Confidential

SAMSUNG

Z20

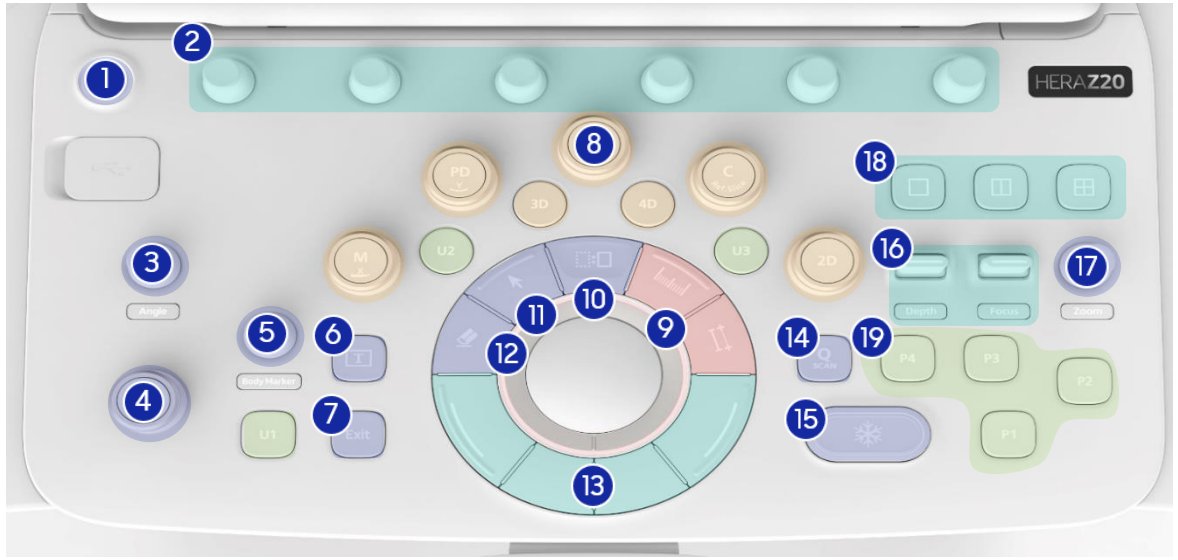
Quick Manual

※ ※ Quick Manual does NOT include all instructions. For more details, please refer to HERA Z20 User Manual.

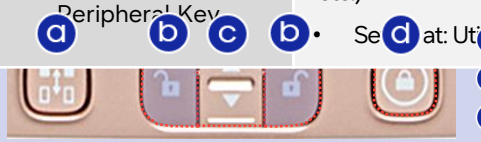
Produced by Clinical Training Center / SAMSUNG MEDISON CO.,LTD

Quick Manual

1. Control Panel



❶ Power	Power On/Off.
❷ Knob Button	Change the chosen setting for Touch Menu.
❸ Angle	Adjust the angle of probe marker in the BodyMarker, Indicator, PW/CW Sample Volume.
❹ Menu	Preset change or enter each task during EzExam+.
❺ BodyMarker	BodyMarker On/Off.
❻ Text(+Indicator)	Insert the Annotation or indicator. (Select on the Setup page)
❼ Exit	Exit the currently used function.
❽ Mode	Enter the 2D, C, PW, PD, M mode and adjust Gain.
❾ Measurement	• Caliper( ): Measure the basic items such as distance, area, volume, and velocity. • Calculator( ): Labeled measurements by Application.
❿ Change Key	Change the Trackball function. (Color Box, Zoom Box, Sample Volume size).
⓫ Pointer (+Indicator)	Activate an arrow or indicator for image review of thumbnail.
⓬ Clear	Delete Indicator, Measure, Text, BodyMarker, etc. If you press for 1 sec, it deletes all.
⓭ Set/Context	Set button and Provides shortcuts around trackball. Trackball functions will be changed depending on each mode.
⓮ Q-Scan	Automatically optimizes Gray Scale (2D)and Doppler Parameters (Scale/Baseline/Box placement, etc).
⓯ Freeze	Pause/Resume scan.
⓰ Depth/Focus	Adjust the depth and focus on scan mode.
⓱ Zoom	Read Zoom: Magnifies image by rotating the button. Write Zoom: Magnifies an ROI image.
⓲ Layout	Single, Dual mode.
⓳ User Key/ Peripheral Key	Can customize for the preferred function. (Save+DICOM, Save+Print, Clip Store, CW, etc.) • Set at: Utility → Setup → Customize → User Key



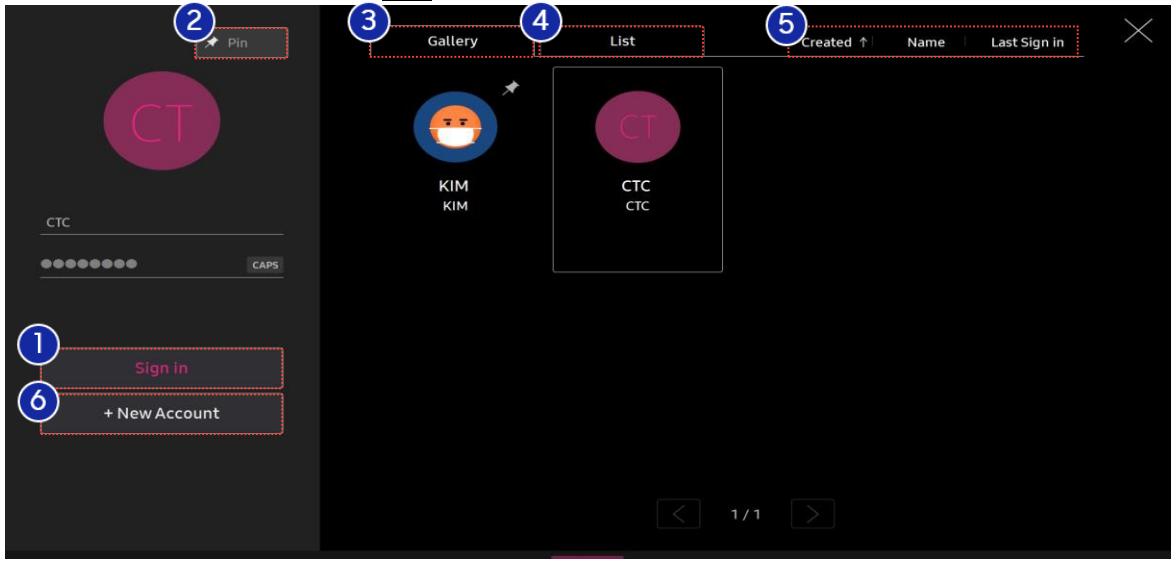
ⓐ
ⓑ Unlock movement of Control Panel (Right, Left, Forward, Backward)
ⓒ Move Control Panel up and down
ⓓ Lock moving wheel

Quick Manual

2. MyHERA™ (User Account)

Sign In User Account

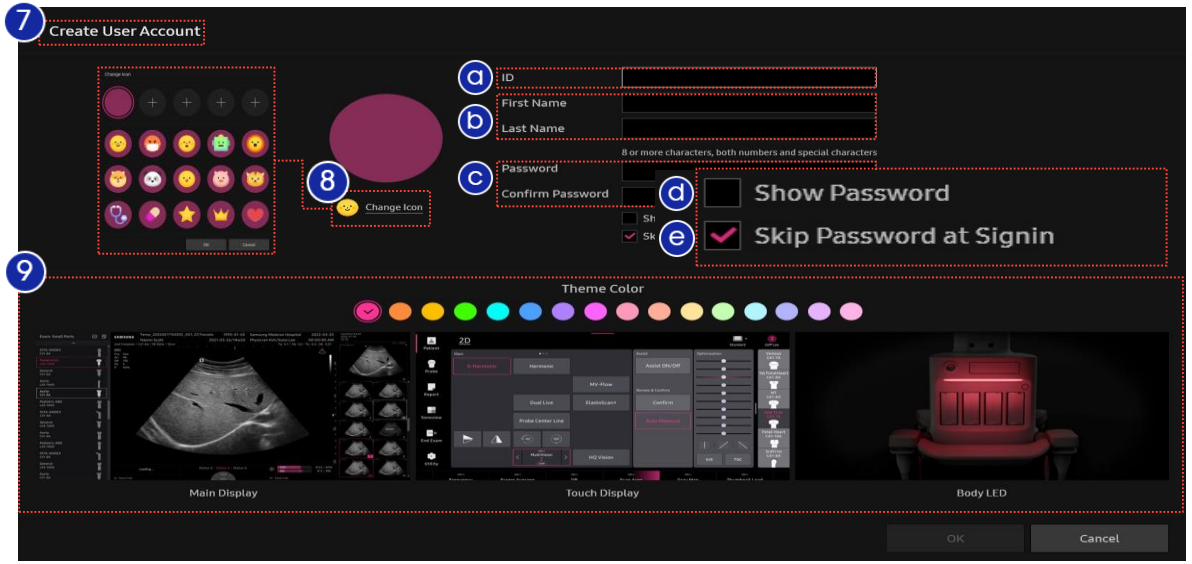
▪ On scan mode, select 'Sign in' (Sign In) Upper right of Touch Panel).



❶ Sign in	Sign in and out of the account.
❷ Pin	Pin the frequently used User Account above.
❸ Gallery	Display the existing User Account up to 8.
❹ List	Display every User Account that is created (you can create up to 10 per page).
❺ Account Sorting	Choose how to sort User Account (↑ : Ascending , ↓ : Descending) • Created: Sort by the order in which user accounts were created. • Name: Sort by user account name. • Last Sign in: Sort by recent log in.

Create User Account

▪ Create new User Account by selecting New Account.



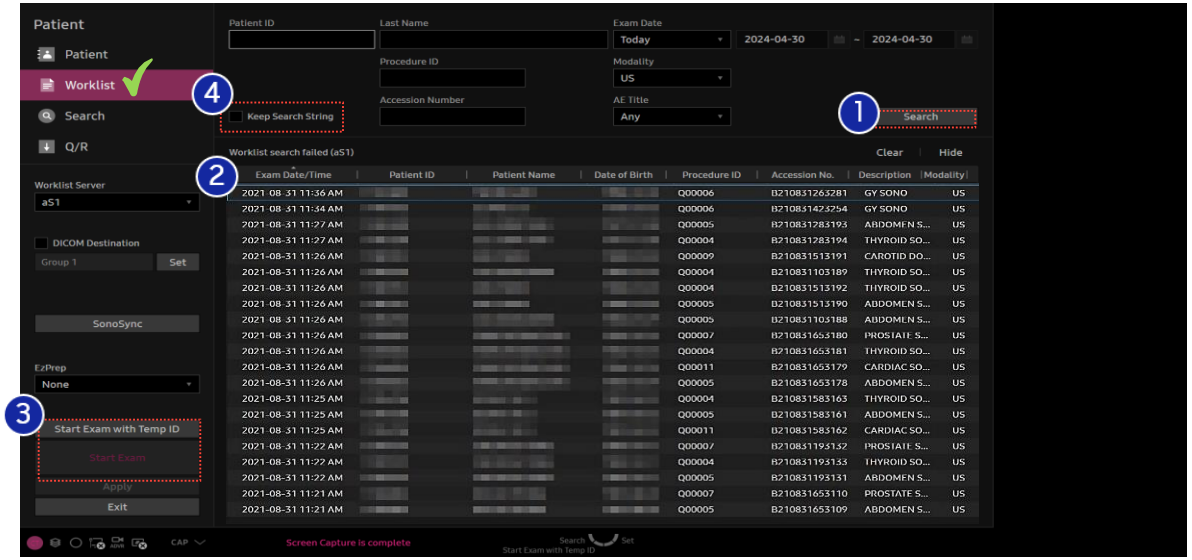
❻ New Account	Go to window where you can create User Account.
❼ Create User Account	ⓐ Input the new User Account. ⓑ Input the user name. ⓒ Input password. (Password should be over 8 letters including letter, number, special symbol) ⓓ Show password when typing in. ⓔ Tick the box to skip password when signing in.
❽ Change Icon	Choose the preferred icon. (If not chosen, User Account is created without an icon)
❾ Theme Color	Choose the preferred Main Display, Touch Display, Body LED's Color. • You can change theme color on Utility → Theme color.

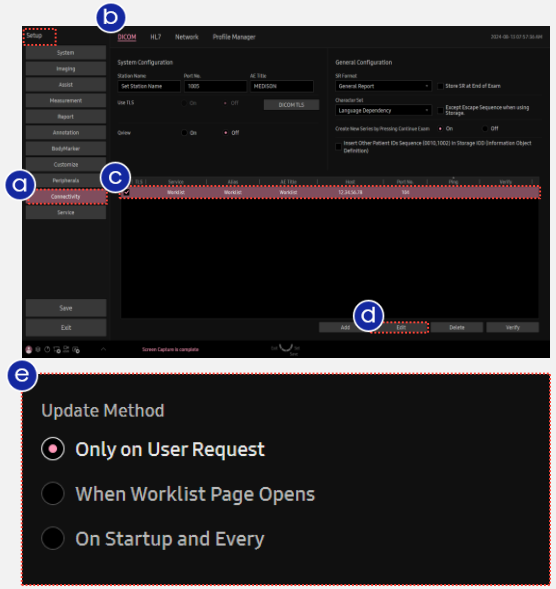
Quick Manual

3. Worklist and Patient (1)

Worklist Search

▪ Select [Patient] button on the Touch Screen. (* Go straight to when Worklist is linked.)



