SAMSUNG

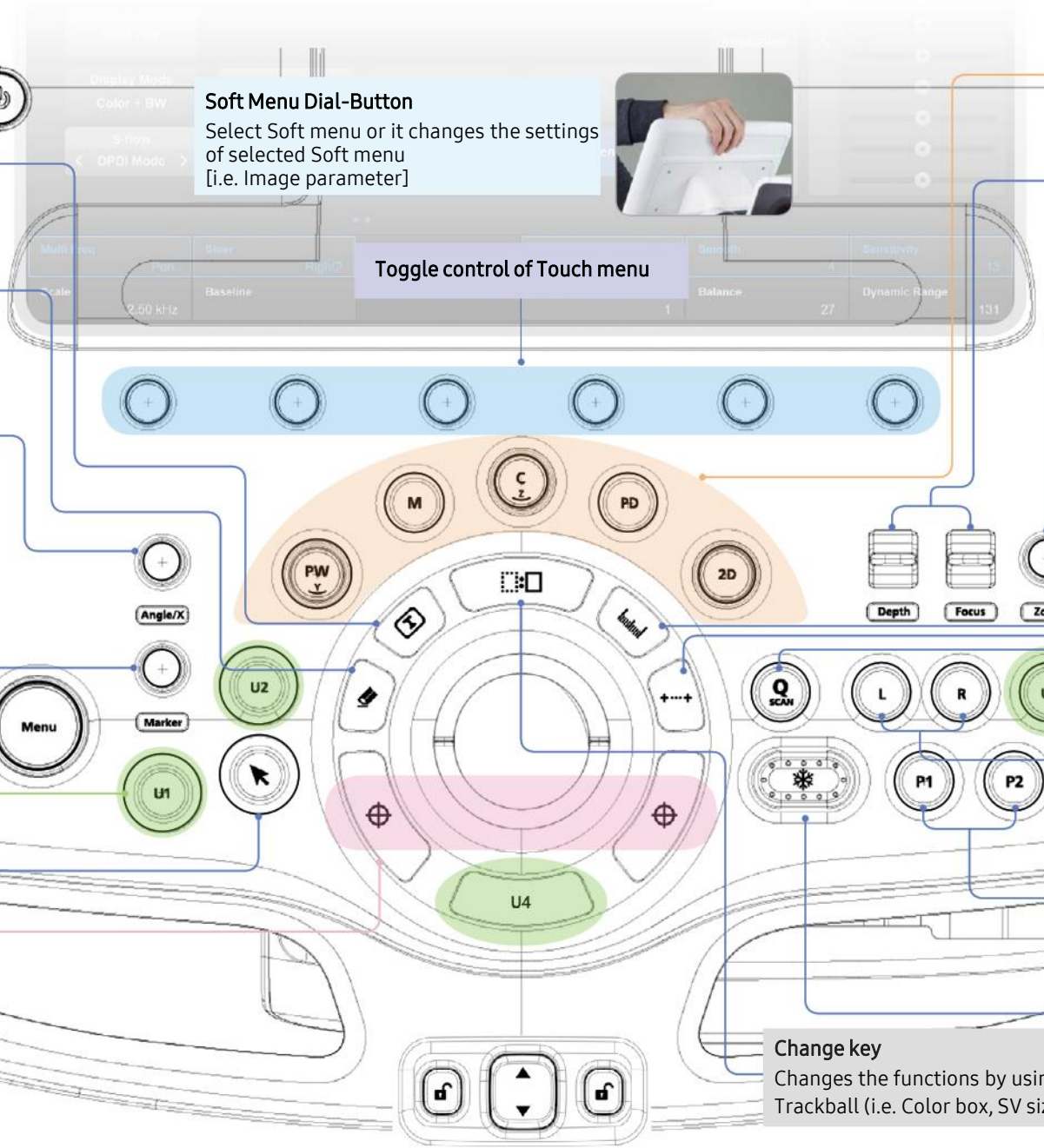
RS85

Quick Manual

Produced by Clinical Training Center of SAMSUNG MEDISON

※ Quick Manual dose NOT include all instruction. For more detail, please refer to RS85 User Manual.
It was written based on version 1.00 of RS85.

SAMSUNG MEDISON CO., LTD.



Power
Turn on/off the system

Annotation
Input the text or comments etc.

Clear
Delete Indicator, Measure, Text, BodyMarker etc.
If you press for 1sec, it will be deleted all

Angle
Adjust the angle of SV on PW/CW mode, the probe cursor of Bodymarker and the angle of the indicator

Marker
Bodymarker on/off

Menu
Preset Change or enter the Ez Exam+

U1, U2, U3, U4
User defined function keys (i.e. CW, TDI etc.)

Pointer
Activate arrow or select the image on the screen etc.

Set (Exit)
Select/Deselect items or exit current mode by using trackball

Mode
Enter2D, C, PD, PW, M mode and adjust Gain

Depth/Focus
Adjust depth and focus on scanning mode

Zoom
Read Zoom : Magnifies an image by rotation this button
Write Zoom : Magnifies an Image by Pushing this button

