

# Instructions

---

# **IPLEX TX II**

Industrial endoscope

*IV10200T*


*IV10212TF*

*IV10212TR*

Industrial  
endoscope

Introduction .....	1
Purpose of use of this product .....	1
Instruction manual .....	1
Product configuration .....	1
Safety precautions .....	2
Safety Precautions - General Precautions .....	2
Safety Precautions - Precautions regarding lighting .....	6
Rating indication/Caution indication .....	8
Label position for each unit .....	8
1. Packed items .....	11
2. Nomenclatures .....	12
3. Preparation and inspection before operation .....	16
3.1 Preparing the product .....	16
3.1.1 Removing the control unit from the carrying case .....	16
3.1.2 Attaching the scope unit to the control unit .....	16
3.2 Connecting the control unit and tablet .....	18
3.3 Installing the TX II software .....	18
3.3.1 Installing the TX II software .....	18
3.3.2 Activate the TX II software .....	18
3.3.3 Non-recommended applications .....	19
3.4 Attaching/removing the protection sleeve to/from the rigid scope .....	20
3.5 Attaching/Removing the Grip Extender to/from the Rigid Scope .....	22
3.6 How to use the protection box .....	23
3.7 Attaching/removing protection braid to/from flexible scope ..	25
3.8 Pre-operation/post-operation inspection .....	26
4. Basic operations .....	27
4.1 Start TX II software .....	27
4.2 TX II software operations and functions .....	27
4.2.1 Switching operation modes .....	27
4.2.2 Control unit operation and functions .....	28
4.2.3 Menu Button Operations and Functions .....	30

4.3 Observing the inspection object .....	31
4.4 Operating the flexible scope unit .....	31
4.5 Adjusting a live image display .....	33
4.5.1 Freeze (freezes a live image) .....	33
4.5.2 Changing gain mode .....	33
4.5.3 Adjusting white balance .....	34
4.5.4 Zoom (magnifying images) .....	34
4.5.5 Adjusting brightness .....	34
4.5.6 Adjusting sharpness .....	35
4.5.7 Adjusting color .....	35
4.5.8 Saving and switching scene settings .....	36
4.6 System settings .....	36
4.6.1 Displaying the system settings screen .....	36
4.6.2 Selecting screen display .....	37
4.6.3 Setting the destination folder .....	37
4.6.4 Checking the TX II software version .....	38
4.7 Recording images .....	38
4.8 Recording still images .....	39
4.9 Video recording .....	39
4.10 Playing back images .....	41
4.10.1 Playback screen display .....	41
4.10.2 Operation of the playback screen and its functions .....	41
<b>5. Troubleshooting .....</b>	<b>43</b>
5.1 How to recognize abnormalities and how to deal with them .....	43
5.1.1 About error messages .....	43
5.1.2 When these symptoms occur .....	44
5.2 When requesting repair of this product .....	44
<b>6. Maintenance .....</b>	<b>45</b>
6.1 Cleaning each part .....	45
6.1.1 Cleaning the inserting part .....	45
6.1.2 Cleaning the tip .....	45
6.1.3 Cleaning other units .....	45
6.2 Storing the devices in the cases .....	46
6.2.1 Storing the tablet in the carrying case .....	46
6.2.2 Storing the product in the carrying case .....	47
<b>7. Specifications .....</b>	<b>49</b>



7.1 Operating environment .....	49
7.2 Main Specifications .....	50
7.3 Recommended operating environment for tablet .....	53
7.4 External applicable standards .....	53
7.5 Application license information .....	54
7.6 Using open source software .....	55
7.7 Software including AVC Patent .....	55
System diagram .....	56

## Introduction

### Purpose of use of this product

This product is intended for observing and inspecting the inside of machines, equipment, materials, etc. under normal circumstances without destroying them.

### Instruction manual

This instruction manual contains information to help you understand how to operate and handle this product and use it safely.

Please read this instruction manual carefully before use and use the product correctly. After reading it, keep this manual in a safe place together with the warranty card, and read it when necessary. Also read the operating instructions for your tablet.

If you have any questions or concerns regarding the contents of this instruction manual, please contact the store where you purchased the product, our branch office, or sales office.

### Product configuration

Please refer to "System diagram " (page 56) for the configuration of devices that are necessary for this product and devices that can be combined with this product.

Please note that if you use the product in combination with options other than those shown in the system diagram or separately sold products, not only will it not work properly, but it may also damage the equipment.

## Safety precautions

If this product is used in a manner other than that described in the instruction manual, safety cannot be guaranteed and there is a risk of malfunction. If the product is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. Please use this product in accordance with this instruction manual.

The following symbols are used in this instruction manual.

---

### **Danger:**

Indicates an imminently hazardous event may occur, which will result in death, serious injury, or damage to the inspected object if not observed.

---

---

### **WARNING:**

Indicates a potentially hazardous event may occur which could result in death, serious injury, or damage to the inspected object if not observed.

---

---

### **CAUTION:**

Indicates an event may occur which could result in moderate (or mild) injury or property damage if not observed.

---

---

### **NOTE:**

Indicates an event may occur that could lead to malfunction of the product if not observed.

---

---

### **TIP:**

Indicates useful knowledge and information for use.

---

## Safety Precautions - General Precautions

Strictly observe the following precautions when handling this product. In addition, each chapter also has its own cautions, so be sure to take note of them as well. Safety cannot be guaranteed if the product is used in a manner other than that described.

---

### **Danger:**

#### **Never use the product to observe body cavities in humans or animals**

The humans or animals may be killed or seriously injured.

#### **Never use the product in the following environments**

- Locations where there is a flammable atmosphere
- Locations with dust such as metal dust

An explosion or fire may occur.

---

**⚠Danger:****Caution for cleaning**

As pure alcohol and isopropyl alcohol used for cleaning are highly flammable, keep them away from fire and do not turn ON/OFF the main switches of the various electrical devices. Also, pay attention to ensuring ventilation of the room.

---

**⚠WARNING:****Do not repair, disassemble or modify the product**

Never attempt to repair, disassemble, or modify this product as it may result in personal injury or damage to this product. Repairs cannot be performed by anyone other than those authorized by our company. We are not responsible for any accidents or damage to the device caused by repairs by anyone other than those authorized by us.

**Stop using the product immediately if there is any abnormality such as heating up, smoke, a strange odor, or abnormal noise**

Even if the product can be operated, do not turn on the power.

**Do not insert the inserting part into an object for inspection that is in operation or energized**

The inserting part may be caught in the object and get damaged, or it may come into contact with the object to cause an electric shock.

**Never use a gas pipe as a ground**

It may cause an explosion.

---

**⚠CAUTION:****Do not use this product in an environment other than the specified environments (including locations with strong radiation)**

Using the device even in a weakly radioactive environment may degrade the performance of the device.

Please contact your local representative concerning the effect of radiation dose on the product.

**Do not use the device near sources of strong electromagnetic radiation**

Proper operation may be disrupted. Check the electromagnetic environment before using the product.

**Do not hold the operating part for an extended period when using in an environment with a high operating temperature**

Low-temperature burns may occur. Wear gloves to prevent low-temperature burns.

---

**⚠CAUTION:**

**Pay attention to the following when transporting the product to a high place or using it at height**

- Inspect the product in advance
- Take fall prevention measures
- Give due consideration to safety

**When used in a high temperature atmosphere, pay close attention to the temperature of the tip and inserting part as they will not cool down immediately after use**  
They may cause burns.

**Be careful not to get your feet caught on the cords such as the inserting part and cables**

**If you feel any abnormality during insertion, do not try to insert the device forcibly any further and gently pull out the inserting part**

Note the following when pulling out the inserting part

- Do not pull it out from the inspection object while the inserting part is curved
- If the inserting part is caught during withdrawal, pull it out while turning the part gently

**Pay attention to the following points when handling the tip of the inserting part**

- Do not drop or make an impact on the tip
- Do not hit the tip on other objects or pull the tip
- Do not move around while holding the tip
- Do not squash or fold the curved part

Since it is composed of glass lenses and precision parts, it may be damaged.

**If you feel any abnormality during bending operation, do not try to bend the product forcibly**

Otherwise, the inserting part or inspection object may be damaged.

**Do not insert metal or other foreign objects into the product through gaps such as connector terminals**

Otherwise, it may be damaged and an electric shock may occur.

**Do not use underwater, wash under running water, or splash water on parts other than the inserting part**

An electric shock may occur. Do not use or store the product under water.

**Wear safety glasses when directing air from the air connection part of the protection sleeve**

If you connect an air tube or pump to the air connection part of the protection sleeve and send air, there is a risk that liquid or dust will spatter. Wear safety glasses to avoid eye injury.



---

**NOTE:****Do not store the product in the following locations**

- High temperature, high humidity, dusty environments
- Locations exposed to direct sunlight or radiation
- Locations exposed to gases containing halides \*1

The product may break down.

**\*1 The performance of certain electrical components may be degraded by the effects of halides contained in insecticides, herbicides, gas fire extinguishers, etc.**

**Do not continue to use the product with dew condensation**

Condensation may form inside the unit when there is a sudden change in temperature, for example, when the product is moved from the cold outdoors into a warm room. If dew condensation occurs, turn off the power, allow the product to adjust to the temperature of the operating environment, and use it after the dew condensation disappears as using the product with dew condensation may cause it to malfunction.

**Do not insert the inserting part into the inspection object in an environment with a temperature exceeding the operating temperature range**

If you continue to use the product, it may cause a malfunction or performance deterioration.

**Do not use the product with contaminants on its outer surface**

Otherwise, it may cause malfunction or performance degradation.

**Do not cover the product with plastic bags, etc.**

The inside may not be cooled sufficiently, which may cause damage.

**Do not allow liquids other than water, salt water, machine oil, and light oil to adhere to the inserting part**

The inserting part may be damaged.

**Pay attention to the following when handling each terminal of this product**

- Do not touch the terminals directly
- Do not allow dirt or water droplets to adhere to the terminals

**Be careful not to allow splashed water droplets to come into contact with the terminals**

Be careful not to allow water droplets to come into contact with the terminals of the control unit and scope unit. The product may break down.

**Pay attention to the following when removing the product from the carrying case**

- Do not pull up the product by holding the inserting part

The product may be damaged.