❶ Search	Click [Search] button on the Worklist screen to update the patient list. • Searchable fields include: Patient ID, Name, Procedure ID, Exam Date, and Accession Number.
❷ ID Select	Selecting a patient automatically enters their information. • Single-click → Select [Start Exam] to begin the exam immediately. • Double-click → Go to the [Patient] screen to add info, then 'Start Exam'.
❸ Start Exam	Click [Start Exam] to enter the scan mode.
❹ Keep Search String	Check to maintain the search conditions. (Patient ID, Name, Procedure ID, Accession Number, etc)
❺ Update Method	Set how you want to update Worklist. • How to: Utility → Setup → ⓐ Connectivity → ⓑ DICOM → ⓒ Choose Worklist → ⓓ Press Edit → ⓔ Update Method  • Only on User Request: Only updates when user presses ❶ Search • When Worklist Page Opens: Updates whenever Worklist is opened. • On Startup and Every: Updates every1 to 60 minutes as it is set.

Tip! Utility

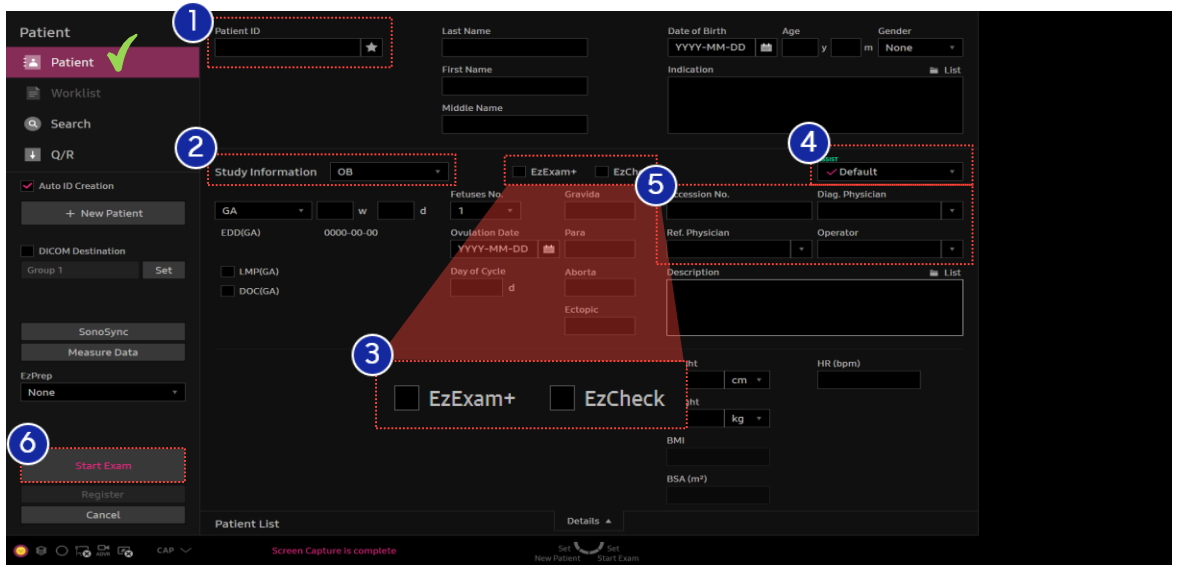
- Setting menu for the system and other general functions.
- The gear icon located on the bottom left of the Touch Screen.

Quick Manual

3. Worklist and Patient (2)

Registration of Patient

▪ Click [Patient] when patient information has to put in manually.



❶ Patient ID	Input a Patient ID.
❷ Application Selection	Input information for the chosen application.
❸ EzExam+™ / EzCheck™	Choose EzExam+, EzCheck options. • EzEzam+: A customizable workflow protocol. • EzCheck: A real time checklist for the user customized items. * Once an exam begins, you can launch these features directly via the EzTool menu on the top right of the Touch Screen.
❹ Assist	Select a Protocol of Live ViewAssist.
❺ Operator	Choose the Diagnosis Physician / Reference Physician / Operator.
❻ Start Exam	Start the exam by selecting [Start Exam] or [Freeze] button.

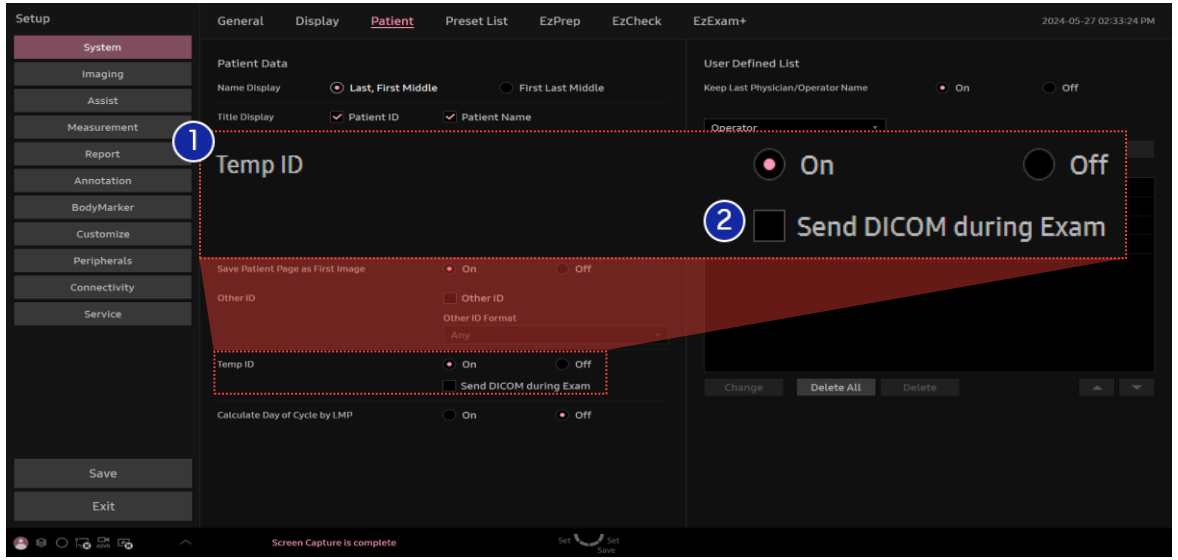
Tip! How to add an exam to Favorites

- Select the ★ icon next to the patient ID field in the Patient tab to add the exam to the favorites.
- In SonoView (Search tab), check the box in the ★ column to add an exam to the favorites.

4. Temp ID / Auto ID

Temp ID

▪ Temp ID Setup (Utility → Setup → System → Patient → Temp ID)

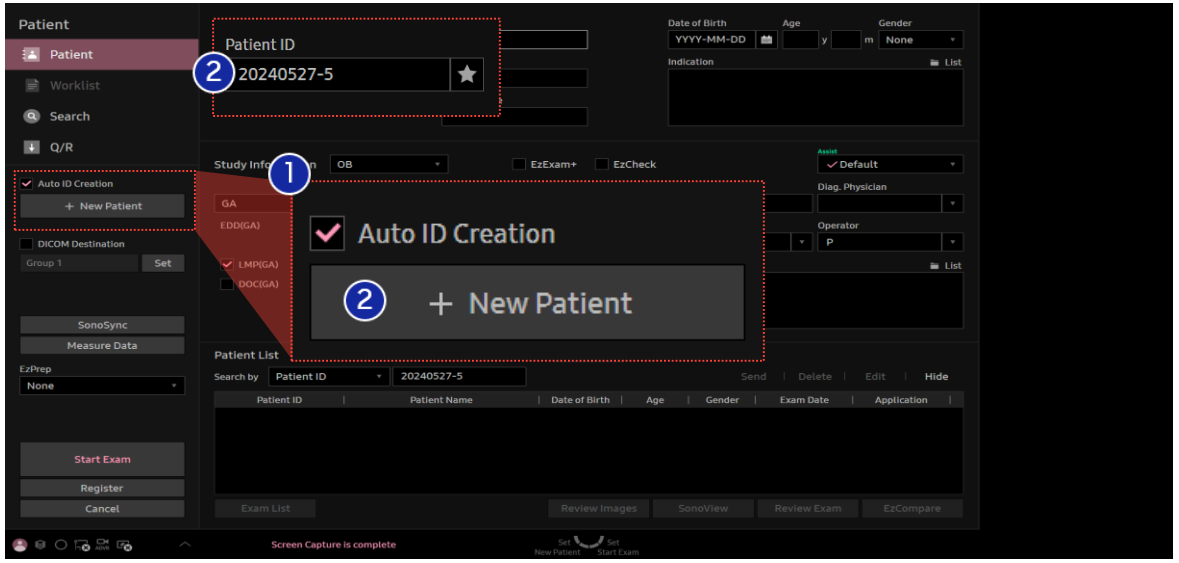


❶ Temp ID	Create a Temporary ID to start exam without registering patient information. • On: When saving an image without patient information, the image is automatically saved with a Temp ID. • Off: Go to [Patient] page when image is saved.
❷ Send DICOM during Exam	Choose whether to send DICOM for exams saved with a Temp ID. (when the Temp ID feature is On) • On: Send Temp ID exams to DICOM. • Off: Do not send Temp ID exams to DICOM.

Tip! When the Worklist Order Updates Slowly
- Set ❶ Temp ID on, and ❷ Send DICOM during Exam off.
- After the exam, use 'Edit Patient' to update the info, then send the DICOM.

Auto ID

▪ Create Patient ID automatically.

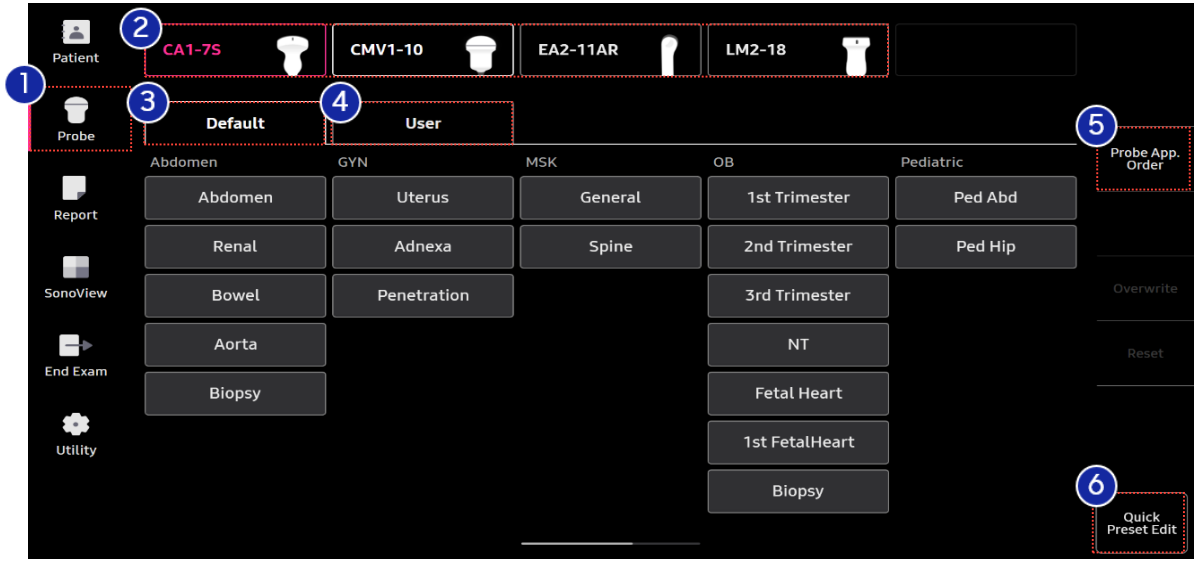


❶ Auto ID Creation	When checked, this option automatically generates a Patient ID based on the current date and a sequential number. • Auto ID Format: The ID follows a date and sequence number format. • Example: If today is April 01, 2026, and this is the 5th ID created, the Auto ID will be 20260401-5.
❷ + New Patient	Select [+ New Patient] to automatically generate a Patient ID. • With [Auto ID Creation] enabled, a new Patient ID is created automatically without clicking [+ New Patient].

5. Probe and Preset

Probe Selection

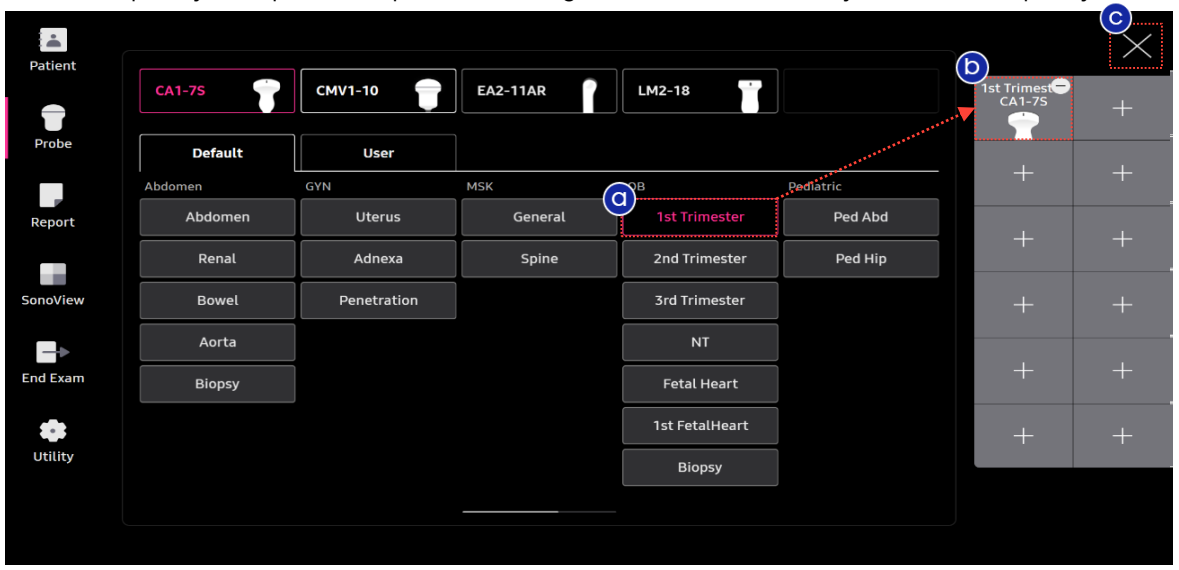
- Check which Probe is connected to the system, user preset, Default preset for each Probe.