Calculator
Enter the measurement each application

Caliper
Measures Distance, Area, Volume and Velocity

Q Scan
Adjust image optimization automatically

Left & Right
Split the screen

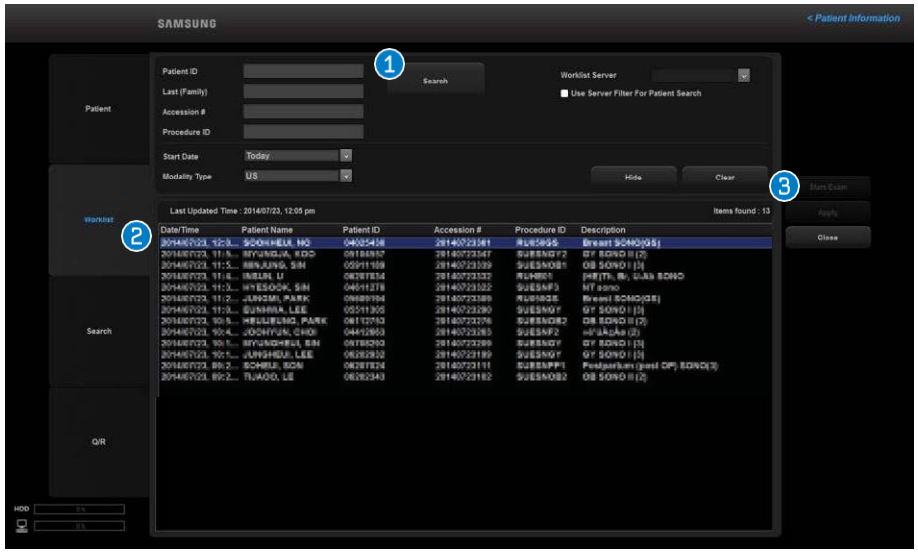
P1, P2
Save the image or Send to PACS (i.e. Save+DICOM , Print+Save, Clip Store)

Freeze
Pauses/Resumes scanning

Change key
Changes the functions by using Trackball (i.e. Color box, SV size etc.)

Worklist Search

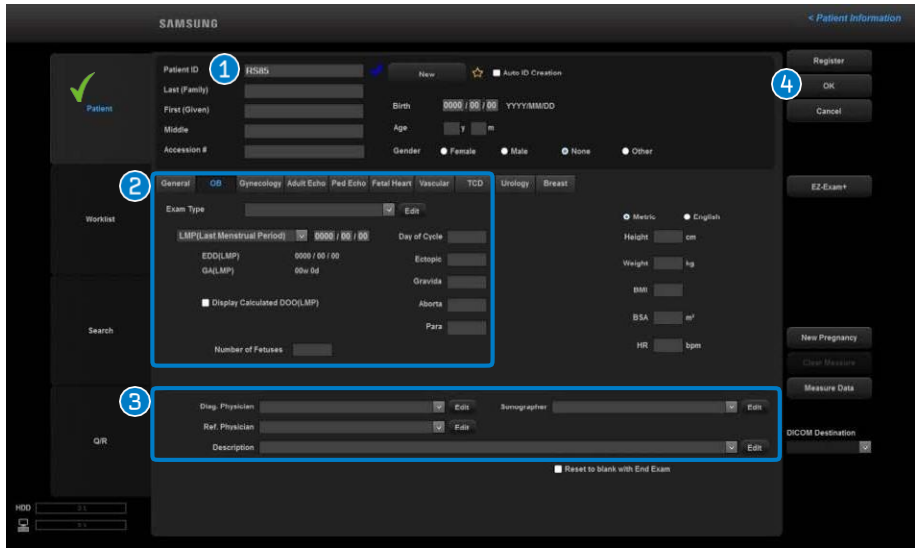
■ Press [Patient] button on the touch screen, if you have already linked worklist server then it will be moved [Worklist] page automatically.



❶ Search	When you select [Search] button, the matched patients will be displayed on the screen. Available to choose Patient ID, Last, Name, Accession #, Procedure ID, Start Date and Modality by criteria.
❷ ID Select	Select patient ID which you are going to start the Examination.
❸ Start Exam	Click [Start Exam] to enter the scan mode.

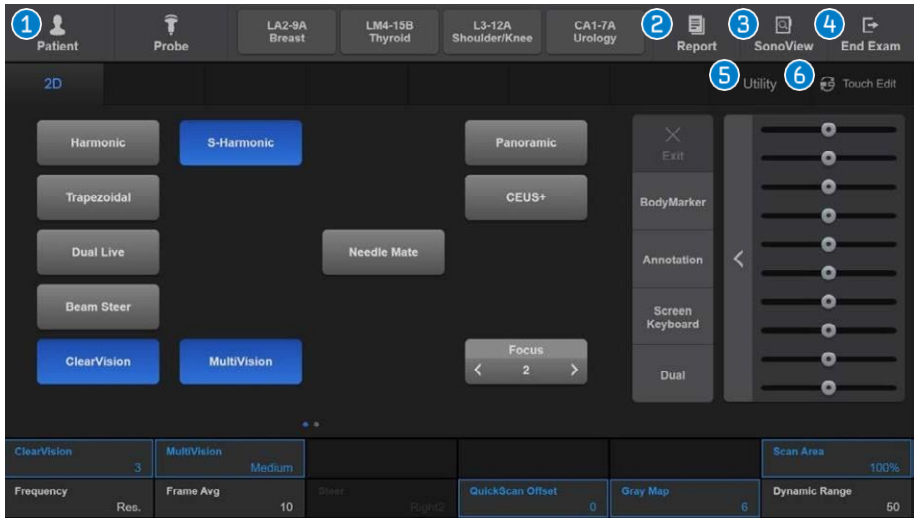
Registration of Patient

■ Press [Patient] button on the touch screen and select [Patient] tab on the monitor screen to register the patient information.



