RS80 EVO

Quick Manual

RS80 EVO

SAMSUNG

Power
Turn on/off the system

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

Text (+Indicator)
Insert Annotation or Indicator (Setup)

Clear
Delete Indicator, Measure, Text, BodyMarker, etc. that depends on the currently used function

Pointer
Activate an arrow for image review

Menu
Preset Change or Enter the EZ-Exam+

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

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

Mode
Enter 2D, C, PD, PW, M mode and adjust Gain

Depth/Focus
Adjust depth and focus on scanning mode

Zoom
Read Zoom: Magnify image by rotate the button
Write Zoom: Magnify an ROI image by push the button

Calculator
Enter the measurement of each application

Caliper
Measure Distance, Area, Volume and Velocity

Q Scan
Adjust image optimization automatically

L & R
Split the screen

Freeze
Pause or Resume scanning

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

Change key
Change the trackball function that depends on current mode (i.e. Color box, SV size etc.)

Toggle control of Touch menu

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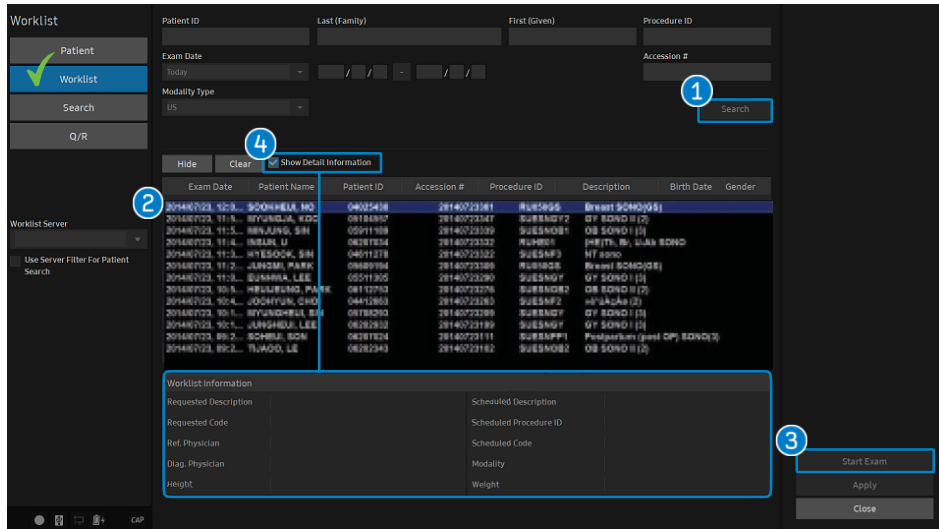# RS80 EVO Quick Manual

Worklist Search

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

	Search	When you click the [Search] button, the matched patients will be displayed on the screen. Available to choose Patient ID, Last/First Name, Procedure ID, Exam Date, Accession #, and Modality by criteria.
1	Search	
2	Select ID	Select patient ID which you are going to start the study.
3	Start Exam	Click [Start Exam] to enter the scan mode.
4	Show Detail Information	Multiple information of worklist will be displayed. (e.g. Requested description, Scheduled Description, Requested Code, Ref. Physician, etc.)

Registration of Patient

■ Tap the [Patient] button on the touch screen or select [Patient] tab on
   the monitor screen to register the patient information.
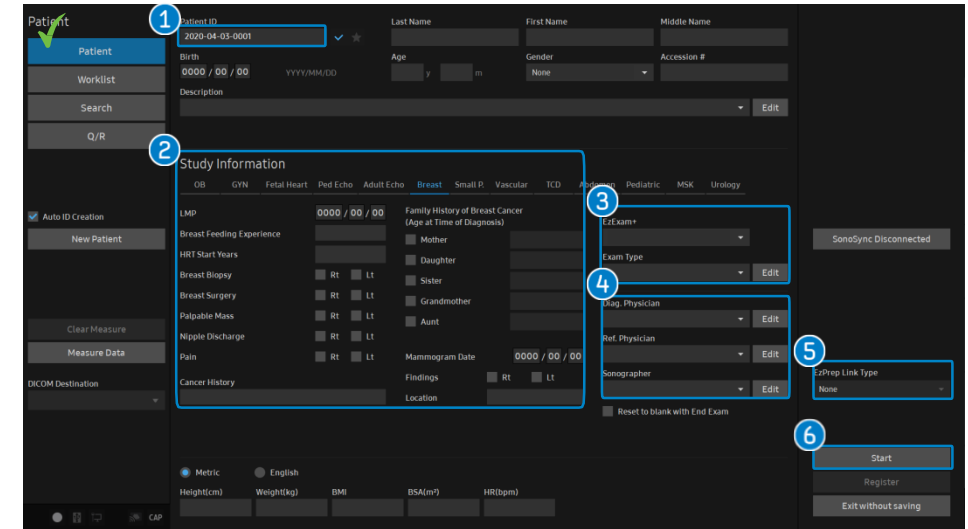
| 1	Insert ID	Input the Patient ID, Name, Birth, Age, etc.
2	Add Study Information	If you need to add the patient's further information,
3	Start the EzExam+	Choose the application and exam type, the selected [EzExam+] protocol will be started.
4	Operator's name	Enter the physician or sonographer's name.
5	EzPrep Link Type	Automatically select a proper probe and preset according to selected worklist type.
6	Start Exam	Click [Start] button to start examination.