❶ Probe	Tap the [Probe] button on the touch screen to select Probe and preset.
❷ Probe List	Display the probe lists which are connected by system.
❸ Default Preset	Select if you want to use the factory (default) presets.
❹ User Preset	User-defined settings.
❺ Probe App. Order	Available to revise the order of application. (Only on default)  ⓐ Choose Application you want to move ⓑ Change the order by pressing Λ(Up)/ V(Down) ⓒ Click [OK] to Display as changed.

Quick Preset Edit

- Place frequently used probe and preset on the right side of the screen so you can switch quickly.



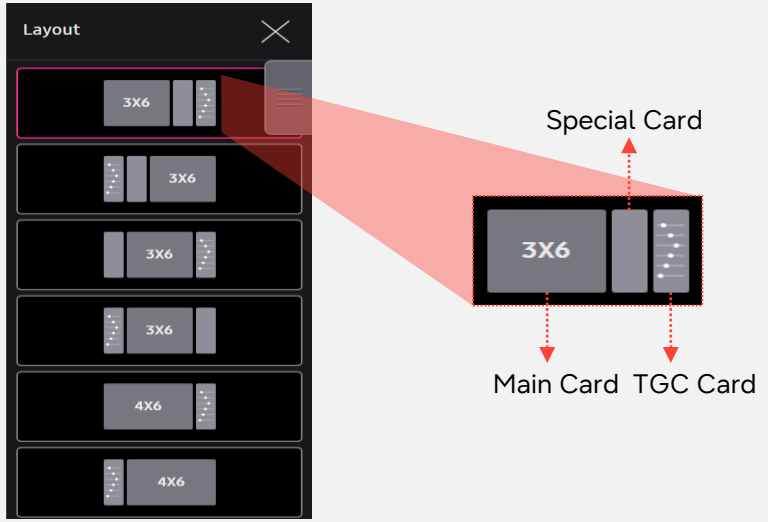
❻ Quick Preset Edit	Tap [Quick Preset Edit] button. ⓐ Tap the preset you want to use in Default or User tab. ⓑ Tap the location where you want to save onto the right. ⓒ Tap [X] button.

Quick Manual

6. Touch Customization

▪ Utility → Touch Customization

❶ Mode Selection	Select the mode where you want to change the menu in the Touch Panel (2D, Color Doppler, Power Doppler, Pulse Wave Doppler, M, 3D, 4D Live, 4D Frozen, More)
❷ Live/Frozen	Live and Frozen can be Customized separately
❸ Save	Save the changed setting.
❹ Main Card	Change the main Display for imaging menu and features.
❺ Flexible Card	Change the Display for soft menu below the touch panel for each mode.
❻ Special Card	Display EzStructure(2D)/EzFlow(C/PD/PW/CW) menu or the frequently used menu. • EzStructure: Optimizes the 2D image for specific structures , with a single click. • EzFlow: Optimizes Color or PW Doppler for a specific vessel , with a single click.

❼ Layout	Change the touch panel layout. 
❽ Export/Import	• Export Touch Customization setting to a external storage. • Import Touch Customization setting from a external storage.

Tip! Accessing TGC when the Card is hidden.

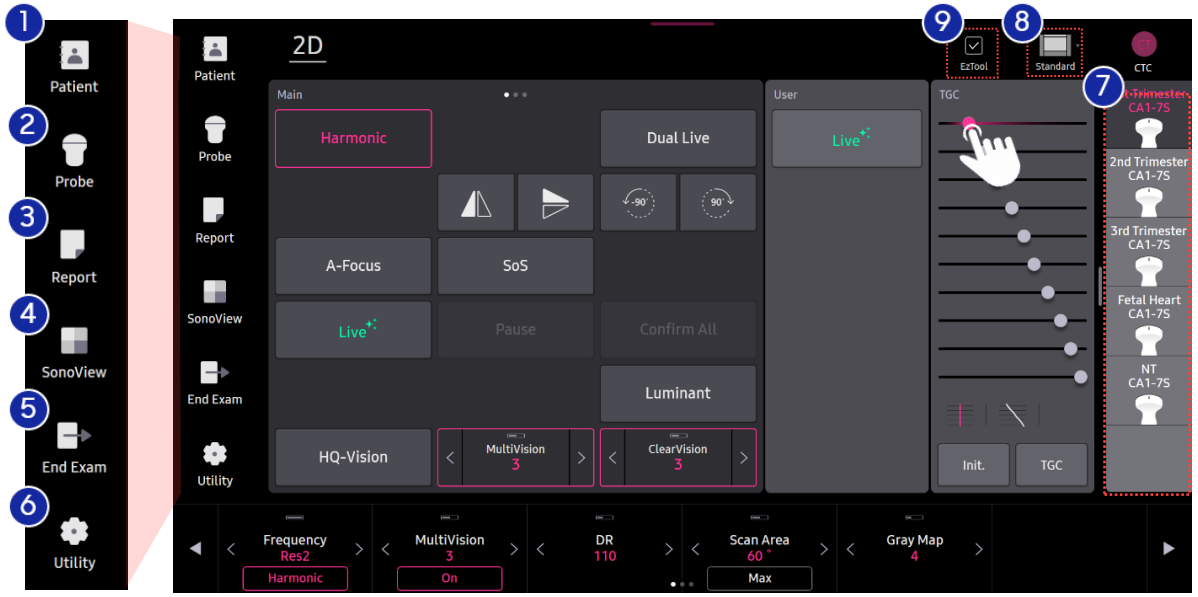
1. Add TGC menu in Main Card or Special Card. 

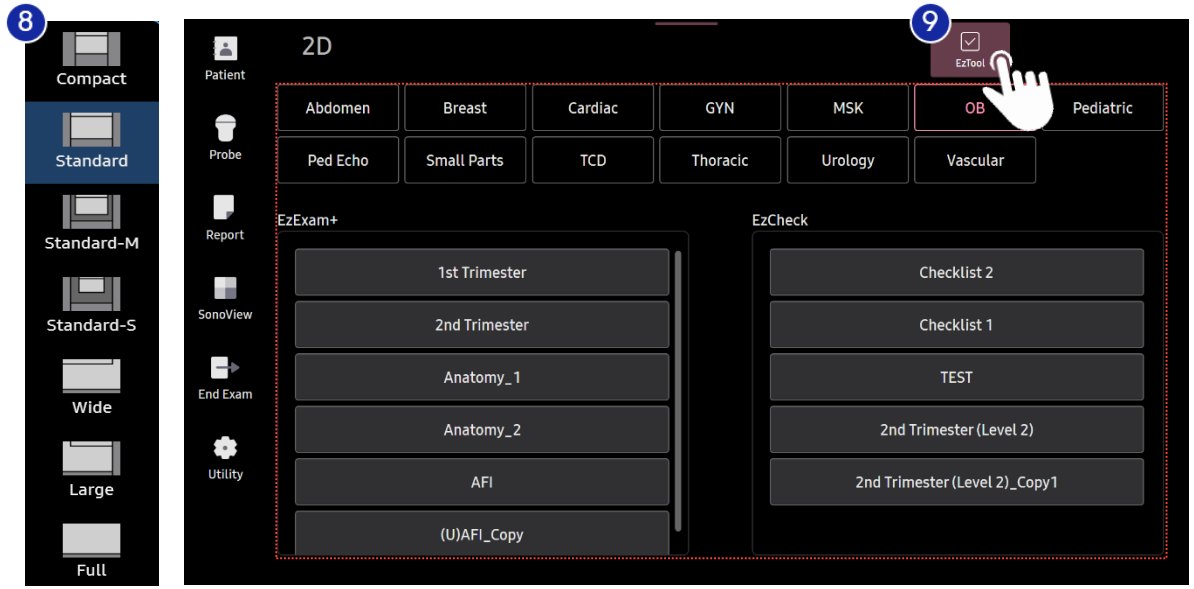
2. Set TGC menu for User Key.

(How to customize User Key: Utility → Setup → Customize → User Key)

7. Scan Mode

▪ Basic Touch Panel during exam



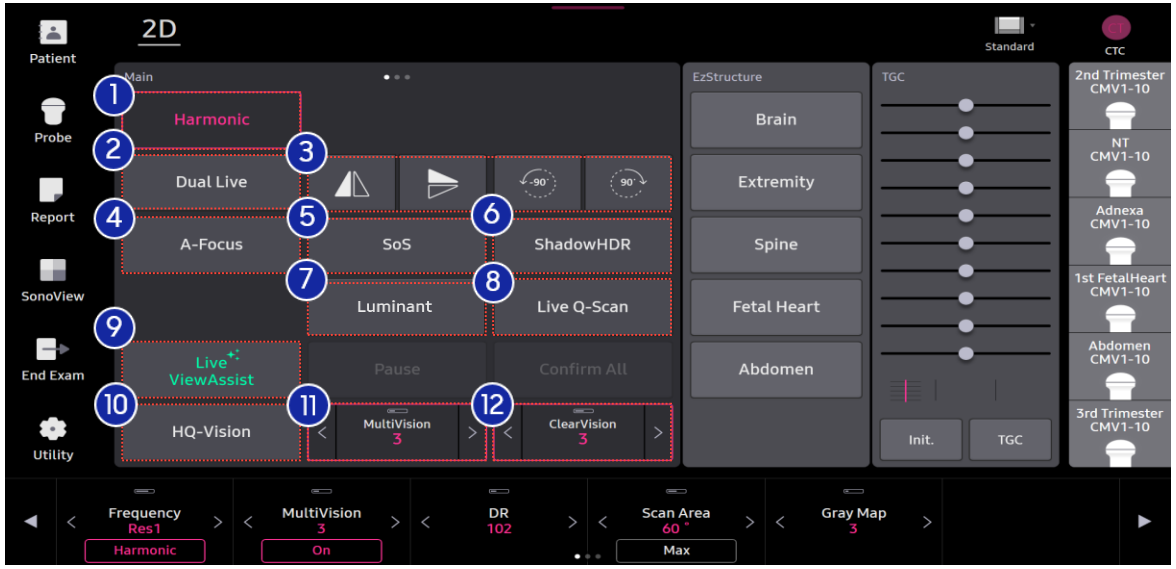


❶ Patient	Display/enter the Patient Information. You can select a patient ID from worklist or enter a new patient Information manually.
❷ Probe	Display the Probe Selection screen to select or change the probe and preset.
❸ Report	Show the measurement results of the current application and other information.
❹ SonoView	Image management program. (Review, Storage, Delete, Export and Backup)
❺ End Exam	Finish the current exam and resets the related data.
❻ Utility	Go to the Utility page to access the features such as Demo Play, Setup, Measure Setup, Touch Customize, and Help.
❼ Quick Preset	View the saved Quick Presets and change the probe/preset with a single click.

❽ Display Layout	Select the preferred layout in the Monitor. • [Compact], [Standard], [Standard – M], [Standard – S], [Wide], [Large], [Full] • Maintains a fixed aspect ratio for the image and maximizes its size when saving or sending to PACS.
❾ EzTool	Selects EzCheck or EzExam+ during a scan.

