

SAMSUNG



HM70A

Quick Manual

※ Quick Manual dose NOT include all instruction. For more detail, please refer to HM70A User Manual.
It was written based on V3.0 of HM70A.

Produced by Global Clinical Group / SAMSUNG MEDISON CO.,LTD.

Soft Menu dial button
Customized keys

Power
Turn on/off the system

Body Mark
Insert Body Marker

Single, Dual, Quad key
Changes image layout

Patient Information Entry

Select Probe

SonoView
Image management program

Menu / Angle
Soft menu and angle change

Change key
Changes the trackball Functions
(i.e. Color box, SV size, etc.)

Pointer
Selects soft menu or uses for image review of thumbnail

Clear
Delete Text, Indicator, BodyMarker

OB measurement Keys

Sound Volume / Monitor Brightness

TGC
Time Gain Compensation

M, PW, Color, 2D
Starts or finishes 2D, C, PD
PW, M mode

Q scan
Auto Image Optimization
Gain
Adjusts the Brightness control

Depth, Focus
Adjust depth and focus on Scanning mode

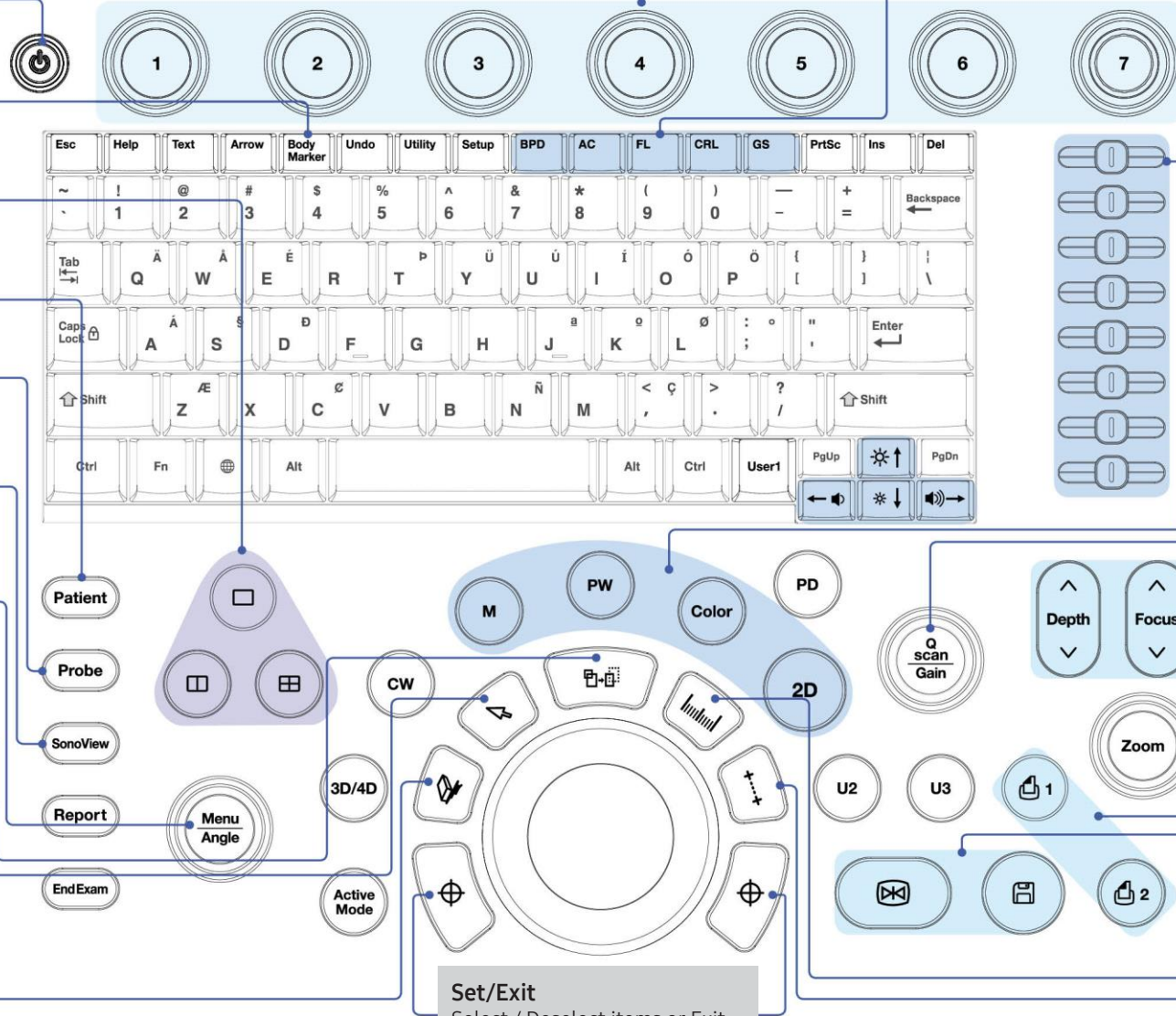
Print
Color or BW can be set

Freeze
Pauses /resumes scanning

Save
Image save or send to PACS

Calculation
Enter the measurements each application

Caliper
Measures Distance, Area, Volume and Velocity



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