Probe Selection
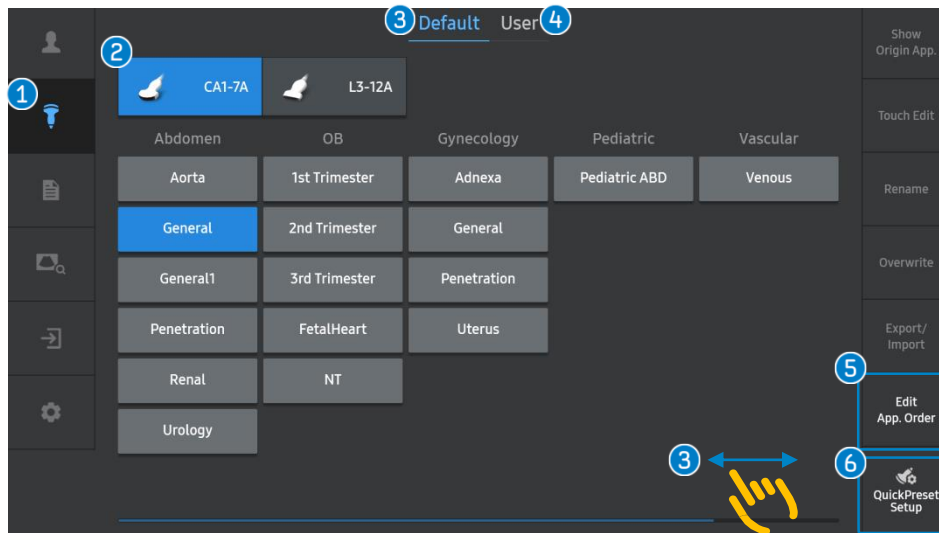
|	❶ Probe	Tap the [Probe] button on the touch screen.
	❷ Probe lists	Display probe lists which are connected to system.
	❸ Default	Select if you want to use the factory (default) presets. To go next page, drag the touch screen.
	❹ User	Select if you want to use user preset.
	❺ Edit App. Order	Available to revise the order of application.
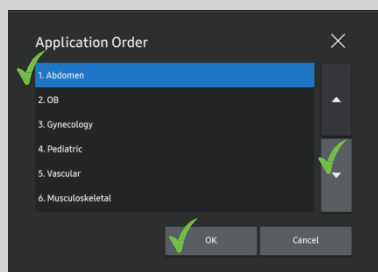
Click the application that you want to move. Adjust the order by clicking the up/down arrow. Click [OK] button to save. The changed application order will be displayed.

Quick Preset Setup
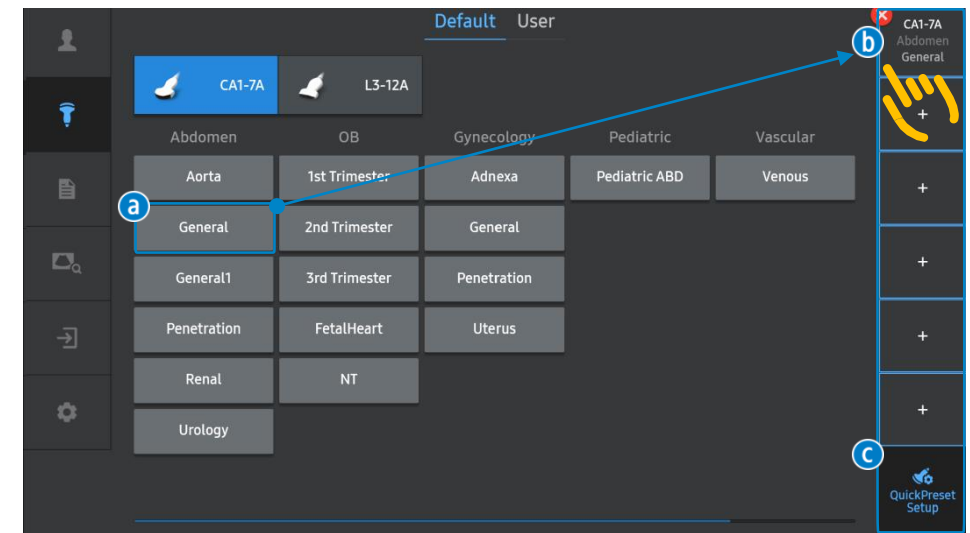
❻ **Quick Preset Setup**

Available to save the preset up to 6 which is frequently used.
It will displayed on the right side of the touch screen.

Tap the [Quick Preset Setup] button to customize.
ⓐ Tap the preset want to use in [Default] or [User] tab.
ⓑ Tap the location where you want to save onto the right.
ⓒ To finished the set up, tap the [Quick Preset Setup] button once again.
※ To change the quick preset's position, tap the want to change and then to swap each other.

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Touch Screen - Scan Mode1
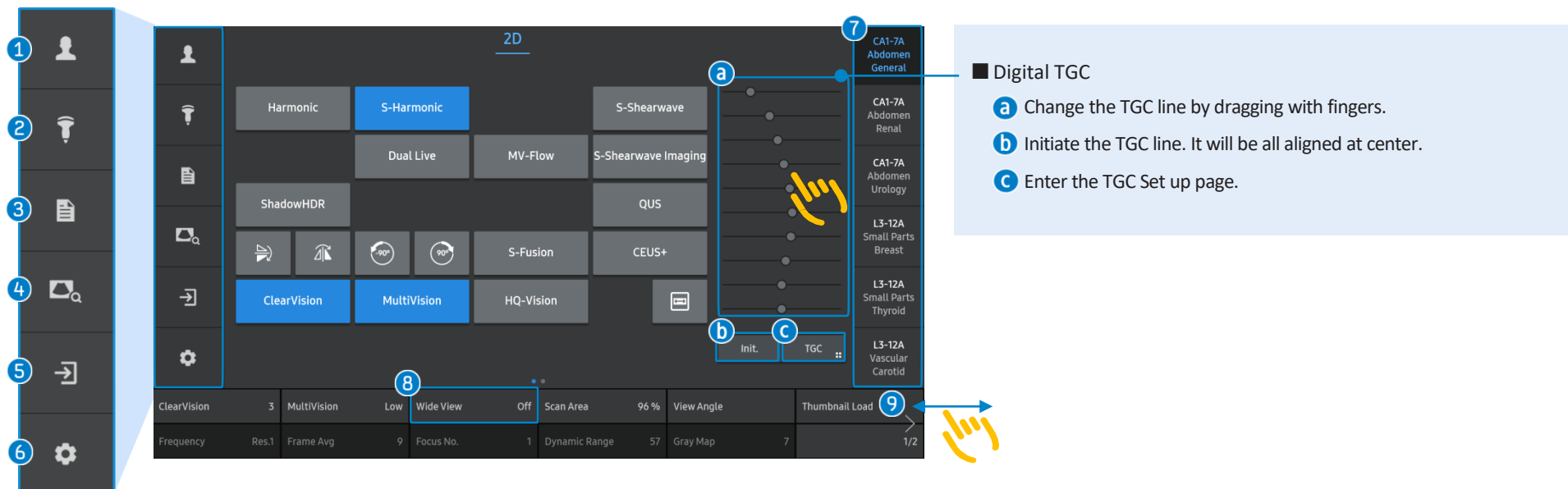
■ Digital TGC

