the image again, click [NG].

4 Click [Capture].

After this step, repeat capturing OCTA images as many times as you set for the examination set.
When the number of captures reaches the predefined number of capture times, the OCTA capture screen reappears and the mosaic capturing ends.

Information

When [Fixation Position] is set to [Mosaic 4x], the number of capture times is four, and when it is set to [Mosaic 5x], the number of capture times is five.

Changing Image Capture Settings

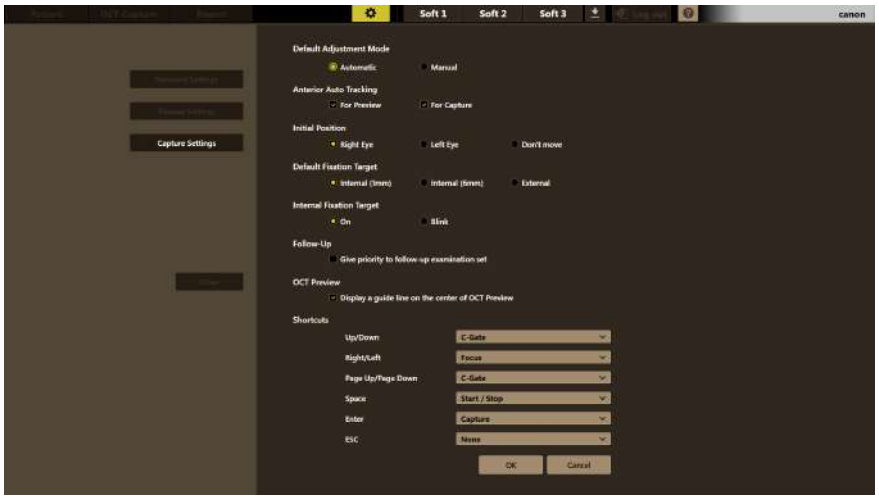
Change image capture-related settings.

1 **Click .**

The settings screen appears.

2 **Click [Capture Settings].**

3 **Select items from the list box for each setting.**



- **[Default Adjustment Mode]**
  Set the default adjustment mode. The adjustment mode selected in this item is the initially selected mode for new examinations.

- **[Anterior Auto Tracking]**
  [For Preview]: To perform Auto Tracking when previewing images, select this box.
  [For Capture]: To perform Auto Tracking when capturing images, select this box.

- **[Initial Position]**
  Set the initial position of the measurement unit. The measurement unit moves to the eye to be examined, which has been selected in this item, for new examinations. When [Don't move] is selected, the measurement unit does not move from the previous examination position.

- **[Default Fixation Target]**
  Select a fixation target type. The fixation target type selected in this item is the first type to be selected for new examinations.

- **[Internal Fixation Target]**
  Set whether to blink the internal eye fixation lamp continuously.

- **[Follow-Up]**
  Set whether to automatically select the [Follow-up] examination set when an examination is selected and the [OCT Capture] screen appears.

- **[OCT Preview]**
  Set whether to display the guideline on the OCT live image on the [OCT Capture] screen. When this box is selected, the guideline appears in the center of the OCT live image.

- **[Shortcuts]**
  Change the key assignment for shortcut keys available in the [OCT Capture] screen.

4 **Click [OK].**

5 **Click [Close].**

The settings screen closes.

Image Capture Shortcut Keys

In the [OCT Capture] screen, images can be captured by using the keyboard or the mouse.
The following table shows default shortcut key assignments. To change key assignments, see "Changing Image Capture Settings."

Key	Function
↑ / ↓	Tilt adjustment buttons (vertical direction)
→ / ←	Tilt adjustment buttons (horizontal direction)
Page Up/Page Down	[Chin Rest] button
Space	[Start] or [Stop] button
Enter	[Capture] button
ESC	No setting

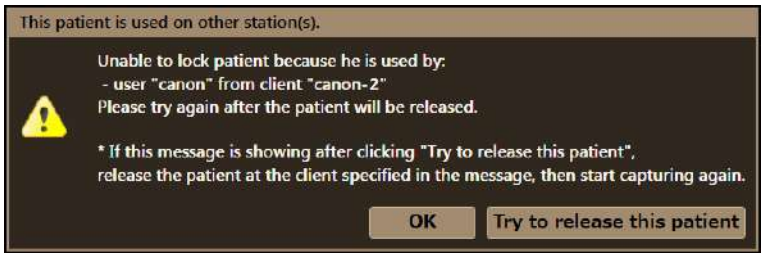
Requesting the Deselection of a Patient

When two or more users select the same patient, and when a user who selects the patient later captures images of the patient's eye, he/she can request the user who selected the patient first to deselect the patient.

1 **Select a patient in the patient list, and click the [OCT Capture] tab.**

The [This patient is used on other station(s).] screen appears.
At the same time, a message requesting the deselection of the patient appears for the user who selected the patient first and is viewing the patient data.

2 **Click [OK].**



3 **Make sure that the user who is viewing the patient data has deselected the patient.**

Request the user who is viewing the patient data to deselect the patient according to the request message.

4 **Click the [OCT Capture] tab.**

Information

If the user who is viewing the patient data cannot deselect the patient because he/she is unavailable, click [Try to release this patient]. The patient whose data is being viewed is deselected. However, while the user who is viewing the patient data is enlarging the image, the patient cannot be deselected.

7 Report

This chapter describes reports which show the analysis results of examinations.

Types of Analysis

Macula Thickness Analysis

This shows the tomogram image of the macula and analysis results of retinal thickness. The primary scanning direction is horizontal, and priority is given to resolution in the horizontal direction. The compatible scan mode is [Macula 3D].

NFL+GCL+IPL Analysis / GCL+IPL Analysis

This shows the tomogram image from the macula up to the optic disc, and analysis results of retinal thickness. The primary scanning direction is vertical, and priority is given to resolution in the vertical direction. The compatible scan mode is [Glaucoma 3D].

Optic Disc Analysis

This shows the thickness of RNFL (Retinal Nerve Fiber Layer) and analysis results of the shape of the optic disc. The compatible scan mode is [Disc 3D].

Wide 3D Scan Analysis

This scans the macula and the optic disc one time and then shows the analysis results. The compatible scan mode is [Wide 3D].

2D Tomogram Analysis

This shows the tomogram image and the retinal thickness of the specified part. The compatible scan modes are [Cross], [Multi Cross] and [Radial]. The tomogram images can be averaged (maximum 50 images).

General Tomogram Analysis

This shows the tomogram image and the retinal thickness of the specified part. The compatible scan modes are [Macula 3D], [Glaucoma 3D], [Disc 3D], [Wide 3D], [Custom 3D], and [Anterior 3D].

OCTA Images

This shows the OCTA tomogram images. The compatible scan mode is [OCTA].

3D Analysis

This shows the 3D tomogram image. The compatible scan modes are [Macula 3D], [Glaucoma 3D], [Disc 3D], [Wide 3D], [Custom 3D], [Anterior 3D] , and [OCTA].

Anterior Segment Analysis

This shows the tomogram image of the anterior segment and analysis results of corneal thickness. The compatible scan mode is [Anterior Radial].

The abbreviations and names of the layers and boundaries shown in analysis are as follows.

Abbreviation	Name
ILM	Internal Limiting Membrane
NFL	Nerve Fiber Layer
GCL	Ganglion Cell Layer
IPL	Inner Plexiform Layer
INL	Inner Nuclear Layer
OPL	Outer Plexiform Layer
ONL	Outer Nuclear Layer
IS	Photoreceptor Inner Segment
OS	Photoreceptor Outer Segment
RPE	Retinal Pigment Epithelium
BM	Bruch's Membrane

Important

The tomogram image might not be shown clearly when you capture the image of the optic disc or the image of the eye which has a vitreous opacity or a cataract. In this case, the boundary or the thickness profile of the unclear part is displayed by a dotted line. Additionally, none of the thickness maps, NDB maps, difference maps, and 3D images are color-coded.

Type of View Mode

[Single] Tab Screen

This screen shows the analysis results of one eye.

[Both Eyes] Tab Screen

This screen shows the analysis results comparing examinations of both eyes in the same scan mode, same size of scanning area, on the same date.

[Comparison] Tab Screen

This screen shows the analysis results comparing two examinations of eyes on the same side in the same scan mode, same size of scanning area, from different dates.

[Progression] Tab Screen

This screen shows the analysis results comparing five examinations arranged in time sequence of eyes on the same side in the same scan mode, and same size of scanning area.

[Combined] Tab Screen

This screen shows the analysis results comparing examinations of both eyes in the [Macula 3D], [Glaucoma 3D] or [Disc 3D] mode, accompanied with retinal images.

Information

- See “[Report Settings] Tab” (see page 203) to enable the [Combined] tab.
- See “GUI Settings” (see page 207) to enable the [Progression] tab for the examination done in the [OCTA] mode.
- Use the RX Capture for Retinal Camera (optional product) to show retinal images.

Macula Thickness Analysis

The retinal thickness of the macula is analyzed on the basis of the captured OCT image of the posterior part of the retina centering on the macula in the [Macula 3D] mode. The analysis results are shown, for example, on maps of retinal thickness of the macula section, ETDRS grids, tables, graphs, and 3D layer maps of boundary surfaces.
These analysis results can be shown on the [Single], [Both Eyes], [Comparison], [Progression], and [Combined] tab screens.
For details on the color patterns of NDB, see “Macula Thickness Analysis/2D Tomogram Analysis/General Tomogram Analysis/Wide 3D Scan Analysis” (see page 153).

Information

See "Changing the Contents Displayed on a Report" (see page 212) for details on the "retinal thickness" area.

[Single] Tab Screen

1. SLO image
   You can select the image to overlay from the list box.
   - [Full Retinal Thickness]: Retinal thickness map
   - [Projection Image]: Projection image
   - [SLO Image]: Image overlay disabled
2. ETDRS grid
   This corresponds to the grid overlaid on the SLO image: the retinal thickness of each sector appears. Background colors are color-coded on the basis of the normative database.

3. Full Retinal Measurement table*
   This table shows the minimum retinal thickness inside the minimum circle (Φ1 mm) on the ETDRS grid, the average retinal thickness and retinal volume inside the maximum circle (Φ6 mm). Background colors are color-coded on the basis of the normative database.
   * The area to calculate average retinal thickness and retinal volume has been modified from the scanning area (10 x 10 mm) to the inside of the ETDRS grid since the version 3.0.

4. Retinal thickness trend graph*
   This plots all examinations performed for the same patient to show changes in the retinal thickness over time. The selected examination is indicated in blue, and other examinations are indicated in black. Background colors are color-coded on the basis of the normative database.
   You can select what is shown from the list box.
   - [Central Sector Thickness]: Thickness inside the minimum circle (Φ1 mm) on the ETDRS grid
   - [Minimum Fovea Thickness]: Minimum retinal thickness inside the minimum circle (Φ1 mm) on the ETDRS grid

- [Total Area Average Thickness]: Average retinal thickness inside the maximum circle (Φ6 mm) on the ETDRS grid
- [Total Volume]: Retinal volume inside the maximum circle (Φ6 mm) on the ETDRS grid

* The area to calculate average retinal thickness and retinal volume has been modified from the scanning area (10 x 10 mm) to the inside of the ETDRS grid since the version 3.0.

5. OCT image (horizontal scan)

6. NDB comparison map
   This overlays a color map of the retinal thickness comparing with the normative database on the projection image. You can select the map that is shown from the list box.
   - [Full Retinal Significance]: Color map which shows singular points by comparing retinal thickness with the normative database
   - [Full Retinal Deviation]: Color map which shows differences between retinal thickness and the normative database

7. Thickness map of layers
   A thickness map of specified layers is overlaid on the projection image. You can select the map that is shown from the list box.
   - [IS/OS - RPE Thickness]: IS/OS to RPE thickness map
   - [RPE - BM Thickness]: RPE to BM thickness map
   - [Inner Retinal Thickness]: Retina inner layer thickness map
   - [Outer Retinal Thickness]: Retina outer layer thickness map
   - [NFL+GCL+IPL Thickness]: NFL+GCL+IPL thickness map

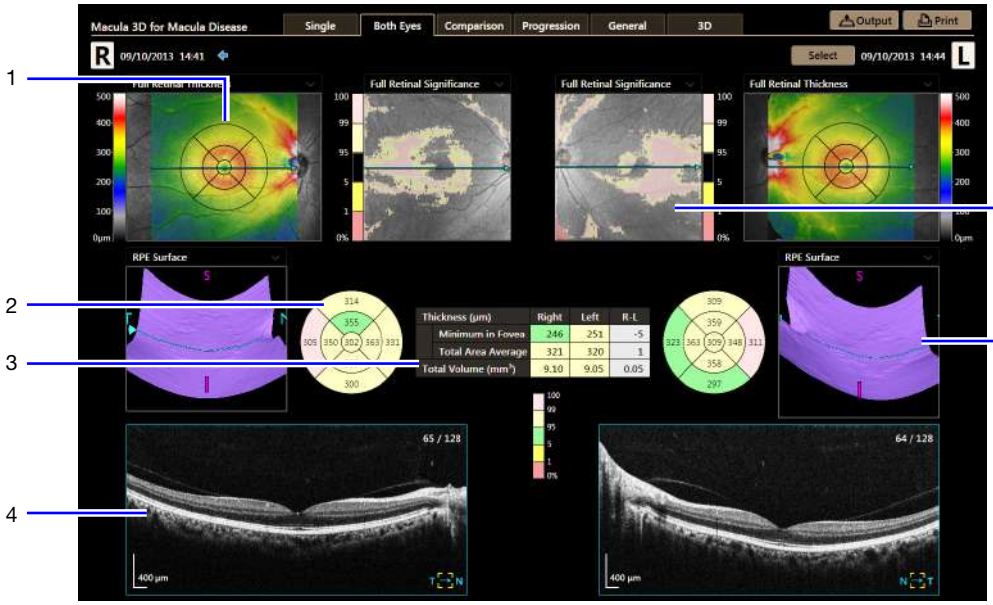
8. 3D layer map
   This map shows the boundary surfaces of the layers as a 3D image. You can select the layers that are shown from the list box.
   - [ILM Surface]: ILM boundary surface
   - [IS/OS Surface]: IS/OS boundary surface
   - [RPE Surface]: RPE boundary surface
   - [Whole Volume]: All layers

   Information

   Drag the image in any direction to rotate the 3D layer map.

9. OCT image (vertical scan)

[Both Eyes] Tab Screen



1. SLO image
   Same as [Single] tab screen.

2. ETDRS grid
   Same as [Single] tab screen.

3. Full Retinal Measurement table
   The items are the same as on the [Single] tab screen. This table shows the values for the right and left eyes. The rightmost column is the difference between the right and left eyes.

4. OCT image (horizontal scan)

5. NDB comparison map/Thickness map of layers
   “NDB comparison map” and “thickness map of layers” on the [Single] tab screen can be selected from the list box.

6. 3D layer map
   Same as [Single] tab screen.

[Comparison] Tab Screen

1. SLO image
   Same as [Single] tab screen. The values of the retinal thickness are shown on the ETDRS grid.

2. Full Retinal Measurement table
   The items are the same as on the [Single] tab screen. This table shows the values for each examination. The rightmost column is the difference between the two examinations.

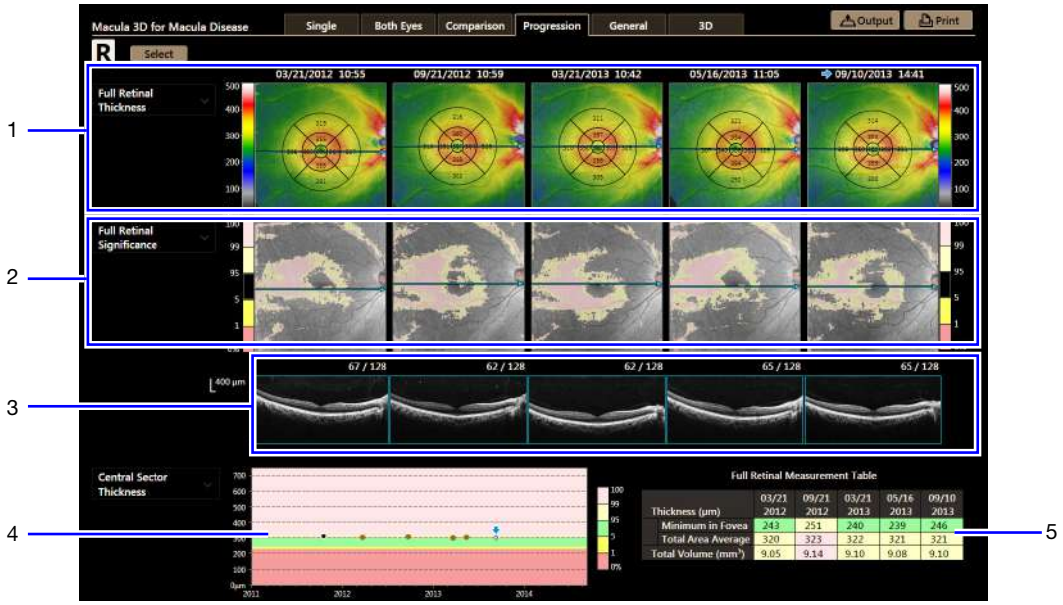
3. OCT image (horizontal scan)

4. NDB comparison map/Thickness map of layers
   Same as [Both Eyes] tab screen.

5. Retinal thickness difference map
   This color map shows the difference in retinal thickness between both examinations. Values for the differences between both examinations are shown in the grids.

6. 3D layer map
   Same as [Single] tab screen.

[Progression] Tab Screen



1. SLO image
   The map to overlay on the SLO image can be selected from the list box. Values corresponding to the map are shown on the ETDRS grid.
   - [Full Retinal Thickness]: Shows the retinal thickness map for five examinations.
   - [Full Retinal Difference]: Shows the difference from the oldest examination (leftmost examination) as a color map and values. A retinal thickness map is shown for the oldest examination.

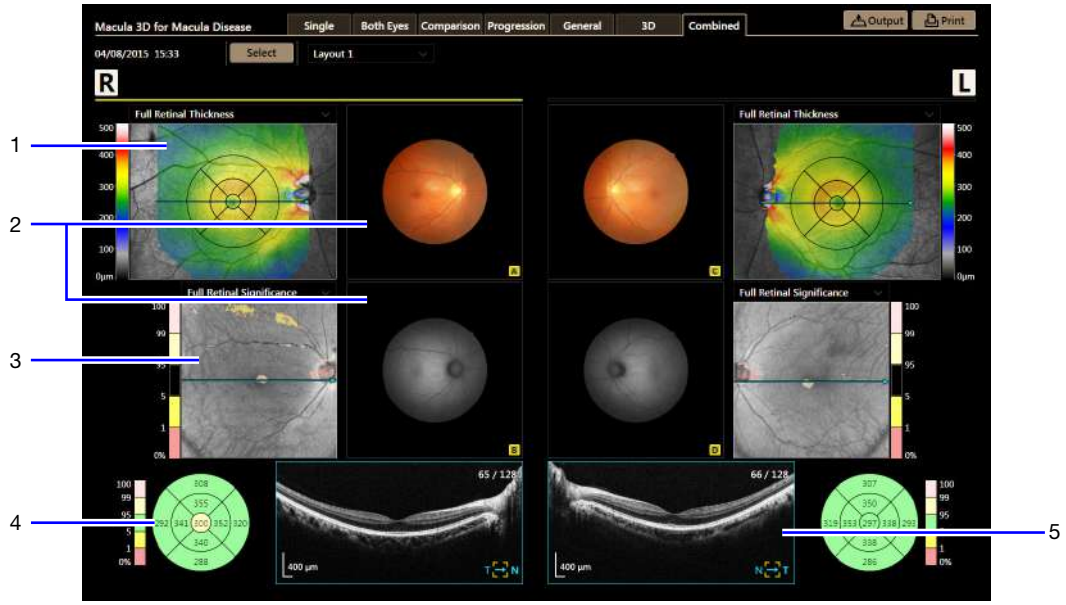
2. NDB comparison map/Thickness map of layers
   Same as [Both Eyes] tab screen.

3. OCT image (horizontal scan)

4. Retinal thickness trend graph
   Same as [Single] tab screen. The selected examination is indicated in blue, four examinations displayed on the reports are indicated in brown, and other examinations are indicated in black.

5. Full Retinal Measurement table
   The items are the same as on the [Single] tab screen. This table shows the values for each examination.

[Combined] Tab Screen



1. SLO image
   Same as [Single] tab screen.

2. Retinal image

3. NDB comparison map/Thickness map of layers
   Same as [Both Eyes] tab screen.

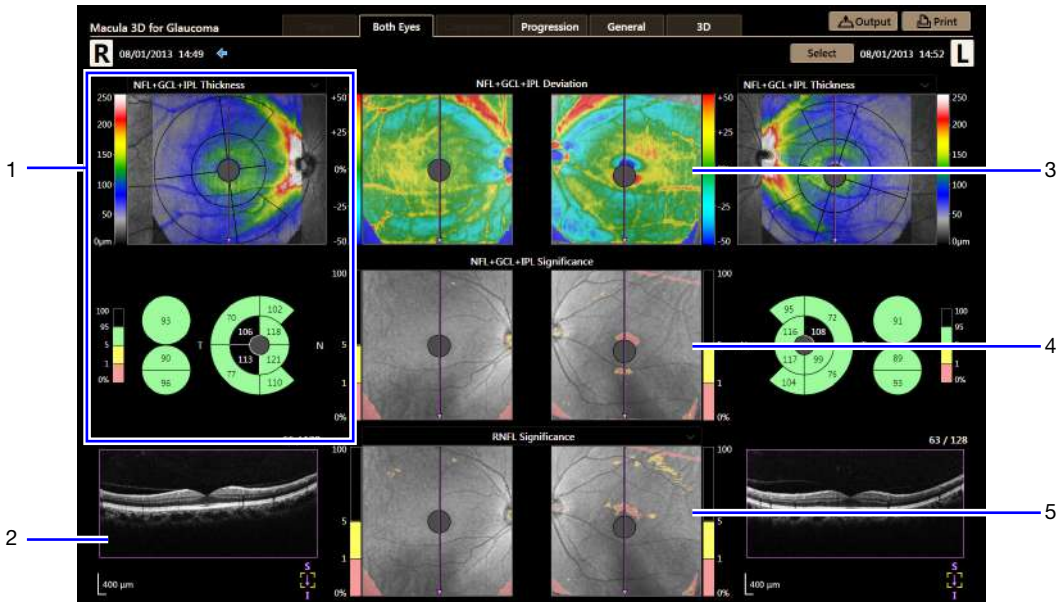
4. ETDRS grid
   Same as [Single] tab screen.

5. OCT image (horizontal scan)

NFL+GCL+IPL Analysis/GCL+IPL Analysis

The NFL+GCL+IPL and GCL+IPL thicknesses are analyzed on the basis of the captured OCT image of the posterior part of the retina including the macula and optic disc in the [Glaucoma 3D] mode.
The analysis results are shown, for example, as a map relating to the NFL+GCL+IPL or GCL+IPL thickness and NFL+GCL+IPL or GCL+IPL grid indicating the superior and inferior regions or symmetry of the right and left eyes.
These analysis results can be shown on the [Both Eyes], [Progression], and [Combined] tab screens.
For details on the color patterns of NDB, see “NFL+GCL+IPL Analysis/GCL+IPL Analysis/Optic Disc Analysis/Wide 3D Scan Analysis” (see page 154).
The following describes an example of how to perform NFL+GCL+IPL analysis.
To perform GCL+IPL analysis, right-click either SLO image/NFL+GCL+IPL grid, or NFL+GCL+IPL Deviation map, or NFL+GCL+IPL Significance map, and select the [GCL+IPL Analysis] from the menu.

[Both Eyes] Tab Screen



1. SLO image/NFL+GCL+IPL grid*
   The map to overlay on the SLO image can be selected from the list box. Values corresponding to the map are shown on three types of grids.
   - [NFL+GCL+IPL Thickness]: Thickness of NFL+GCL+IPL
   - [NFL+GCL+IPL Difference (S - I)]: Difference between thicknesses of superior and inferior regions at NFL+GCL+IPL
   - [NFL+GCL+IPL Difference (R - L)]: Difference among thicknesses of NFL+GCL+IPL on right and left eyes
   - [SLO Image]: Image overlay disabled

   * The area to calculate NFL+GCL+IPL thickness has been modified from the circle 10 mm in diameter to the area except the optic disc since the version 3.0.

Information

[NFL+GCL+IPL Difference (S - I)] Background Color
The superior and inferior regions are divided at the line joining the macula and the center of the optic disc: the symmetry between the two regions is shown. The background color is shown for the superior region if the "superior region - inferior region" is a negative value. The background color is shown for the inferior region if the "inferior region - superior region" is a negative value. The background color is not shown if each value is a positive value.

[NFL+GCL+IPL Difference (R - L)] Background Color
The background color is shown for the right eye if the "right eye - left eye" is a negative value. The background color is shown for the left eye if the "left eye - right eye" is a negative value. The background color is not shown if each value is a positive value.

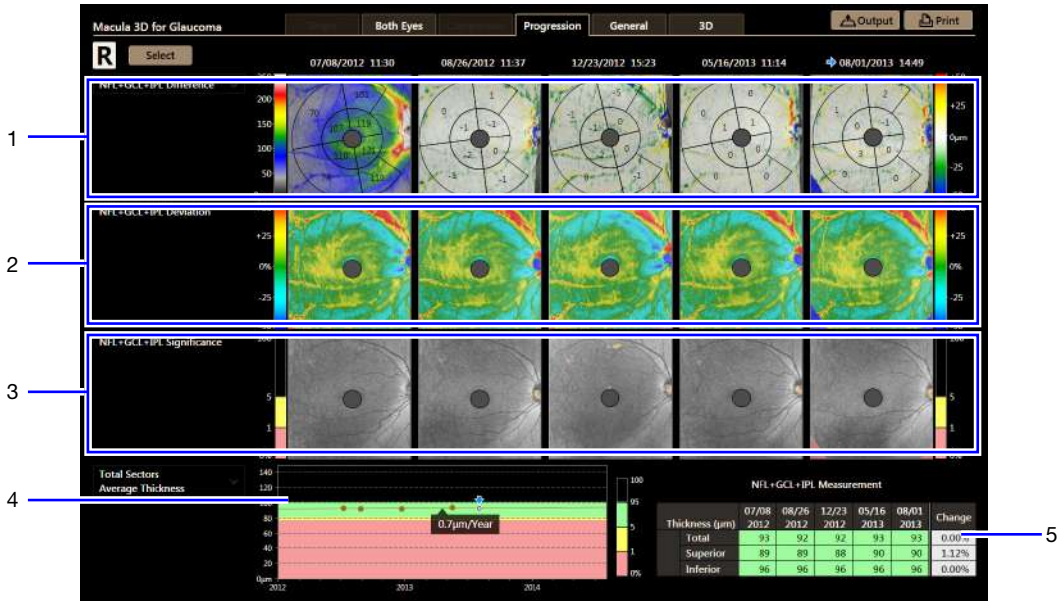
2. OCT image (vertical scan)

3. NFL+GCL+IPL Deviation map
   This color map shows differences between NFL+GCL+IPL thickness and the normative database.

4. NFL+GCL+IPL Significance map
   This color map shows singular points by comparing NFL+GCL+IPL thickness with the normative database.

5. RNFL map
   Any map can be overlaid on the projection image. You can select the map to show from the list box.
   - [RNFL Thickness]: RNFL thickness map
   - [RNFL Deviation]: Color map which shows differences between RNFL thickness and the normative database
   - [RNFL Significance]: Color map which shows singular points by comparing RNFL thickness with the normative database
   - [ILM-RPE Thickness]: ILM to RPE thickness map

[Progression] Tab Screen



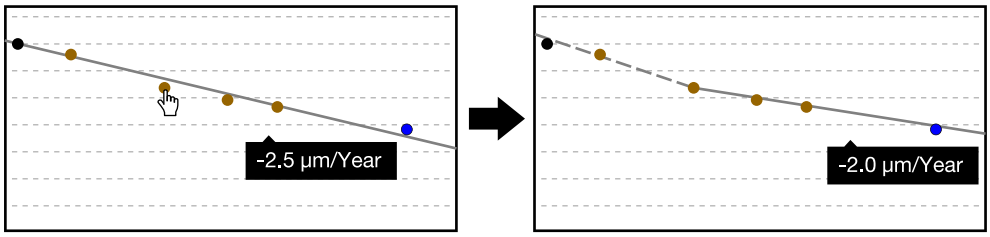
1. SLO image
   The map to overlay on the SLO image can be selected from the list box. Values corresponding to the map are shown on the NFL+GCL+IPL grid.
   - [NFL+GCL+IPL Thickness]: Shows the NFL+GCL+IPL thickness map for five examinations.
   - [NFL+GCL+IPL Difference]: Shows the difference from the oldest examination (leftmost examination) as a color map and values. An NFL+GCL+IPL thickness map is shown for the oldest examination.

2. NFL+GCL+IPL Deviation map
   Same as [Both Eyes] tab screen.

3. NFL+GCL+IPL Significance map
   Same as [Both Eyes] tab screen.

4. NFL+GCL+IPL trend graph
   This plots all examinations performed for the same patient to show changes in the NFL+GCL+IPL thickness over time. The selected examination is indicated in blue, four examinations displayed on the reports are indicated in brown, and other examinations are indicated in black. Background colors are color-coded on the basis of the normative database.
   You can select what to show on the graph from the list box.
   - [Total Sectors Average Thickness]: Average value of thickness of total NFL+GCL+IPL grid
   - [Superior Average Thickness]: Average value of thickness in superior region of NFL+GCL+IPL
   - [Inferior Average Thickness]: Average value of thickness in inferior region of NFL+GCL+IPL

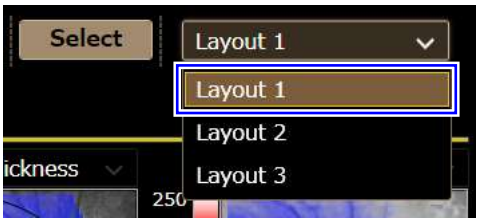
The regression line is shown on the graph. Clicking any point changes the inclination of the line before and after the clicked point.



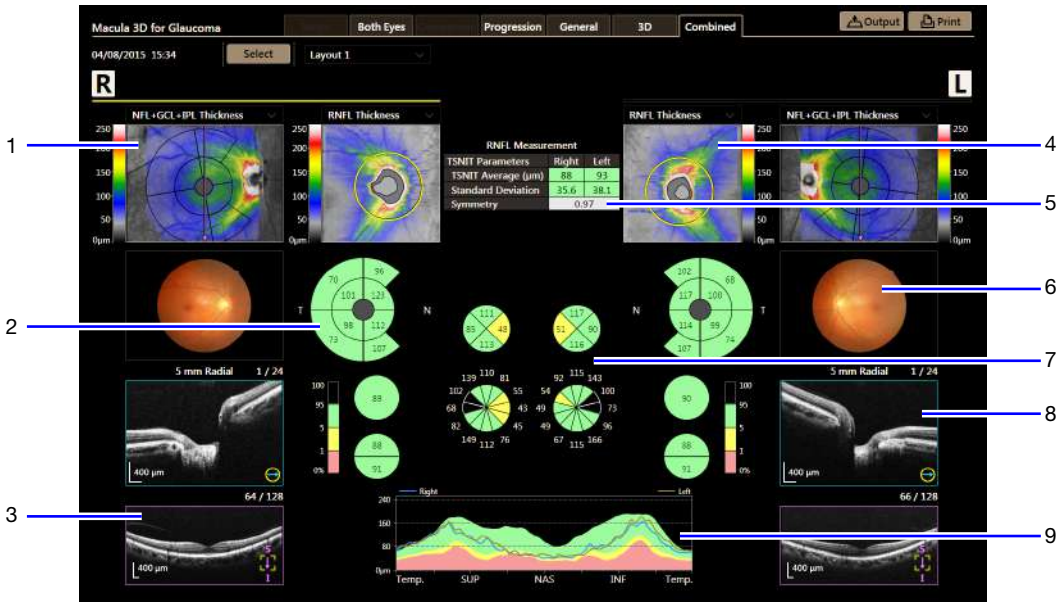
5. NFL+GCL+IPL Measurement table
   This table shows the overall average value of the NFL+GCL+IPL grid and the average values of the superior and inferior regions for the NFL+GCL+IPL thickness. The rightmost column is the rate of change. Background colors are color-coded on the basis of the normative database.

[Combined] Tab Screen

Three report layouts are available: [Layout 1], [Layout 2], and [Layout 3].
To change the report layout, select another layout from the list box.



[Layout 1]



1. SLO image/NFL+GCL+IPL grid
   Same as [Both Eyes] tab screen.

2. NFL+GCL+IPL grid
   Same as [Both Eyes] tab screen.

3. OCT image (vertical scan)

4. RNFL thickness map
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See “[Both Eyes] Tab Screen” (see page 128).

5. TSNIT parameters
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See “[Both Eyes] Tab Screen” (see page 128).

6. Retinal image

7. RNFL grid
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See “[Both Eyes] Tab Screen” (see page 128).

8. Optic disc OCT image
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See “[Both Eyes] Tab Screen” (see page 128).

9. RNFL profile
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See “[Both Eyes] Tab Screen” (see page 128).

[Layout 2]

1. Retinal image

2. OCT image (vertical scan)

3. TSNIT parameters
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. The rightmost column is the difference between the right and left eyes.