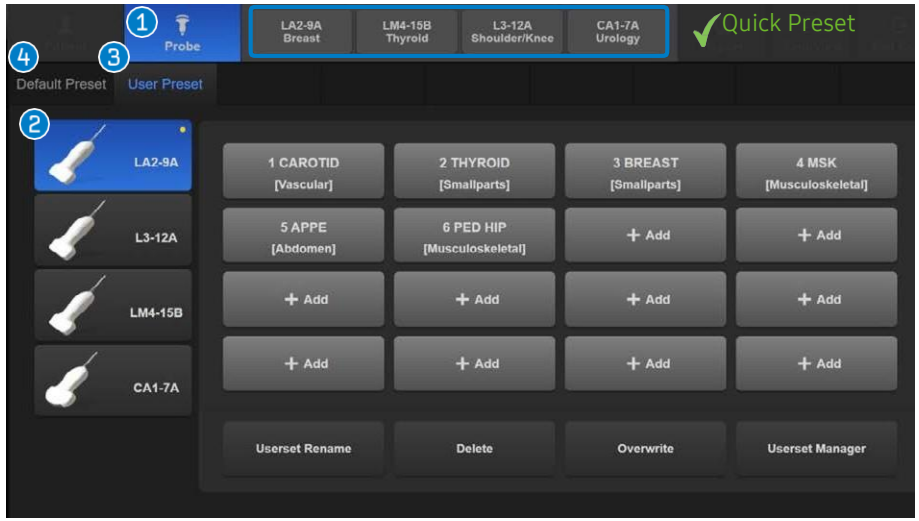
❶ Insert ID	Input Patient ID, NAME, AGE etc as a basic information.
❷ Add Information	If you need input patient information additionally, ex) Enter OB Information. ① Enter the OB Application tab ② LMP, EDD, Number of fetuses etc
❸ Operator	Enter [Operator or Physicians] name who scan the examination.
❹ Start Exam	Click [OK] button to start examination.

Information Area



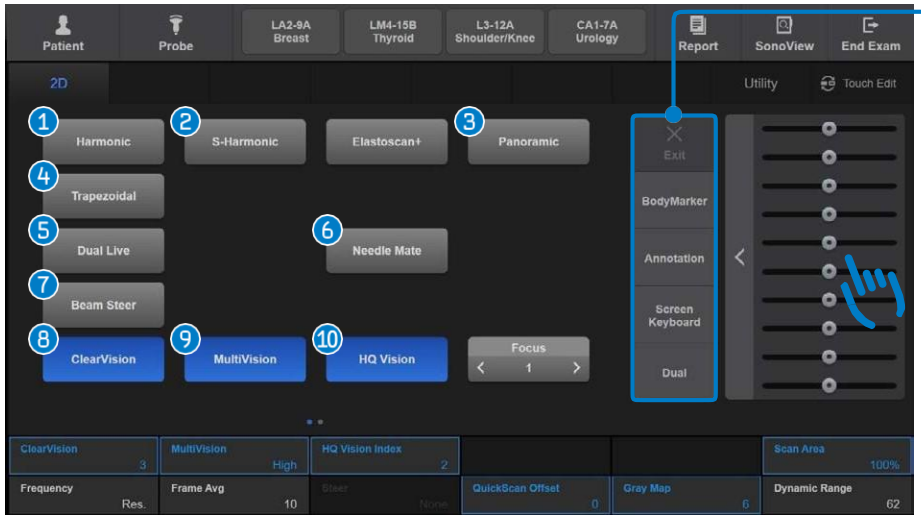
1 Patient	Enter the Patient Information. You can select a patient ID from worklist or enter a new patient information manually.
2 Report	Shows the measurement results of the current application and other information.
3 SonoView	Image management program. (Review, Storage, Delete, Export and Backup)
4 End Exam	Finishes current exam.
5 Utility	This menu is for system settings. Also ECG, Biopsy, Key Volume, Touch screen brightness can be adjusted.
6 Touch Edit	Available to customize touch menu screen.

Probe Selection



1 Probe	Select the [Probe] button on the touch screen.
2 Probe List	Display all probe lists which are connected by system.
3 User Preset	User presets function can be set up on user's preference.
4 Default Preset	Select this button if you want to use the factory (default) setting.
✓ Quick Preset	Shows the frequently used presets. Changes both probes and presets simultaneously. (Select up to 4 presets on set up menu.) Utility → Setup → General → Quick Preset Setup

Touch Screen – Scan Mode



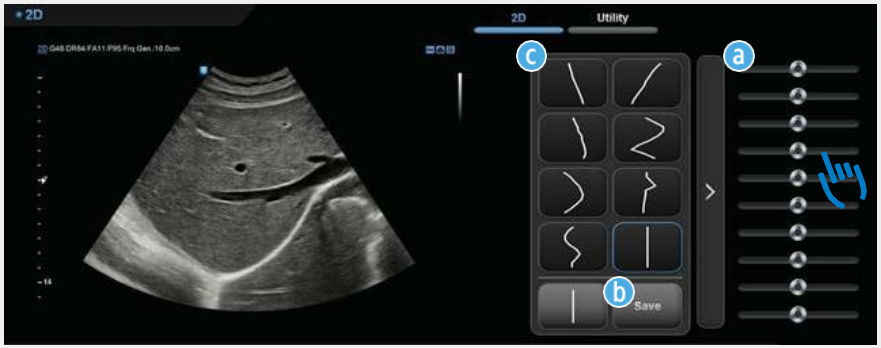
1 Harmonic	Adjusts contrast resolution of image.
2 S-Harmonic	Provides more clear image from near to far zone using wide-band frequency.
3 Panoramic	Acquires wider image range via reconstructing multiple frames.
4 Trapezoidal	Changes rectangular format from linear probe to trapezoidal format, so can provide widerview angle.
5 Dual Live	Displays 2D image and Color Doppler image simultaneously.
6 Needle mate	Provides better needle visibility. (Needle enhancement)
7 Beam Steer	Changes the ultrasonic beam direction.
8 ClearVision	Removes noise and enhances outlines to make the image more clearly.
9 MultiVision	The spatial compound image by using multi-beam.
10 HQ Vision	Optimized the image definition and quality per each applications.