a Change the TGC line by dragging with fingers.

b Initiate the TGC line. It will be all aligned at center.

c Enter the TGC Set up page.

❶	**Patient**	Display/enter the patient information. You can select a patient ID from worklist or enter a new patient information manually.
❷	**Probe**	Display the probe selection screen to select or change the probe and application.
❸	**Report page**	Show the measurement results of the current application and other information.
❹	**SonoView**	Image management program. (Review, Storage, Delete, Export and Backup)
❺	**End Exam**	Finish the exam of the currently selected patient and resets the related data.
❻	**Utility**	Go to [Utility] page to activate as fallowing as a [Demo Play], [Setup], [Measure Setup], [Touch Customize] and etc.
❼	**Quick Preset**	Saved [Quick Preset] will be displayed. Available to change the probe and preset at once.
❽	**Wide View**	Extend view angle in 2D mode.
❾	**Next page**	To go next page of flexible menu, swipe bottom of the touch screen. (⟩)

Touch Screen - Scan Mode2

| ①	Harmonic	Adjust contrast resolution of image.
②	S-Harmonic	Provide clearer image from near to far zone using wide-band frequency.
③	Dual Live	Display 2D image and Color Doppler image simultaneously.
④	ShadowHDR	Utilize high and low-frequency of the ultrasound to optimize attenuated shadow areas.
⑤	Flip / Rotate	Flip up or down & left or right the image. Rotate clockwise or counterclockwise.
⑥	ClearVision	Remove noise and enhance outlines to make the image more clearly.
⑦	MultiVision	The spatial compound image by using multi-beam.
⑧	HQ Vision	Enhance the spatial resolution which improves sharpness of structure.
⑨	Wide Screen	Provide wider viewing area. (Quad mode is not available)

Touch Screen - Touch customize

①	Mode Selection	Select mode between 2D, C, PW, PD, M, and More. Each [General] and [Flexible] menus are customized.
②	Live / Frozen	Touch Customize menu can be separately arranged in [Live] and [Frozen]image mode.
③	General	[General] menu includes main functional image items.
④	Flexible	[Flexible] menu represents soft menu items that are available in the current input mode as shown on the bottom of screen.
⑤	Save	Tap to save after customization.

★ **How to customize touch screen menu**

Tap the Utility [⚙] on the touch screen. → Tap the [Touch Customize]

Color/PD/S-Flow
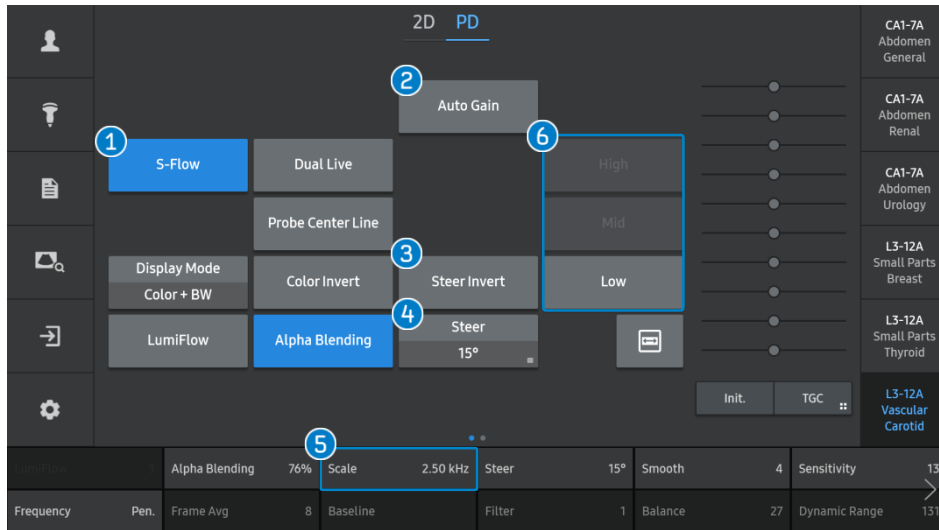
|	S-Flow	High sensitivity bi-directional Power Doppler mode for tiny vessels.
①	S-Flow	High sensitivity bi-directional Power Doppler mode for tiny vessels.
②	Auto Gain	Adjust proper Color Doppler gain automatically frame by frame. Only available in vascular application of linear probe.
③	Steer Invert	Invert the direction of Color Doppler box.
④	Steer	Adjust the angle of Color Doppler box. (Right 3, 2, 1, none, Left 1, 2, 3)
⑤	Scale	Adjust the PRF. (Pulse Repetition Frequency)
⑥	Low/Mid/High	Automatically adjust the appropriate Color Doppler scale.