4. NFL+GCL+IPL grid
   Same as [Both Eyes] tab screen.

5. RNFL profile
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”.

[Layout 3]

1. Retinal image

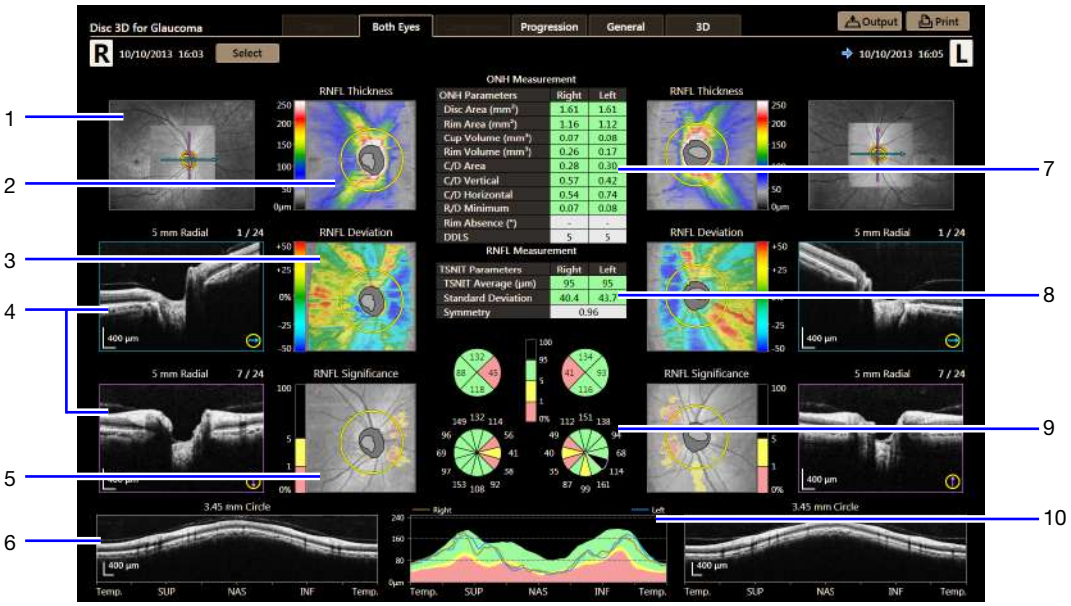
2. OCT image (vertical scan)

3. TSNIT parameters
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. The rightmost column is the difference between the right and left eyes.

Optic Disc Analysis

The measurement result of the optic disc and TSNIT region is analyzed on the basis of the captured OCT image of the optic disc in the [Disc 3D] mode. The results of RNFL analysis are shown, for example, as a map relating to the RNFL thickness, RNFL profile indicating the thickness of locations through which a measurement circle (diameter 3.45 mm centering on the optic disc) passes, and RNFL grid indicating the thickness of the region inside the measurement circle. The results of shape analysis of the optic disc are shown in Disc, Cup, Rim, and other ONH parameters.
These analysis results can be shown on the [Both Eyes], [Progression], and [Combined] tab screens.
The [Combined] tab screen in this analysis is the same as the [Combined] tab screen in “NFL+GCL+IPL Analysis/GCL+IPL Analysis”.
For details on the color patterns of NDB, see “NFL+GCL+IPL Analysis/GCL+IPL Analysis/Optic Disc Analysis/Wide 3D Scan Analysis” (see page 154). As for the ONH parameters, see “ONH parameters” (see page 154).

[Both Eyes] Tab Screen



1. SLO image
   The projection image is overlaid on the SLO image, and Disc (color: orange), Cup (color: yellow) and two radial lines (color: light blue and pink) are shown. The radial lines can be rotated by moving the cursor to and turning the mouse wheel on the SLO image.

2. RNFL thickness map
   Disc (color: gray), Cup (color: light gray) and measurement circle (color: yellow) are shown.

3. RNFL Deviation map
   This color map shows differences between RNFL thickness and the normative database. Disc (color: gray), Cup (color: light gray) and measurement circle (color: yellow) are shown.

4. Optic disc OCT image
   This is an OCT image of the optic disc corresponding to the radial lines.

5. RNFL Significance map
   This color map shows singular points by comparing RNFL thickness with the normative database. Disc (color: gray), Cup (color: light gray) and measurement circle (color: yellow) are shown.

6. TSNIT area OCT image
   This is an OCT image of the TSNIT region corresponding to the measurement circle.

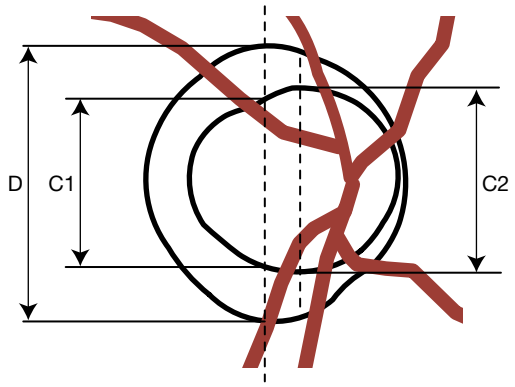
Information

You can change the display order of tomogram images by right-clicking an image and using the menu that appears. You can select [TSNIT] or [NSTIN] as the display order. The default setting of the software is [TSNIT].
Regarding the settings, see “Changing the Contents Displayed on a Report” (see page 212).

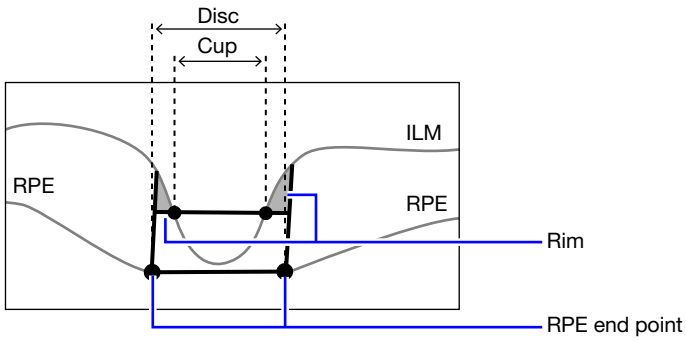
7. ONH parameters
   This table summarizes the results of shape analysis of the optic disc for the right and left eyes. Background colors are color-coded on the basis of the normative database.

Disc Area	Disc area (mm^2)
Rim Area	Rim area (mm^2)
Cup Volume	Cup volume (mm^3)
Rim Volume	Rim volume (mm^3)
C/D Area	Cup/Disc area ratio
C/D Vertical*	Cup/Disc vertical ratio
C/D Horizontal*	Cup/Disc horizontal ratio
R/D Minimum	Rim/Disc ratio minimum value
Rim Absence	Angle formed by the defect points between the Rim and center of Disc
DDLS	Disc Damage Likelihood Scale

* The calculation of the C/D ratio has been modified from the way to calculate a diameter of Disc and Cup on the same meridian (C1/D) to the way to calculate the maximum diameter of them (C2/D) since the version 3.0.



The regions indicated in the following figure are Cup, Disc and Rim. These values are used to analyze ONH parameters.



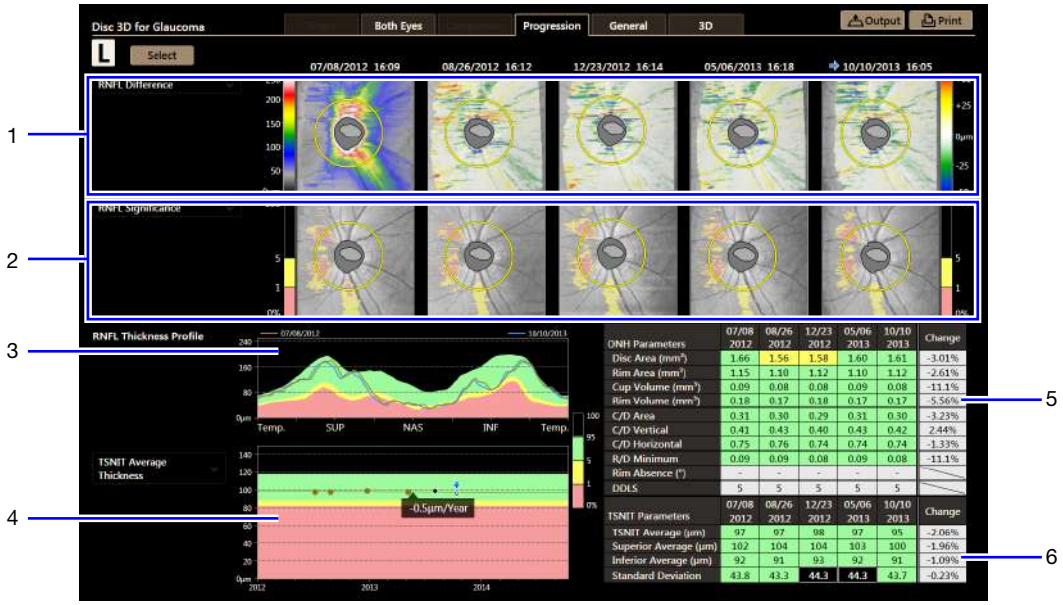
8. TSNIT parameters
   This table summarizes the measurement values relating to the RNFL thickness at the TSNIT region for the right and left eyes. Background colors are color-coded on the basis of the normative database.

TSNIT Average	Average value of thickness of TSNIT region (μm)
Standard Deviation	Standard deviation of retinal thickness of TSNIT region
Symmetry	Symmetry of both eyes relating to TSNIT region

9. RNFL grid
   The inside of the measurement circle is divided into 4 or 12 sectors, and the RNFL thickness is shown. Background colors are color-coded on the basis of the normative database.

10. RNFL profile
    The RNFL thickness at the TSNIT region for the right and left eyes is shown. Background colors are color-coded on the basis of the normative database.
    You can change the display order by right-clicking an image and using the menu that appears. For details, see “6. TSNIT area OCT image” (see page 129).

[Progression] Tab Screen



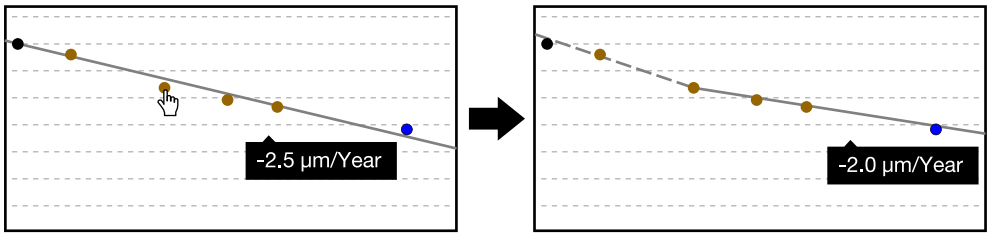
1. RNFL map
   You can select the map that is shown from the list box. Disc (color: gray), Cup (color: light gray) and measurement circle (color: yellow) are shown.
   - [RNFL Thickness]: Shows the RNFL thickness map for five examinations.
   - [RNFL Difference]: Shows the difference from the oldest examination (leftmost examination) as a color map and values. An RNFL thickness map is shown for the oldest examination.

2. NDB comparison RNFL map
   You can select the map that is shown from the list box. Disc (color: gray), Cup (color: light gray) and measurement circle (color: yellow) are shown.
   - [RNFL Significance]: Color map which shows singular points by comparing RNFL thickness with the normative database
   - [RNFL Deviation]: Color map which shows differences between RNFL thickness and the normative database

3. RNFL profile
   Shows the RNFL thickness along the measurement circle for the selected examination (rightmost examination) and the oldest examination (leftmost examination). Background colors are color-coded on the basis of the normative database.

4. RNFL trend graph
   This plots all examinations performed for the same patient to show changes in the RNFL thickness in the TSNIT region over time. The selected examination is indicated in blue, four examinations displayed on the reports are indicated in brown, and other examinations are indicated in black. Background colors are color-coded on the basis of the normative database.
   You can select what is shown from the list box.
   - [TSNIT Average Thickness]: Average value at entire measurement circle
   - [Superior Average Thickness]: Average value at superior semicircle
   - [Inferior Average Thickness]: Average value at inferior semicircle

The regression line is shown on the graph. Clicking any point changes the inclination of the line before and after the clicked point.



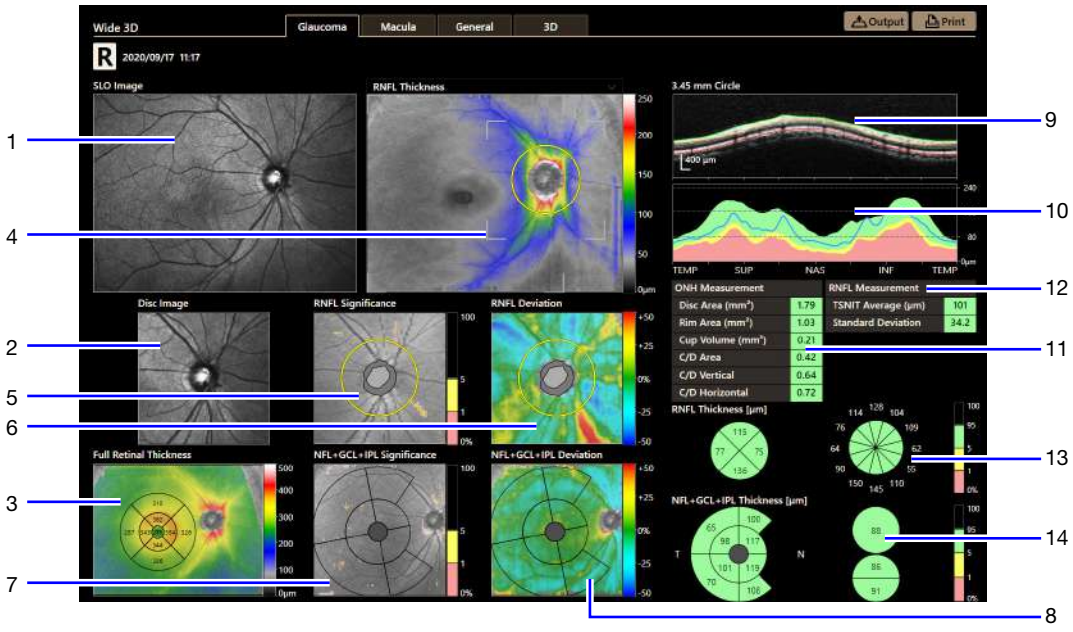
5. ONH parameters
   The items are the same as on the [Both Eyes] tab screen. This table shows the values for each examination. The rightmost column is the rate of change. Background colors are color-coded on the basis of the normative database.

6. TSNIT parameters
   The items are the same as on the [Both Eyes] tab screen. This table shows the values for each examination. The rightmost column is the rate of change. Background colors are color-coded on the basis of the normative database.

Wide 3D Scan Analysis

This shows the measurement results for the retinal thickness of the macula and the optic disc, based on the captured OCT images of the macula and optic disc in the [Wide 3D] mode.
You can display these analysis results in the [Glaucoma] and [Macula] tab screens.

[Glaucoma] Tab Screen



1. SLO image

2. Optic disc SLO image

3. Retinal thickness map / ETDRS grid
   Same as [Single] tab screen in “Macula Thickness Analysis”. See [Single] tab screen (see page 115).

4. RNFL thickness map
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

5. RNFL Significance map
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

6. RNFL Deviation map
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

7. NFL+GCL+IPL Significance map
   Same as [Both Eyes] tab screen in “NFL+GLC+IPL Analysis/GCL+IPL Analysis”. See [Both Eyes] tab screen (see page 121).

8. NFL+GCL+IPL Deviation map
   Same as [Both Eyes] tab screen in “NFL+GLC+IPL Analysis/GCL+IPL Analysis”. See [Both Eyes] tab screen (see page 121).

9. TSNIT area OCT image
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

10. RNFL profile
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

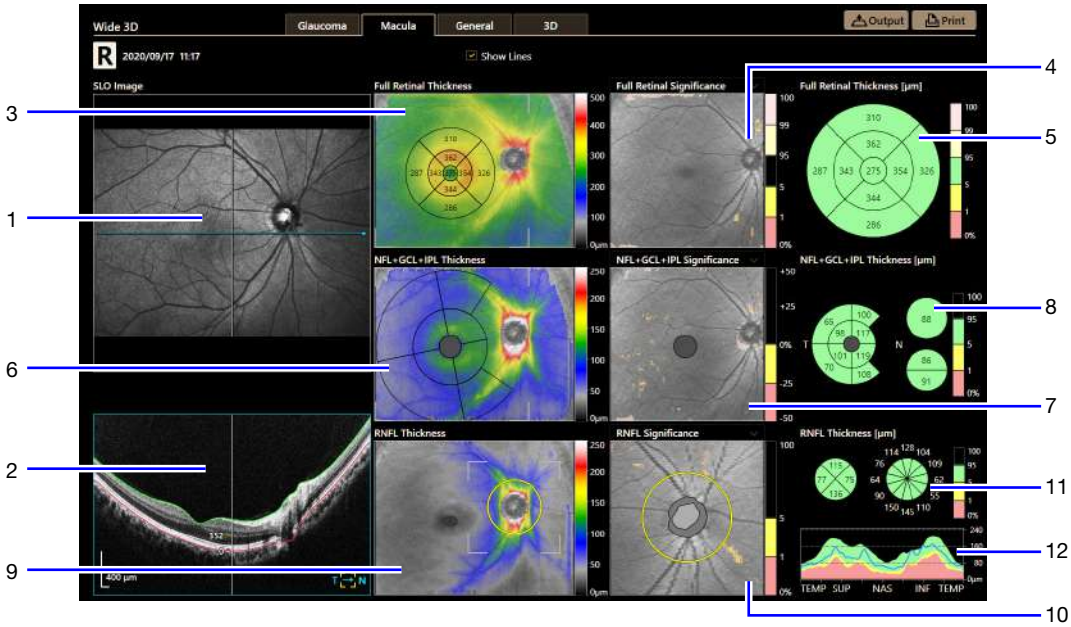
11. ONH parameters
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

12. TSNIT parameters
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

13. RNFL grid
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

14. NFL+GCL+IPL grid
    Same as [Both Eyes] tab screen in “NFL+GLC+IPL Analysis/GCL+IPL Analysis”. See [Both Eyes] tab screen (see page 121).

[Macula] Tab Screen



1. SLO image

2. OCT image (horizontal scan)

3. Retinal thickness map/ETDRS grid
   Same as [Single] tab screen in “Macula Thickness Analysis”. See [Single] tab screen (see page 115).

4. NDB comparison map
   Same as [Single] tab screen in “Macula Thickness Analysis”. See [Single] tab screen (see page 115).

5. ETDRS grid
   Same as [Single] tab screen in “Macula Thickness Analysis”. See [Single] tab screen (see page 115).

6. NFL+GCL+IPL thickness map
   Same as [Both Eyes] tab screen in “NFL+GLC+IPL Analysis/GCL+IPL Analysis”. See [Both Eyes] tab screen (see page 121).

7. NFL+GCL+IPL Significance map/ NFL+GCL+IPL Deviation map
   Same as [Both Eyes] tab screen in “NFL+GLC+IPL Analysis/GCL+IPL Analysis”. See [Both Eyes] tab screen (see page 121).

8. NFL+GCL+IPL grid
   Same as [Both Eyes] tab screen in “NFL+GLC+IPL Analysis/GCL+IPL Analysis”. See [Both Eyes] tab screen (see page 121).

9. RNFL thickness map
   Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

10. RNFL Significance map/ RNFL Deviation map
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

11. RNFL grid
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

12. RNFL profile
    Same as [Both Eyes] tab screen in “Optic Disc Analysis”. See [Both Eyes] tab screen (see page 128).

2D Tomogram Analysis

2D tomogram analysis shows the captured OCT image in the [Cross], [Multi Cross] and [Radial] modes, and the thickness profile of specified layers. The analysis results can be viewed on the [Single], [Both Eyes], [Comparison], and [Progression] tab screens.
The following example describes in-screen elements for an examination done in the [Multi Cross] mode.
For details on the color patterns of NDB, see “Macula Thickness Analysis/2D Tomogram Analysis/General Tomogram Analysis/Wide 3D Scan Analysis” (see page 153).

[Single] Tab Screen

1. Analysis image list box
   You can select what is shown on the analysis image region.
   - : OCT image in horizontal and vertical scan directions
   - : OCT image and thickness profile in horizontal scan direction
   - : OCT image and thickness profile in vertical scan direction

2. Boundary list box
   This is for selecting the two boundaries to show on the OCT images.

3. [Show Lines] check box
   When this box is checked, the boundary, thickness (unit: µm) and measurement line are shown on the OCT image and thickness profile.

4. Image quality indicator
   The quality of the OCT image is indicated in a scale from 1 to 10.

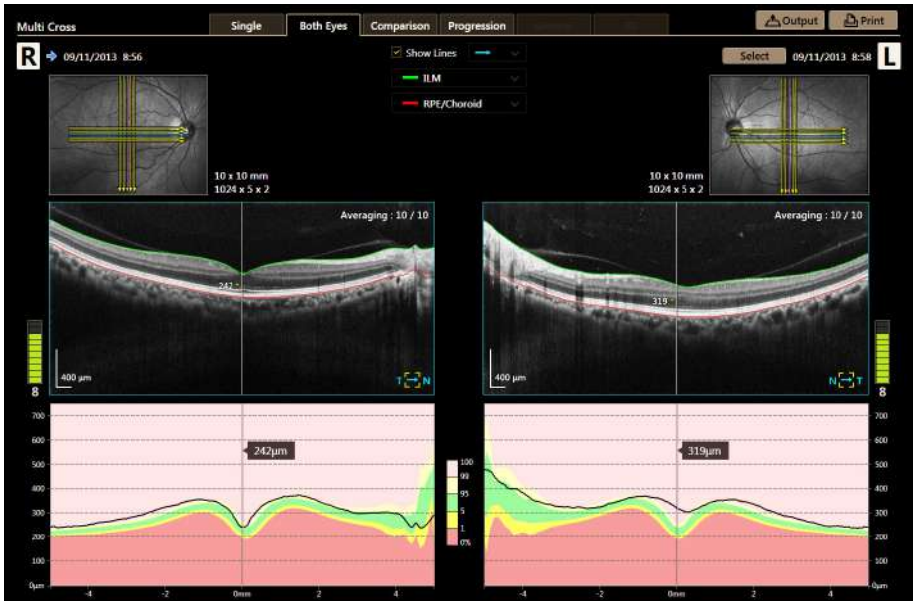
5. SLO image
   B-scan lines (color: yellow) are shown overlaying on the SLO image. When images are captured in the [Multi Cross] mode, the OCT images can be switched by clicking a B-scan line. When the images are captured in the [Radial] mode, the OCT images can be switched by turning the mouse wheel.

6. Analysis image
   This shows the items selected in the analysis image list box.
   - OCT image: The value of the intersection point of the boundary and measurement line is shown (unit: µm). The measurement line of the thickness profile moves by dragging the measurement line. When the images are captured in the [Multi Cross] or [Radial] mode, the OCT images can be switched by turning the mouse wheel.
   - Thickness profile: The value of the intersection point of the profile and measurement line is shown (unit: µm). Background colors are color-coded on the basis of the normative database.

7. Thumbnail of OCT image ([Multi Cross] mode only)
   The OCT images can be switched by clicking the thumbnail.

[Both Eyes] Tab Screen

The elements of the [Both Eyes] tab screen are the same as those in the [Single] tab screen.



[Comparison] Tab Screen

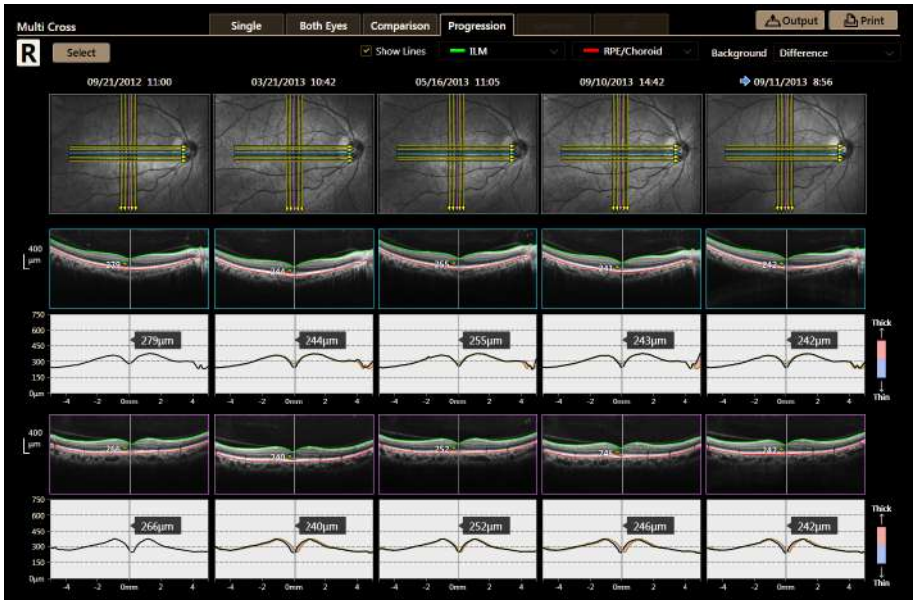
The following describes the elements that are different from those of the [Single] tab screen. The other elements are the same as those of the [Single] tab screen.

1. Background color list box
   Background color displayed in the thickness profile can be selected from the list box.
   - [Difference]: Shows thickness differences of both examinations.
   - [Normative DB]: Shows background colors based on the normative database.

2. Thickness difference of both examinations
   The parts which have differences in thickness are shown in colors.

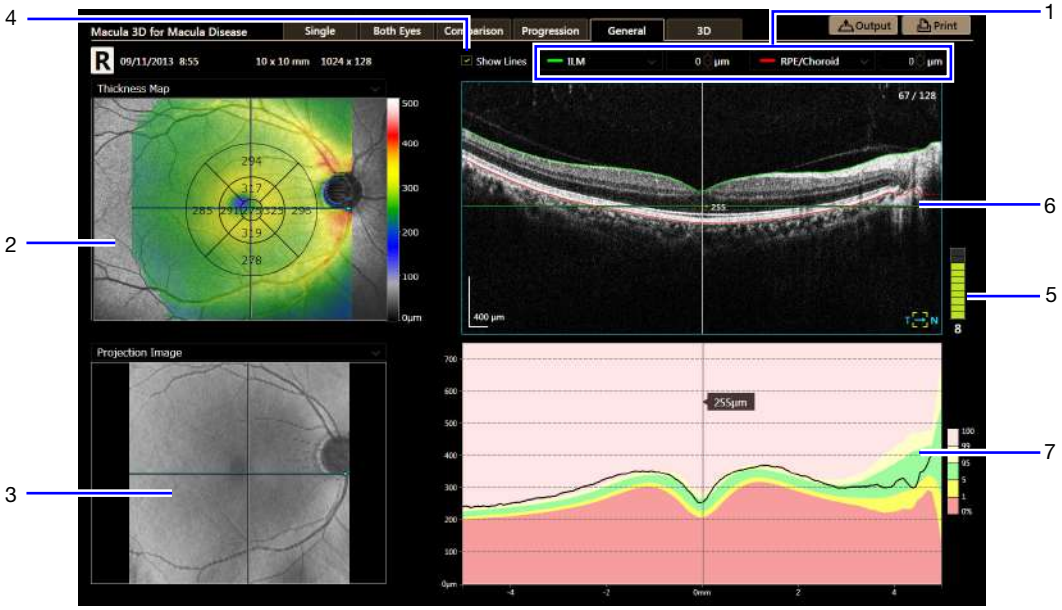
[Progression] Tab Screen

The elements of the [Progression] tab screen are the same as those on the [Comparison] tab screen.



General Tomogram Analysis

The thickness map of the specified layer and the thickness profile of the OCT images captured in the [Macula 3D], [Glaucoma 3D], [Disc 3D], [Wide 3D] and [Custom 3D] modes are shown.
These analyses results can be shown in the [General] tab screen.
For details on the color patterns of NDB, see “Macula Thickness Analysis/2D Tomogram Analysis/General Tomogram Analysis/Wide 3D Scan Analysis” (see page 153).

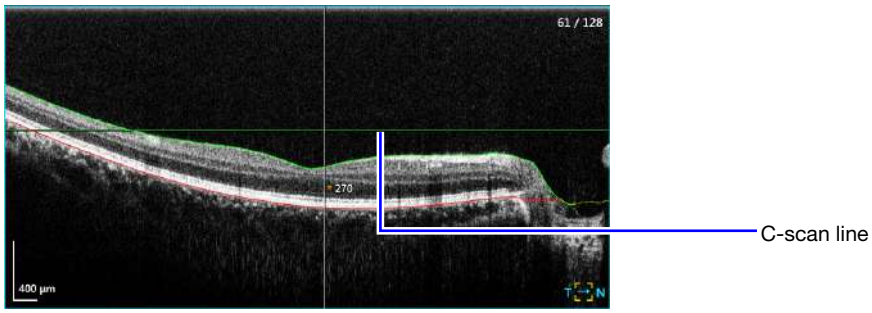


1. Boundary list box
   This is for selecting the two boundaries to show on the OCT images.
   Enter the value for the distance or drag the boundary to move it vertically.

2. SLO image
   The map to overlay on the SLO image can be selected from the list box. The values of the retinal thickness are shown on the ETDRS grid.
   - [Thickness Map]: Thickness map of the selected boundary
   - [Significance Map]: Color map which shows singular points by comparing thickness of the selected boundary with the normative database
   - [Deviation Map]: Color map which shows differences between thickness of the selected boundary and the normative database
   - [SLO Image]: Image overlay disabled

3. Reconstructed image
   You can select what image is shown from the list box.
   - [Projection Image]: Projection image
   - [En Face Image]: En Face image showing the layer between the two boundaries selected from the boundary list box
   - [En Face Image (ILM)]: En Face image showing the layer 20µm below IML
   - [En Face Image (IS/OS)]: En Face image showing the layer 20µm below IS/OS
   - [En Face Image (RPE)]: En Face image showing the layer 30µm above BM
   - [C-Scan Image]: C-scan image (image reconstructed from B-scan data)

When a C-scan image is shown, the C-scan line (color: green) is shown on the OCT image. The C-scan image corresponding to the position of the C-scan line is shown.



Information

Mouse Wheel Operation
The C-scan line moves by moving the cursor to the C-scan image and turning the mouse wheel.

4. [Show Lines] check box
   When this box is checked, the boundary, thickness and measurement line are shown on the OCT image and thickness profile.

5. Image quality indicator
   The quality of the OCT image is indicated in a scale from 1 to 10.

6. OCT image
   The thickness of the point of intersection of the boundary and measurement line is shown. The measurement line of the thickness profile moves by dragging the measurement line. The C-scan image is changed by dragging the C-scan line.

7. Thickness profile
   This shows the thickness of the selected boundary. The value of the point of intersection of the profile and the measurement line is shown. Background colors are color-coded on the basis of the normative database. When you move boundaries, they are not color-coded.

OCTA Image Analysis (Optional Product)

The OCTA image analysis shows the analysis results for the OCTA images captured in [OCTA] mode on the [Single] and [Progression] tab screens.

Information

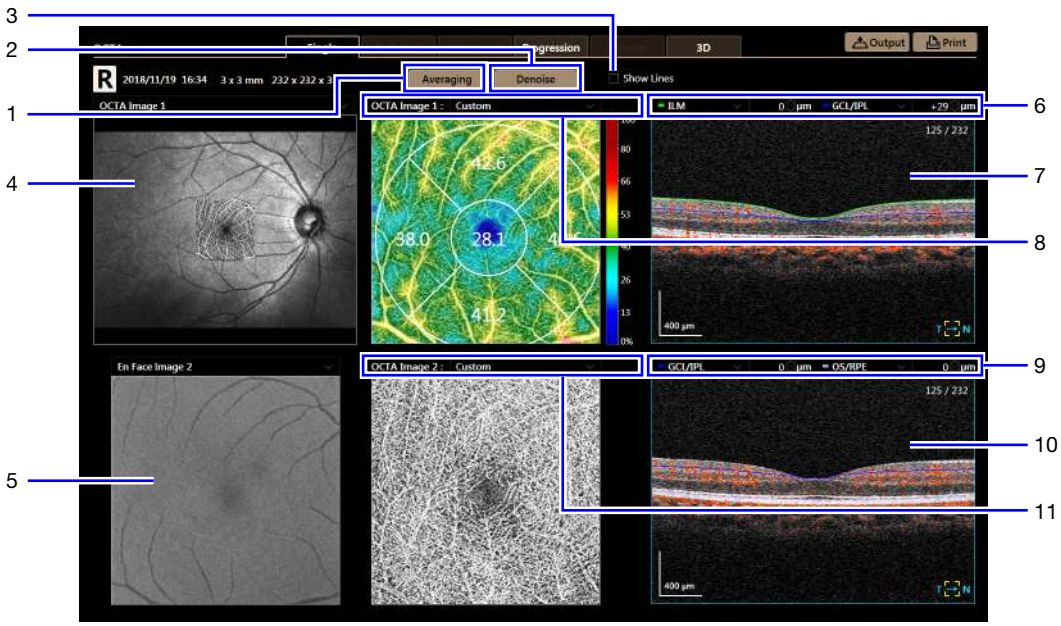
To show the map and grid for the area density and skeleton density, the OCTA Analysis license (optional product) is required.

- Area Density: This function creates a binary image from an OCTA image and indicates the percentage of white pixels in the region by percent (%).
- Skeleton Density: This function transforms the lines of a binary image, created from an OCTA image, into thin lines and indicates the value obtained by dividing the sum of the length of the thin lines in the region by the area by "mm^{-1}".

Important

The analysis results for area density and skeleton density may vary depending on your software version. Use software of the same version as the previous analysis when comparing the analysis results.

[Single] Tab Screen



1. [Averaging] button (when the OCTA 2 license is installed)
   Clicking this button averages several OCTA examination images.
   Averaging can be operated in RX Capture for OCT. It cannot be operated in RX Viewer.

2. [Denoise] button (when the Intelligent denoise license is installed)
   Clicking this button applies the Intelligent denoise function to the OCTA examination image to reduce image noise.
   If the function has been applied to the OCTA examination image, this button is highlighted.

Important

Intelligent denoise is a function for reducing noise by using Deep Learning.
This function doesn't change the own program because it doesn't have an incremental training. This function generates the same result if the input is consistent.

Information

An Intelligent denoise license (optional product) and a video card that meets the operating environment are required to use the Intelligent denoise function. The [Denoise] button appears only when both conditions are met.

3. [Show Lines] check box
   When this box is selected, the boundary, thickness and measurement line are shown on the OCT image.
   Also, B-scan lines and measurement lines are shown on the SLO image, the OCTA image, and the En Face image.