Worklist Search

- Select [Patient] on the control panel.
(A Worklist search is available only when DICOM is connected.)

- 1 Search** When you click [Search], the list of patients who match the search criteria will be displayed.
Patient ID, Last Name, Accession #, Procedure ID can be used as search criteria.
- 2 ID Select** Select patient list and click [Apply].
This applies the selected patient information to the system.
- 3 Start Exam** Click [Start Exam] to enter scan mode.
(If you wish to enter detailed patient information, please click the [Apply].)

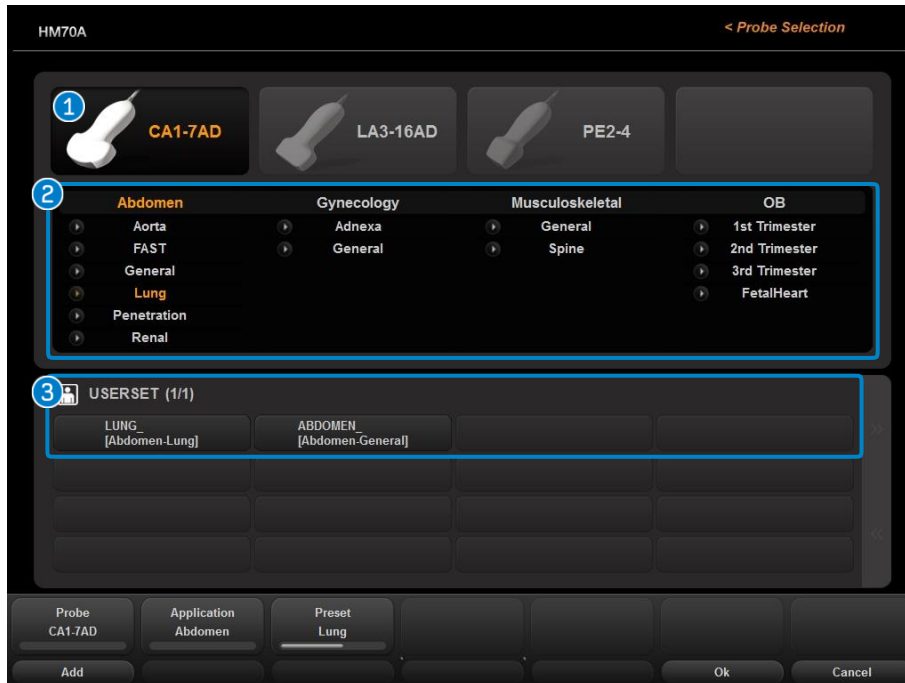
Registration of Patient

- Select [Patient] on the control panel then select Patient(✓) on the monitor screen.

- 1 Insert ID** Enter patient ID, name, and other types of basic patient.
- 2 Add Information** Add required information for individual applications.
* Enter the adult echo information.
① Enter the Adult Echo Application tab
② Check the items and enter the required Information.
- 3 Operator** Enter the name of the physician who scanned the patient.
- 4 Start Exam** Click [OK] to enter scan mode.

Probe Selection

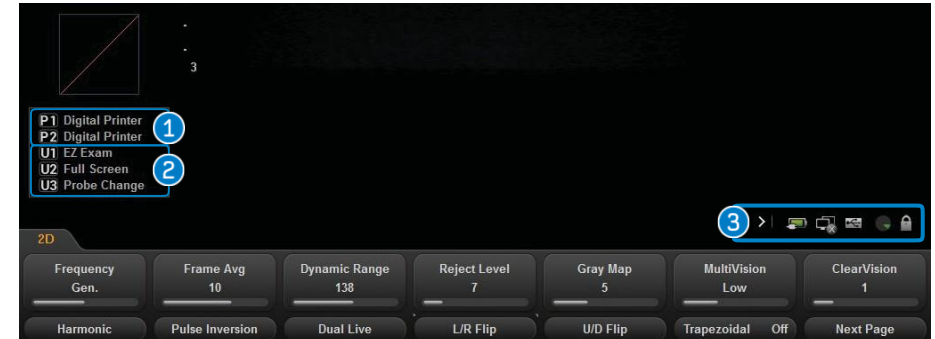
- Click the [Probe] in the upper left of the control panel.