⭐ **Smart Auto Doppler**

Improve the complex UI workflow of Doppler mode.
Press [Q Scan] 🔘 on the control panel in the Doppler mode.
- Color: Location of the ROI box, the sample volume position, and the direction
  of the steer angle will be optimized at once.
- PW: Baseline and scale of PW mode will be optimized at once when using 🔘 .

PW/CW Doppler
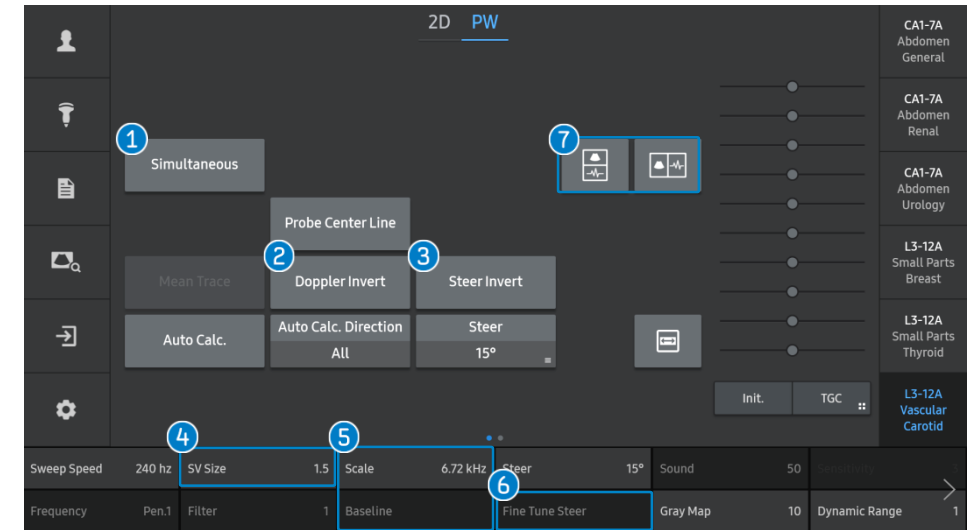
|	Simultaneous	View real-time 2D and Spectral Doppler image at the same time.
①	Simultaneous	View real-time 2D and Spectral Doppler image at the same time.
②	Doppler Invert	The spectrum inverts position of + and -.
③	Steer Invert	Invert the angle of the sample volume.
④	SV Size	Select a SV size between 0.5mm - 20mm.
⑤	Scale & Baseline	Adjust the PRF and Baseline by rotating dial-button.
⑥	Fine Tune Steer	The angle of Color Doppler box and SV line can be set separately.
⑦	Display format	Select display format as top-bottom or side by side.

Measurement - Calculator

■ 📊 **Calculator: Data measurement per each application.**
   (e.g. OB, Cardiac, Vascular, Prostate, etc.)
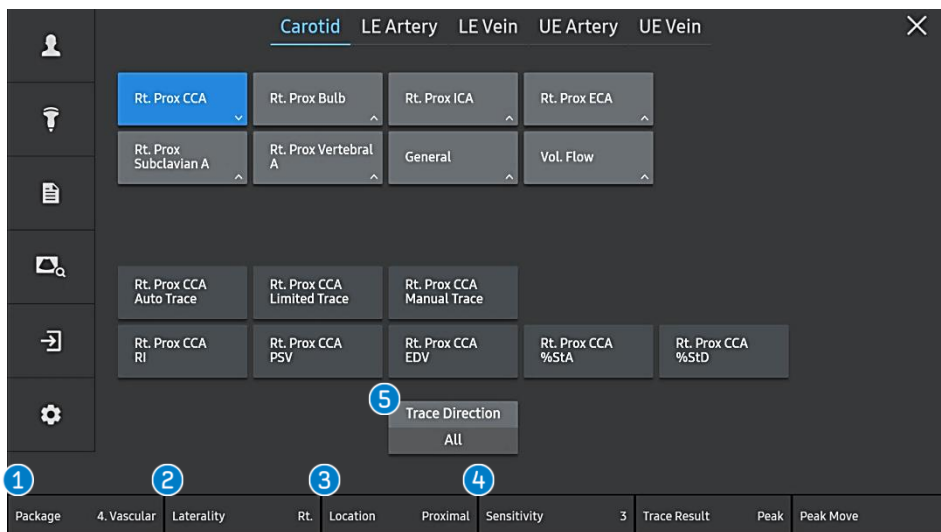
① Package	Specify the measurement package.
② Laterality	Select Right , Left , or N/A as the location of your measurement target. This is displayed on the touchscreen only for specific packages.
③ Location	Specify the location of the measurement target. This is displayed on the touchscreen only for specific packages.
④ Sensitivity	Adjusting the Sensitivity facilitates Doppler spectrum analysis.
⑤ Trace Direction	Select the trace direction of the Doppler spectrum.

