



Instruction Manual

RETISSA NEOVIEWER

Model:QLEWS40-24

Please read this manual carefully before using this product.

After reading this manual, please keep it in a safe place so that you can view it at any time.

For information on digital still cameras, please read the digital still camera instruction manual. The digital still camera may be bundled with this product or sold separately.

WARNING

RETISSA NEOVIEWER (this product) is a device that uses a laser light source to project digital still camera images on the retina. Do not disassemble nor modify any parts of the product, unless procedures are specified in this manual. It may result in hazardous laser radiation exposure.

In the event of simultaneous use of battery* and external power supply, product will automatically turn off after 7.5 hours of being used or powered on.

*Actual performance varies based on settings, environmental conditions, storage, and usage. Batteries are consumable products and their capacity degrades over time as they age. Life span of battery is not guaranteed.



1. Useful Information

To help you understand the warnings and cautions in this manual, safety information is used in the following manner.



DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Addresses practices not related to personal injury.

■ Contraindications

Do not use this product if you have any of the following.

- Those who have completely lost the function of the retina or optic nerve.
- Those who are using drugs that increase the sensitivity of the retina.
- Those with a history of photosensitivity
- Those who are not feeling well.

■ Environment and Conditions of Use



DANGER

Do not put this product into a fire or apply heat to it.

Also, do not use, store, or leave the product in an environment that exceeds the operating temperature range of the product, such as a place where it is hot or easily heated (near a fire, near a heater, in direct sunlight, in a car under the blazing sun, etc.). Avoid sudden temperature changes as well.

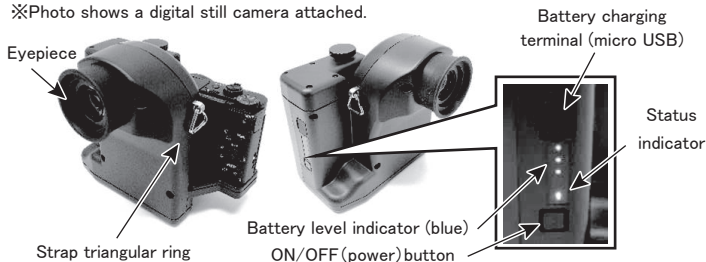
Doing so may result in fire, burns, injury, malfunction, or damage.

Do not use, store, or leave the product in places subject to rain, water, oily smoke, bow drilling, humidity, dust, or in poor environments with explosive, flammable, or corrosive gases, oil, chemicals, organic solvents, salt, or iron.

Doing so may result in fire, burns, injury, malfunction, or damage.

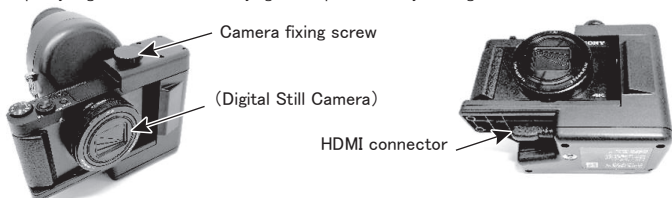
2. Set Contents / Part Names

※Photo shows a digital still camera attached.

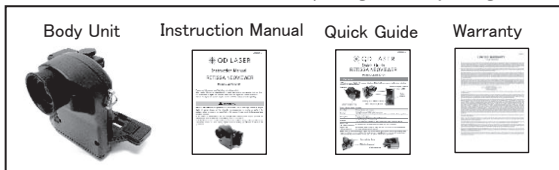


Status indicator display	Contents
Green light	Video projection is in progress.
Blue light	Waiting for camera (HDMI cable) connection. After the camera is connected, a short press of the power button starts projection.
Blinking blue	Pausing due to impact. A short press of the power button starts projection.
Red light	An abnormality has been detected. Turn off the power and refer to "9.Troubleshooting".
Flashing red (at 1-second intervals)	It is approaching the single continuous usage time limit (7.5 hours*).
Flashing red (0.5 sec. intervals)	Because the single continuous usage time limit (7.5 hours*) will soon be exceeded, the power will automatically turn off.

*In the event of simultaneous use of battery and external power supply. Actual battery performance varies based on settings, environmental conditions, storage, and usage. Batteries are consumable products and their capacity degrades over time as they age. Life span of battery is not guaranteed.