- 1 Probe Type** Displays a list all probes currently connected to the system. Select the probe icon you would like to use.
- 2 Default Preset** Select it when you want to use the factory (default) setting.
- 3 User Preset** User presets function can be set up on user's preference.

User Information

- Information can be viewed on the monitor.



- 1 P1~P2 Key** Various functions can be saved to the P1 and P2 buttons, such as Print1, Print2, and Record, Store Clip. (Peripheral Keys)
- 2 U1~U3 Key** User defined function Keys (i.e. Full Screen, Probe Change, Annotation, Biopsy, etc.)
- 3 Battery** Shows battery installation status as well as charging rate.
- Network** Displays network connection status.
- Removable disk** Shows removable disk connection status.
- Hard disk space** Displays total and available hard disk space.
- Caps Lock** Displays the Caps Lock status.

Soft Menu - 2D Mode

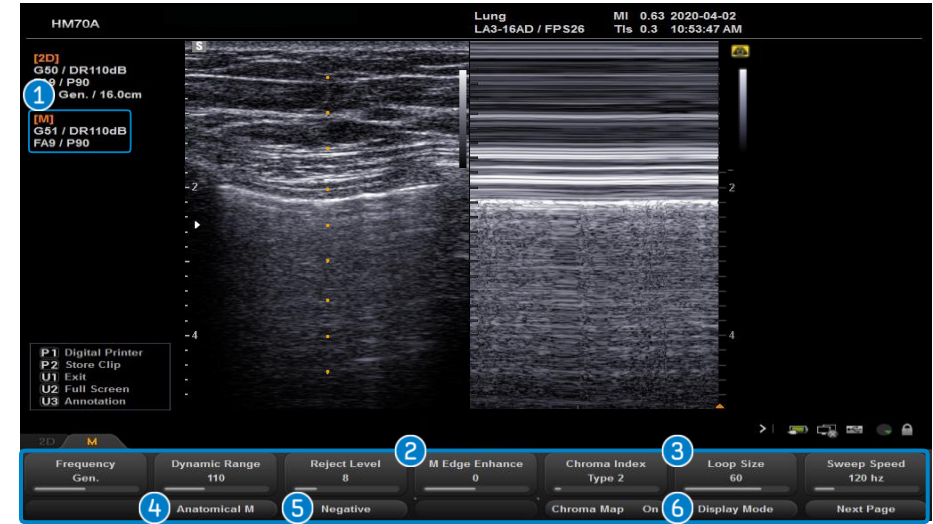
- Soft menu-dial buttons are the user defined function key.



- | | |
|----------------------|--|
| 1 Frequency | Used to change the probe's frequency. |
| 2 Power | Adjusts the ultrasound output. Select a size from 10 to 100. |
| 3 MultiVision | The spatial compound image by using multi-beam. |
| 4 ClearVision | Removes noise and enhances outlines to make the image more clearly. |
| 5 Harmonic | Adjusts contrast resolution of image. |
| 6 Dual Live | Displays 2D image and Color Doppler image simultaneously. |
| 7 Trapezoidal | Changes rectangular format from linear probe to trapezoidal format, so can provide wider view angle. |

Soft Menu - M Mode

- You can configure the soft menu layout for each mode.