**Do not strongly pull on the inserting part or other cables, or move around while holding them**

---

**NOTE:****Pay attention to the following when storing the product in the carrying case**

- Release the angle lock lever of the flexible scope unit before storing it.
- Allow the tip to cool down before storing
- Store the product after confirming that the inserting part is not twisted

**Do not lift the carrying case when the lid is not closed****Attach and remove the scope unit and control unit when the TX II software is not running****Do not change the file and folder attributes and access privilege settings after the software has been installed****When using the TX II software, do not change file names, delete files or change folder names by using other software****Exit the TX II software before changing file names or folder names.**

To delete a file, use the TX II software "Erase images/videos " (page 42), or exit the TX II software before deleting a file

**When using the tablet without the AC adapter connected, make sure the battery is fully charged****If the battery runs out and the tablet shuts down while recording a video, the video will not be saved correctly****Follow local ordinances or regulations when disposing of this product**

---

## Safety Precautions - Precautions regarding lighting

This product uses high-intensity lighting to ensure sufficient brightness for observing a subject for inspection. When the illumination of this product is on, a very strong light is emitted from the distal end of the insertion section of the scope unit, so make sure to strictly observe the following precautions.

---

** CAUTION:****Do not turn on the light unless it is necessary**

If the illumination light enters the eyes, the eyes may be injured. Even if the illumination light is visible at the edge of the field of view, prolonged exposure may cause eye injury.

In situations where illumination light may enter the eyes, do not turn on the lights unless it is necessary.

**Don't stare at the light**

The eyes may be injured. Even if looking at the illumination light from an angle or from the side, there is a risk of injury to your eyes if you look at the light for an extended period.

---

**⚠CAUTION:****Do not look at the reflected light of the illumination light**

Depending on the shape of the reflective surface, the reflected light of the illumination light may be focused, and if it enters the eye, the eyes may be injured.

**If there are people around, draw their attention to the precautions in this chapter.**

Otherwise, their eyes may be injured.

**Do not leave the tip of the insertion part near flammable substances for an extended period while the illumination is on.**

Doing so may cause a fire.

# Rating indication/Caution indication

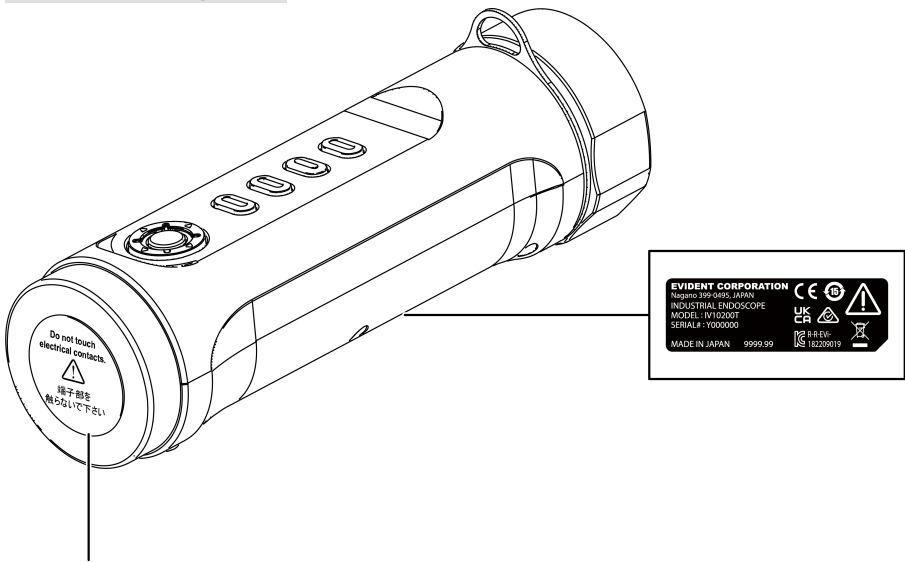
## Label position for each unit

A label affixed to this product provides safety ratings, cautions, and the serial number for safety purposes.

Consider the meaning of the safety symbol mark and ensure safe handling of the product.

If there is no display or if the display is unclear, please contact the store where you purchased the product, our branch office, or sales office.

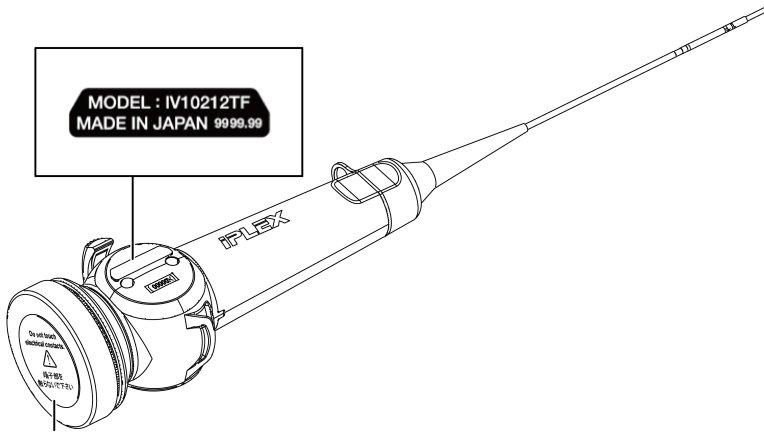
### Control unit label position



### **⚠ CAUTION:**

Never touch electrical contacts or apply static electricity to them.

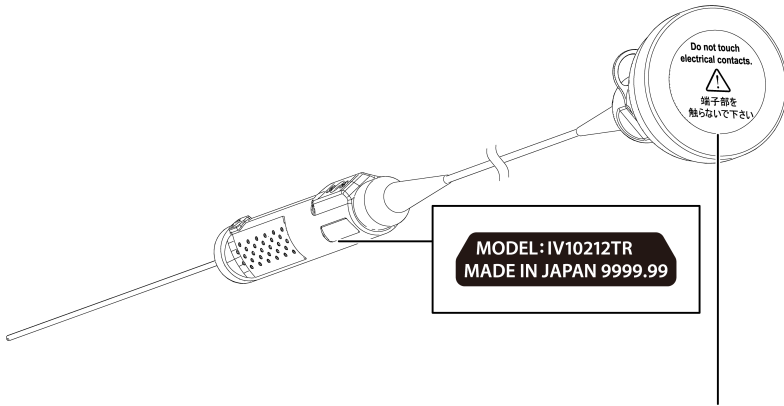


**Flexible scope unit label position****⚠CAUTION:**

Never touch electrical contacts or apply static electricity to them.



### Rigid scope unit label position

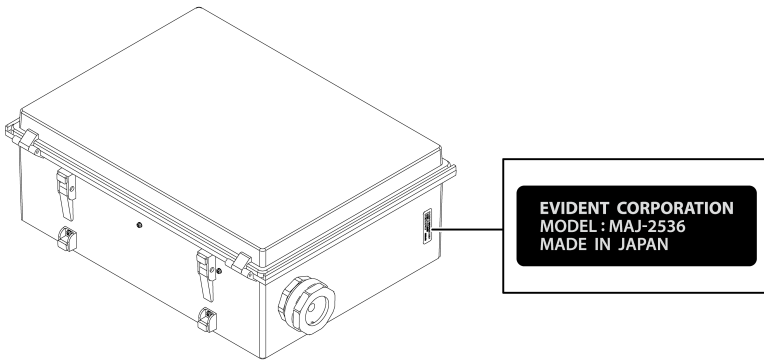


### ⚠CAUTION:

Never touch electrical contacts or apply static electricity to them.



### Protection box label position



# 1. Packed items

When you receive this product, check that the following accessories are included.

If anything is missing or damaged, contact the store where you purchased the product or our branch or sales office.

## Control unit

Product name	Quantity
Control unit body	1
Carrying case	1
Shoulder belt	1
Instructions	1

\* See "Storing the product in the carrying case " (page 47) for information on how to store the device in the carrying case.

## Flexible scope unit

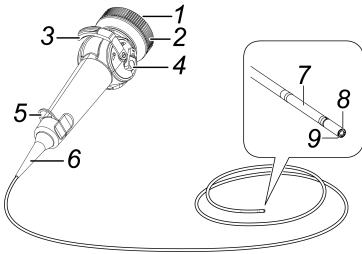
Product name	Quantity
Flexible scope unit body	1
Lens cleaning kit (cotton swab, brush)	1
Instructions	1

## Rigid scope unit

Product name	Quantity
Rigid scope unit body	1
Lens cleaning kit (cotton swab, brush)	1
Instructions	1

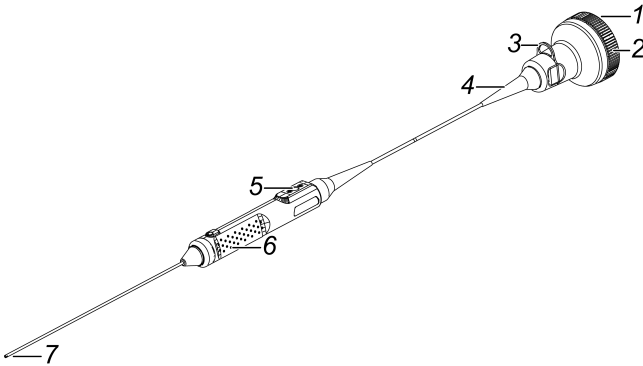
## 2. Nomenclatures

Flexible scope unit



Number	Nomenclature
1	Protective cap
2	Fixing ring
3	Angle lever
4	Angle lock lever
5	Strap hole
6	Folding stopper
7	Articulation section
8	Illumination
9	Objective

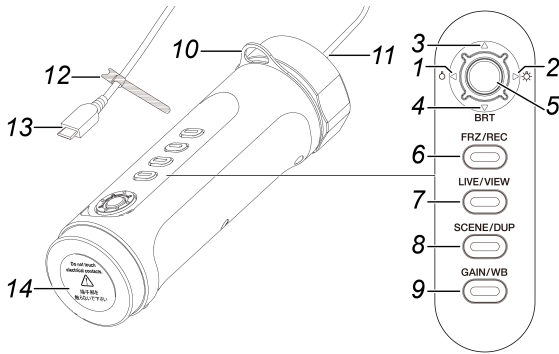
Rigid scope unit



Number	Nomenclature
1	Protective cap
2	Fixing ring
3	Strap hole
4	Folding stopper
5	Camera screw hole
6	Grip
7	Tip

