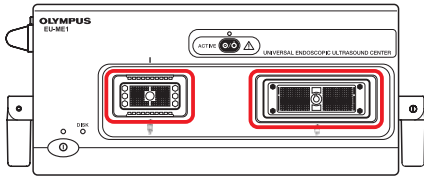
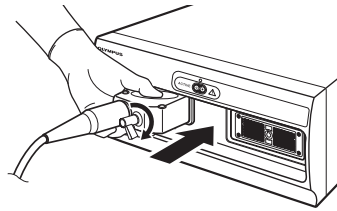


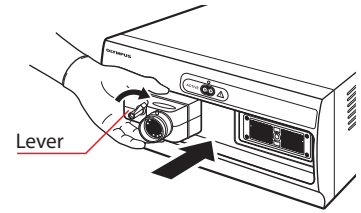
Connect endoscope / probe driving unit



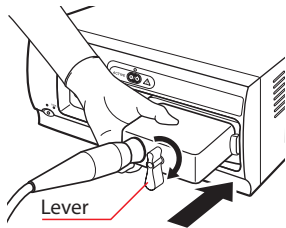
EU-ME1 has two sockets, the left one for a mechanical scanning scope, and the right one for an electronic scanning scope.



Mechanical scanning scopes and probe driving units with square connectors are connected to the left socket.

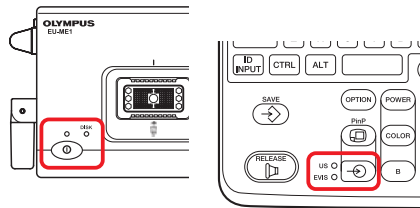


Mechanical scanning scopes and probe driving units with round connectors are connected via MAJ-1715 (RS Adapter).



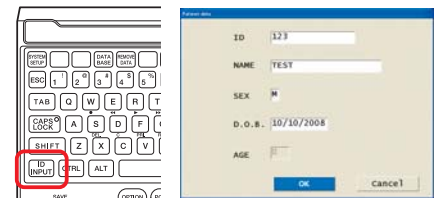
Electronic scanning scopes are connected to the right socket.

Turn on power



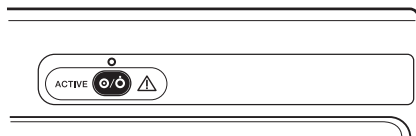
Turn on power and the monitor screen will appear in about one minute. If not, press the "US/EVIS" key to select US.

Enter patient ID



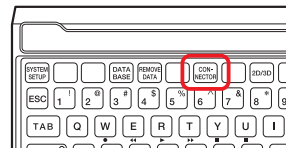
Press the "ID INPUT" key to enter patient data. Exam data is not saved without entering patient ID.

Confirm



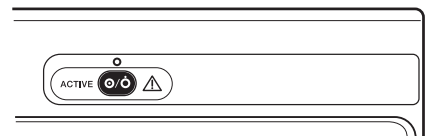
Confirm that the "ACTIVE LED" is lit. If not, press the "ACTIVE" switch.

CNCT: L R



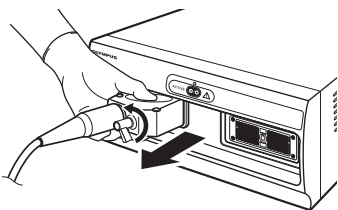
Confirm that "CNCT: [L]" or "CNCT: [R]" is displayed on the monitor for the connector in use. Press the "CONNECTOR" key to switch between L and R.

Disconnect

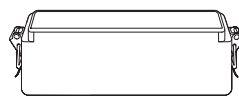


Make sure to press the "ACTIVE" switch and confirm that the "ACTIVE LED" is off before disconnecting a scope.

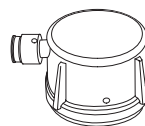
Before Cleaning



Turn the connector lever and remove the scope.



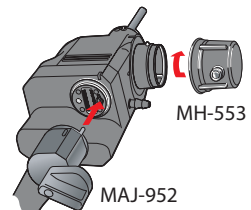
MAJ-896



MH-553

Attach an MAJ-896* to the ultrasound connector, and an MH-553* to the electronic connector.

