

OPERATION MANUAL
FOR
Aplio i900/Aplio i800/Aplio i700
TUS-AI900/TUS-AI800/TUS-AI700
MEASUREMENTS VOLUME
(2B771-627EN*B)

IMPORTANT!

Read and understand this manual before operating the equipment. After reading, keep this manual in an easily accessible place.

CANON MEDICAL SYSTEMS CORPORATION

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11.

Measurements on a Stored Image

In this system, it is possible to perform measurement using images displayed in Exam Review (hereinafter referred to as ER images).

Refer to the Operation Manual <<Applications volume>> for the Exam Review operating procedures.

When a stored image is used for measurement, the system requires information concerning the relationship between the distance on the screen and the corresponding distance on the patient. However, this information is stored only with ER images.

For other images (ER images in which settings such as DEPTH are changed during live image acquisition), this information must be obtained using a separate procedure (manual calibration).

Note that the data acquired using manual calibration can only be applied to the basic measurement if OB is selected as the examination type in measurement presets.

This section describes the two types of measurements below. Each type has different restrictions. Be sure that you have a clear understanding of the characteristics of each measurement type before performing measurements on stored images. (Note that the data acquired using manual calibration can only be applied to the basic measurement if OB is selected as the examination type in measurement presets.)

- (1) Measurements on ER images (refer to subsection 11.1)
- (2) Measurements on ER images for which manual calibration is required (refer to subsection 11.2)

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- | | |
|------|---|
| NOTE | <ol style="list-style-type: none">1. The measurement items listed below are effective only when all of the measurement tools that contain these measurement items are set for the same image frame. These items cannot be calculated if the associated measurement tools are set for different image frames.<ul style="list-style-type: none">• %Stenosis Area• %Stenosis Diam• mean IMT• Flow Vol• Volume2. When a measurement is to be performed on an ER image, the exam type (examination type) of the displayed image may differ from that currently selected in the system. In this case, the measurement is started with the exam type selected in the system.3. Do not perform measurement from the Worksheet screen, Patient Browser screen, or any other non-ultrasound image screen. |
|------|---|
-

⚠ CAUTION **Display of heart rate values**

1. The heart rate at the time the data is acquired using the diagnostic ultrasound system is displayed.
 2. In dual-display mode, the heart rate for the most recently frozen image is displayed. For example, if the image on the left was frozen most recently, the heart rate for that image is also displayed on the image on the right.
 3. When a patient with an unstable heart rate, such as a patient with atrial fibrillation, is to be examined, enter a heart rate using the Manual Input dialog box.
 4. The heart rate value displayed on the 2D (including Color) + PW/CW screen is the heart rate obtained at the time the PW/CW image is stopped.
 5. Confirm that the ECG waveform is displayed correctly. If the ECG waveform is not displayed correctly, an incorrect heart rate value may be displayed due to noise.
-

11.1 Measurements on ER Images

- * Manual calibration is required for images for which settings such as DEPTH have been changed during acquisition. Refer to subsection 11.2.
- * ER measurement cannot be performed in multi-screen mode. Perform ER measurement in single-screen mode.

- NOTE
1. Display the most suitable image and select the most suitable measurement tool for the intended measurement. The appropriate measurement methods and results must be determined by a specialist.
 2. It is also possible to perform measurement using an image on which measurement has already been performed during the examination and to print the image with the results of the two sets of measurements. In the case of black-and-white printing, however, it may be difficult to distinguish between the calipers and results of the two sets of measurements. To prevent confusion during viewing of printed images at a later time, take appropriate measures such as placing identification marks on the outputs.

(1) Display the ER image on the monitor.

(2) Press  to enable measurement.

* One of the following messages may be displayed. Confirm the message.

Message	Detail
	<p>This message is displayed when incomplete application measurement data exists for the current exam and an attempt is made to start measurement using an ER image belonging to a study other than the current exam.</p> <p>Complete the current exam before performing ER measurement.</p>

(3) Perform measurement. The results are displayed on the screen.

11.2 Measurements on ER Images for Which Manual Calibration Is Required

Manual calibration is required for the following type of images.

- ER images for which the depth or other setting has been changed during acquisition
- Images that have been zoomed or panned in Exam Review mode.

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- NOTE
1. Display the most suitable image and select the most suitable measurement tool for the intended measurement. The appropriate measurement methods and results must be determined by a specialist.
 2. Do not perform measurement using an Exam Review image that contains a 4D volume, 3D volume, or Panoramic View image.
 3. In manual calibration, the information on the stored image is used to set the information required for measurement. Accordingly, the measurement results will depend on the values set on the stored image. Errors in the settings will affect the measurement results, and the measurement accuracy is lower than in measurements obtained using images acquired during the examination. In the worst case, the error after calibration may be $\pm 5\%$ for an object that is 100 mm in length. For details, refer to subsection 11.5. Use the manual calibration function only after obtaining a clear understanding of its characteristics.
 4. In manual calibration, the accuracy of the scale setting used for measurement affects the accuracy of the measurement results as described in 3 above. To increase the accuracy of the scale setting, the calibration marker should be set using the scale graduations as reference. For example, align the center lines of the calibration marker with the graduations.
 5. It is also possible to perform measurement using an image on which measurement has already been performed during the examination and to print the image with the results of the two sets of measurements. In the case of black-and-white printing, however, it may be difficult to distinguish between the calipers and results of the two sets of measurements. To prevent confusion during viewing of printed images at a later time, take appropriate measures such as placing identification marks on the outputs.
-

- (1) Display an image that meets the conditions above.
- (2) Press . One of the following messages is displayed.

Message	Detail
	<p>This message is displayed when incomplete application measurement data exists for the current exam and an attempt is made to start measurement using an ER image belonging to a study other than the current exam.</p> <p>To clear the application measurement data and perform ER measurement, press [Confirm]. In this case, the application measurement data is cleared when the ER measurement is terminated.</p>
	<p>This message is displayed to confirm whether or not the coordinate information (Depth, Pan, Zoom) of multiple ER images is the same. Select [Confirm] if the coordinate information of these images is the same. Manual calibration is started up. Do not perform manual calibration if the coordinate information of the multiple images is different. If [Cancel] is selected, measurement is not started up.</p>
	<p>This message is displayed when an attempt is made to perform measurement again on an ER image for which measurement has already been performed and the results have been stored. In this case, measurement cannot be started.</p>

- (3) If measurement is possible and manual calibration is required for the displayed image, the menu below is displayed. Set the measurement scale on this screen.



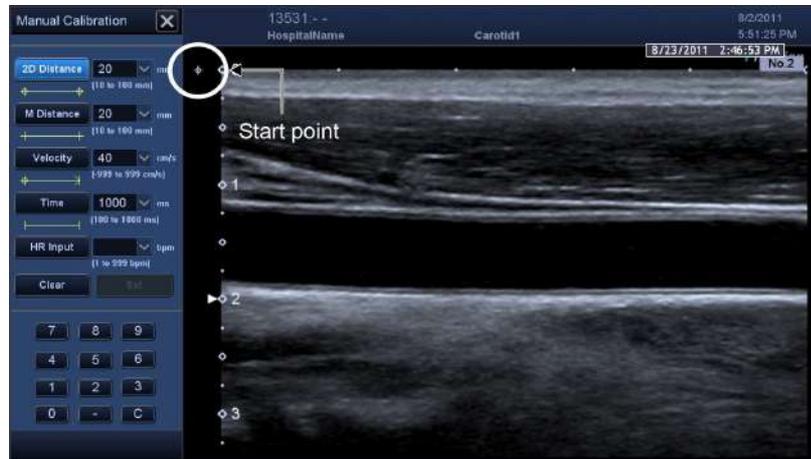
NOTE Confirm the unit before entering the value of the calibration marker.

The procedure for setting the calibration marker for 2D Distance measurement is described below as an example.

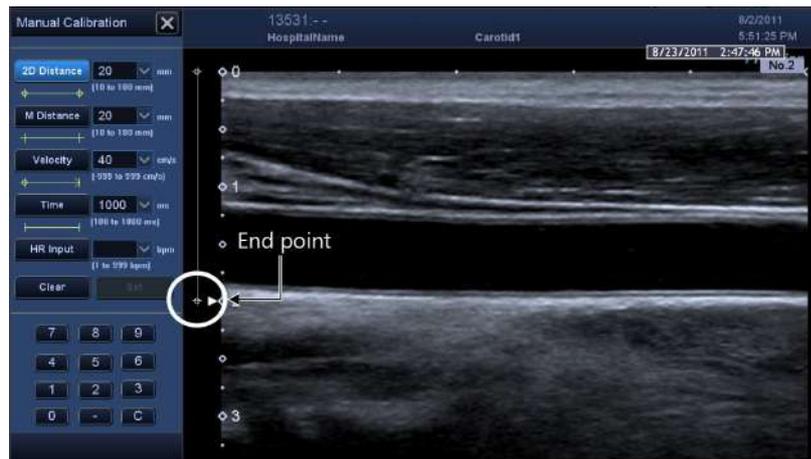
- (a) Select [2D Distance] in the menu. The menu disappears and a marker is displayed.



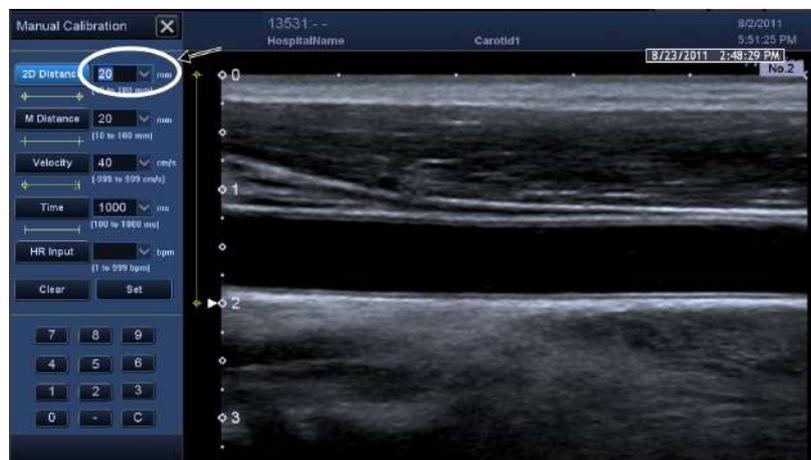
(b) Move the marker to the start point using the trackball and then press



(c) Move the marker to the end point using the trackball and then press



(d) Enter the length of the calibration marker set in step (c) in the combo box on the right of [2D Distance].

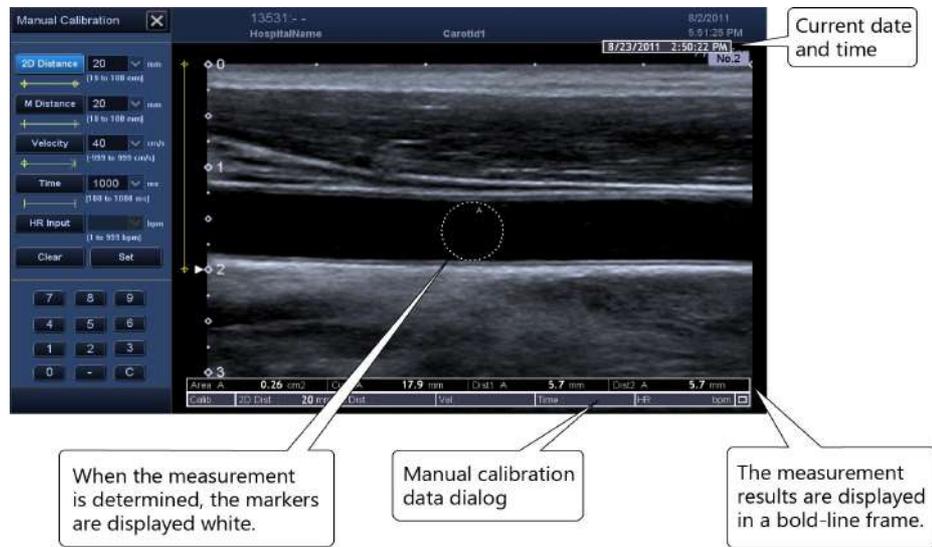


- (e) Press [Set] in the menu. The calibration marker length is determined and the manual calibration data dialog is displayed at the bottom of the screen. When a measurement switch on the touch panel is then pressed, the measurement marker appears and measurement becomes possible.



To correct the calibration marker, press [Caliper Edit] on the touch panel, click this box, and repeat the setting procedure.

<<Example of measurement screen during manual calibration>>



11.3 Manual Calibration Required Before the Start of Each Measurement

The table below shows the manual calibration items required for each measurement tool. When performing manual calibration, enter the HR value if required.

○: Required, -----: Not required

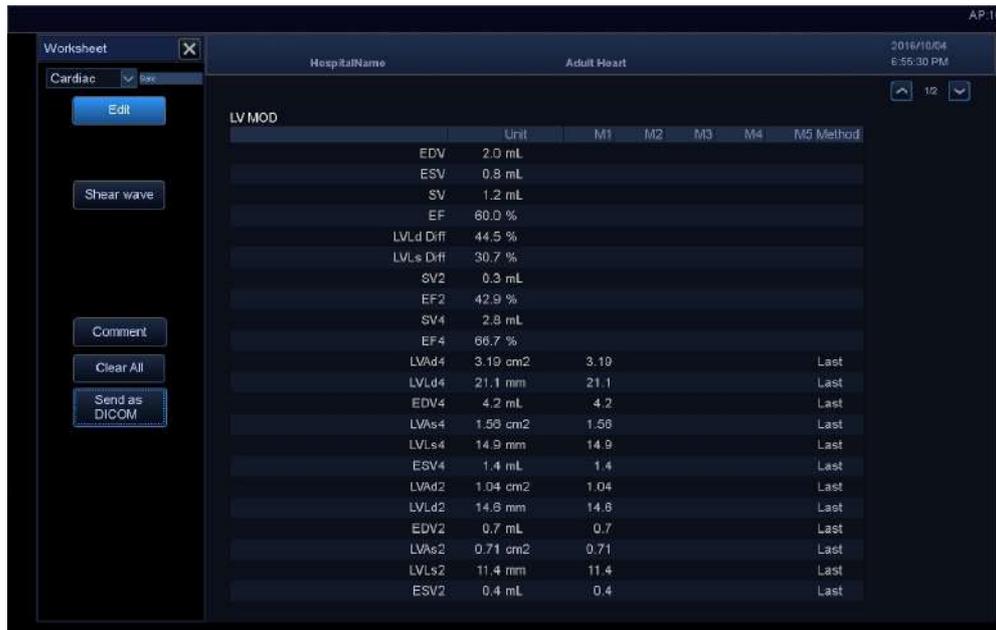
Measurement tool	2D Distance	M Distance	Velocity	Time
2D Angle	○	-----	-----	-----
2D 3 Point Angle Measurement	○	-----	-----	-----
2D Distance	○	-----	-----	-----
2D Cross Area	○	-----	-----	-----
2D Ellipse Area	○	-----	-----	-----
2D Continuous Trace Length	○	-----	-----	-----
2D Continuous Trace Area	○	-----	-----	-----
2D Spline Trace Length	○	-----	-----	-----
2D Spline Trace Area	○	-----	-----	-----
2D Volume	○	-----	-----	-----
2D Mean IMT	○	-----	-----	-----
2D %Stenosis Distance	○	-----	-----	-----
2D %Stenosis Area	○	-----	-----	-----
D Accel	-----	-----	○	○
D HR	-----	-----	-----	○
D Velocity Line Trace	-----	-----	○	○
D Velocity Spline Trace	-----	-----	○	○
D Time	-----	-----	-----	○
D Velocity Continuous Trace	-----	-----	○	○
D Velocity	-----	-----	○	-----
D PI Continuous Trace	-----	-----	○	○
D PI Spline Trace	-----	-----	○	○
D PI Line Trace	-----	-----	○	○
D RI	-----	-----	○	-----
D S/D	-----	-----	○	-----
M Distance	-----	○	-----	-----
M HR	-----	-----	-----	○
M Slope	-----	○	-----	○
M Time	-----	-----	-----	○
2D MOD Continuous Trace	○	-----	-----	-----

○: Required, -----: Not required

Measurement tool	2D Distance	M Distance	Velocity	Time
2D MOD Spline Trace	○	-----	-----	-----
2D LPC	○	-----	-----	-----
M LPC	-----	○	-----	-----
D DcT	-----	-----	○	○
D PHT	-----	-----	○	○
D dP/dt	-----	-----	○	○
D Velocity Continuous Trace with DCT (coronary) measurement	-----	-----	○	○

11.4 Worksheet Display

For data for which manual calibration has been performed, the message "This report includes data produced by manual calibration" is displayed at the top of the screen.