Quick Manual

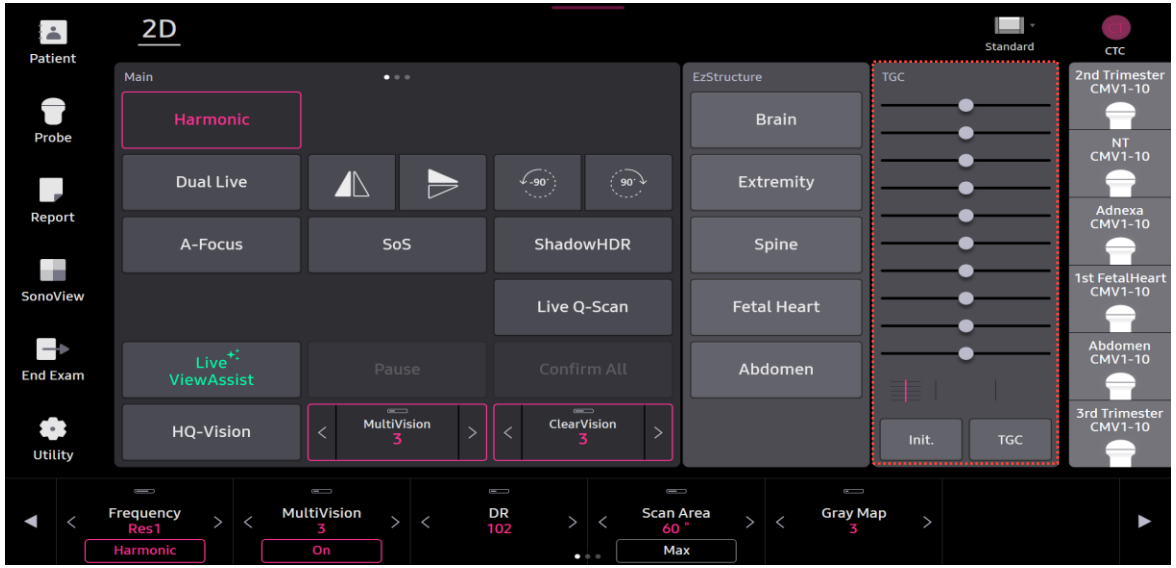
8. 2D Mode (1)



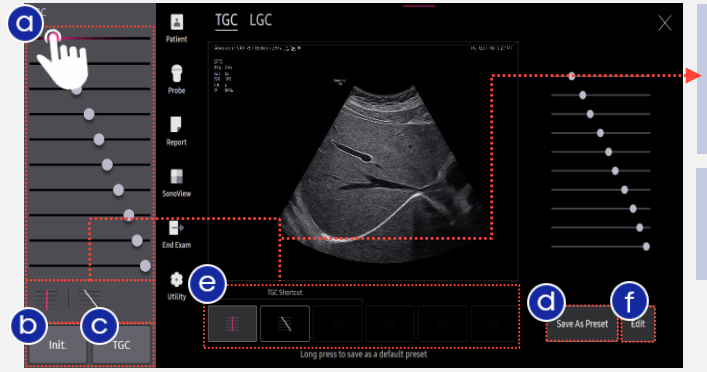
❶ Harmonic	Improves the image clarity and reduces noise by using secondary harmonic frequencies. Enhances overall image.
❷ Dual Live	Displays 2D image and Color Doppler image simultaneously.
❸ Flip/Rotate	Flip up or down the image / Rotate clockwise or counterclockwise.
❹ A-Focus	Applies all- focusing effect from near to far areas of the ultrasound image without requiring manual focus adjustments. This feature provides uniform image quality across varying depths.
❺ SoS	Adjust the sound of speed for high BMI cases.
❻ ShadowHDR	Enhances the visibility of attenuated shadow areas, by combining high frequency and low frequency.
❼ Luminant	Visualizes the boundary of a 2D image in three dimensional-like to help understand the boundary of structures such as the fetal heart or brain.
❽ Live Q-Scan	Adjusts image brightness and uniformity of the B mode while scanning live.
❾ Live ViewAssist	Based on Deep Learning technology, that automatically classifies ultrasound images in real-time and provides annotation of structures and measurement results.
❿ HQ-Vision	Improves the spatial resolution and sharpness.
⓫ MultiVision	By steering and compound many scan lines, MultiVision provides remarkable spatial and contrast resolution, suppressing artifact.
⓬ ClearVision	Provides clear tissue boundaries using the noise reduction filter and generates sharp 2D images.

Quick Manual

8. 2D Mode (2)



- Digital TGC



TIP! TGC Shortcut
Display 3 frequently used TGC Line Display

Tip! How to chance Default TGC
Long-press to save adjusted TGC.

ⓐ Change the TGC Line (Draw with your finger)

ⓑ Init.: Resets to default TGC.

ⓒ The customized TGC menu (To save TGC Line)
Change TGC Line → ⓓ [Save As Preset] → ⓔ Choose where to save among 5 boxes.

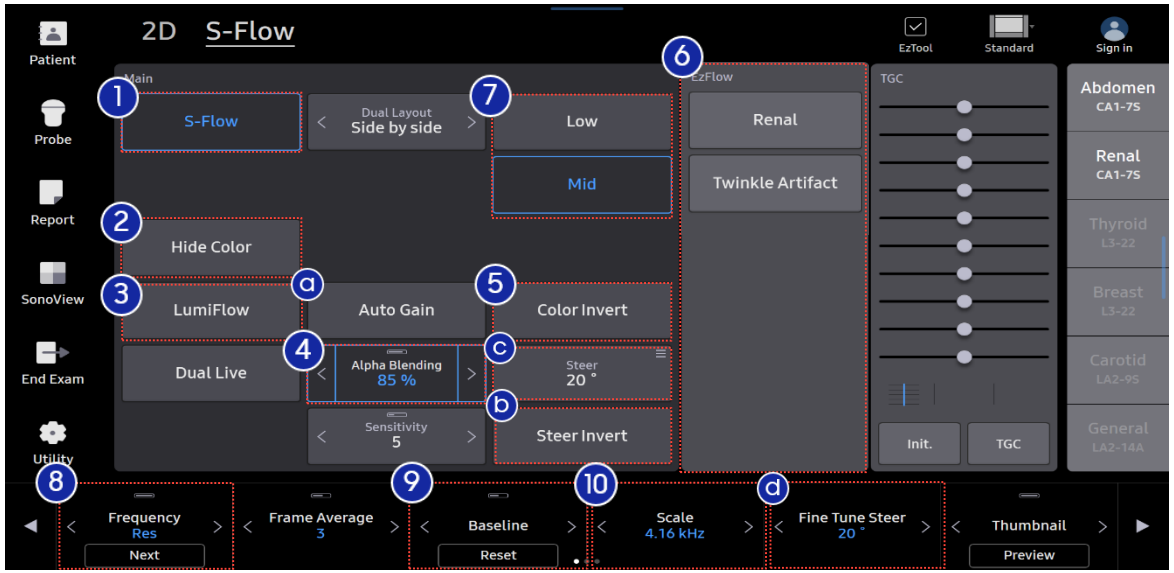
ⓕ Edit: Delete or move the existing TGC.

- Digital LGC

  - Select [TGC] tap to enter LGC tap.
    (LGC Line can be saved in the same way as TGC.)

Quick Manual

9. Color / Power Doppler / S-Flow Mode



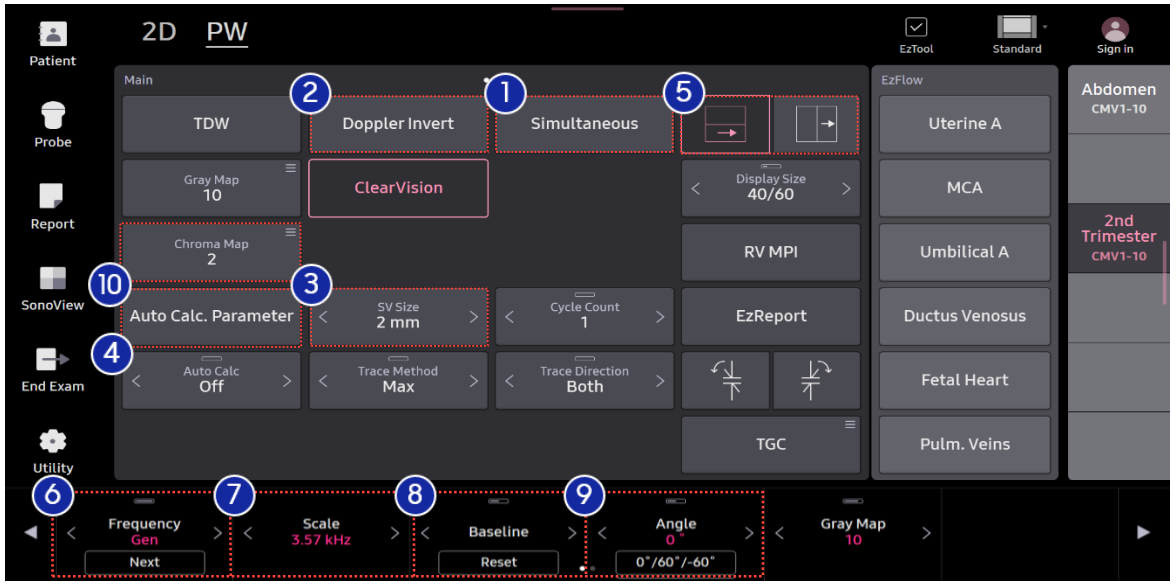
❶ S-Flow	Directional Power Doppler imaging technology, which can help to detect even the peripheral blood vessels with higher sensitivity.
❷ Hide Color	Hides the color mapping within the Color ROI to display only the 2D image.
❸ LumiFlow	Visualizes blood flow in three dimensional-like to help understand the structure of blood flow and small vessels intuitively.
❹ Alpha Blending	Adjusts the balance between 2D and Color overlap (Smaller the number is, the more prominent 2D will be.)
❺ Color Invert	Inverts the Color Bar, which also inverts the color displayed in the Color ROI.

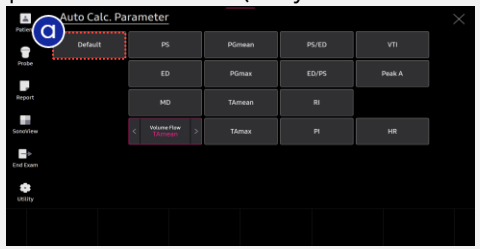
❻ EzFlow	Quickly optimizes Color and PW Doppler images for a specific vessel with a single button press.
❼ Low/Mid/High	Automatically adjusts the appropriate color scale. Tip! High for Fast blood flow, Low for slow blood flow. This depends on each Preset.
❽ Frequency	Set probe frequency for Color Doppler Mode.
❾ Scale	Change the Color PRF (Pulse Repetition Frequency). • Increasing the scale widens the blood flow velocity range.
❿ Baseline	Adjusts Baseline for Color Bar.

▪ Only available on Linear Probe

ⓐ Auto Gain	Automatically adjusts Color Gain for blood flow with a single click. Tip! Available only in Live mode when using a Linear Probe with the Vascular - Arterial or Carotid preset.
ⓑ Steer Invert	Invert the angle of Color Box ROI.
ⓒ Steer	Change the Color ROI angle in 10-degrees at a time (Range: -30 to 30).
ⓓ Fine Tune Steer	Change the Color ROI angle by 1 degree at a time.

10. PW / CW Mode



❶ Simultaneous	Displays real-time 2D and PW images.
❷ Doppler Invert	Invert the PW spectrum around the baseline.
❸ SV Size	Select a SV size between 0.5mm - 20mm.
❹ Auto Calc.	Auto calculation of Doppler measurements. • Off: Deactivate Auto Calc. • Live: Acquire Doppler Trace during the scan and display calculated values in real-time. • Frozen: Displays the measurements when Freeze.
❺ Dual Layout	Setting for display Format for 2D/PW screen. (Top/Bottom or Side by Side)
❻ Frequency	Set the probe frequency for PW Mode.
❼ Scale	Change the PRF (Pulse Repetition Frequency). • Increasing the scale widens the blood flow velocity range.
❽ Baseline	Adjusts Baseline.
❾ Angle	Change the angle of Steer.
❿ Auto Calc. Parameter	A function to configure which measurement items are displayed during the exam when Auto Calc. is enabled. • Settings are maintained until the exam is ended or the preset is changed ⓐ Default: Display only the values pre-configured by the user. • Auto Calc. parameters can be set. (Utility → Measurement → Auto Calc.) 

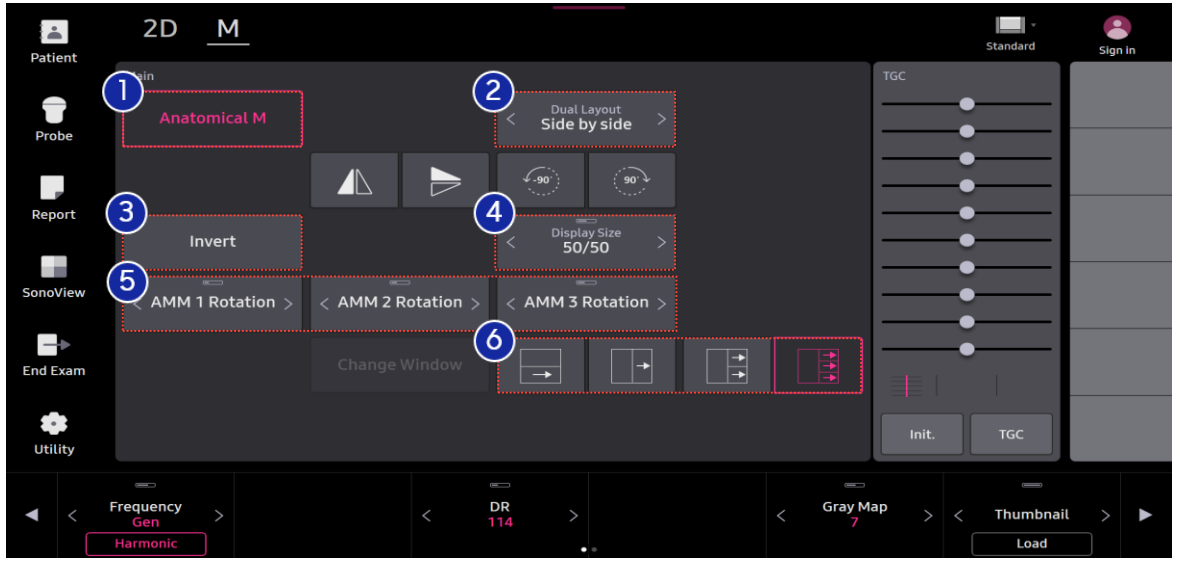
Tip! CW Mode (Optional)

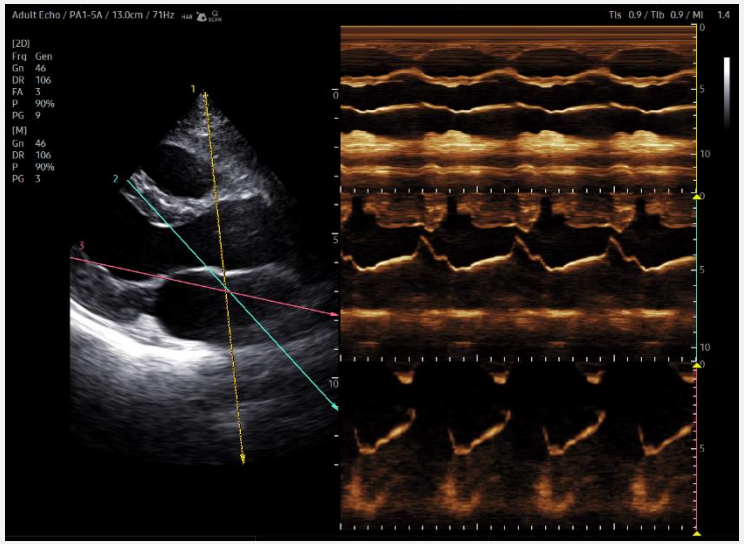
- Available only for specific probes.
- Can be used by assigning it to a Peripheral or User Key.