■ U KEY

Available to assign your preference key except Exit button.
: Access Utility → Setup → Customize → Touch

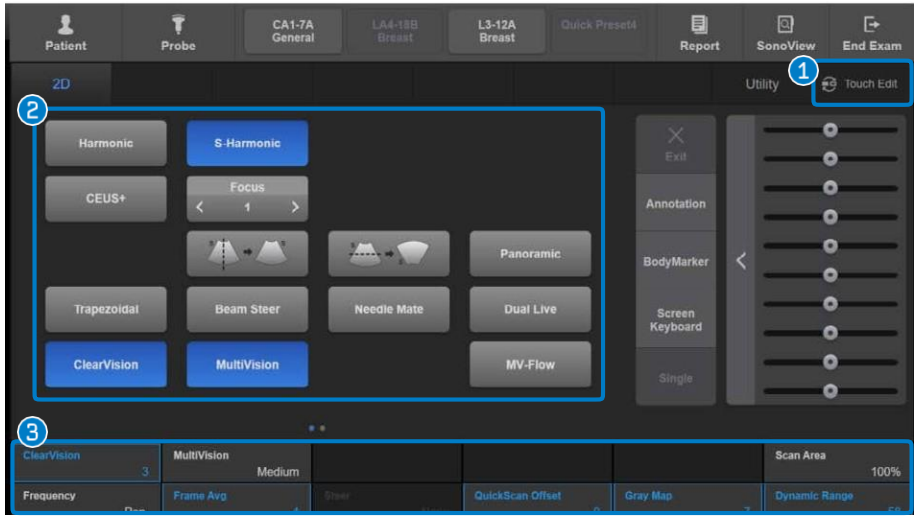
BodyMarker	Inserts body marker.
Annotation	Types the annotation.
Screen Keyboard	Displays the virtual keyboard.
* Dual / Quad	Changes image layout.
* Pointer	Uses for image review and delete of image on thumbnail.

■ Digital TGC



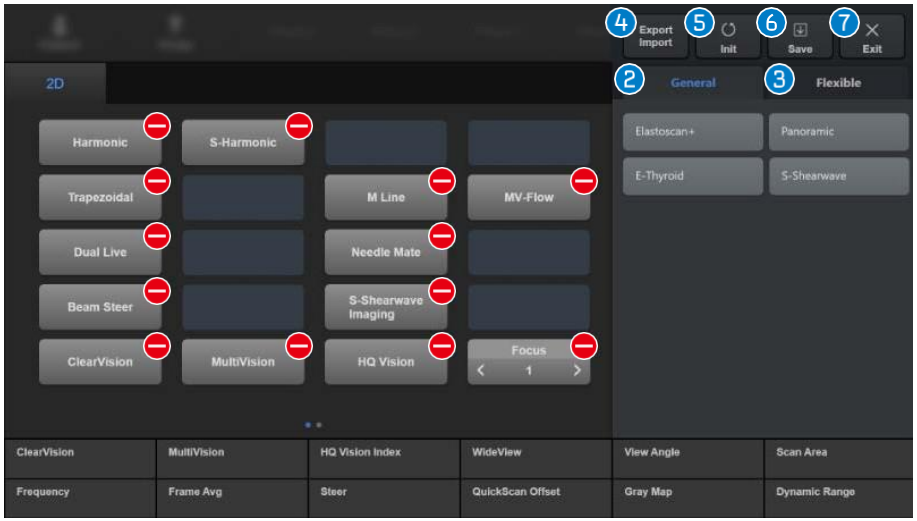
- a Change the TGC line by dragging with fingers.
- b Save the changed TGC line.
- c Select the save location up to 8.

Touch Screen – Touch Edit



■ **The device enters Customize Mode when the user taps the Touch Edit button. It can be customized the touch menu.**

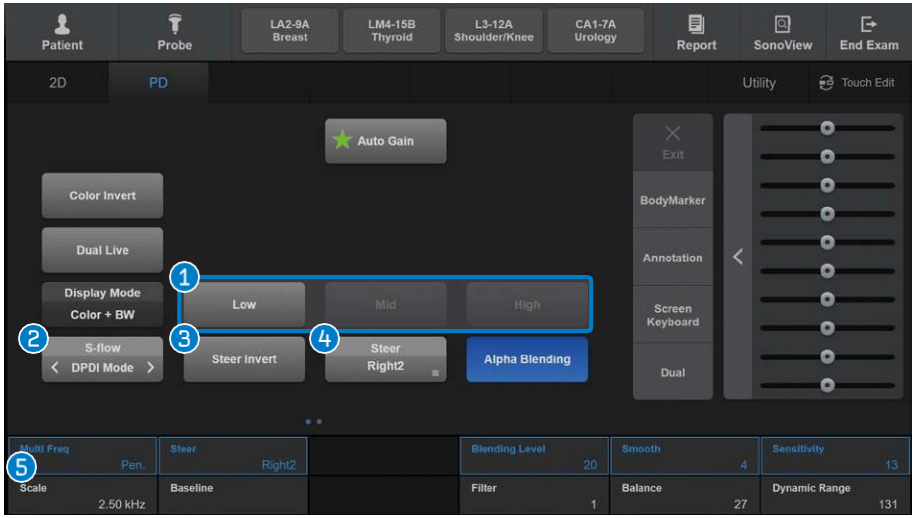
❶ Touch Edit	Activate touch edit menu.
❷ General	Editable touch screen menu.
❸ Flexible	Editable knob control menu.



■ **Tap the ⛔ at the top of a button to remove that button from the touch screen. Tap an empty slot to add or move a desired function to that button.**