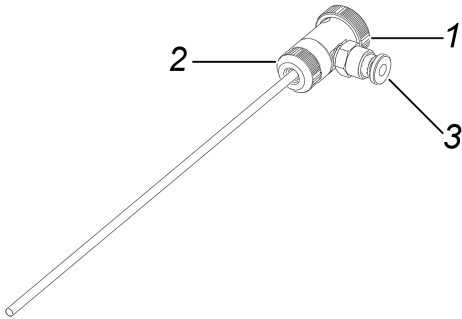


## Control unit



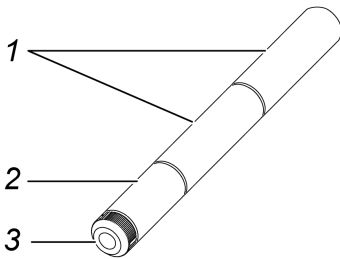
Number	Nomenclature
<b>1</b>	D-pad [L]
<b>2</b>	D-pad [R]
<b>3</b>	D-pad [U]
<b>4</b>	D-pad [D]
<b>5</b>	[ENT/MODE] button
<b>6</b>	[FRZ/REC] button
<b>7</b>	[LIVE/VIEW] button
<b>8</b>	[SCENE/DUP] button
<b>9</b>	[GAIN/WB] button
<b>10</b>	Strap hole
<b>11</b>	USB cable part
<b>12</b>	Magic band (for cable bundling)
<b>13</b>	Connector for USB
<b>14</b>	Protective cap

Protection sleeve



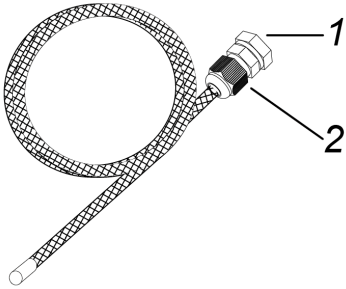
Number	Nomenclature
<b>1</b>	Fixing ring
<b>2</b>	Protection ring
<b>3</b>	Air connecting part

Grip extender



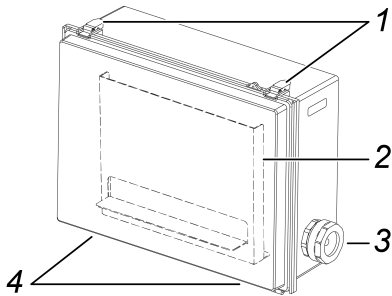
Number	Nomenclature
<b>1</b>	48mm grip
<b>2</b>	30mm grip
<b>3</b>	Protection ring

Protection braid



Number	Nomenclature
1	Braid stopper
2	Tightening screw

Protection box



Number	Nomenclature
1	Locking latch
2	Tablet stand
3	Nut
4	Stand

# 3. Preparation and inspection before operation

Be sure to perform the preparations and inspections described in this chapter before use. If you encounter any abnormality, please stop using it immediately and follow the procedures in "Troubleshooting " (page 43).

Also, perform inspections not only before use, but also on a periodic basis.

---

**NOTE:**

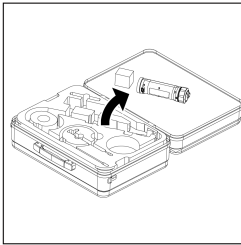
Be sure to turn off the power before performing preparations and inspections before operation.

---

## 3.1 Preparing the product

### 3.1.1 Removing the control unit from the carrying case

- 1. Remove the control unit and spacer cushion from the carrying case.**



---

**NOTE:**

The spacer cushion is necessary for repackaging the product. Store it in empty space in the carrying case.

---

### 3.1.2 Attaching the scope unit to the control unit

- 1. Remove the scope unit from the packing box.**
- 2. Remove the protective caps from the control unit and scope unit.**

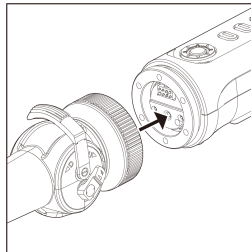
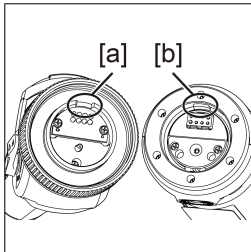
---

**NOTE:**

Store the protective caps in an empty space in the carrying case.

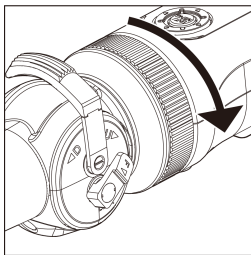
---

- 3.** Check whether there is no foreign body such as dust adhering to the terminals of the control unit and scope unit.
- 4.** Align the cutout [a] on the scope unit side with the projection [b] on the control unit side and connect them, and push the fixing ring in the direction of the arrow to bring it into contact with the control unit.



The illustration shows a flexible scope to explain how.

- 5.** Tighten the fixing screw of the scope unit to fix it.



---

**NOTE:**

Make sure that the fixing screw of the scope unit is securely tightened.

---

## 3.2 Connecting the control unit and tablet

- 1. Connect the USB cable of the control unit to your tablet.**

---

**NOTE:**

Connect the USB cable of the control unit without using a USB hub or similar. Connecting the USB cable via a USB hub may cause unstable operation.

---

## 3.3 Installing the TX II software

### 3.3.1 Installing the TX II software

- 1. Download the TX II software ZIP file from the download site below.**

<https://www.olympus-ims.com/service-and-support/downloads/>

- 2. Extract the ZIP file.**

---

**NOTE:**

- Please specify the internal storage of the tablet as the extract destination.
  - Do not delete, move, or rename the unzipped files or folders.  
When the software is closed, a bin file that contains setting information will be generated. Do not delete this file, either.
- 

### 3.3.2 Activate the TX II software

- 1. Connect a non-activated control unit to the tablet.**

- 2. Double-click the icon to start the TX II software.**

A key code input dialog is displayed.



**3. After entering the key code using the mouse or touch operation, click <EXECUTE>.**

The key code is included in the separately purchased software license MAJ-2539. When activation is complete, the main screen of TX II software will be displayed.

### 3.3.3 Non-recommended applications

Live observation is also possible using the camera application implemented as standard on the tablet.

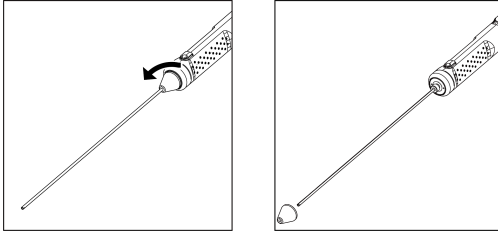
For details on how to use the camera application, please refer to the help section of the tablet.

For live observation using the camera application implemented as standard on the tablet, the following adjustments can be made using the buttons on the control unit. Please note that there are restrictions on the available operations and operations are not guaranteed.

Button	Function
D-pad [U]	Increases brightness by one step.
D-pad [L]	Dims light intensity by one step.
D-pad [R]	Brightens light intensity by one step.
D-pad [D]	Decreases brightness by one step.
[GAIN/WB] button	Adjusts white balance.

## 3.4 Attaching/removing the protection sleeve to/from the rigid scope

1. Remove the folding stopper from the rigid scope unit by rotating it counterclockwise.

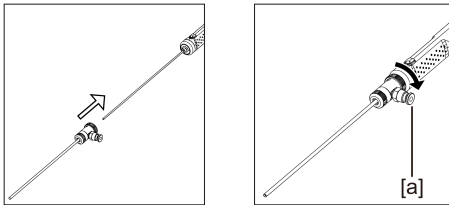


**TIP:**

Store the folding stopper in empty space in the carrying case.

2. Attach the protection sleeve to the rigid scope unit.

Pass the protection sleeve from the tip of the rigid scope unit and fix it by turning the fixing ring clockwise.



**TIP:**

You can connect an air tube, pump, etc. prepared by the customer to the air connection part [a] of the protection sleeve to blow off water droplets and oil droplets on the tip.

Specifications

- Air tube diameter:  $\varnothing 4$  mm
- Maximum air pressure: 0.7 MPa/Recommended air pressure: 0.5 MPa



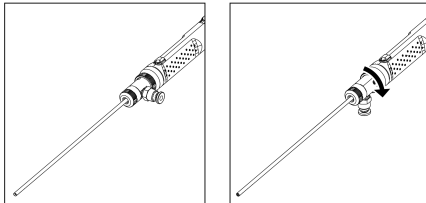
**TIP:**

Part of the field of view may be lost when the protective sleeve is attached.



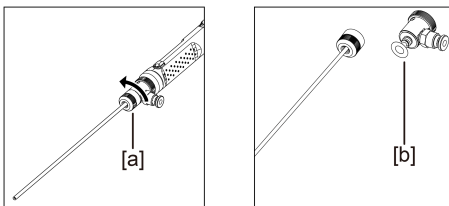
If part of the field of view is missing, try the following two adjustments.

- **Rotate everything except the retaining ring.**  
Observe at a position that does not block the field of view.



- **Remove the protective ring [a] by rotating it counterclockwise. Remove the washer [b], and then rotate the protection ring [a] clockwise to attach it.**

Up to three washers [b] can be removed, but be careful not to let the tip of the scope protrude from the sleeve. Using the scope tip protruding from the sleeve may damage the scope.

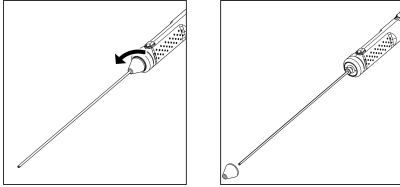


**How to remove the protection sleeve**

Remove the protective sleeve by doing the installation procedure in reverse.

## 3.5 Attaching/Removing the Grip Extender to/from the Rigid Scope

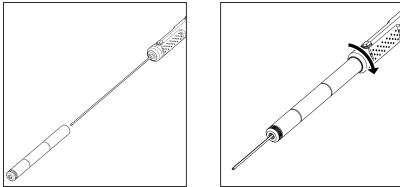
1. Remove the folding stopper from the rigid scope unit.