What is included with the RETISSA NEOVIEWER package (Battery charger is not included*)



*Charger cord with DSC-HX99 may be used with this product.

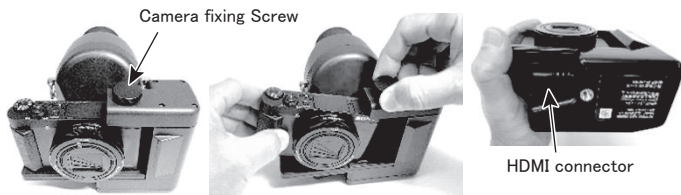
3. Preparation

3-1. Media

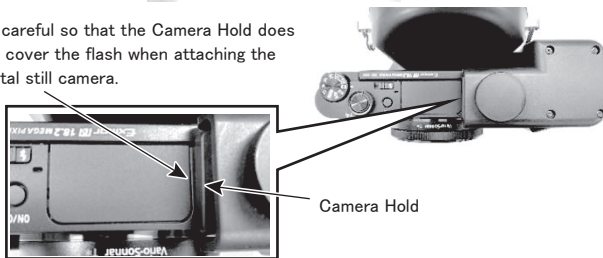
- For information on recording media, refer to the instruction manual of the digital still camera.

3-2. Digital Still Camera Mounting

- Loosen the camera fixing screw on the RETISSA NEOVIEWER until it is idle.
- Mount the digital still camera by lifting the RETISSA NEOVIEWER camera fixing screw upwards.
- Tighten the camera fixing screw on the RETISSA NEOVIEWER.
- Insert the HDMI cable.
 - ※When connecting the HDMI cable, hold the digital still camera while connecting.
 - ※Do not pull on the HDMI cable.
 - ※When connecting the HDMI cable, install it so that it does not pry.



- ※Be careful so that the Camera Hold does not cover the flash when attaching the digital still camera.

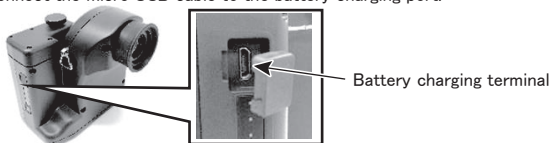


3-3. Charging the digital still camera

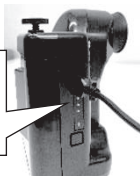
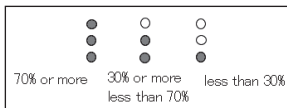
- Charge the digital still camera.
- Refer to the instruction manual of the digital still camera for information on charging the digital still camera.

3-4. Charging the RETISSA NEOVIEWER

- Charge the battery of the RETISSA NEOVIEWER main unit.
- Make sure that the power is OFF (the power of the digital still camera must be OFF).
- Charger cord (USB Micro-B standard charging cord with more than 1.5 amp and power adaptor) with DSC-HX99 may be used with the RETISSA NEOVIEWER.
- Connect the micro USB cable to the battery charging port.

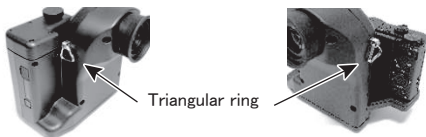


- To confirm that charging is complete, press and hold the power button on the RETISSA NEOVIEWER for at least 2 seconds, and check the remaining battery charge indicator. When three indicators light up, charging is complete.
- It is recommended to charge the battery when the remaining battery is less than 30%. (only one indicator is lit)



3-5. Attaching the strap

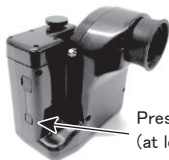
- The RETISSA NEOVIEWER has a triangular ring for strap mounting on both sides. This unit does not come with a strap. When attaching the strap, please prepare it yourself.



4. Use

4-1. Turning On

- Turn on the digital still camera by pressing the ON/OFF (power) button on the digital still camera. For details, refer to the instruction manual of the digital still camera.
 - Press and hold the ON/OFF (power) button on the RETISSA NEOVIEWER for at least 1 second to turn on the power of the main unit.
- ※ If the digital still camera is turned on after the RETISSA NEOVIEWER is turned on, no video is displayed. The image will be displayed by short pressing the ON/OFF (power) button of the RETISSA NEOVIEWER.