Measurement - Caliper

■ 📏 **Caliper: Measure (by using a trackball a trackball and [Set]) selected**
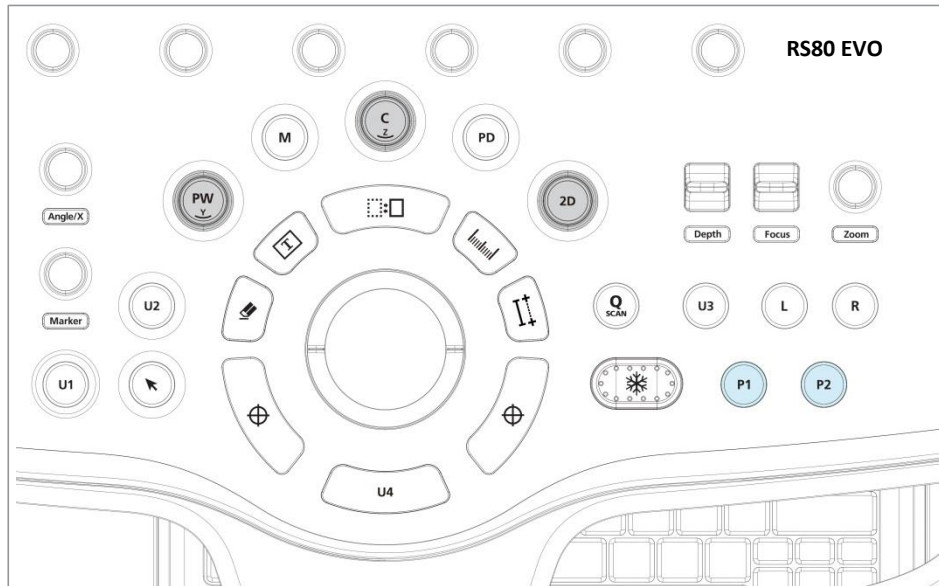   **items. (e.g. Distance, Area, Volume, Doppler measure, etc.)**
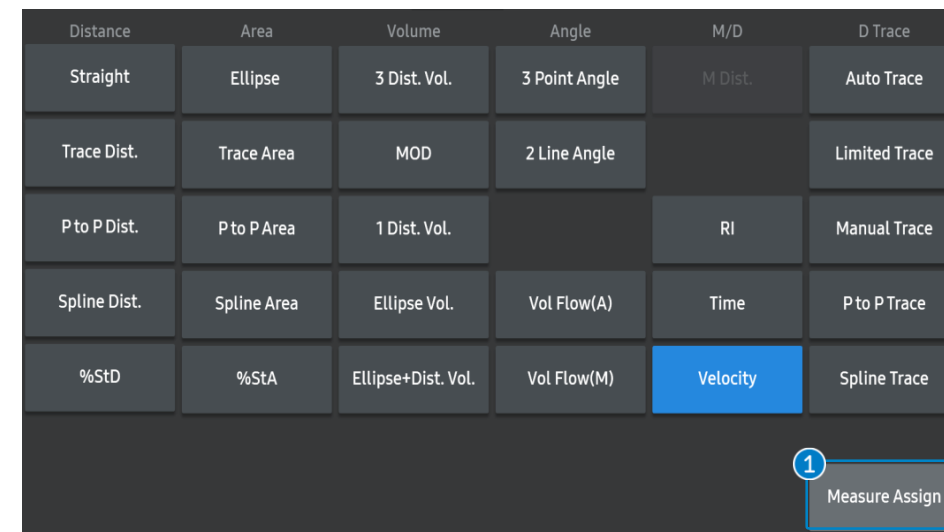
① Measure Assign	
	Possible to assign the certain measure label after using caliper which will be linked on the report.

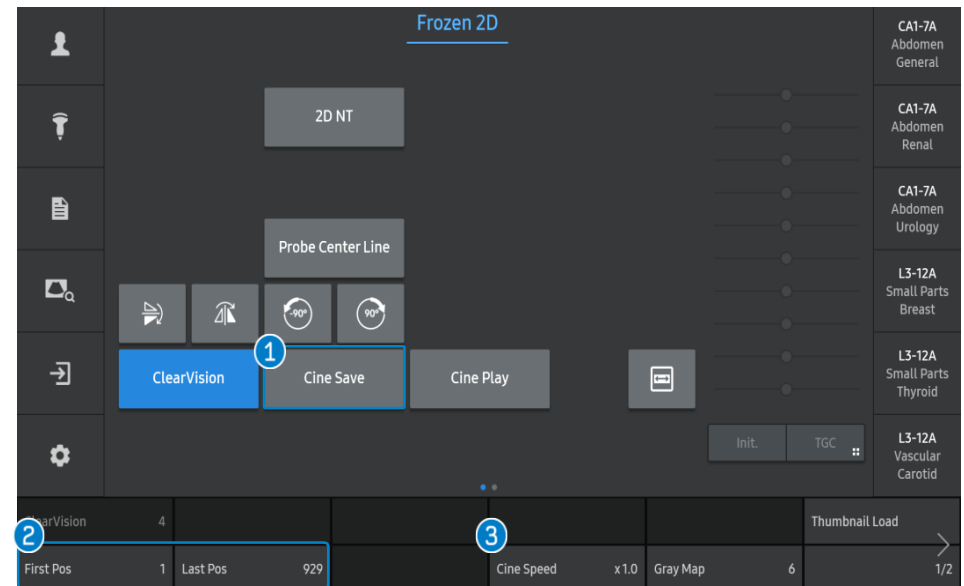# Image Save

■ **Save Still Image, Volume data and Store Clip.**

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P1 - 2 [Peripheral key]	Various functions can be saved on the [P1] and [P2] such as Save, Store Clip, Print 1, Print 2 and Send to DICOM. Possible to set the functions on [Setup] : · Utility → Set up → Customize
Still Image or Volume or Store Clip Save	Still Image, Volume data and Store Clip can be save on to using [P1] or [P2] key. To check the assigned key, refer to key guide on the bottom of the monitor.

Cine Save - Freeze Mode

■ **Save a video interval of Unfreeze and Freeze mode up to maximum frame.**

| ❶ Cine Save	Tap the [Cine Save] to save the specified image frames by tapping it. (Only available on Freeze mode)
❷ 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.
❸ Cine Speed	Set Cine play speed. It can be set from x0.5, x1.0, x1.5 to x2.0.