Tip! Smart Auto Doppler

- Linear probe (Vascular preset) only.
- Press [Q Scan] button on the Control Panel in Doppler mode.
- One-click adjustment for Color ROI, Sample Volume, and Steer Angle.

11. M-Mode



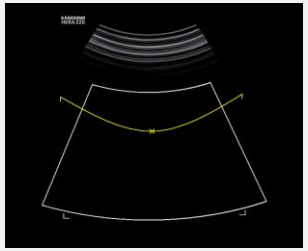
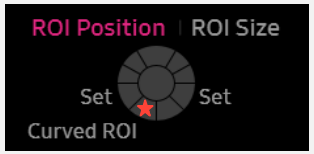
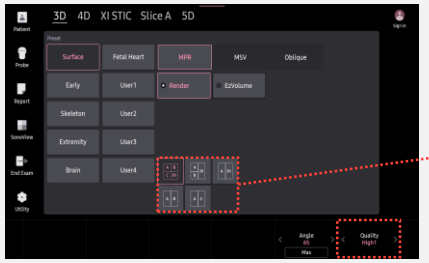
❶ Anatomical M	Adjusts Rotation and Position of M Line.
❷ Dual Layout	Choose the Layout of 2D and M mode image. • Side by Side: Display 2D and M Mode side by side. • Up/Down: Display 2D and M Mode top and bottom. • M only: Only display M Mode image.
❸ Invert	Invert Color of M mode image.
❹ Display Size	Select the size of M Mode image. • Deactivated when M only is selected for dual layout.
❺ AMM Rotation	Adjust the multi-rotation of the Anatomical M-Mode line. (Also available in post-processing)
❻ AMM Layout	Select the number of Anatomical M Mode Line and Layout (Up to 3). 

Tip! M-Mode is available only with the Sector probes (Cardiac preset) or Convex probes (OB-Fetal Heart preset).

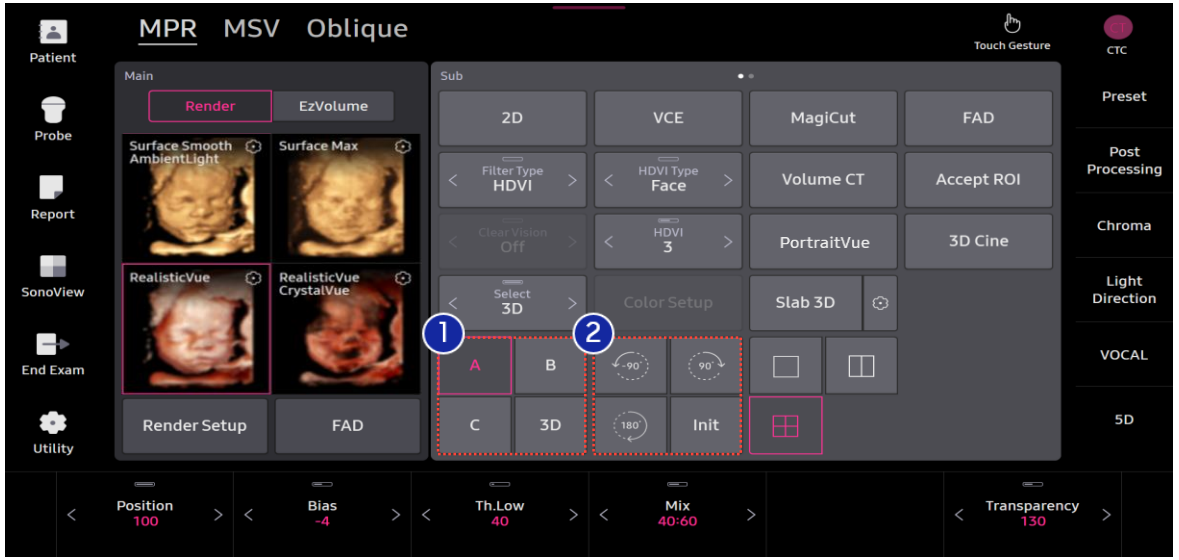
Quick Manual

12. 3D/4D Mode (1)

▪ 3D/4D Data Acquisition

❶ 3D/4D	Select [3D] or [4D] on the control panel.
❷ ROI Control	Adjust the size and location of the ROI using [Change key] and trackball.   Tip! Curved ROI On the 3D/4D ROI mode, available to use the curved ROI using contextual button.
❸ Select 3D Preset	Select a 3D preset on the touch screen.  Tip! MPR Display Set MPR Display type Tip! Correlation between Quality and Rendering speed • Extreme : Excellent image quality but slow acquisition 3D acquisition time. • Low : lower image quality but fast 3D acquisition time.
❹ Enter 3D	To enter the 3D/4D mode, press [Set] or [Freeze] button. To return to the scan mode, press [Exit] during data acquisition.

▪ 3D/4D MPR(Multi Planar Reconstruction) Mode

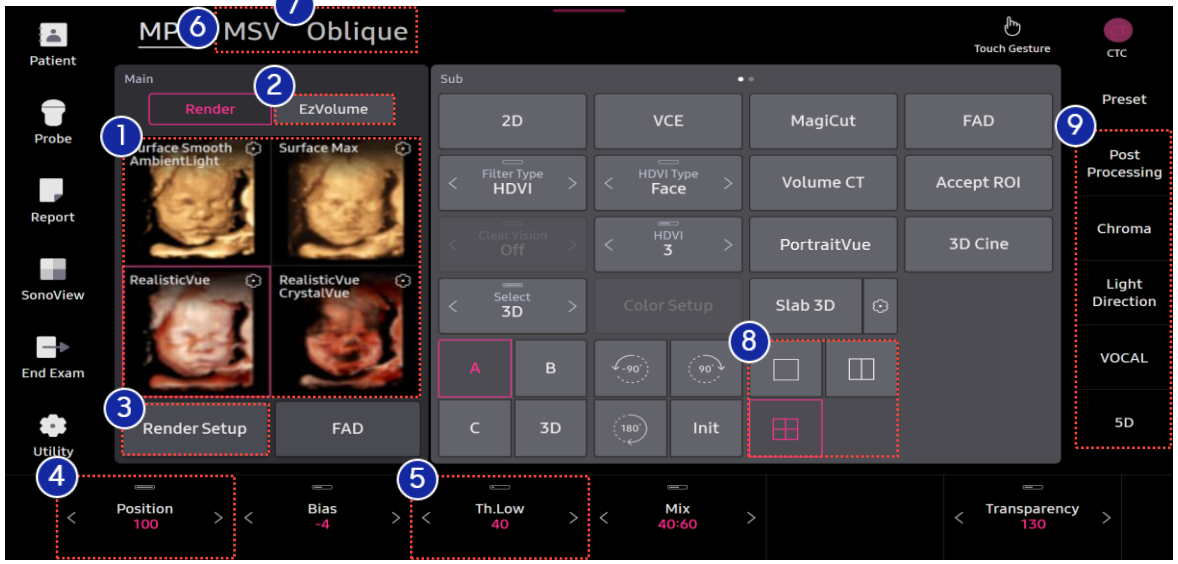


❶ Reference Images	Set the Reference images A, B, C planes of 3D Volume. - A : Axial Section image - B : Sagittal Section image - C : Coronal Section image - 3D : Volume data of selected Plane.
❷ 3D Rotation	Rotation of the 3D image. (90 degrees counter clockwise, 180 degrees clockwise, Initial)
❸ 3D Axis Adjustment (Base on A Plane)	M X : X – Rotating Image by X-axis PD Y : Y – Rotating Image by Y-axis PW Z : Z – Rotating Image by Z-axis

Quick Manual

12. 3D/4D Mode (2)

▪ 3D/4D MPR(Multi Planar Reconstruction) Mode



❶ Render Preview	Display the rendered preview image.
❷ EzVolume	Automatically segments the structures of the fetus in the acquired 3D image.
❸ Render Setup	Enter the activated mode depending on the Render Preview selection.
❹ Position/Bias	Adjusts a contrast and brightness in 3D image. Adjusts the light and shade according to the post curve by adjusting the [Position] and [Bias].
❺ Th. Low	Allow you to adjust the threshold value to eliminate unnecessary data of image. As increasing, eliminate the low signal and makes lesser volumetric effect.

❻ MSV	Image can be displayed in multiple slices of the volume data
❼ Oblique	After drawing a straight or curved line on the selected image, you can observe the continuous oblique images as a MSV. • OVIX: Continuous volume oblique images will be displayed.
❽ Display Format	Display the format on Monitor Screen can be changed by Control panel's button. - Single: Display the 3D image in full screen view. - Dual: Display one 2D image and one 3D image. - Quad: Display 4 images of A, B, C Plane of 2D and 3D images.

Quick Manual

12. 3D/4D Mode (3)

▪ 3D/4D MPR(Multi Planar Reconstruction) Mode

9 Post Processing	Available to adjust the post processing parameters below: ⓐ Gradient Mask: Adjust the brightness of a specific area in image. ⓑ VC: Set the volume compound, adjust the surface. ⓒ 3D CI: Remove the noise and get higher resolution by compounding images. * CI: Compound Imaging ⓓ Clear SFVI: Reduces the noise of 3D * SFVI: Smart Filter Volume Imaging (Enhance the borderline of 3D volume data)

ⓔ Chroma	Available to change the Chroma map of 2D, 3D or VSI map.
ⓕ Light Direction	Available to change the 9 way of direction for Ambient light, RealisicVue (include CrystalVue). It Helps change the direction at once, then optimize using trackball in detail.
ⓖ VOCAL	• VOCAL: Measures the volume of an object in a 3D image uses rotating slices. (For symmetry object) • XI VOCAL: Measures the volume of an object in the selected reference image in MSV Mode. (For asymmetry object)
ⓗ 5D (Optional)	Enter the 5D features. (5D CNS+ (Auto, Manual), 5D Limb Vol., 5D NT, 5D Follicle, 5D LB)

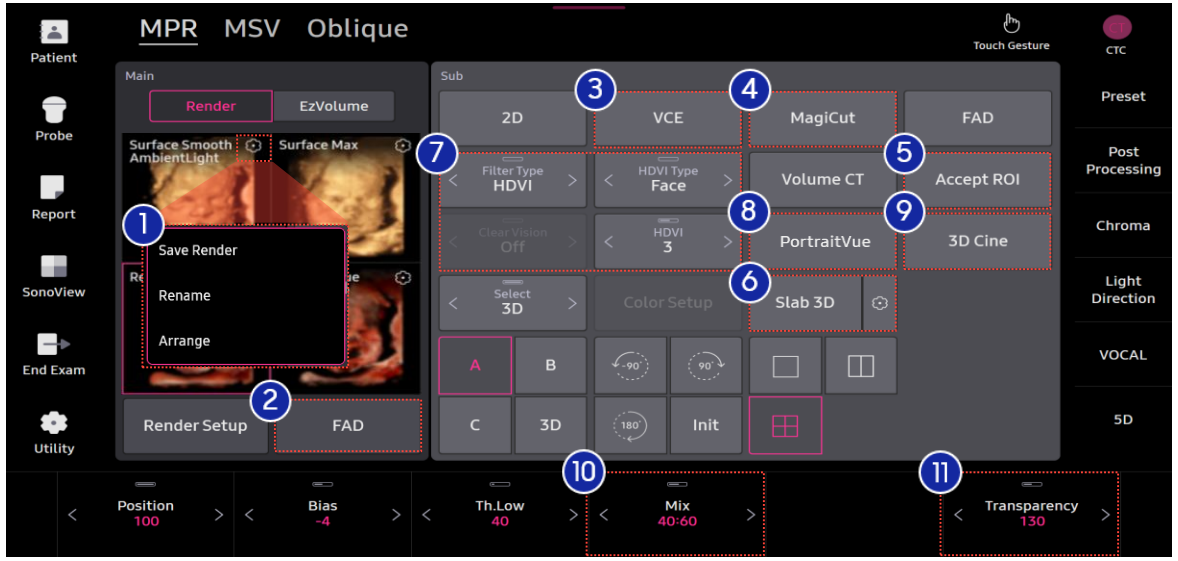
Tip! Post Gain Control

Adjust the amount of volume data of 3D subject adjusting the 2D Gain Knob.