* Water-resistant Cap



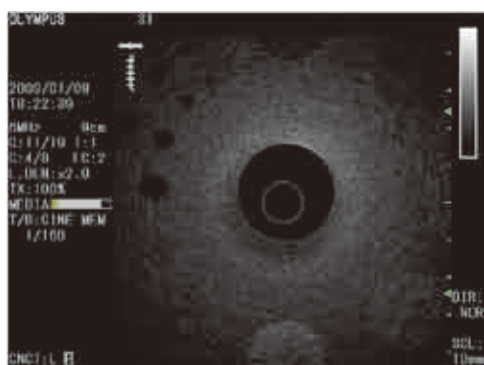
MH-553

MAJ-952

If using the GF-UM160/2000, attach an MAJ-952* to the ultrasound connector, and an MH-553* to the electric connector.

* Water-resistant Cap

GF-UE, GF-UC series



	Default setting	Blurred image
Frequency	6MHz	
Line density	2	1.5
Frame correlation	2 (3)*	1
IMAGE (gamma curve)	S	S
Gain	14/19	14/19
Contrast	4/8	4/8
Sensitivity Time Control	+1, 0, 0, 0, 0, 0, +1 (+1, 0, 0, 0, +1, +2, +2)*	+1, 0, 0, 0, 0, 0, +1 (+1, 0, 0, 0, +1, +2, +2)*

The default frequency is set at 6 MHz, which provides the best balance of resolution and penetration. The default "IMAGE" is set at "S" which provides less noise and smoother imaging. (*Applicable only to GF-UC)

If the image is blurred due to motion artifact (respiration, peristalsis, patient movement), change the settings, as indicated above, to increase the frame rate.

BF-UC series

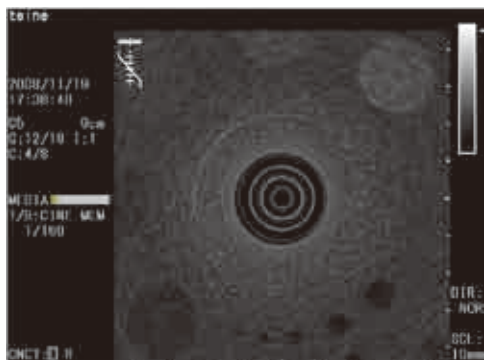


	Default setting	Blurred image
Frequency	10MHz	
Line density	2	1.5
Frame correlation	3	1
IMAGE (gamma curve)	N	N
Gain	13/19	13/19
Contrast	5/8	5/8
Sensitivity Time Control	0, 0, 0, 0, 0, 0, 0	0, 0, 0, 0, 0, 0, 0

The default frequency is set at 10 MHz, which provides the best resolution in the near field. The default "IMAGE" is set at "N" which provides less noise and smoother imaging.

If the image is blurred due to motion artifact (respiration, peristalsis, patient movement), change the settings, as indicated above, to increase the frame rate.

GF-UM series

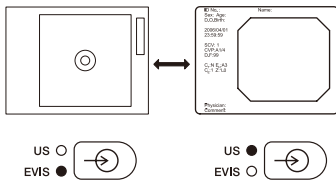


	C5	C7.5	C12	C20
IMAGE (gamma curve)	N	N	N	N
Gain	12/19	12/19	10/19	10/19
Contrast	4/8	4/8	4/8	4/8
Sensitivity Time Control				

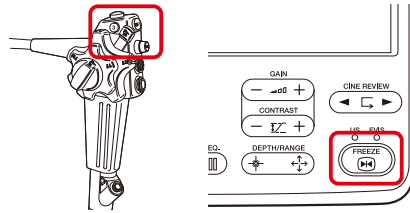
The default frequency is set at C5, which provides the best penetration. The default "IMAGE" is set at "N" which provides the best gradation and balanced gain in the entire image.

Default C7.5, C12, and C20 settings provide balanced gain in the near field.