4. SLO image
   The map to overlay on the SLO image can be selected from the list box.
   - [OCTA Image 1]: OCTA image that shows the layer between the two boundaries selected from OCT image 1.
   - [OCTA Image 2]: OCTA image that shows the layer between the two boundaries selected from OCT image 2.
   - [En Face Image 1]: En Face image that shows the layer between the two boundaries selected from OCT image 1.
   - [En Face Image 2]: En Face image that shows the layer between the two boundaries selected from OCT image 2.
   - [Projection Image]: Projection image
   - [SLO Image]: Image overlay disabled

5. En Face image
   - [En Face Image 1]: En Face image that shows the layer between the two boundaries selected from OCT image 1.
   - [En Face Image 2]: En Face image that shows the layer between the two boundaries selected from OCT image 2.
   - [Projection Image]: Projection image

6. Boundary list box 1
   This is for selecting the two boundaries to show on OCT image 1. Enter the value for the distance or drag the boundary to move it vertically.

7. OCT image 1

8. OCTA image 1
   The OCTA image set in the [OCTA Image Definitions] screen can be selected from the list box.

9. Boundary list box 2
   This is for selecting the two boundaries to show on OCT image 1. Enter the value for the distance or drag the boundary to move it vertically.

10. OCT image 2

11. OCTA image 2
The OCTA image set in the [OCTA Image Definitions] screen can be selected from the list box.

Information

You can perform the following operations from the menu displayed by right-clicking the OCTA image.

- [Density Map]: Select whether to show or hide the density map (optional product).
- [Density Grid]: Select whether to show or hide the density grid (optional product).
- [Density Analysis]: Select the density for analyzing.
- [AIP][MIP]: Select a method for projecting the OCTA image.
- [Projection Artifact Removal]: Select whether to apply the projection artifact removal function.
- [Show Tools]: Show information about the Tools used on the enlarged OCTA screen.
- [Reset Brightness/Contrast]: Reset the brightness/contrast.
- [Save As]: Save the OCTA image.
- [Save As image with anonymization]: Anonymize the OCTA image and save it.
- [Save Binary Image]: Save a binary image or a skeleton image (optional product).
- [Mosaic]: Create a mosaic image (optional product).

If the projection artifact removal function is applied to the OCTA image, it is also applied to the OCT image. You can also select whether to apply the function from the menu displayed by right-clicking the OCT image.

Averaging OCTA Examination Images (When OCTA 2 Is Installed)

You can average several OCTA examination images.
Averaging can be operated in RX Capture for OCT. It cannot be operated in RX Viewer.

1 Click [Averaging].

The [Select examination] screen appears.

Information

The examinations that have all the same information for the capture date, right/left eye, scan mode, scan pattern and scan size are displayed.
You can select up to nine examinations.

2 **Select any examinations, and then click [OK].**

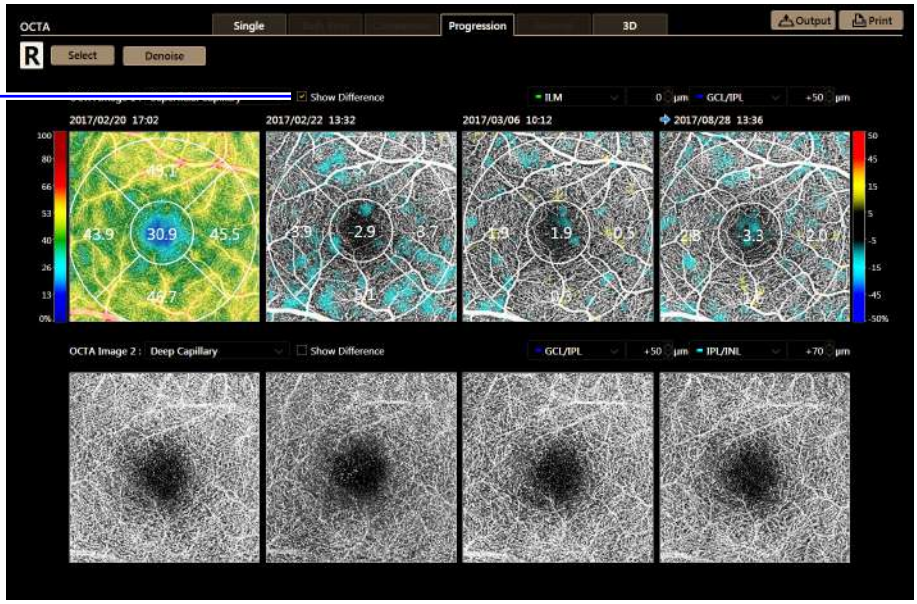
When averaging is complete, the [Report] screen reappears.

Information

[Averaged OCTA] appears as the scan mode for the averaged examinations.

[Progression] Tab Screen

The following describes the elements that are different from those on the [Single] tab screen. The other elements are the same as those on the [Single] tab screen.



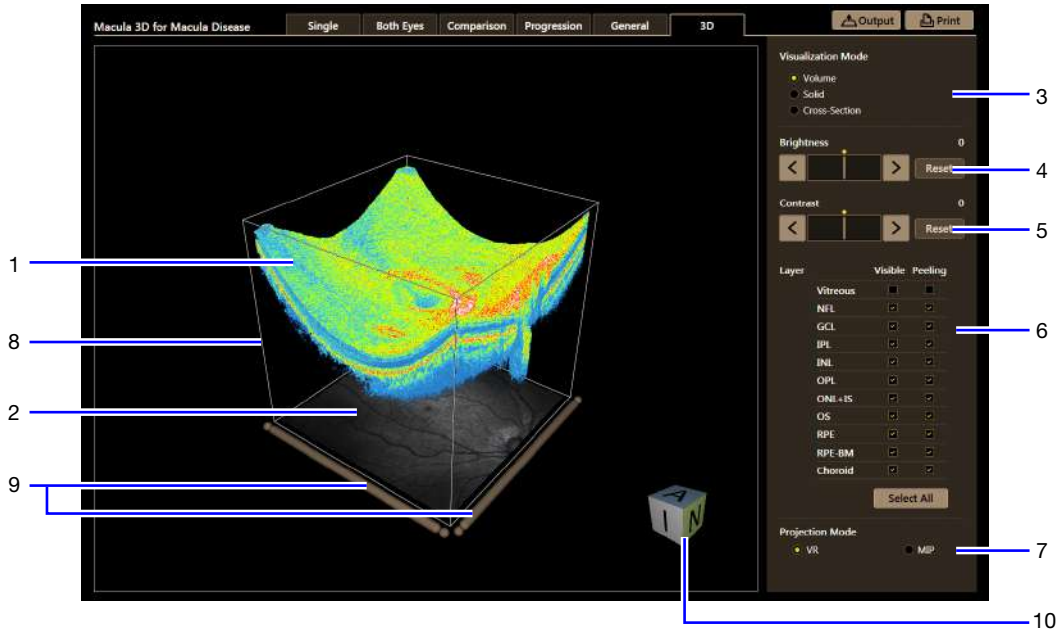
1. [Show Difference] check box
When this box is selected, the difference from the oldest examination (leftmost examination) is shown on the color map and grid display for the area density or skeleton density.

3D Analysis

The data of the OCT images captured in the [Macula 3D], [Glaucoma 3D], [Disc 3D], [Wide 3D], [Custom 3D], [Anterior 3D], and [OCTA] modes is shown as a 3D image. Four types of view formats are available for 3D tomogram images: [Volume], [Solid], [Cross-Section], and [Angiography].
This analysis can be shown in the [3D] tab screen.
The [Angiography] display format is available only when an OCTA image exists.

[Volume] View

Shows the SLO image, vitreous, layers of the retina, and choroid as semi-transparent images.



1. 3D tomogram image
   This 3D image is constructed from B-scan data.

   Information

   Changing the Color of 3D Tomogram Images
   Right-click the 3D tomogram image, and select [Gray Scale] or [False Color] from the menu.

2. SLO image

   Information

   Switching SLO Image Show/Hide
   Right-click the 3D tomogram image, and select [SLO on the bottom] from the menu.

3. 3D view mode
   Select the format for viewing 3D tomogram images.

4. Brightness adjustment slider ([Volume], [Cross-Section] view only)
   The brightness of 3D tomogram images can be adjusted. Click [Reset] to return to its initial state.

5. Contrast adjustment slider ([Volume], [Cross-Section] view only)
   The contrast of 3D tomogram images can be adjusted. Click [Reset] to return to its initial state.

6. Selection of layer that is shown
   - [Visible]: Shows selected layers in the 3D tomogram image.
   - [Peeling]: Controls selected layers by using the peeling control bar. The position of the layer is maintained when this is deselected.
   - [Select All]: Clicking this item selects all layers.

   Information

   The [Anterior 3D] mode is not supported.

7. Selection of 3D projection method ([Volume] view only)
   - [VR]: Volume Ray Casting
   - [MIP]: Maximum Intensity Projection

8. Frame
   This is the boundary of the 3D tomogram image.

   Information

   Switching Frame Show/Hide
   Right-click the 3D tomogram image, and select [Frame] from the menu.

9. Peeling control bars
   The view of the tomogram image corresponding to the position on the bars changes by altering the length and position of the bars.

   Information

   Switching Peeling Control Bar Show/Hide
   Right-click the 3D tomogram image, and select [Peeling Control] from the menu.

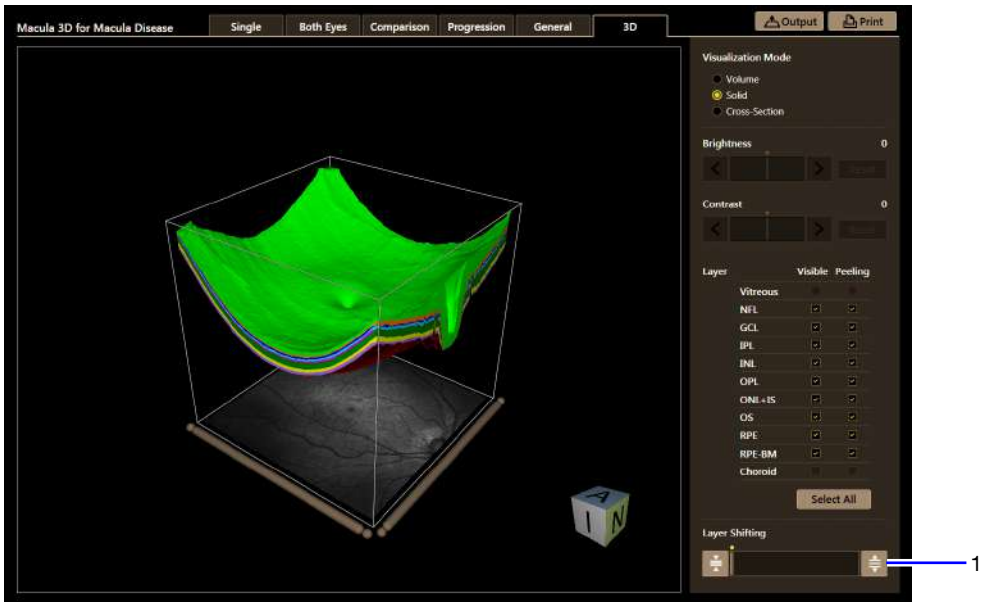
10. Orientation
    Shows the orientation or view direction of the 3D tomogram image.

    Information

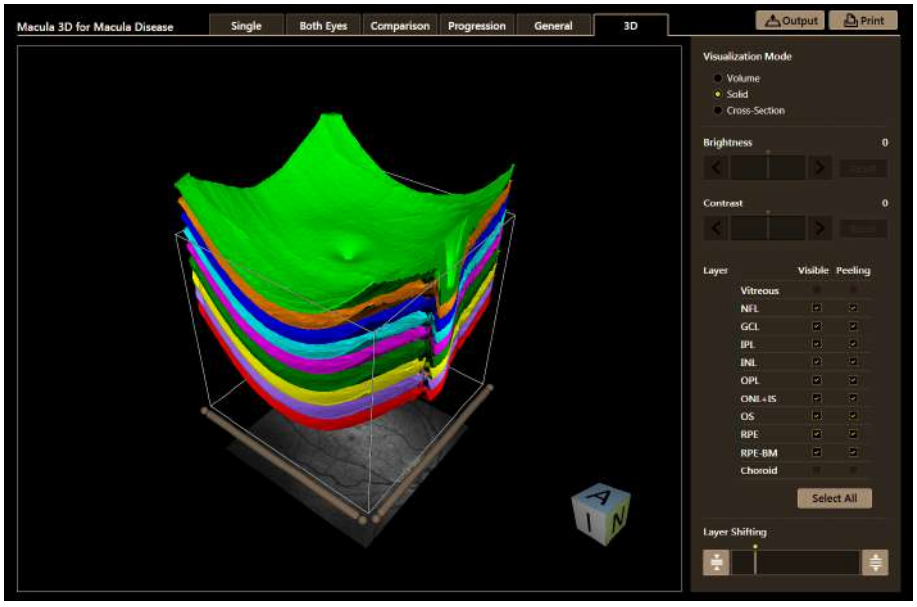
    Switching Orientation Show/Hide
    Right-click the 3D tomogram image, and select [Orientation] from the menu.

[Solid] View

Shows the SLO image and a non-transparent image of color-coded layers of the retina. The vitreous and choroid are not shown. The [Anterior 3D] mode is not supported.

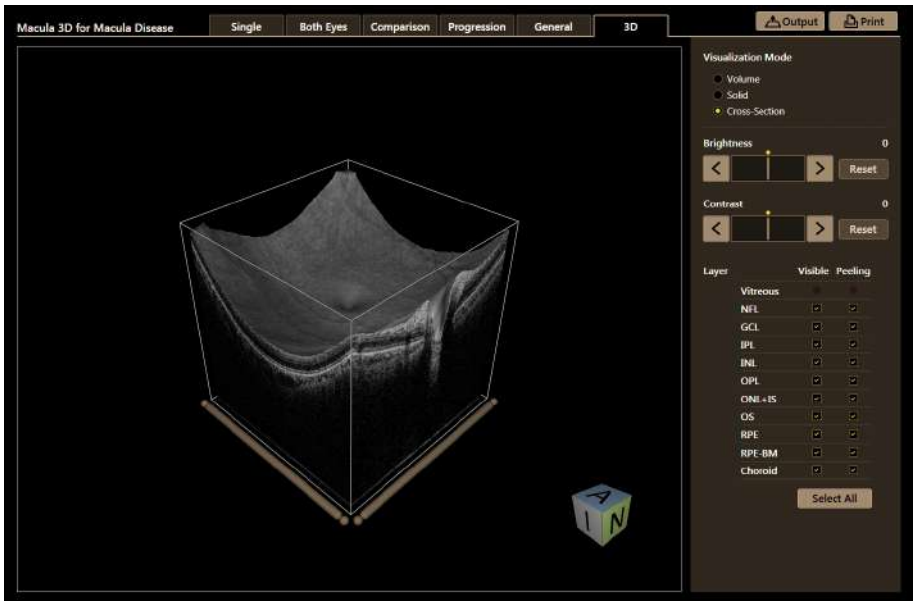


1. Layer shift slider ([Solid] view only)
   The layers are separated by operating this slider.



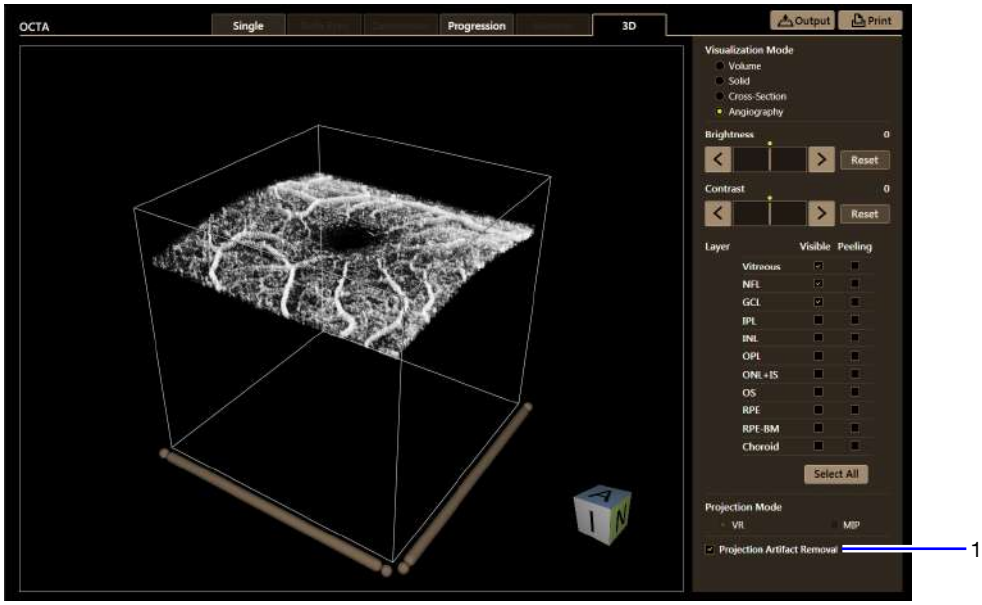
[Cross-Section] View

Shows the SLO image, layers of the retina, and choroid as non-transparent images. The vitreous is not shown. Three 3D tomogram image colors can be selected: [Gray Scale], [Invert] and [False Color].



[Angiography] View

Shows the SLO image and a non-transparent image for each layer of the retina. Two 3D OCTA image colors can be selected: [Gray Scale] and [False Color].



1. [Projection Artifact Removal] check box
   When this box is selected, the projection artifact removal function is applied to the 3D OCTA image.

How to Operate the 3D View Screen

The following describes an example of how to operate the 3D view screen in the [Cross-Section] view.

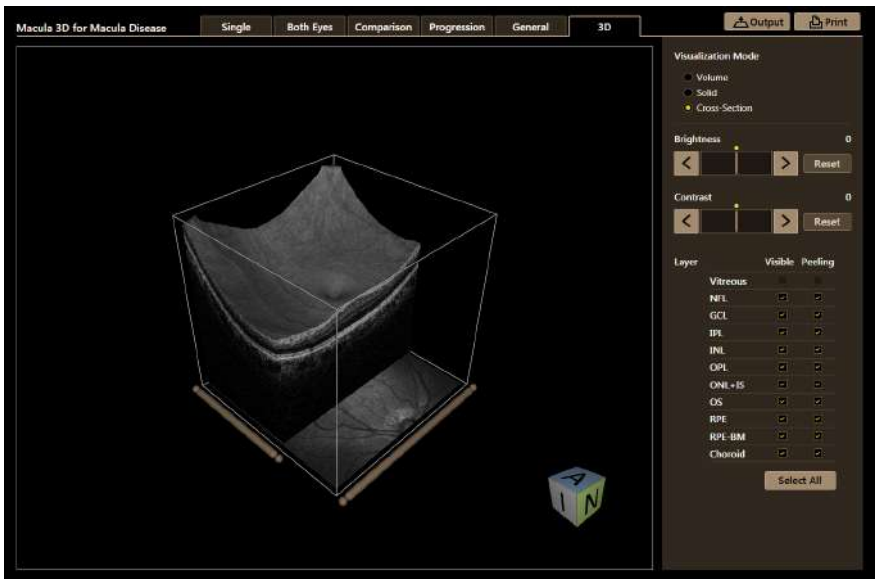
3D Tomogram Image

- Rotating: Drag the 3D tomogram image in any direction.
- Moving: Drag the 3D tomogram image in any direction with the shift key held down.
- Resizing: Turn the mouse wheel.
- Restoring the 3D tomogram image to its original state: Right click the image and select [Reset Camera Position] from the menu.

Peeling Control Bars

Dragging the sphere changes the length of the bar, and the tomogram image corresponding to the position on the bar is shown.

Dragging the bar changes the position of the bar, and the tomogram image corresponding to the position on the bar is shown.



Anterior Segment Analysis

The corneal thickness analysis is performed on the basis of the OCT images of the anterior segment captured in [Anterior Radial] mode.
The analysis results are shown, for example, on maps of corneal thickness, corneal grids, and tables.
These analysis results can be shown on the [Single], [Both Eyes], [Comparison], and [Progression] tab screens.
The OCT images captured in [Anterior3D] mode can be shown on the [General] tab screen.

[Single] Tab Screen

1. SLO image/Corneal thickness
   The corneal grid is overlaid on the SLO image. The values of the corneal thickness are shown on the grid.

2. SLO image/Corneal epithelium thickness
   The corneal grid is overlaid on the SLO image. The values of the corneal epithelium thickness are shown on the grid.

3. OCT image

4. Corneal thickness within 5 mm circle (µm)
   The central corneal thickness, the maximum and minimum corneal thicknesses within the corneal grid (Φ5 mm), and the difference between the maximum and minimum corneal thicknesses are shown.

5. Sector difference (µm) within 2-5 mm
   The differences between the sectors on opposite sides within the corneal grid (Φ2 to Φ5 mm) are shown.

[Both Eyes] Tab Screen

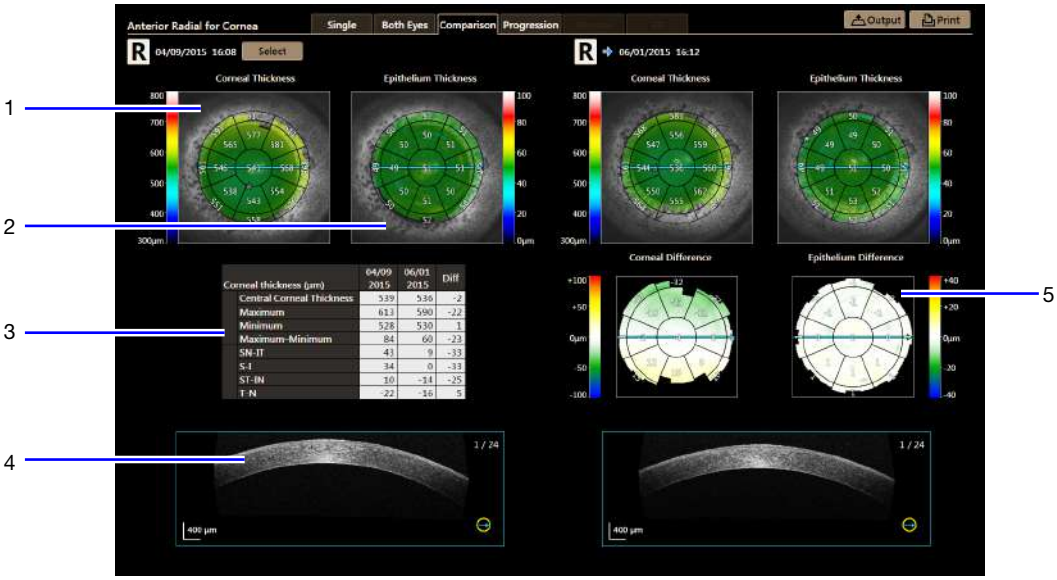
1. SLO image/Corneal thickness
   Same as [Single] tab screen.

2. Corneal epithelium thickness
   The values of the corneal epithelium thickness are shown on the grid.

3. OCT image
   Same as [Single] tab screen.

4. Corneal thickness (µm)
   The items are the same as on the [Single] tab screen. This table shows the values for the right and left eyes.

[Comparison] Tab Screen



1. SLO image/Corneal thickness
   Same as [Single] tab screen.

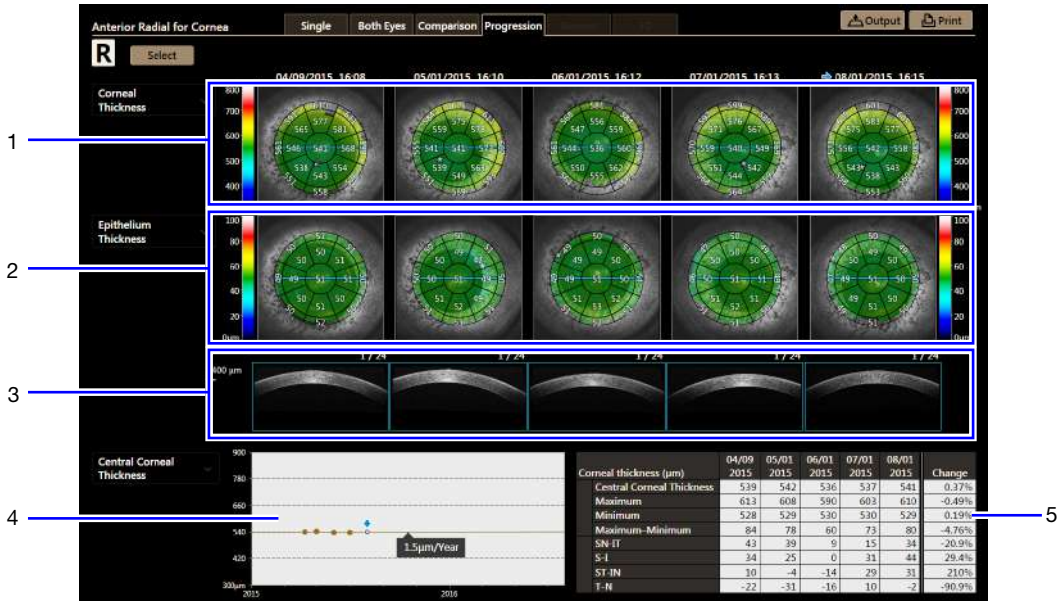
2. SLO image/Corneal epithelium thickness
   Same as [Single] tab screen.

3. Corneal thickness (µm)
   The items are the same as on the [Single] tab screen. This table shows the values for each examination. The rightmost column is the difference between the two examinations.

4. OCT image
   Same as [Single] tab screen.

5. Corneal thickness/Corneal epithelium thickness difference map
   This color maps show the differences in corneal thickness and corneal epithelium thickness between both examinations. Values for the differences between both examinations are shown on the grids.

[Progression] Tab Screen



1. SLO image/Corneal thickness
   The map to overlay on the SLO image can be selected from the list box. Values corresponding to the map are shown on the corneal grid.
   - [Corneal Thickness]: Shows the corneal thickness map for five examinations.
   - [Corneal Difference]: Shows the difference from the oldest examination (leftmost examination) as a color map and values. A corneal thickness map is shown for the oldest examination.

2. SLO image/Corneal epithelium thickness
   The map to overlay on the SLO image can be selected from the list box. Values corresponding to the map are shown on the corneal grid.
   - [Epithelium Thickness]: Shows the corneal epithelium thickness map for five examinations.
   - [Epithelium Difference]: Shows the difference from the oldest examination (leftmost examination) as a color map and values. A corneal epithelium thickness map is shown for the oldest examination.

3. OCT image

4. Corneal thickness trend graph
   This plots all examinations performed for the same patient to show changes in the corneal thickness over time. The selected examination is indicated in blue, four examinations displayed on the reports are indicated in brown, and other examinations are indicated in black.
   You can select what is shown from the list box.

5. Corneal thickness (µm)
   The items are the same as on the [Single] tab screen. This table shows the values for each examination. The rightmost column is the rate of change.
   - [Central Corneal Thickness]: Central corneal thickness
   - [Maximum Thickness]: Maximum corneal thickness
   - [Minimum Thickness]: Minimum corneal thickness

- [Maximum - Minimum]: Difference between the maximum and minimum corneal thicknesses
- [SN-IT]: Difference between SN sector and IT sector within the corneal grid (Φ2 to Φ5 mm)
- [S-I]: Difference between S sector and I sector within the corneal grid (Φ2 to Φ5 mm)
- [ST-IN]: Difference between ST sector and IN sector within the corneal grid (Φ2 to Φ5 mm)
- [T-N]: Difference between T sector and N sector within the corneal grid (Φ2 to Φ5 mm)

Normative Database

By comparing the retinal thickness with the age-specific normative database, the color-coded percentile against the normative distribution is shown. The normative database of the product is based on 520 eyes data which includes four ethnic groups of “Asian”, “Hispanic”, “White” and “Black”. Also, the age groups are as follows:

Age	Asian	Hispanic	White	Black
18 to 30	x	x	x	x
31 to 40	x	x	x	x
41 to 50	x	x	x	x
51 to 60	x	x	x	x
61 to 70	x	x	x	x
71 to 85	–	–	x	–

When the patient’s age is outside the normative database, the result is compared with the data of the nearest age group.

- Age of 17 or under: Compare with the data of 18 to 30 age group.
- Age of 71 or over: Compare with the data of 61 to 70 age group (except “White”).
- Age of 86 or over: Compare with the data of 71 to 85 age group (only “White”).

In this case, [under18], [over70] or [over85] is shown each at the bottom right of the NDB comparison map and the trend graph.

Color-coded Normative Database

Color code varies with the analyses. The color patterns are as follows.

Macula Thickness Analysis/2D Tomogram Analysis/General Tomogram Analysis/Wide 3D Scan Analysis

- **Pink: 99% or more**
  The measurement value indicates the 99th percentile or more from the thinnest value in NDB.

- **Light Yellow: 95 to 99%**
  The measurement value indicates the range from the 95th to 99th percentile from the thinnest value in NDB.

- **Green: 5 to 95%**
  The measurement value indicates the range from the 5th to 95th percentile from the thinnest value in NDB.
  Significance map is not color-coded.

- **Yellow: 1 to 5%**
  The measurement value indicates the range from the 1st to 5th percentile from the thinnest value in NDB.

- **Red: 1% or less**
  The measurement value indicates the 1st percentile or less from the thinnest value in NDB.

NFL+GCL+IPL Analysis/GCL+IPL Analysis/Optic Disc Analysis/ Wide 3D Scan Analysis

95% or more is not color-coded.

- **Green: 5 to 95%**
  The measurement value indicates the range from the 5th to 95th percentile from the thinnest value in NDB.
  Significance map is not color-coded.

- **Yellow: 1 to 5%**
  The measurement value indicates the range from the 1st to 5th percentile from the thinnest value in NDB.

- **Red: 1% or less**
  The measurement value indicates the 1st percentile or less from the thinnest value in NDB.

ONH parameters

5% or less is not color-coded.

- **Red: 99% or more**
  The measurement value indicates the 99th percentile or more from the thinnest value in NDB.

- **Yellow: 95 to 99%**
  The measurement value indicates the range from the 95th to 99th percentile from the thinnest value in NDB.

- **Green: 5 to 95%**
  The measurement value indicates the range from the 5th to 95th percentile from the thinnest value in NDB.

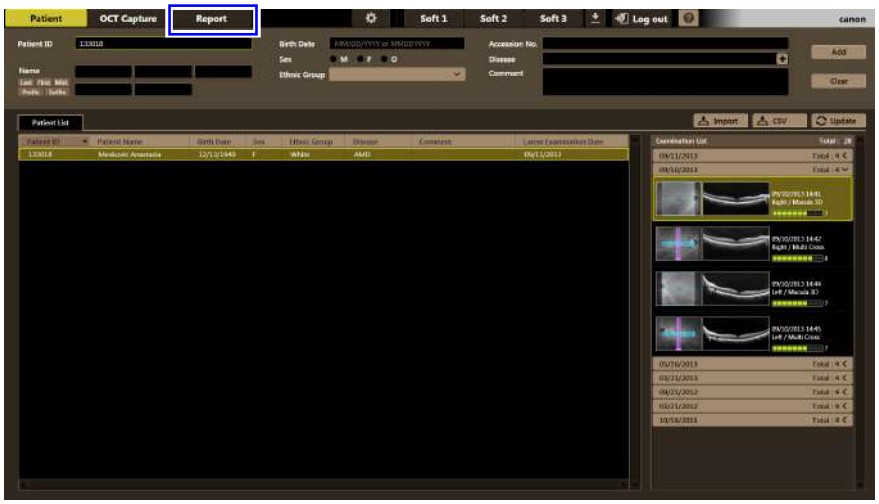
Basic Report Operations

The following example describes the [Report] screen operation for an examination done in the [Macula 3D] mode.

Showing the [Report] Screen

1 Enter the patient ID.

2 Select an examination, and then click the [Report] tab.



The [Report] screen appears. The view mode that appears first differs according to the setting of the scan mode.

To switch view modes, click the view mode tab. The view mode that can be shown differs according to the scan mode selected when images were captured.

Information

Entering Disease Names and Comments
Disease names and comments can also be entered in the [Report] screen. Entry of disease names or comments is for patients and not for individual examinations. The entered disease name and comment are also reflected in the patient list.

Deleting an Examination on the [Report] Screen

Select and right-click an examination on the examination list, and select [Delete] from the menu. Once an examination is deleted, it cannot be restored.
To use this function, you need [Administrator] or [Super User] privilege.

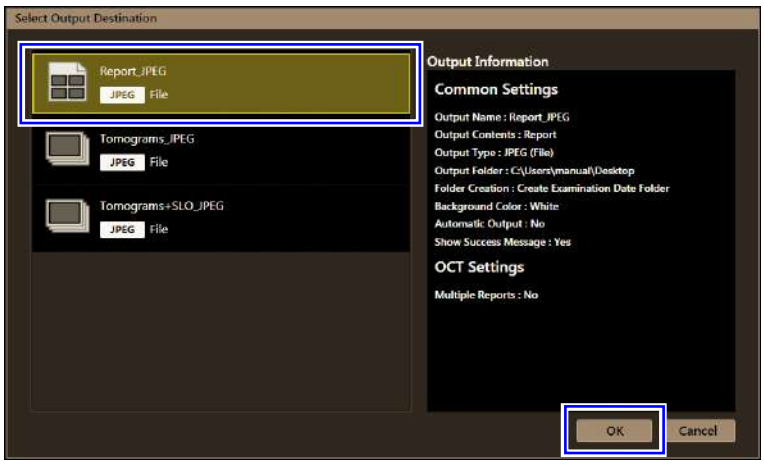
Saving Reports as Image Files

The analysis report area of the [Report] screen can be saved as an image file. The view mode and list box items are saved as shown.

1 Click [Output].

Or, right-click the examination list, and select [Output] from the menu.
The [Select Output Destination] screen appears.

2 Select output destination, and then click [OK].



The image file is saved to a pre-specified folder.

Information

For details on output destination settings, see "Output Settings" (see page 218).