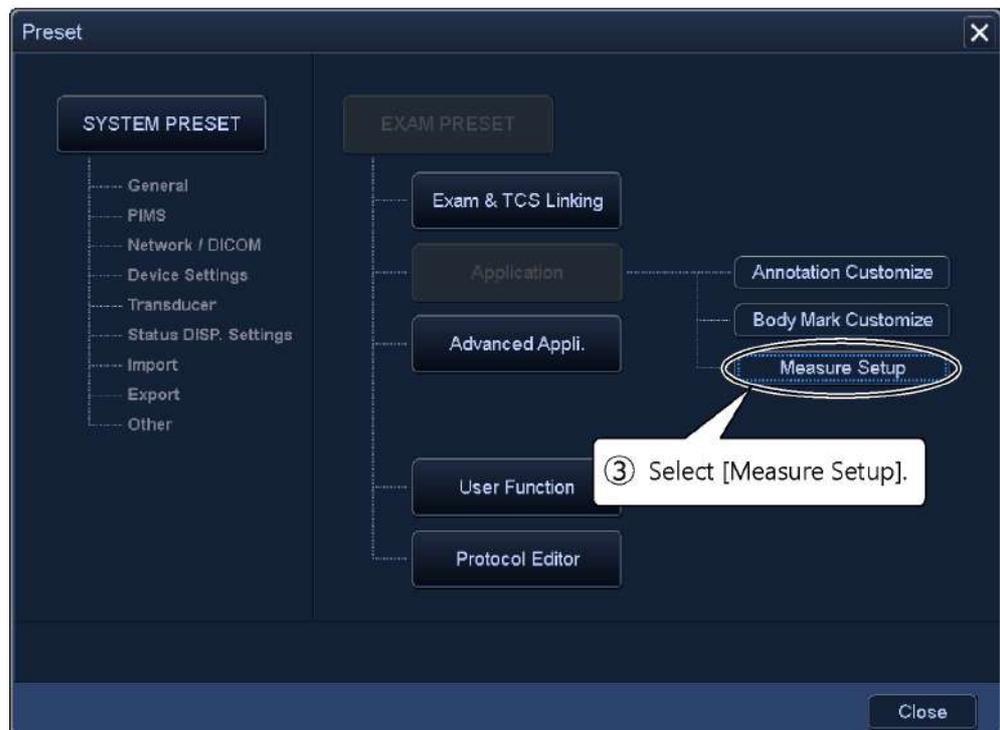
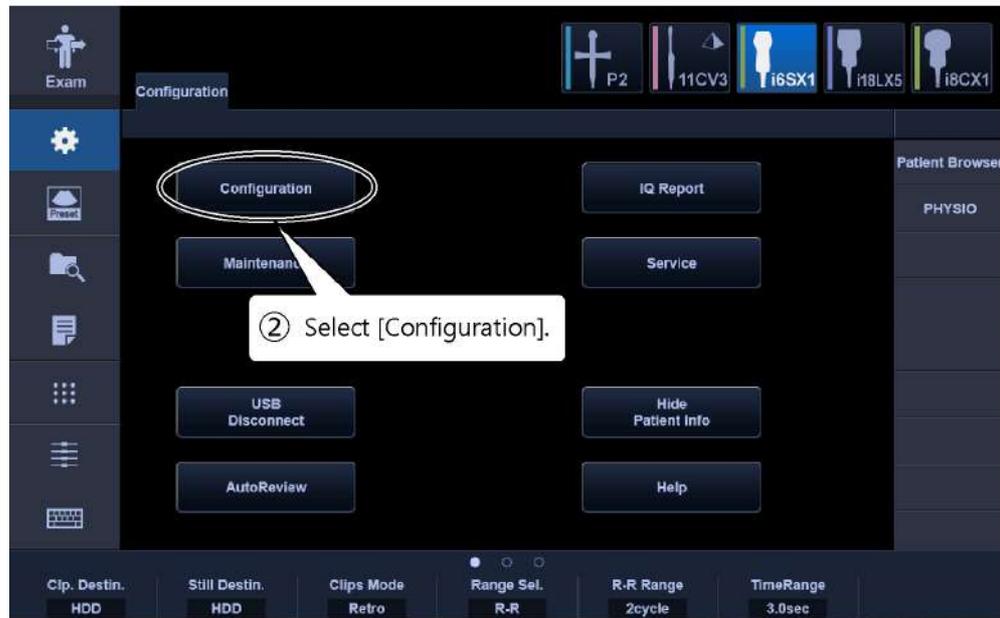
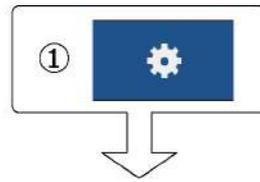
11.5 Accuracy of Measurement When Manual Calibration Is Used

Accuracy of Each Clinical Measurement Parameter on ER Images

Parameter	Range	Accuracy
- Image Depth Scale	Up to 280 mm	< $\pm 5\%$ or < 3.6 mm (when less than 72 mm)
- Physio/Image Scales	Up to 10 s	< $\pm 3\%$
- Distance/Depth	Up to 280 mm	< $\pm 5\%$ or < 3.6 mm (when less than 72 mm)
- Area	Up to 999 cm ²	< $\pm 10\%$ or < 1 cm ² (when less than 57 cm ²)
- Circumference	Up to 1800 mm	< $\pm 5\%$ or < 3.6 mm (when less than 72 mm)
- Angle	0° to 180°	< $\pm 1^\circ$
- Volume	Up to 4200 cm ³	< $\pm 16\%$ or < 58 cm ³ (when less than 373 cm ³)
- Velocity	Up to 2000 cm/s	< $\pm 5\%$ of full scale
- Time	Up to 10 s	< $\pm 3\%$ of full scale
- Heart Rate	20 to 600 bpm	< $\pm 3\%$
- Accel	Up to 20000 cm/s ²	< $\pm 9\%$
- M distance	Up to 280 mm	< $\pm 5\%$ or < 4 mm (when less than 80 mm)
- Slope	Up to 1000 mm/s	< $\pm 9\%$

The default settings of this system differ depending on the initially selected presets. It is possible to preset the application measurement menu that is displayed when the measurement switch is pressed, the measurement methods, the calculation formulas, and other conditions. Presetting can be performed using "Measure Setup".

13.1 Setting Presets





*1: The following four examination types can be selected.

- Radiology
- Vascular
- Cardiac
- OB

*2: The changes are applied immediately after pressing [Save].

NOTE When a measurement preset is to be changed, confirm that the correct examination type is displayed. Only changes for the displayed examination type can be saved.

13.2 Details of Each Preset

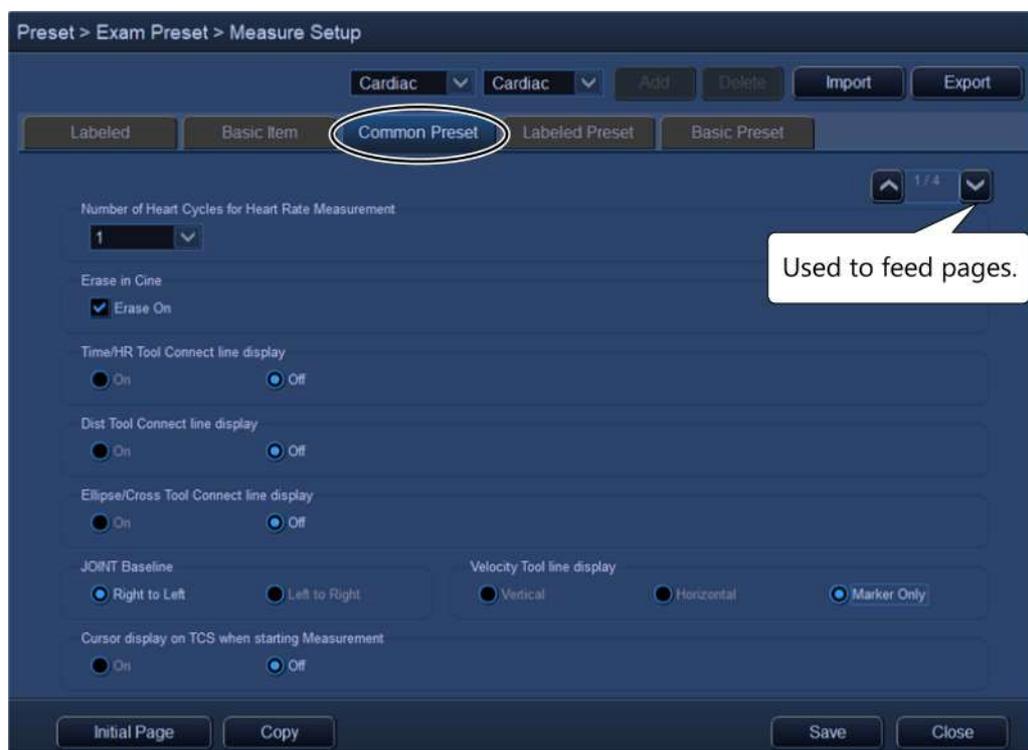
This subsection describes the details of the presets that can be selected and edited using the Measure Setup menu.

13.2.1 Common Preset

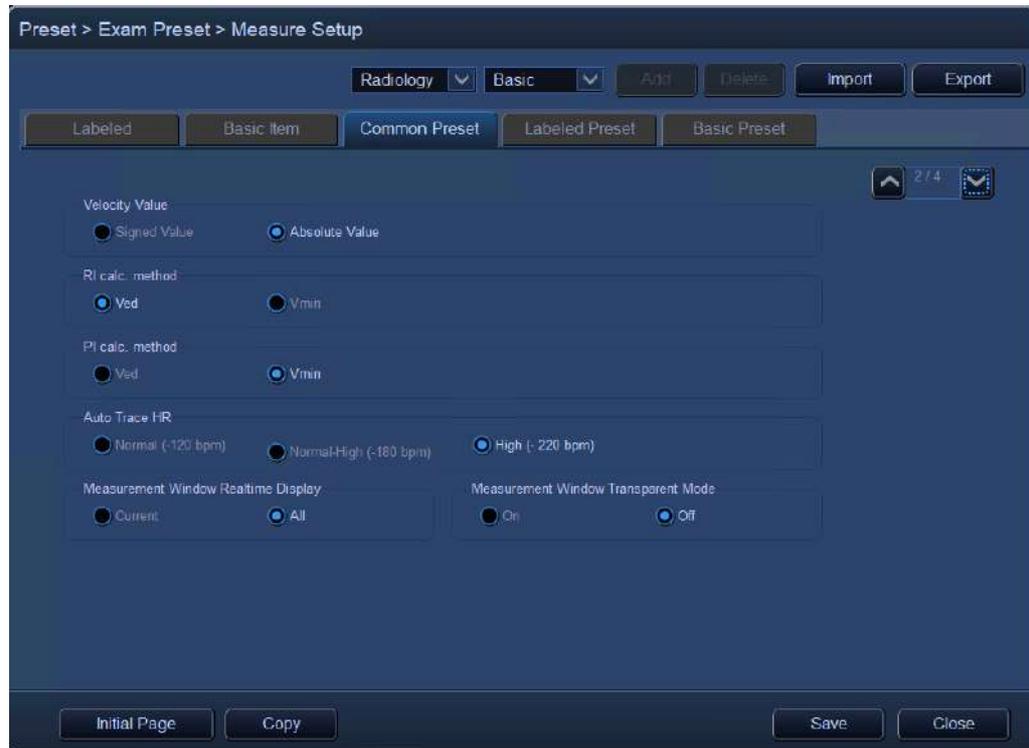
On the Common Preset tab, functions that are applicable to both basic measurements and application measurements can be set.

The items that can be set are the same regardless of the selected examination type. (However, on page 4/4, some items that can be set are different. The following shows an example of the screen when "Cardiac" is selected as the examination type.)

