Confidential

SAMSUNG

S-Fusion™ *for Prostate*

V series **Quick Guide**

Produced by Clinical Training Center / SAMSUNG MEDISON CO.,LTD

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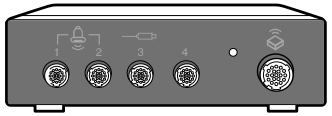
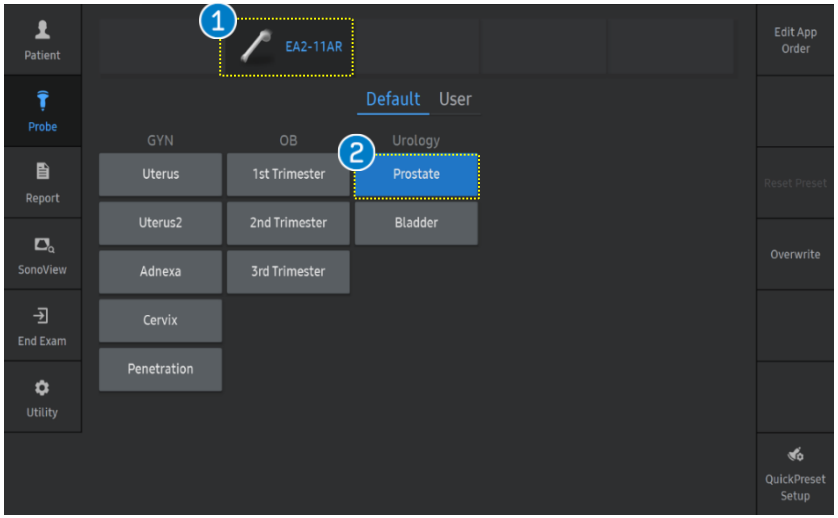
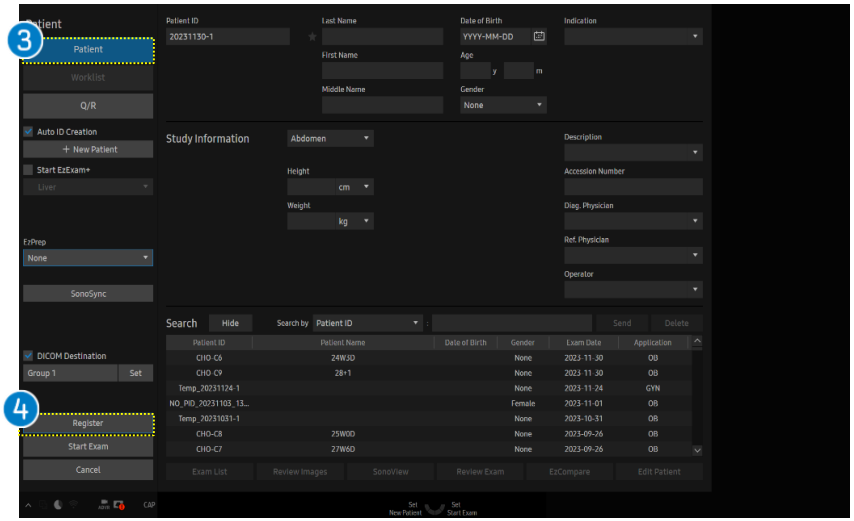
The components of S-Fusion™

Field Generator (Transmitter)	Generates an electromagnetic field to find the location of sensor.	
Probe Sensors (1EA)	Detects the strength and orientation of the generated electro-magnetic field, and relays the information to the tracking unit.	
Tracking Bracket	Allows mounting of probe sensors onto the probe.	
Tracking Unit	Calculates the position and orientation of the probe and the biopsy needle based on the data from the sensors. It also displays this information on the monitor.	
External Marker	Helps to compensates for patient movement by placing it on the patient during data acquisition and S-Fusion procedure which helps to find and track patient's position more closely.	

S-Fusion™ *for Prsotate* 1. Register the patient info.



❶ Probe	Select the proper Probe.
❷ Application & Preset	Select [Urology] application and [Prostate] preset.

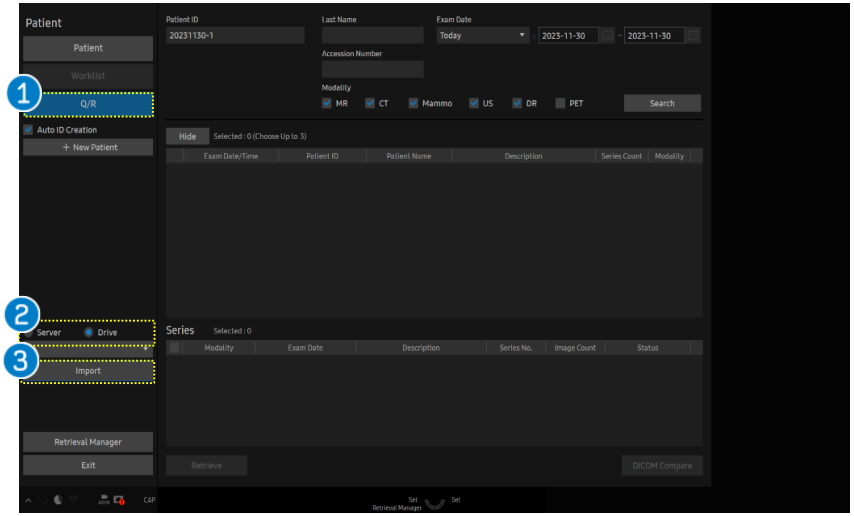


❸ Patient	Input the patient information.
❹ Register	After entering the patient information, select [Register] button to start an exam.