Begin examination

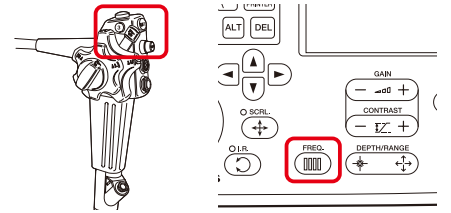


Press the "US/EVIS" key to switch between endoscopic and ultrasound views.



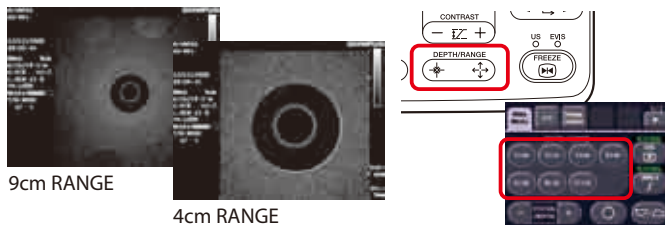
Press the "FREEZE" key to start scanning. The remote switch on a mechanical scanning scope or the foot switch can be used for the same function.

Frequency



Press the "FREQ." key to change the scanning frequency. The remote switch on a mechanical scanning scope can be used for the same function.

Display range



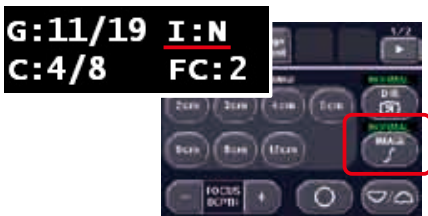
Press the "DEPTH/RANGE" key, or choose display range from the main menu of the LCD touch panel.

Scroll



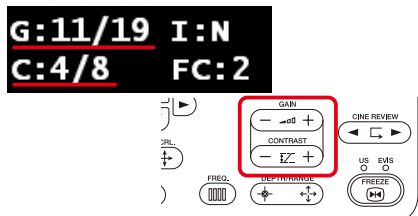
Press the "Bottom/Top Sector" button [1] to show only the upper or lower semicircle. To scroll the image, press the "SCRL." key [2] and use the trackball [3].

Image (gamma curve)



Press the "IMAGE" button to choose the setting, from N, S, L1, and L2. A larger scale provides a sharper image.

Gain / Contrast / STC

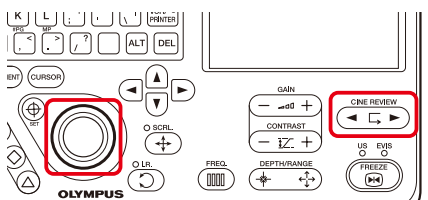


Gain is adjustable in 20 steps (0-19). Contrast is adjustable in 8 steps (1-8).



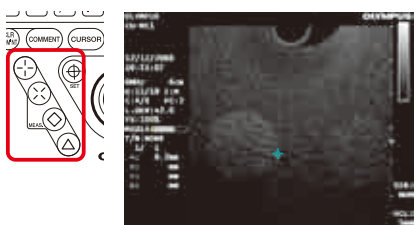
Adjust STC using the touch panel. Adjust the image for each range with the plus and minus keys. The STC curve can be displayed on the monitor.

Cine review

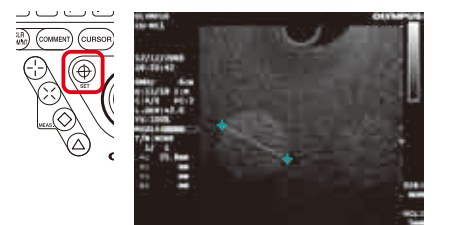


Press the "CINE REVIEW" key or use the trackball to show images that were recorded before the "FREEZE" key is pressed.