Store Clip

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

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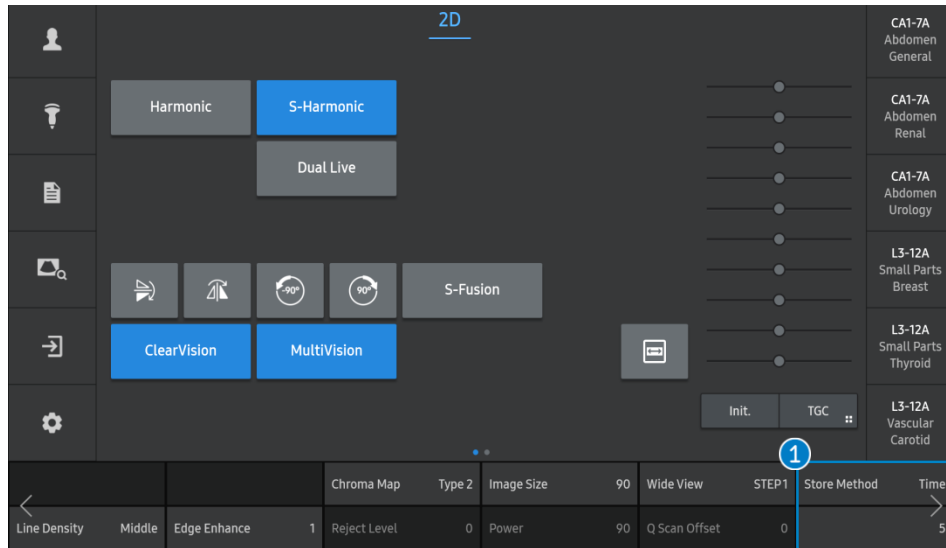
① Store Method — Select the method for saving the cine image when you use the store clip function.
Select the type of store clip by tapping.

Time	Set time duration when save the images. (1~600sec)
Manual	Set store range by manual. Save the images when [Store Clip] is firstly pressed to it is pressed again.
ECG Beat	Save the images by heart beat. (1 - 8 beats) ※ ECG Beat will be activated only when ECG is on.

⭐ **On the freeze mode**

[Store Clip] works same as the [Cine Save] function regardless to [Store Method] and [Cine Loop Period] setting.

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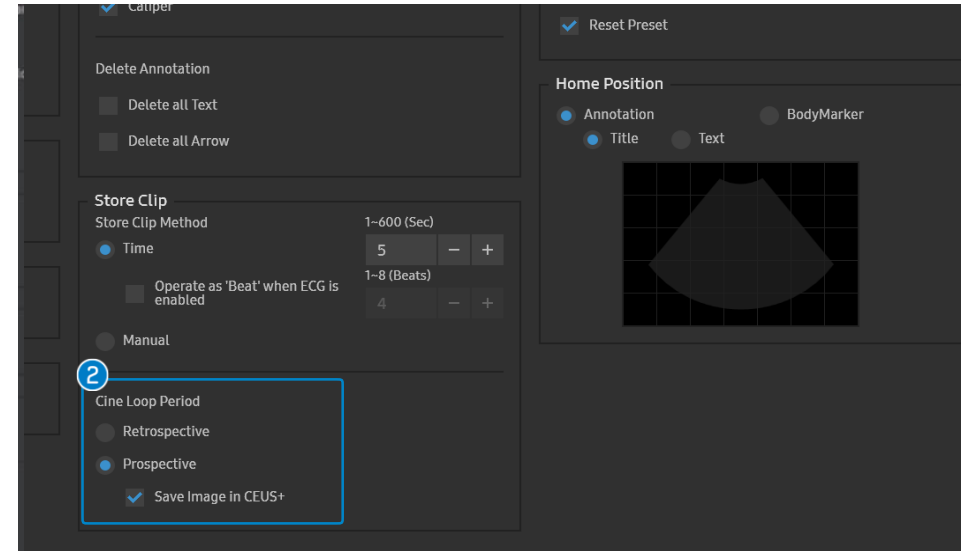
② Cine Loop Period - configure on the setup

|	
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	Send all saved images when you press [End Exam].
Send As You Go	Send an image whenever you press [Save].
Manual Send to DICOM	Transfer images manually in the [SonoView].

SonoView - Image Review

■ **[SonoView] is a image management program.**

■ **Tap the [SonoView] on the touch screen. [🔍]**
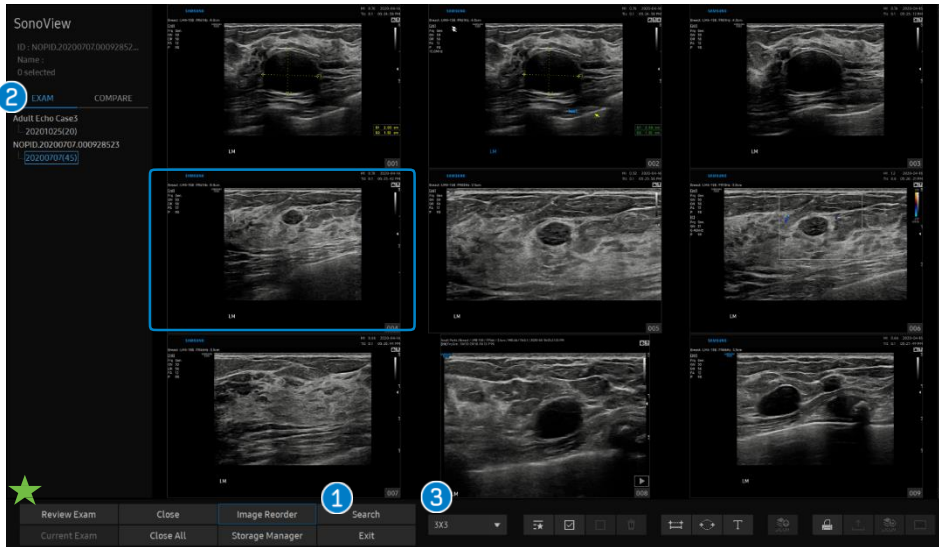
|		
① **Search**	Open exam list.	
② **Exam list**	The selected exam list or completed exam list is displayed. The selected image is shown in blue box.	
③ **Layouts**	Adjust displayed images layout from 1 x 1 to 4 x 4. (Maximum 16 images)	

★ **To enter Scan mode from SonoView**

Select the exam list and exit to activate on the scan mode.