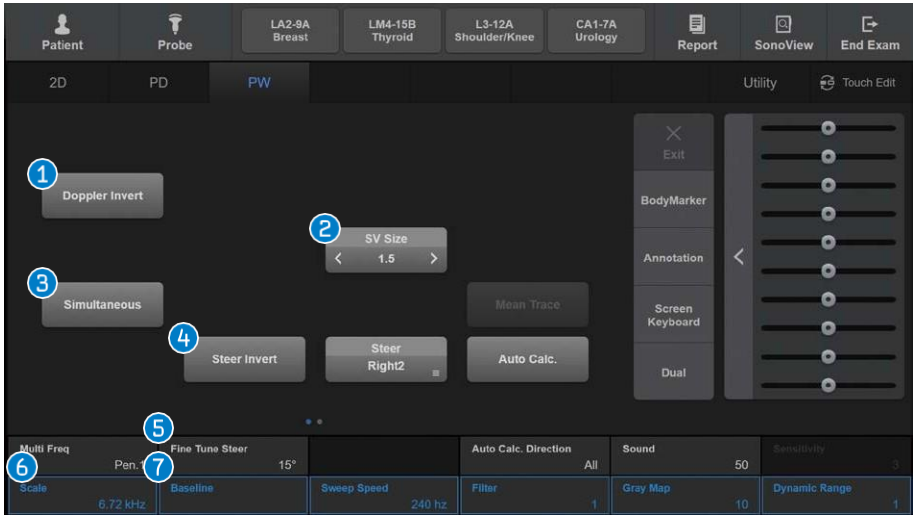
❹ Export/ Import	Customized menu can be exported and imported. The button is activated when USB is connected.
❺ Init.	Resets the layout to factory default.
❻ Save	Saves the current modification.
❼ Exit	Exits edit mode.

Color/PD Doppler/S-Flow



① Low/Mid/High	Automatically adjust the appropriate color scale.
② S-Flow	High sensitivity bi-directional Power Doppler mode for tiny vessels. (Access from PD mode → S-Flow mode)
③ Steer Invert	Inverts the direction of color box.
④ Steer	Adjusts the angle of color box. (Right 3, 2, 1, none, Left 1, 2, 3)
⑤ Scale	Adjust the Color PRF.(Pulse Repetition Frequency)

PW/CW Doppler



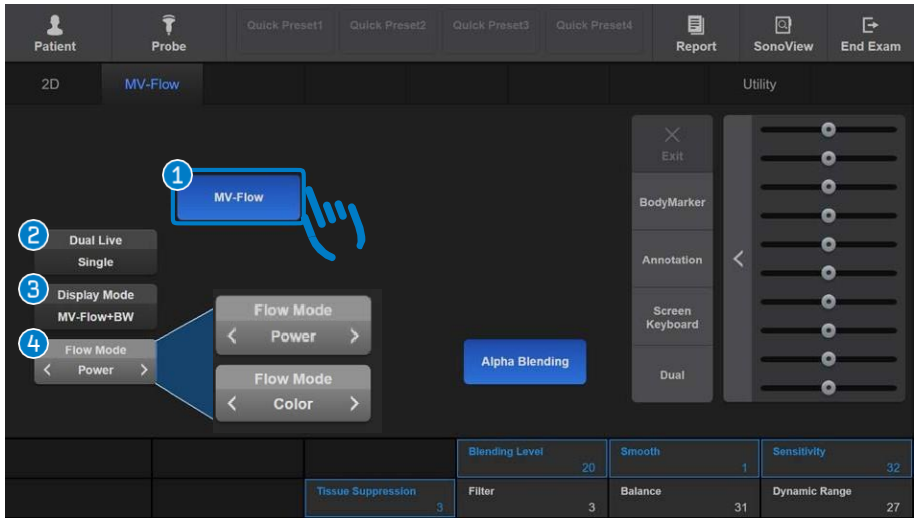
① Doppler Invert	Inverts + and -, which indicates the velocity of the spectrum.
② SV Size	Select a SV size between 0.5~20mm.
③ Simultaneous	Views real-time 2D and Spectral Doppler image at the same time.
④ Steer Invert	Inverts the angle of the sample volume.
⑤ Fine Tune Steer	Setting angle individually with Color box and SV line.
⑥ Scale	Adjusts the PRF. (Pulse Repetition Frequency)
⑦ Baseline	Adjusts baseline by rotating dial-button or tapping on the touch screen.

■ Smart Dynamic Color

★Auto Gain
Select [Auto Gain] on the touch screen in Artery, Carotid preset.
- Adjusts proper Color gain automatically frame by frame.
- The dynamic color coding up on blood pressure can be controlled via [Auto Gain] function.

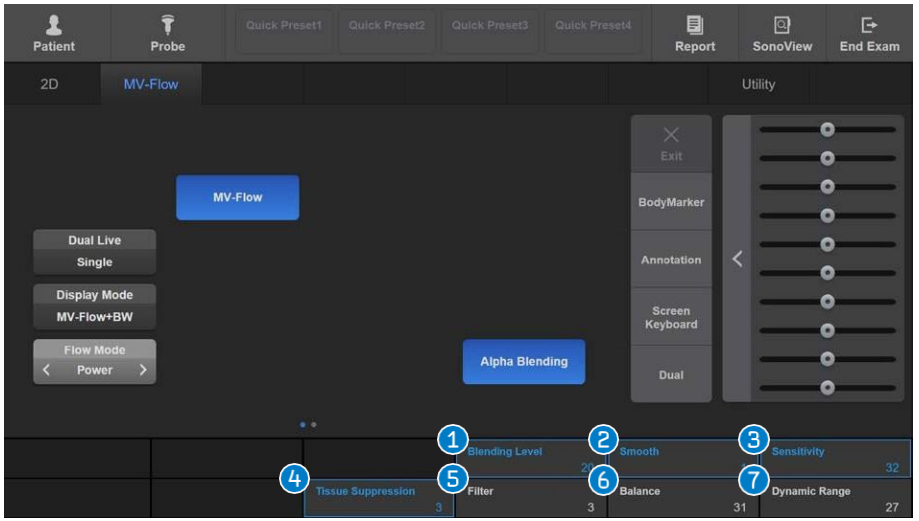
Smart Auto Doppler * This function is only available in Vascular preset of linear probe.
Select [Quick Scan] on the control panel in the Doppler mode.
- Location of the ROI box, the sample volume position, and the direction of the Steer angle can be controlled by one click.
- Improves the complex UI Workflow of Doppler mode.