Measurement

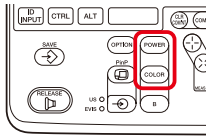
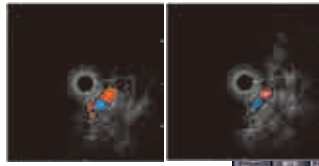
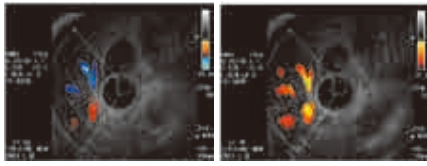


Press the appropriate "MEAS." (caliper) keys to measure the distance between any two points.



Use the trackball to move the caliper mark to the starting point, and then press the "SET" key. Set the end point in the same procedure.

Color & power flow mode



Flow mode is available with an electronic scanning scope. Select the power flow with the "POWER" key, or the color flow with the "COLOR" key.

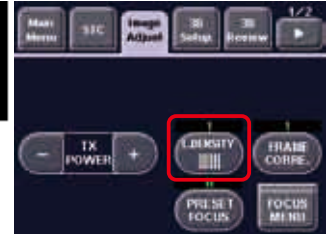
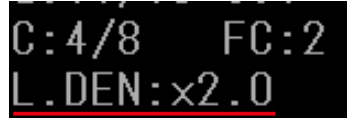
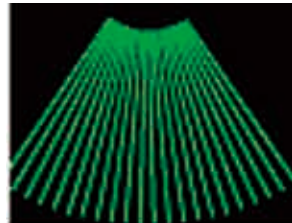
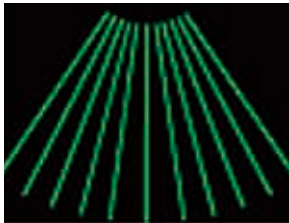
Press the "FLOW RES." button to switch from normal to high resolution mode when you wish to observe fine vessels. Press the "FLOW GAIN" button to adjust the sensitivity for both power and color flow modes.

ROI can be adjusted using the trackball or ROI setup menu on the touch panel. (Note) The frame rate changes according to the size of ROI.

Line density

(Setting) B mode: 5 steps (1, 1.5, 2, 3, 5)
Flow mode: 4 steps (0.5, 1, 1.5, 2)

Line density refers to the intervals between the ultrasound scanning lines. Increasing the line density improves the lateral resolution but deteriorates the frame rate.



< Low line density >
• Lower resolution
• Improved frame rate

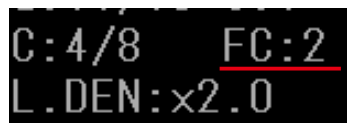
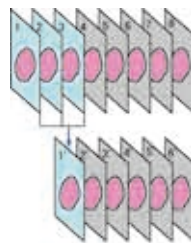
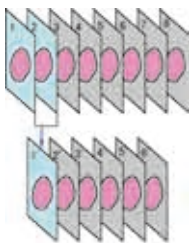
< High line density >
• Higher resolution
• Deteriorated frame rate

Line density can be adjusted using the "L. DENSITY" button on the touch panel.

Frame correlation

(Setting) 4 steps (Off, 1, 2, 3)

The frame correlation is the function that improves image smoothness by processing the image data of successive frames. Higher frame correlation reduces noise and provides smoother imaging while it decreases the frame rate because of increased data volume.



<Low frame correlation>
• More noise
• Higher frame rate

<High frame correlation>
• Less noise, smoother image
• Lower frame rate

Press the "FRAME CORRE." button on the touch panel to change the setting. Four settings (OFF, 1, 2, 3) are available.

(Reference) Adjusting the line density and frame correlation setting will change ultrasound image quality and frame rate. Higher line density and frame correlation will improve the image quality but deteriorate the frame rate. Refer the default settings value on the back side of Vol. 1 and change the setting as necessary.

EU-ME1 Quick Reference Guide

Vol. 3 -DPR/MPR

Preparation



MAJ-935



UM-DP12-25R
UM-DP20-25R
UM-DG20-31R

Prepare MAJ-935, 3D probes, and EU-ME1 for DPR/MPR exam.

Select 3D setup



Press the "3D Setup" tab on the touch panel.