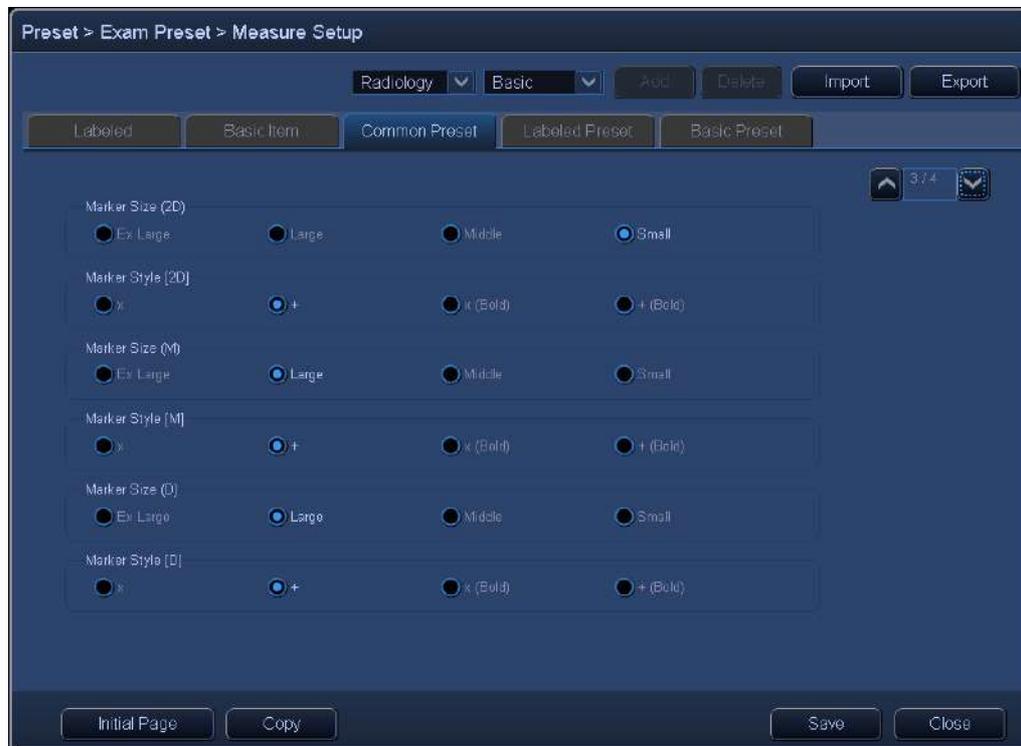
First page



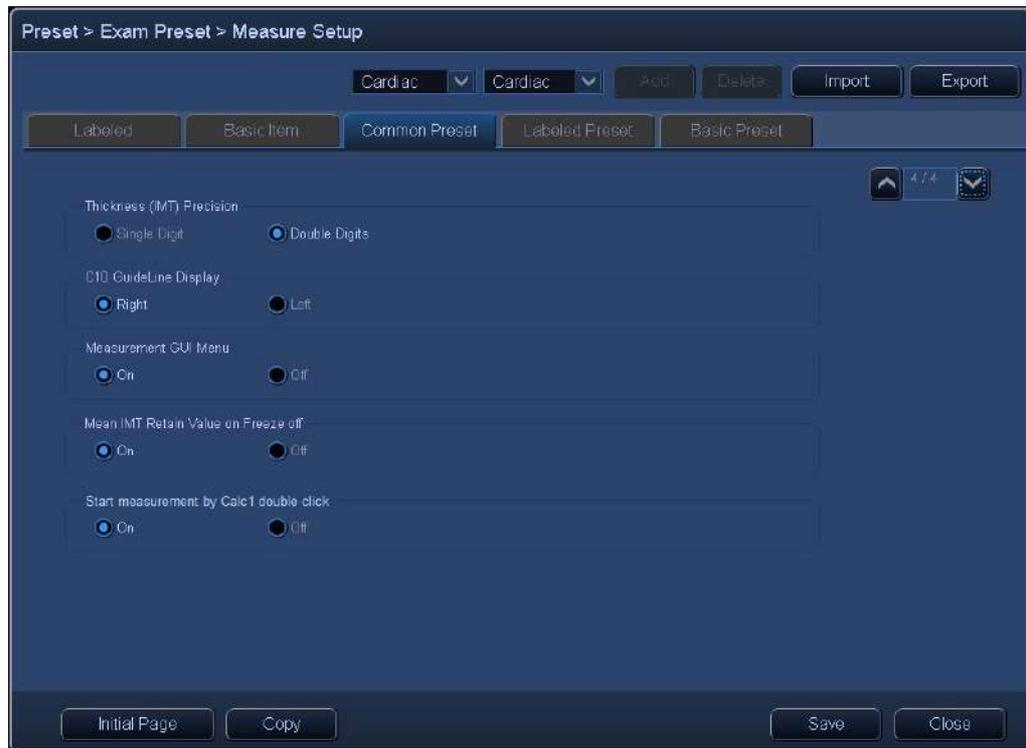
Second page



Third page



Fourth page



Title	Item	Description
Number of Heart Cycles for Heart Rate Measurement	1, 2, 3, 4, 5, 6, 7, 8	Specify the number of cardiac cycles in the measurement range for heart rate measurement.
Erase in Cine	Erase On	Select whether or not the measurement marker is displayed during frame-advance or scroll playback. <input checked="" type="checkbox"/> : Not displayed <input type="checkbox"/> : Displayed
Time/HR Tool Connect line display	On/Off	Specify whether or not a horizontal line connecting the paired vertical lines in time measurement or HR measurement is displayed.
Dist Tool Connect line display	On/Off	Select whether or not a line connecting the start point and end point of the distance measurement is displayed.
Ellipse/Cross Tool Connect line display	On/Off	Select whether or not a line connecting the start point and end point of the area measurement is displayed.

Title	Item	Description
JOINT Baseline	Right to Left	The osseous acetabular angle (α) is displayed as viewed from the right with respect to the baseline, while the cartilaginous acetabular angle (β) is displayed as viewed from the left.
	Left to Right	The osseous acetabular angle (α) is displayed as viewed from the left with respect to the baseline, while the cartilaginous acetabular angle (β) is displayed as viewed from the right.
Velocity Tool line display	Vertical	A vertical line is displayed when the velocity measurement tool is set.
	Horizontal	A horizontal line is displayed when the velocity measurement tool is set.
	Marker Only	Only a velocity marker is displayed when the velocity measurement tool is set.
Cursor display on TCS when starting Measurement	On/Off	This function is turned on when the cursor is to be displayed on the touch panel that measurement menu (measurement switch) is displayed.
Velocity Value	Signed Value	The measured values are output with plus/minus signs.
	Absolute	The measured values are output as absolute values.
RI calc. method	Ved	RI is calculated based on Ved.
	Vmin	RI is calculated based on Vmin.
PI calc. method	Ved	PI is calculated based on Ved.
	Vmin	PI is calculated based on Vmin.

Title	Item	Description
Auto Trace HR	Normal (-120 bpm)	Select this when auto trace is performed for a patient whose velocity waveform speed is normal (adult).
	Normal-High (-180 bpm)	Select this when auto trace is performed for a patient whose velocity waveform speed is slightly faster than normal (adult).
	High (-220 bpm)	Select this when auto trace is performed for a patient whose velocity waveform speed is faster than normal (adult).
Measurement Window Realtime Display	Current	All of the measurement results are displayed only after measurement is completed.
	All	All of the currently available measurement data is displayed during measurement.
Measurement WindowTransparent Mode	On/Off	This function is turned ON when the measurement window is to be displayed in transparent status.
Marker Size (2D)	Ex Large/Large/ Middle/Small	Specify the marker size for 2D measurement.
Marker Style [2D]	×/ + /×(Bold)/ +(Bold)	Specify the shape of the marker for 2D measurement.
Marker Size (M)	Ex Large/Large/ Middle/Small	Specify the marker size for M mode measurement.
Marker Style [M]	×/ + /×(Bold)/ +(Bold)	Specify the shape of the marker for M mode measurement.
Marker Size (D)	Ex Large/Large/ Middle/Small	Specify the marker size for Doppler measurement.
Marker Style [D]	×/ + /×(Bold)/ +(Bold)	Specify the shape of the marker for Doppler measurement.
Thickness (IMT) Precision	Single Digit	The measurement value obtained in IMT measurement or Thickness measurement is displayed to one decimal place.
	Double Digits	The measurement value obtained in IMT measurement or Thickness measurement is displayed to two decimal places for reference. ^{*1,*2,*3}

Title	Item	Description
C10 GuideLine Display	Right/Left	Caliper orientation setting for IMT-C10 measurement <Right> ●: Right  : Left <Left> ●: Left  : Right
Measurement GUI Menu ^{*4}	On/Off	Select display/hide for the measurement menu on the monitor.
IMT-C10 meanIMT ^{*5}	Only C10/C10 and meanIMT	Select the measurement item for IMT-C10 measurement using the Auto-IMT measurement method. <Only C10> Only IMT-C10 is measured. <C10 and meanIMT> IMT-C10 is measured and the average value within a 5 mm range toward/away from the IMT is calculated.
MDA usage: Separation of basic and labeled measurement ^{*6}	Not separated/ Separated	Set whether to separate MDAs for basic measurement and application measurement. <Not separated> Basic measurement and application measurement are displayed on the same MDA. <Separated> Basic measurement and application measurement are displayed on the separated MDAs.
Mini Report ^{*6}	On/Off	Set this function to ON to display the simplified measurement result on the screen.
Mean IMT Keep Value on Freeze off	On/Off	Setting for releasing Freeze without performing meanIMT measurement up to IMT3 <On> The next meanIMT measurement is performed by resuming the previous measurement. <Off> The next meanIMT measurement is performed starting from IMT1.

Title	Item	Description
Start measurement by Calc1 double click	On/Off	Setting for starting measurement by pressing the [Calc1] button twice in succession
Ellipse: Switching of floating caliper by Next ^{*6}	On/Off	In Ellipse measurement, set to ON to switch the floating point ^{*7} by 

*1: It may not be possible to obtain a value that is accurate to two decimal places, depending on the characteristics of the image.

Values displayed to two decimal places should be used only for reference.

*2: Although the markers can be moved in steps of 1 pixel on the screen, this does not correspond to an indicated value change of 0.01 due to the resolution of ultrasound images. The indicated value changes in increments greater than 0.01 as a mark is moved.

*3: When display to two decimal places has been selected, a single quotation mark (') is displayed before the measurement value and to the calculation value that is calculated based on the measurement value.

*4: This menu is displayed only when "Cardiac", "Vascular", or "Radiology" is selected as the measurement examination type.

*5: This menu is displayed only when "Vascular" is selected as the measurement examination type.

*6: This menu is displayed only when "OB" is selected as the measurement examination type.

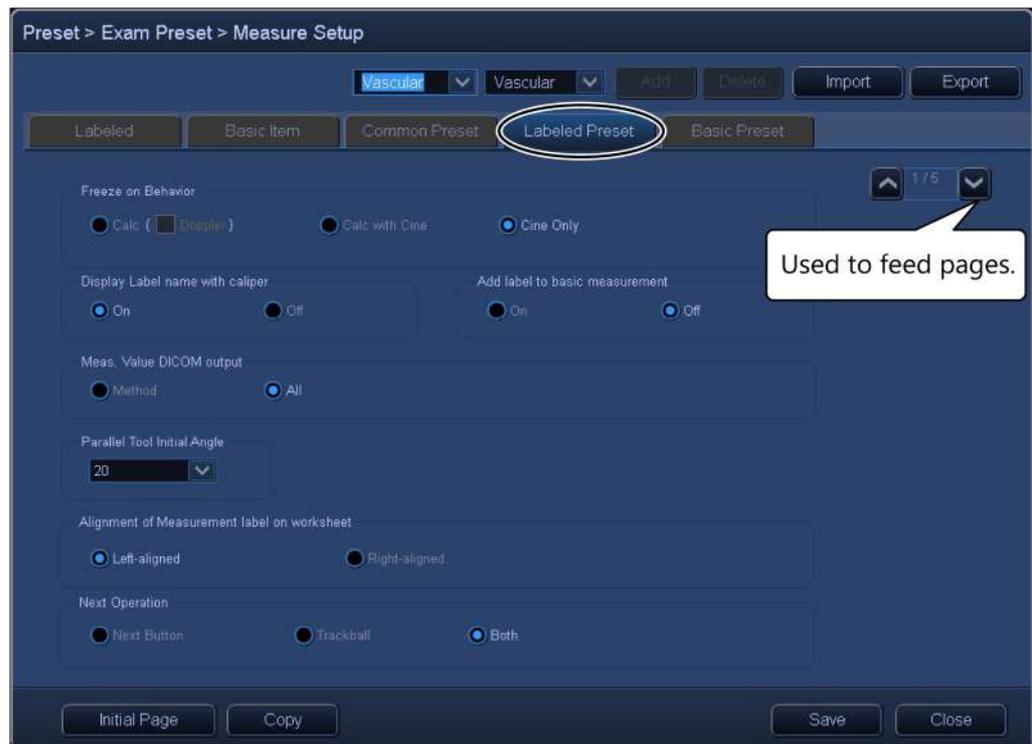
*7: Measurement marker is in movable state.

13.2.2 Labeled Preset

The items that can be set differ according to the selected examination type.

13.2.2.1 Items that are common to all examination types

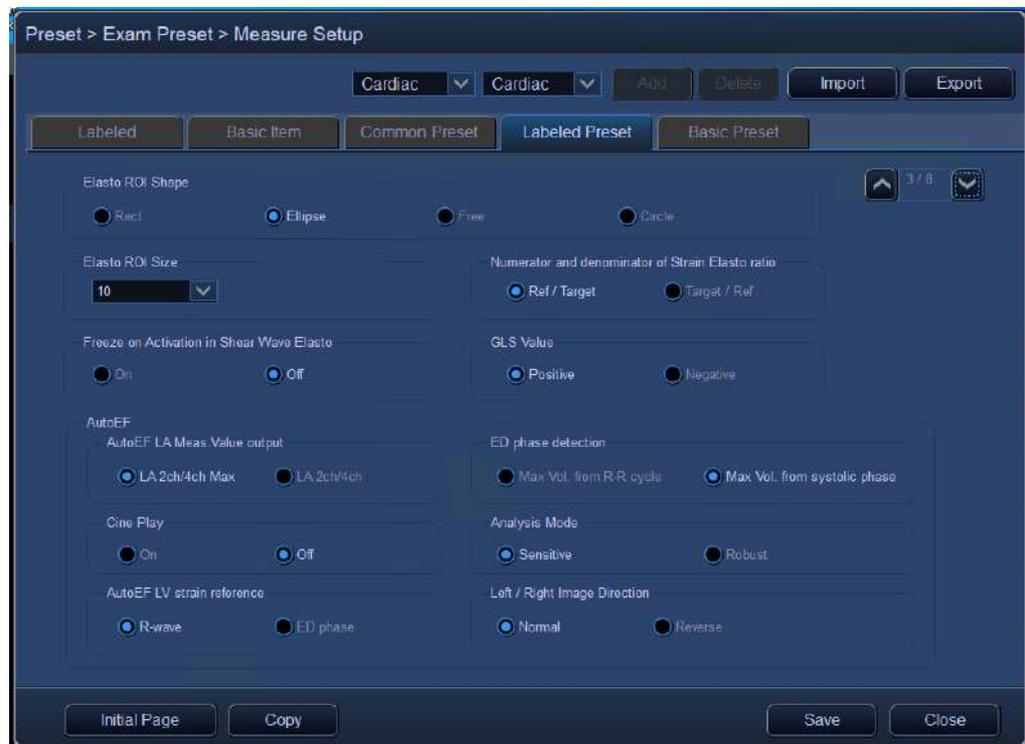
First page*¹ (All items except "Freeze on Behavior" on this page are applicable. In the example shown below, "Vascular" is selected as the examination type)



*1: The page in which the screen above is displayed differs depending on the selected exam type (refer to the table below).

Selected exam type	Display page
OB	Fourth page
Cardiac	Second page
Vascular	First page
Radiology	First page

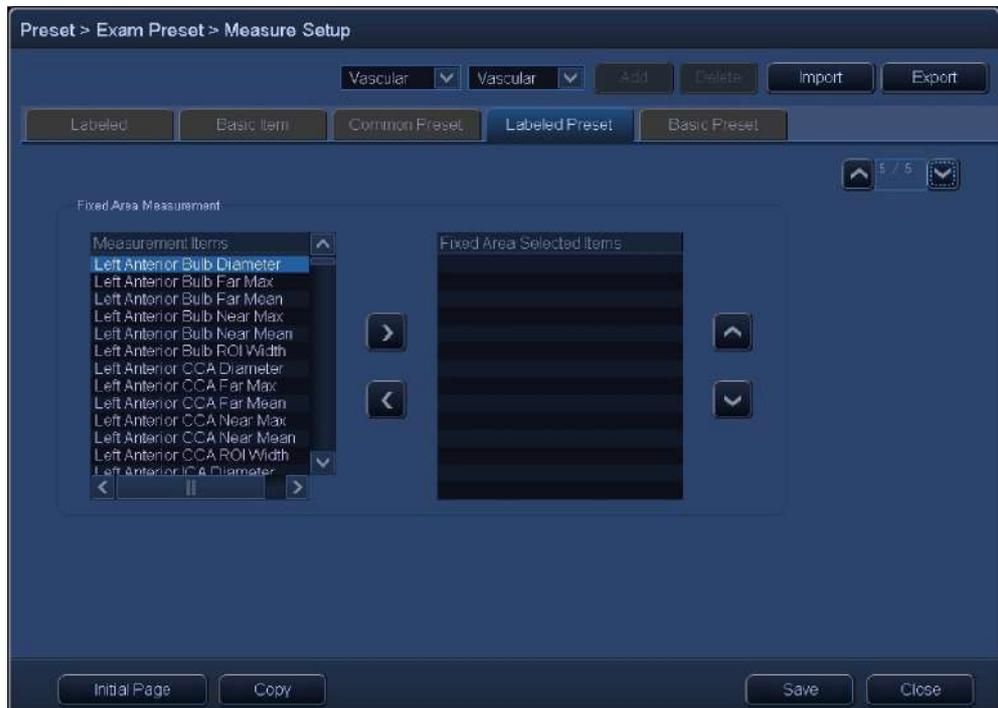
Third page^{*2} (In the example shown below, "Cardiac" is selected as the examination type)



*2: The page in which the screen above is displayed differs depending on the selected exam type (refer to the table below). Preset items also differ depending on the exam type. The screen above is for Cardiac.

Selected exam type	Display page
OB	Fifth page
Cardiac	Third page
Vascular	Second page
Radiology	Second page

Fifth page *3



*3: The page in which the screen above is displayed differs depending on the selected exam type (refer to the table below).