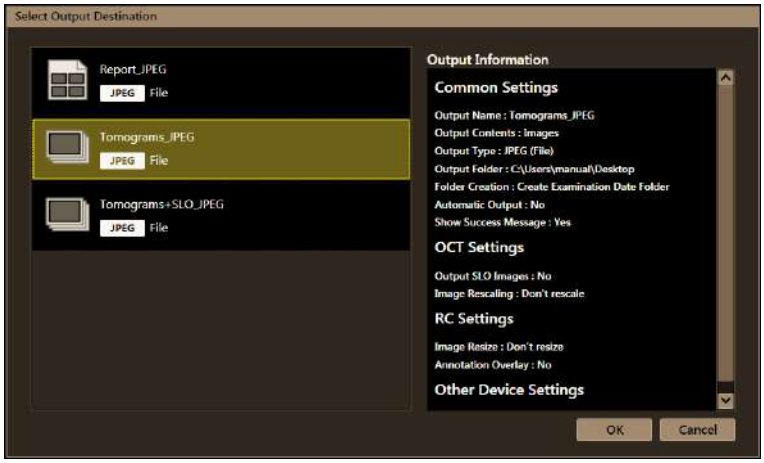
Saving OCT Images as Image Files

All OCT images acquired by a single image capture operation can be saved as image files.

1 **Click [Output].**

Or, right-click the examination list, and select [Output] from the menu.
The [Select Output Destination] screen appears.

2 **Select output destination, and then click [OK].**



The image file is saved to a pre-specified folder.

Information

For details on output destination settings, see "Output Settings" (see page 218).

Saving the Currently Shown OCT Image as an Image File

1 **Right-click the OCT image, and select [Save As] from the menu.**

2 **Specify the save destination, and click [Save].**

Saving the Currently Shown SLO Image as an Image File

1 **Right-click the SLO image, and select [Save As] from the menu.**

2 **Specify the save destination, and click [Save].**

Printing a Report

The analysis report area of the [Report] screen can be printed. The view mode and list box items are printed as shown. Also, the institution name which you inputted on the [System Settings] screen at [Initial Settings] (see page 198) and the login user's name are printed.

1 Click [Print].

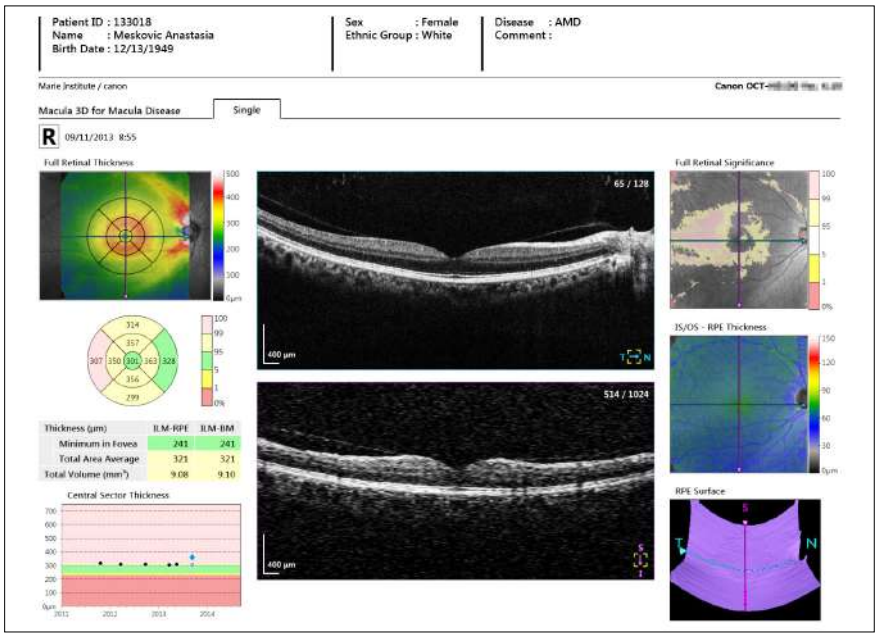
Or, right-click the examination list, and select [Print] from the menu.

The [Print] screen appears.

2 Click [Print].

The selected examination is printed.

Example of printout

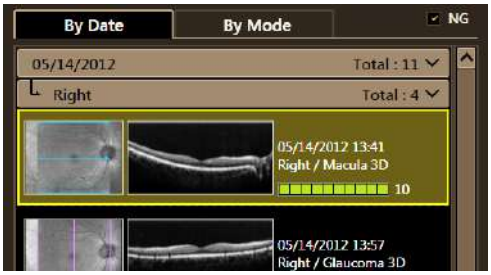


Changing the Examination List View

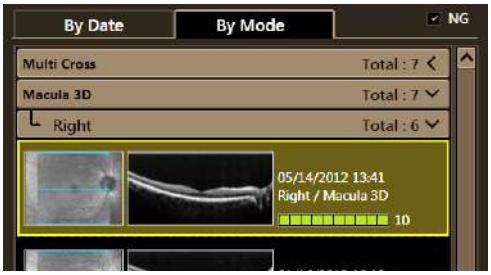
Examinations in the examination list are shown in order of date or scan mode. They are switched by clicking the [By Date] tab or the [By Mode] tab.

Clicking the date panel or scan mode panel stores the examination or shows it expanded.

Date order



Scan mode order



Furthermore, examinations are stored separately for the right and left eyes. Clicking the panel stores the examination for the right and left eye or shows it expanded.

Information

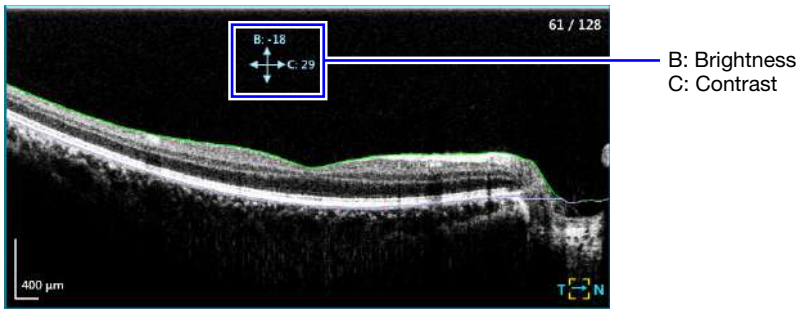
Hiding Examinations Judged as "NG"
NG images do not appear when you clear the NG image check box.

Changing the OCT Image View

Changing Brightness and Contrast

Move the cursor over the OCT image and drag the cursor up, down, right and left.

- Dragging up and down: Adjusts the brightness.
- Dragging right and left: Adjusts the contrast.



Information

Resetting Brightness and Contrast After Adjustment
Right-click the OCT image, and select [Reset Brightness/Contrast] from the menu.

Changing the Color

Right-click the OCT image, and select an item from the menu.
- [Gray Scale]: Shows in gray scale (default).
- [Invert]: Shows in inverted gray scale.
- [False Color]: Shows in color.

Changing the View of Boundaries

Right-click the OCT image, and select the item from the menu.
The content displayed differs depending on the view mode.

When the view mode is [Single], [Both Eyes], [Comparison], or [Progression]:
- [Full Retinal]: ILM, RPE/Choroid, BM
- [Full Retinal + IS/OS]: ILM, IS/OS, RPE/Choroid, BM
- [Full Retinal + INL/OPL]: ILM, INL/OPL, RPE/Choroid, BM
- [ILM + IPL/INL]: ILM, IPL/INL
- [None]: Boundaries are hidden (default).

When the view mode is [General] or [OCTA]:
- [Reset Boundaries]: Resets the positions of the boundaries.
- [Synchronize Boundaries]: Synchronizes the positions of two boundaries.
- [Angiogram]: Overlays Angiogram ([OCTA]).

Changing the Ratio

Right-click the OCT image, and select the item from the menu.
- [Fit]: Shows the image matched to size of image area (default).
- [Real Scale]: Shows in real ratio (1:1).

Using the Mouse Wheel to Change the OCT Image View

The image that is shown can be changed by moving the cursor to the OCT image and turning the mouse wheel.

In view modes in which two or more OCT images are shown, frame feeding of images using the mouse wheel can be synchronized. Right-click the OCT image, and select [Synchronize] from the menu.

Changing the Examination to be Compared

You can select the examination to be compared in the [Both Eyes], [Comparison], [Progression] and [Combined] modes.

Changing the Examination to be Compared Individually

The following describes the procedure for changing the examination to be compared in the [Both Eyes], [Comparison] or [Combined] mode.

1 **Click [Select].**

The [Select examination] screen appears.

2 **Select the examination, and then click [OK].**

The [Report] screen reappears. The selected examination appears.

Changing the Examination to be Compared Progressively

The following describes the procedure for changing the examination to be compared in the [Progression] mode.

1 Click [Select].

The [Select examination] screen appears.

2 Select the examination, and then click [OK].

The [Report] screen reappears. The selected examination appears.

Information

The examination to be compared is automatically specified by clicking [Latest examinations] or [Equal Interval].

- [Latest examinations]: The four latest examinations are specified.
- [Equal Interval]: The oldest examination is specified, and three examinations are specified at equal intervals between the selected examination and the oldest examination.

Moving the Grid

The position of the grid can be moved by dragging it. To return the grid to its original position, right click the SLO image, and select [Reset ETDRS Grid Position] from the menu.

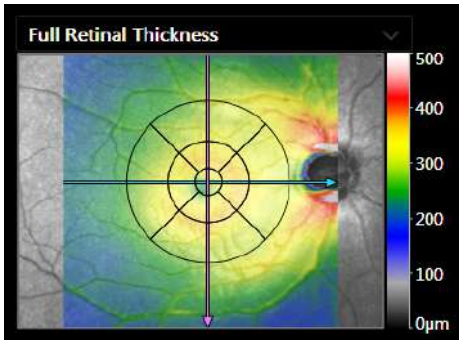
Information

The grid can be shown or hidden by selecting [ETDRS Grid] from the menu.

Selecting the OCT Image to Show

The OCT image at the position of the OCT image selection line is shown by dragging the line.

- Blue line: The OCT image in horizontal scan direction
- Pink line: The OCT image in vertical scan direction

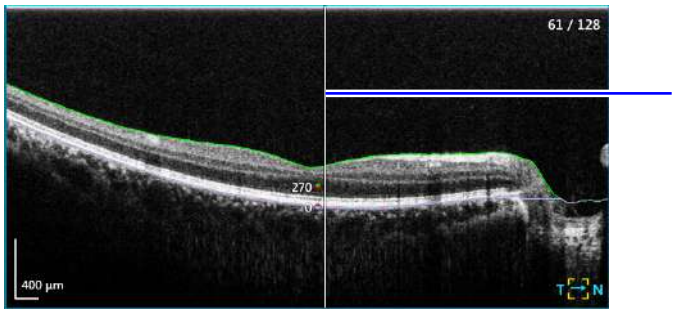


Changing the Map Transparency

The transparency of the map that is shown in color can be changed by moving the cursor to the map and turning the mouse wheel.

Measuring the Distance Between Boundaries

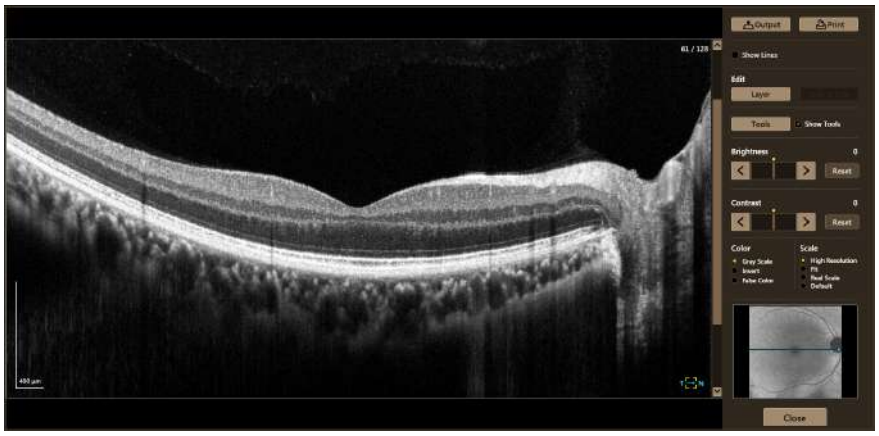
Right-click the OCT image, and select [Measurement Line] from the menu.
The measurement line appears. The thickness of the point of intersection of the boundary and measurement line is shown.

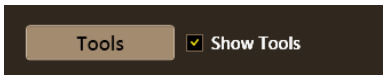


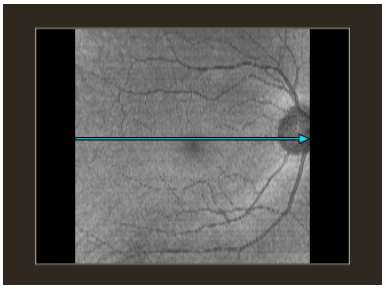
Enlarging the OCT Image

Menu of the OCT Image Screen

The enlarged OCT image can be shown by double-clicking the OCT image. In this screen, you can save the enlarged OCT image, output and print the screen, edit boundaries, analyze the distance between two points, adjust the brightness and contrast of the OCT images, and change the color and ratio of the OCT image. The enlarged OCT image of the anterior segment can also be shown in the same way.



	This outputs or prints the screen.
	This shows or edits boundaries.
	This uses or shows the Tool to analyze the distance.
	This adjusts the brightness/contrast of the OCT image. Clicking [Reset] returns brightness/contrast to its initial state.

	This changes the color of the OCT image. • [Gray Scale]: Shows in gray scale. • [Invert]: Shows in inverted gray scale. • [False Color]: Shows in color. This changes the ratio of the OCT image. • [High Resolution]: Shows the image enlarged in the vertical direction. • [Fit]: Shows the image matched to size of image area. • [Real Scale]: Shows in real ratio (1:1). • [Default]: Shows in the same aspect ratio to the report screen. [High Resolution] is enabled only in the OCT image screen. When returning to [Report] screen while [High Resolution] is selected, the ratio of the OCT image is changed to [Fit].
	• 3D scan: This shows the projection image. The OCT image is changed by dragging the OCT image selection line. • Cross scan: This shows the SLO image. The OCT image is changed by clicking the B-scan line. • OCTA image: This shows the OCTA image. • En Face image: This shows the En Face image.
	The [Report] screen reappears.

Information

Mouse Wheel Operation
The OCT image can be changed by moving the cursor to the OCT image and turning the mouse wheel.

Saving OCT Images
Right-click the OCT image, and select [Save As] from the menu. Specify the save destination, and click [Save].

Viewing Angiograms
If there is OCTA image data, right-click the OCT image to select [Angiogram] from the menu.

Removing Projection Artifacts
Right-click the OCT image to select [Projection Artifact Removal] from the menu.

Editing Boundaries

Automatically recognized boundaries can be edited.

1 Click [Layer].

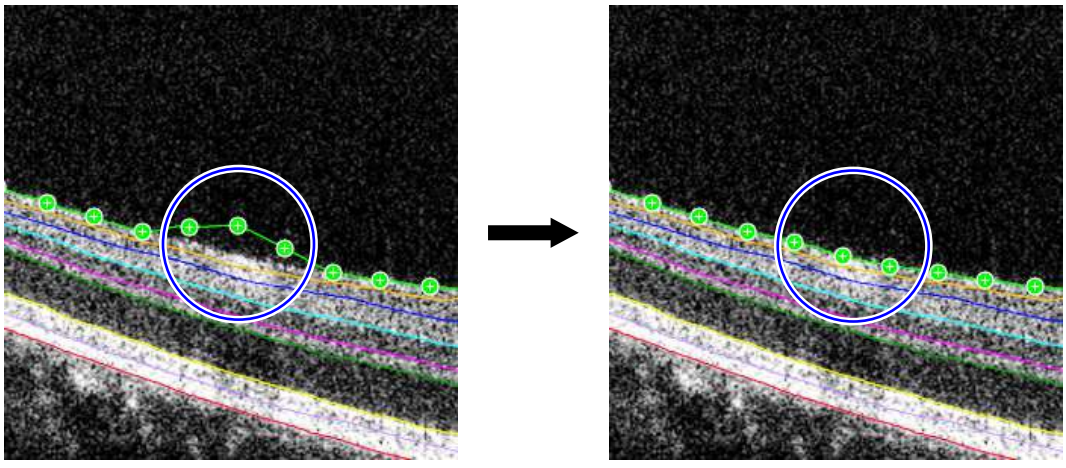
The [Edit Layer] screen appears.

2 Select the boundary.

Points are shown on the selected boundary.
For the OCT image of the anterior segment, the boundaries you can select vary according to the scan mode. The boundaries you can select are as follows.

- [Anterior Cross] mode: [Anterior Surface]
- [Anterior Radial] mode: [Anterior Surface], [Epithelium / Bowman's Membrane], [Posterior Surface]

3 Drag a point.



Information

For the OCT image of the anterior segment, you can edit any part on the boundary.

Information

Click [Reset] to return corrected contents to their initial states.

4 **Click [OK].**

The [Edit Layer] screen closes.

Analyzing a Retinal Tomogram Image

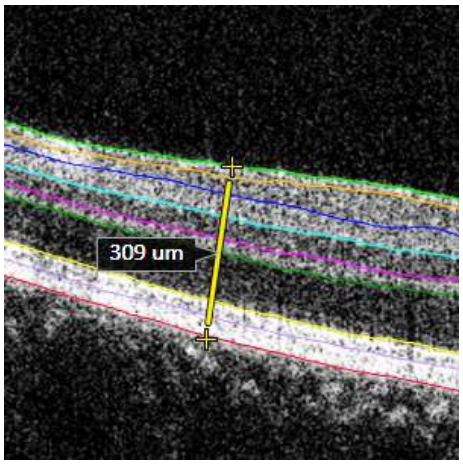
On OCT images of the retina, you can analyze the distance between two points.

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Click the start and end points.**

The length is shown.



To analyze other locations, repeat the same operation.

3 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

Editing Analysis Results for a Retinal Tomogram Image

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Edit analysis results.**

Point the mouse cursor to an end of an analysis line and drag it after the cursor is changed to a cross.
To edit others, repeat the same operation.

3 **Click [OK].**

The [Edit Tools] screen closes.

Deleting Analysis Results for a Retinal Tomogram Image

Deleting All the Analysis Results on an Image

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Click [Clear All].**

All the analysis results are deleted.

3 **Click [OK].**

The [Edit Tools] screen closes.

Deleting Specified Analysis Results

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Delete analysis results.**

Right-click an analysis result you want to delete and select [Delete Tool] from the menu.
The analysis result is deleted.
To delete others, repeat the same operation.

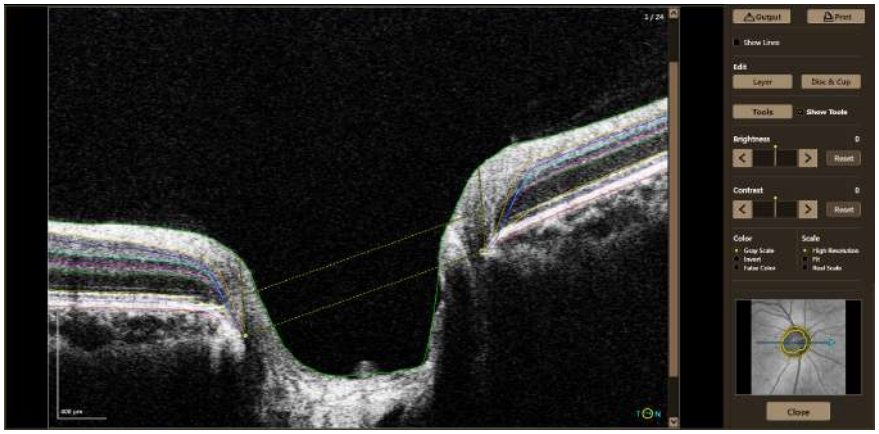
3 **Click [OK].**

The [Edit Tools] screen closes.

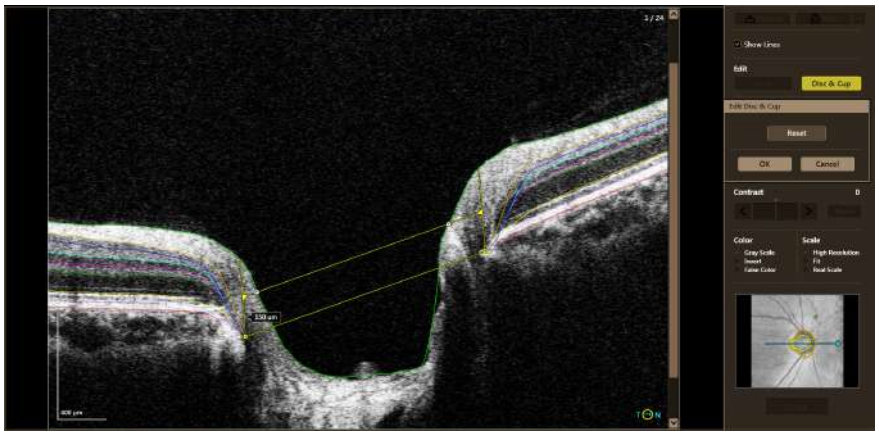
Editing Disc and Cup

In optic disc analysis, the Disc and Cup are automatically detected and shown on the screen. The values of the ONH or TSNIT parameters are automatically calculated on the basis of the detected regions.

1 Click [Disc & Cup].

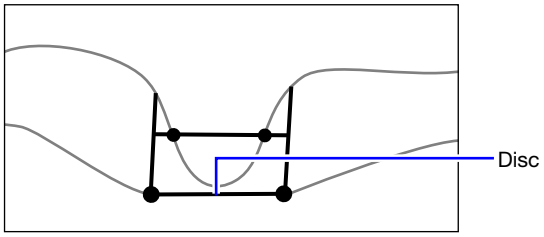


The [Edit Disc & Cup] screen appears, and points are shown on the Disc and Cup lines.



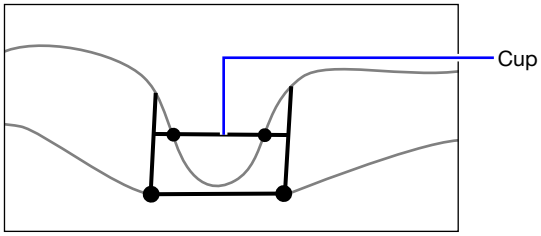
2 Edit Disc.

To edit Disc, bring the cursor to the Disc point, and drag to the end point of RPE.



3 Edit Cup.

To edit Cup, bring the cursor to the Cup line, and drag up or down. Cup is shown so that it is 150 µm away from Disc. Determine the position of Cup while referring to the scale at the bottom left of the OCT image.



4 Edit Disc and Cup of other OCT images.

Turn the mouse wheel to change the OCT image, and repeat the procedure from step 2.

5 Click [OK].

The [Edit Disc & Cup] screen closes. The position of the boundary is automatically corrected to match the editing result.

Information

Click [Reset] to return corrected contents to their initial states.

Analyzing an Anterior Segment Tomogram Image

On OCT images of the anterior segment captured in [Anterior Cross] mode, you can analyze the distance between two points, angles, and AOD (Angle Opening Distance)/ TISA (Trabecular Iris Space Area).

Analyzing a Distance

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [Distance].**

3 **Click the start and end points.**

The length is shown.
To analyze other locations, repeat the same operation.

4 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

Analyzing an Angle

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [Angle].**

3 **Click the start point, vertex and end point.**

The angle is shown.
To analyze other locations, repeat the same operation.

4 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

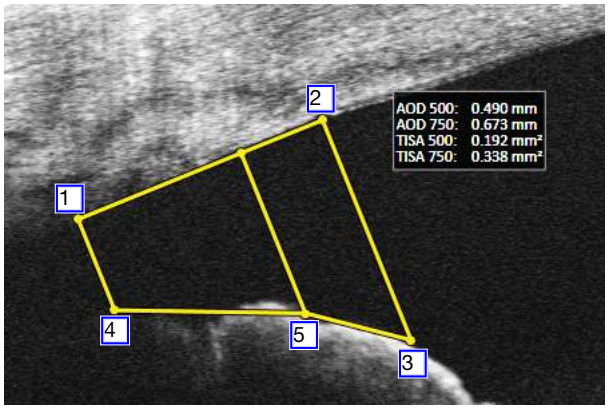
Analyzing AOD/TISA

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [AOD/TISA].**

3 **Click points in order from 1 to 5.**



The analysis result is shown.

4 **Click [OK].**

The [Edit Tools] screen closes and the analysis result is saved.

Editing Analysis Results for an Anterior Segment Tomogram Image

Editing Distances and Angles

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [Distance] or [Angle].**

3 **Edit analysis results.**

Point the mouse cursor to an end of an analysis line and drag it after the cursor is changed to a cross.
To edit others, repeat the same operation.

4 **Click [OK].**

The [Edit Tools] screen closes.

Editing AOD/TISA

1 **Click [Tools].**

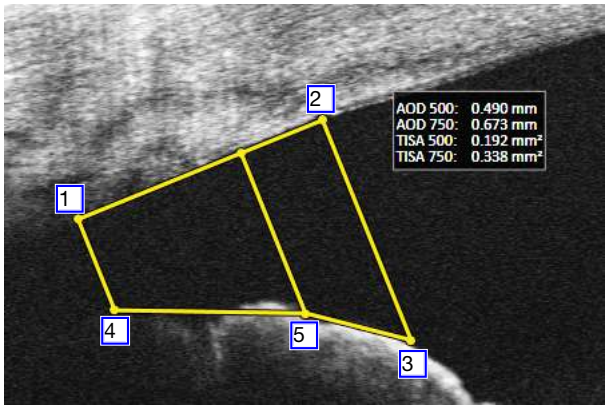
The [Edit Tools] screen appears.

2 **Select [AOD/TISA].**

3 **Edit analysis results.**

Point the mouse cursor to an end of an analysis line and drag it after the cursor is changed to a cross.

- Moving the shape: Drag Point 1.
- Rotating the shape around Point 1: Drag Point 2.
- Changing the length of the analysis lines: Drag Point 3, 4 or 5.



4 **Click [OK].**

The [Edit Tools] screen closes.

Deleting Analysis Results for an Anterior Segment Tomogram Image

Deleting All the Analysis Results on an Image

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Click [Clear All].**

All the analysis results are deleted.

3 **Click [OK].**

The [Edit Tools] screen closes.

Deleting Specified Analysis Results

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select a Tool type.**

3 **Delete analysis results.**

Right-click an analysis result you want to delete and select [Delete Tool] from the menu.
The analysis result is deleted.
To delete others, repeat the same operation.

4 **Click [OK].**

The [Edit Tools] screen closes.

Enlarging the OCTA Image

Menu of the OCTA Image Screen

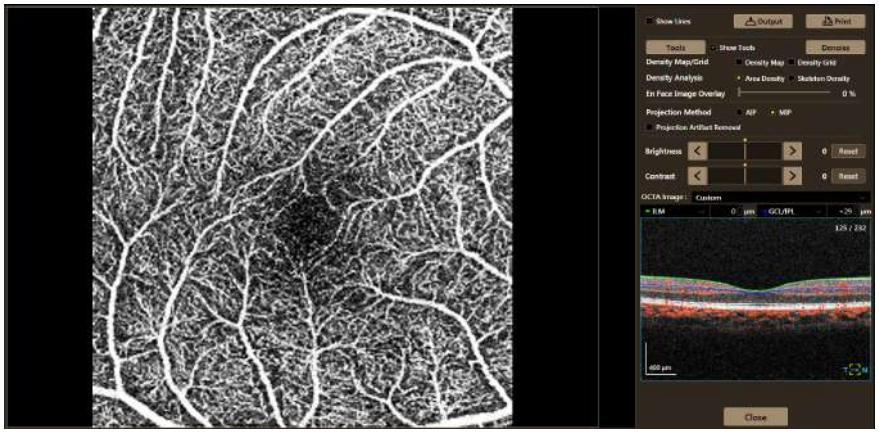
The enlarged OCTA image can be shown by double-clicking the OCTA image. In this screen, you can save the enlarged OCTA image, output and print the screen, analyze the distance, area, and density, show the map and grid for the area density or skeleton density, adjust the brightness and contrast, and change the boundaries of the OCTA image.

Information

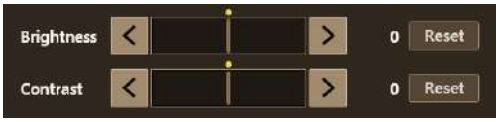
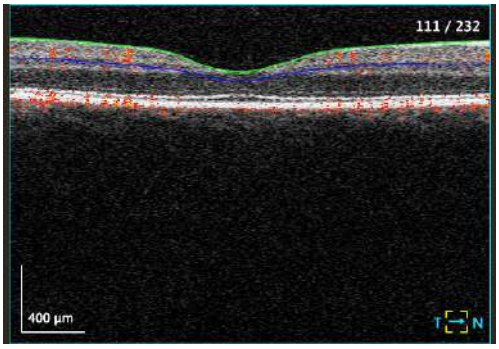
To use the Density Tool or to show the map and grid for the area density and skeleton density, the OCTA Analysis license (optional product) is required.

Information

An Intelligent denoise license (optional product) and a video card that meets the operating environment are required to use the Intelligent denoise function. The [Denoise] button appears only when both conditions are met.



	This shows a B-scan line (color: blue) and a measurement line (color: white) on the OCTA image. The measurement line (color: white) and values are shown on the B-scan tomogram image.
	This outputs or prints the screen.
	This uses or shows the Tools to analyze the distance, area, and density.
	This selects whether to apply Denoise.
	This selects whether to show or hide the density map and density grid.

	This selects the density to be analyzed from [Area Density] or [Skeleton Density].
	The transparency of the En Face image can be changed by operating the overlay slider.
	This selects a method for projecting the OCTA image. • [AIP]: Average Intensity Projection • [MIP]: Maximum Intensity Projection
	This selects whether to apply the projection artifact removal function.
	This adjusts the brightness/contrast of the OCTA image. Clicking [Reset] returns brightness/contrast to its initial state.
	This selects the boundaries of the OCTA image.
	This shows the B-scan tomogram image. Double-clicking the B-scan tomogram image switches the screen to “Enlarging the OCT Image” (see page 165). If you double-click the image again, the B-scan tomogram image reappears.
	The [Report] screen reappears.

Information

Mouse Wheel Operation

When you move the cursor to the B-scan tomogram image and turn the mouse wheel, the B-scan line position of the OCTA image changes and the tomogram image appears.

Saving OCTA Images

Right-click the OCTA image, and select [Save As] from the menu. Specify the save destination, and click [Save].

Saving Binary Images

Right-click the OCTA image, and select [Save Binary Image] from the menu. Select [Save as Binary Image] to save a binary image or select [Save as Skeleton Image] to save a skeleton image. Specify the save destination, and click [Save].

Analyzing an OCTA Image

You can analyze the distance between two points and the area and density in the specified region.

Information

To analyze the density, it is recommended that the examination meet the following conditions.

- The examination's images are averaged ([Averaged OCTA]) or Denoise is an enabled examination.
- [MIP] is selected on [Projection Method].
- [Superficial Capillary], [Deep Capillary], or [RPC] is selected as a boundary of the OCTA image.

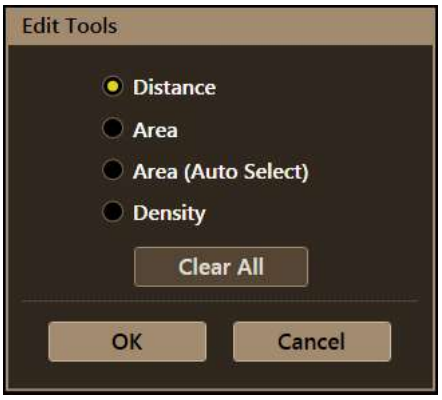
A message appears if the conditions are not met.

Analyzing a Distance

1 Click [Tools].

The [Edit Tools] screen appears.

2 Select [Distance].



3 Click the start and end points.

The length is shown.
To analyze other locations, repeat the same operation.

4 Click [OK].

The [Edit Tools] screen closes and the analysis results are saved.

Analyzing an Area

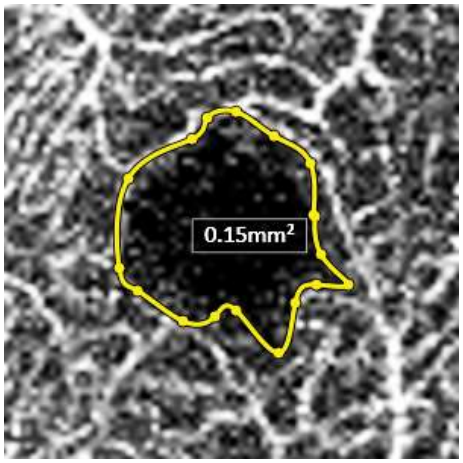
1 Click [Tools].

The [Edit Tools] screen appears.

2 Select [Area].

3 **Click at least three points around the analyzing region and double-click to end drawing.**

A closed curve is drawn.



4 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

Analyzing an Area (Automatic Selection)

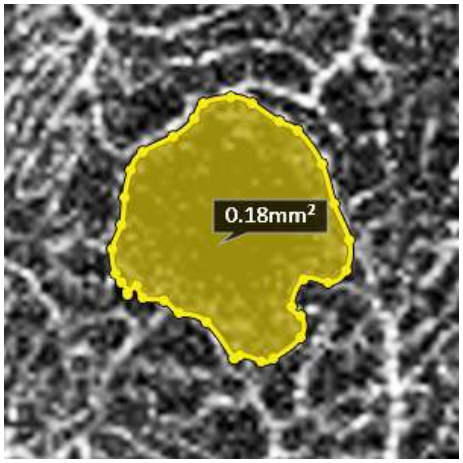
1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [Area (Auto Select)].**

3 **Click a point inside the region whose area you want to analyze.**

A closed curve of the region containing the specified point is drawn.



4 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

Analyzing a Density

This function analyzes area density and skeleton density.
Area density creates a binary image from an OCTA image and indicates the percentage of white pixels in the selected region by percent (%).
Skeleton density transforms the lines of a binary image, created from an OCTA image, into thin lines and indicates the value obtained by dividing the sum of the length of the thin lines in the selected region by the area by "mm^{-1}".

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [Density].**

3 **Click at least three points around the analyzing region and double-click to end drawing.**

A closed curve is drawn.

4 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

Editing Analysis Results for an OCTA Image

Editing Analysis Results for Distances

1 **Click [Tools], and select [Distance].**

The [Edit Tools] screen appears.

2 **Edit the analysis results for the distance.**

Point the mouse cursor to an end of an analysis line and drag it after the cursor is changed to a cross.