Stroke

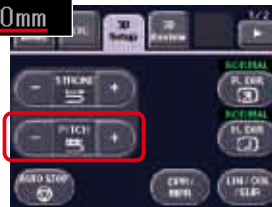
STROKE: 40mm
PITCH: 0.50mm



Adjust the "STROKE" (scanning range) selecting one of three ranges (20, 30, 40 mm).

Pitch

STROKE: 40mm
PITCH: 0.50mm



Adjust the "PITCH" (interval between successive radial images) selecting one of four intervals (0.25, 0.5, 0.75, 1.0 mm).

Auto Stop



Choose whether the scan automatically stops after one stroke.

Display direction

DIR:
INV.ENDO



Set the viewing direction of radial and helical scanning images.

DPR / MPR display layout



Select the display layout in 3D scanning mode.



DPR Linear display



DPR Oblique display



DPR Surface display



MPR Linear display

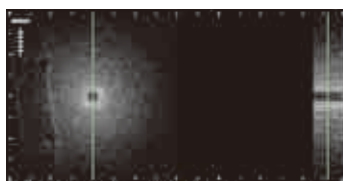


MPR Oblique display

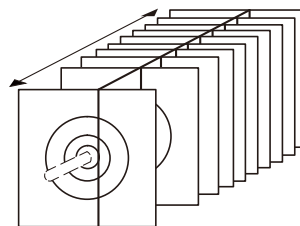


MPR Surface display

Start exam



Insert the 3D probe and position it close to the target.



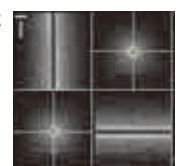
Press the "FREEZE" key to start helical scanning. The transducer will scan in a proximal direction.



DPR



MPR

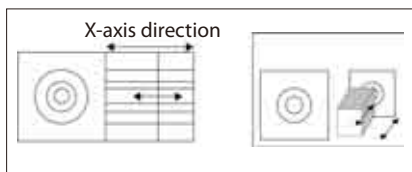


Scanning stops after one helical scanning cycle if the "AUTO STOP" is on. If not, the second round of scanning begins.

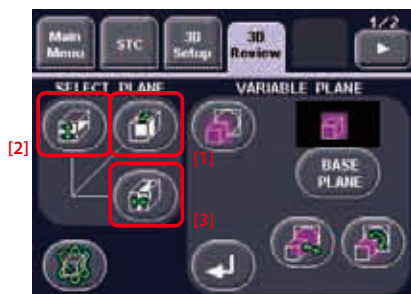
Select 3D review



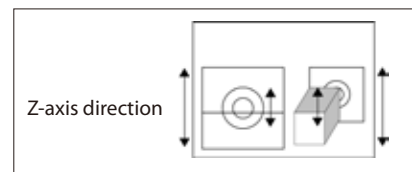
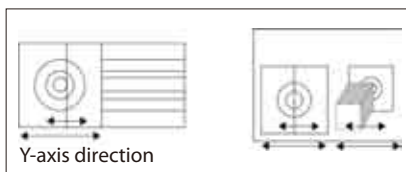
Press the "3D Review" tab on the touch panel.



Slice line adjustment



Press the radial slice [1], helical slice [2], or horizontal linear slice [3] buttons to select the slice plane.



Use the arrow keys or the trackball to adjust slicing position.

Slice position is adjusted in the following directions: Radial - X, Helical - Y, Horizontal linear slice - Z.

Variable plane

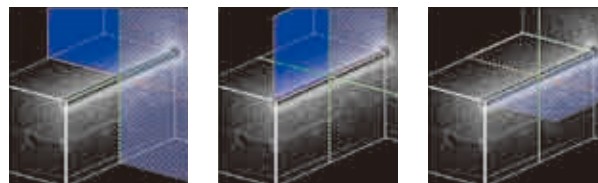


Press the "VARIABLE PLANE" button.

Baseline



Press the "BASE PLANE" button [1] to select horizontal linear, Radial, or Helical linear plane standards. Use the trackball or arrow keys to move the cross-section marker.