Quick Manual

12. 3D/4D Mode (4)

▪ 3D/4D MPR(Multi Planar Reconstruction) Mode



❶ Edit Render Preset	• Save Render: Save the chosen 3D Preview with edited render. • Rename: Change the name of chosen 3D Preview image. • Arrange: Change the position of chosen 3D Preview image.
❷ FAD (Face Auto Detection)	Automatically finds face, removes any obstruction that covers the face.
❸ VCE (Volume Contrast Enhancement)	Enhances the contrast for 3D images.
❹ MagiCut	Erases the unwanted structure for 3D image.
❺ Accept ROI	Fixes the ROI when it is on.
❻ Slab 3D	Post processing the acquired Volume Data and visualize the adjacent slice as a thick slab.
❼ HDVI (High Definition Volume Imaging)	Volume rendering technology that improves visualization of edges and small structures in volume data. Upgraded marginal expression and image saturation expresses the very details from the angle to shadow of the fetus. Provides index 1~5 (Higher the number is, the more soothing effect is applied) • Filter Type: Choose from HDVI, HDVI+, ClearVision, ClearVision Type. (HDVI Index will be activated as Smooth Filter when HDVI is Off) • HDVI Type: You can select the part that is acquired and adjust(Heart, Face, Early, etc)
❽ PortraitVue	Analyze the 3D ultrasound images to predict the fetal face and virtually restores blurry or obscured parts of the fetus's face. * Not a diagnostic function
❾ 3D Cine	Based on rendered 3D image, three axis image are displayed in one screen. Rotation Angle, Step Angle can be set here. ex) If the rotation is set to 360, step to 15, the 3D cine image will rotate 15 at a time , a total of 24 times to rotate to full 360.
❿ Mix	Set the combination of Render Mode 1, 2.
⓫ Transparency	Adjust the Transparency of image.(Transparent when it's high, Opaque when it's low)

12. 3D/4D Mode (5)

▪ 3D/4D MPR(Multi Planar Reconstruction) Mode

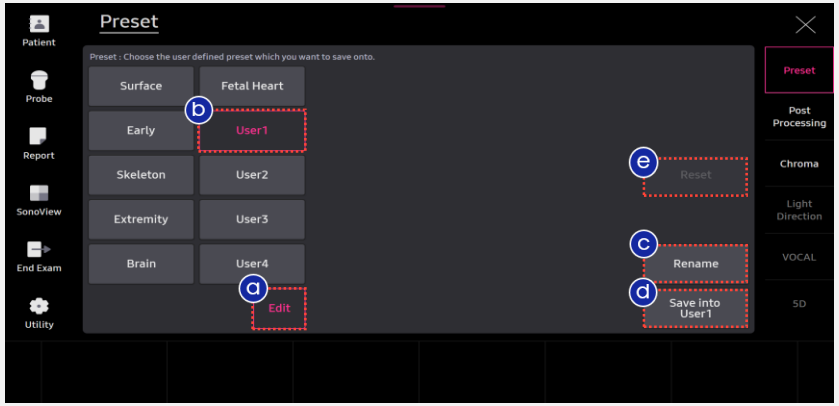
❶ Touch Gesture

Intuitively allow to rotate, zoom and move while viewing the 3D image from the touch screen.

- Only available in the MPR, Oblique View mode.
- On VOCAL, XI VOCAL, when Contour Type is Manual, Touch gesture is on for the touchscreen.

❷ Preset

Edit Preset and User preset you can utilize on 3D/4D Mode.



How to edit Preset

ⓐ Select [Edit].

ⓑ Tap on the Preset you want to Edit.

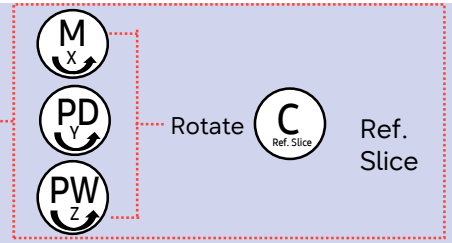
ⓒ Select to Rename (Change name for Rendering Preset).

ⓓ Press [Save Into] to save.

ⓔ Press [Reset] to restore Edited Preset.

Tip! Touch Gesture

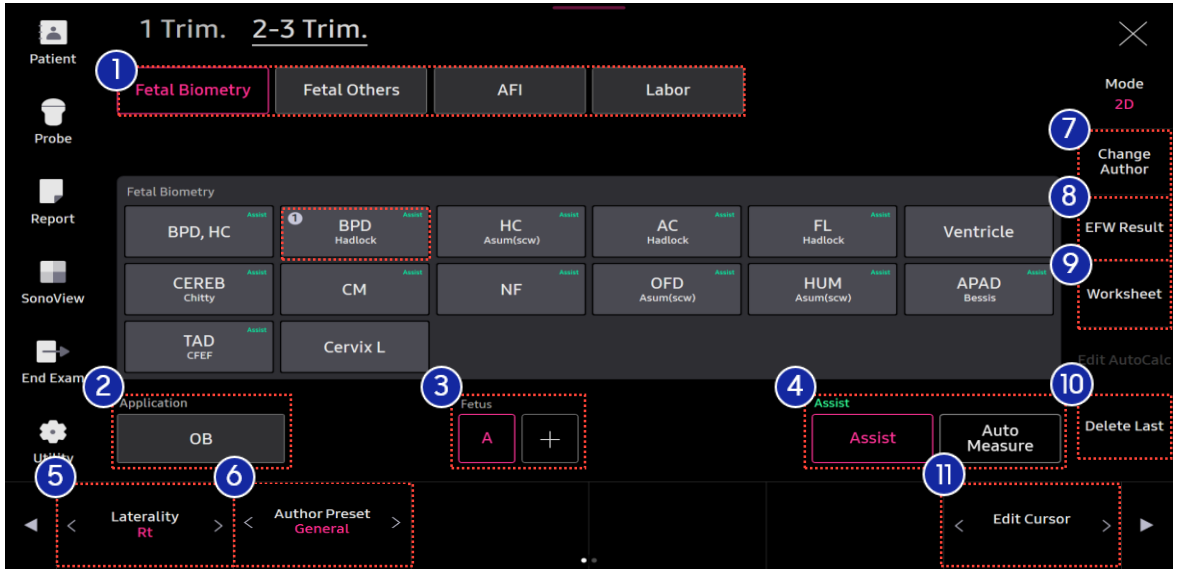
- Rotate  : X, Y, Z axis
- Ref. Slice  : Move to Volume Slice
- Slide corresponding menus on Touch Panel, Dial the each corresponding menu to adjust.

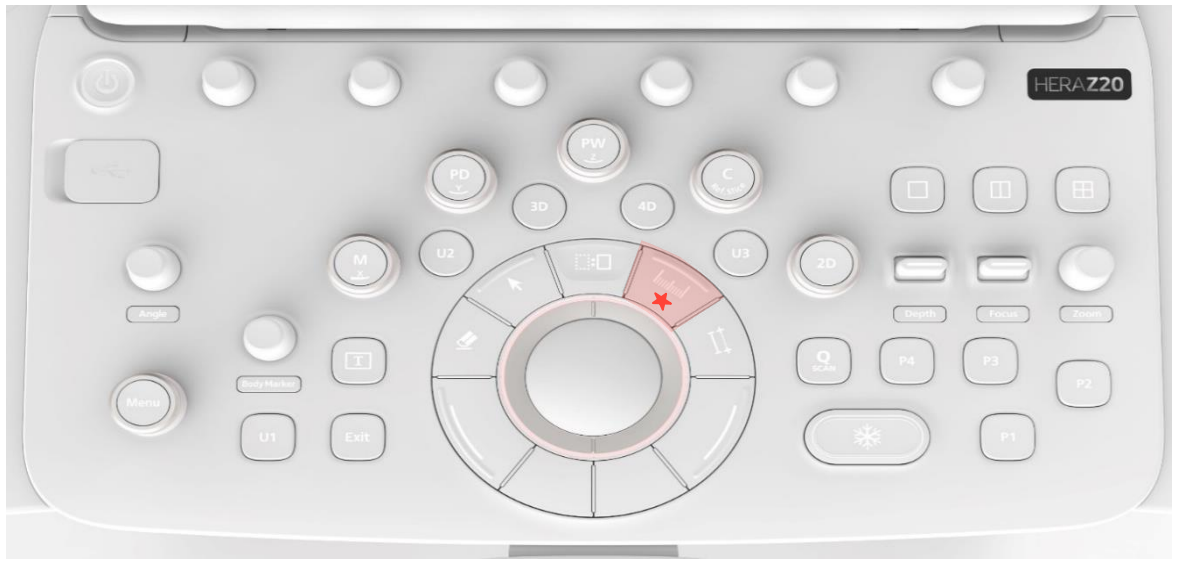


Quick Manual

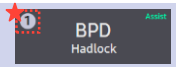
13. Measurement - Calculator

▪ Calculator: Measurement following each Application's formula (OB, Cardiac, Vascular, Prostate, etc.)





❶ Group	Choose the Group you want to measure.
❷ Application	Displays the chosen application. • Change Application: Select 'Application' → A pop-up appears → Select an item
❸ Fetus	Add fetus when having multi fetuses. (Can add up to 4, distinguished as A/B/C/D)
❹ Assist	Automatically recognizes the View and provide measurements.
❺ Laterality	Select the Laterality depending on the location of the measurement.
❻ Author Preset	Change the Author Preset for measurement items.
❼ Change Author	Change the Author for each measurement items.
❽ EFW Result	Displays EFW1, EFW2 results when required EFW measurements are put in.
❾ Worksheet	Go to Worksheet for [Report] Report.
❿ Delete Last	Delete the last measured result.
⓫ Edit Cursor	Edit the already measured Cursor.

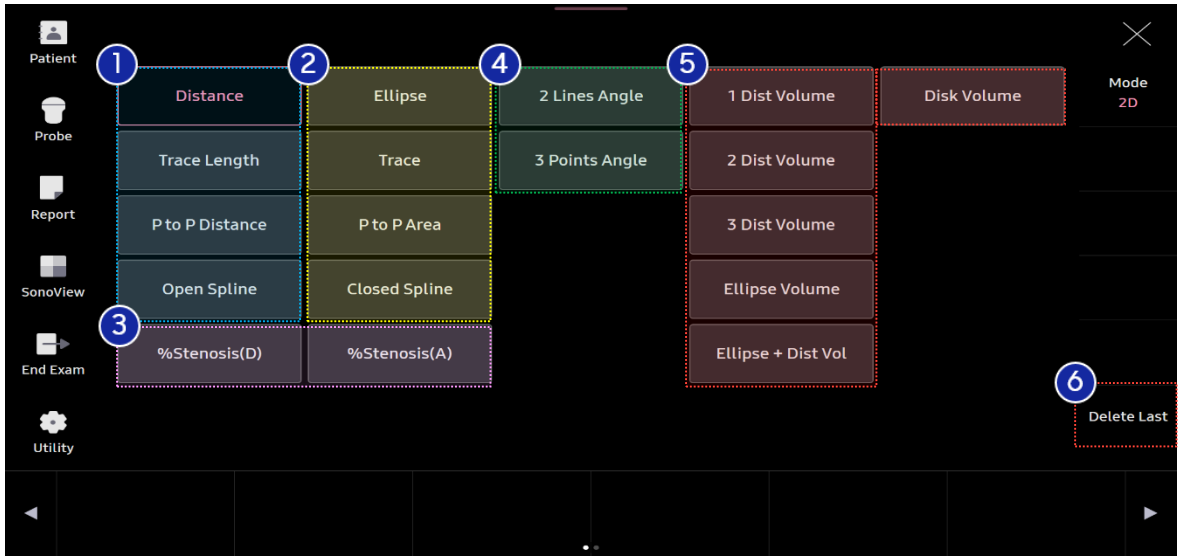
Tip! Count Item 

• Provides a measurement index (e.g., 1, 2, 3) when measuring the same item multiple times (up to 3 measurements).

Quick Manual

13. Measurement - Caliper (2D)

▪ Caliper: Measure with Trackball and [Set] button. (e.g., Distance, Area, Angle, Volume, etc.)