3 **Click [OK].**

The [Edit Tools] screen closes.

Editing Analysis Results for Areas and Densities

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select the item you want to edit.**

Select the analysis item you want to edit from [Distance], [Area], [Area (Auto Select)], or [Density].

3 **Edit the analysis results.**

- Moving nodes: Point the mouse cursor to a node and drag it to the desired position.
- Deleting nodes: Point the mouse cursor to a node, right-click and select [Delete the Node].

4 **Click [OK].**

The [Edit Tools] screen closes.

Deleting Analysis Results for an OCTA Image

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select the item you want to delete.**

Select the analysis item you want to delete from [Distance], [Area], [Area (Auto Select)], or [Density].

3 **Delete the analysis results.**

Point the mouse cursor to an analysis line, right-click, and select [Delete Tool] from the menu.

4 **Click [OK].**

The [Edit Tools] screen closes.

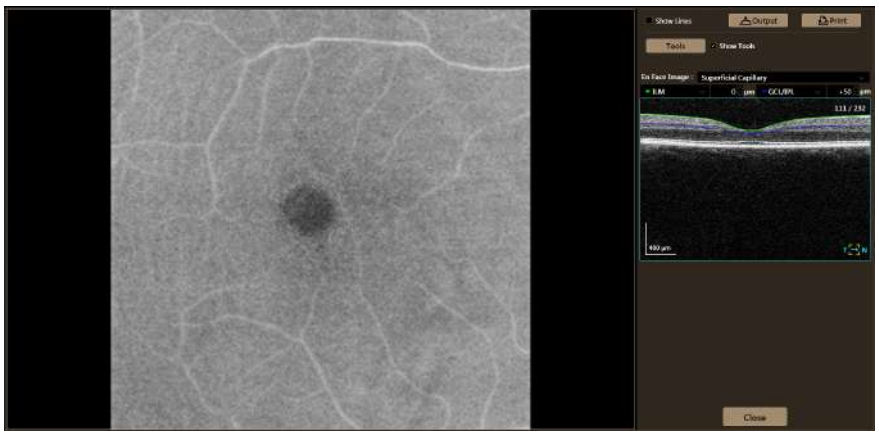
Information

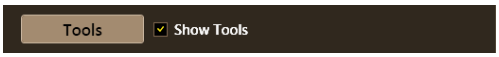
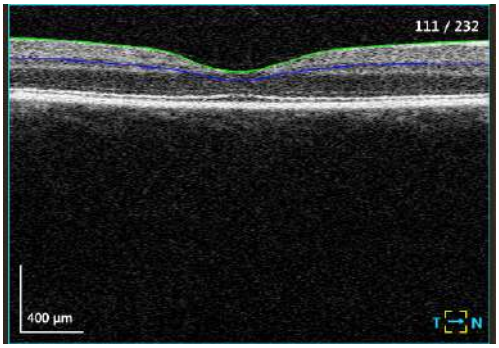
If you select [Clear All] on the [Edit Tools] screen, all the analysis results are deleted.

Enlarging the En Face Image

Menu of the En Face Image Screen

The enlarged En Face image can be shown by double-clicking the En Face image. In this screen, you can save the enlarged En Face image, output and print the screen, analyze the distance and area, and change the boundaries of the En Face image.



	• This shows a B-scan line (color: blue) and a measurement line (color: white) on the En Face image. • The analysis line (color: white) and values are shown on the B- scan tomogram image. • This outputs or prints the screen.
	This uses or shows the Tools to analyze the distance and area.
	This selects the boundaries of the En Face image.
	This shows the B-scan tomogram image. Double-clicking the B-scan tomogram image switches the screen to “Enlarging the OCT Image” (see page 165). If you double-click the image again, the B-scan tomogram image reappears.
	The [Report] screen reappears.

Information

Mouse Wheel Operation
When you move the cursor to the B-scan tomogram image and turn the mouse wheel, the B-scan line position of the En Face image changes and the tomogram image appears.

Saving En Face Images
Right-click the En Face image, and select [Save As] from the menu. Specify the save destination, and click [Save].

Analyzing an En Face Image

You can analyze the distance between two points and the area of the specified region.

Analyzing a Distance

1 Click [Tools].

The [Edit Tools] screen appears.

2 Select [Distance].

3 Click the start and end points.

The length is shown.
To analyze other locations, repeat the same operation.

4 Click [OK].

The [Edit Tools] screen closes and the analysis results are saved.

Analyzing an Area

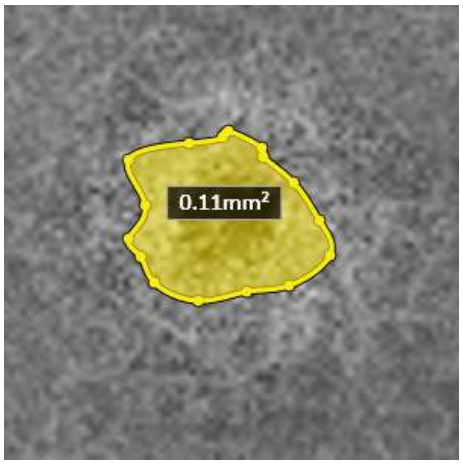
1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select [Area].**

3 **Click at least three points around the analyzing region and double-click to end drawing.**

A closed curve is drawn.



4 **Click [OK].**

The [Edit Tools] screen closes and the analysis results are saved.

Editing Analysis Results for an En Face Image

Editing Analysis Results for Distances

1 **Click [Tools], and select [Distance].**

The [Edit Tools] screen appears.

2 **Edit the analysis results for the distance.**

Point the mouse cursor to an end of an analysis line and drag it after the cursor is changed to a cross.

3 **Click [OK].**

The [Edit Tools] screen closes.

Editing Analysis Results for Areas

1 **Click [Tools], and select [Area].**

The [Edit Tools] screen appears.

2 **Edit the analysis results for the area.**

- Moving nodes: Point the mouse cursor to a node and drag it to the desired position.
- Deleting nodes: Point the mouse cursor to a node, right-click and select [Delete the Node].

3 **Click [OK].**

The [Edit Tools] screen closes.

Deleting Analysis Results for an En Face Image

1 **Click [Tools].**

The [Edit Tools] screen appears.

2 **Select the item you want to delete.**

Select the analysis item you want to delete from [Distance] or [Area].

3 **Delete the analysis results.**

Point the mouse cursor to an analysis line, right-click and select [Delete Tool] from the menu.

4 **Click [OK].**

The [Edit Tools] screen closes.

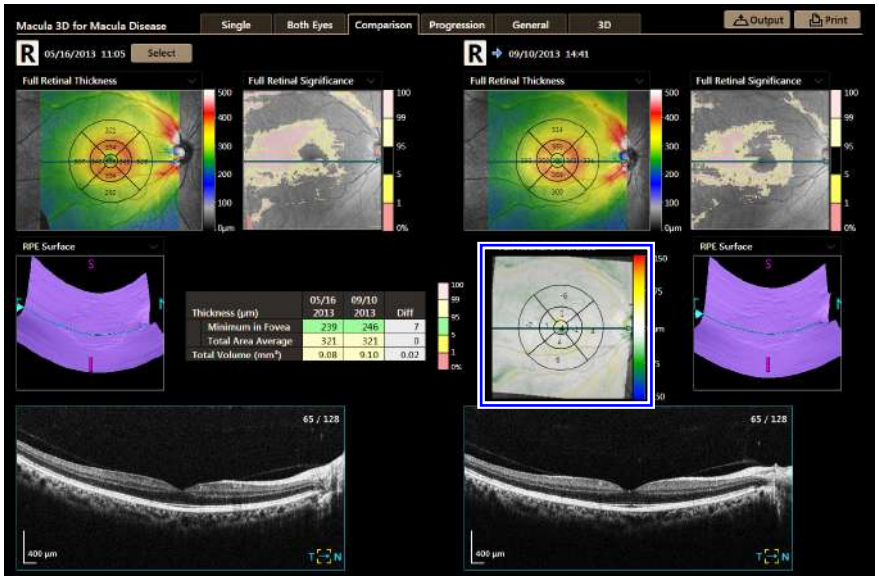
Information

If you select [Clear All] on the [Edit Tools] screen, all the analysis results are deleted.

Editing Difference Maps

The difference map shows the difference in thickness between two overlaid images.

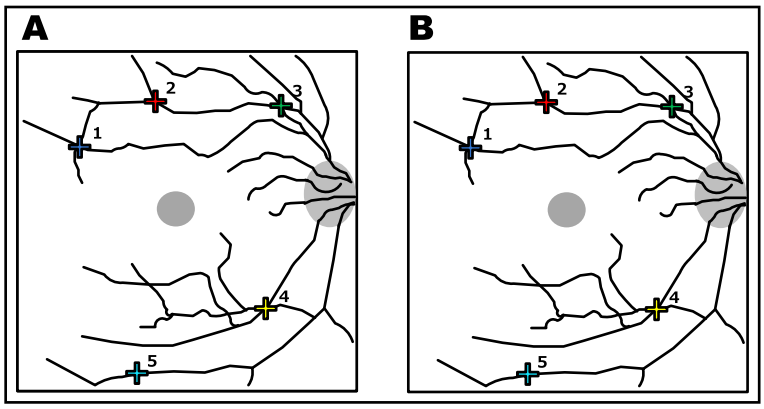
1 Double-click the difference map.



The registration screen appears.

2 Enter the match point.

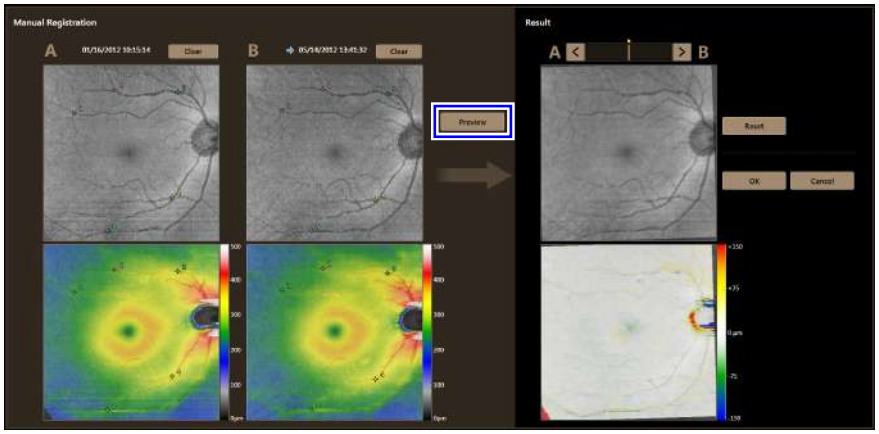
Determine the match point on the two projection images, and then click that point. Two to five points can be entered. The more match points are entered, the more accurately the SLO images can be positioned. Entered points are shown in the order of red, blue, green, yellow, and light blue.



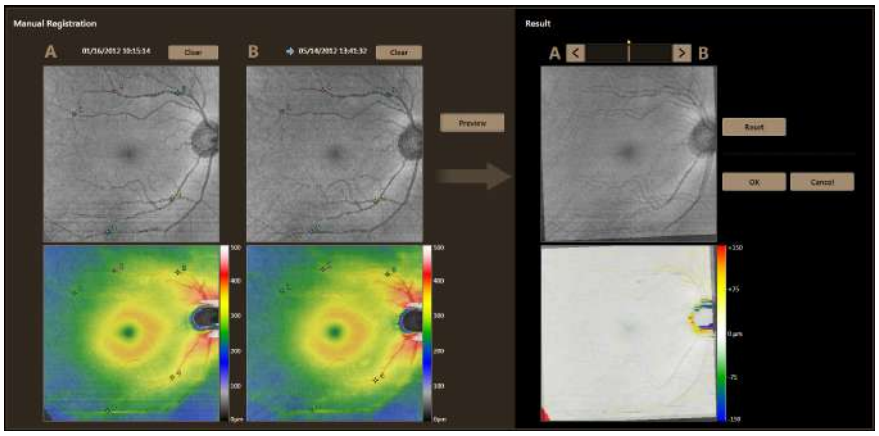
Information

- To reposition a point, drag the point.
- To delete all points, click [Clear].

3 Click [Preview].



The positioned image is shown on the right side.



Information

- The transparency of each image can be adjusted by operating the overlay slider.
- To reset positioning of the image, click [Reset].

4 Click [OK].

The registration screen closes.

Importing Retinal Images

Retinal images captured by a retinal camera can be imported and shown instead of SLO images. Image files with the "bmp" or "jpg" extension can be imported.
When a retinal image is imported, an enlarged SLO image is shown.
View modes in which retinal images can be shown are as follows.

Macula thickness analysis	[Single], [Both Eyes], [Comparison]
NFL+GCL+IPL analysis	[Both Eyes]
Optic disc analysis	[Both Eyes]
Wide 3D Scan Analysis	[Glaucoma], [Macula], [General]
2D tomogram analysis	[Single], [Both Eyes], [Comparison], [Progression]
General tomogram analysis	[General]

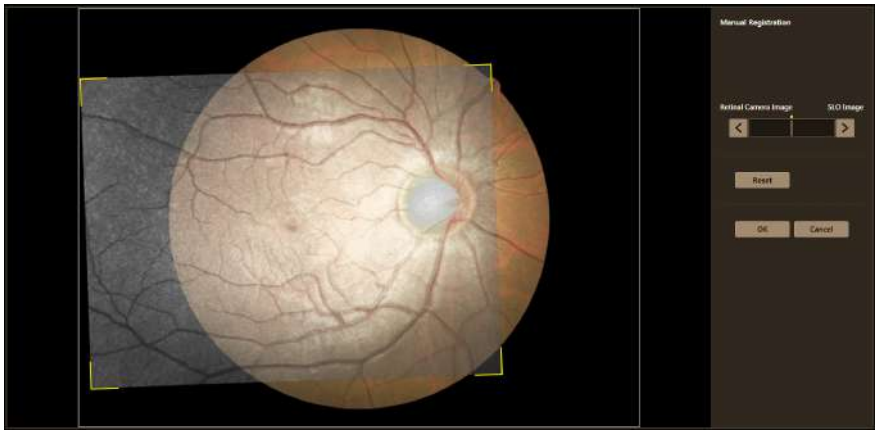
1 Right-click the SLO image, and select [Importing Retinal Camera Image...] from the menu.

2 Select a retinal image file, and then click [Open].

The registration screen appears. At this time, the positions of the SLO image and retinal image are automatically adjusted.

3 Correct the positions of the SLO image and retinal image.

Drag the circumference and inner side of the SLO image to enlarge, shrink, rotate and move it.

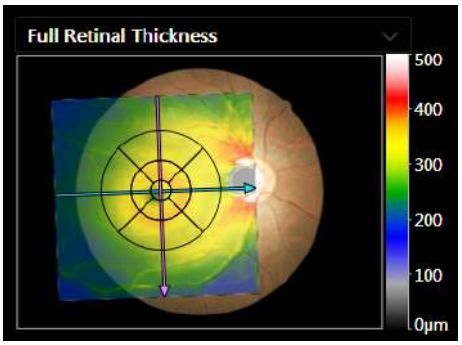


Information

- Click [Reset] to return corrected contents to their initial states.
- The transparency of the SLO image can be changed by operating the overlay slider.

4 Click [OK].

The registration screen closes, and the analysis result screen reappears. The retinal image is shown in the SLO image region.



Information

Switching Between the SLO Image and Retinal Image
Right-click on the retinal image, and select [SLO Image] or [Retinal Camera Image] from the menu.

In the [Combined] mode, you can import retinal images captured with the RX Capture for Retinal Camera (optional product).

1 Right-click the SLO image, and select [Select Retinal Camera Image...] from the menu.

The [Select examination] screen appears.

2 Select a retinal image file, and then click [OK].

Same as [Importing Retinal Camera Image...].

3 Correct the positions of the SLO image and retinal image.

Same as [Importing Retinal Camera Image...].

4 Click [OK].

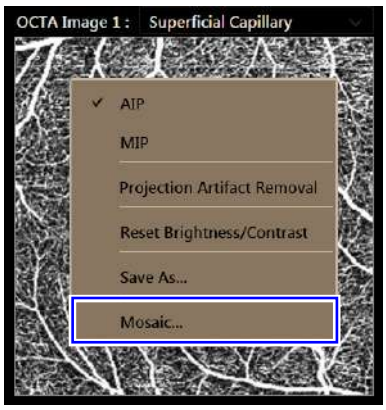
Same as [Importing Retinal Camera Image...].

Advanced Report Operations

Creating Mosaic Images (Optional Product)

You can create a mosaic image by combining several OCTA images.
To use this function, Mosaic Software (optional product), the OCTA Capture license (optional product) and the OCTA 2 license (optional product) are required.
The mosaic image function is a function of RX Capture for OCT.

1 Right-click the OCTA image, and select [Mosaic] from the menu.



The [Select examination] screen appears.

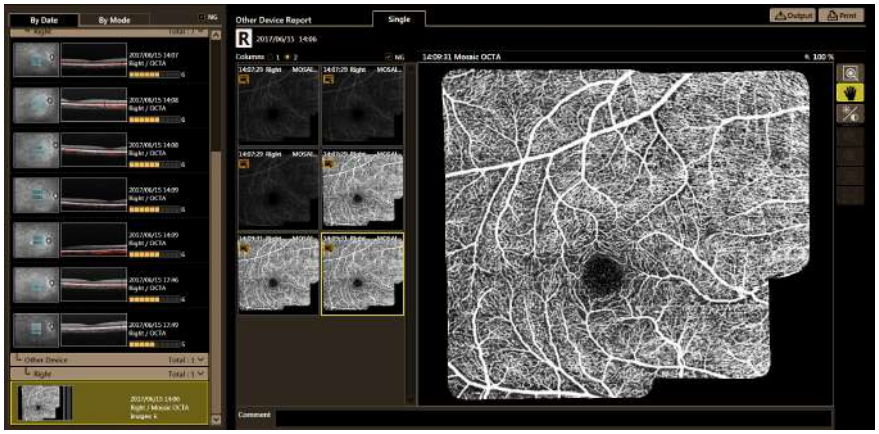
The same patient's examinations that have all the same information for the capture date, right/left eye and scan mode are displayed.

Information

The examinations captured with an examination set for mosaic capturing on the same date are selected automatically.
You can select up to 19 examinations.

2 Select any examinations, and then click [OK].

The processing screen for creating the mosaic image appears.
To stop the process, click [Cancel].
When the process is complete, the [Report] screen reappears. The created image is added to the [Other Device] column on the examination list. The scan mode for the created image is [Mosaic OCTA].



Information

If there are images unsuitable for creating the mosaic image, the mosaic image is created with the unsuitable images excluded.

Important

- The mosaic image is created by treating blood vessels as markers. Therefore, it is not suitable to create the mosaic image when the area in which the images are overlapped is small. Change the examinations selected in step 2.
- Do not diagnose a patient from mosaic images alone. Be sure to refer to the original images as well.

Information

- The mosaic image is created on the basis of the settings (boundaries, etc.) of the OCTA image selected in step 1.
- The date of the created image is the same as that of the image selected in step 1.
- Information other than the date is not saved with the created image.

Importing Other Images

You can import image files captured with other devices.
The color and grayscale images can be imported. “[IMPORT]” is shown for the retinal camera mode of imported images.

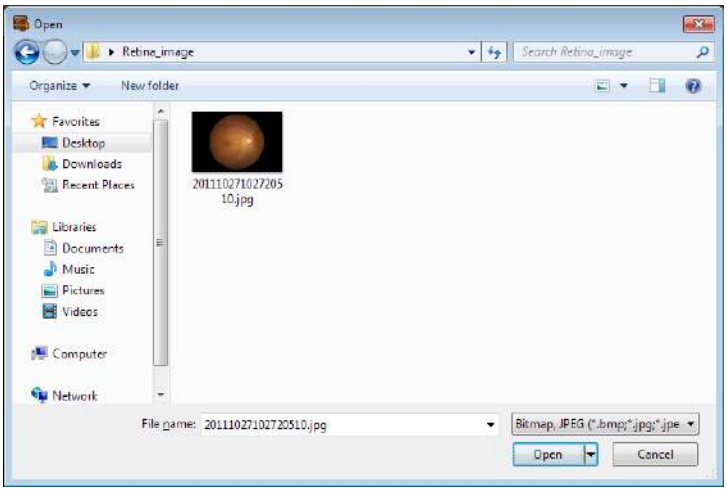
Importing Image Files

1 Select and right-click an image on the examination list and select [Import Image...] from the menu.

The [Open] screen appears.

2 Select an image file.

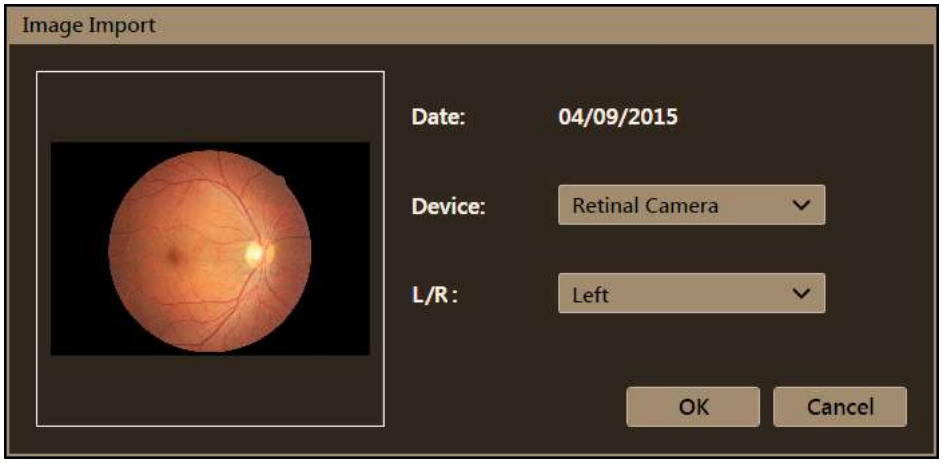
Image files with the “bmp” or “jpg” extension can be selected.



3 Click [Open].

The [Image Import] screen appears.

4 Configure each setting.



- **[Device]**
  Select a device from the list box.
- **[L/R]**
  Select [Left], [Right], or [Both] from the list box.

5 **Click [OK].**

The [Report] screen reappears and the image is added to the [Other Device] column on the examination list.

Information

You can also import images on the [Patient] screen. On the [Patient] screen, right-click a patient on the patient list and select [Importing Image...] from the menu.

Information

The displayed date indicates when the image was imported.

Viewing Images in the Screening Mode

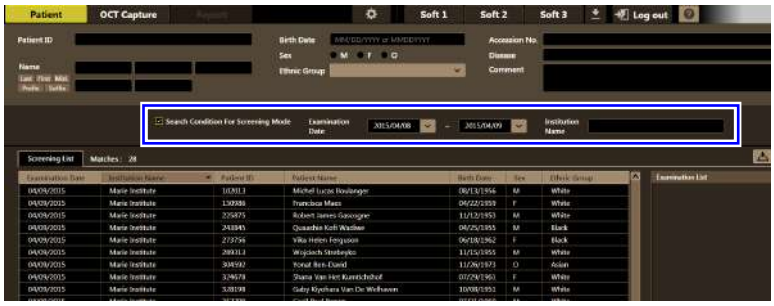
The patient list can be sorted in the order in which images were captured and images can be viewed in the selected view mode.

Information

For details on settings for the screening mode, see “[Screening Settings] Tab” in “System Settings” (see page 204).

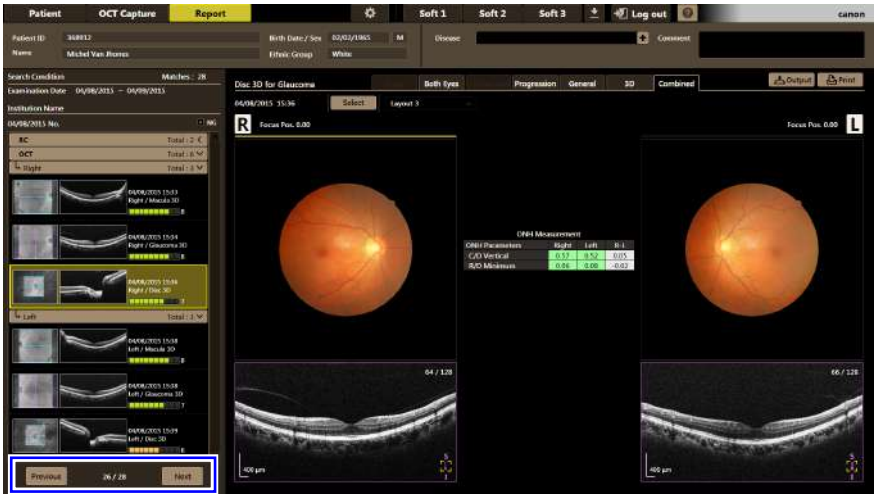
Searching for a Patient by the Date when Images were Captured

Select the [Search condition for Screening Mode] check box and select the start and end date from each list box. Also, fill in [Institution Name] as needed.



Viewing Images

The images of the patient selected on the [Screening List] can be viewed in the selected view mode.
Click [Previous] or [Next] to display the previous or next image.



8 Settings

This chapter describes the methods of setting various functions. After another user logs out, modify the settings.

Setting Procedure

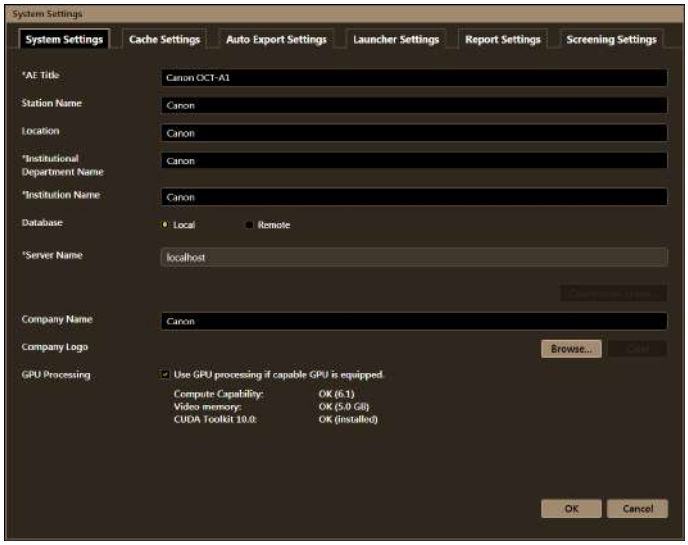
1 **On the login screen, input the User ID and Password of the Administrator with which the privileges have been set to the Administrator, and click [Initial Settings].**

The [Initial Settings] screen appears.

2 **Click the item for which you want to perform settings.**

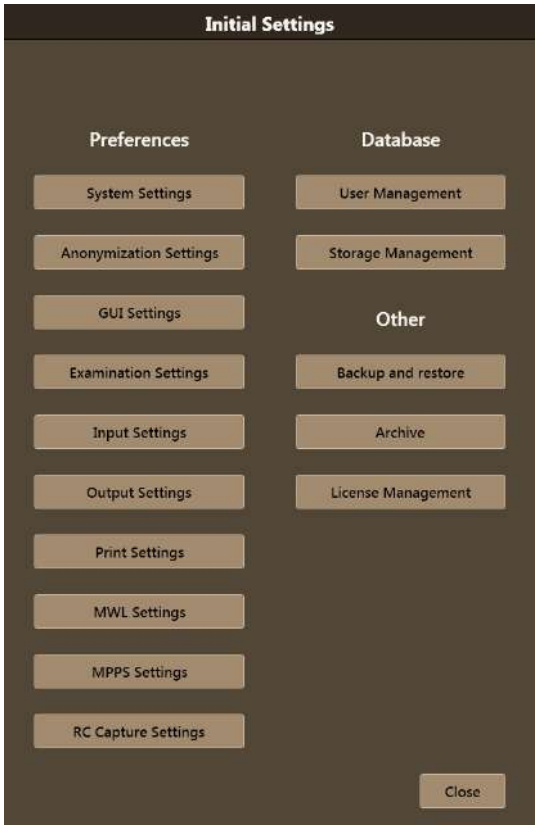
The screen to set the selected item opens.

3 Perform settings, and then click [OK].



The [Initial Settings] screen reappears.

4 Click [Close].



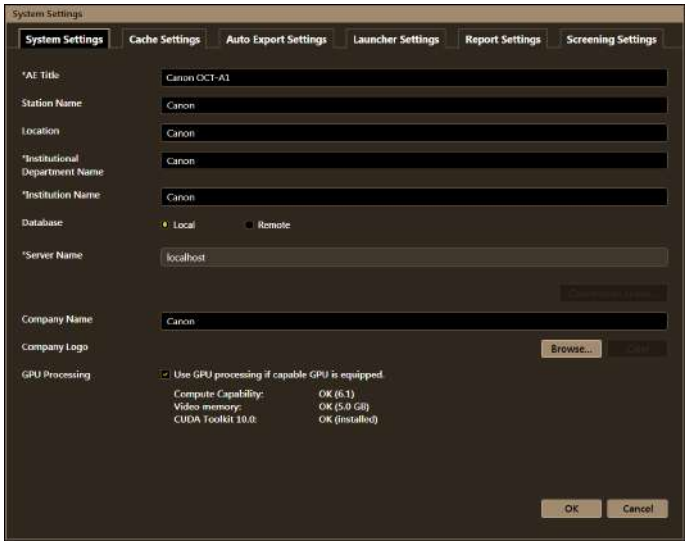
The login screen appears.

System Settings

This section uses screens from RX Capture for OCT as examples in explanations.

[System Settings] Tab

On the [System Settings] screen, set the modality information for the OCT.



- **[AE Title]**
  The default values for each software are as shown below. Be sure to input the values.
  - RX Capture for OCT-HS100 : Canon OCT-HS100
  - RX Capture for OCT-A1 : Canon OCT-A1
  - RX Viewer : Canon RX Viewer
  - RX Server : Canon RX Server

- **[Station Name]**
  Input the station name.

- **[Location]**
  Input the location.

- **[Institutional Department Name]**
  Input the institutional department name. Be sure to input the value.

- **[Institution Name]**
  Input the institution name. Be sure to input the value.

- **[Database]**
  Select [Local] or [Remote] in RX Capture for OCT.
  The database for RX Viewer is [Remote] and for RX Server it is [Local].

- **[Server Name]**
  Specify the server as the database to store examination data.
  Enter the server name or the IP address (IPv4). Be sure to input the value.
  When you select [Local] on [Database], [Server Name] becomes [localhost].

- **[Connection check]**
  Check the connection.

- **[Company Name]**
  Input the company name.
  [Company Name] cannot be input in RX Viewer.

- **[Company Logo]**
  Register the company logo.
  Registerable file formats are BMP, JPEG, and PNG files.
  [Company Logo] cannot be input in RX Viewer.

- **[GPU Processing]**
  Select it to use the GPU to process images. If you use the GPU, images can be processed faster than if you use the CPU.
  Displays information on whether the current GPU meets the operating conditions.
  [GPU Processing] can be set in RX Capture for OCT.

Information

When processing images via the GPU, an NVIDIA video card supporting Compute Capability 3.0 or later (graphics cards with a higher performance than Quadro K2200 and a video memory of 4 GB or more) must be installed. CUDA10 must also be installed.

Information

When you select [Remote] on [Database], the examination data is saved temporarily to the local hard disk if a failure occurs in the server specified as the database or the network. When you log in after recovering from a failure, the temporarily saved examination data is saved automatically to the server specified as the database.

Information

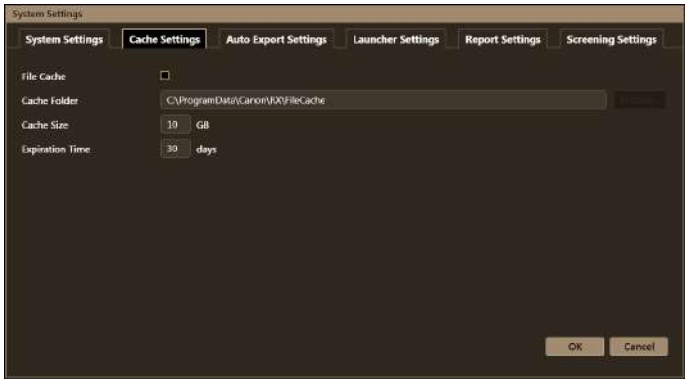
Return to the login screen and re-enter the [Initial Settings] screen if the setting of [Server Name] is changed.

Information

For details on acceptable characters of each item, see "Acceptable Characters" (see page 261).

[Cache Settings] Tab

Set the items for file cache.



- **[File Cache]**
  Select it to use the file cache.

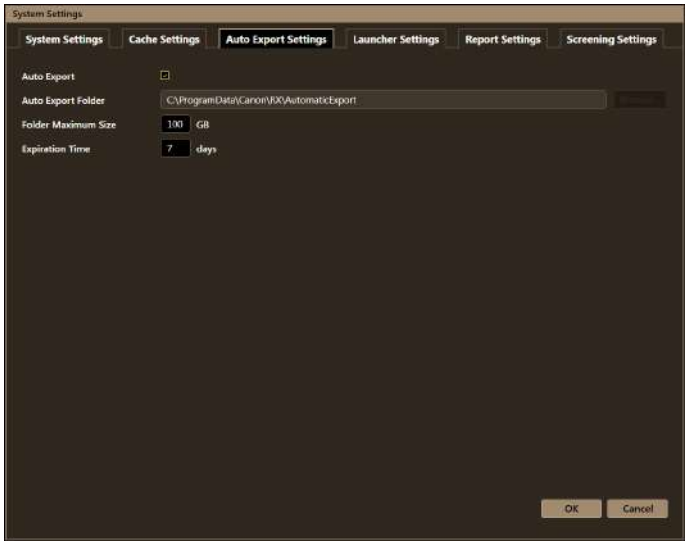
- **[Cache Folder]**
  Click [Browse] and then select the destination for the cache file.

- **[Cache Size]**
  Input the cache file size (1 to 999 GB).

- **[Expiration Time]**
  Input the expiration date (1 to 999 days) for the cache file.

[Auto Export Settings] Tab

Examination data can be exported simultaneously with its capturing.