Selected exam type	Display page
OB	Sixth page
Cardiac	Fifth page
Vascular	Fifth page
Radiology	Fourth page

Title	Item	Description
Display Label name with caliper	On/Off	Sets the display of the label name for application measurement with caliper. ON : The label name is displayed. OFF : The label name is not displayed.
Add label to basic measurement ^{*7}	On/Off	Sets whether to apply application measurement labels to basic measurement. ON : The function is enabled. OFF : The function is disabled.
Meas. Value DICOM output	Method/All	Specify the data type used for SR output. Method : Representative value All : All measured data and representative value
Parallel Tool Initial Angle	-90 to 90	Specify the default angle of the measurement marker for parallel measurement in 10° increments. Initial value: 20°
Alignment of Measurement label on worksheet	Left-aligned/ Right-aligned	Sets the display method for the measurement name and calculation name in the Worksheet. <Left-aligned> The items are displayed by aligning it to the left. <Right-aligned> The items are displayed by aligning it to the right.
Elasto ROI Shape	Rect/Ellipse/Free/ Circle	Select the shape of the ROI for measurement in Elastography mode. Rect : Rectangular (rectangular solid) Ellipse : Elliptical (elliptical solid) Free : Desired shape drawn using a spline curve Circle : Circular (circular solid)
Elasto ROI Size	1 to 50	Diameter of the ROI when Circle is selected (mm).

Title	Item	Description
Next Operation	Next Button/ Trackball/ Both	Sets the method for the next measurement to be started. Next Button:  button Trackball: Trackball Both:  button and trackball
Numerator and denominator of Strain Elasto ratio	Ref/Target Target/Ref	Select whether the strain elastography ratio is calculated with the target value set as the denominator or with the reference value set as the denominator. Ref/Target: The target value is set as the denominator. Target/Ref: The reference value is set as the denominator.
Freeze on Activation in Shear Wave Elasto	On/Off	Select whether Shear wave mode measurement can be performed when Freeze is ON. On: Measurement can be performed. Off: Measurement cannot be performed.
GLS Value ^{*4}	Positive/Negative	Setting for the sign of LV GLS Positive: Positive display Negative: Negative display
ED phase detection ^{*4}	Max Vol. from R-R cycle / Max Vol. from systolic phase	Setting for when the end-diastolic phase is detected in Auto EF LV mode. Max Vol. from R-R cycle: The end-diastolic phase is detected as the time when the LV volume reaches maximum during the cardiac cycle to be analyzed. Max Vol. from systolic phase: The end-diastolic phase is detected as the time when the LV volume reaches maximum during the phase before the end-systolic phase.

Title	Item	Description
AutoEF LA Meas. Value output ^{*4}	LA 2ch/4ch Max / LA 2ch/4ch	Setting of LA measurement values for AutoEF LA measurement and AutoEF LV/LA measurement. LA 2ch/4ch Max: Calculate the measurement value of the LA 2ch Max switch and the LA 4ch Max switch. LA 2ch/4ch: Calculate the measurement value of the LA 2ch switch and the LA 4ch switch.
AutoEF Cine Play ^{*4}	On/Off	Setting for the operation after AutoEF completes On: Loop playback starts. Off: Loop playback does not start.
Analysis Mode ^{*4}	Sensitive/Robust	Setting for AutoEF tracking characteristics Sensitive: Priority is given to temporal and spatial accuracy. Robust: Priority is given to analytical reproducibility.
AutoEF LV strain reference ^{*4}	R-wave/ED phase	Setting for the reference phase of AutoEF LV GLS R-wave: Left side R wave ED phase: ED phase used for EDV calculation
Left/Right Image Direction ^{*4}	Normal/Reverse	Setting for the direction of the target image to be analyzed in AutoEF. Normal: Use to display the left ventricle toward the right and the right ventricle toward the left when collecting four-chamber cross-sectional images. Reverse: Use to display the left ventricle toward the left and the right ventricle toward the right when collecting four-chamber cross-sectional images.
Auto Activation in Volume ^{*5}	Multi-Auto Volume Measurement (AVM)/2D	The tab to be activated by default when measurement is started in Mecha4D mode is set.

Title	Item	Description
CTAR measure order ^{*5}	Chest to Heart	Measure the thoracic area first in CTAR measurement.
	Heart to Chest	Measure the cardiac area first in CTAR measurement.
BPD Caliper Placement in S.A.I. for OB ^{*5}	Outer-to-Outer	Moving the caliper cursor on the outer calvaria moves to the outer line of the calvaria when BPD is measured with the Assist function set to [Semi (AI)] or [Auto (AI)] in an image acquired using a transducer that supports S.A.I. for OB.
	Outer-to-Inner	Moving the caliper cursor on the outer calvaria moves to the inner line of the calvaria when BPD is measured with the Assist function set to [Semi (AI)] or [Auto (AI)] in an image acquired using a transducer that supports S.A.I. for OB.
Display Doppler Gate information in Worksheet ^{*6}	On/Off	Setting for Worksheet during Doppler measurement (Display of Doppler angle and Doppler gate position) On: Doppler angle and Doppler gate position are displayed. Off: Doppler angle and Doppler gate position are not displayed.
Fixed Area Measurement	All 2D measurement and 2D calculation labels for each exam type (including user registered items)	Select the items to be displayed in the fixed area of the MDA (area in which items for which measurement is completed are displayed). Up to 10 items
Workflow Navigator ^{*4}	Diastolic Dysfunction, Left Ventricular Hypertrophy, Pulmonary Hypertension	Sets items to be used in Workflow Navigator.

*4: This menu is displayed only when "Cardiac" is selected as the measurement examination type.

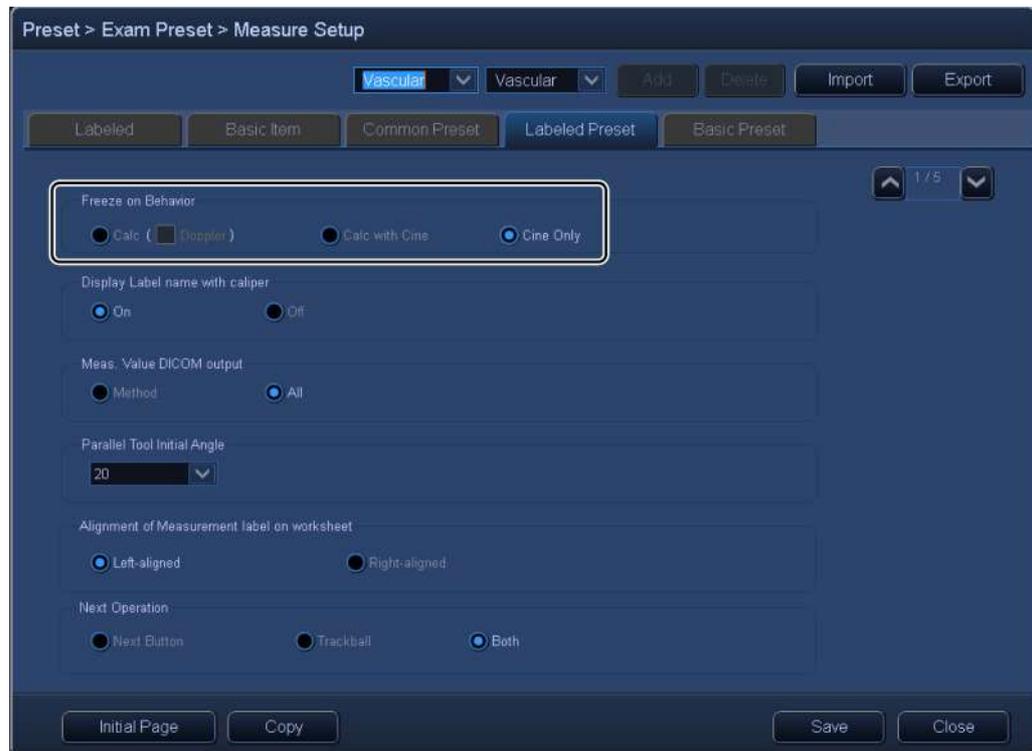
*5: This menu is displayed only when "OB" is selected as the measurement examination type.

*6: This menu is displayed only when "Vascular" is selected as the measurement examination type.

*7: This function is disabled when "MDA usage: Separation of basic and labeled measurement" is set to "Separated".

13.2.2.2 Setting items commonly used in examination types (Cardiac, Vascular, and Radiology)

First page*¹ (In the example shown below, "Vascular" is selected as the examination type. Setting items, except "Freeze on Behavior", are described in "Items that are common to all examination types". Refer to the description.)



*1: The page in which the screen above is displayed differs depending on the selected exam type (refer to the table below).

Selected exam type	Display page
Cardiac	Second Page
Vascular	First Page
Radiology	First Page

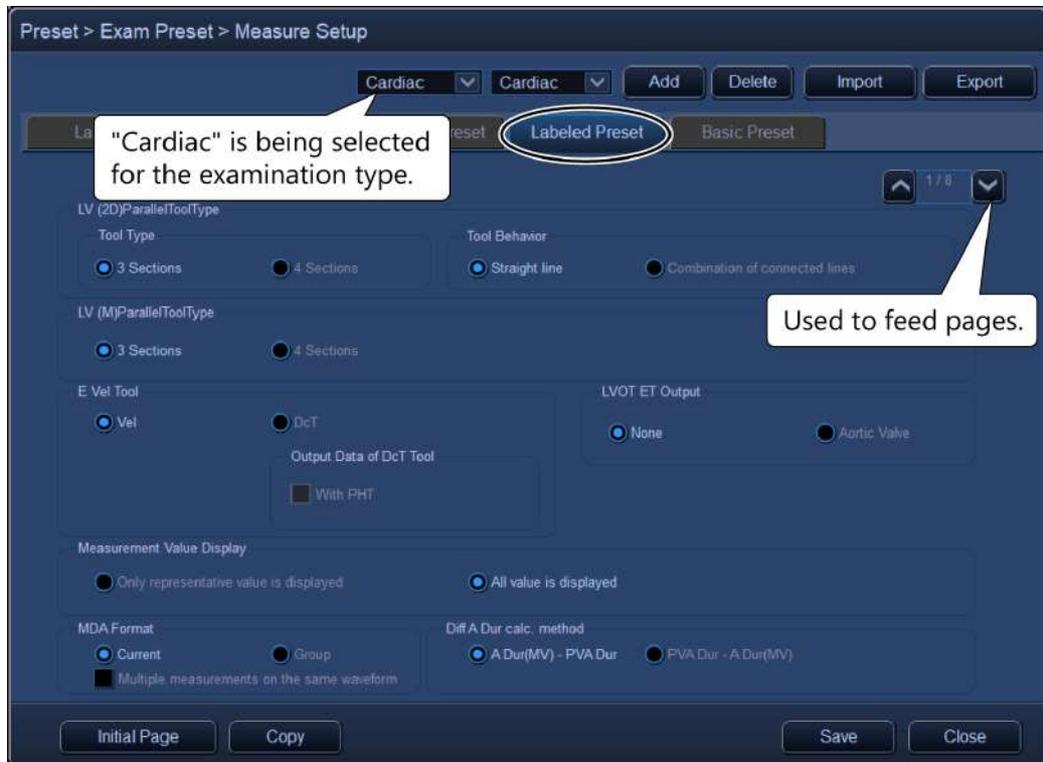
Title	Item	Description
Freeze on Behavior	Calc/ Calc with Cine/ Cine only	Behavior when Freeze On in 2D mode is set. Calc: The measurement selected for Next sequence starts. Calc with Cine: Cine feeding using trackball possible and measurement menu displayed on touch panel. Cine only: Cine feeding and image quality adjustment possible. Measurement menu is not displayed on the touch panel.
	(<input type="checkbox"/> Doppler)	Behavior when Freeze On is set in D mode.
	<input type="checkbox"/> Auto Measurement*	Behavior of automatic S/D measurement when Freeze On is set.

* : Auto Measurement is displayed only when both of the following conditions are satisfied.

- When "Vascular" is selected as the examination type
- When "Calc with Cine" is selected for "Freeze on Behavior"

13.2.2.3 When "Cardiac" is selected as the examination type

First page (For the third page and fifth page, refer to the subsection "Items that are common to all examination types".)



Title	Item	Description
LV (2D) ParallelToolType	3 sections	Three segments (interventricular septal thickness, LV endocardial diameter, and LV posterior wall thickness) are measured in parallel.
	4 sections	Four segments (RV diameter, interventricular septal thickness, LV endocardial diameter, and LV posterior wall thickness) are measured in parallel.
Tool Behavior	Straight line	Parallel measurement tools are set to measure all segments on a straight line.
	Combination of connected lines	Parallel measurement tools are set to measure the distance of each segment individually.

Title	Item	Description
LV (M) ParallelToolType	3 sections	Three segments (interventricular septal thickness, LV endocardial diameter, and LV posterior wall thickness) are measured in parallel.
	4 sections	Four segments (RV diameter, interventricular septal thickness, LV endocardial diameter, and LV posterior wall thickness) are measured in parallel.
E Vel Tool	Vel	The E wave of the LV inflow is measured using the velocity measurement method.
	Dct	E-wave measurement on the E-wave waveform for LV inflow is performed together with DcT measurement.
	Output Data of DcT Tool	Specify whether or not PHT is measured together with DcT. <input checked="" type="checkbox"/> : PHT is measured together. <input type="checkbox"/> : PHT is not measured together.
LVOT ET Output	None	ET is not output in LVOT V Trace.
	Aortic Valve	ET is output as ET of Aortic Valve in LVOT V Trace.
Measurement Value Display	Only representative value is displayed	Only representative values are displayed on the Worksheet screen.
	All value is displayed	All values are displayed on the Worksheet screen.
MDA Format	Current	Displays measurement values obtained using calipers displayed on the screen.
	Group	Displays all measurement values and calculated values of the same group as the currently measured item.*1

Title	Item	Description
Multiple measurements on the same waveform		<input checked="" type="checkbox"/> : Doppler application measurement can be performed multiple times on the Doppler waveform.
		<input type="checkbox"/> : Doppler application measurement can be performed once on the Doppler waveform.
Diff A Dur calc. method	A Dur(MV) – PVA Dur	The calculation item "Diff A Dur" is calculated using the "A Dur(MV) - PVA Dur" method.
	PVA Dur – A Dur(MV)	The calculation item "Diff A Dur" is calculated using the "PVA Dur - A Dur(MV)" method.

*1: Contact your service representative for details of "Group" setting
 If Cardiac or Vascular is selected as the examination type when Group is set, each item name below is displayed in short form in the MDA and on the Worksheet screen.