· **Current Exam :** The current exam and its images are displayed.

· **Review Exam :** The exams that were performed prior to the last 24 hours.

· **Continue Exam :** The exams that were performed within the last 24 hours.

Send to DICOM - Manual

■ **The method to manually transfer images.**
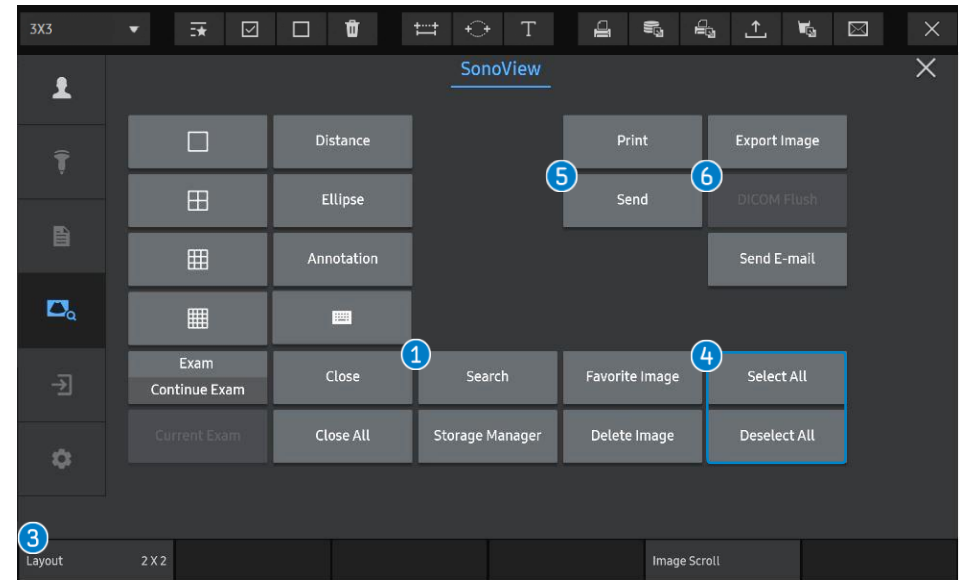
④ **Select All** **Deselect All**	Select or deselect all images. Select the images using the trackball and [Set]. The selected images are shown in blue box.	
⑤ **DICOM Storage**	Send the selected image to the DICOM server. Only available if the image is selected. [DICOM Storage] → [Transfer]	
⑥ **DICOM Flush**	Transfer all NOT SENT image to PACS. Only available if the exam is running.	

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SonoView - Image Management

■ **Tap the [Patient]button on the touch screen.**
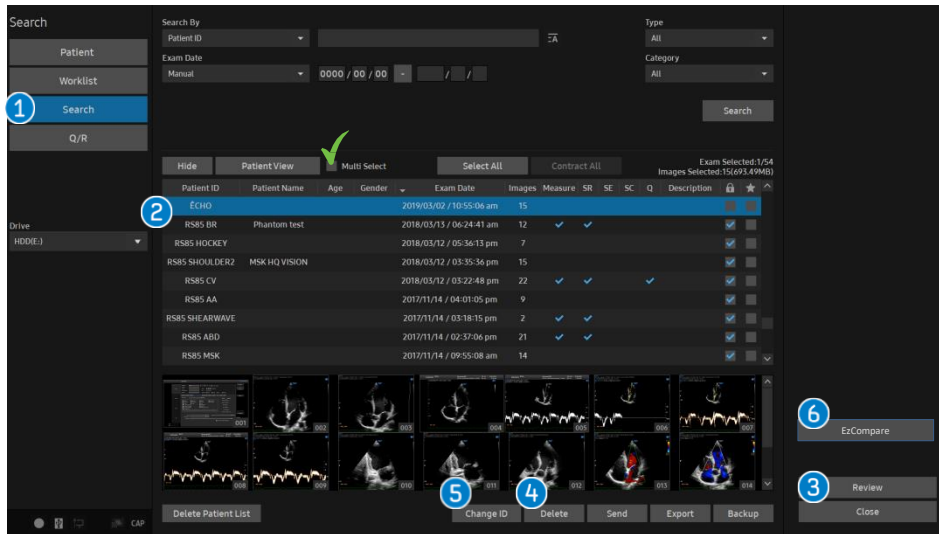
|	**Search**	Press [Search] on the monitor screen.
❶	**Patient list**	Select Patient ID in the Exam list. (✓ Multi Select - Selects multiple exams)
❷	**Continue Exam or Review Exam**	Review the saved images. If the exam was performed within 24 hours from now, append exam is allowed. Exams performed longer than 24 hours, only [Review Exam] is allowed.
❸		
❹	**Delete**	Delete the saved exams.

⭐ **Change ID Caution**

Even if the patient information is changed, the existing saved data does not reflect the changed ID data.

| ❺	**Change ID**	Change patient information.
❻	**EzCompare**	Allows easy access to previously taken exams to evaluate corresponding views in a side by side layout.

ⓐ Select the exam to change.

ⓑ Select the Local(HDD), Worklist, or New.

　· Local(HDD): Change patient information to saved exam in the HDD.

　· Worklist: Change patient information to information in the Worklist.

　· New: Create patient information manually.

ⓒ DICOM send option can be selected after change patient information.

ⓓ Hide patient information on the image after change patient information.

ⓔ Press [Change].