- **[Auto Export]**
  Select it to use the auto export.

- **[Auto Export Folder]**
  Click [Browse] and then select the destination for the auto export file.

- **[Folder Maximum Size]**
  Input the auto export folder size (1 to 999 GB).

- **[Expiration Time]**
  Input the expiration date (1 to 999 days) for the auto export file.

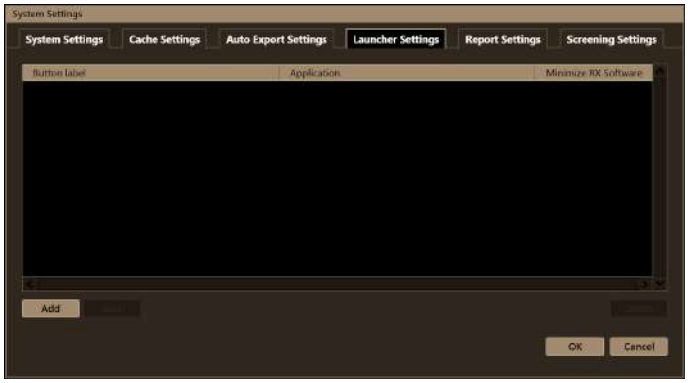
Important

In order to change the settings of this function, please contact your sales representative or local Canon dealer.

[Launcher Settings] Tab

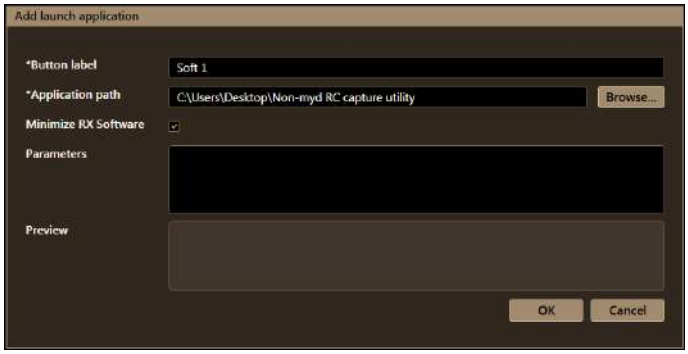
You can register up to three other applications to the menu bar.

1 Click [Add].



The [Add launch application] screen appears.

2 Enter a launcher name to register an application.



1) Enter a launcher name to [Button label]. Be sure to enter a name.

2) Click [Browse] to select an application you want to register. Be sure to select an application.

3) Select [Minimize RX Software] to minimize the software and to execute the registered application.

4) Fill in [Parameters] as needed.

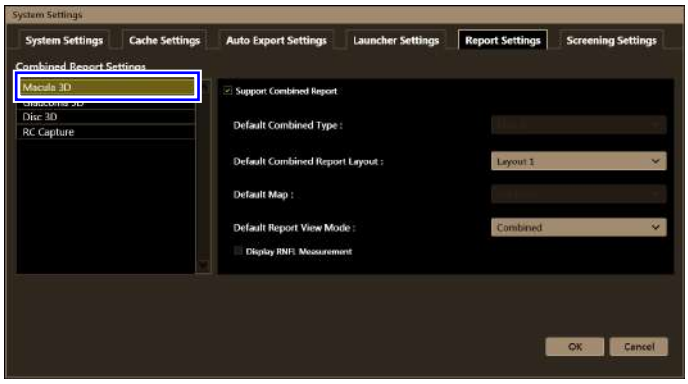
3 Click [OK].

The [System Settings] screen reappears and the registered launcher appears.

[Report Settings] Tab

The contents of items displayed on the [Combined] tab screen can be changed for each scan mode.

1 Click a scan mode.



2 Set each item.

- **[Support Combined Report]**
  Select it to use the [Combined] tab screen.

- **[Default Combined Type]**
  You can enable it in the [RC Capture] mode.
  [Macula]: Report mainly for macula analysis.
  [Glaucoma]: Report mainly for optic disc analysis.

- **[Default Combined Report Layout]**
  Select a report layout.
  [Layout 1]: Layout for macula analysis. It can be enabled in the [Macula 3D] and [RC Capture] modes.
  [Layout 1]: Layout for optic disc analysis. It can be enabled in the [Glaucoma 3D], [Disc 3D] and [RC Capture] modes.
  [Layout 2]: Layout for optic disc analysis. It can be enabled in the [Glaucoma 3D], [Disc 3D] and [RC Capture] modes.
  [Layout 3]: Layout for optic disc analysis. It can be enabled in the [Glaucoma 3D], [Disc 3D] and [RC Capture] modes.

- **[Default Map]**
  Select a RFNL map from the list box to be displayed in the [Layout 1] layout.

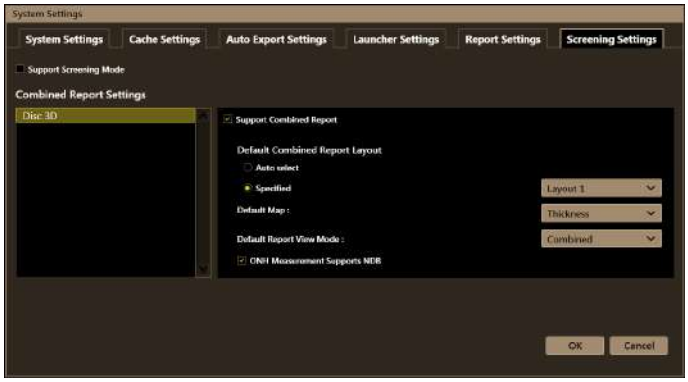
- **[Default Report View Mode]**
  Select a view mode to be displayed on the [Report] screen.

Information

When [Combined] is selected, the report is shown on the [Combined] tab screen. The contents set on [Default view mode for RC report] in the [GUI Settings] screen and on [View Mode] in the [Examination Set Settings] screen are not reflected.

- **[Display RNFL Measurement]**
  Select it to display the RNFL measurement.

[Screening Settings] Tab



- **[Support Screening Mode]**
  Select it to display captured images in the order in which they were captured.

- **[Support Combined Report]**
  Select it to display the [Combined] tab screen.

- **[Default Combined Report Layout]**
  Select [Auto select] or [Specified].
  [Auto select]: When the thickness of NFL+GCL+IPL is between the 5th and 95th percentiles of the thickness of NDB, the reports are displayed in the [Layout 1] layout. Otherwise, they are displayed in the [Layout 2] layout.
  [Specified]: Select a layout from the list box.

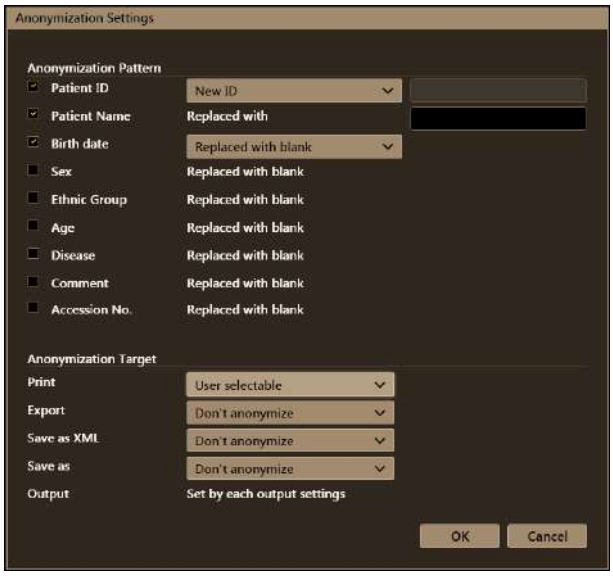
- **[Default Map]**
  Select a map to be displayed when the [Combined] tab is selected.

- **[Default Report View Mode]**
  Select a view mode for the [Report] screen from the list box.

- **[ONH Measurement Supports NDB]**
  Select it to color [ONH Measurement] in the [Combined] tab screen.

Anonymization Settings

On the [Anonymization Settings] screen, make settings for the anonymization of personal information when outputting data. You can set the anonymization function and the items to be anonymized.



Anonymization Patterns

Set the items to be anonymized and the methods for anonymization.

- **[Patient ID]**
  Select it to anonymize the patient ID.
  You can select the method for anonymization from the list box.
  [New ID]: Replace the patient ID with another patient ID.
  [Random ID]: Replace the patient ID with an ID that is converted randomly.
  [Replaced with]: Replace the patient ID with a specified text string. Enter the text string with which the patient ID is replaced.

Important

When examination data for the same patient are output multiple times
When you select [New ID] for the method for anonymization, the patient ID which is anonymized is converted into the same value every time.
When you select [Random ID] for the method for anonymization, the patient ID which is anonymized is converted into different values for every examination data output.

- **[Patient Name]**
  Replace the patient name with a specified text string. Enter the text string with which the patient name is replaced.

- **[Birth Date]**
  Select it to anonymize the birth date.
  You can select the method for anonymization from the list box.
  [Replaced with blank]: Select it to output data with the [Birth Date] information blank.
  [Replaced with YYYY/MM/01]: Replace the number of the day in the birth date with "01".

- **[Sex]**
  Select it to output data with the [Sex] information blank.

- **[Ethnic Group]**
  Select it to output data with the [Ethnic Group] information blank.

- **[Age]**
  Select it to output data with the [Age] information blank.

- **[Disease]**
  Select it to output data with the [Disease] information blank.

- **[Comment]**
  Select it to output data with the [Comment] information blank.

- **[Accession No.]**
  Select it to output data with the [Accession No.] information blank.

Anonymization Target

Set whether to anonymize each function for [Print], [Export], [Save as XML], and [Save As].
You can make the following settings from the list box.

- **[Anonymize]**
  This carries out anonymization.

- **[Don't anonymize]**
  This does not carry out anonymization.

- **[User selectable]**
  This allows you to select whether to anonymize the output data.

GUI Settings

This section uses screens from RX Capture for OCT as examples in explanations.
On the [GUI Settings] screen, set the screen display.

- **[Birth Date/Age for Capture Screen]**
  Choose between [Birth Date] and [Age] for the patient information on the capture screen.
  This setting can be set in RX Capture for OCT.

- **[User/Patient Name format]**
  Select the display order of the patient name.

- **[Application Colors]**
  Select the background color of the software.

Information

Restart the software whenever you change the [Application Colors] setting.

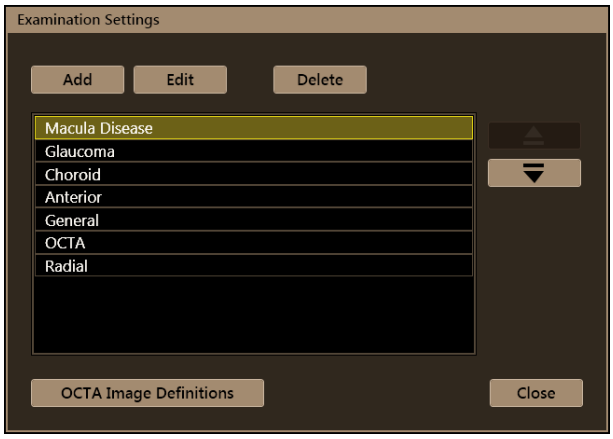
- **[Default view mode for RC report]**
  Select the default view mode for the retinal image report.

- **[Progression for OCTA Examination]**
  Select it to display the examination done in [OCTA] mode on the [Progression] tab screen.

Examination Settings

[Examination Settings] can be set in RX Capture for OCT.
On the [Examination Settings] screen, you can create and edit an examination set.
Up to 10 examination sets can be registered. Up to 5 scan modes can be registered in a single examination set.

5 examination sets have been registered in the OCT by default. These examination sets can be edited and deleted, but they cannot be returned to their default once they are edited and deleted.

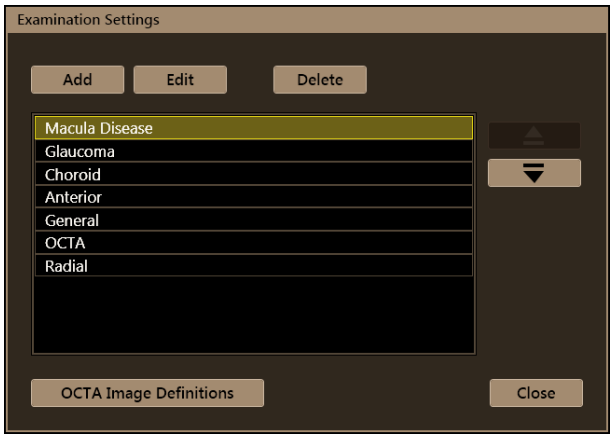


Information

For details on the examination sets which are registered by default, see "Types of Examination Sets" (see page 49).

Creating New Examination Set

1 Click [Add].

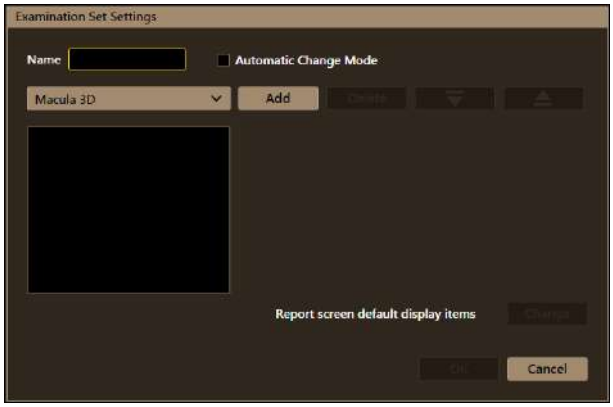


The [Examination Set Settings] screen appears.

2 Input the name of the examination set, and register the scan mode.

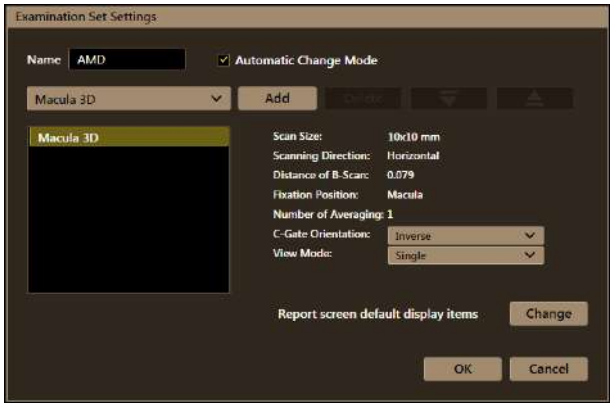
1) Input the name of the examination set in [Name].

2) Select the scan mode from the list box, and then click [Add].



The selected scan mode name appears. To register another scan mode, repeat the same operation.

3) Select [Automatic Change Mode] if necessary.
Select it to move automatically to the next scan mode after taking the image.



To edit the setting of the scan mode, see “Editing An Examination Set”.

Information

The name of the examination set can be input up to 16 characters.

3 Click [OK].

The [Examination Settings] screen reappears. The created examination set appears.

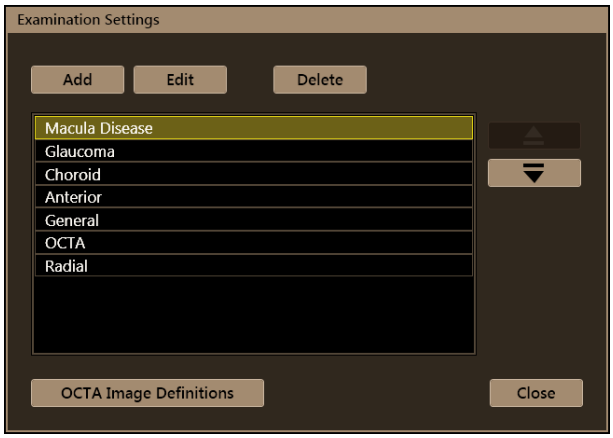
Information

You can select from two types of C-Gate positions.
[Normal]: Captures an image emphasizing the vitreous.
[Inverse]: Captures an image emphasizing the choroid.
When the images are captured with [Inverse] selected, [Inverse] appears on the report.

Editing An Examination Set

Use this screen to edit an examination set, add and delete a scan mode, change the order of scan modes to be executed, and change the settings of a scan mode.

1 Select an examination set, and then click [Edit].



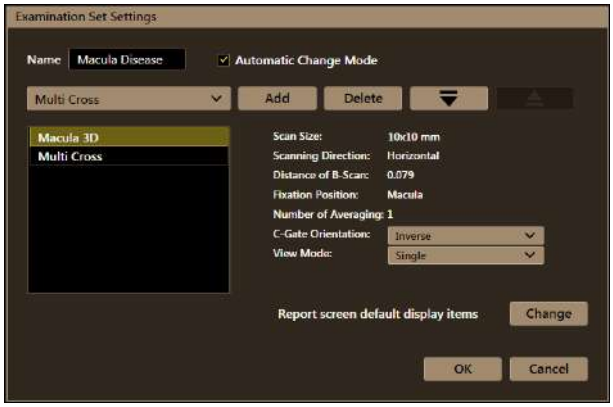
The [Examination Set Settings] screen appears.

Information

To delete an examination set
Select an examination set, and then click [Delete].

To change the display order of examination sets
Select an examination set, and then click [▲] or [▼].

2 Change the settings of the examination set.



- To add a scan mode
  Select the scan mode from the list box, and then click [Add].

- To change the order of scan modes to be executed
  Select a registered scan mode, and then click [▼] or [▲].

- To delete a scan mode
  Select a registered scan mode, and then click [Delete].

- **To change the settings of a scan mode**
  Select a registered scan mode and change the settings. The items that can be changed vary with the scan mode.

Information

For details on the initial setting items of the scan mode, see “Initial Setting Items of the Scan Mode” (see page 260).

3 Click [OK].

The [Examination Settings] screen reappears.

Information

The scan patterns [Medium Square], [Large Square], [Horizontal Wide] and [Vertical Wide] are additional functionalities and require the optional OCTA 2 license.

Using larger scan patterns than [Small Square] may cause more artifacts on the captured image due to the extended duration of the capturing process.

For details, consult your sales representative or local Canon dealer.

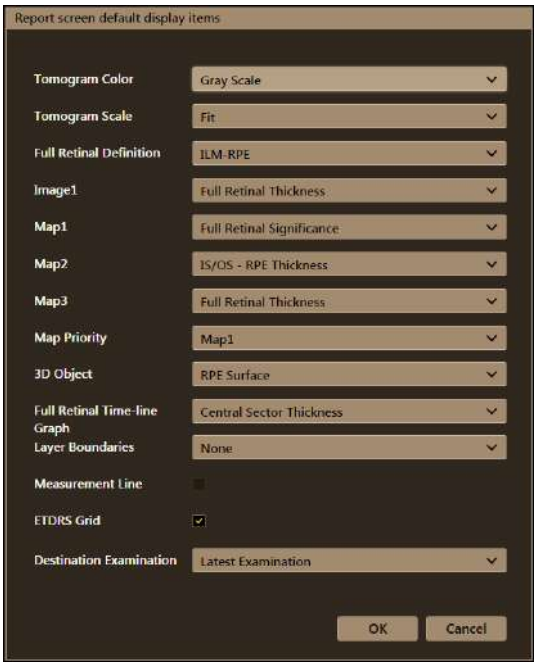
Changing the Contents Displayed on a Report

The contents displayed on a [Report] screen can be changed by each scan mode.

1 On the [Examination Set Settings] screen, click [Change].

The [Report screen default display items] screen appears.

2 Change each content item to be displayed.



3 Click [OK].

The [Examination Set Settings] screen reappears.

Information

The thickness between ILM and RPE is calculated as the retinal thickness. The setting can be changed to calculate the thickness between ILM and BM. On the [Report screen default display items] screen of the [Macula 3D] mode, select [ILM-BM] on the [Full Retinal Definition] setting.

Changing OCTA Image Definitions

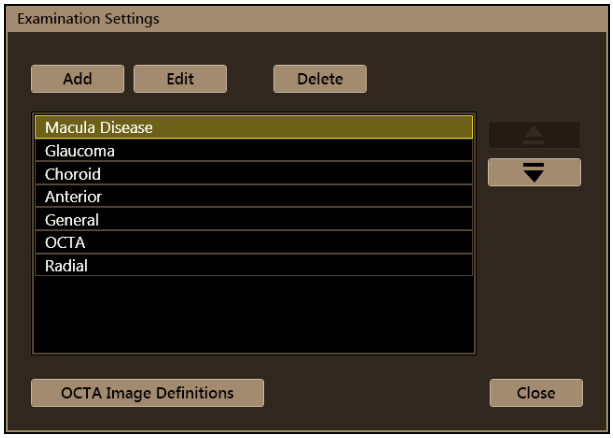
On the [OCTA Image Definitions] screen, you can create and edit an OCTA image definition displayed on a [Report] screen.
Up to 10 kinds of definitions can be registered.
Seven kinds of definitions have been registered in the OCT by default. These definitions can be edited and deleted, but they cannot be returned to their default once they are edited or deleted.

Information

The projection range and projection method suitable for rendering CNV (choroidal neovascularization) are set in [CNV]. However, CNV is not always detected.

Creating a New OCTA Image Definition

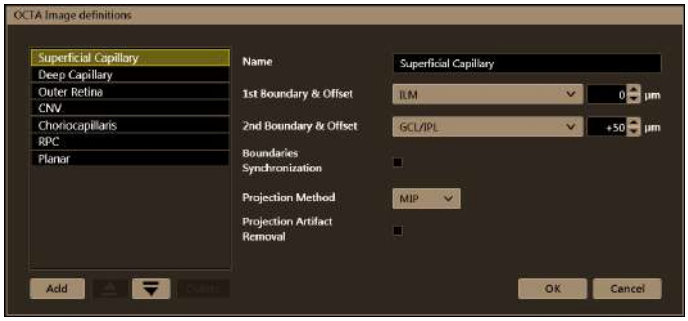
1 Click [OCTA Image Definitions].



The [OCTA Image Definitions] screen appears.

2 Click [Add].

A new item is added to the list.



3 Set the contents of the OCTA image definition.

1) Enter the name of the OCTA image definition to [Name].

2) Set [1st Boundary & Offset] and [2nd Boundary & Offset].
Select the first and second boundaries. Input the offset as needed.

3) Select [Boundaries Synchronization] as needed.
The positions of two boundaries are synchronized.

4) Select [Projection Method].
   Select a method for projecting the OCTA image.
   - [AIP]: Average Intensity Projection
   - [MIP]: Maximum Intensity Projection

5) Select [Projection Artifact Removal] as needed.

4 **Click [OK].**

The [Examination Settings] screen reappears. The OCTA image definition is added.

Editing an OCTA Image Definition

Select an OCTA image definition and set each item.
For details on setting each item, see “Creating a New OCTA Image Definition”.

Information

To delete an OCTA image definition
Select an OCTA image definition, and then click [Delete].

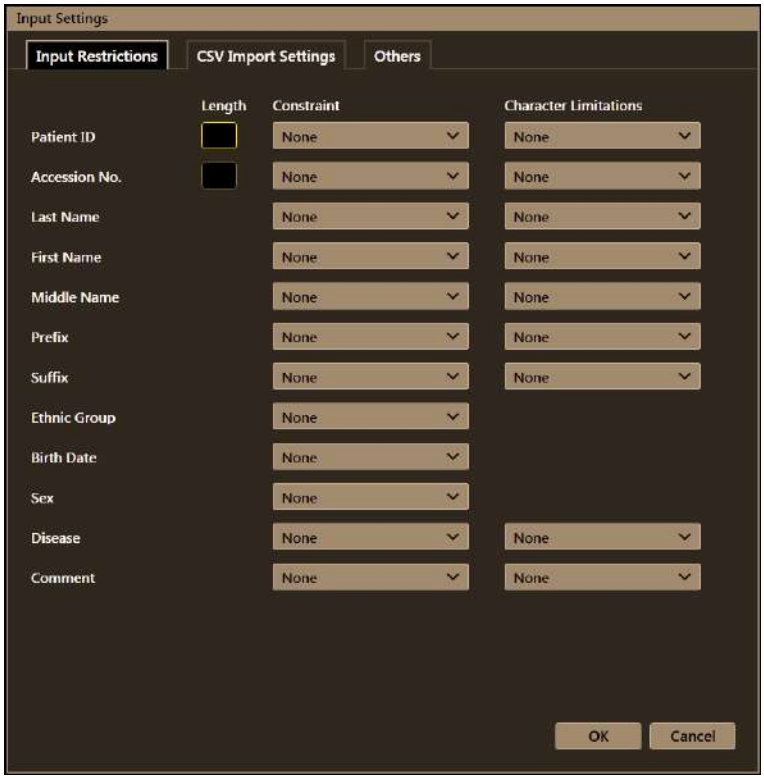
To change the display order of OCTA image definitions
Select an OCTA image definition, and then click ▲ or ▼.

Input Settings

On the [Input Settings] screen, perform the settings to input patient information.

[Input Restrictions] Tab

[Input Restrictions] tab can be set in RX Capture for OCT.

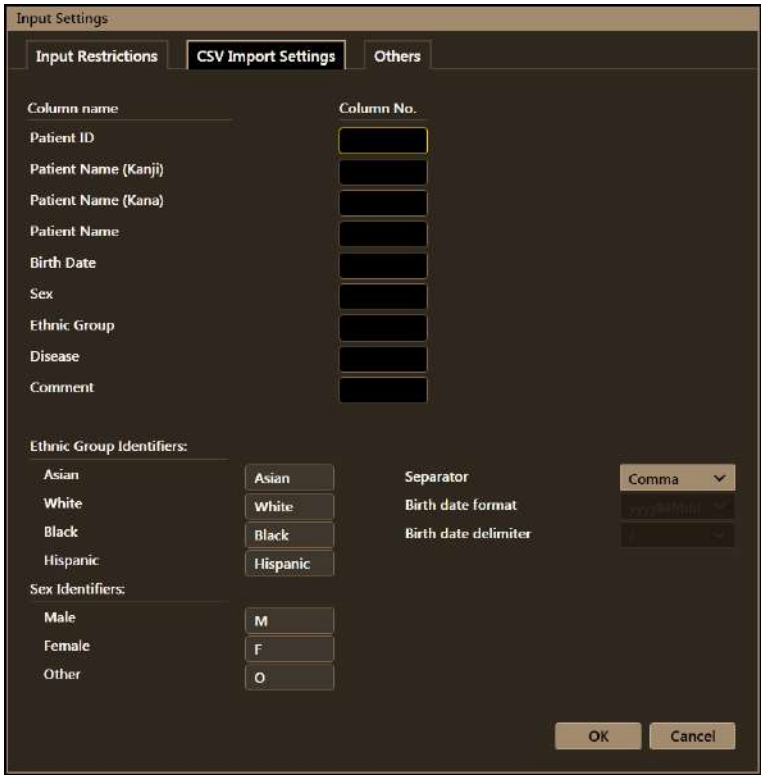


- **[Length]**
  Specify the number of characters to be entered. Input a value from 1 to 64 for Patient ID, and from 1 to 16 for Accession No.

- **[Constraint]**
  Select each item as the input-mandatory item or the input-prohibited item.

- **[Character Limitations]**
  Select the usable character to input into each item-numeric only or alphanumeric only. On [Disease] and [Comment], however, you can select whether to use alphanumeric only.

[CSV Import Settings] Tab



- **[Column No.]**
  Input the column numbers of the items described in the CSV files. The column number starts from 1.

- **[Ethnic Group Identifiers]**
  Input the ethnic group identifiers used in the CSV files.

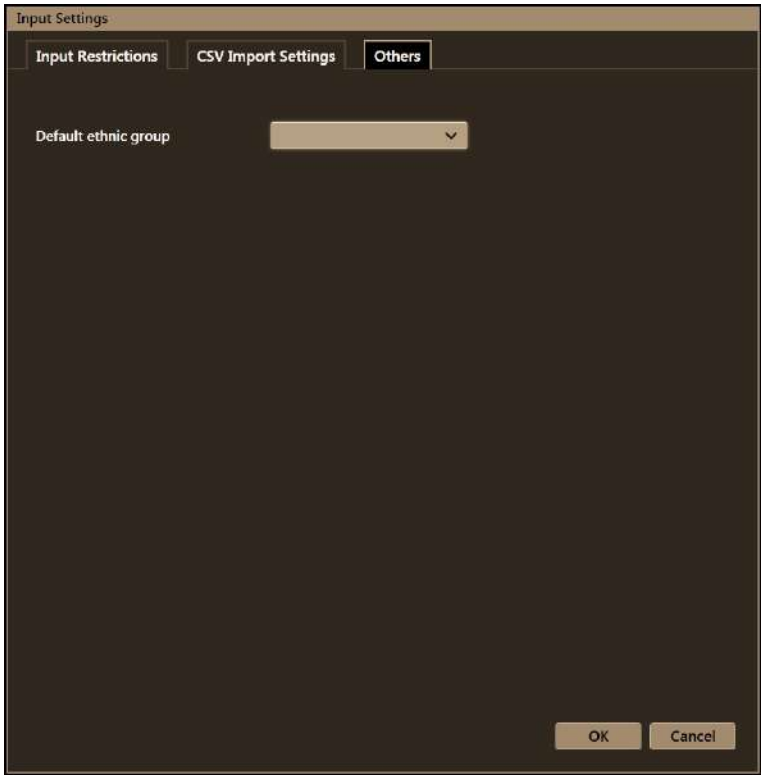
- **[Sex Identifiers]**
  Input the sex identifiers used in the CSV files.

- **[Separator]**
  Select the separator character used in the CSV file.

- **[Birth date format]**
  Select a data format used for birth date.

- **[Birth date delimiter]**
  Select the separator character to separate year, date and month.

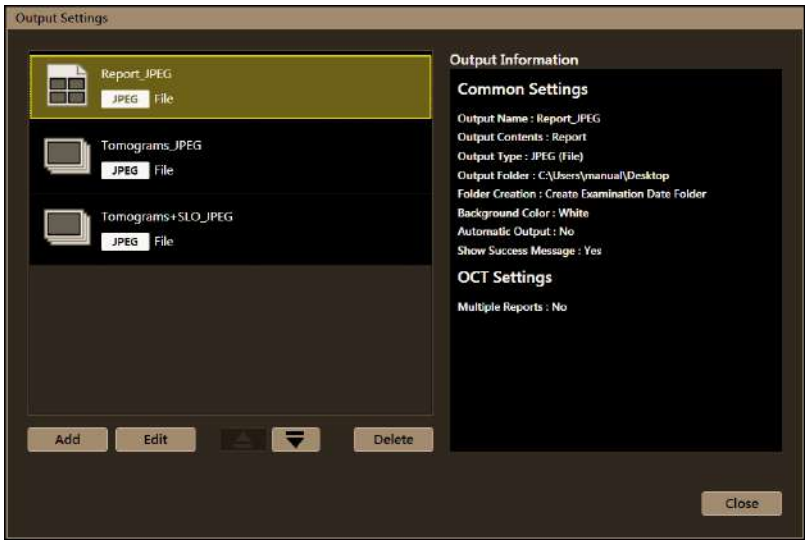
[Others] Tab



- **[Default ethnic group]**
  Select an ethnic group. When you do not set the [Ethnic Group] setting on the [Patient] screen, the setting on [Default ethnic group] is applied. On the [Report] screen, it is shown distinctively as follows whether ethnic group is set.
  [Ethnic Group] is set: [Asian]
  [Ethnic Group] is not set: [(Asian)]

Output Settings

On the [Output Settings] screen, perform the settings to output the examination data. Up to 10 output destinations can be registered. When the output destination is registered, a list appears on the [Output Settings] screen.



The icon displayed on the left of the output destination indicates what is output as the examination data.

	Outputs captured images and imported images.
	Outputs report.

File Names of the Output Data

To Output Tomogram Images

File names: AAA_BBB_CCC_DDD_EEE_Images_X0.xxx

AAA: Patient ID
BBB: Photography date (yyyymmdd)
CCC: Photography time (hhmmss)
DDD: Scan mode name
EEE: Right or left eye
X0: OCT image type and the number of scanning

- H: OCT image (horizontal scan)
- V: OCT image (vertical scan)
- R: Optic disc OCT image or OCT image (radial scan)
- C: TSNIT area OCT image

xxx: Extension (jpg, bmp, or dcm)

Example: 123456_20120101_153030_Macula3D_R_Images_H21.jpg

Information

One tomogram image of the OCT image is output as one file. For example, when capturing in [Macula 3D] mode, the number of B-scan is 128. Therefore, 128 files are output.

To Output Reports

File name: AAA_BBB_CCC_DDD_EEE_FFF.xxx

FFF: View mode name

Example: 123456_20120101_153030_Macula3D_R_Single.jpg

To Output Captured Images

File names: AAA_BBB_CCC_GGG_EEE_HHH.xxx

GGG: Retinal camera mode name
HHH: Image type
- RetinalImage: Captured image
- OtherImage: Imported image

Example: 123456_20150130_101637_Color_R_RetinalImage.jpg
: 654321_20130302_092933_Import_L_OtherImage.jpg

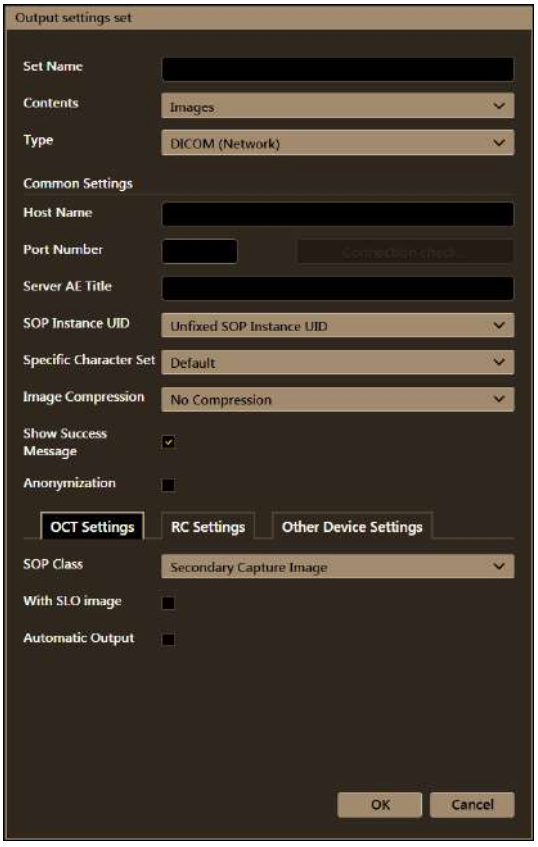
Outputting Examination Data to the DICOM Storage Server

This section describes the settings to output images or reports to the DICOM storage server.