**TIP:**

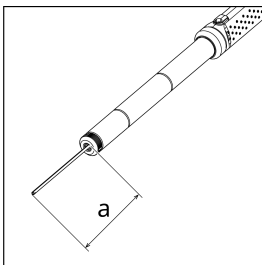
Store the folding stopper in empty space in the carrying case.

2. Put the grip extender through the tip, bring it into contact with the rigid scope and rotate it to fix it.



**TIP:**

Grips of any lengths can be combined to use.



Scope length [a] (Unit: mm)	Grip extender (number used)	
	30mm grip	48mm grip
180	0	0
156	1	0
138	0	1
108	1	1
90	0	2
60	1	2

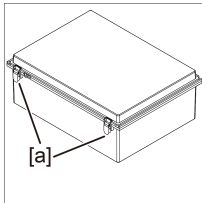
### How to remove the grip extender

Remove the Grip Extender by following the steps for attaching it in reverse order.

## 3.6 How to use the protection box

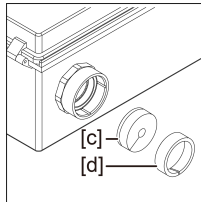
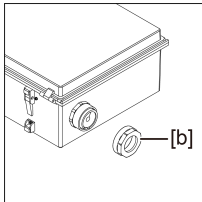
Using a protection box ensures a dust-proof and drip-proof structure equivalent to IP52 even when a tablet is connected.

1. Remove the two lid lock latches [a] on the front of the protection box and open the lid.

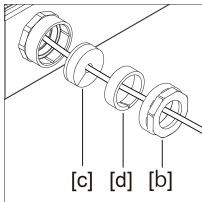


2. Place the tablet on the tablet stand.

3. Remove the side nuts [b] and remove the packing [c] and packing stop [d].



4. Pass the USB cable of the control unit through the nut [b], the packing stop [d], and the packing [c] in this order. When connecting an AC adapter or an external monitor to the tablet, pass their cables as well.



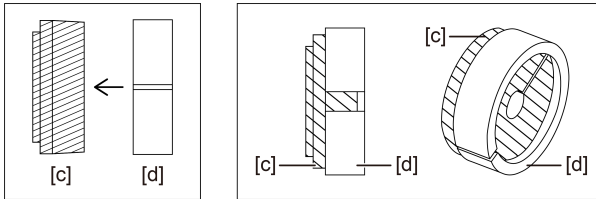
5. Combine the packing [c] with the packing stopper [d] and attach the nut [b] to the protection box.

---

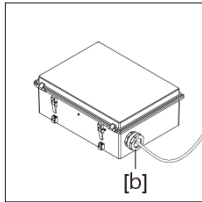
**NOTE:**

Push the packing stop [d] to the level of the tapered part of the packing [c] when putting them together. The nut [b] cannot be attached if the packing stop is pushed in too little or too much.

When pushing the packing stop [d] in, make sure that the slit part of packing [c] and that of packing stopper [d] are diametrically opposite to each other. If the packing [c] slit is not covered by the packing stop [d], water resistance cannot be guaranteed.



**6. Tighten the nut [b].**



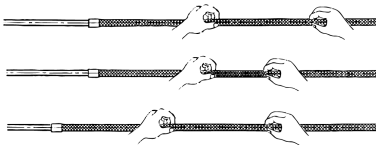
**7. Close the lid and install the lid locking latches (2).**

### 3.7 Attaching/removing protection braid to/from flexible scope

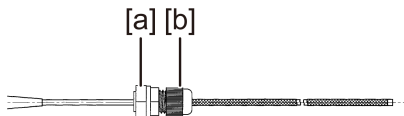
#### ⚠CAUTION:

- Before attaching the protection braid to the scope insertion part, make sure the protection braid is not damaged.
- To protect the scope insertion part, slowly insert the scope into the protection braid.
- Make sure the protection braid is securely fixed to the scope. If it is not securely fixed, the protection braid will easily come off from the scope insertion part, and the protection braid may fall off and damage the scope.
- If the protection braid is fixed in an overstretched state, the flexible scope will not bend. Also, if the protection braid is fixed loosely, the field of vision will be blocked. Fix it in a suitable position so that the protection braid is not overstretched and not too loose.

- 1. With the scope insertion section extended, insert the protection braid into the tip of the scope.**
- 2. Cover the scope insertion part with the protection braid while alternately pulling and pushing the protection braid along the scope as shown in the figures.**



- 3. After covering the scope insertion part with the entire length of the protection braid, insert the braid stopper [a] and clamping screw [b] onto the scope insertion part, and tighten the clamping screw [b] of the braid stopper [a] firmly.**



### How to remove the protection braid

- 1. Release the angle lock lever of the scope and straighten the curved part of the scope.**
- 2. Loosen the clamping screw of the braid stopper and slowly pull out the protection braid from the scope.**

#### **⚠CAUTION:**

- Do not pull out the protection braid with the scope angle lever locked or with your finger on the angle lever.
- The scope may be damaged. In order to protect the scope insertion part, it is recommended to keep the protection braid attached to the scope insertion part at all times.

## 3.8 Pre-operation/post-operation inspection

#### **NOTE:**

- Check the inspection items even after using the machine.

Inspection	Item	Troubleshooting
whole	<input type="checkbox"/> Is there foreign matter such as dust or sand adhering to the insertion tube or each unit?	"Maintenance " (page 45)
	<input type="checkbox"/> Are there any cracks or scratches on the insertion tube or each unit?	Replacement is required.
	<input type="checkbox"/> Are there any cracks, deformations, or other abnormalities in the exterior materials or buttons?	Please contact your dealer, our branch or sales office.
	<input type="checkbox"/> Are there any abnormalities such as cuts or buckling in the cable?	
Carrying case	<input type="checkbox"/> Is there any damage or looseness on the exterior parts of the carrying case, handles, latches, etc.?	Please contact your dealer, our branch or sales office.
	<input type="checkbox"/> Are you using a dedicated carrying case? If you use a case other than the dedicated case, the product may be damaged or malfunction.	

# 4. Basic operations

## 4.1 Start TX II software

### Double-click the icon to start the TX II software.

To end the TX II software, click the close button (X button) and exit the TX II software.

#### NOTE:

- When using the TX II software, the tablet and control unit must be connected.
- Proper operation cannot be guaranteed if other applications are operated while the TX II software is running.

## 4.2 TX II software operations and functions





For buttons with multiple functions assigned, their functions differ depending on how long they are pressed. In this manual, the action of pressing the button briefly is referred to as "briefly press", and the action of pressing the button for about 1 second is referred to as "press and hold".

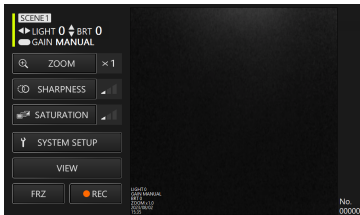
### 4.2.1 Switching operation modes

TX II software has a "remote control mode" and "GUI mode". Each time you press and hold the [ENT/MODE] button on the control unit, you can toggle between the "remote control mode" and "GUI mode".

The mode at startup is "remote control mode".

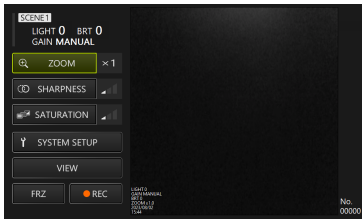
#### Remote control mode

On the upper left of the TX II software screen, , , , and  are displayed.



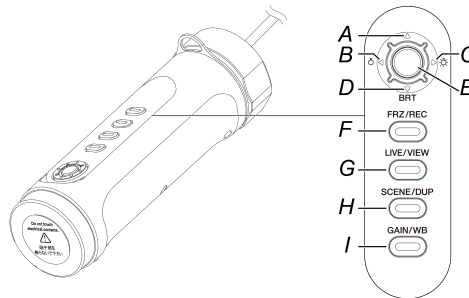
#### GUI mode

On the upper left of the TX II software screen, , , , and  are hidden and a selected item is highlighted in yellow.



## 4.2.2 Control unit operation and functions

The functions of the control unit switch between "remote control mode" and "GUI mode". For detailed functions, please check the reference in the function description reference column.



### Remote control mode

	Button		Function	Function description reference
(A)	D-pad [U]	Briefly press	Increases brightness by one step.	"Adjusting brightness" (page 34)
(B)	D-pad [L]	Briefly press	Dims light intensity by one step.	
(C)	D-pad [R]	Briefly press	Brightens light intensity by one step.	
(D)	D-pad [D]	Briefly press	Decreases brightness by one step.	
(E)	[ENT/MODE] Button	Press and hold	Switches between "remote control mode" and "GUI mode".	"Switching operation modes" (page 27)
(F)	[FRZ/REC]	Briefly	Switches between a live image and	"Freeze (freezes



	Button	press	frozen image during observation.	a live image) " (page 33)
		Press and hold	Saves a still image on the frozen screen. A video recording confirmation dialog appears on the live screen.	
<b>(G)</b>	[LIVE/VIEW] Button	Briefly press	Shows live videos.	"Playing back images " (page 41)
		Press and hold	Switches between a live video and view screen.	
<b>(H)</b>	[SCENE/DUP] Button	Briefly press	Switches between <SCENE1> and <SCENE2>.	"Saving and switching scene settings " (page 36)
		Press and hold	Copies selected scene settings to unselected scene settings.	
<b>(I)</b>	[GAIN/WB] Button	Briefly press	Switches the gain mode between <AUTO> and <MANUAL>. Not available for frozen screens.	"Changing gain mode " (page 33)
		Press and hold	Adjusts white balance. Not available for frozen screens.	

**GUI mode**

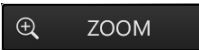






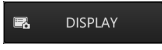
In GUI mode, buttons other than the following do not work.




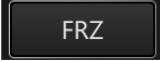


	Button		Function
<b>(A)</b>	D-pad [U]	Briefly press	Moves cursor up
<b>(B)</b>	D-pad [L]	Briefly press	Moves cursor left
<b>(C)</b>	D-pad [R]	Briefly press	Moves cursor right
<b>(D)</b>	D-pad [D]	Briefly press	Moves cursor down
<b>(E)</b>	[ENT/MODE] Button	Briefly press	Confirm
		Press and hold	Switches between "remote control mode" and "GUI mode".