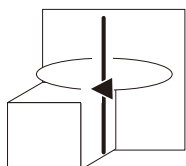
Press the "Move marker plane horizontally" button [2] or the "Rotate marker plane" button [3] and use the trackball or arrow keys to move the cross-section marker.

3D rotation



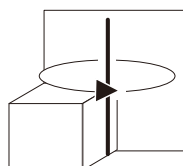
Press the 3D Rotation button.

Press the ◀ key or move the trackball to the left.



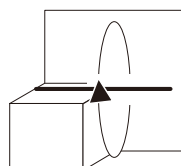
Rotates clockwise with the center of the 3D image as the axis.

Press the ▶ key or move the trackball to the right.



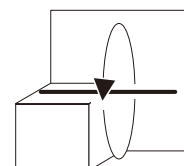
Rotates counter-clockwise with the center of the 3D image as the axis.

Press the ▲ key or move the trackball to the upward.



Rotates clockwise with the center of the 3D image as the axis.

Press the ▼ key or move the trackball to the downward.



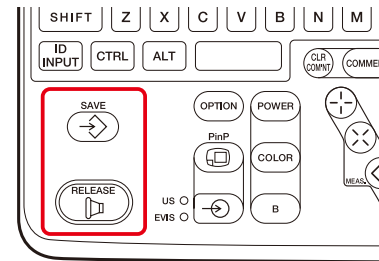
Rotates counter-clockwise with the center of the 3D image as the axis.

Use the arrow keys or the trackball to rotate the image.

Save & Release

SAVE: Save image in the EU-ME1's memory

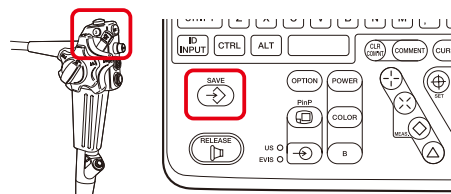
RELEASE: Print image and save it to external filing system.



Save data



Enter the patient ID first. Image cannot be saved without entering a patient ID.



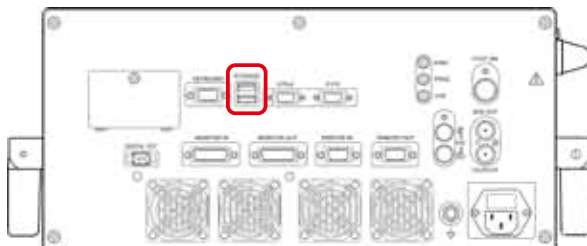
Press the "SAVE" key or mechanical scanning scope remote switch* to save the image in the EU-ME1's memory. A progress bar is displayed. (*The save function needs to be assigned to the endoscope's remote switch in advance.)



The amount of memory used is displayed on the monitor.

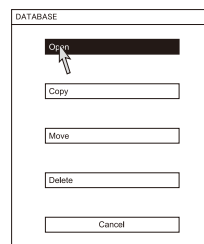
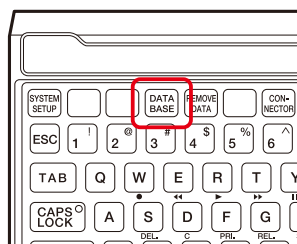
The memory bar turns yellow when remaining capacity is less than 100MB. At that time, please transfer data to external memory devices.

Open / Copy / Move / Delete data



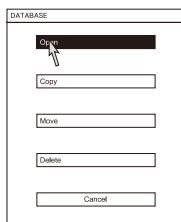
External storage devices can be connected to the EU-ME1 via "STORAGE TERMINAL" on the rear panel.

Function	Explanation
Open data	Displays image data that has been stored in the internal memory of the ultrasound center or in the external storage connected to the ultrasound center. Only the image data in the exclusive digital data format (.img) can be viewed.
Copy data	Copies image data stored in the internal memory of the ultrasound center to the external storage connected to the ultrasound center.
Move data	Moves image data stored in the internal memory of the ultrasound center to the external storage connected to the ultrasound center.
Delete data	Deletes image data stored in the internal memory of the ultrasound center or in the external storage connected to the ultrasound center.