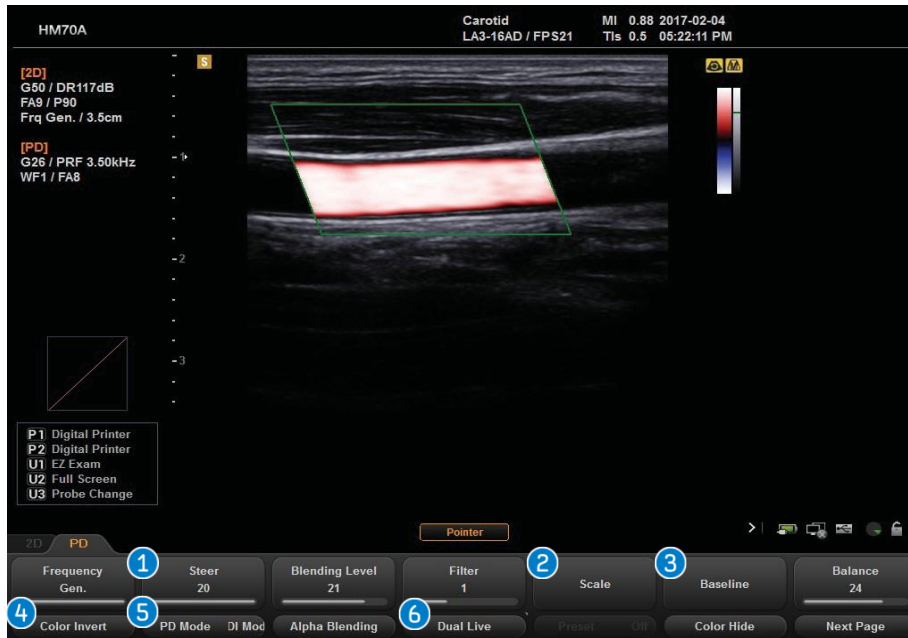


- | | |
|-------------------------|---|
| 1 M Gain | Adjusts the M image's brightness by rotating the Gain dial-button. |
| 2 M Edge Enhance | Select a value from -3 through 3. Higher values provide more accurate images of boundaries. |
| 3 Loop Size | Adjusts the M image's size. Select a size from 30 to 70. |
| 4 Anatomical M | Changes the M line length. Use the Change button to reposition M Point 1 and M Point 2. |
| 5 Negative | Inverts the M image's colors. |
| 6 Display mode | Select display mode as top-bottom or side by side. |

- The location of the soft menu

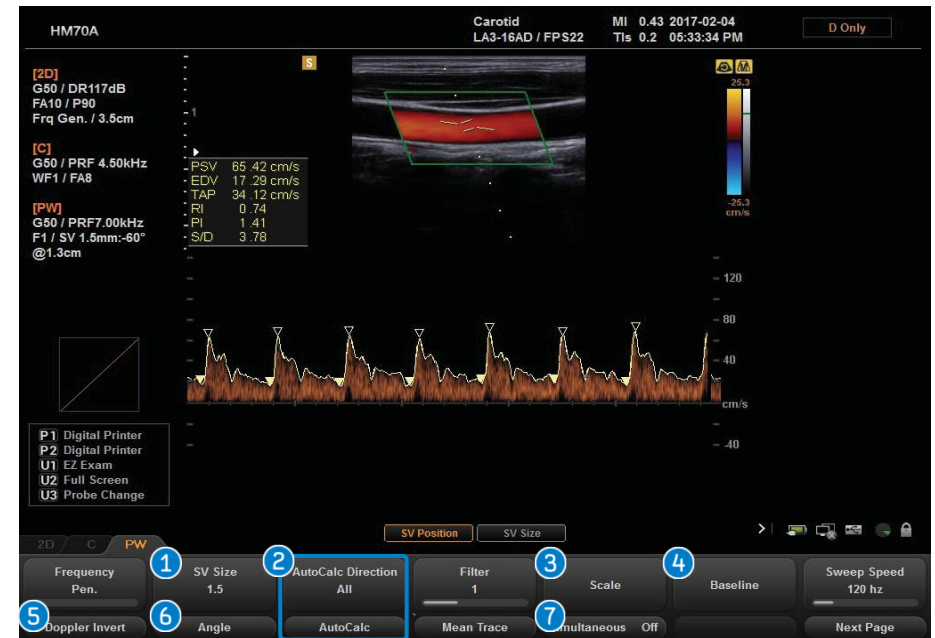
Change the location of this function (soft menu) in the setup.
Please refer to 9 page this document.

Color/Power Doppler/DPDI



- 1 Steer** Adjusts the angle of Color box. (Right 3, 2, 1, none, Left 1, 2, 3)
- 2 Color Scale** Adjusts the PRF. (Pulse Repetition Frequency)
- 3 Baseline** Adjusts baseline by rotating soft-menu.
- 4 Color Invert** Inverts + and -, which indicates the velocity of the spectrum.
- 5 PD or DPDI** Press soft menu dial-button to select PD or DPDI. (*DPDI: Directional Power Doppler Imaging)
- 6 Dual Live** Displays the 2D image and the Color Doppler image simultaneously.