### 4.2.3 Menu Button Operations and Functions

You can operate the button using the touch panel of the tablet or your mouse. (In some operations, the buttons on the control unit are also used.)

For detailed functions, please check the reference in the function description reference column.

Menu button	Function	Function description reference
<ZOOM> 	<b>Changes the zoom factor.</b> Changes the magnification between x1 and x2 (i.e., two levels). Only available in GUI mode.	"Zoom (magnifying images)" (page 34)
<SHARPNESS> 	<b>Adjusts the sharpness of the image.</b> Images become sharper as the button is moved to the right (with three levels of sharpness). Not available for frozen screens. Only available in GUI mode.	"Adjusting sharpness" (page 35)
<SATURATION> 	<b>Adjusts and displays the colors of the observation images.</b>  <b>Black and White:</b> displays the images in black and white.  <b>Standard:</b> displays standard observation images.  <b>Dark:</b> displays generally darker images. Not available for frozen screens. Only available in GUI mode.	"Adjusting color" (page 35)
<SYSTEM SETUP> 	<b>Displays the system settings screen.</b>	"Displaying the system settings screen" (page 36)
<DISPLAY> 	<b>Allows you to select information displayed on the screen.</b> <ZOOM> <BRIGHT> <LIGHT> <GAIN> <DATE/TIME> <LOGO> display can be selected individually.	"Selecting screen display" (page 37)
<CHANGE>	<b>Allows you to select where to save</b>	"Setting the

Menu button	Function	Function description reference
FOLDER> 	<b>images/videos.</b>	destination folder " (page 37)
<VERSION> 	<b>Shows version information.</b> Displays the TX II software version.	"Checking the TX II software version " (page 38)
<VIEW> 	<b>Displays images and videos.</b> Displays saved images and videos.	"Playing back images " (page 41)
<FRZ> 	<b>Switches between a live screen and frozen screen.</b> An icon  is displayed on the upper right of the screen when the screen is frozen.	"Freeze (freezes a live image) " (page 33)
<REC> 	<b>Starts video recording</b> Starts video recording of observation images on the live screen. <b>Saves still images</b> Saves a still image on the frozen screen.	"Recording images " (page 38)

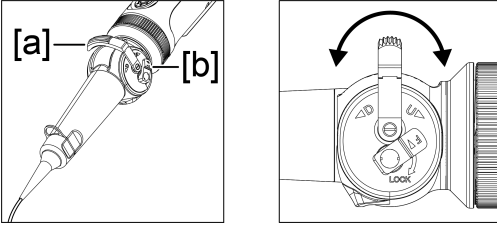
### 4.3 Observing the inspection object

- 1. While watching a live image, insert the inserting part into the inspection object.**  
Carefully check the direction of insertion and insert slowly.
- 2. Observe the relevant areas.**  
At this time, do not forcefully push, twist, or pull the inserting part.  
Adjust and record images as necessary.
- 3. While watching the live image, slowly pull out the inserting part from the inspection object.**

### 4.4 Operating the flexible scope unit

You can make articulation mechanics and observe relevant parts.

Release the locked bending portion using the angle lock lever [b], and operate the angle lever [a] to make articulation mechanics.



---

**TIP:**

- When the bending portion is locked, the angle lever [a] becomes heavy, so use this mode of operation when you need to perform precise articulation mechanics.
  - In a low temperature environment, it tends to be difficult to bend the articulation section to an appropriate angle.
-

## 4.5 Adjusting a live image display

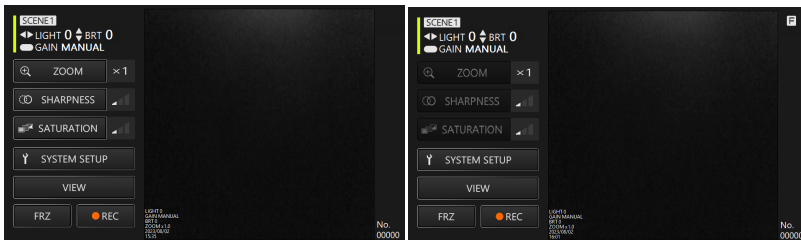
### 4.5.1 Freeze (freezes a live image)

The freeze function freezes a live image. The freeze icon (F) is displayed on the upper right while the image is frozen. Do not insert or withdraw the inserting part while the image is frozen.

#### Operation in remote control mode

Briefly press the [FRZ/REC] button on the control unit.

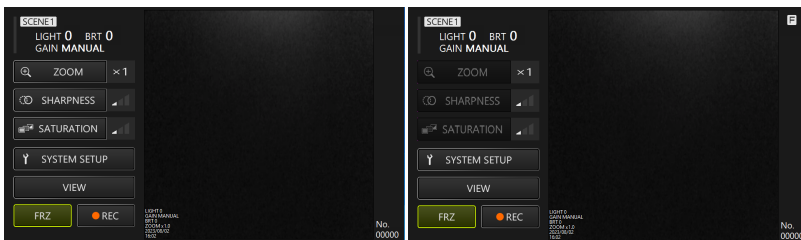
To cancel the frozen state, briefly press the [FRZ/REC] button on the control unit in remote control mode.



#### Operation in GUI mode

Click/tap the <FRZ> button on the tablet while the live image is displayed.

To cancel the frozen state, click/tap the <FRZ> button on the tablet.



#### TIP:

Freezing an image in motion may distort the image.

### 4.5.2 Changing gain mode

There are two types of gain mode, <MANUAL> and <AUTO>.

- 1. In GUI mode, press and hold the [ENT/MODE] button on the control unit to switch to remote control mode.**
- 2. The gain mode is changed each time you briefly press the [GAIN/WB] button on the control unit.**

The brightness that can be adjusted varies depending on the types of gain mode. See "Adjusting brightness" (page 34) for details. This function is not available when the image is frozen.

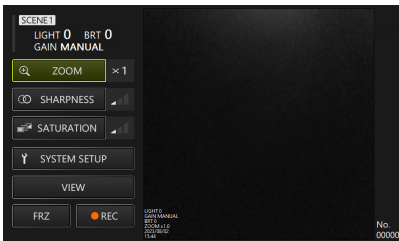
#### 4.5.3 Adjusting white balance

- 1. In GUI mode, press and hold the [ENT/MODE] button on the control unit to switch to remote control mode.**
- 2. Press and hold the [GAIN/WB] button on the control unit.**

Adjusts white balance. This function is not available when the image is frozen.

#### 4.5.4 Zoom (magnifying images)

With the <ZOOM> button selected with the d-pad on the control unit, press the [ENT/MODE] button briefly, or click/tap the <ZOOM> button on the tablet to switch display magnification. Two levels of magnification (1x and 2x) are available.



#### 4.5.5 Adjusting brightness

In GUI mode, press and hold the [ENT/MODE] button on the control unit to switch to remote control mode.

- **Adjusting light intensity/turning on light/turning light off with the d-pad [L] or [R]**

Adjust brightness when changing the overall brightness of a live image under observation.

Each time the d-pad [L] is pressed briefly, the image becomes darker by one level, and finally the light goes off.

Each time the d-pad [R] is pressed briefly, the image becomes brighter by one level. When this is done in lights-off state, the light comes on.

Light intensity can be adjusted in 4 stages (lights-off + 3 levels).

- **Adjusting brightness with the d-pad [D] or [U]**

Adjust brightness when changing the overall brightness of a live image under observation.

Each time the d-pad [D] is pressed briefly, brightness decreases by one level.

Each time the d-pad [U] is pressed briefly, brightness increases by one level.

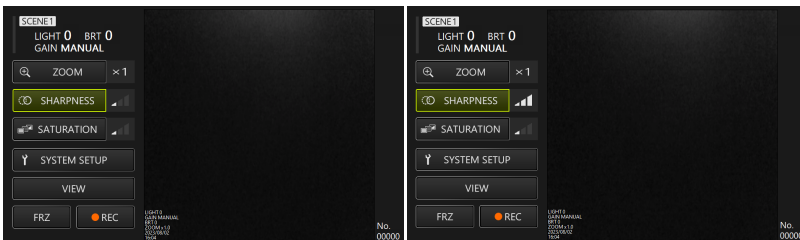
Brightness can be adjusted with gain mode as shown below.

- With <AUTO>: 1 to 8 levels
- With <MANUAL>: 1 to 12 levels

#### 4.5.6 Adjusting sharpness

The edge of the image can be highlighted.

With the <SHARPNESS> button selected with the d-pad on the control unit, press the [ENT/MODE] button briefly, or click/tap the <SHARPNESS> button on the tablet to switch edge enhancement level. Edge enhancement can be adjusted in 3 stages.



#### 4.5.7 Adjusting color

With the <SATURATION> button selected with the d-pad on the control unit, press the [ENT/MODE] button briefly or click/tap the <SATURATION> button on the tablet to adjust color. Color can be adjusted in 3 stages.



## 4.5.8 Saving and switching scene settings

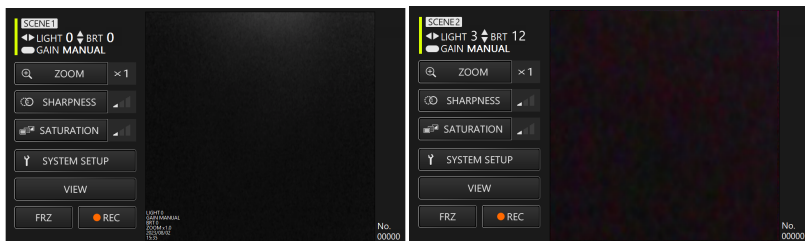
Scene settings retain light intensity, brightness, gain mode, zoom, sharpness, and color adjustment settings, and update them when you change each setting.

- 1. In GUI mode, press and hold the [ENT/MODE] button on the control unit to switch to remote control mode.**
- 2. Each time the [SCENE/DUP] button on the control unit is pressed briefly, it toggles between <SCENE1> and <SCENE2>.**

There are <SCENE1> and <SCENE2> scene settings, with <SCENE1> selected by default.

- 3. Each time you press and hold the [SCENE/DUP] button on the control unit, scene settings are duplicated.**

(Example) When the scene setting is <SCENE1>, press and hold the [SCENE/DUP] button on the control unit and then the scene setting of <SCENE1> is duplicated to <SCENE2>.