MV-Flow



1 MV-Flow	A tool for visualizing slow flow or microvascularized structures.
2 Dual Live	Select Single or Dual Live . - Dual Live: This mode provides 2D Mode and Color Doppler Mode simultaneously.
3 Display Mode	Select the display mode for the MV-Flow Mode. - Select MV-Flow+BW or BW Only.
4 Flow Mode	Select Power or Color mode. - Power Mode : The color bar indicates the presence of blood flow and amplitude. - Color Mode : The color bar indicates directional information of blood flow and average velocity. ※ Color Mode is available only with Linear probes.

Notes
- The MV-Flow feature supports depends on the probes, applications, and presets.
- MultiVision, S-Harmonic and QuickScan are not available as 2D Mode with MV-Flow feature.



1 Blending Level	Specify the blending ratio between the 2D image and the MV-Flow image.
2 Smooth	Displays a smooth MV-Flow image. When smooth value increases, lateral margin of MV-Flow improves.
3 Sensitivity	Sensitivity of the color image. When this value increases, the sensitivity of a color image improves but the frame rate is reduced.
4 Tissue Suppression	It helps to reduce noise signals from tissues which is generally hyperechoic signal.
5 Filter	It reduces flash artifact produced by other internal / external movements such as pulsation and respirations.
6 Balance	Adjust the range of a color image by comparing the gray levels of 2D images with the Doppler signal values of color images. - The greater the number, increasing the range of the color image.
7 Dynamic range	Adjusts contrast by changing the ratio of the minimum and maximum values of input signal(amplitude).

Measurement

■ Calculator Data measurement per each application. (OB, Cardiac, Vascular, Prostate, etc.)

■ Caliper Measures (using a trackball and [Set]) selected items. (i.e. Distance, Area, Volume, Doppler measure etc.)

❶ Distance	Straight	Measures the straight distance between 2 points.
	Trace	Measures traced curved-line.
	%StD	Measure vessel diameter and calculate stenosis ratio.
❷ Area	Ellipse	Measures the circumference area.
	Trace	Measures the traced area of an irregular object.
❸ Volume	3 Dist. Vol.	Measures the volume of an object by using 3 straight lines.
❹ Angle	3 Point	Measures the angle using 3 points.
	2 Line	Measures the angle between 2 lines.

❺ Doppler (Only available in Spectral Doppler mode)

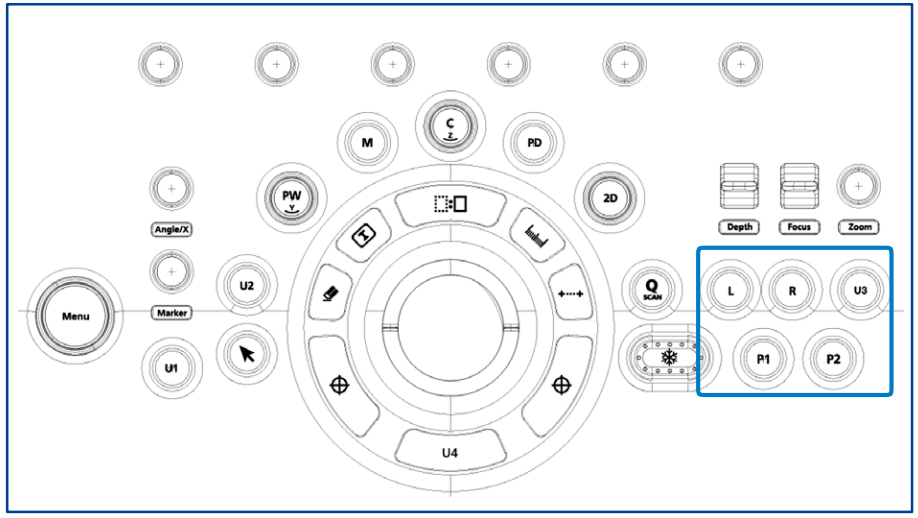
D A/B	Measures the velocity at 2 specified points, which includes measuring S/D ratio, RI, PI, velocity gradient, time gradient and acceleration time.
D Time	Calculates time on selected range between the bars.
D Velocity	Measures the velocity at 1 specified point.

❻ Doppler Trace

Manual	Traces Spectral Dopplerwave form and calculates velocity, integral value and average velocity of blood flow. (includes measuring S/D ratio, RI, PI, velocity gradient, time gradient and acceleration time.)
Limited	Automatic spectrum trace within specified range.
Auto	Automatic spectrum trace within whole range.

Still Image

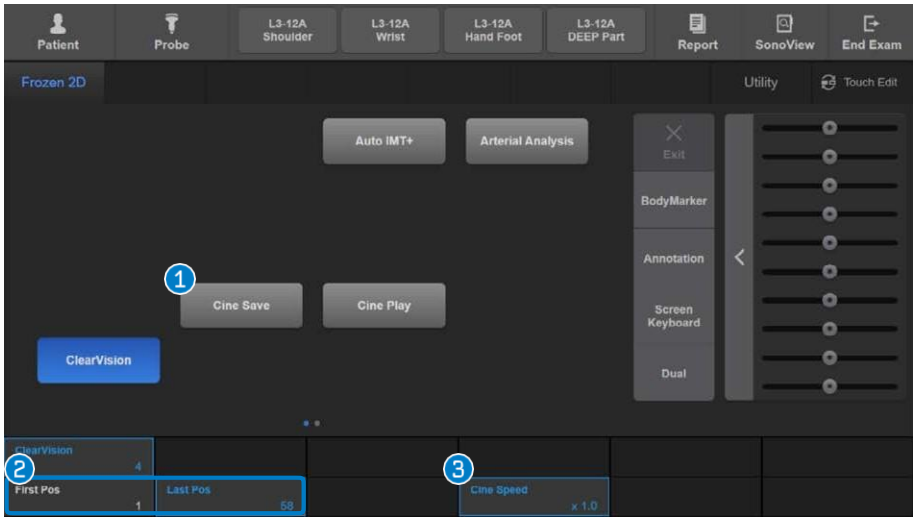
■ Saves a still image.