Cardiac: Author name for the measurement method

Vascular: Blood vessel positions on the left and right

Second page

Preset > Exam Preset > Measure Setup

Cardiac Cardiac Add Delete Import Export

Labeled Basic Item Common Preset Labeled Preset Basic Preset

Freeze on Behavior
 Calc (Doppler) Calc with Cine Cine Only

Display Label name with caliper
 On Off

Add label to basic measurement
 On Off

Meas. Value DICOM output
 Method All

Parallel Tool Initial Angle
 20

Alignment of Measurement label on worksheet
 Left-aligned Right-aligned

Auto Measurement Initial Beat
 E/A 5 TR 5 LVOT 5 AV 5 EPRIME 5 RVOT 5 PV 5

Auto Measurement Initial Threshold
 E/A 0 TR 0 LVOT 1 AV 1 e' 0 a' 0 s' 0 RVOT 1 PV 1

Auto e' Threshold items by Z dial
 e', a', s' e', a'

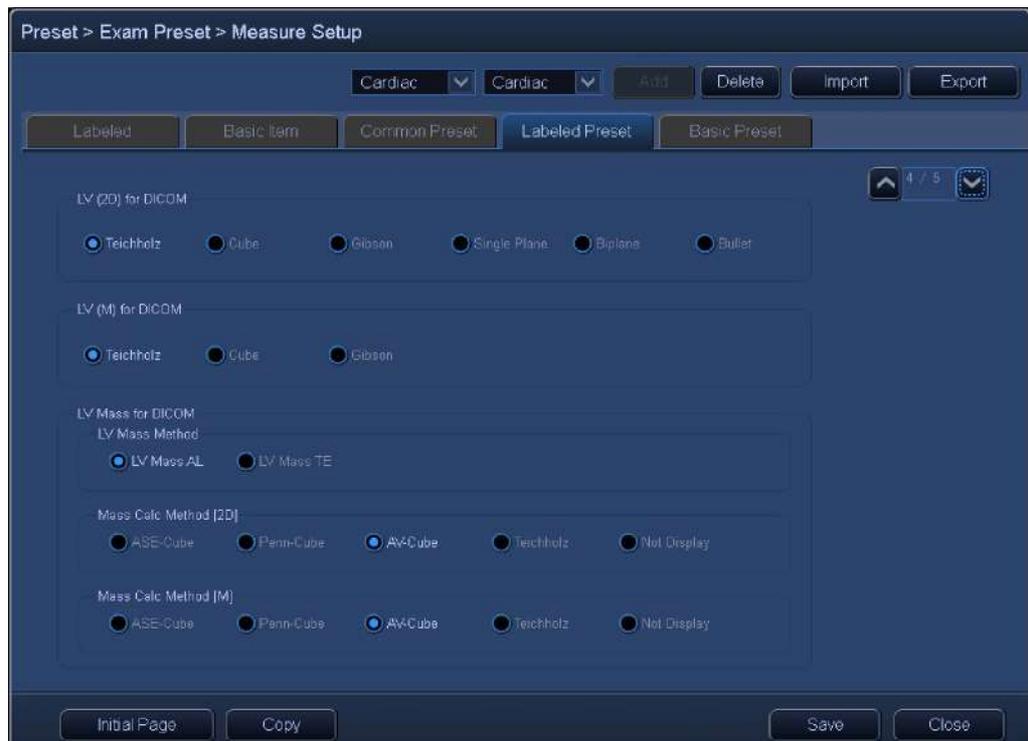
Next Operation
 Next Button Trackball Both

Initial Page Copy Save Close

Title	Item	Description
Auto Measurement Initial Beat	1 to 5	Specify the number of waveforms to be measured in Auto E/A, Auto TR, Auto LVOT, Auto AV, Auto RVOT, Auto PV, and Auto e' measurement.*2
Auto Measurement Initial Threshold	Auto E/A, Auto TR, Auto e', a', s': -15 to 15 Auto LVOT, Auto AV, Auto RVOT, Auto PV: 1 to 11	Specify the threshold initial values for Auto E/A, Auto TR, Auto LVOT, Auto AV, Auto RVOT, Auto PV, and Auto e' measurement.
Auto e' Threshold items by Z dial	e', a', s'	When Auto e' measurement is performed, change the threshold for e', a', and s' using  .
	e', a'	When Auto e' measurement is performed, change the threshold for e' and a' using  .

*2: When display of multiple measurement values on the MDA is set, only some of the selected waveforms may be displayed. To specify the desired number of waveforms, adjust the number of measurement values to be displayed on the MDR.

Fourth page



Title	Item	Description
LV (2D) for DICOM ^{*3}	Teichholz, Cube, Gibson, Single Plane, Biplane, Bullet	Specify the LV calculation method (2D mode) to be referred to in some DICOM servers.
LV (M) for DICOM ^{*3}	Teichholz, Cube, Gibson	Specify the LV calculation method (M mode) to be referred to in some DICOM servers.
LV Mass Method ^{*3}	LV Mass AL, LV Mass TE	Specify the LV Mass calculation method to be referred to in some DICOM servers.
Mass Calc Method [2D] ^{*3}	ASE-Cube, Penn-Cube, AV-Cube, Teichholz, Not Display	Specify the LV Mass calculation method (2D mode) to be referred to in some DICOM servers. Data transfer is not performed when "Not Display" is set.
Mass Calc Method [M] ^{*3}	ASE-Cube, Penn-Cube, AV-Cube, Teichholz, Not Display	Specify the LV Mass calculation method (M mode) to be referred to in some DICOM servers. Data transfer is not performed when "Not Display" is set.

^{*3}: Changes to these settings are not normally required, because these are not functions that only transfer the specified methods to the DICOM server.

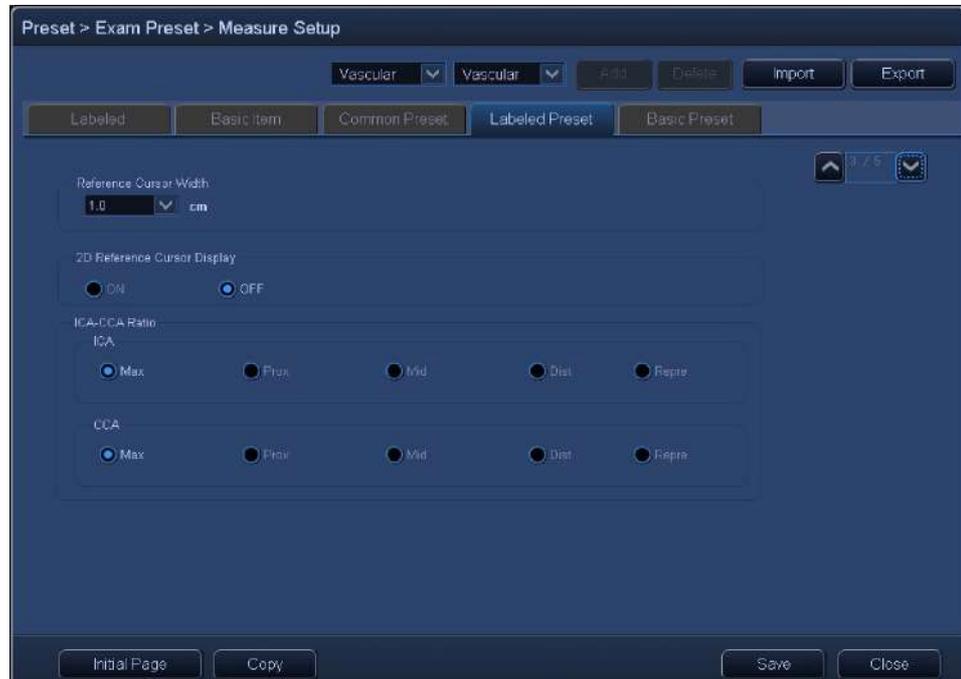
Eighth page



Title	Item	Description
Auto e' measure tool style	Auto TDI RV	Set the additional measurements for e', a', and s' in Auto TDI RV measurement.
	Auto TDI sep	Set the additional measurements for e', a', and s' in Auto TDI sep measurement.
	Auto TDI lat	Set the additional measurements for e', a', and s' in Auto TDI lat measurement.

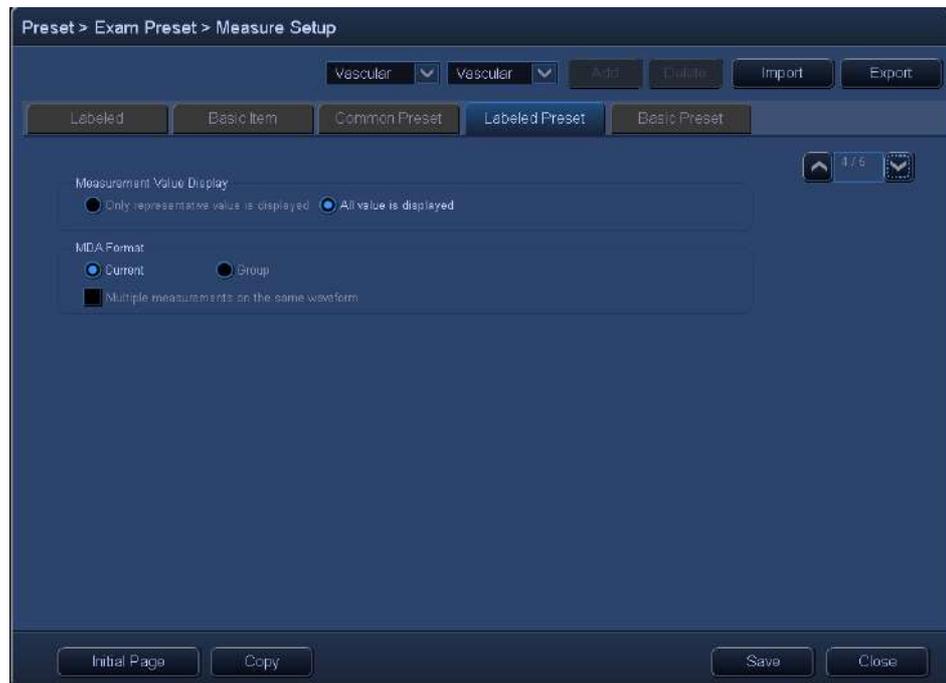
13.2.2.4 When "Vascular" is selected as the examination type

Third page (For the first page, second page, and fifth page, refer to the subsection "Items that are common to all examination types".)



Title	Item	Description
Reference Cursor Width	0.5, 1.0, 1.5, 2.0	Select the width between two bars of 2D Reference cursor.
2D Reference Cursor Display	ON, OFF	Specify whether or not 2D Reference cursor is displayed.
ICA-CCA Ratio	ICA Max, Prox, Mid, Dist, Repre	Select the ICA value to be used for Ratio.
	CCA Max, Prox, Mid, Dist, Repre	Select the CCA value to be used for Ratio.
Auto-IMT Precision	Double Digits	When the Auto-IMT tool is used, the result is displayed to the second decimal place.
	Three Digits	When the Auto-IMT tool is used, the result is displayed to the third decimal place.

Fourth page



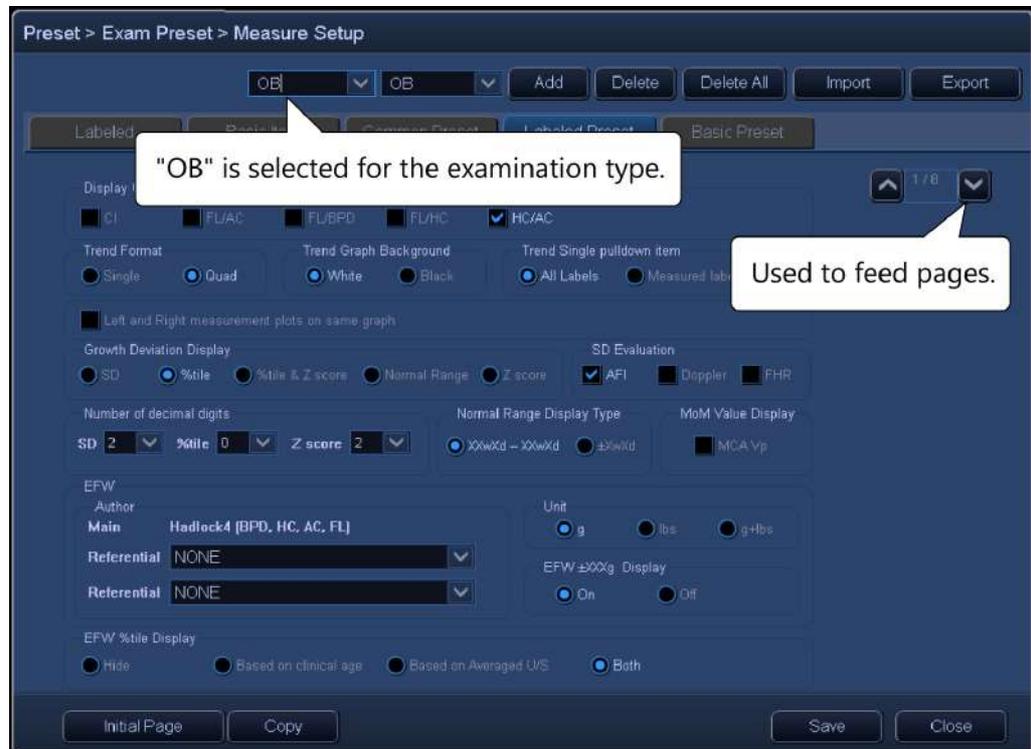
Title	Item	Description
Measurement Value Display	Only representative value is displayed	Only representative values are displayed on the Worksheet screen.
	All value is displayed	All values are displayed on the Worksheet screen.
MDA Format	Current	Displays measurement values obtained using calipers displayed on the screen.
	Group	Displays all measurement values and calculated values of the same group as the currently measured item.*1
Multiple measurements on the same waveform		<input checked="" type="checkbox"/> : Doppler application measurement can be performed multiple times on the Doppler waveform. <input type="checkbox"/> : Doppler application measurement can be performed once on the Doppler waveform.

*1: Contact your service representative for details of "Group" setting
If Cardiac or Vascular is selected as the examination type when Group is set, each item name below is displayed in short form in the MDA and on the Worksheet screen.
Cardiac: Author name for the measurement method
Vascular: Blood vessel positions on the left and right

NOTE If Radiography is selected as the examination type, the same setting items as above are displayed on the third page.

13.2.2.5 When "OB" is selected as the examination type

First page



Second page

Preset > Exam Preset > Measure Setup

OB ▾ OB ▾ Add Delete Delete All Import Export

Labeled Basic Item Common Preset Labeled Preset Basic Preset

2 / 8

U/S GA

BS DRL BPD OFD HC HA AC

FTA AA FL HL

CTAR Tool

CTAR CTCR Axis P Area

% Ratio % Ratio

P Area Display

Only P position setting

Auto NT

Magnification Warning On Off

Edge Line Display On Off

GA Calculated by

Only GA Chart FG Chart with Clinical Age

Calculated HC

Used for EFW & Ratio If HC has been measured, use it for calculation

Calculated AC

Used for EFW & Ratio If AC has been measured, use it for calculation

Initial Page Copy Save Close

Third page

Preset > Exam Preset > Measure Setup

OB ▾ OB ▾ Add Delete Delete All Import Export

Labeled Basic Item Common Preset Labeled Preset Basic Preset

3 / 8

Evaluate Type in MDA

GA SD EDD Show

Author Name in MDA

Evaluate Type in Worksheet

GA & SD GA & SD & Normal Range

Extrapolated

On Off

Duration Of Gestation

EDD = LMP + 40w0d + 0 ▾ days

Display calculated LMP

On Off

Always Display EFW Page in Worksheet

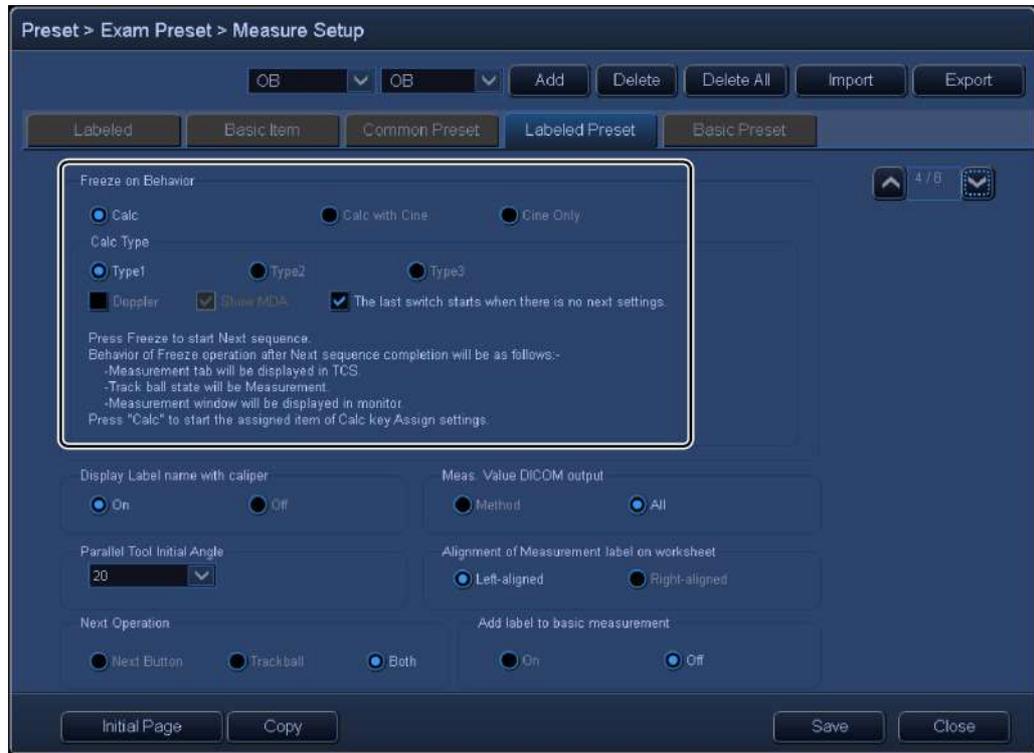
On Off

Multiple measurements on the same waveform

Multiple measurements on the same waveform

Initial Page Copy Save Close

Fourth page (Setting items, except "Freeze on Behavior", are described in "Items that are common to all examination types". Refer to the description.)