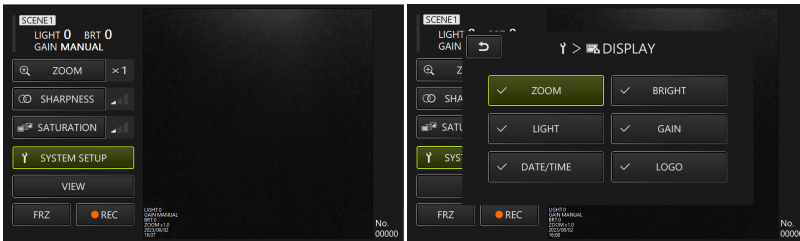
## 4.6 System settings

### 4.6.1 Displaying the system settings screen

**With the <SYSTEM SETUP> button selected with the d-pad on the control unit, briefly press the [ENT/MODE] button or click/tap the <SYSTEM SETUP> button on the tablet.**

A system screen appears. To return to the previous screen, with the close button selected with the d-pad on the control unit, press [ENT/MODE] briefly, or click/tap the close button (x button) on the tablet.





#### 4.6.2 Selecting screen display

With the <DIPDISPLAY> button selected with the d-pad on the control unit, briefly press the [ENT/MODE] button or click/tap on the tablet to display the screen display setting window.

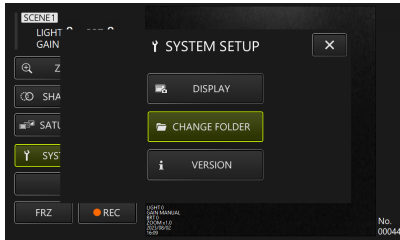


With the desired item selected with the d-pad on the control unit, briefly press the [ENT/MODE] button or click/tap on the tablet to add or remove checkmarks.

Items with a checkmark will be displayed on the live screen. If there is an item you want to hide, remove the checkmark.

#### 4.6.3 Setting the destination folder

1. Select the <CHANGE FOLDER> button with the d-pad on the control unit and briefly press the [ENT/MODE] button, or click/tap the <CHANGE FOLDER> button on the tablet.



## 2. Select any folder on the tablet and click/tap the folder selection button to return to the main screen.

Specify the tablet's internal storage as the save destination.

### 4.6.4 Checking the TX II software version

With the <VERSION> button selected with the d-pad on the control unit, briefly press the [ENT/MODE] button or click/tap the <VERSION> button on the tablet to display the version window.

## 4.7 Recording images

This operation saves an image under observation as a still image or video in the internal storage of the tablet. For movies, a still image is also saved at the start of recording.

At first startup, the save destination is not set. It must be set before recording operations. See "Setting the destination folder " (page 37).

The file size per image and the approximate number of recordable images are as follows.

Recording format/Recording time	1 file size	Number of recordings/hour (4GB)
Still image	about 350KB	Approximately 12,000 images
Video (per second)   30f	about 580KB	about 120 minutes

### Recording information displayed on the screen

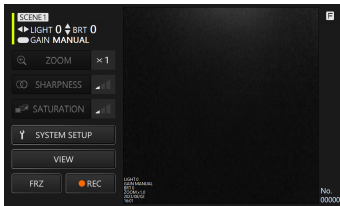
To record the information displayed on the screen as a still image, select <SYSTEM SETUP> -> <DISPLAY>. See "Selecting screen display " (page 37) for details.

When information is displayed on the image, a still image with the information recorded and a still image with no display will be saved.

## 4.8 Recording still images

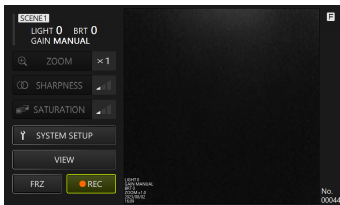
### Operation in remote control mode

1. Briefly press the [FRZ/REC] button on the control unit while a live image is being displayed.
2. Press and hold the [FRZ/REC] button on the control unit while the frozen image is being displayed.



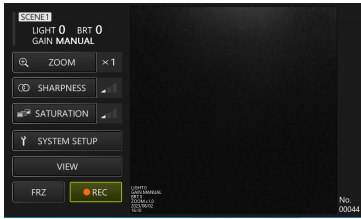
### Operation in GUI mode

1. Click/tap the <FRZ> button on the tablet while the live image is being displayed.
2. Click/tap the <REC> button on the tablet while the frozen image is being displayed.

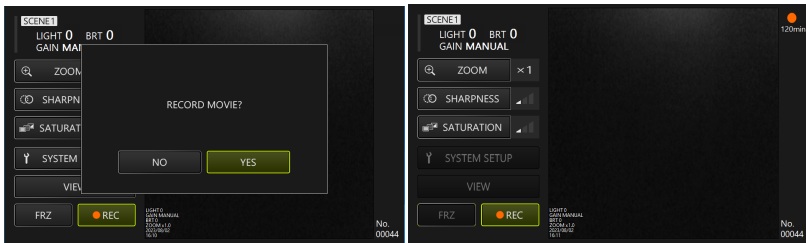


## 4.9 Video recording

1. Click/tap the <REC> button on the tablet while a live image is being displayed.  
In remote control mode, press and hold the [FRZ/REC] button on the control unit.



- 2.** Click/tap the <YES> button on the tablet to start recording.



- 3.** During recording, click/tap the <REC> button on the tablet to end the recording.  
In remote control mode, press and hold the [FRZ/REC] button on the control unit.

**TIP:**

When free space is running short, the recording of video will stop when the file size reaches 4 GB.

## 4.10 Playing back images

### 4.10.1 Playback screen display

#### Operation in remote control mode

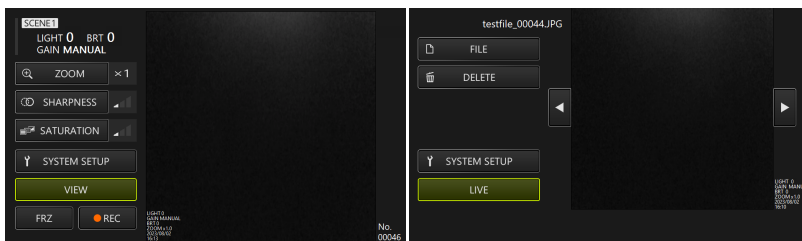
**On a live screen or freeze screen, press and hold the [LIVE/VIEW] button on the control unit.**

To return to the live screen, briefly press or press and hold the [LIVE/VIEW] button.

#### Operation in GUI mode

**On a live screen or frozen screen, select the <VIEW> button with the d-pad on the control unit, then press the [ENT/MODE] button briefly, or click/tap on the tablet.**

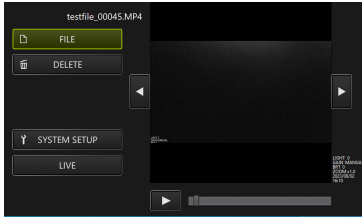
To return to the live screen, select the <LIVE> button with the d-pad on the control unit, then press the [ENT/MODE] button briefly, or click/tap on the tablet.



### 4.10.2 Operation of the playback screen and its functions

- **Switching images/movies to be played**

Briefly press the d-pad [L] or [R] on the control unit, or click/tap ◀ or ▶ on the tablet to switch between the images and videos to be played.




• **Play/Stop/Fast rewind/Fast forward video**

Operation in remote control mode

Button		Function (when video playback is running)	Function (when video playback is stopped)
[ENT/MODE] button	Briefly press	Stops the video.	Plays the video.
D-pad [U]	Briefly press	-	Fast forwards the video for one minute.
D-pad [L]	Briefly press	Displays the previous image/video.	Fast forwards the video for 1 second.
D-pad [R]	Briefly press	Shows next image/video.	Rewinds the video for 1 second.
D-pad [D]	Briefly press	-	Rewinds the video for 1 minute.

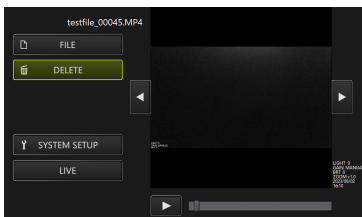
Operation in GUI mode

Press  on the view screen to play the video.

If you press  on the view screen while the video is playing, playback will pause. You can move the slider on the seek bar to start playback from any point.

• **Erase images/videos**

Select the <DELETE> button on the d-pad on the control unit, briefly press the [ENT/MODE] button, or click/tap on the tablet to delete the image/video.



If the product is found to be defective after checking it according to "Preparation and inspection before operation " (page 16), do not use the product and send it to the store where you purchased it, our branch office, or sales office for repair. Also, if you suspect something is wrong, take action according to "How to recognize abnormalities and how to deal with them " (page 43). If the product still does not return to normal, do not use the product and contact the store where you purchased it, or our branch office or sales office.

## 5.1 How to recognize abnormalities and how to deal with them

### 5.1.1 About error messages

Message	Cause and remedy
<Not enough free space. >	There is no free space in the save destination. -> Delete unnecessary data to free up space.
<Folder not found. >	Cannot access the destination folder. A destination folder has not been set. -> Set the destination folder.
<This image cannot be played. >	This image was not recorded by this system. -> Only images recorded with this device can be displayed.
<Control unit is not connected. Connect the control unit and start the application. >	Control unit is not connected. -> Check the connection of the control unit. Put the tablet to sleep or hibernate. -> Restart the software.
<The camera is being used by another application. Start this application after closing the other application. >	Another application is using the camera. -> Start this application after exiting the application using the camera. In Windows settings, "Allow apps to access your camera" and "Allow desktop apps to access your camera" are turned off. -> Turn on the setting
<There is no language data. Obtain it from the website and set it up.>	There is no folder or file in the language data confirmation at startup. -> Save the TX II software and LANGUAGE folders in the same location.
<The application cannot be started multiple times. >	Application has already started. -> Applications cannot be started multiple times.

If the above remedies do not solve the problem, restart the tablet.