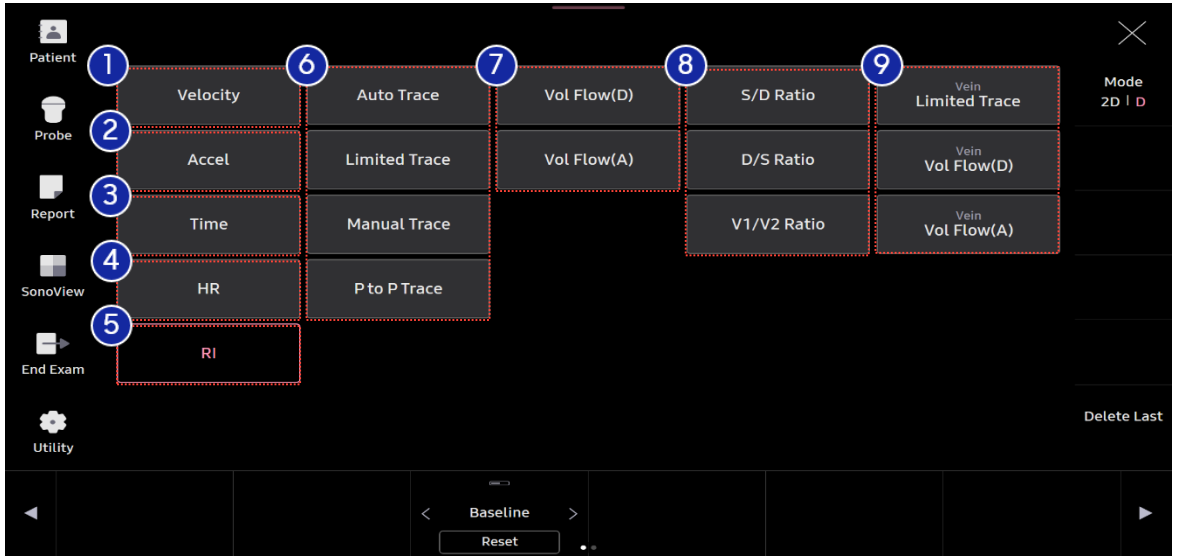


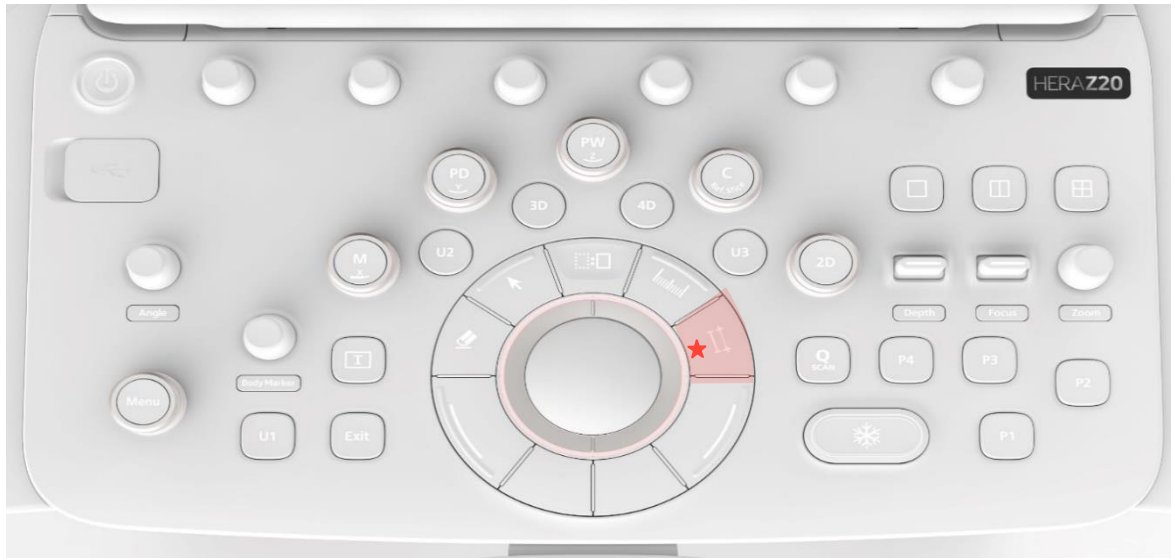
❶ Distance	Distance	Measure the straight distance between 2 points.
	Trace Length	Measure the vessel diameter and calculate stenosis ratio.
	P to P Distance	Measure the total distance by clicking points.
	Open Spline	Measure the curved-line by tracing and drawing.

❷ Area	Ellipse	Measure the circumference and area.
	Trace	Measure the irregular circumference and area by tracing.
	P to P Area	Measure the circumference and area by clicking points.
	Closed Spline	Measure the circumference and area by closing the line.
❸ %Stenosis	%Stenosis(D) %Stenosis(A)	Calculate the stenosis ratio (%) with vessel diameter & area.
❹ Angle	2 Lines Angle 3 Points Angle	Measure the angle between each 2 lines. Measure the angle using 3 points.
❺ Volume Caliper	1 Dist Volume 2 Dist Volume 3 Dist Volume	Measure the volume of an object by using 1 or 2 or 3 distances.
	Ellipse Volume	Measure the volume with 1 circumference.
	Ellipse + Dist Vol	Measure the volume with 1 circumference and one distance.
	Disk Volume	Measure the volume of an irregularly shaped object from the area and the length of its long axis.
❻ Delete Last	Delete the last measured result.	

13. Measurement - Caliper (D)

▪ Caliper: Measure with Trackball and [Set] button. (e.g., Distance, Area, Angle, Volume, etc.)



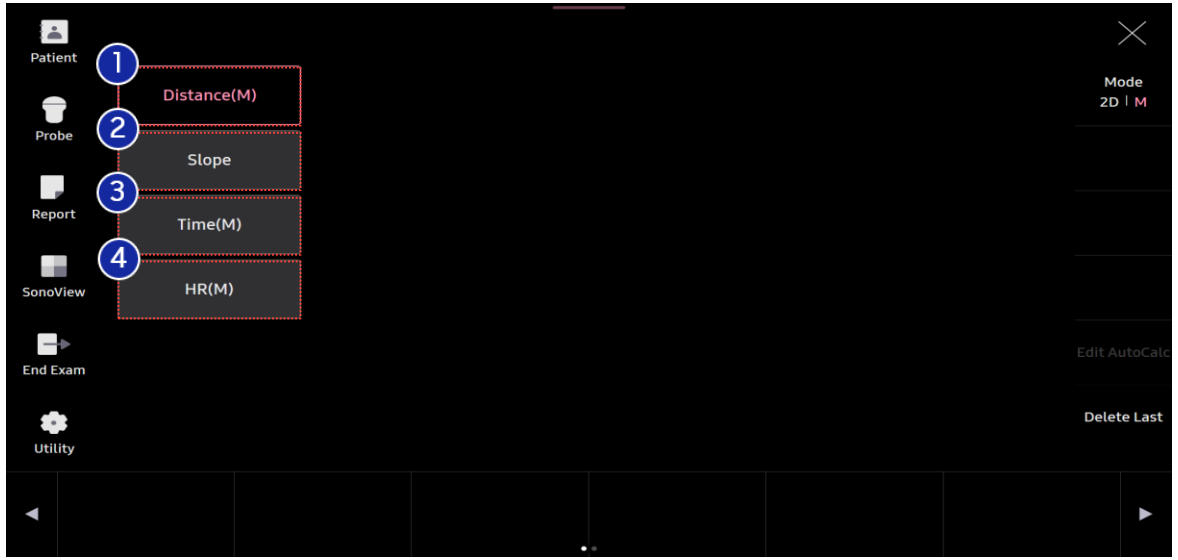


❶ Velocity	Calculate the velocity for PW Spectrum.	
❷ Accel	Calculate the Accelerate time (AT) from the PW Spectrum.	
❸ Time	Calculate the time measurements (e.g., AT, ET) from the PW Spectrum.	
❹ HR	Calculate the heart rate from the time interval measured on the PW Spectrum.	
❺ RI	Measurement of RI (Resistive Index) in PW Spectrum.	
❻ Trace	Auto Trace	Trace the whole Cycle of PW Spectrum Automatically.
	Limited Trace	Trace the selected cycle of PW Spectrum.
	Manual Trace	Trace Manual trace of PW Spectrum Cycle.
	P to P Trace	Trace a cycle by clicking the multiple peaks.
❼ Volume Flow	Volume Flow(D) Volume Flow(A)	Calculate Volume flow by measuring the vessel's diameter (D) or by tracing its cross-sectional area (A).
❽ Ratio	S/D Ratio	Ratio between Systole and Diastole.
	D/S Ratio	Ratio between Diastole and Systole.
	V1/V2 Ratio	Ratio between Velocity1 and Velocity2.
❾ Vein Flow	Limited Trace Volume Flow(D) Volume Flow(A)	Measurement items for monophasic venous waveforms.

Quick Manual

13. Measurement - Caliper (M)

▪ Caliper: Measure with Trackball and [Set] button. (e.g., Distance, Area, Angle, Volume, etc.)

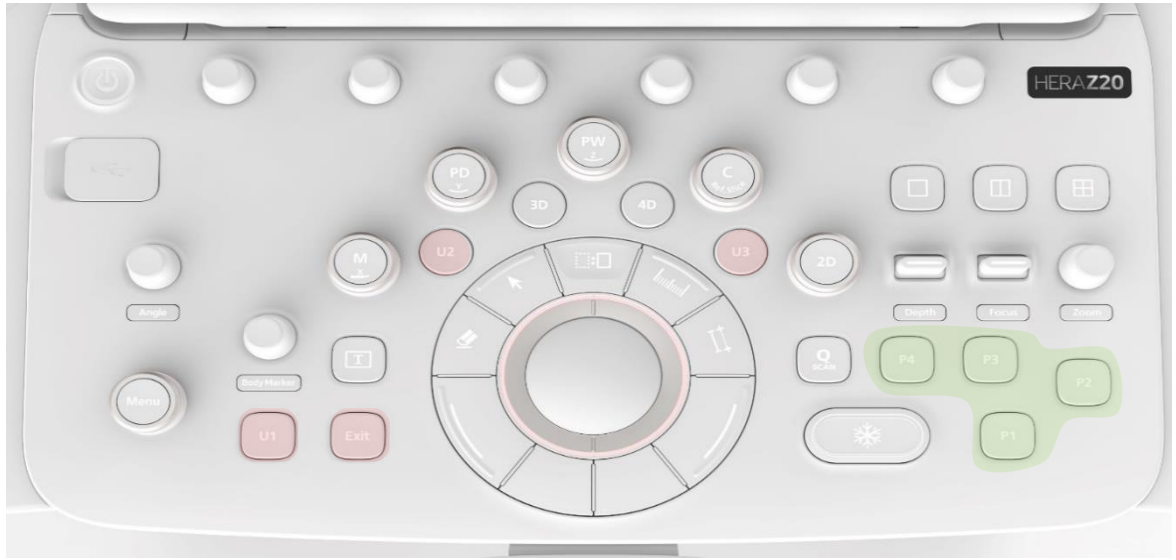


❶ Distance(M)	Measure the distance between two points in M Mode.
❷ Slope	Measure the linearity in M Mode.
❸ Time(M)	Measure the horizontal axis in M Mode.
❹ HR(M)	Measure Heart Rate using horizontal axis in M mode.

14. Save - Image

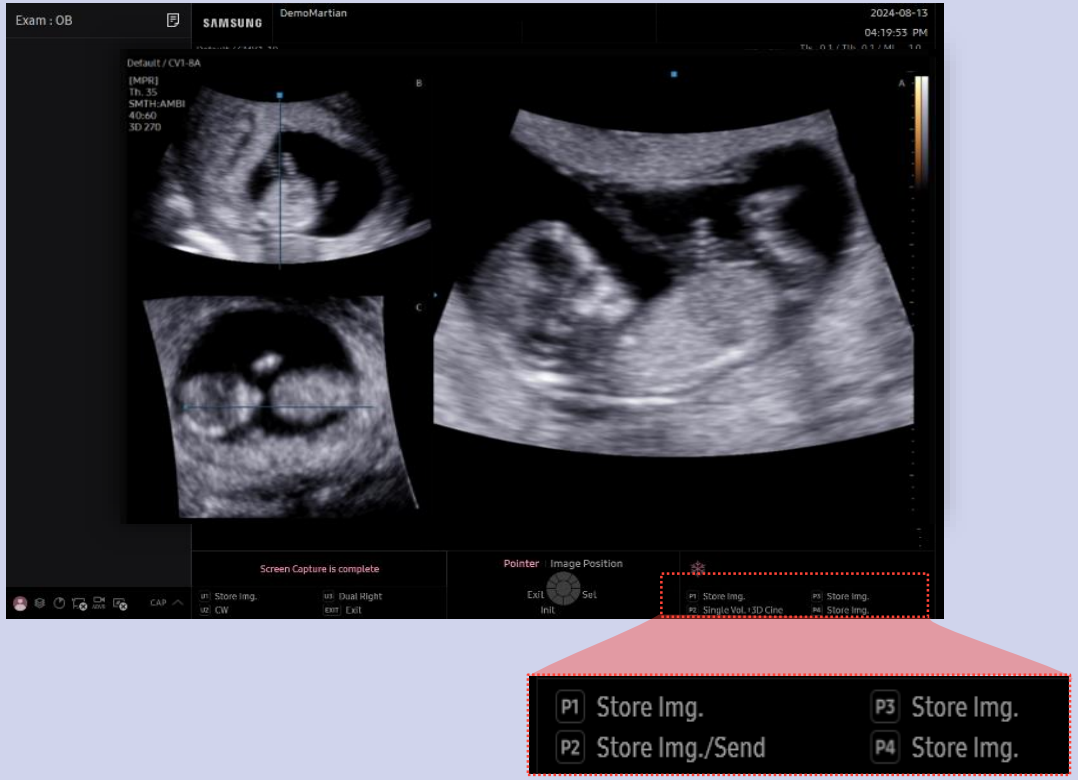
Image Save

▪ Saving Still Image, Volume Date, Cine and customizing keys.