Title	Item	Description
Freeze on Behavior	Calc/ Calc with Cine/ Cine only	Behavior when Freeze On in 2D mode is set. Calc: Measurement selected for Next sequence starts. Calc with Cine: Cine feeding using trackball possible and measurement menu displayed on touch panel. Cine only: Cine feeding and image quality adjustment possible. Measurement menu is not displayed on the touch panel.
	Calc Type: Type1/Type2/Type3	The detailed behavior for Calc is set. *1
	<input type="checkbox"/> Doppler	The behavior when Freeze On is set in D mode. *2
	<input type="checkbox"/> Show MDA	Set whether or not MDA is displayed when Freeze is turned ON after Next sequence is completed. *3
	<input type="checkbox"/> The last switch starts when there is no next settings.	If Next sequence is not set, set whether or not the last measurement performed is started up when Freeze is turned ON. *4

*1: Based on the type that is set, the following behavior is applied. These settings are only effective for Calc.

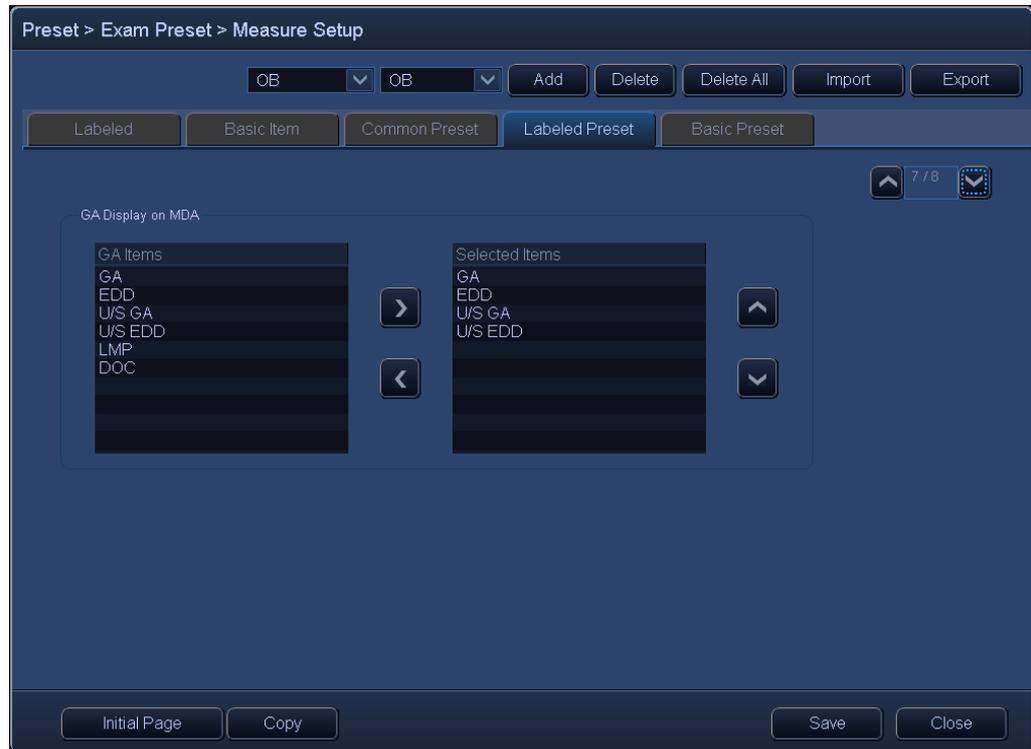
Type1	<p>Start Next sequence with Freeze ON. When Freeze is turned ON after completing Next sequence, the following are applied.</p> <ul style="list-style-type: none"> • The measurement menu is displayed on the touch panel. • Measurement can be performed using the trackball. • MDA is displayed. <p>Press [Calc] to start up "Calc Key Assign" setting.</p>
Type2	<p>Start Next sequence with Freeze ON. When Freeze is turned ON after completing Next sequence, the following are applied.</p> <ul style="list-style-type: none"> • The measurement menu is displayed on the touch panel. • Cine feeding can be performed using the trackball. • Display of MDA can be set with Show MDA. <p>Press [Calc] to start up "Calc Key Assign" setting.</p>
Type3	<p>Press [Calc] to start Next sequence. When Freeze is turned ON after completing Next sequence, the following are applied.</p> <ul style="list-style-type: none"> • Imaging-related items are displayed on the touch panel. • Cine feeding can be performed using the trackball. <p>Press [Calc] after completing Next sequence to start up "TCS Tab Start Item" settings.</p>

*2: Available when "Calc Type" is set to "Type1" or "Type2"

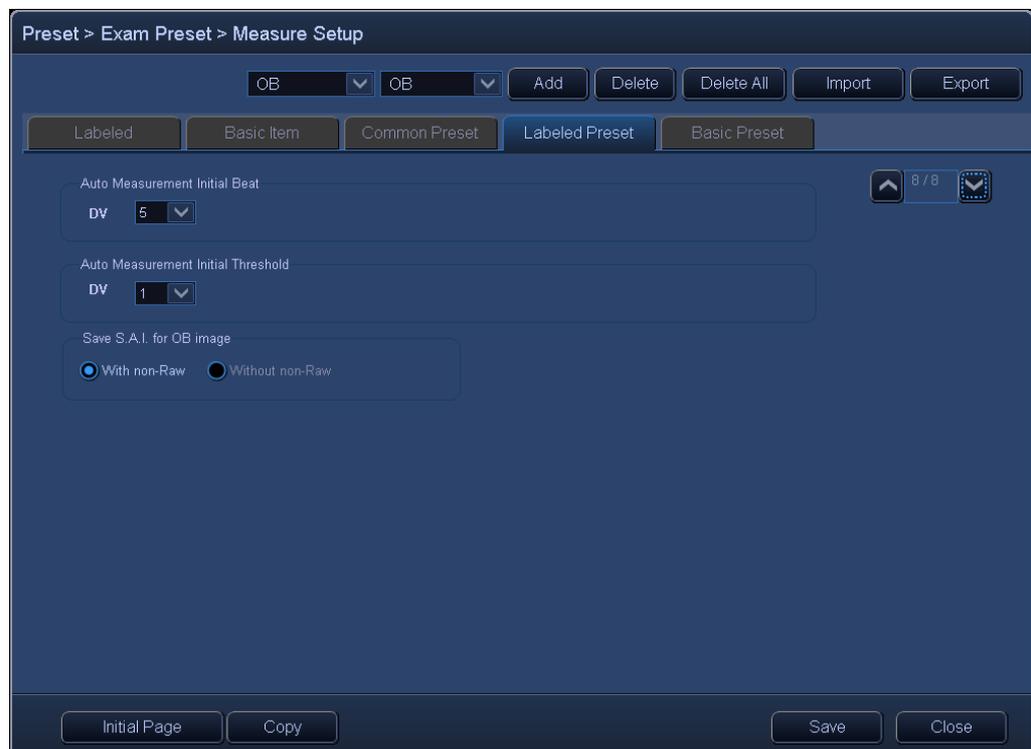
*3: Available when "Calc Type" is set to "Type2"

*4: Available when "Calc Type" is set to "Type1"

Seventh page (For the fifth page and sixth page, refer to the subsection "Items that are common to all examination types".)



Eighth page



Title	Item	Description
Display OB Ratios in Worksheet	CI, FL/AC, FL/BPD, FL/HC, HC/AC	Select the ratios that are to be displayed on the Worksheet screen.
Trend Format	Single	The trend graph is displayed in the Single format.
	Quad	The trend graph is displayed in the Quad format.
Trend Graph Background	White	The trend graph is displayed with a white background.
	Black	The trend graph is displayed with a black background.
Trend Single pulldown item	All Labels	Used to display all items.
	Measured labels only	Used to display measured items.
	Left and Right measurement plots on same graph	Select whether or not items with left and right attributes are to be plotted on the same trend graph. <input checked="" type="checkbox"/> : Displays on the same graph <input type="checkbox"/> : Do not display on the same graph
SD Type	X.XXSD	SD values are displayed for the items that are measured and calculated based on the GA at the time of examination.
	%tile	Percentile values are displayed for the items that are measured and calculated based on the GA at the time of examination.
	%tile & Z score	Percentile and Z score values are displayed for the items that are measured and calculated based on the GA at the time of examination.
	Normal Range	The normal ranges are displayed for the items that are measured and calculated based on the GA at the time of examination.
	Z score	Z score values are displayed for the items that are measured and calculated based on the GA at the time of examination.

Title	Item	Description
SD Evaluation	AFI	Select whether or not to perform SD evaluation without GA evaluation. <input checked="" type="checkbox"/> : Perform SD evaluation without GA evaluation. <input type="checkbox"/> : Do not perform SD evaluation without GA evaluation.
	Doppler	Select whether or not to perform SD evaluation without GA evaluation in Doppler items.*7 <input checked="" type="checkbox"/> : Perform SD evaluation without GA evaluation. <input type="checkbox"/> : Do not perform SD evaluation without GA evaluation.
	FHR	Selects whether or not to perform SD evaluation without GA evaluation in FHR measurement. <input checked="" type="checkbox"/> : Perform SD evaluation <input type="checkbox"/> : Do not perform SD evaluation
Number of decimal digits	SD, %tile, Z score: 0, 1, 2	Sets the number of decimal digits to the right of the decimal point for SD evaluation values.
Normal Range Display Type	XXwXd - XXwXd	The normal ranges for gestational ages calculated from measurement values are displayed in "XXwXd - XXwXd" format.
	±XwXd	The normal ranges for gestational ages calculated from measurement values are displayed in "±XwXd" format.
MoM Value Display	MCA Vp	Selects whether or not to display the MoM value of MCA Vp. <input checked="" type="checkbox"/> : Display the MoM value. <input type="checkbox"/> : Do not display the MoM value.

Title	Item	Description
EFW Author Referential	Hadlock4-Brenner Campbell (AC) Hadlock1 (AC, FL) Hadlock2 (BPD, AC, FL) Hadlock3 (HC, AC, FL) Hadlock4 (BPD, HC, AC, FL) Hadlock1-Williams Hadlock2-Williams Hadlock3-Williams Hadlock4-Williams Hadlock3-WHO Hadlock3-WHO Hadlock3-WHOM Hansmann (BPD, THD) IG21 (HC, AC) IG21 (HC, AC, FL) JSUM (BPD, AC,FL) Lee1 (A Vol)-Williams Lee2 (AC, A Vol)-Williams Lee3 (AC, BPD, A Vol)-Williams Lee4 (T Vol)-Williams Lee5 (AC, T Vol)-Williams Lee6 (AC, BPD, T Vol)-Williams Merz1 (BPD, AC) Merz2 (AC) Osaka (BPD, FTA, FL) Persson (BPD, MAD, FL) Shepard (BPD, AC) Schild (HC, AC, FL)	Used to specify the author of the formula to be used for calculating the estimated fetal weight to be displayed on the Worksheet for reference. (It is possible to not specify any formula.) * ¹
Unit	g/lbs/g+lbs	Specify the unit for the estimated fetal weight. * ²
EFW ±XXXg Display	On/Off	Selects whether or not to display the error range of the EFW in the worksheet. * ³

Title	Item	Description
EFW %tile Display	Hide	The EFW percentile is not displayed.
	Based on clinical age	The EFW percentile based on the gestational age on the examination date is displayed.
	Based on Averaged U/S	The EFW percentile based on U/S GA is displayed.
	Both	The EFW percentile based on the gestational age on the examination date and that based on U/S GA are both displayed.
U/S GA	GS/CRL/BPD/OFD/HC/HA/AC/FTA/AA/FL/HL	Specify whether or not U/S GA is calculated and select the items that are used for calculating U/S GA.
CTAR Tool	CTAR	Select the calculation method for CTAR (cardiothoracic area ratio) when measuring CTAR %: Calculated as % Ratio: Calculated as ratio
	CTCR	Select the calculation method for CTCR (cardiothoracic circumference ratio) when measuring CTAR %: Calculated as % Ratio: Calculated as ratio
	Axis	Select whether or not to display the cardiac axis when measuring CTAR.
	P Area	Select whether or not to display the normal range of the P point when measuring CTAR.
	P Area Display	Select how long the normal range for P point setting is displayed. <input checked="" type="checkbox"/> : Displayed only during setting of the P point. <input type="checkbox"/> : Remains displayed even after the P point is set.
Auto NT Magnification Warning	On/Off	Select whether or not a warning message is displayed if Auto NT measurement is started without zooming.

Title	Item	Description
Auto NT Edge Line Display	On/Off	Select whether the trace line is displayed (On) or not displayed (Off) when Auto NT measurement is set.
GA Calculated by	Only GA Chart	<ul style="list-style-type: none">• If the data type is set to "GA" or "FG + GA", the GA value is calculated based on the GA data regardless of whether or not the clinical age is input.• If the data type is set to "FG", the GA value is not calculated before the clinical age is input. Once the clinical age has been input, the GA value is calculated based on the FG data.• If the data type is set to "Identical", the GA value is calculated based on the Identical data regardless of whether or not the clinical age is input.• The trend graph is generated based on the FG or Identical data.