### 5.1.2 When these symptoms occur

Abnormal content	Cause and remedy
Lighting is dim.	Tip is dirty. -> Wipe with a clean gauze or a cotton swab. "Cleaning the tip " (page 45)
Image is not sharp.	The objective lens at the tip is dirty. -> Wipe with a clean gauze or a cotton swab. "Cleaning the tip " (page 45)
Image is not bright enough.	Observation settings are incorrect. -> Use the d-pad [L] or [R] to adjust the amount of light. "Adjusting brightness " (page 34) The objective lens at the tip and the illumination section are dirty. -> Wipe with a clean gauze or a cotton swab. "Cleaning the tip " (page 45)
Color adjustment is not appropriate.	White balance is incorrect. -> Correct the white balance.
Noise is noticeable.	Observation settings are incorrect. -> Use the d-pad [L] or [R] to adjust the amount of light. "Adjusting brightness " (page 34)
A bent part does not return to its original state.	The angle lock mechanism is in use. -> Use the angle lock lever to release the locked position.
There is resistance when bending the device.	The angle lock mechanism is in use. -> Use the angle lock lever to release the locked position.
Live images are not displayed.	The scope unit and control unit are not connected properly. -> Reconnect the scope unit and the control unit correctly and restart this application.

## 5.2 When requesting repair of this product

When requesting repair of this product, contact the store where you purchased the product. Also, let us know the details of the abnormality and the circumstances under which it occurred.



# 6. Maintenance

## 6.1 Cleaning each part

### 6.1.1 Cleaning the inserting part

**If foreign bodies such as dust adhere to the inserting part, or if it becomes dirty**

Wipe it with a clean, soft cloth.

**If liquid such as dirty water or machine oil adhere to the inserting part**

Do not use a hard cloth or brush, rather wipe with a soft cloth or cotton swab, and thoroughly wash with gauze moistened with a cleaning liquid such as a neutral detergent. After that, wash with a soft gauze moistened with clean water, wipe off the moisture well, and dry the product.

**NOTE:**

Clean the inserting part immediately after pulling it out. Over time, dirt may adhere to the inserting part or cause it to corrode.

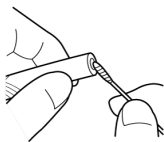
### 6.1.2 Cleaning the tip

**If the objective lens at the tip is dirty or has water droplets**

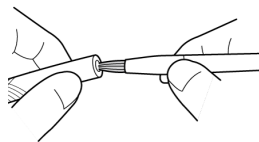
Hold the hard part of the tip and use a clean, soft gauze or cotton swab to wipe off dirt and water droplets.

Alternatively, use a brush to carefully scrape it out.

If you use commercially available absolute ethanol or isopropyl alcohol for this you can wipe dirt/droplets off more cleanly.



Swab



Brush

### 6.1.3 Cleaning other units

If a unit other than the inserting part and tip becomes soiled, wipe it with a soft cloth moistened with clean water. After that, lightly wipe it with a dry, clean cloth to finish.

## 6.2 Storing the devices in the cases

### 6.2.1 Storing the tablet in the carrying case

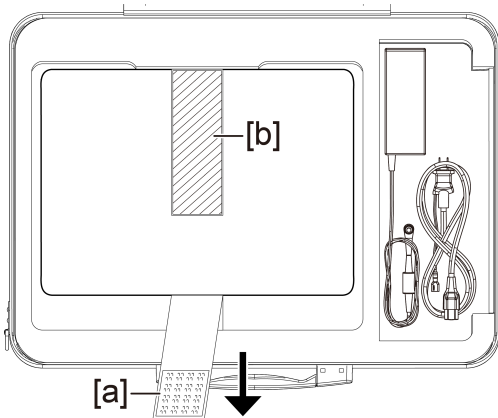
1. After exiting the TX II software, remove the USB port of the control unit from the tablet.
2. Remove the top cushion from the carrying case.
3. Store the tablet as shown in the diagram below. Pull the belt protruding from the bottom of the tablet in the direction of the arrow, and then attach the hook surface [a] to the loop surface [b] to fix it firmly.

Store peripheral devices such as AC adapters in the space on the right.

**TIP:**

The dimensions of the tablet that can be stored are as follows.

300(W) x 235(H) x 35(D)



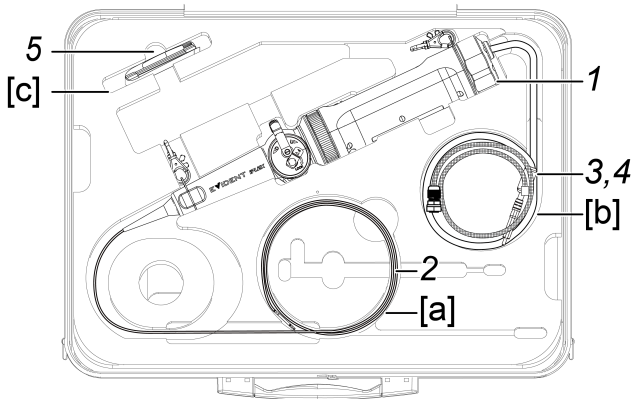
4. Attach the top cushion to the carrying case.

## 6.2.2 Storing the product in the carrying case

### NOTE:

- Do not forcibly bend, pull, bundle, twist, or crush cables, and do not expose them to anything hot enough to melt the coating. Doing so may damage the cable and cause fire or electric shock.
- Store this product normally in a room with normal temperature and humidity.
- Store it in a clean, dry and stable place.

### Storing the flexible scope unit



### 1. Store the control unit in the carrying case.

Store the flexible scope unit with the logo facing the front.

### NOTE:

Unlock the angle lock lever and store the product with the angle lever in a non-operating state.

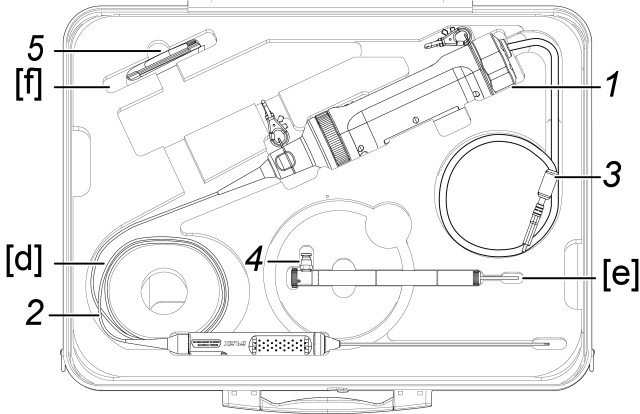
### TIP:

The product can be stored in the carrying case with the shoulder belt attached.

2. Run the inserting part of the flexible scope unit along the inside of the case [a] so that the tip is kept in the case.
3. Run the USB cable of the control unit along the inside of the case [b] to store it.

4. Run the protection braid along the inside of the case [b] to store it.
5. Store the lens cleaning kit in the case [c].

#### Store the rigid scope unit



1. Store the control unit in the carrying case.
2. Store the grip and tip of the rigid scope unit.  
Run the cable of the rigid scope unit along the inside of the case [d] and roll it up twice. Then store the grip and tip.
3. Run the USB cable of the control unit along the inside of the case so that it can be kept in the case.
4. Store the protection sleeve and grip extender.  
Remove the protection sleeve and grip extender from the rigid scope unit and store them in the case [e].
5. Store the lens cleaning kit.  
Store the protection ring of the protection sleeve in the cleaning kit bag and store the bag in the case [f].

## 7.1 Operating environment


Item	Specifications
Operating temperature range	
Inserting part of flexible scope unit	In air: -25 to 80°C Underwater: 10 to 30°C
Insertion part of rigid scope unit	
Parts other than the above	In air: -10 to 40°C
Working pressure	
All parts	In air: normal pressure (1,013 hPa)
Operating environment, altitude	
All parts	Altitude up to 2,000m
Operating environment, humidity	
All parts	15 to 90% (relative humidity)
Liquid resistance	
All parts	Even if machine oil, light oil, or 5% salt water adheres to the product, functionality will not be affected.
Waterproof	
All parts	Tip: Equivalent to IPX7 Control unit: equivalent to IP52 Protection box: Dust-proof and drip-proof structure equivalent to IP52

**NOTE:**

- The operating environmental performance of this device does not guarantee it will remain free of damage or failure.

## 7.2 Main Specifications

### Hardware

Item		Specifications
Control unit: IV10200T		
Weight		350 g (including the cable)
Operating part	Function	Video signal output for live image display, gain control, brightness adjustment, zooming images, freezing /recording observation images, articulation operations, displaying menus, displaying still image /thumbnail images
	External dimensions	172 (L) × 52 (∅) mm (Excluding protrusions, cable and connector)
Power supply		5V / 0.35A 
USB terminal		USB power supply from connected tablet USB2.0 connection, C terminal
Flexible scope unit: IV10212TF		
Weight		255 g
Inserting part	Scope diameter	∅2.2 mm
	Scope length	1.2 m
	Distal end	7.85 mm
	Exterior	Metal blade + special reinforced resin processed
	Tube flexibility	Corrugated tube with uniform hardness from the tip of the inserting part to the operating part
Optical system	Direction of view	Direct view (forward view)
	Field of view	120°
	Observation depth	3 to 80 mm
	Illumination	Control unit base LED (propagating light to the tip with a light guide)
Articulation section	Articulation angle	120 degrees (UD2 direction)
	Articulation mechanics	Articulation mechanics by angle lever
Rigid Scope Unit: IV10212TR		

Item		Specifications	
	Weight	180 g	
	Hard part	Scope diameter	Ø1.8 mm
		Scope length	180 mm
	Optical system	Direction of view	Direct view (forward view)
		Field of view	120°
Observation depth		3 to 80 mm	
	Illumination	Control unit base LED (propagating light to the tip with a light guide)	
Protection box: MAJ-2536			
	Weight	2.2 kg	
	External dimensions	400 (W) × 300 (H) × 150 (D) mm (Excluding protrusions)	
	Function	Dust-proof and drip-proof (equivalent to IP52)	
Protection braid: MAJ-2537			
	Weight	5.6 g	
	Diameter	Ø2.8 mm	
	Effective length	approx. 1 m	
	Corresponding scope	IV10212TF	
	Function	Inserting part protection	
Protection sleeve: MAJ-2538			
	Weight	32 g	
	Diameter	Ø2.3 mm	
	Effective length	162 mm	
	Corresponding scope	IV10212TR	
	Function	Inserting part protection droplet removal	
Grip extender : MAJ-2540			
	Weight	53 g	
	External dimensions	30 mm grip: 30(L) × 14(Ø) mm	
		48 mm grip: 48(L) × 14(Ø) mm	
	Corresponding scope	IV10212TR	
Function	Scope length adjustment		
Carrying case			
	Weight	2.1 g	
	External dimensions	455(W) × 185(H) × 330(D) mm (Excluding protrusions)	

Item	Specifications
Manufacturer	Evident Corporation 6666 Inatomi, Tatsuno-machi, Kamiina-gun, Nagano 399-0495, Japan

## Applications

Item	Specifications
Image processing	
Zoom	2-stage switching of 1x and 2x
Brightness adjustment function	Auto (8 steps)/Manual (12 steps) switching with Gain button Gain and exposure time switching in conjunction with brightness operation
Image recording function	
Recording media	Recorded on the internal storage of the tablet used
Print screen functions	The date, time, logo and various setting (light, brightness, zoom, gain) displayed on the screen can be superimposed on the image and saved
Still image recording	Resolution: 500×500 Recording method: JPEG compression (Exif2 compliant) Still image file size: Approx. 1MB (Approx. 1000 still images can be recorded per 1GB) File mark function is not supported.
Video recording	Resolution: 392×392 Frame rate: 30 fps Recording method: H.264 compliant No voice recording function Movie file size: with 1 file, approx. 2 hours of recordings can be made

### TIP:

- The company names, product names, etc. in this document are trademarks or registered trademarks of their respective owners.