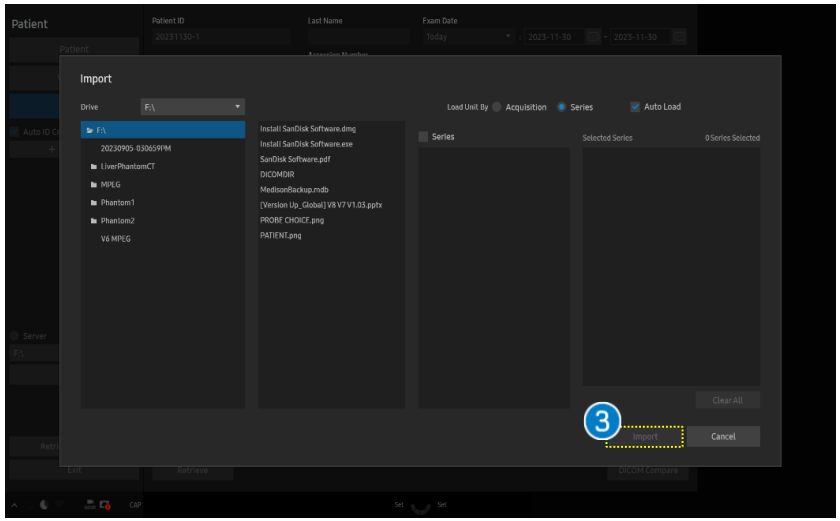
★ Tips

In the case of using a worklist server, you can directly access worklist page and search for the patient information.

2. Query & Retrieve the datasets

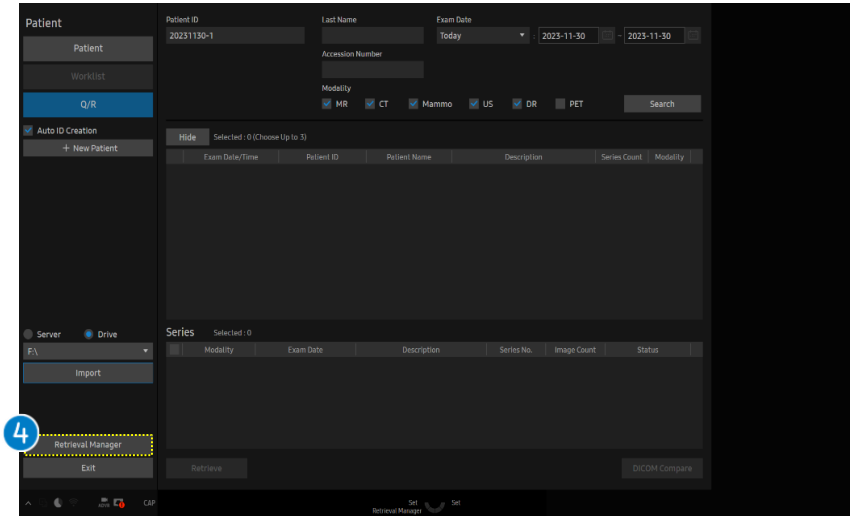


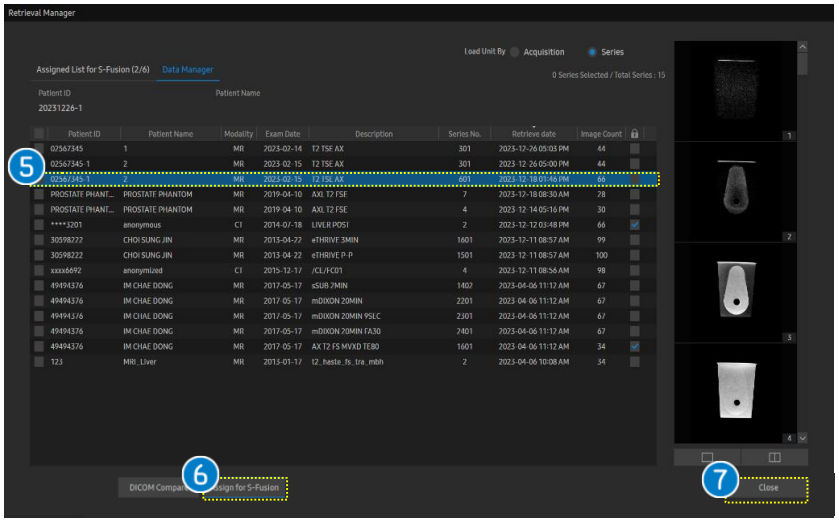
1 Q/R	Click the [Q/R] menu.
2 Source	Choose between Server/Drive. To use Drive source, Put USB in with Fusion data (MR/CT/US/DR/PET).