Title	Item	Description
GA Calculated by	FG Chart with Clinical Age	<ul style="list-style-type: none"> • If the data type is set to "FG", the GA value is not calculated before the clinical age is input. Once the clinical age has been input, the GA value is calculated based on the FG data. • If the data type is set to "GA", the GA value is calculated based on the GA data before the clinical age is input. When the clinical age has been input, the GA value is not calculated. • If the data type is set to "FG + GA", the GA value is calculated based on the GA data before the clinical age is input. Once the clinical age has been input, the GA value is calculated based on the FG data. • If the data type is set to "Identical", the GA value is calculated based on the Identical data regardless of whether or not the clinical age is input. • The trend graph is generated based on the FG or Identical data.
Calculated HC	Used for EFW & Ratio	Select whether or not this value is to be used for calculating the EFW and the ratios. ^{*4} <input checked="" type="checkbox"/> : Used for calculation <input type="checkbox"/> : Not used for calculation
	If HC has been measured, use it for calculation.	Select whether or not this value is to be used for calculating the EFW and the ratios when HC is measured. <input checked="" type="checkbox"/> : Used for calculation <input type="checkbox"/> : Not used for calculation

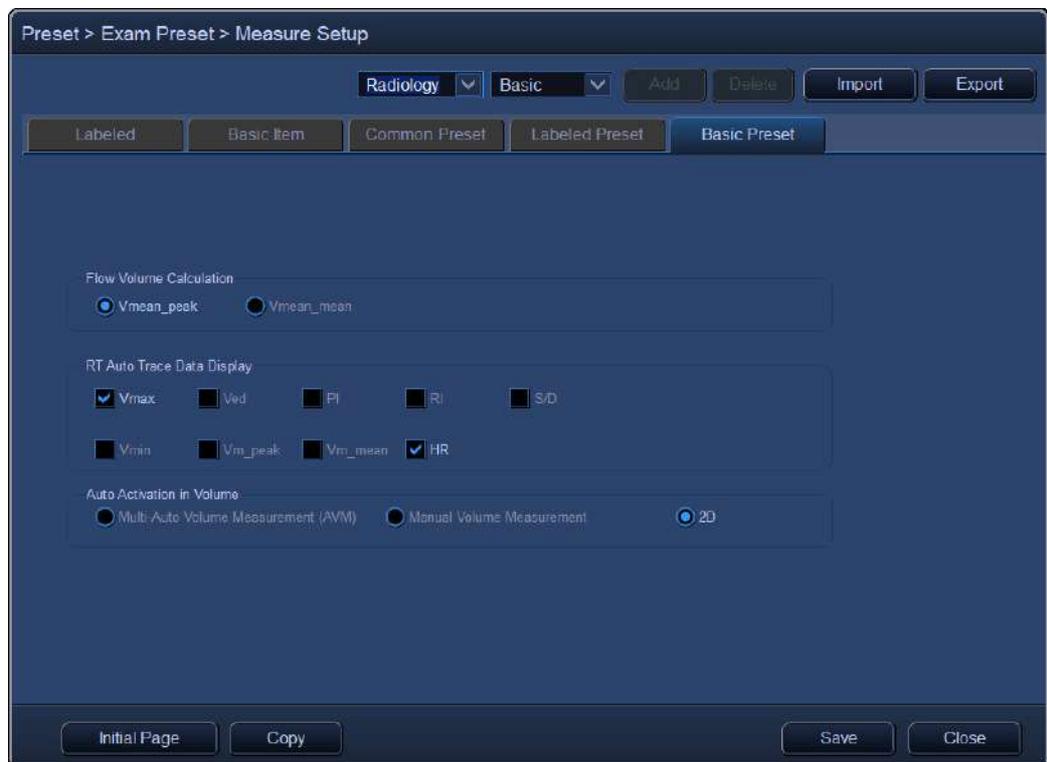
Title	Item	Description
Calculated AC	Used for EFW & Ratio	Select whether or not this value is to be used for calculating the EFW and the ratios. ^{*5} <input checked="" type="checkbox"/> : Used for calculation <input type="checkbox"/> : Not used for calculation
	If AC has been measured, use it for calculation.	Select whether or not this value is to be used for calculating the EFW and the ratios when AC is measured. <input checked="" type="checkbox"/> : Used for calculation <input type="checkbox"/> : Not used for calculation
Evaluate Type in MDA		<input checked="" type="checkbox"/> : The item is displayed. <input type="checkbox"/> : The item is not displayed. ^{*6}
	GA	GA obtained from each measurement/calculation
	SD	SD value for the GA obtained from each measurement/calculation
	EDD	EDD calculated from the GA in the latest measurement results
Author Name in MDA	Show	Select whether or not to display the author name in MDA. <input checked="" type="checkbox"/> : Show <input type="checkbox"/> : Hide
Evaluate Type in Worksheet	GA & SD	The GA value obtained from each measurement/calculation and the SD value for the GA are displayed in the worksheet.
	GA & SD & Normal Range	The GA value obtained from each measurement/calculation, the SD value for the GA, and the normal ranges based on the GA are displayed in the worksheet.
Extrapolated	On/Off	When this parameter is set to On, the range for which EFW is displayed and the GA calculation range specified by the author are expanded. In addition, the age axis of the trend graph is extended to 45 weeks.

Title	Item	Description
Duration of Gestation	0	Displays the EDD calculated using $EDD = LMP + 40w0d$.
	1 to 7	Set how many days should be added to the existing EDD. When a value between 1 and 7 is set, "EDD extended by X days" is displayed on the following screens. <ul style="list-style-type: none"> • Patient Info. area on the Patient Browser screen • Patient Registration screen • GA Input screen • Worksheet screen • Trend Graph screen
Display calculated LMP	On	The calculated LMP value is displayed on the Worksheet screen.
	Off	The calculated LMP value is not displayed on the Worksheet screen.
Always display EFW page in Worksheet	On	The first page of 2D is displayed when the worksheet is opened.
	Off	The page for the most recent measurement is displayed when the worksheet is opened.
Multiple measurements on the same waveform		<input checked="" type="checkbox"/> : Doppler application measurement can be performed multiple times on the Doppler waveform. <input type="checkbox"/> : Doppler application measurement can be performed once on the Doppler waveform.
GA Display on MDA	GA, EDD, U/S GA, U/S EDD, LMP, DOC	Select the items to be displayed in the OB date information area of the MDA. Up to 6 items
Auto Measurement Initial Beat	1 to 10	Select the number of waveforms to measure when measuring DV in Auto Range.
Auto Measurement Initial Threshold	1 to 11 ^{*8}	Select the initial value of the threshold when measuring DV in Auto Range. ^{*8}

Title	Item	Description
Save S.A.I. for OB image	With non-Raw	When images are saved using the S.A.I. for OB function, image data with and without raw is saved.
	Without non-Raw	When images are saved using the S.A.I. for OB function, only image data with raw is saved.

- *1: By using EFW in "Calculation Item" on page 2 of the Labeled tab, it is possible to specify the author of the formula for calculating the estimated fetal weight and of the Trend graph that are mainly used.
- *2: When "g+lbs" is specified, EFW is displayed using both units while the EFW error range is displayed using only "g".
- *3: The EFW error range can be displayed only when one of the following authors is selected.
 Hadlock1 [AC, FL], Hadlock2 [BPD, AC, FL], Hadlock3 [HC, AC, FL],
 Hadlock4 [BPD, HC, AC, FL], Hadlock1-Williams,
 Hadlock2-Williams, Hadlock3-Williams, Hadlock3-WHO,
 Hadlock3-WHOof, Hadlock3-WHOM, Hadlock4-Williams,
 Hadlock4-Brenner, Campbell [AC], Hansmann [BPD, THD], IG21 [HC, AC, FL]
- *4: To use this value for calculation, check "HC (Cal.)" in "Calculation Item" on page 2 of the Labeled tab.
- *5: To use this value for calculation, check "AC (Cal.)" in "Calculation Item" on page 2 of the Labeled tab.
- *6: Up to 2 items can be selected.
- *7: Only the following Doppler items can be evaluated for SD without GA evaluation.
 DV PIV, DV PVIV, DV a/S, DV S/a, Fetal Ao PI, Fetal Ao RI, MCA PI, MCA RI,
 Umb A PI, Umb A RI, Lt Uterin PI, Lt Uterin RI, Rt Uterin PI, and Rt Uterin RI.
- *8: The threshold can be varied from 1 to 25 when DV is measured in Auto Range.

13.2.3 Basic Preset



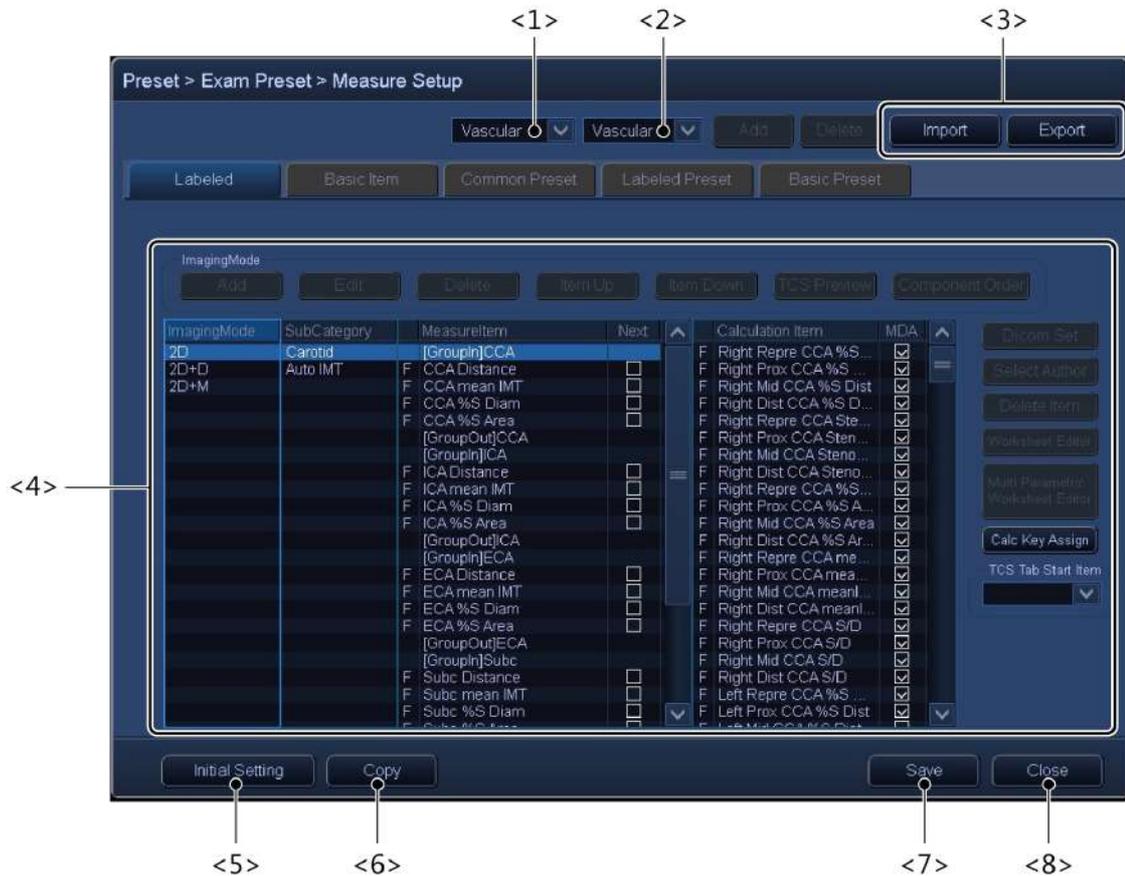
Title	Item	Description
Flow Volume Calculation	Vmean_peak	The flow volume is calculated using the time-average value obtained by tracing the peak points (edge) of the Doppler waveform.
	Vmean_mean	The flow volume is calculated using the time-average value obtained by tracing the mean points (center of gravity) of the Doppler waveform.
RT Auto Trace Data Display	Vmax, Ved, PI, RI, S/D, Vmin, Vm_peak, Vm_mean, HR	Select the items that are displayed in real-time Doppler auto trace mode.*1 <input checked="" type="checkbox"/> : Displayed <input type="checkbox"/> : Not displayed

Title	Item	Description
Auto Activation in Volume	Multi-Auto Volume Measurement (AVM)/ Manual Volume Measurement/ 2D	The tab to be activated by default when measurement is started in Mecha4D mode is set (the tabs that can be selected differ depending on the measurement examination type).

*1: If all items are set to not be displayed, no measurement or calculation values are displayed.

13.2.4 Labeled (Details of registration functions in Measure Setup)

Registration functions that can be selected and set from Measure Setup are described in this subsection. (In the example shown below, "Vascular" is selected as the examination type.)



Note that grayed-out switches are disabled and therefore cannot be used to change the function or to enter settings.

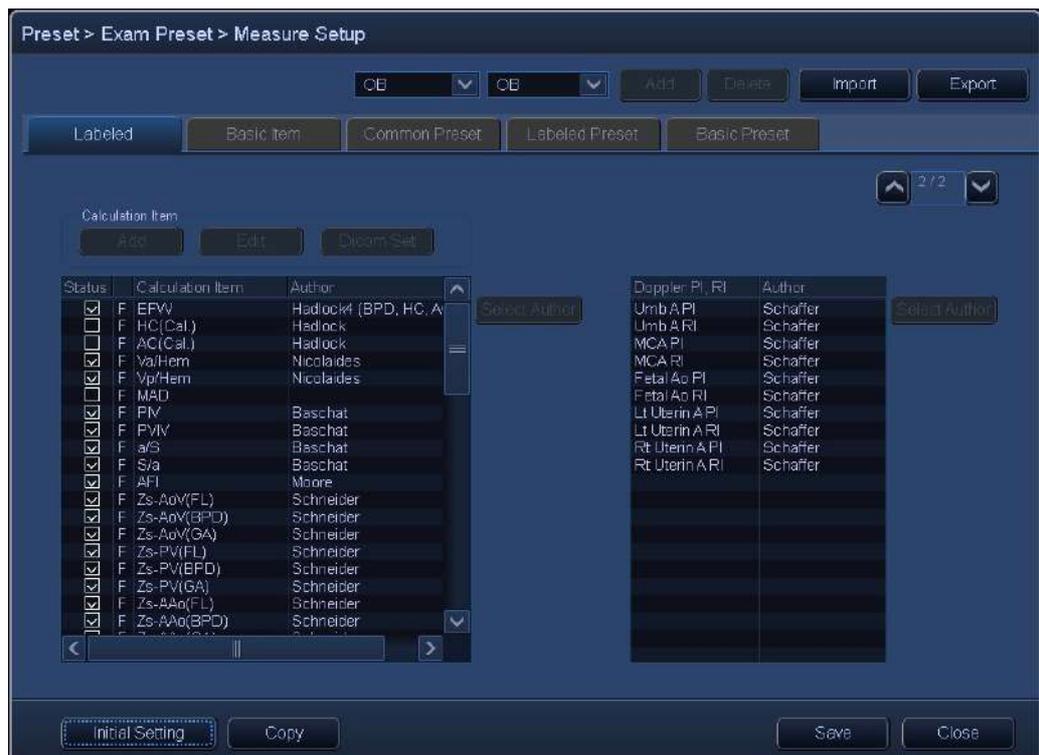
No.	Item	Description
<1>	Selection of examination type	Abdomen, Cardiac, Vascular, OB
<2>	Selection of measurement preset	Configured presets can be selected.
<3>	Import/Export	Refer to subsection 13.2.5 "Import/Export function".
<4>	Setting of application measurement menu	Setting of application measurement menu
<5>	Initial Setting	Refer to subsection 13.2.6 "Initial Setting function".
<6>	Copy	Refer to subsection 13.2.7 "Copy function".

No.	Item	Description
<7>	Save	Save the changes and close Measure Setup.
<8>	Close	Close Measure Setup. *1

*1: A confirmation dialog is displayed.



When "OB" is selected as the examination type, the following screen is displayed on page 2.



The items to be calculated can be set on this screen (for details, refer to the subsection "Selecting calculation items" described below).

13.2.4.1 Application measurement menu

Tabs (sub categories) are provided for each Imaging mode, and switches (Measure item) can be assigned for each tab.



Note that grayed-out switches are disabled and therefore cannot be used to change the function or to enter settings.