1 Click [Add].

The [Output settings set] screen appears.

2 Set each item.



- **[Set Name]**
  Input the name of the output destination. Be sure to input the value.

- **[Contents]**
  Select the contents of data to be output.
  [Image]: Outputs captured images.
  [Report]: Outputs reports.

- **[Type]**
  Select [DICOM (Network)].

- **[Host Name]**
  Enter the host name or the IP address (IPv4). Be sure to input the value.

- **[Port Number]**
  Enter the port number. Be sure to input the value.

- **[Server AE Title]**
  Enter the server AE title. Be sure to input the value.

- **[SOP Instance UID]**
  Select whether to fix SOP Instance UID.

- **[Specific Character Set]**
  Select the specific character set.

- **[Image Compression]**
  Select whether to compress the photographed image.

- **[Show Success Message]**
  Select it to show a message confirming output completion after outputting the data.

- **[Anonymization]**
  Select it to anonymize the output contents and output them.

- **[Background Color]**
  Select report background color when selecting [Report].

- **[Connection check]**
  Check the connection.

Information

For details on acceptable characters of each item, see “Acceptable Characters” (see page 261).

3 Click [OK].

The [Output Settings] screen reappears.

Information

If the number of images you transmit exceeds the upper limit of the DICOM standard, the images may be reduced automatically. For details, please contact your sales representative or local Canon dealer.

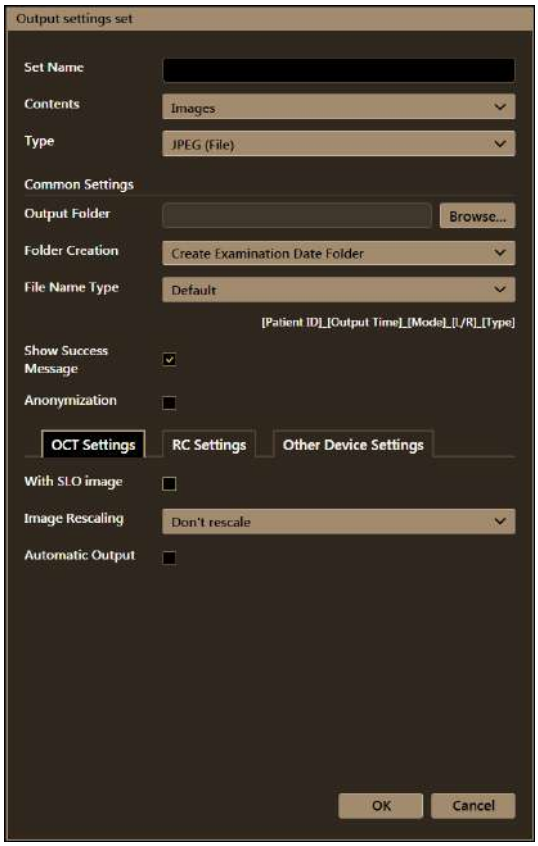
Outputting Examination Data to the Specified Folder

This section describes the settings to output images or reports to the specified folder.

1 Click [Add].

The [Output settings set] screen appears.

2 Set each item.



- **[Set Name]**
  Input the name of output destination. Be sure to input the value.

- **[Contents]**
  Select the contents of data to be output.
  [Image]: Outputs captured images.
  [Report]: Outputs reports.

- **[Type]**
  Select the type of data to be output.
  [DICOM (File)]: DICOM format
  [JPEG (File)]: JPEG format
  [BMP (File)]: BMP format

- **[Output Folder]**
  Click [Browse] and then select the folder of output destination.

- **[Folder Creation]**
  Select whether to create a folder when examination data is output.

- **[File Name Type]**
  Select the file name type for when examination data is output.

- **[Show Success Message]**
  Select it to show a message confirming output completion after outputting the data.

- **[Anonymization]**
  Select it to anonymize the output contents and output them.

- **[SOP Instance UID]**
  When you select [DICOM (File)], select whether to fix SOP Instance UID.

- **[Specific Character Set]**
  When you select [DICOM (File)], select the specific character set.

- **[Image Compression]**
  When you select [DICOM (File)], select whether to compress the photographed image.

- **[Background Color]**
  Select analysis report background color when selecting [Report].

[OCT Settings] Tab

- **[SOP class]**
  Select the SOP class for the model to be configured when [DICOM (Network)] or [DICOM (files)] is selected.

- **[with SLO image]**
  Select it to select OCT+SLO images as output contents.

- **[Image Rescaling]**
  Select whether or not to change the ratio of OCT images to be output, when [JPEG (files)] or [BMP (files)] is selected.
  [Don't rescale]: Outputs an image having the same number of pixels as the sampling.
  [Rescale by display scale]: Outputs an image in the ratio shown on the report.

- **[Multiple Reports]**
  Select it to output all the tomogram reports when outputting reports captured in the [Multi Cross], [Radial], or [Anterior Radial] modes. This is enabled when you select [Report] on [Contents].

- **[Automatic Output]**
  Select it to output images or reports automatically after taking them.
  [Automatic Output] can be set in RX Capture for OCT.

[RC Settings] Tab

- **[SOP class]**
  Select the SOP class for the model to be configured when [DICOM (Network)] or [DICOM (files)] is selected.

- **[Image Resize]**
  Select it to change the image size, when [JPEG (files)] or [BMP (files)] is selected.

- **[Annotation]**
  Select it to overlay the patient information and study information on a captured image. Click [Setting] to configure the items on [Annotation], and select items as needed.

- **[Automatic Output]**
  Select it to output images or reports automatically after taking them. [Automatic Output] can be set in RX Capture for OCT.

[Other Device Settings] Tab

- **[SOP class]**
  Select the SOP class for the model to be configured when [DICOM (Network)] or [DICOM (files)] is selected.

- **[Annotation]**
  Same as the [RC Settings] tab.

Information

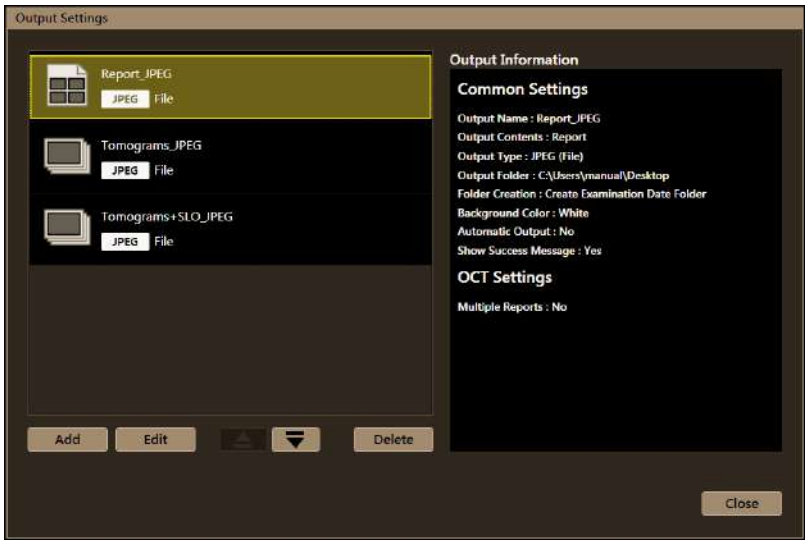
For details on acceptable characters of each item, see “Acceptable Characters” (see page 261).

3 **Click [OK].**

The [Output Settings] screen reappears.

Changing the Settings of the Output Destination

Select the output destination, and then click [Edit].



The [Output settings set] screen appears. Change the settings.

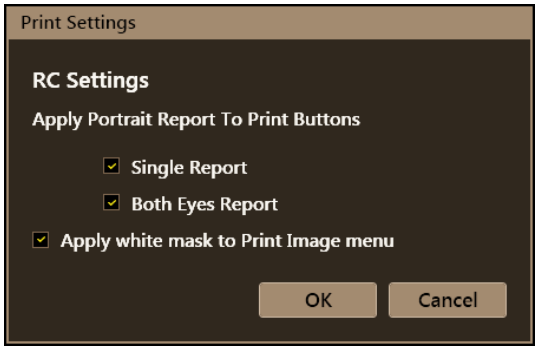
Information

To delete an output destination
Select an output destination, and then click [Delete].

To change the display order of the output destinations
Select an output destination, and then click ▲ or ▼.

Print Settings

On the [Print Settings] screen, set how to print the RC capture report.



- **[Apply Portrait Report To Print Buttons]**
  Select the check box of the report you want to print in portrait orientation from [Single Report] and/or [Both Eyes Report].

- **[Apply white mask to Print Image menu]**
  You can reduce the consumption of black ink during printing by changing the black area around the captured image to white. Select it to apply the white mask.

Information

Regarding operations to print portrait report of RC capture, see the operation manual for RX Capture for Retinal Camera (optional product).

Worklist Settings

[MWL Settings] can be set in RX Capture for OCT.
On the [MWL Settings] screen, perform the settings for using a worklist.

- **[Communication Enabled]**
  Select it to use a worklist.

- **[Host Name]**
  Enter the host name or the IP address (IPv4). Be sure to input the value.

- **[Port Number]**
  Enter the port number. Be sure to input the value.

- **[Server AE Title]**
  Enter the server AE title. Be sure to input the value.

- **[Specific Character Set]**
  Select the specific character set.

- **[Maximum No. of Worklist]**
  Input the maximum number of worklists (1 to 999) to be acquired. Be sure to input the value.

- **[Connection check]**
  Check the connection.

Configuring [Search Condition...]

The following describes the method of configuring [Search Condition...].

1 Click [Search Condition...].

The [MWL Search Condition] screen appears.

2 Select items as needed and enter dates and names.

3 Click [OK].

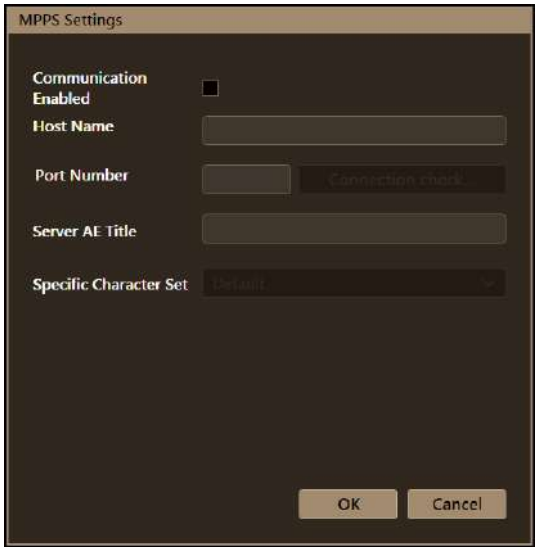
The [Worklist Settings] screen reappears.

Information

For details on acceptable characters of each item, see “Acceptable Characters” (see page 261).

MPPS Settings

On the [MPPS Settings] screen, perform the settings for using MPPS.



- **[Communication Enabled]**
  Select it to use MPPS.

- **[Host Name]**
  Enter the host name or the IP address (IPv4). Be sure to input the value.

- **[Port Number]**
  Enter the port number. Be sure to input the value.

- **[Server AE Title]**
  Enter the server AE title. Be sure to input the value.

- **[Specific Character Set]**
  Select the specific character set.

- **[Connection check]**
  Check the connection.

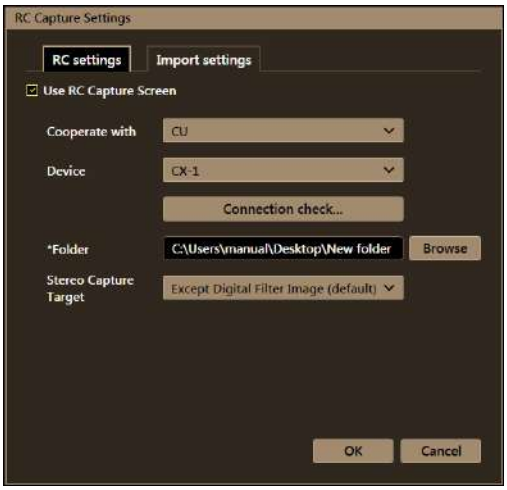
Information

For details on acceptable characters of each item, see “Acceptable Characters” (see page 261).

RC Capture Settings

You can select the software to import images and configure its settings.

[RC settings] Tab



- **[Use RC Capture Screen]**
  Select it to use the [RC Capture] screen to import images.

Information

When [Use RC Capture Screen] is selected, the [RC Capture] tab appears on the menu bar.

- **[Cooperate with]**
  Select an application to be used for importing images.

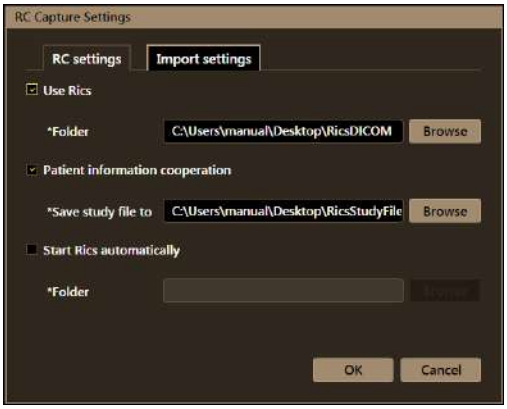
- **[Device]**
  Select a retinal camera to be used.

- **[Connection check]**
  Check the connection.

- **[*Folder]**
  Select a save destination of the images captured with a retinal camera. Be sure to select a destination.

- **[Stereo Capture Target]**
  [Except Digital Filter Image (default)]: Select when not transferring digital filtered images.
  [All Images]: Select when transferring all images.

[Import settings] Tab



- **[Use Rics]**
  Select it to use the Rics to import images.
  On [*Folder], be sure to select a save destination specified in the DICOM output settings in the Rics.

Information

When [Use Rics] is selected, the [Rics file] button appears on the [Patient] screen.

- **[Patient Information cooperation]**
  Select it to share the patient information with the Rics.
  On [*Save study file to], be sure to select a save destination to which the patient information is transferred.

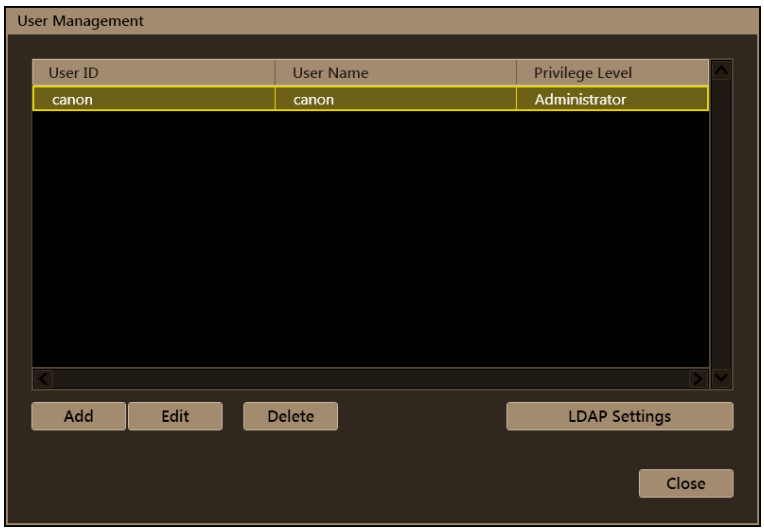
- **[Start Rics automatically]**
  Select it to display the [main] screen of the Rics after the patient information is transferred.
  On [*Folder], be sure to select the path where the Rics is installed to start up the Rics.

User Management

On the [User Management] screen, add new users who will operate the software, as well as change user information.
Also, through LDAP authentication, you can operate the software using the user information already registered in the domain.
[User Management] can be set when you select [Local] on [Database].

Adding a User

1 Click [Add].



The [Add new user] screen appears.

2 Enter the user information.

1) Input the user ID in [User ID].
Be sure to input [User ID].

2) Select a privilege level.
   - [Administrator]: The user that has privilege over all functions, including initial settings
   - [Super User]: The user that has privilege over all functions, except initial settings
   - [Standard User]: The user with the [Super User] privilege with the exception of deleting patient information, examinations, and images, transferring examination data, and editing patient information and examinations

Information

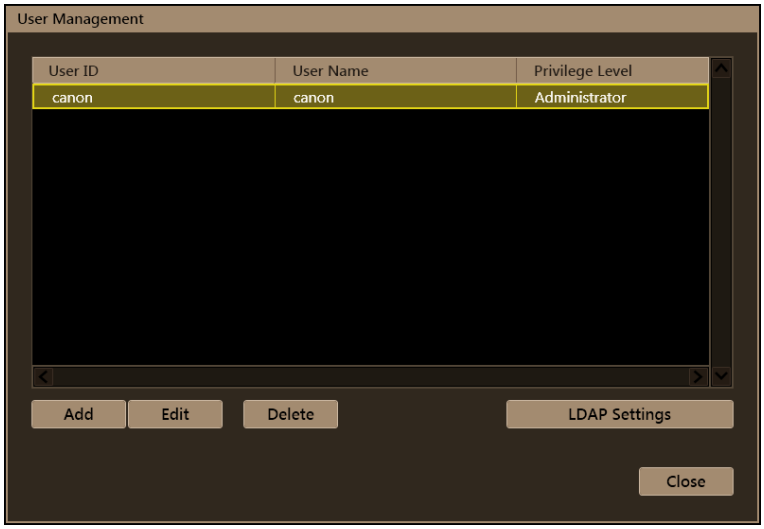
For details on acceptable characters of each item, see “Acceptable Characters” (see page 261).

3 Click [OK].

The [User Management] screen reappears. The added user appears.

Changing the User Information

1 Select a user, and then click [Edit].



The [User properties] screen appears.

Information

To delete a user
Select a user, and then click [Delete].

2 Change the user information.

3 Click [OK].

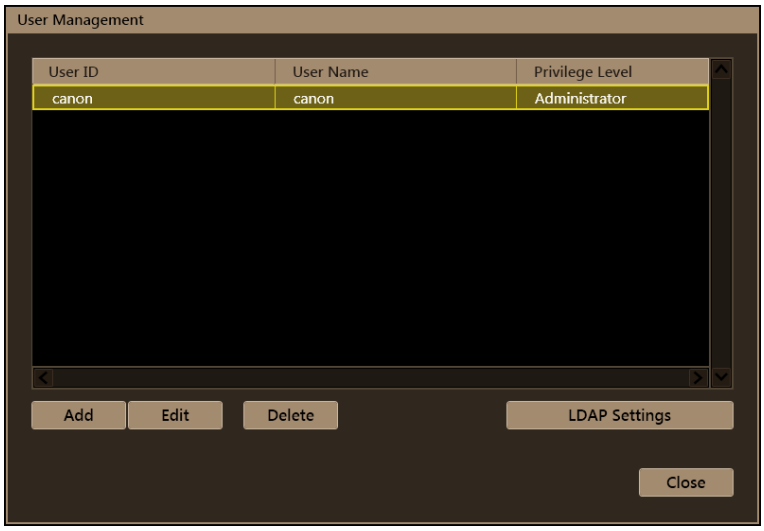
The [User Management] screen reappears.

Information

To change a password
Click ⚙ after you log in. Clicking [Password Settings] allows you to change a password (see page 243).

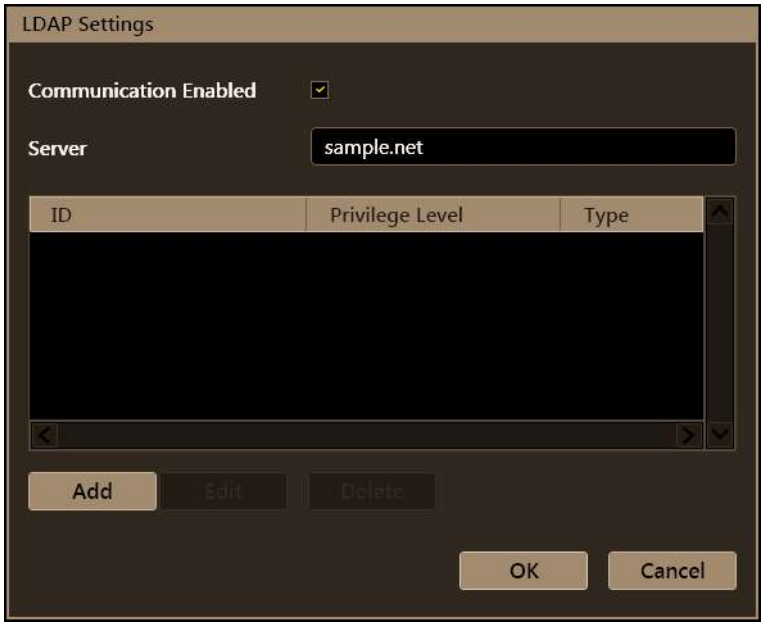
Using the User Information Registered in the Domain

1 Click [LDAP Settings].



The [LDAP Settings] screen appears.

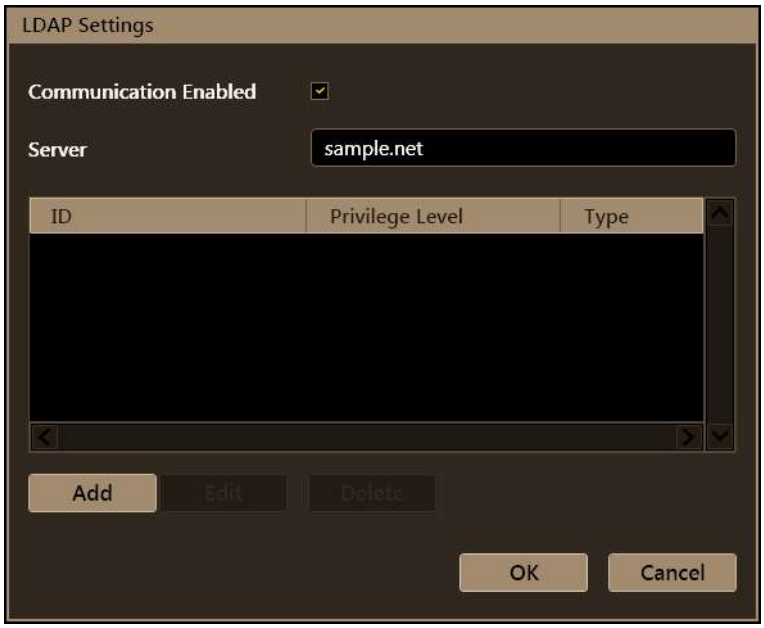
2 Enable LDAP authentication.



1) Select [Communication Enabled].
2) Enter a server name or IP address for the directory service in [Server].

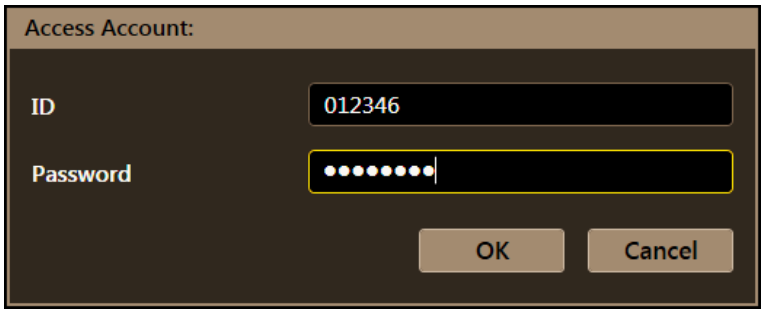
3 Add a user.

1) Click [Add].



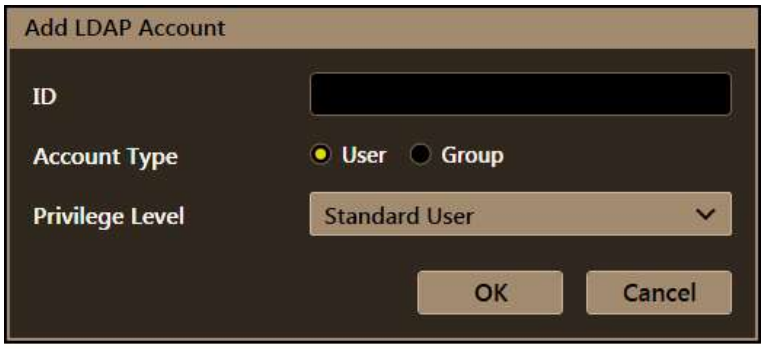
The [Access Account:] screen appears.

2) Enter the ID and password to access the directory service, and then click [OK].



The [Add LDAP Account] screen appears.

3) Set the user information to operate the software.

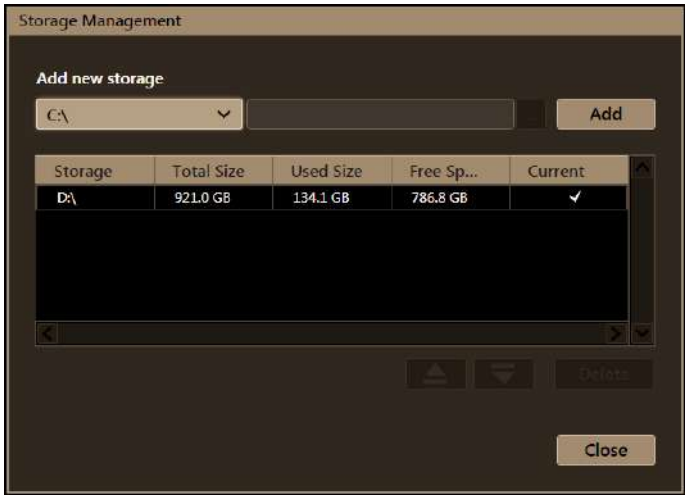


- **[ID]**
  Enter the ID registered in the directory service.
- **[Account Type]**
  Select [User] to grant the privilege to an individual or select [Group] to grant the privilege to a group.
- **[Privilege Level]**
  Select a privilege level.

4) Click [OK].
The registered account is added to the list on the [LDAP Settings] screen.

Storage Management

On the [Storage Management] screen, perform the settings of the hard disk drive (HDD) to be used by the database. When two or more drives are displayed in the list, the drive displayed at the top of the list has the highest priority.
The drive whose [Current] is selected is the current drive. The data is stored in the current drive first. When there is no more free space on the current drive, the highest priority drive is used. When you select [Local] on [Database], [Storage Management] can be set. You can set network storage as the current drive.



Adding a Drive

Select a drive from the list box, and then click [Add]. The selected drive appears at the bottom of the list.

Important

The drive to be added requires free space greater than 100 GB.

Changing the Current Drive

Select [Current] of the drive to be set as a current drive.

Changing the Priority of Drive

Select a drive from the list, and then click ▲ or ▼. The priority of drive is changed.

Deleting a Drive

Select a drive from the list, and then click [Delete]. The drive in which data has already been stored cannot be deleted.

Backup and Restoration

CAUTION	• **To protect the patient information and examination data, perform a backup on a regular basis.** • **Never turn off the power of the computer, and the external memory devices during the backup.**

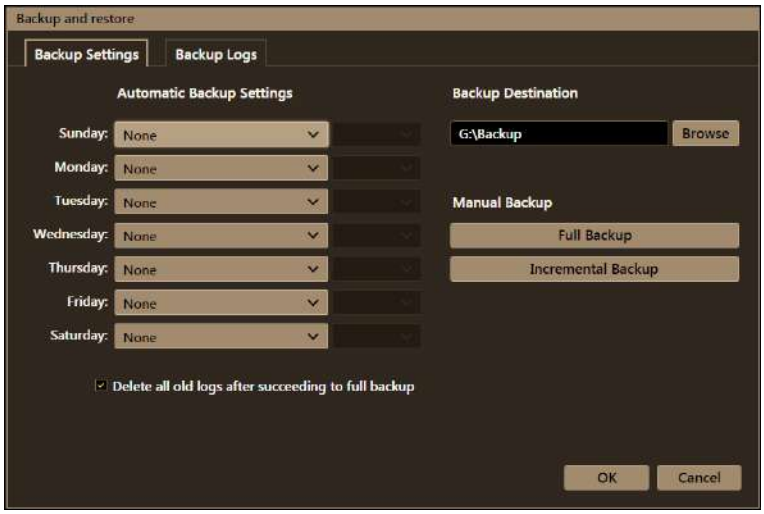
Important

Set a different drive from the one for the system or an external memory device for backup.

On the [Backup and restore] screen, perform backup of the patient information and the examination data that were acquired with the OCT and restore them. The backup can be performed either automatically or manually. In the automatic backup, the backup schedule can be set. If a problem occurs to the database, restore the patient information and examination data. When you select [Local] on [Database], [Backup and restore] can be set.

Setting a Drive for the Backup

Enter a path for the backup destination to [Backup destination] or click [Browse] to select a backup destination.



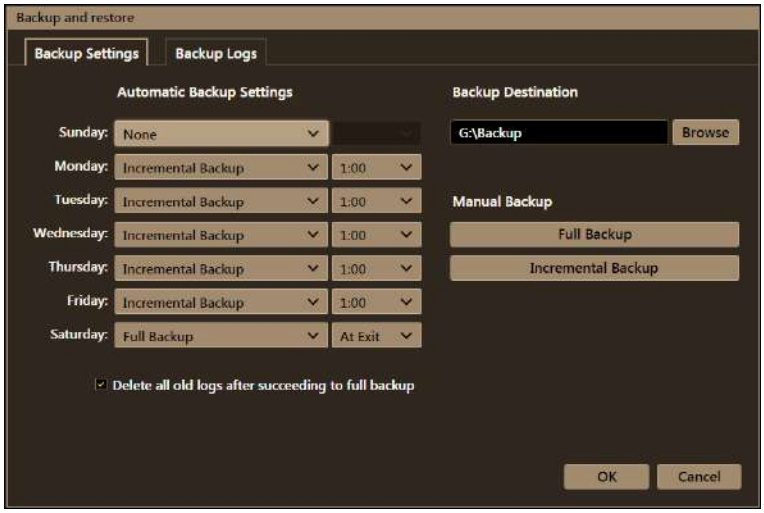
Automatic Backup Settings

Select the day of the week when the automatic backup is performed, and select the type of backup from the list box.

- [Full Backup]: Performs backup of all data.
- [Incremental Backup]: Backs up only the data that is modified from previous backup.

Select a time when the automatic backup is performed from the list box.
If [At Exit] is selected, the backup will be performed when you exit the RX Capture for OCT/RX Server.

The old backup log is deleted after full backup succeeds. To save the old backup log, clear the [Delete all old logs after succeeding to full backup] check box.



Important

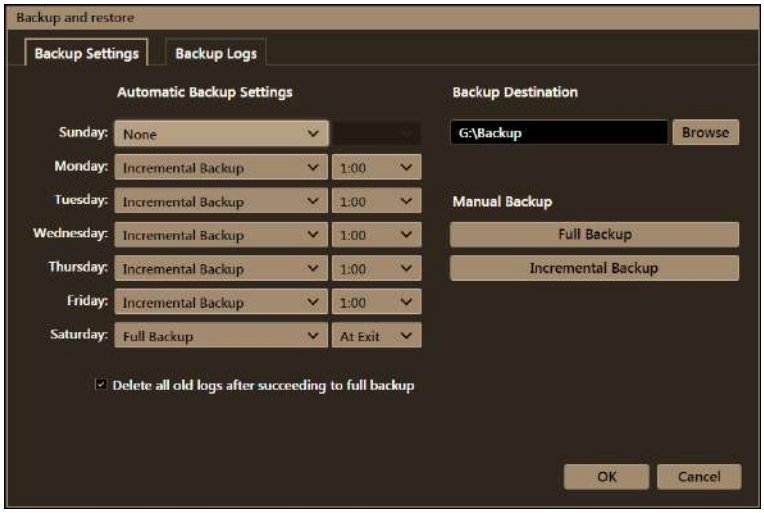
The automatic backup is performed when you exit the software. However, the backup is performed only once a day. Consequently, if the software is started more than once a day, data acquired from the second and subsequent startups will be backed up at the next scheduled backup time.

CAUTION	**Users who are logged in are notified to log out. When you receive the notification, save your changes and log out. The automatic backup starts ten minutes after the notification.**

CAUTION	**If [At Exit] is selected, all users who are logged in will have their access cut off when the software is exited. Before exiting the software, confirm that no other users are logged in.**

Manual Backup

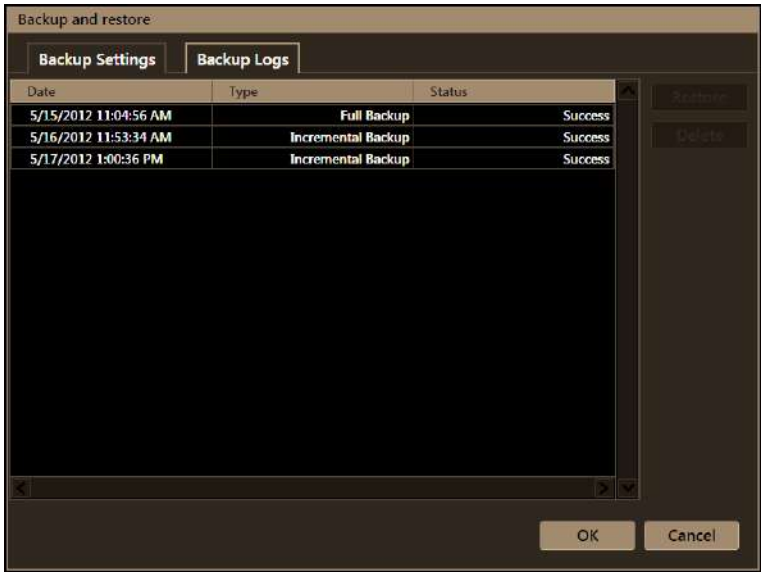
Click [Full Backup] or [Incremental Backup].



Backup starts.
Click [Cancel] to cancel the backup.

Displaying the Backup Log

When the [Backup Logs] tab is clicked, the list of the backup log appears.



Information

To delete a backup log
Select a backup log, and then click [Delete].