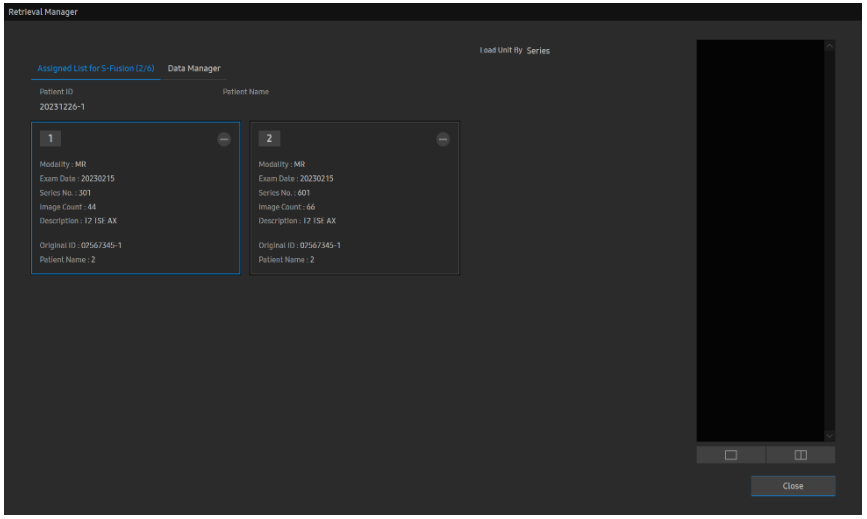
3 Import	Press [Import] to bring in the data. Select desired data and press [Import].

2. Query & Retrieve the datasets

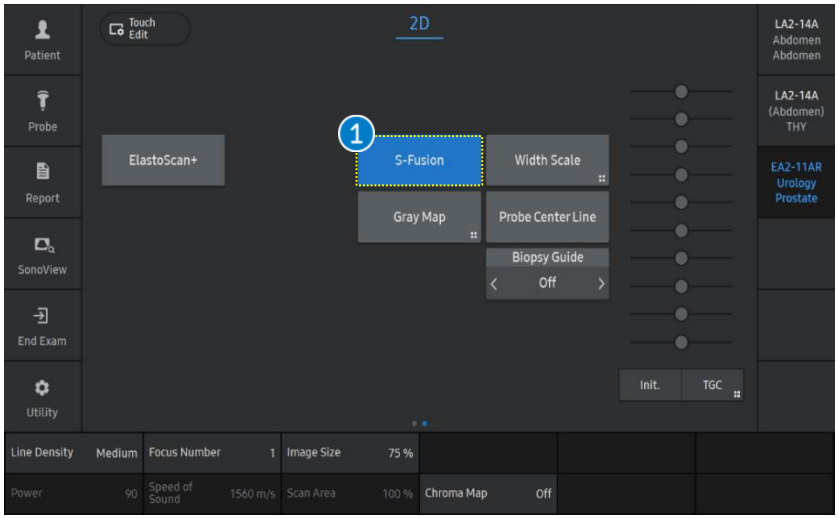




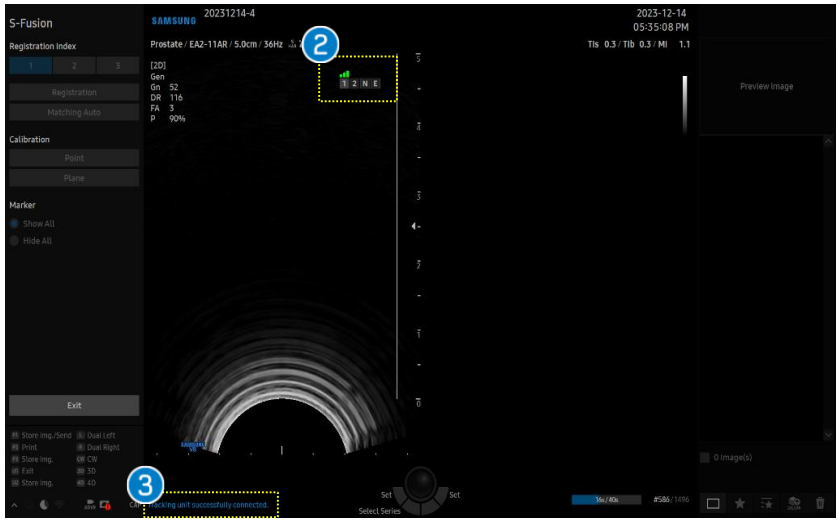
❹ Retrieval Manager	Press [Retrieval Manager] to assign the fusion data. Then, 'Data Manager' window will display on the screen.
❺ Select Data	Check the box of the datasets which you desire for registration with US Image.
❻ Assign	Choose [Assign for S-fusion] button for selected series to be temporally assigned to the current ID.
❼ Close	Click the [Close] button on Retrieval Manager. You will be ready to start S-Fusion. Assigned list for S-fusion will pop up.