User Customize Key	P1, P2, P3, P4 [Peripheral Key]	Assign the frequently-used function to a button for quick access. • Assignable Functions: Save, Cine, Print, Send to DICOM, Biopsy, TDI, MV-Flow, S-Shearwave Imaging, etc. • Where to set: Utility → Setup → Customize → User key • Key Guide is displayed on the bottom right . (See Tip! on the right for location)
	U1, U2, U3, Exit [User Key]	

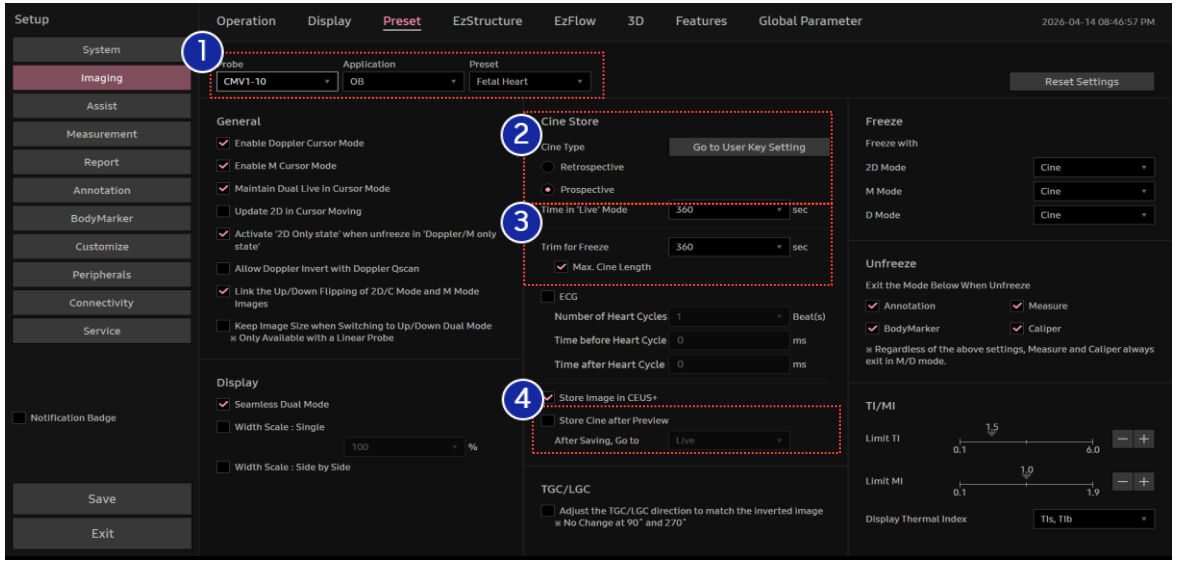
Tip! Key Guide (Check on the bottom of the screen.)



14. Save - Cine

Cine Save – Scan Mode

▪ Setup Cine save method on each preset. (Utility → Setup → Imaging → Preset)



❶ Probe / Application / Preset	Choosing the Probe, Application, and Preset to set the Cine Save method and duration.
❷ Cine Type	• Retrospective: Saving the Cine clip acquired before the save button is pressed. • Prospective: Saving the cine clip acquired after the save button is pressed.
❸ Cine Length	• Time in 'Live' Mode: Setting the cine length acquired during a Live Scan. • Trim for Freeze: Setting the cine length after freezing mode. • Max. Cine Length: Allowing saving of the maximum cine duration.
❹ Store Cine after Preview	Enabling a preview of the cine clip to save • After Saving, Go to (Live / Freeze): Setting the screen to return.

Cine Save – Freeze Mode

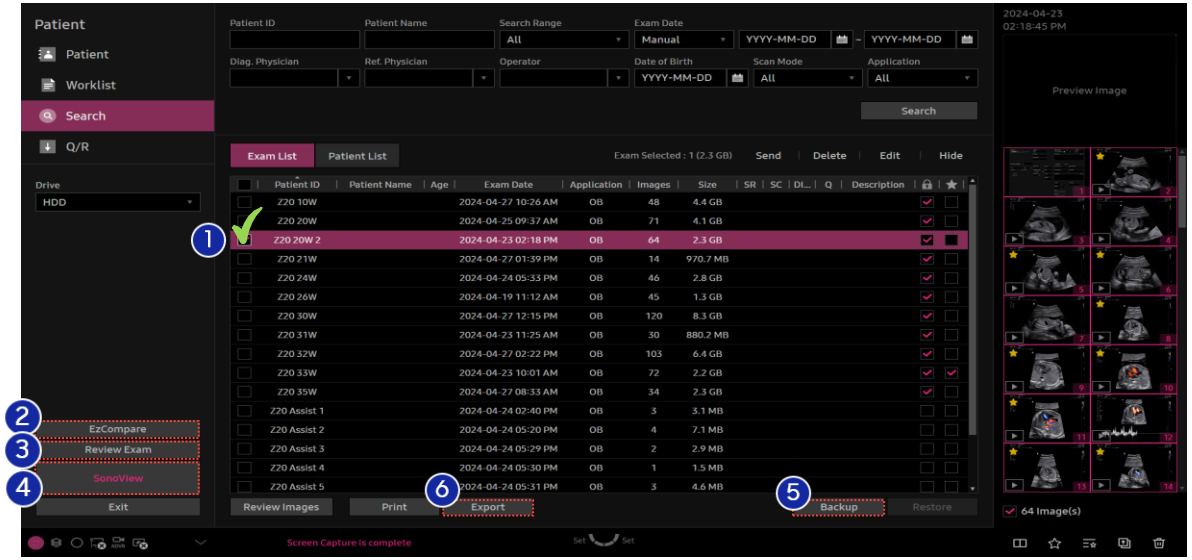
▪ Cine save and select section for cine save in Freeze Mode.

❶ Cine Save	Select the section you want and save in Freeze Mode. • Only available in Freeze Mode. • Saved for the duration set in 'Trim for Freeze' in Setup.
❷ Full Cine Save	Save the maximum length of Cine clip regardless of the already setup length.
❸ Trim Start	Select the starting point of Cine clip for Cine Save.
❹ Trim End	Select the ending point of Cine clip for Cine Save.
❺ Cine Speed	Change speed of the Cine Play. (from 6% to 300%)

Quick Manual

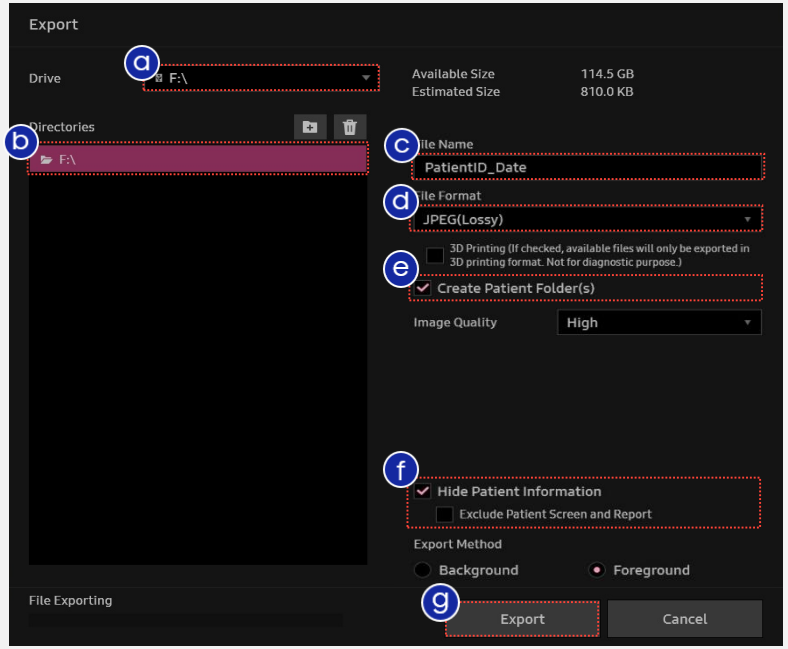
15. SonoView - Image Review / Export / Backup

▪ Select [SonoView] from Touch Screen.



❶ Select Exam	Select [Search] on the monitor screen.
❷ EzCompare	Allows easy access to previously taken exams to evaluate corresponding views in a side-by-side display.
❸ Review Exam / Continue Exam	Review the saved images In scan mode. • Review Exam: Exam performed more than 24 hours ago • Continue Exam: Exam performed within 24 hours (You can resume) .
❹ SonoView	Image management program(Review, Storage, Delete, Export and Backup)
❺ Backup	Back up and store the exam data on external storage to review on the system. Select Backup → Select Drive → USB (F: \ ) To hide Patient data, check Delete Patient Information.

❻ Export	Convert image to PC compatible format such as BMP, JPEG, TIFF, AVI, MP4.

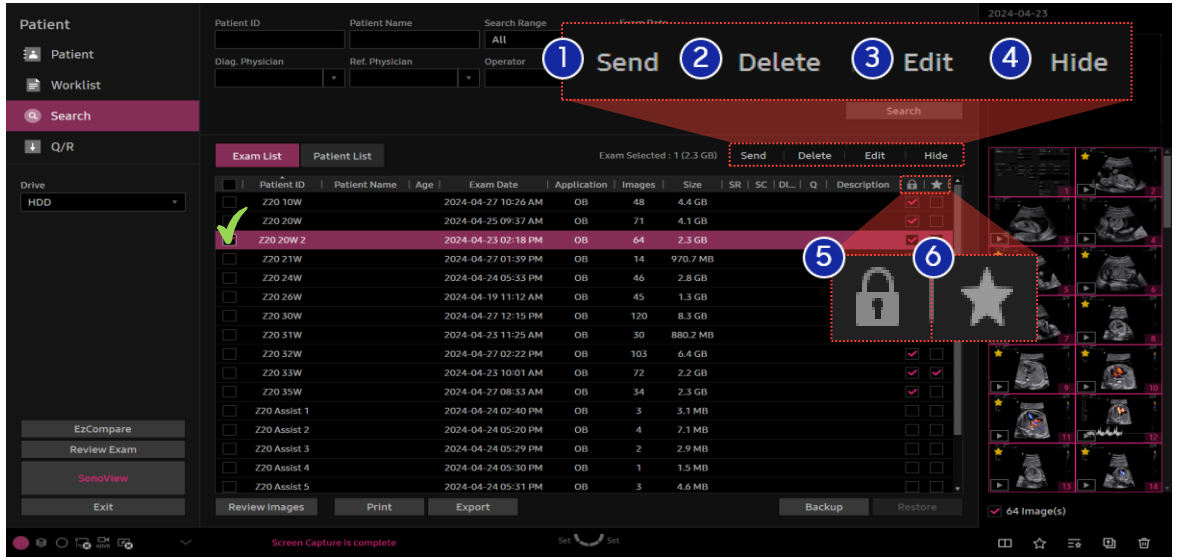


ⓐ Select the Drive. (USB – F: \ ).
ⓑ Directories : Select the location in which the exam will be saved.
ⓒ Enter the file name.
ⓓ Select the file and video format. (BMP, JPEG, TIFF, DICOM, AVI, MP4)
ⓔ Select Create Patient Folder(s) to create an individual folder for the patient.
ⓕ Check 'Hide Patient' Information to hide the information.
ⓖ Select [Export].

Quick Manual

15. SonoView - Image Management / Edit Patient

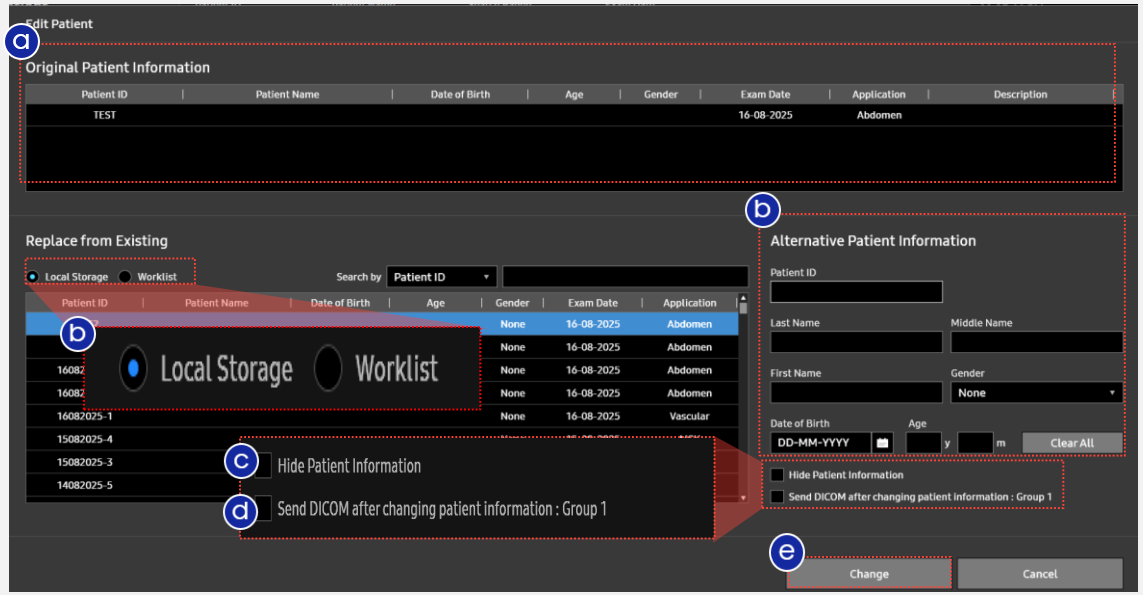
▪ Select [SonoView] from Touch Screen.



❶ Send	Transfer the saved images to DICOM. (Select [Send] → DICOM Storage page pops up → Select [Send]) * Transfer all images on selected exams.
❷ Delete	Delete the selected exams.
❸ Edit	Edit the patient data. (ID, Name etc.)
❹ Hide	Hide Selected Exam from Exam List.
❺ Lock	Set Lock so that exam is not to be deleted.
❻ Favorite	Find and assign exams that have been marked as favorites. • Select the ★ icon next to the Patient ID field in the Patient tab to add the exam to favorites.

❸ Edit

Select patient information you want to edit from Exam List and enter [Edit Patient].



ⓐ Select a patient information from the list.

ⓑ Select from the Local Storage, Worklist.

- Manual: Input a ID manually if there is none existing.
- Local Storage: Change the patient information stored in HDD.
- Worklist: Change the patient information on Worklist.

ⓒ Hide the original patient information on the image after changing the patient information.

ⓓ Select whether to send DICOM after editing the patient information.

ⓔ Select [Change] to update the patient information.

SAMSUNG

- 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 Z20 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 Z20 V1.03
- Disclaimer: Some Images in this content were obtained from other system.