Still Image Save	Press [P1]. (In the default settings, [P1] is assigned to save but user can change on the setup menu) ※ Available in Freeze mode or Unfreeze mode.v
P1-2 [Peripheral key]	Various functions can be saved to the [P1] and [P2], such as Save, Store Clip, Print1, Print2, and Send to DICOM. ※ You can set the functions on Setup menu.

Cine Save – Freeze Mode

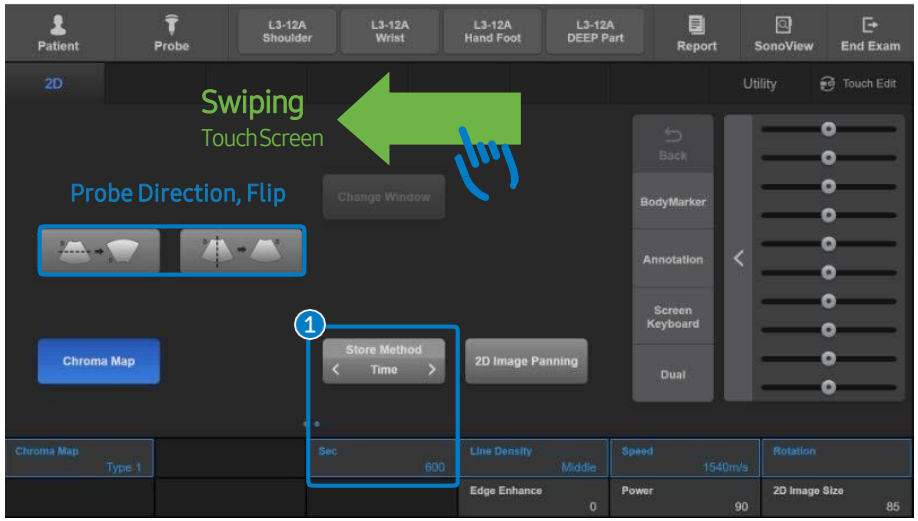
■ Saves video between Unfreeze and Freeze mode up on available maximum frame.



1 Cine Save	Tap the [Cine Save] to save the specified image frames by tapping it. (Only available on Freeze mode)
2 First Pos. Last Pos.	Set the first frame of the cine images to be saved. Set the last frame of the cine images to be saved.
3 Cine Speed	Sets Cine play speed. It can be set from x0.5, x1.0, x1.5 to x2.0.

Store Clip Image Save – Scan Mode

■ **Store Clip Image : On the scan mode, press the [User key] on the control panel that corresponds to store clip. (Usually be assigned on [P2])**



① **Store method**	Select the method for saving the cine image when you use the store clip function. Select the type of store clip.
Time	Sets time duration when save the images.
Manual	Sets store range by manual. Saves the images from the time when [Store Clip] is firstly pressed to it is pressed again.
ECG Beat	Saves the images by heart beat. (1 - 8 beats) ※ ECG Beat can be selected only when ECG is on.

② **Cine Loop Period - configure on the setup**	
Retrospective	When you select this option, scanned cine image will be saved.
Prospective	When you select this option, cine images will be scanned to be saved.

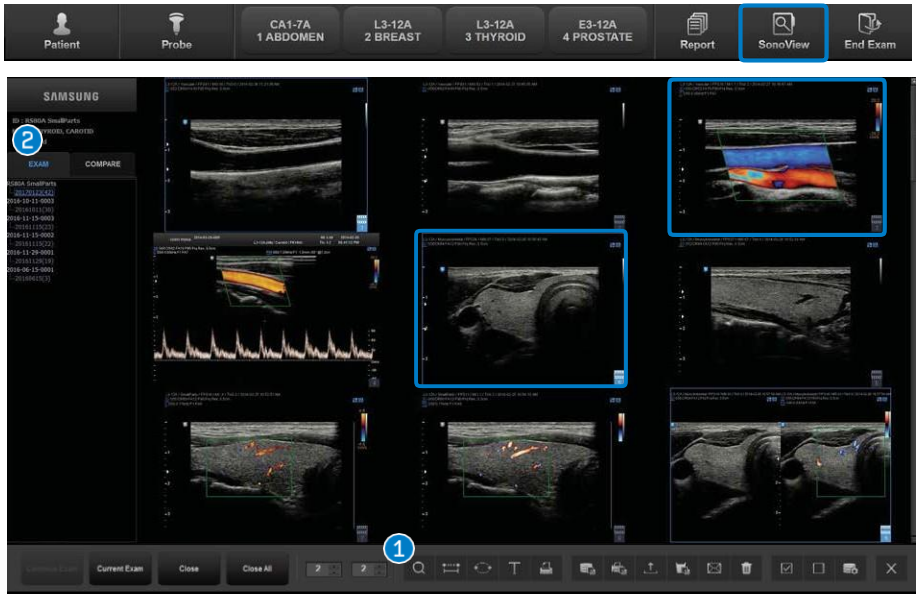
■ **DICOM Transfer Mode**

Configure on the setup (DICOM and User Defined key)	
Send On End Exam	Sends all saved images when you press [End Exam].
Send As You Go	Sends an image wheneveryou press [Save].
Manual Send to DICOM	Transfers images manually in the [SonoView].

Still Image

■ [SonoView] is a image management program.

■ Tab the [SonoView] of the touch screen.