3. Start S-Fusion™ for Prostate

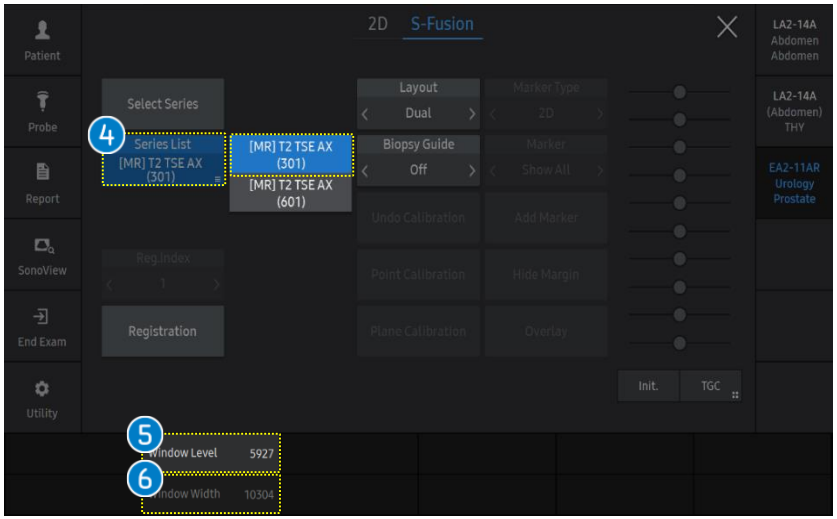


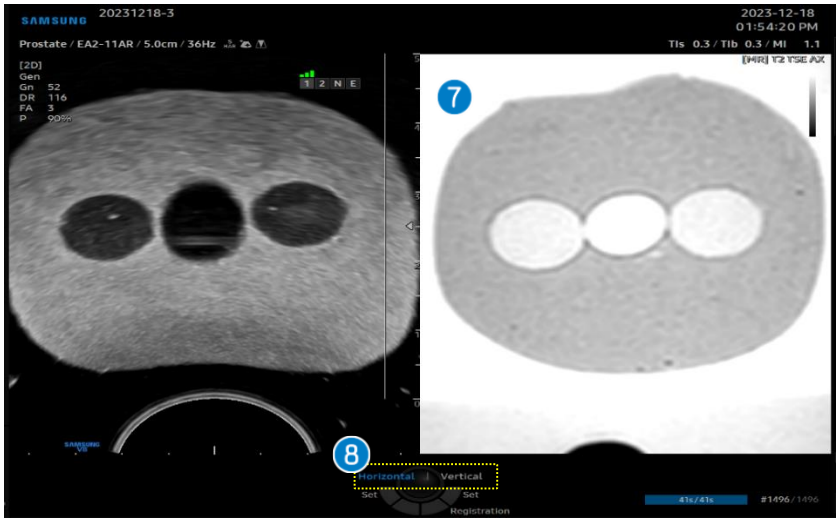
❶ S-Fusion	Select the [S-Fusion] button on the touch screen to start S-Fusion for Prostate.



❷ Check the sensor	The green bar indicates the signal strength is at a proper status.
❸ Connect the tracking unit	If the tracking unit is connected properly, 'Tracking unit successfully connected' message will be displayed.

4. Select Series - Q/R



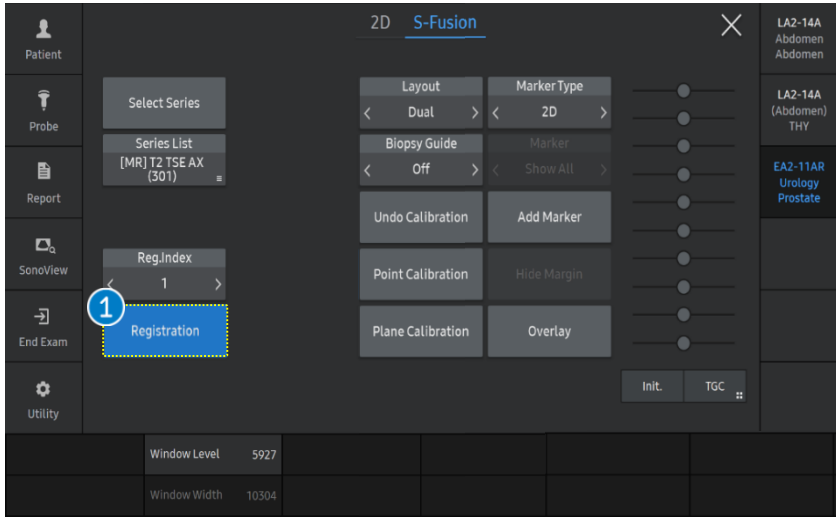


4	Series List	With [Select a series] button, Retrieved series will be displayed on the touch screen menu.
5	Window Level	Adjusts the "Brightness" of CT/MR data.
6	Window Width	Adjusts the "Contrast" of CT/MR data.
7	Select data	Selected data will be displayed on the monitor screen. If you want to change to another datasets, you can switch to a different series on the list.
8	Horizontal/ Vertical	Use the [Change] button on the control panel to activate [Horizontal] or [Vertical] direction to find the desire location from the retrieved datasets using trackball.