### 7.3 Recommended operating environment for tablet

- Use a tablet that complies with IEC/EN60950-1 or IEC/EN62368-1 for this system.
- Check our website for the tablets that have been confirmed to work in combination with the system.  
<https://www.olympus-ims.com/rvi-products/iplex-tx-ii>
- If the operating environment of the tablet is out of the range between -10 to 40°C, keep to the operating environment of the tablet.

### 7.4 External applicable standards

EMC information	<p>This product complies with:</p> <p>This product is applied with the requirements of standard IEC/EN61326-1 concerning electromagnetic compatibility.</p> <ul style="list-style-type: none"> <li>• Emission Class A</li> <li>• Immunity Industrial electromagnetic environment</li> </ul> <p>Emissions exceeding the level required by aforementioned standards may occur if this product is electrically connected to other equipment.</p> <p>Some interference may occur if this product is used in residential environments.</p>
FCC information	<p>This product complies with:</p> <ul style="list-style-type: none"> <li>• NOTE:                      This product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.</li> <li>• FCC WARNING:                      Changes or modifications not expressly approved by the party responsible for compliance could void the user's rights to operate the product.</li> </ul> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <b>FCC Supplier's Declaration of Conformity</b> </div>

	<p>Hereby declares that the product</p> <p>Product name: Industrial Endoscope, Industrial Endoscope Accessory</p> <p>Model Number: IV10200T, IV10212TF, IV10212TR</p> <p>Conforms to the following specifications:</p> <p>FCC Part 15, Subpart B, Section 15.107 and Section 15.109</p> <p>Supplementary Information:</p> <p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>Responsible Party Name: Evident Scientific, Inc.</p> <p>Address: 48 Woerd Ave Waltham, MA 02453, USA</p> <p>Phone Number: 781-419-3900</p>
<p>WEEE Directive</p> 	<p>The description of the marks on the left is shown below.</p> <p>In accordance with the European Directive on Waste Electrical and Electronic Equipment, this symbol indicates that the product must not be disposed of as unsorted municipal waste, but rather should be collected separately.</p> <p>Refer to your local our distributor for the return and/or collection systems available in your country.</p>
<p>China RoHS Directive</p> 	<p>This label indicates a restriction on the use of hazardous substances in electrical and electronic products, which is applied to electrical and electronic products sold in China, based on the "Management Measures for Restriction of the Use of Hazardous Substances in Electrical and Electronic Products" and "Requirements for Restriction of the Use of Hazardous Substances in Electrical and Electronic Products".</p> <p>(Note) The figure on the label of the restriction on the use of hazardous substances in electrical and electronic products is the period during which hazardous substances, etc. will not leak under proper usage conditions, and is not the period during which the functionality and performance of the product are guaranteed.</p>

## 7.5 Application license information

This product is licensed under the MPEG-4 Visual Patent Portfolio License for the following personal and non-commercial purposes only, and is not licensed for any other use.

- When recording movies conforming to the MPEG-4 Visual standard (hereafter referred to as MPEG-4 video).

- When playing MPEG-4 videos recorded by consumers engaged in personal and non-commercial activities.
- When playing MPEG-4 video obtained from suppliers licensed by Via Licensing Alliance LLC.

Please refer to the Via Licensing Alliance LLC website (<https://www.via-la.com/>) for further information regarding promotional use, internal use, commercial use and licensing.

## 7.6 Using open source software

This product includes open source software that is licensed under terms separately stipulated by a third party (hereinafter referred to as "license terms").

Check the following URL for the open source software included in this product and its license conditions. The copyright holders of the open source software included in this product are available at the following URL. In addition, the open source software included in this product makes no warranty including warranties that it does not infringe on the rights of third parties and implied warranties regarding merchantability or suitability for a specific purpose.

Furthermore, regarding open source software whose license conditions require disclosure of the source code, the corresponding source code will be provided at the following URL for at least three years after the customer purchases this product. Please note that software other than open source software whose license conditions require disclosure of the source code is not subject to distribution of the source code.

<https://www.olympus-ims.com/rvi-products/iplex-tx-ii/oss-license/>

Please note that we cannot respond to inquiries regarding the contents of the source code provided at the above URL.

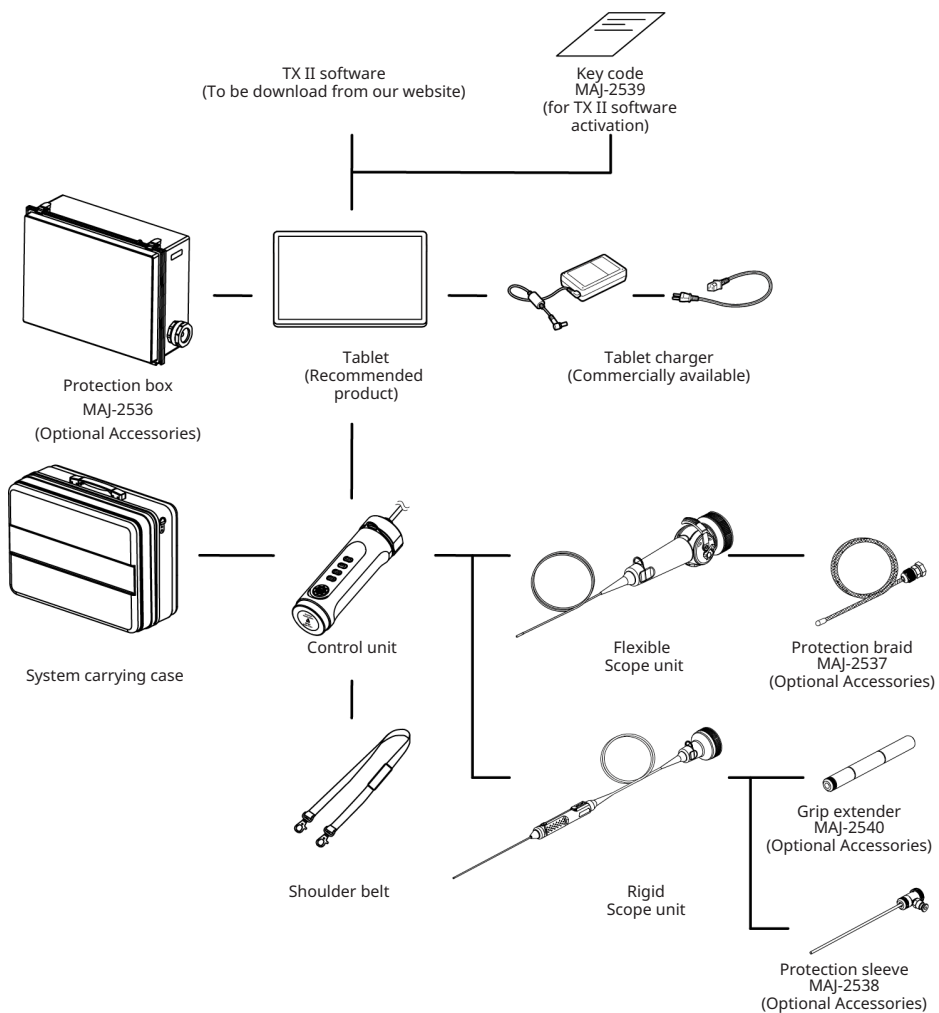
## 7.7 Software including AVC Patent

This product is licensed under the AVC Patent Portfolio License for the following personal and non-commercial purposes only, and is not licensed for any other use.

- When recording a video conforming to the AVC Standard (hereafter referred to as AVC video).
- When playing AVC videos recorded by consumers engaged in personal and non-commercial activities.
- When playing AVC videos obtained from suppliers licensed by Via Licensing Alliance LLC.

Please refer to the Via Licensing Alliance LLC website (<https://www.via-la.com/>) for further information regarding promotional use, internal use, commercial use and licensing.

# System diagram



Manufactured by

**Evident Corporation**

6666 Inatomi, Tatsuno-machi, Kamiina-gun, Nagano 399-0495, Japan

Distributed by

**Evident Europe GmbH**

Caffamacherreihe 8-10, 20355 Hamburg, Germany

**Evident Europe GmbH – UK Branch**

Part 2nd Floor Part A, Endeavour House, Coopers End Road, Stansted CM24 1AL, UK

**Evident Scientific, Inc.**

48 Woerd Ave, Waltham, MA 02453, USA

**Evident Scientific Singapore PTE. LTD.**

#04-04/05, 25 Ubi Rd 4, UBIX Singapore 408621

**Evident Australia PTY LTD**

Level 4, 97 Waterloo Road Macquarie Park NSW 2113, Australia

**Life science solutions**

Service Center



<https://www.olympus-lifescience.com/support/service/>

Official website



<https://www.olympus-lifescience.com>

**Industrial solutions**

Service Center



<https://www.olympus-ims.com/service-and-support/service-centers/>

Official website



<https://www.olympus-ims.com>