Press and hold the ON/OFF (power) button.
(at least 1 second)

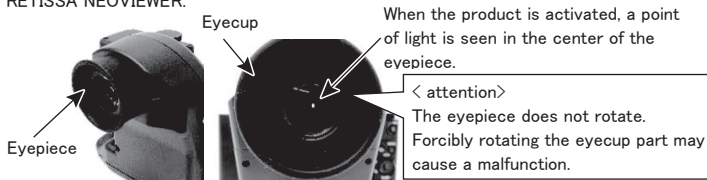
Power is on

Green light is on



4-2. Looking at the image

- When you look into the eyepiece with your eye close to it, you will see a point of light (the focal point) in the eyepiece.
While keeping the point of light visible, move your eye close enough to touch the eyecup of the eyepiece. You can see the image in the viewfinder of the digital still camera.
- ※ RETISSA NEOVIEWER automatically stops displaying video when it detects an impact to protect your device. Video is displayed by short pressing the ON/OFF (power) button of RETISSA NEOVIEWER.



4-3. Imaging

- Operate the digital still camera to capture images.
- Refer to the instruction manual of the digital still camera for camera operation and image capturing methods.
- ※ When you switch to 4K movie recording mode or from 4K movie recording mode to image playback mode or still image shooting mode, video will not be displayed. The image is displayed by short pressing the ON/OFF (power) button of the RETISSA NEOVIEWER. In 4K video recording mode, the OSD display such as the camera's recording status and battery level is not displayed, and the menu screen is not displayed. These will be displayed when you switch the camera mode to still image mode.

4-4. Import data into your computer

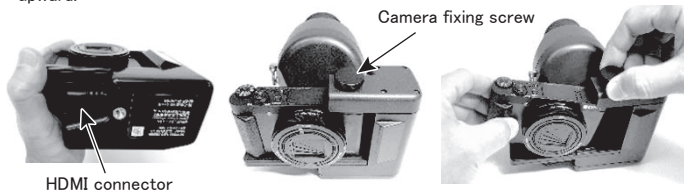
- Data can be retrieved with a USB cable while the camera is still attached to the camera. For details, please refer to the instruction manual of the digital still camera.

4-5. Turning off

- Press the ON/OFF (power) button on the digital still camera to turn off the digital still camera.
- Press and hold the power button on the main unit for at least 2 seconds to turn off the power.

4-6. Remove the digital still camera

- Remove the HDMI cable.
- Loosen the camera fixing screw on the RETISSA NEOVIEWER until it is idle.
- Remove the digital still camera by lifting the RETISSA NEOVIEWER camera fixing screw upward.



5. Status indicator display

Status indicator display	Contents
Green light	Video projection is in progress.
Blue light	Waiting for camera (HDMI cable) connection. After the camera is connected, a short press of the power button starts projection.
Blinking blue	Pausing due to impact. A short press of the power button starts projection.
Red light	An abnormality has been detected. Turn off the power and refer to "9.Troubleshooting".
Flashing red (at 1-second intervals)	It is approaching the single continuous usage time limit (7.5 hours*).
Flashing red (0.5 sec. intervals)	Because the single continuous usage time limit (7.5 hours*) will soon be exceeded, the power will automatically turn off.

*In the event of simultaneous use of battery and external power supply. Actual battery performance varies based on settings, environmental conditions, storage, and usage. Batteries are consumable products and their capacity degrades over time as they age. Life span of battery is not guaranteed.

6. Usage notes

WARNING

Do not look at the sun or strong light through this product.
It may cause visual impairment or blindness.

Do not walk, drive a car, motorcycle, or motorized bicycle, operate a ship, boat, train, airplane, or heavy machinery, or cook or perform other dangerous tasks while using the product.

Doing so may cause accidents or injuries and may violate the law.

If this product is damaged, or if abnormal smells, smoke, discoloration, or deformation is observed, stop using it immediately.

Turn off the power immediately. Never put product near heat source.

CAUTION

Do not cover the product with a cloth or do anything else that will interfere with natural heat dissipation while charging or power is on.

Do not use this product beyond the operating environment conditions described in Section 7 Specifications.