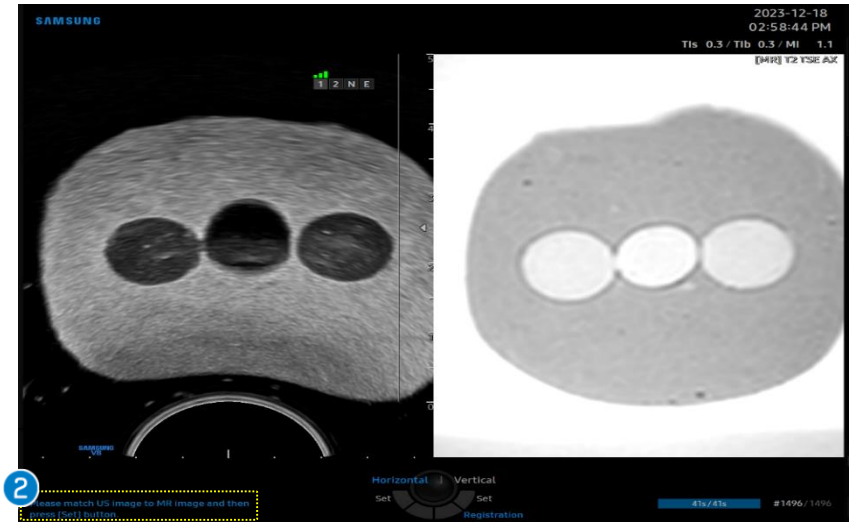
★ Tips

A Proper MR Dataset for Prostate Fusion : Accuracy is guaranteed for MR T2 Image only.

5. Registration type - Registration

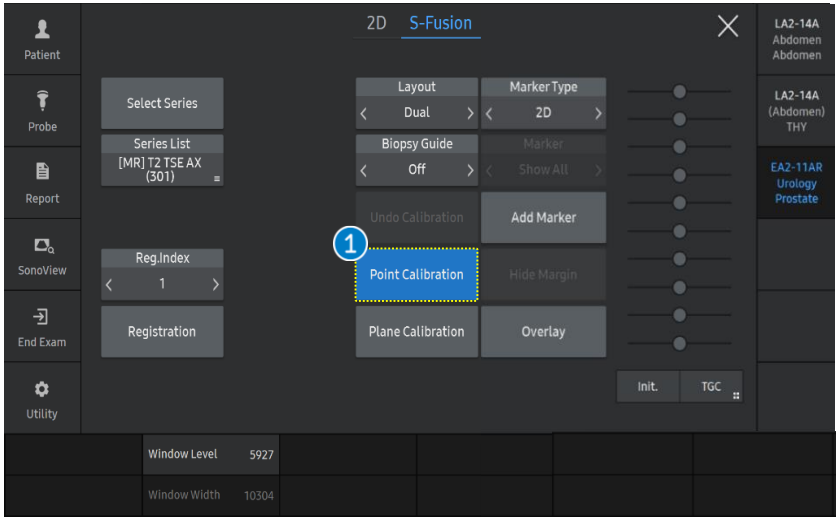


1	Registration	Press [Registration} to start registration.

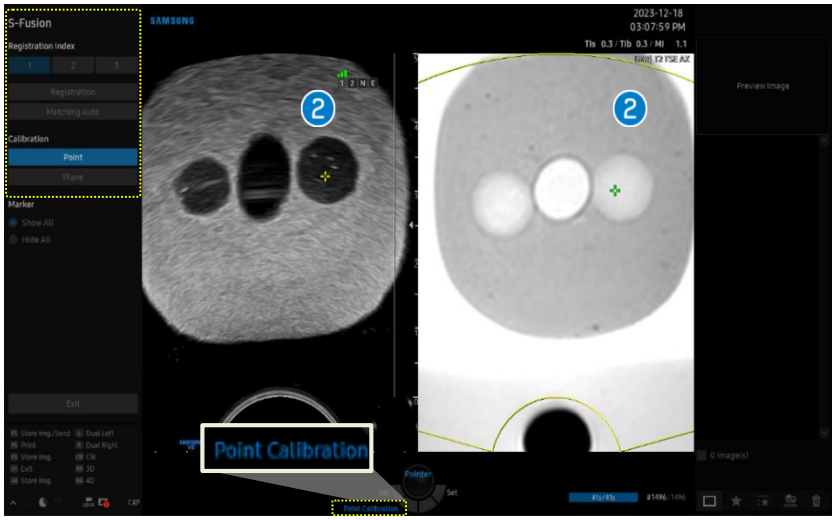


2	Start a Registration	The system is ready to start a registration and will be displayed 'Please match US image to MR image and then press the [Set] button' on the control panel.
3	Zoom In/Out	Adjust the CT/MR data's image size by rotate the Zoom button on control panel.

6. Calibration method - Point Calibration



❶ Point Calibration	Select [Point Calibration] button on the touch screen or contextual button, a [+] marker will be displayed on the image.

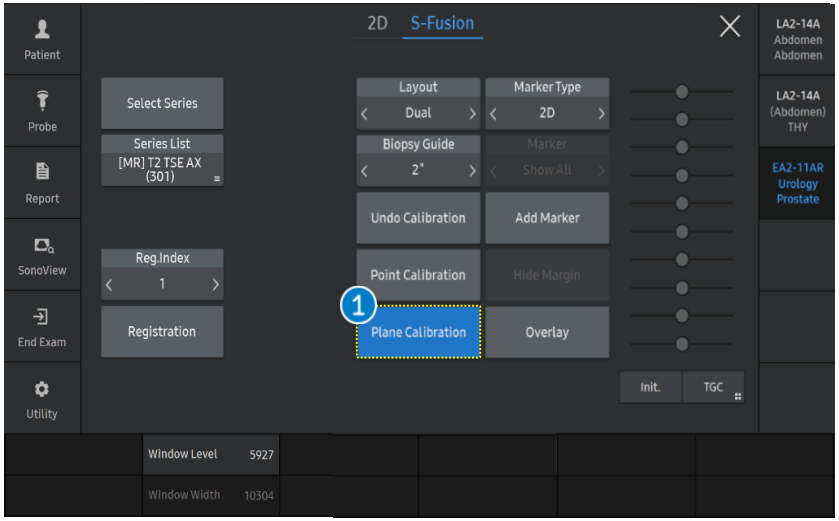


❷ Mark at the same location	The [+] marker will be displayed on the US image, put the marker at the same anatomical area on both US and MR sequentially.