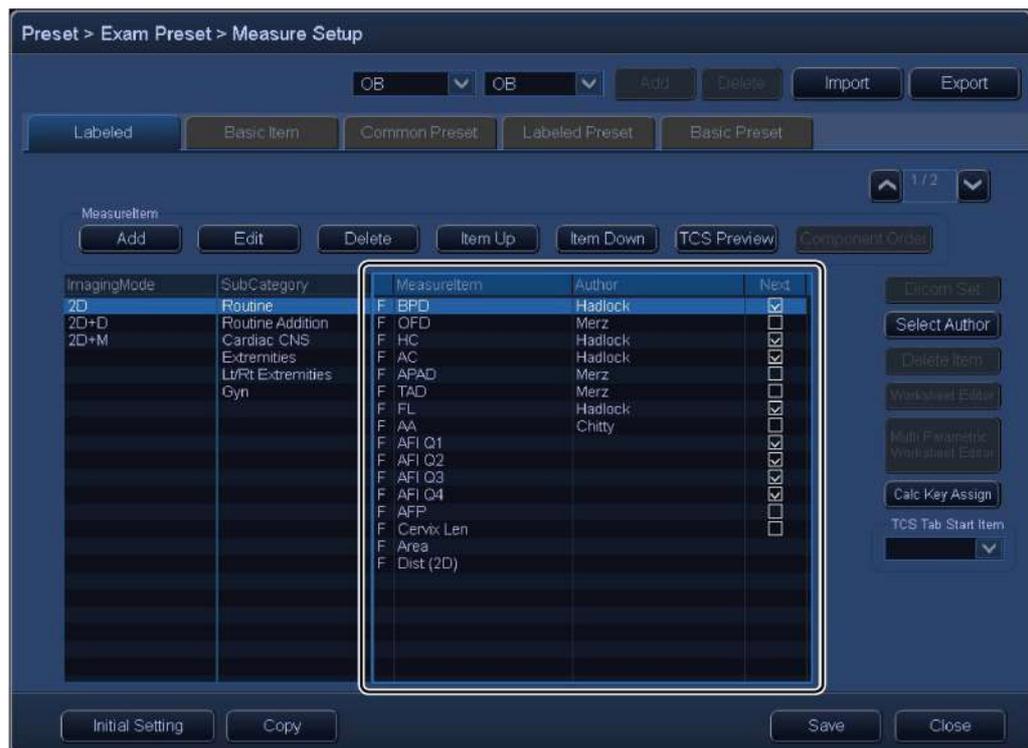
No.	Item	Description
<1>	Imaging Mode	The image mode can be selected. An image mode other than that which is currently displayed can be checked.
<2>	Sub Category	The tabs for the highlighted image mode are displayed. It is possible to add, delete, change the display order, and change the names of tabs.
<3>	Measure Item	The measurement switches to be displayed in the highlighted tab can set. Switches can be added or deleted, and their display order can be changed.

No.	Item	Description
<4>	Add	Tabs and measurement switches can be added.
<5>	Edit	The name of a tab can be changed while the tab is selected. The unit and the type of representative value to be output when a measurement switch is pressed can be changed while the measurement switch is selected. The initial value for the Tool Method to be started when a switch is pressed can also be changed.
<6>	Delete	Tabs and measurement switches can be deleted.
<7>	Item Up	The selected tab or switch can be interchanged with the tab or switch immediately above it. For tabs, the selected tab is interchanged with the tab immediately to its left. For measurement switches, confirm the position using the TCS Preview switch.
<8>	Item Down	The selected tab or switch can be interchanged with the tab or switch immediately below it. For tabs, the selected tab is interchanged with the tab immediately to its right. For measurement switches, confirm the position using the TCS Preview switch.
<9>	TCS Preview	Display the TCS for the selected tab.
<10>	Component Order	Used to set the order of components displayed on the MDA. (For application measurement, this function is available only when "Current" is set for the MDA display type (MDA format).)
<11>	Factory/User	"U" is displayed for calculation items registered by the user.

13.2.4.2 Setting the order in which measurement items are activated

Operating the trackball after setting the measurement result starts the next measurement item. The order in which the measurement items are activated can be set as desired.

- * The following shows an example of the screen when "OB" is selected as the examination type. When an examination type other than "OB" is selected, the Next column is displayed next to the MeasureItem column.



The next item for which a check mark is placed starts each time the trackball is moved after the current measurement result is set. The checked items start in the order shown in the list. For the screen above, the measurements are performed in the order BPD → HC → AC → FL → AFI Q1 → AFI Q2 → AFI Q3 → AFI Q4.

<<When "OB" is selected as the examination type>>

After all the checked measurement items are completed, measurement does not start even if the trackball is moved.

<<When anything other than "OB" is selected as the examination type>>

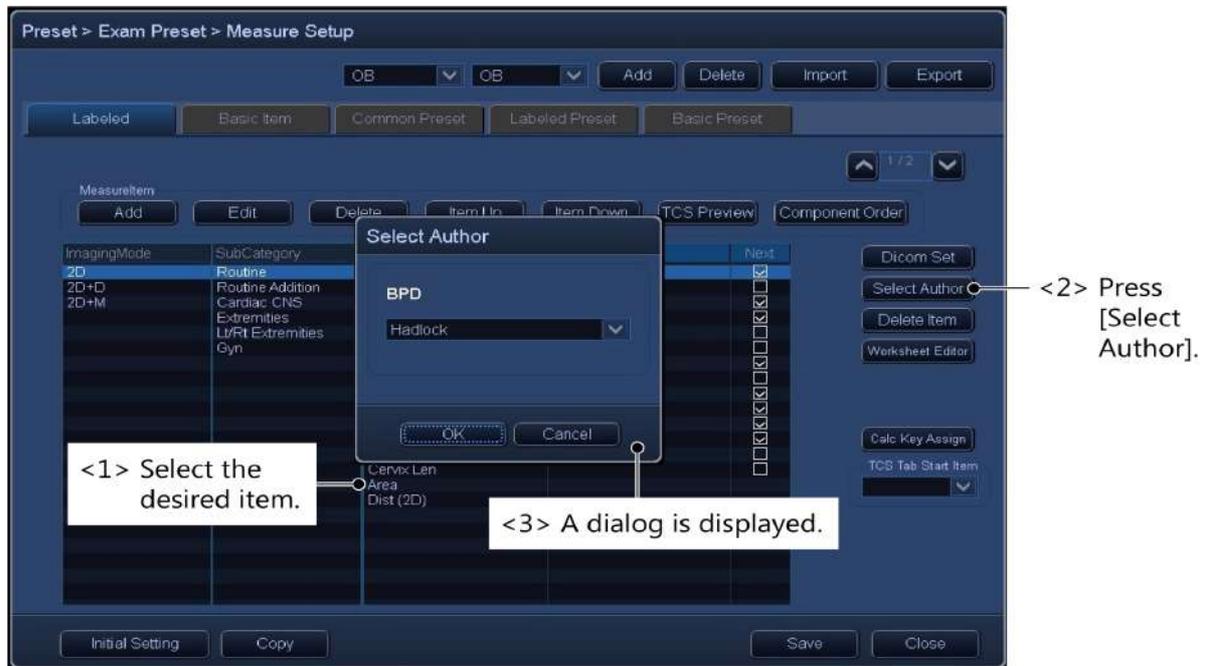
After all the checked measurement items are completed, measurement is restarted from the top when the trackball is moved.

13.2.4.3 Selecting the author

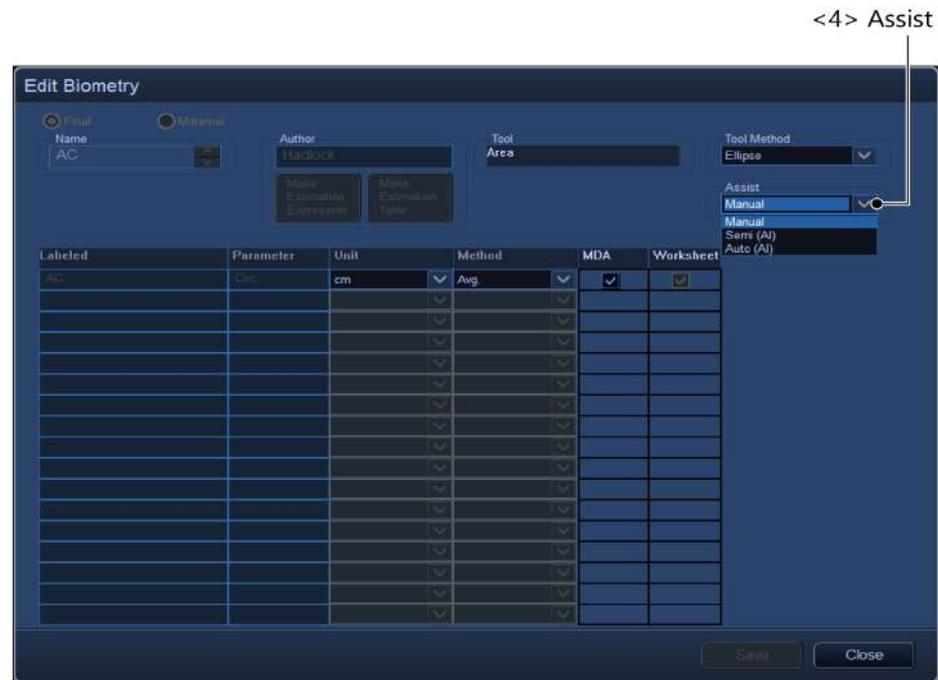
2D measurement item

Select the measurement item and press [Select Author]. A dialog is displayed.

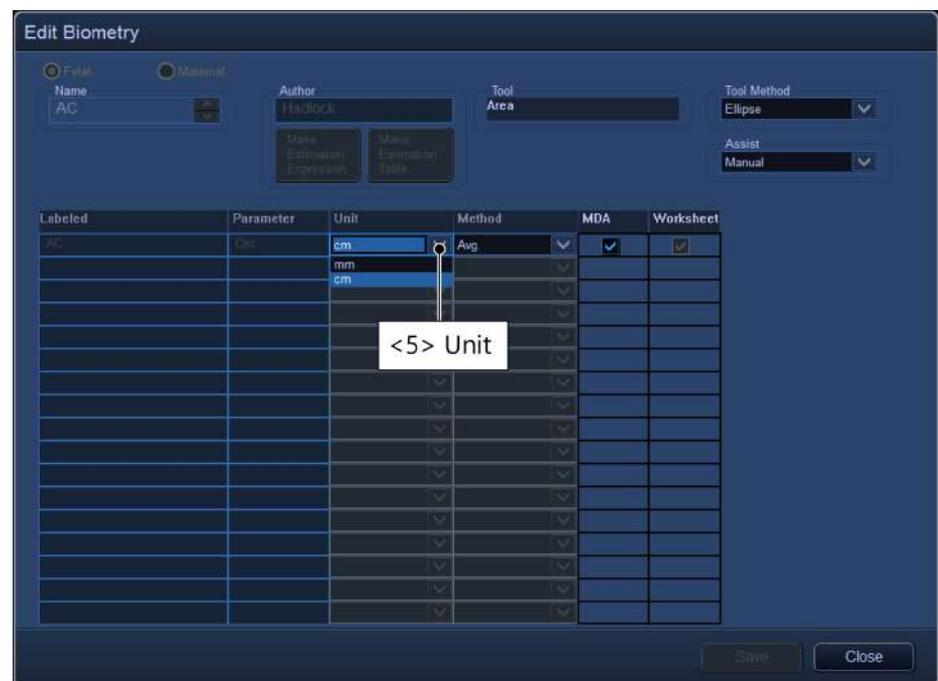
Select the author from the drop-down list in the dialog.



[Assist]^{*2} can be changed using the pull-down menu.



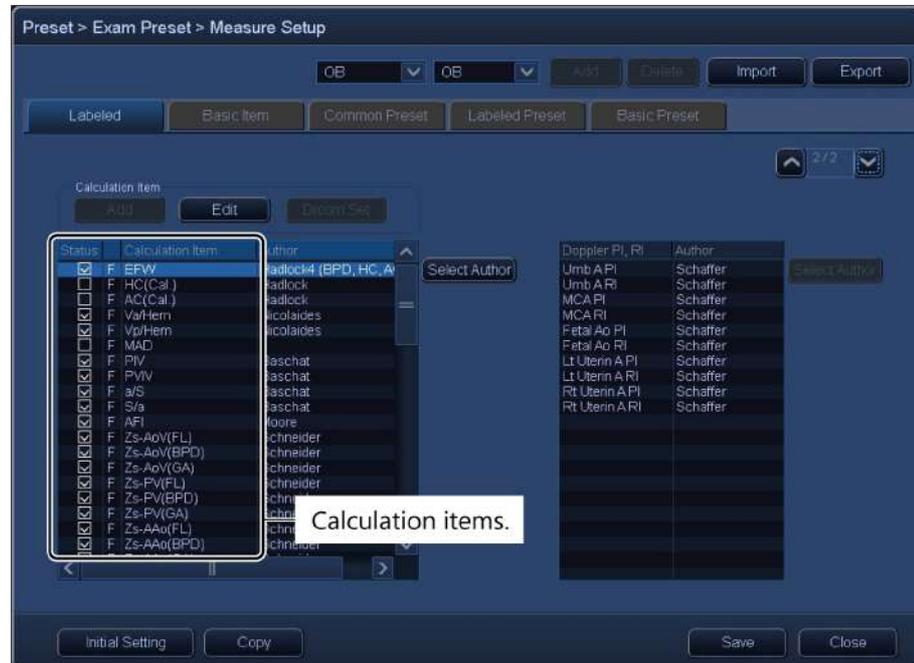
The unit can be selected from the drop-down list.



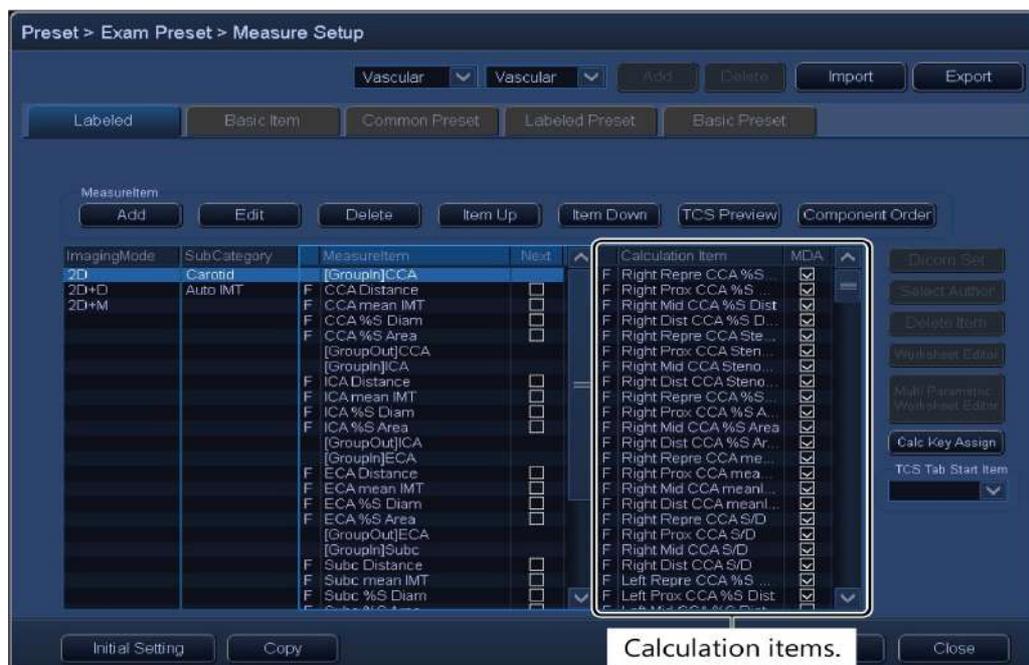
*2: The Assist function that can be used with transducers that do not support the "Smart Area Indication (OB) function" described in subsection 17.3 "Smart Area Indication (OB) function" of the Operation Manual <<Optional applications volume>>" is [Manual] or [Semi].

13.2.4.5 Selecting calculation items

When a measurement preset for examination type "OB" is selected, display page 2 of the Labeled tab.



When a measurement preset for examination types other than "OB" is selected, select the Labeled tab. (In the example shown below, "Vascular" is selected as the examination type)



Calculation is performed and the results are displayed in the measurement window only for the items for which a checkmark is placed.