If you experience fatigue, discomfort, or any other abnormalities or changes in your physical condition during viewing, or if the fatigue or discomfort does not abate after taking a break, discontinue use. If discomfort occurs, consult a doctor.

When using this product for a long time, be aware that the surface may become warmer. Prolonged skin contact at a temperature that feels warm may cause low-temperature burns.

If you notice itching, rash, eczema, or any other skin contact with the product itself, finder, or any other part of the product, stop using the product and seek medical attention from a dermatologist. In rare cases, paint or material may cause allergies.

NOTICE

Do not put metal or other foreign objects into the terminals or inside of the product or pour water or other liquids on the product.
Malfunction, or failure due to short circuit or heat generation.

Do not allow organic solvents such as benzene and thinner to adhere to this product. Doing so may deform or dissolve the product, resulting in malfunction or fire.

This product is not waterproof. Do not touch it with wet hands.
Doing so may cause malfunction.

Do not use flammable aerosols or sprays.
Using flammable gases for cleaning, lubrication on the device may cause the switch contact point, sparks from static electricity, or heat from the device may cause it to ignite and an explosion or fire may occur.

Do not touch the connectors directly or with sharp metal objects.

Do not allow children or pets to touch this product.
Doing so may cause fire, burns, or injury.

Do not turn on the power with condensation.
Doing so may cause the product to malfunction.

Do not place near high-voltage electric cables or objects that generate magnetism. Failure to do so may result in malfunction or damage.

Do not use this product by placing it in a location where vibration or shock is transmitted.
Doing so may cause malfunction.

Do not drop the product, place a heavy object on it, give it a strong shock, or apply pressure to it.
Doing so may cause the product to malfunction.

This product contains a lithium-ion battery. When disposing of the product, please dispose of the product in accordance with applicable law.

If the battery needs to be replaced, please contact us (listed at the end of this

■ Others

- The products listed in this manual may not be used for applications for which the manufacture, specification, or sale of the product is prohibited by domestic under applicable laws, regulations, or orders.
- The manufacturer assumes no responsibility for any incidental damages (including loss of business profits, suspension of business, loss of business information, or other financial losses, but not limited to) incurred when this product is used or in the event that it is unusable.

7. Specifications

Item		Specification
Projection method		Laser retinal scanning
Light source		RGB semiconductor laser (R:635nm, G:520nm, B:450nm Typ.)
Horizontal viewing angle		Approx. 60degree angle
Aspect ratio		16:09
Resolution		Equivalent to 720P(1280×720)
Color		8bit full color (256 levels)
Refresh rate		Approx. 60Hz
Image input		1080p/60p and 720p/60p ※PAL mode is not supported
Battery	Type	Lithium-ion battery
	Input	DC5V (USB Micro-B) Max.1.5A
	Capacity	3.6V/3200mAh(12Wh)
	Battery Life*	Approx. 4hours
	Recharge time*	Approx. 3hours
Size (W×H×D)		Approx. 137mm×120mm×103mm
Weight		Approx. 330g
Environmental condition for use		Temp.:10~35°C、Humidity:30~90%(no condensation) Air pressure:900~1060hPa
Storage environmental conditions		Temp.: -20~+55°C、Humidity:10~95%(no condensation)
Applicable digital still camera		Sony DSC-HX99(sold separately unless kitted with this product)

*Actual performance varies based on settings, environmental conditions, storage, and usage. Batteries are consumable products and their capacity degrades over time as they age. Life span of battery is not guaranteed.

8. Laser Specification

- This product is a Class 1 laser product in accordance with IEC60825-1:2014.
- Use the device for no more than 7.5 hours per day.
If used for longer than this, the laser beam may cause strain to the eyes.
- Although this is a Class 1 laser product, do not disassemble nor modify any parts of the product.
- “Caution” – Performing controls or adjustments or performing procedures other than those specified in this manual may result in hazardous laser radiation exposure.