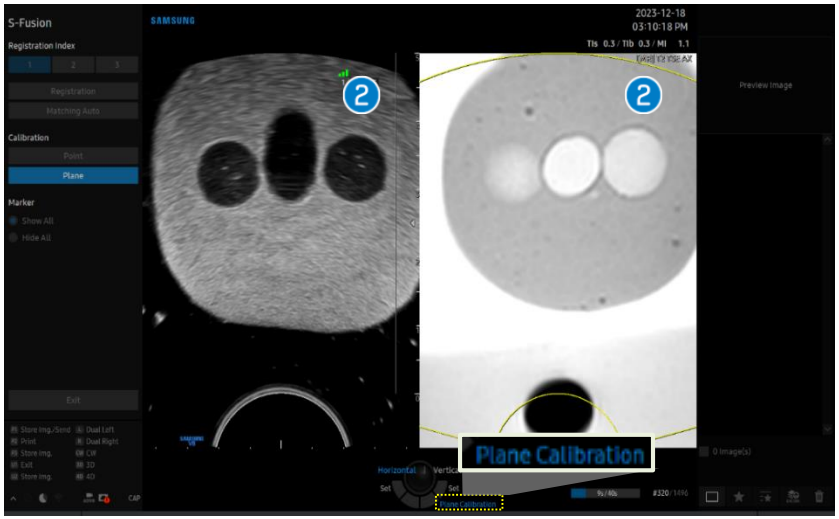
★ Tips

You can also manipulate calibration with contextual button and left menu.

6. Calibration method - Plane Calibration



❶ Plane Calibration	When you select the [Plane Calibration] button on the touch screen or contextual button, it will also be available to adjust the plane image of MR datasets.



❷ Match the same plane	Based on US image, you can adjust the desire location from the retrieved datasets using [Horizontal] or [Vertical] of the change button as well as angle of the MR image data by using [Angle/X] button on the control panel. After matching the US image, press the [Set] button on the control panel.

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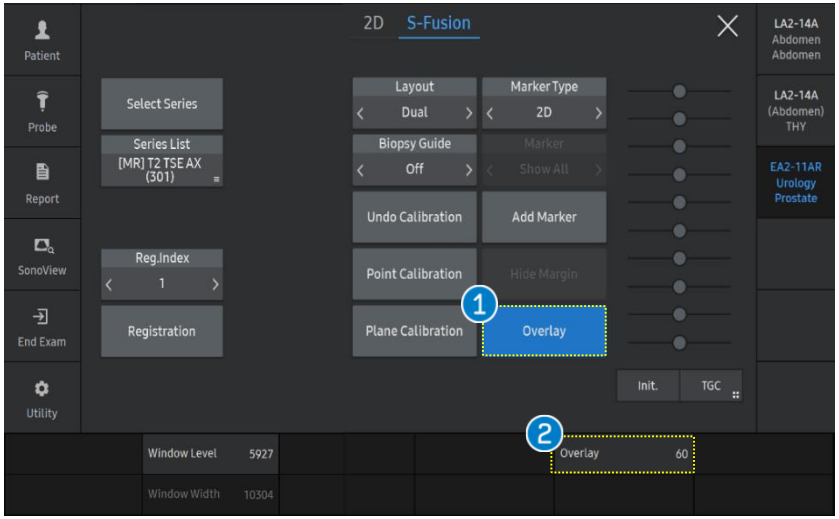
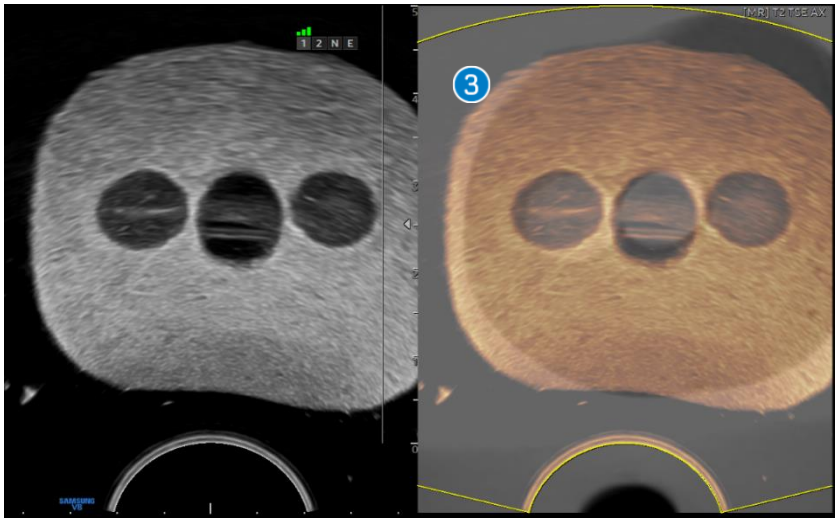
7. Overlay