Press the "DATABASE" key, and a function menu appears on the monitor.

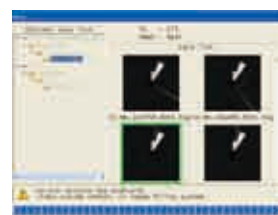
Key	Explanation
DATABASE	Opens the database function screen on the monitor. Pressing the key while the database function screen is displayed returns the view to the ultrasound image display.
TAB ▲, ▼	Each press switches the function, in the order of: OPEN → COPY → MOVE → DELETE → CANCEL → ...
ENTER	Executes the selected operation.
ESC	Exits the database function screen and returns to the ultrasound image display.
TRACKBALL	Moves the cursor displayed in the database function screen.
SET	Sets the item selected with the trackball.



Choose the desired function.

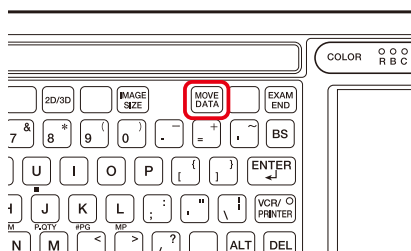


The function screen appears.

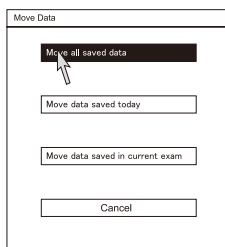


After selecting image data and pressing the "SET" or "ENTER" key to indicate "OK", a progress bar appears. After opening a file, the next or previous file can be opened by pressing the CTRL key and the arrow keys (▲▼).

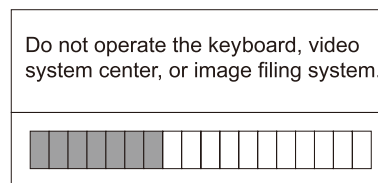
Move data



Press the "MOVE DATA" key, and a menu will appear.

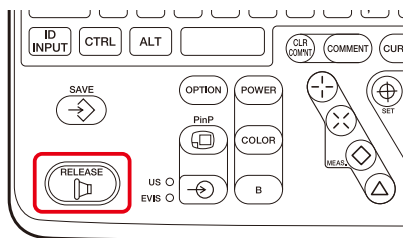


Select from "Move all saved data", "Move data saved today", or "Move data saved in current exam".

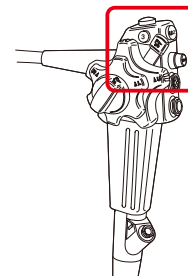
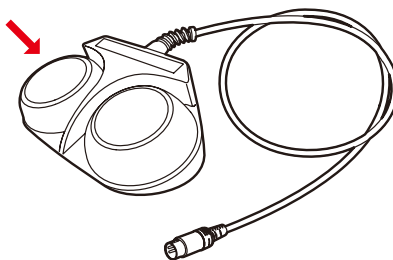


A progress bar appears.

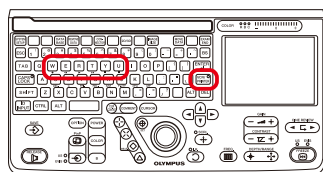
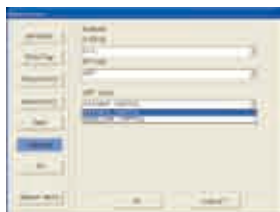
Print image



After freezing the ultrasound image, press the "RELEASE" key, use a footswitch, or a mechanical scanning endoscope's remote switch to print the image.



Operate VCR



Press the "SYSTEM SETUP" key and select "Remote", then select either "PINJACK CONTROL" or "IEEE1394 CONTROL" of "VCR type" according to the cable used.

A VCR can be controlled by the keyboard.

The method of operation differs according to the cable and equipment used.

Cable used	VCR used	Functions			
		Recording pause	STOP Recording	Pause	Recording
Remote cable (MH-907)	SVO-9500MDP DSR-20MDP DVO-1000MD	W	—	—	—
IEEE1394 cable	DSR-20MDP DVO-1000MD	—	U	Y	W