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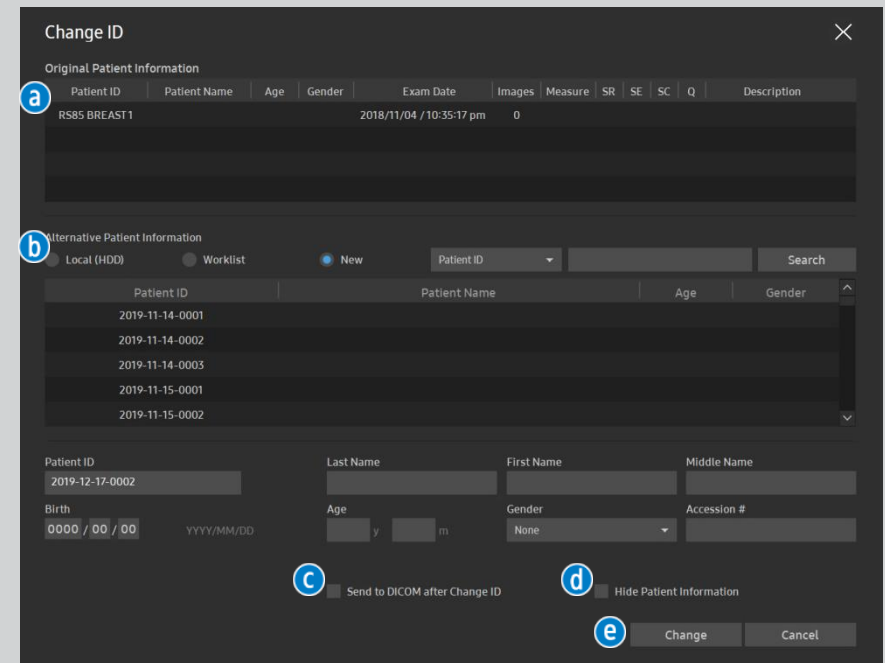
SonoView - Export & Backup

■ **Tap the [Patient]button on the touch screen.**
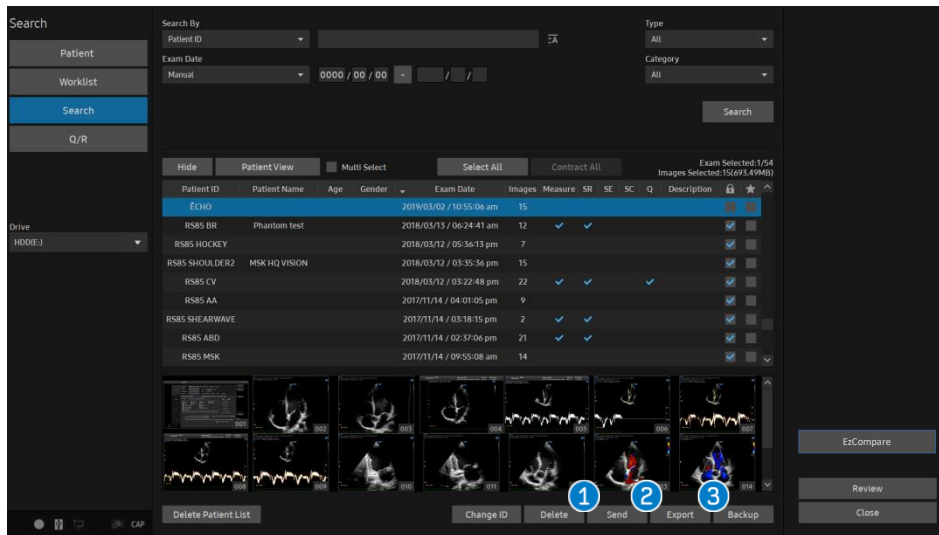
①　Send

Transfer the saved images to PACS server.

(Press [Send] → Select [DICOM Destination] → Press [Transfer]

* Transfers all images on selected exams.

②　Export

Converts image to PC compatible format such as BMP, JPEG, DICOM, TIFF, AVI and MP4.

Available to customize file information as well as [File Info] and [Export Option].

· Hide Patient Information – To remove patient ID and name.

· Multi Folder – Categorized files per date and patient ID.
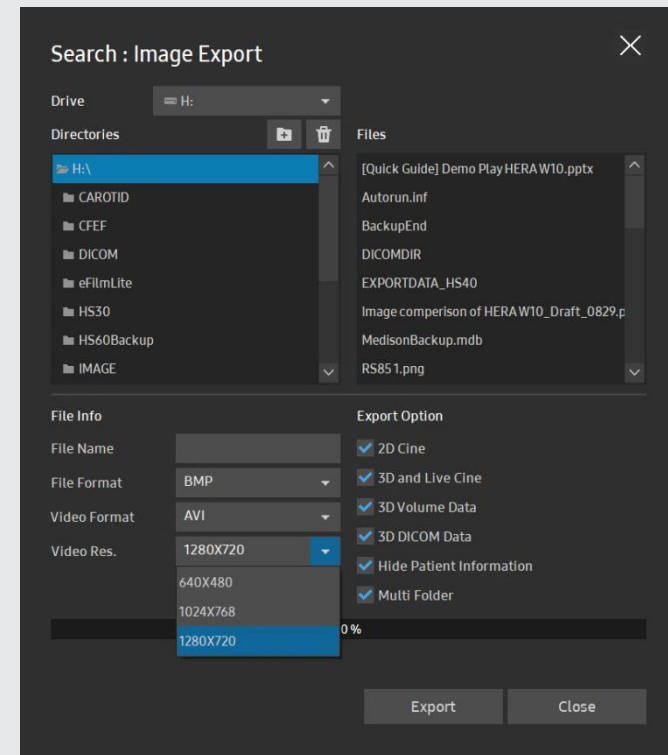
③　Backup

Back up and restore data.

Only the back up data can be reviewed on the system.

Press [Backup] → Select [Drive] → CD/DVD(G:), Removable(H:) → Press [OK].

· Hide Patient Information – To remove patient ID and name.