Restoring Data

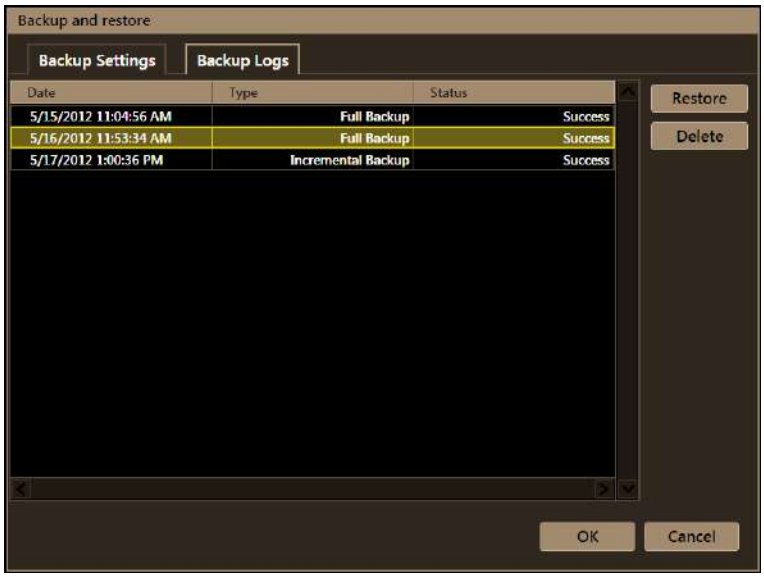
By restoring data, the state of data can be returned up to the stage of the selected backup log.

Important

By restoring data, the data that is newer than the selected backup log is deleted. Before restoring data, check the date of the backup log and the contents of data.

1 Select a backup log, and then click [Restore].

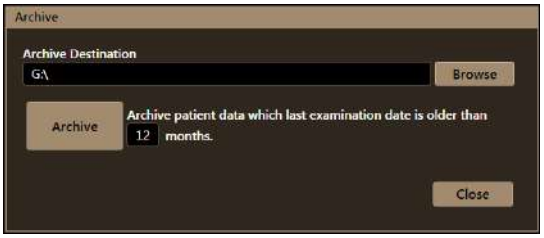
For example, if restoring the backup log of 5/16/2012, the status returns to 5/16/2012. Therefore, the patient information and examination data acquired on and after 5/17/2012 are deleted.



Restoring starts.
When the screen where the progress bar is indicated disappears, restoring is finished.

Archive Settings

You can perform the archive settings.



- **[Archive Destination]**
  Enter a path for the archive destination to [Archive Destination] or click [Browse] to select an archive destination.

- **[Archive patient data which last examination date is older than XX months.]**
  Data which are older than the number of months you enter are transferred.
  Example: If you enter “12”, data which are older than a year are transferred.

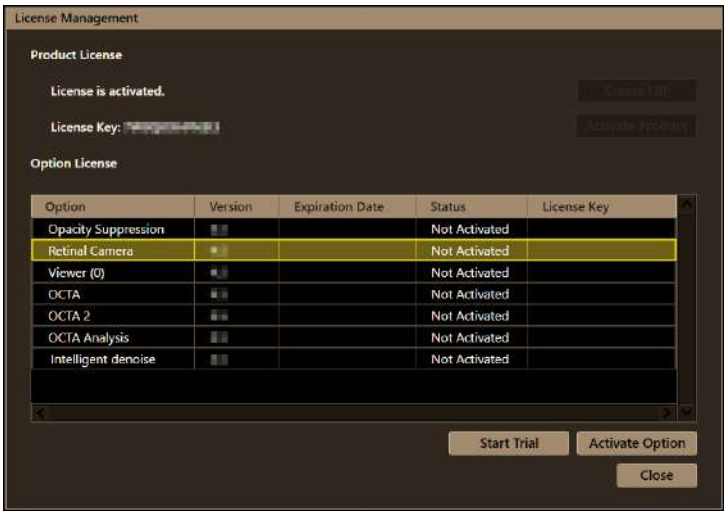
- **[Archive]**
  Click [Archive] button to transfer data to the archive destination.

Information

The archive mark is displayed on examinations that have already been archived.
It may take time to show examinations that have already been archived.

License Management

You can manage the license in [Product License] and the licenses in [Option License] (optional product).
License keys should be issued and registered. For details, consult your sales representative or local Canon dealer.



License Activation

This section describes how to activate the license key (option license).

1 Select the desired application and click [Activate Option].

The [Option License Activation] screen appears.

2 Enter the license key.

3 Click [OK].

The license is activated.
The status changes from [Not Activated] to [Activated].

4 Click [Close].

The [License Management] screen closes.

Information

Trial periods for optional licenses
Select an application you want to try out, and then click [Start Trial] to start trial use. The trial period for the optional licenses is for 90 days from the day you start the trial. When there is an application whose remaining trial period is less than 30 days, the information for that trial period appears when you log in.

Changing the Password

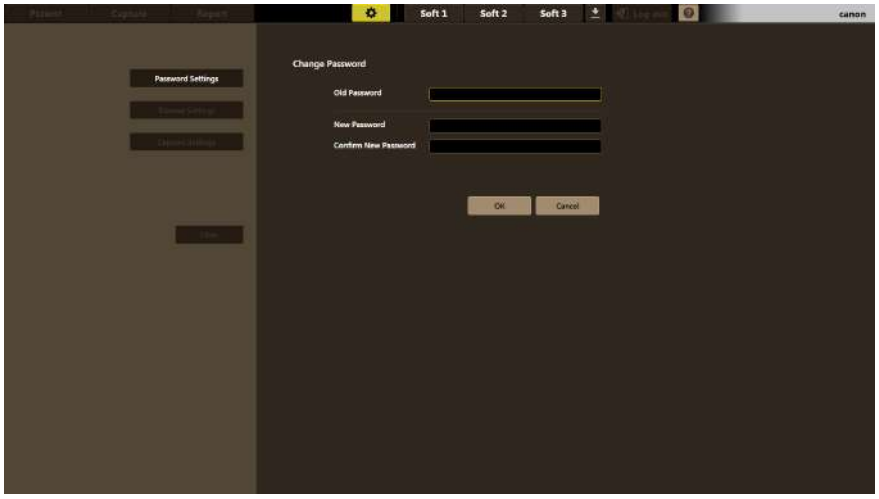
This section describes the procedure to change the password for the log-in user.

1 **Click on the menu bar.**

The settings screen appears.

2 **Click [Password Settings].**

3 **Input the old password, and then input the new password twice.**



4 **Click [OK].**

The password is changed.

5 **Click [Close].**

The settings screen closes.

Creating Disease List

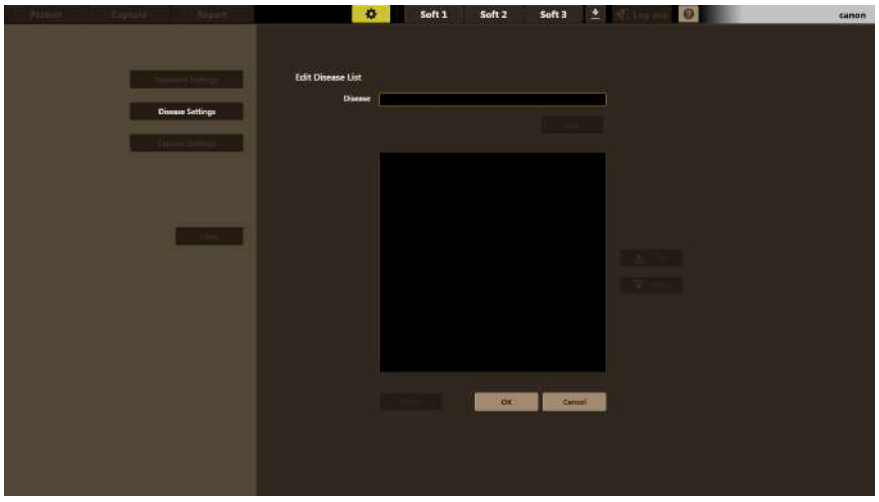
Creating the disease list makes it easy to input the disease name on the [Patient] or [Report] screen. The procedure to create the disease list is described below.

1 **Click on the menu bar.**

The settings screen appears.

2 **Click [Disease Settings].**

3 **Input a disease name in [Disease], and click [Add].**



The input disease name appears in the list.

Information

To change the display order of the disease names
Select a disease name, and click [Up] or [Down].

To delete a disease name
Select a disease name, and click [Delete].

4 **Click [OK].**

5 **Click [Close].**

The settings screen closes.

9 Maintenance

This section describes the maintenance instructions for the OCT: daily inspection, cleaning, disinfecting, refilling chin rest paper.

⚠ CAUTION	• **For safety reasons, before using the OCT, be sure to perform the daily inspection.** • **Have a periodically inspection performed for the OCT at least once a year by a Canon designated representative to maintain its performance and reliability.**

Daily Inspections

Perform the following inspections before using the OCT to ensure that it is used safely and correctly. If a problem is found during the inspection and you are unable to correct the problem, please contact your sales representative or local Canon dealer.

Checks Before Turning On the Power

Check the following items before turning on the power.

1) The power cord and connection cable are not damaged and their insulation is not torn.
2) The power cord is fully and securely inserted into the AC connector on the OCT and the AC outlet.
3) The exterior of the OCT is not damaged or loose.
4) There are no scratches or dirt on the objective lens. Clean the objective lens if it is dirty (see page 247).
5) There is no dirt on the computer monitor. Clean the computer monitor if it is dirty.

Checks After Turning On the Power

Turn on the OCT, and then turn on the computer. Check the following items after you log in.

1) The POWER lamp lights.
2) The chin rest moves up and down smoothly as the [Chin Rest] button is clicked.
3) The measurement unit moves up and down smoothly as the anterior segment image is clicked.
4) The measurement unit moves back and forth smoothly as the [Z Adjustment] button is clicked.
5) The SLO live image can be observed as [Start] is clicked.

Cleaning and Disinfecting

Objective Lens

Important

- Do not wipe or rub the objective lens if there is dirt or dust on it. Doing so could scratch the surface of the lens.
- Do not wipe the objective lens with disinfectant ethanol, eyeglass cleaner, or silicone-coated paper. Doing so could damage the surface of the lens or leave streaks.

For information about lens cleaning paper, lens cleaner, and blowers, contact your sales representative or local Canon dealer.

If the objective lens is dirty, clean it according to the procedure below.

1 Check for any dirt.

Illuminate the objective lens with a penlight to check for dirt.

2 Blow away any dust or dirt.

Use a blower to blow away any dust or dirt on the lens. Do not use a brush to dust off.

Important

Do not allow the blower to touch the objective lens.

3 Wipe the objective lens.

1) Wipe the objective lens lightly with a lens cleaning paper moistened with lens cleaner.
2) Starting from the center of the lens, wipe the lens in spirals toward the circumference.
3) Change the lens cleaning paper and wipe the objective lens until the dirt is gone and there are no streaks.

Forehead Rest / Chin Rest

⚠ CAUTION	**These parts may be corroded if a disinfectant other than disinfectant ethanol is used.**

Clean the intended parts with a sanitized gauze or a similar material that is moistened with disinfectant.

Exterior Surface

⚠ WARNING	• **To clean the OCT, do not use alcohol, benzine, thinner or any other flammable solvent.** • **Before cleaning the OCT, for safety reasons, be sure to turn off the power of all the devices and unplug the power cord from the AC outlet.** **Otherwise, fire or electric shock may result.**

Important

Do not clean the exterior of the OCT with lens cleaner. It may damage the material of the exterior of the OCT.

If the exterior of the OCT is dirty, clean it according to the procedure below.

1 **Turn off the power to the OCT.**

Turn off the power switch and unplug the power cord from the AC outlet.

2 **Wipe with a cloth soaked in cleanser.**

Wipe it with a soft cloth that has been soaked in diluted neutral cleanser and well wrung out.

3 **Wipe with a cloth soaked in water.**

Wipe it with a cloth that has been soaked in water and well wrung out.

Refilling Chin Rest Paper

1 **Pull out the right and left chin rest holding pins.**

2 **Insert the holding pins into the holes on the right and left of the chin rest paper.**

3 **Attach the chin rest paper to the chin rest.**

Important

Insert the holding pins straight into the holes.

Information

Chin rest paper is a consumable product (optional product). To purchase chin rest paper, contact your sales representative or local Canon dealer.

Moving the Product

⚠ CAUTION	• **When moving the OCT, hold the indentations for lifting of the base, and keep the OCT level. Do not hold it by the face rest or the measurement unit, as they may come off and result in injury.** • **The OCT weighs approximately 29 kg (64 lbs). It should only be lifted by two or more people. Use the indentations for lifting.**

To move the OCT, follow the procedure below.

1 **Turn off the power to the computer.**

2 **Turn off the power to the OCT.**

3 **Remove the USB cable connecting the OCT to the computer.**

4 **Turn on the power to the OCT.**

Move the measurement unit and the chin rest to the position for packing.
- Measurement unit: The center position in the movable range, and the lowest position
- Chin rest: The lowest position

5 **Turn off the power to the OCT.**

6 **Be sure to unplug the power plug from the AC outlet, and disconnect any cables connected to other equipment.**

7 **Move the OCT by at least two people.**

CAUTION	**When transporting the OCT, use the original packaging to protect it from vibration and shock.** **Vibration and shock may cause failure of or damage to the OCT.** **For details, please contact your sales representative or local Canon dealer.**

10 Troubleshooting

If a message appears while using the OCT, follow the relevant remedy below. For the messages not specified in the table, follow the instruction on the display. If the same message appears again, turn on the computer and the OCT again. If the same message appears again, turn off the computer and the OCT, and contact your sales representative or local Canon dealer. Be ready to provide the contents of the message.

Message	Remedy
An error occurred while trying to initialize connection with the device.	Could not connect to the OCT. Check if the power of the OCT is turned on and the cables are connected correctly.
Association with PACS Server was rejected. Check the settings and status of PACS Server.	The connection checking with the DICOM storage server has failed. Input proper port number, host name and AE title.
Association with Worklist Server was rejected. Check the settings and status of Worklist Server.	The connection checking with the worklist server has failed. Input the proper port number, host name and AE title.
Association with MPPS Server was rejected. Check the settings and status of MPPS Server.	The connection checking with the MPPS server has failed. Input proper port number, host name and AE title.
Enter essential data.	Required item is left blank. Input necessary contents in all the required items.
There should be at least one administrator.	This user cannot be deleted when only one person is registered as the administrator. Add a user as the administrator, and then delete the user.
Current logged user can not be deleted.	• The user who is logged in at the moment cannot be deleted. The other administrator has to log in to delete the user. • This user cannot be deleted when only one person is registered as the administrator. Add a user as the administrator, and then delete the user.
There is less than 100 GB of free disk space left.	The data storage hard disk drive has less than 100 GB of free space. Delete unnecessary data or add a drive. For details, please contact your sales representative or local Canon dealer.
There is not enough free disk space to continue.	The data storage hard disk drive has less than 1 GB of free space. Add a drive immediately. For details, please contact your sales representative or local Canon dealer.
There are missing mandatory data. Please add at least one HDD to store examination data.	You have tried to log in without registering the data storage hard disk drive. Register a drive.
Drive can not be added, it has to low space. (must be at least 100 GB)	Add a hard disk drive which has 100 GB or more free space.
Drive cannot be deleted, because it was used at least one time or it is marked as current.	You have tried to delete the hard disk drive in use. The current drive and the drive where the data has already been stored cannot be deleted.
Unable to lock Database	After other users log out, try the operation again.
Unable to lock patient Unable to delete patient	After another user deselects the patient, try the operation again.
Export examinations failed. Error while storing a file on a disc. General export error.	Confirm that the save destination of an export file is writable and has enough free space, and then export it again.
General import error.	Confirm that the exported file is readable, and then import it again.
There is not enough free space on selected path for archive.	Increase the amount of free space on the drive for the archive or change the drive.
Expiration of trial term.	You have tried to log in without registering the product license. Register the product license.
Neither Capture Utility nor Control Software is running.	You have tried to capture images without running the Rics or CU. Run the Rics or CU and capture the images again.
Unexpected error occurred in communication	After checking the followings, try to log in again. • LAN cable is connected.
Could not connect to server	After checking the followings, try to log in again. • LAN cable is connected. • A computer with the RX Capture for OCT installed has been started. • The contents of [Sever Name] are correct.

Message	Remedy
Unable to log in to the server	After checking the followings, try to log in again. • The number of logged-in users is under the limit. • Database is not being modified or backup is not being performed.
Connection to server has been lost.	After checking the followings, try to log in again. • LAN cable is connected. • A computer with the RX Capture for OCT installed has been started.
Communication with FileSync service took too much time.	

Appendix

Specifications

OCT Image

Mode	Optical spectrum OCT
Resolution	Depth (Z direction): 3 µm (in-house data) Width (X-Y direction): 20 µm
Scanning speed	70,000 A-scan per second
Angle of view	34 degrees (H) × 34 degrees (V) (10 × 10 mm)
Light source	SLD 855 nm

SLO Image

Scanning mode	Confocal laser scanning mode
Angle of view	45 degrees (H) × 34 degrees (V) (13 × 10 mm)
Resolution	25 µm
Light source	LD 780 nm

Capturing

Scan modes	
• [Macula 3D]	1024 A-scan (H) × 128 B-scan Scanning area: 10 × 10 mm
• [Glaucoma 3D]	1024 A-scan (V) × 128 B-scan Scanning area: 10 × 10 mm
• [Disc 3D]	512 A-scan (H) × 256 B-scan Scanning area: 6 × 6 mm
• [Wide 3D]	512 A-scan (V) x 128 B-scan 1024 A-scan (H) x 1 B-scan Scanning area: 13 x 10 mm
• [Custom 3D]	1024 A-scan (H/V) × 128 B-scan Scanning area: 3 to 10 mm (adjustable range)
• [Multi Cross]	Horizontal: 1024 A-scan (H) × 5 B-scan Vertical: 1024 A-scan (V) × 5 B-scan Scanning area: Horizontal: 3 to 13 mm (adjustable range) Vertical: 3 to 10 mm (adjustable range) Number of averaging: 1, 5, 10 sheets Number of averaging (*): 1, 5, 10, 20, 30, 50 sheets

- [Cross]
  Horizontal: 1024 A-scan (H) × 1 B-scan
  Vertical: 1024 A-scan (V) × 1 B-scan
  Scanning area:
  Horizontal: 3 to 13 mm (adjustable range)
  Vertical: 3 to 10 mm (adjustable range)
  Number of averaging: 1, 5, 10, 20, 50 sheets
  Number of averaging (*): 1, 5, 10, 20, 50, 100, 150, 200 sheets
- [Radial]
  1024 A-scan x 12 B-scan
  Scanning area: 3 to 10 mm (adjustable range)
  Number of averaging: 1, 5, 10 sheets
  Number of averaging (*): 1, 5, 10, 20, 30, 50 sheets
- [Anterior 3D]
  512 A-scan (H) × 256 B-scan
  Scanning area: 6 × 6 mm
- [Anterior Cross]
  Horizontal: 1024 A-scan (H) × 1 B-scan
  Vertical: 1024 A-scan (V) × 1 B-scan
  Scanning area: 3 to 6 mm (adjustable range)
  Number of averaging: 1, 5, 10, 20, 50 sheets
  Number of averaging (*): 1, 5, 10, 20, 50, 100, 150, 200 sheets
- [Anterior Radial]
  1024 A-scan × 12 B-scan
  Scanning area: 6 mm

- [OCTA]

[Small Square]
232 A-scan (H) × 232 B-scan
Scanning area: 3 × 3 mm, 4 × 4 mm, 5 × 5 mm, 6 × 6 mm,
8 × 8 mm
Number of averaging: 2, 3 sheets
Number of averaging (*): 2, 3, 4, 6, 10 sheets

[Medium Square] (*)
464 A-scan (H) × 464 B-scan
Scanning area: 4 × 4 mm, 6 × 6 mm, 8 × 8 mm, 9 × 9 mm,
10 × 10 mm
Number of averaging (*): 2, 3, 4, 6 sheets

[Large Square] (*)
696 A-scan (H) × 696 B-scan
Scanning area: 6 × 6 mm, 8 × 8 mm, 9 × 9 mm, 10 × 10 mm
Number of averaging (*): 2, 3, 4 sheets

[Horizontal Wide] (*)
232 A-scan (V) × 696 B-scan
Scanning area: 9 × 3 mm, 12 × 4 mm
Number of averaging (*): 2, 3, 4, 6 sheets

[Vertical Wide] (*)
232 A-scan (H) × 696 B-scan
Scanning area: 3 × 9 mm , 4 × 10 mm
Number of averaging (*): 2, 3, 4, 6 sheets

* When OCTA 2 is installed

Fixation lamp	Internal eye fixation lamp Mode: point light scanning Color: orange (590 nm) Size: 1 × 1 mm or 6 × 6 mm External eye fixation lamp: LED (optional product)
Anterior segment lamp	LED (970 nm)
Diopter compensation	- 18 to + 15 D * 1 D = 1 m^{-1}
Working distance	Retinal tomography: 35 mm Anterior segment tomography: 20 mm
Required pupil diameter	3.0 mm or more
Range of motion	
Measurement unit	Up and down: 30 mm Right and left: 100 mm Back and forth: 40 mm
Chin rest	60 mm
Power supply rating	AC 100 to 240 V, 50/60 Hz, 3.7 to 1.6 A
Dimensions	387 (W) x 499 (D) x 474 (H) mm
Weight	29 kg

Initial Setting Items of the Scan Mode

	Scan Size (mm)	Scanning Direction	Distance of B-Scan (mm)	Fixation Position	Number of Averaging	C-Gate Orientation	View Mode
Macula Disease							
Macula 3D	10 × 10	H	0.079	Macula	1	Vitreous *	Single *
Multi Cross	10 × 10 *	H & V	0.3 *	Macula *	10 *	Vitreous *	Single *
Glaucoma							
Wide 3D	13 × 10	V	0.102	Macula and Disc	1	Vitreous	Glaucoma
Cross	10 × 10 *	H & V	–	Macula *	50 *	Vitreous *	Single *
Choroid							
Macula 3D	10 × 10	H	0.079	Macula	1	Choroid *	Single *
Multi Cross	10 × 10 *	H & V	0.3 *	Macula *	10 *	Choroid *	Single *
Anterior							
Anterior 3D	6 × 6	H	0.024	Center of SLO	1	Vitreous	General
Anterior Cross	6 × 6 *	H & V	–	Center of SLO	50 *	Vitreous	Single *
Anterior Radial	Φ6	12 directions	–	Center of SLO	1	Vitreous	Single *
General							
Custom 3D	10 × 10 *	H *	0.079	Macula *	1	Vitreous *	General
Multi Cross	10 × 10 *	H & V	0.3 *	Macula *	10 *	Vitreous *	Single *
Cross	10 × 10 *	H & V	–	Macula *	50 *	Vitreous *	Single *
Radial	Φ10 *	12 directions	–	Macula *	10 *	Vitreous *	Single *

* The setting items can be changed.

Acceptable Characters

Entering User Information

Items	Maximum number of character	Description
User ID	16	Alphanumeric
Password	16	Alphanumeric
User Name	64	Up to 60 characters can be input to each item of the patient name. A space is entered between the items. “=”, “\”, and “^” cannot be entered.

Entering Patient Information

Items	Maximum number of character	Description
Patient ID	64	“\” cannot be entered.
Patient Name	64	Up to 60 characters can be input to each item of the patient name. A space is entered between the items. “=”, “\”, and “^” cannot be entered.
Accession Number	16	“\” cannot be entered.
Disease name	4096	
Comment	4096	

System Settings

Specific Character Set

Items	Tag value of specific character set
Default	None
Latin-1	ISO_IR 100
Latin-2	ISO_IR 101
Cyrillic	ISO_IR 144
Greek	ISO_IR 126
Latin-5	ISO_IR 148
Chinese <GB18030>	GB18030

Items	Tag value of specific character set
Korean	\ISO 2022 IR 149
Japanese <katakana>	ISO_IR 13
Japanese <katakana (code extension)>	\ISO 2022 IR 13
Japanese <kanji>	\ISO 2022 IR 87
Japanese <katakana + kanji>	ISO 2022 IR 13\ISO 2022 IR 87
Japanese <katakana (code extension) + kanji>	\ISO 2022 IR 13\ISO 2022 IR 87
Unicode (UTF-8)	ISO_IR 192

DICOM Settings

Items	Maximum number of character	Description
AE Title	16	Alphanumeric characters. “\” cannot be entered.
Station Name	16	“\” cannot be entered.
Location	16	“\” cannot be entered.
Institutional Department Name	64	“\” cannot be entered.
Institution Name	64	“\” cannot be entered.
Set Name	64	
Output Folder	125	
Host Name	64	
Port Number	5-digit	Range from 1 to 65535
Server AE Title	16	Alphanumeric characters. “\” cannot be entered.
Maximum No. of Worklist	3-digit	Range from 1 to 999

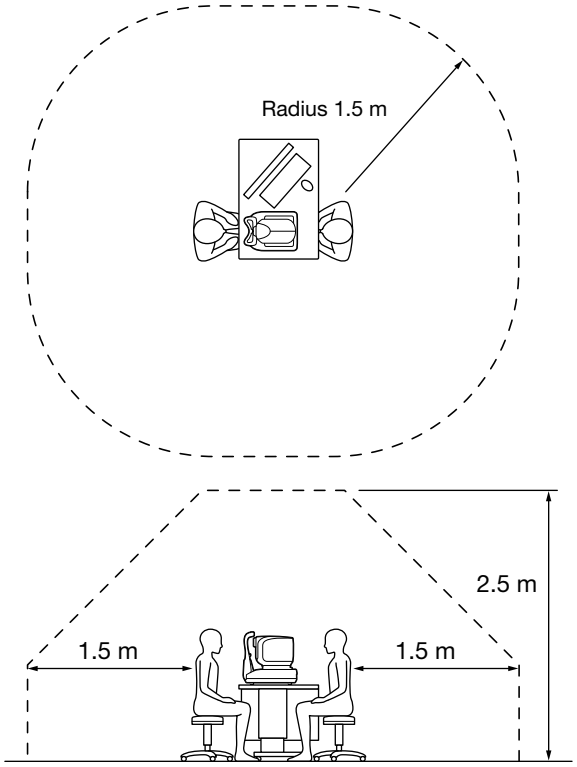
File Size of OCT Images

The file size of OCT images captured by performing a 3D scan is larger than that captured by performing a cross scan.
The table below shows the sizes of the image captured on one examination. The values on the table should be used only as a guide. Values vary depending on captured images.

Scan Mode	File Size
[Macula 3D]	100 MB
[Glaucoma 3D]	100 MB
[Disc 3D]	100 MB
[Wide 3D]	50 MB
[Custom 3D]	100 MB
[Cross]	2 MB
[Multi Cross]	10 MB
[Radial]	12 MB
[Anterior 3D]	100 MB
[Anterior Cross]	2 MB
[Anterior Radial]	12 MB
[OCTA] (Small Square)	90 MB
[OCTA] (Medium Square)	360 MB
[OCTA] (Large Square)	720 MB
[OCTA] (Horizontal Wide)	270 MB
[OCTA] (Vertical Wide)	270 MB

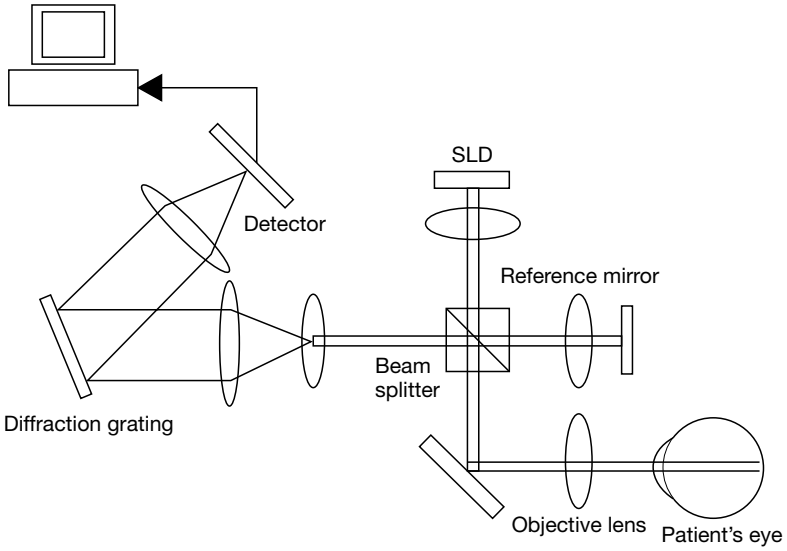
Patient Environment

The patient environment where the patient/examiner may contact the equipment (including the connected devices) or where the patient/examiner may contact the person who touches the equipment (including the connected devices) is illustrated below.



Working Principle

The retinal tomogram is obtained by using the optical interference. Near-infrared light, which is emitted by the super luminescence diode (SLD), is separated by the beam splitter. One separated light is guided to the reference mirror and is reflected by it. Then, the light returns to the beam splitter. Another light is guided into the eye and is reflected by the retinal tissues. Then, the light returns to the beam splitter. When the two reflected lights join and overlap, a low interference wave with different amplitude is generated. This wave is separated by diffraction grating and then it is converted into the electric signal by the detector. A calculation is performed that enables this signal to photograph and record the retinal tomogram.



EMC (Electromagnetic Compatibility)

The OCT is designed and tested to comply with IEC 60601-1-2 (EN 60601-1-2), the applicable regulations regarding EMC for medical devices and needs to be installed and put into service according to the EMC information stated as follows.

If this equipment causes harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect this device into an outlet on a circuit different from that to which the other devices are connected.

If the problem cannot be solved with the above measures, stop using this equipment and consult your sales representative or local Canon dealer.

Precautions on EMC

1. Medical electrical equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the manual.
2. Portable and mobile RF communications equipment can affect medical electrical equipment.
3. Information regarding the cable affecting EMC is as follows:
   To maintain the optimum EMC performance, use only the designated cables.

Name	Type	Length	Remarks
AC Power Cord	Non-Shielded	3.0 m fixed-length	Supplied
Synchronous Cable	Shielded	Max. 2.0 m	Supplied
USB Cable	Type AB connector plug supporting USB 2.0 Hi-Speed	Max. 2.0 m	Not supplied
Data Cable	Shielded	Max. 2.0 m	Not supplied

4. The use of accessories, transducers and cables other than those specified, with the exception of transducers and cables sold by Canon sales representative or local Canon dealer as replacement parts for internal components, may result in increased emissions or decreased immunity of the OCT.
5. The OCT should not be used adjacent to or stacked with other equipment; if adjacent or stacked use is necessary, the OCT should be observed to verify normal operation in the configuration in which it will be used.
6. Essential Performance (against Electromagnetic Disturbances)
   Controlling Laser power or irradiation level of laser beam
7. Due to electromagnetic disturbances, it may be necessary for the customer or the user of the OCT to take the measurement again or to restart the equipment, the software or the computer.

Guidance and Manufacturer's Declaration for Electromagnetic Emission

The OCT is intended for use in the electromagnetic environment specified below. The customer or the user of the OCT should assure that it is used in such an environment.

Emission Test	Compliance	Electromagnetic Environment – Guidance
RF emissions EN 55011 CISPR11	Group 1	The OCT uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electromagnetic equipment.
RF emissions EN 55011 CISPR11	Class B	The OCT is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions EN IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions EN IEC 61000-3-3*	Complies	

* Not applicable to regions where the rated voltage is less than 220 V.

Guidance and Manufacturer's Declaration for Electromagnetic Immunity

The OCT is intended for use in the electromagnetic environment specified below.
The customer or the user of the OCT should assure that it is used in such an environment.
Due to electromagnetic disturbances, it may be necessary for the customer or the user of the OCT to take the measurement again or to restart the equipment, the software or the computer.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
Electrostatic discharge (ESD) EN IEC 61000-4-2	±8 kV contact ±(2, 4, 8, 15) kV air	±8 kV contact ±(2, 4, 8, 15) kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst EN IEC 61000-4-4	±2 kV for power supply lines ±1 kV for signal input/output lines 100 kHz repetition frequency	±2 kV for power supply lines ±1 kV for signal input/output lines 100 kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environment.
Surge EN IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines EN IEC 61000-4-11	0% UT ; 0.5 cycle at 0°, 45°, 90°, 135°,180°, 225°, 270°, and 315° 0% UT ; 1 cycle and 70% UT ; 25/30 cycles Single phase: at 0° 0% UT ; 250/300 cycles	0% UT ; 0.5 cycle at 0°, 45°, 90°, 135°,180°, 225°, 270°, and 315° 0% UT ; 1 cycle and 70% UT ; 25/30 cycles Single phase: at 0° 0% UT ; 250/300 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of the OCT requires continued operation during power mains interruptions, it is recommended that the OCT be powered from an uninterruptible power supply.
Power frequency (50/60 Hz) magnetic field EN IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE 1: U_T is the a.c. mains voltage prior to application of the test level.			

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
			Portable and mobile RF communications equipment should be used no closer to any part of the OCT, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter Recommended Separation Distances d = 1.2 √P d = 1.2 √P 80 MHz to 800 MHz d = 2.3 √P 800 MHz to 2.7 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a], should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked with the following symbol: 
Conducted RF EN IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	
Radiated RF EN IEC 61000-4-3	3 V/m 80 MHz to 2.7 GHz	3 V/m	
NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

a Field strengths from fixed transmitters, such as base stations for radio (cellular/ cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered.
If the measured field strength in the location in which the OCT is used exceeds the applicable RF compliance level above, the OCT should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the OCT.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended Separation Distances between Portable and Mobile RF Communications Equipment and Devices or the OCT

The OCT is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled.
The customer or the user of the OCT can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the OCT as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2.7 GHz $d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Warranty and Repair Service

Service Life

The service life of this product is eight years if specified inspections and maintenance are performed.

About Repairs

If a problem cannot be solved even after taking the measures indicated in “10 Troubleshooting” (see page 251), contact your sales representative or local Canon dealer for repairs.
When requesting repair, please provide the following information:

Name of the instrument: OCT-A1 or OCT-HS100
Serial number: 6-digit number on the rating label
Description of malfunction: Report as much detail as possible.

Time Limit for Supplying Performance Parts for Repair

Performance parts (parts for repairs to maintain performance) will be stocked for eight years after production of the OCT is discontinued.

BT8-1794-E01

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