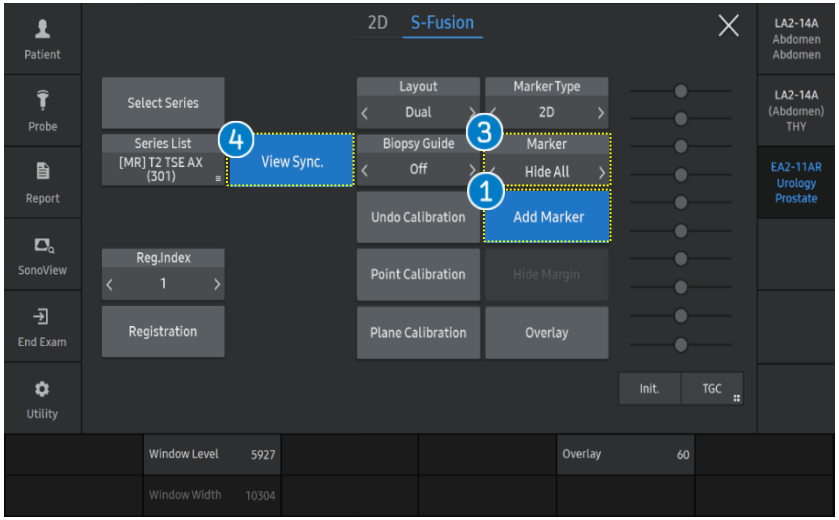


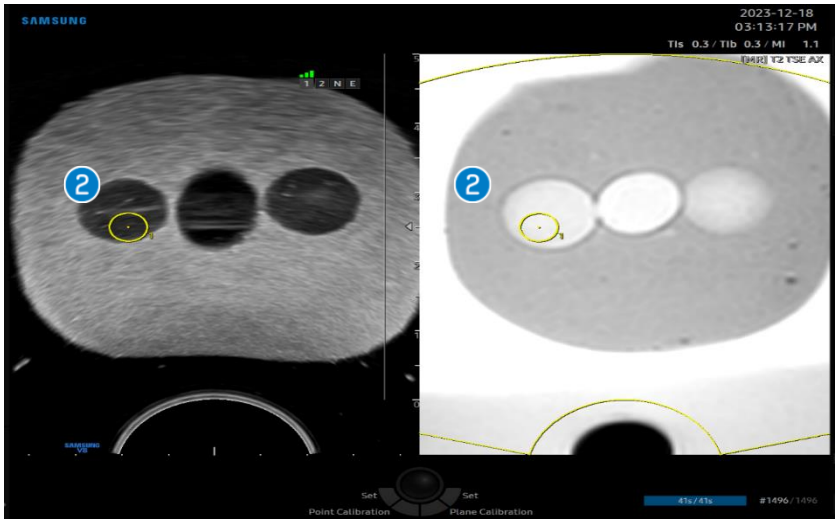
❶ Overlay	The real time US Image will be superimposed over the MR Images. Available to turn this function on or off.
❷ Overlay Level	When the level is increased, the US image will be more superimposed and if the level is decreased, the MR data will be more superimposed.



❸ Superimposed image	Superimposed image will be displayed based on Alpha Blending level. You can also create registration between US and CT/MR images by using Plane Calibration.

8. Add Marker





1	Add Marker	Tap the [Add Marker] on the touch screen. Set the point on either the US image or CT/MR image, then this marker can be used to flag the location of a point of interest.
2	Delete Marker	Tap the [Delete Marker] on the touch screen to delete last marker sequentially.
3	Hide Marker	Tap the [Hide Marker] on the touch screen. If you want to display the image without a marker, you can hide it.
4	View Sync.	Tap the [View Sync] on the touch screen to synchronize the real-time ultrasound images with CT or MR when depth is changed.