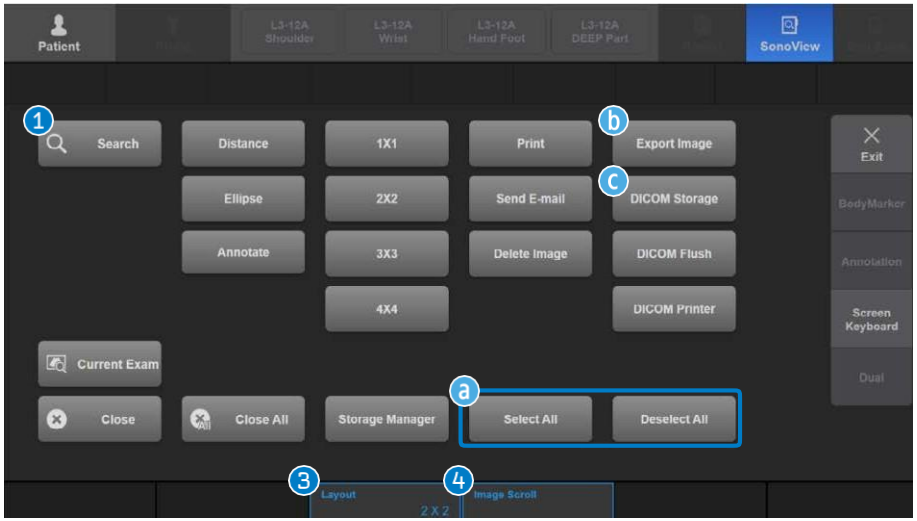


■ [Current Exam] is shown on the first page.

① Search	Open exam list.
② Exam list	The selected exam list or completed exam list is displayed. The selected image is shown in blue box.
③ Layouts	Adjusts displayed images layout from 1 x 1 to 4 x 4. (Max. 16 images)
④ Image Scroll	Displays the images on the next or previous page.

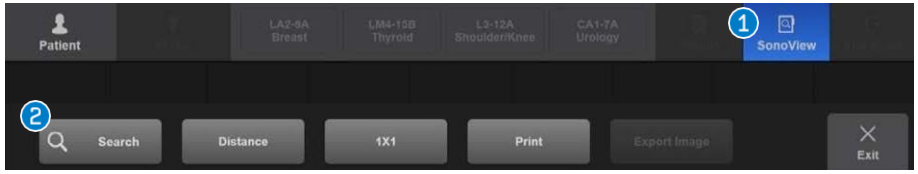
Cine Save – Freeze Mode

■ The method to manually transfer images.

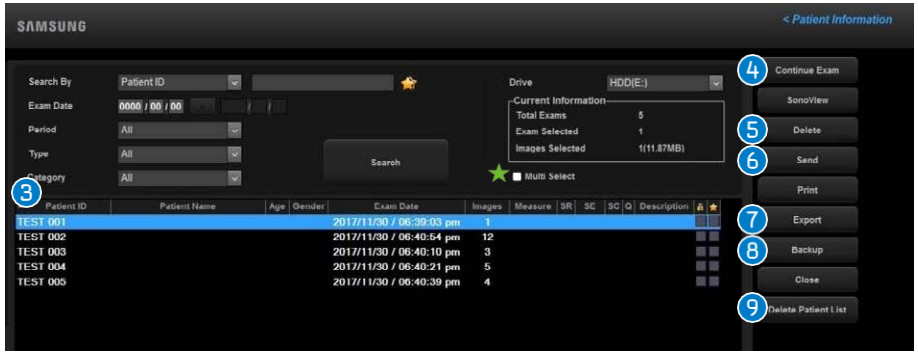


ⓐ Select All Deselect All	Selects or deselects all images. Select the images using the trackball or [Set]. The selected images are shown in blue box.
ⓑ DICOM Storage	Sends the selected image to the DICOM server. Only available if the image is selected. [DICOM Storage] → [Transfer]
ⓒ DICOM Flush	Transfers all NOT SENT image to PACS. Only available if the exam is running.

SonoView – Image Management, Export & Backup



1. Select [SonoView] on the touch screen
2. Select[Search] tab on the touch screen

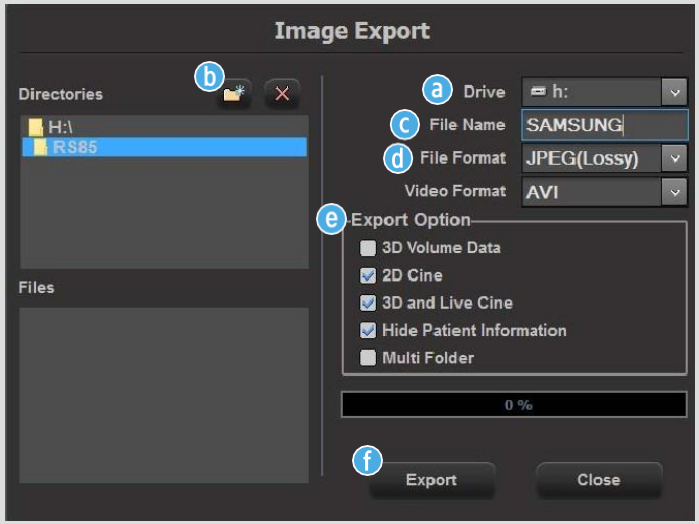


3. Select Patient ID in the Exam list

4 Review Exam or Continue Exam	Reviews the saved images. Exams performed longer than 24 hours, only [Review Exam] is allowed. If the exam was performed within 24 hours from now, append exam is allowed.
5 Delete	Deletes the saved exams.
6 Send	Transfers the saved exams to PACS server. (Select [Send] → Displayed the DICOM Storage → Select Alias → [Transfer]) * Transfers all images on selected exams.
9 Delete Patient List	Delete the data with only patient information without Exam in HDD.

7 Export — Converts image to PC compatible format such as BMP, JPEG, TIFF, AVI, MPEG, DICOM.

- a Select Drive. (CD-G:, USB-H:)
- b Directories – Select the location in which the exam will be saved.
- c Enter the file name.
- d Select file and video format. (BMP, JPEG, TIFF, DICOM, AVI, MP4)
- e Export Option
  Hide Patient Information – To remove patient ID and name.
- f Multi Folder – Categorized files per date and patient ID
  Click. [Export]



8 Backup — Back up and restore data.
These back up data only can be review on the system.
Select Backup → Confirm [Yes] → Select Drive → DVD(g:), USB(h:)

SAMSUNG