<Laser Diode Specifications>

LD	Max Absolute Rating	Peak oscillation wavelength		Beam parallel angle of divergence		Beam vertical angle of divergence	
		Min.	Max.	Min.	Max.	Min.	Max.
Red	120 mW	632 nm	642 nm	5 deg	13 deg	13 deg	23 deg
Green	100 mW	515 nm	530 nm	5 deg	7.5 deg	18 deg	25 deg
Blue	120 mW	440 nm	460 nm	4 deg	7.5 deg	18 deg	25 deg

<Rating Label>

RETISSA NEOVIEWER
Model : QLEWS40-24
SN : S4024230001



INPUT : 5V ≒ 1.5A
Class 1 Laser Product
QD Laser, Inc. MADE IN JAPAN



1-1 Minamiwatarida-cho
Kawasaki-ku, Kawasaki, Kanagawa,
210-0855 Japan

Manufactured : 022023 Plant Code : CVH
Complies with FDA performance standards
for laser products except for conformance
with IEC 60825-1 Ed. 3, as described in
Laser Notice No. 56, dated May 8, 2019.

9. Troubleshooting

9-1. The unit does not turn on

- Check to see if the battery capacity of the RETISSA NEOVIEWER is sufficient. If the battery capacity is insufficient, recharge the battery by referring to section 3-4 of this manual.
- If the product does not start, there is a possibility that the product is malfunctioning. Please contact us (listed at the end of this paper).

9-2. The image does not show

- Check if the "HDMI output resolution" setting of the digital still camera is set to anything other than Auto. If it is set to something other than Auto, set the camera's "HDMI Output Resolution" to Auto or 1080p.
- When the video recording mode of the digital still camera is set to 4K60p or 4K30p, video will not be displayed when you start/stop recording a movie with the MOVI (movie) button from still image mode, or switch from still image mode to movie mode with the mode dial. Even if you switch from 4K movie recording mode to video or still image playback mode with the play button, the video will not be displayed. The image is displayed by short pressing the ON/OFF (power) button of the RETISSA NEOVIEWER.
- Check if the battery capacity of the digital still camera is sufficient. If the battery capacity is insufficient, recharge the battery by referring to section 3-3 in this manual.
- Make sure the HDMI cable of the RETISSA NEOVIEWER is properly connected to the digital still camera. See section 3-2 of this manual.
- Make sure that the battery capacity of the RETISSA NEOVIEWER is sufficient. If the battery capacity is insufficient, recharge the battery by referring to section 3-4 of this manual. (If the battery capacity of the digital still camera is sufficient and the battery capacity of the RETISSA NEOVIEWER is insufficient, nothing will be seen from the eyepiece.)
- If the product does not start, there is a possibility that the product is malfunctioning. Please contact us (listed at the end of this paper).

9-3. Not recorded

- Check the free space on the memory card of the digital still camera. Refer to the instruction manual of the digital still camera. If the card is full, do one of the following.
 - Delete unnecessary images (refer to the instruction manual of the digital still camera).
 - Move the images to your PC.
- Make sure the HDMI cable of the RETISSA NEOVIEWER is properly connected to the digital still camera. Refer to section 3-2 of this manual.
- If the images are not recorded even after taking the above measures, please contact us (listed at the end of this paper).

9-4. Others

- If any of the functions do not work, please contact us (listed at the end of this paper).
- If none of the above applies and the equipment does not work properly even after turning the power back on, please contact us (listed at the end of this paper).
- If the device feels warm or you feel something unusual on your skin, remove it from your skin immediately.
- Horizontal lines may be visible on the outside of the image, but this is not abnormal.
- If the device is too hot or cold, the video output will automatically turn off and the main unit's power will turn off.
Allow the device temperature to adjust over a period of time, then press the ON/OFF (power) button again to turn on the power.
- Depending on eye conditions, it may be difficult to recognize images (e.g., if the function of the retina is totally impaired).

10. For the customers in the U.S.A.

- Inquiries about repair/handling
Please review the Instruction Manual, including the Troubleshooting section.
- Inquiries about products
Please contact us at the following address.

Supplier's Declaration of Conformity

Trade Name : QD Laser

Model : QLEWS40-24

Responsible Party : QD Laser America, Inc.

Address : 8721 SANTA MONICA BLVD. #844, LOS ANGELES, CA 90069

Phone : +1(424)365-9870

E-mail : retissa@qdlaser.com

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to protect reasonably against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, 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 antenna.

Increase the separation between the equipment and the receiver. Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.