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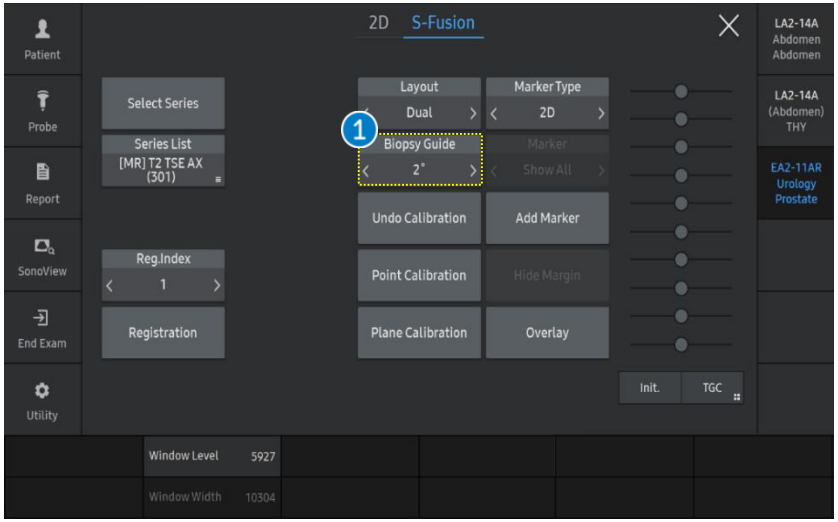
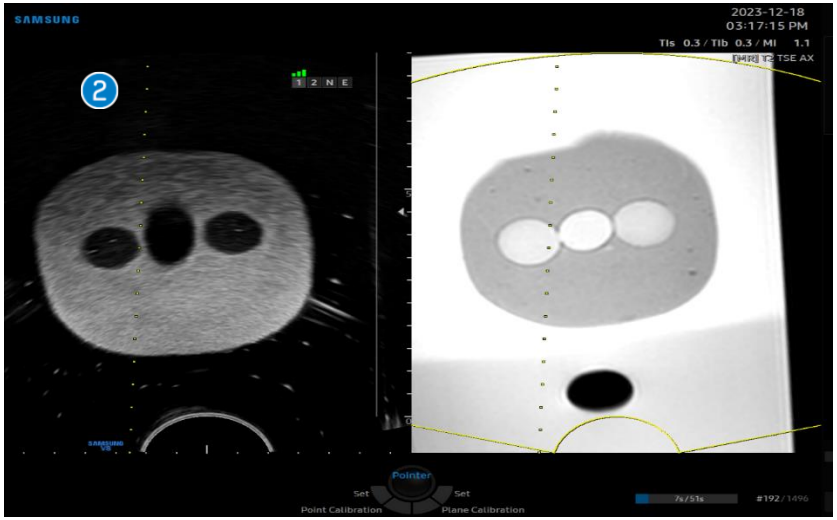
9. Biopsy On/Off



1 Biopsy On/Off	The Biopsy guideline appears on US images.

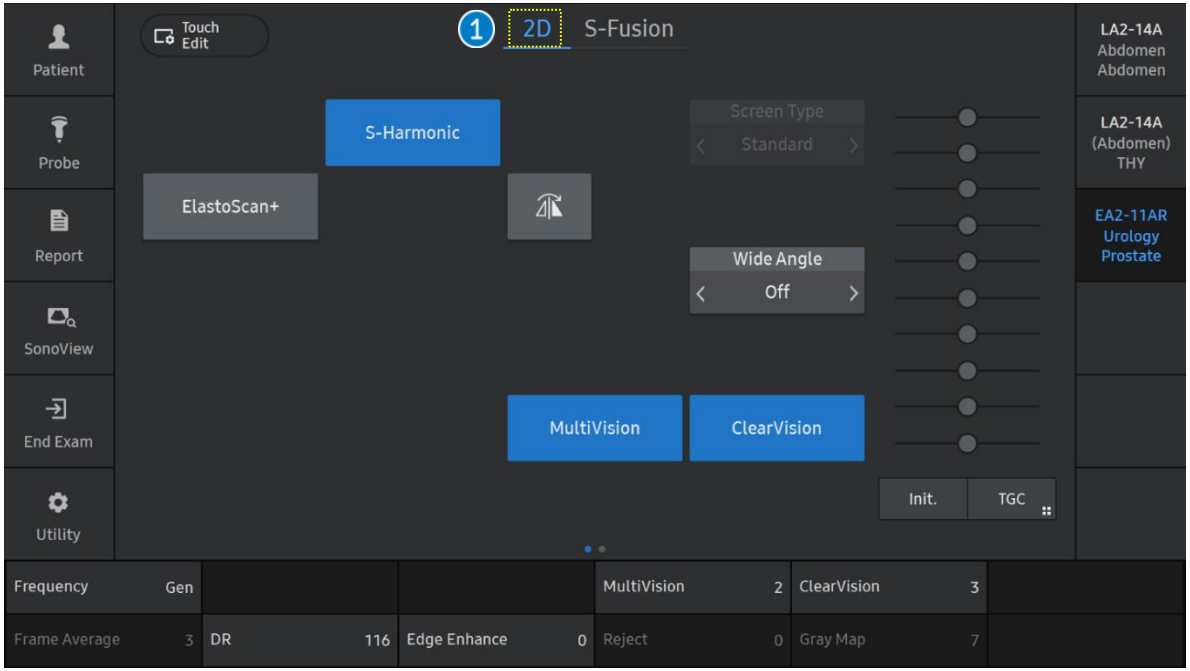


2 Display the biopsy line	Biopsy line will appeared on the monitor screen. Press [>] to move on to next angle.

★ Tips

If you want to change Biopsy angle, adjust it on CP angle key before entering S-fusion

10. 2D parameters



1	2D	Select [2D] button to change some parameters on 2D mode.
2	UP-Down Flip	Able to change the display of the image with Up-Down Flip button on the touch screen, * View Sync must be activated

★Tips

You can enter 2D, C, LumiFlow, PD, Elastoscan+ when entering 2D mode.

- The features, options may not be commercially available in some countries.
- Sales and shipments are effective only after the approval by the regulatory affairs. Please contact your local sales representative for further details.
- This Quick guide does not include all of the details of instruction, fore more detail, please refer to V series User Manual.
- Do not distribute this document to customers unless relevant regulatory and legal affairs officers approve such distribution.
- This User Quick Guide is based on V series V1.06.
- Disclaimer: Some Images in this content were obtained from other system.

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