PW Doppler

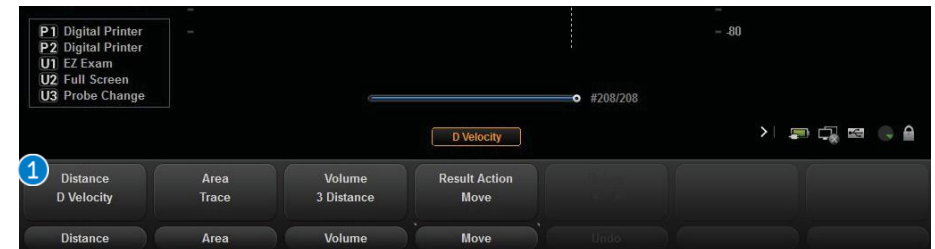
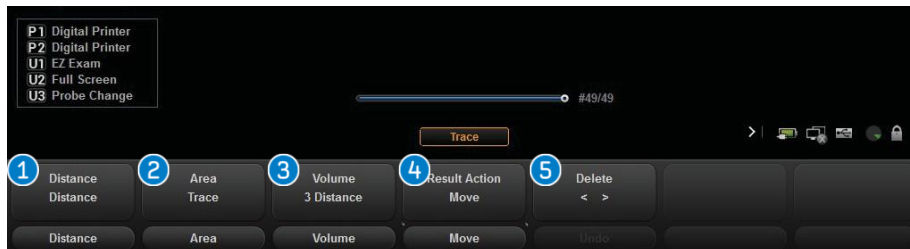


- 1 SV Size** Selects a SV size between 0.5~10 mm.
- 2 Auto Calc. (Direction)** Doppler Trace is performed and its results are displayed. Used to specify the part of the spectrum to calculate when using AutoCalc.
- 3 PW Scale** Adjusts the PRF. (Pulse Repetition Frequency)
- 4 Baseline** Adjusts baseline by rotating soft-menu.
- 5 Doppler Invert** Inverts + and -, which indicates the velocity of the spectrum.
- 6 Angle** Adjusts the sample volume angle.
- 7 Simultaneous** Views real-time 2D and Spectral Doppler image at the same time.

Measurement - Caliper

- **Caliper**  Measures (using a trackball and set button) selected items. (i.e. Distance, Area, Volume, Doppler measurement etc.)

Move the cursor with the trackball or the Menu/Angle dial-button, and press the [Set] or the Menu/Angle dial-button.



① Distance	Straight	Measures the straight distance between 2 points.
	Trace	Measures traced curved-line.
	%StD	Measure vessel diameter and calculate stenosis ratio.
	Angle	Measures the angle between 2 lines.
② Area	Ellipse	Measures the traced area of an irregular object.
	Trace	Measures the circumference area.
③ Volume	3 Dist.	Measures the volume of an object by using 3 straight lines.
	Vol.	
④ Result	Move	Change display location of measurement value.
	Action Move	Reset the display location of measurement value.
⑤ Delete		Deletes a portion of the curve being traced.
		Delete is only available for Line Trace, Area Trace, MOD

① Doppler [Only available in Spectral Doppler mode]		
D A/B		Measures the velocity at 2 specified points, which includes measuring S/D ration. RI, PI, velocity gradient, time gradient and acceleration time.
D Velocity		Measures the velocity at one specified point.
D Trace		Traces Spectral Doppler wave form and calculate velocity, integral value and average velocity of blood flow.
D Time		Calculates time on selected range using limited bars.

Measurement - Calculation

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

Move the cursor with the trackball or the Menu/Angle dial-button, and press the Set button or the Menu/Angle dial-button (✓)



- 1 Package** Provide calculate package up on selected probes/applications.
- 2 Tab** Select a measurement package by rotating the second soft menu dial-button. The menu tab of the current application changes whenever you rotate the dial.
- 3 Reference** Can change the items for calculation of EFW according to the reference.
i.e.) *Hadlock 2* (BPD, AC, FL)
Hadlock 4 (BPD, HC, AC, FL)
Reference is only available for OB Application.

■ Measurements in Doppler Mode

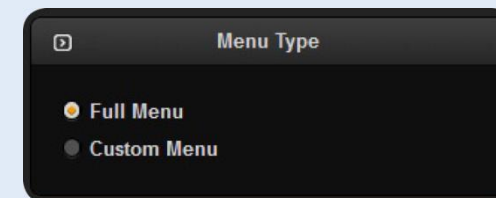
Doppler Trace [Only available in Spectral Doppler mode]

- Manual** Traces Spectral Doppler Wave Form and calculate velocity, integral value and average velocity of blood flow. (includes measuring S/D ration, RI, PI, Velocity gradient, Time gradient and Acceleration time.)
- Limited** Automatic spectrum trace within specified range.
- Auto** Automatic spectrum trace within whole range.

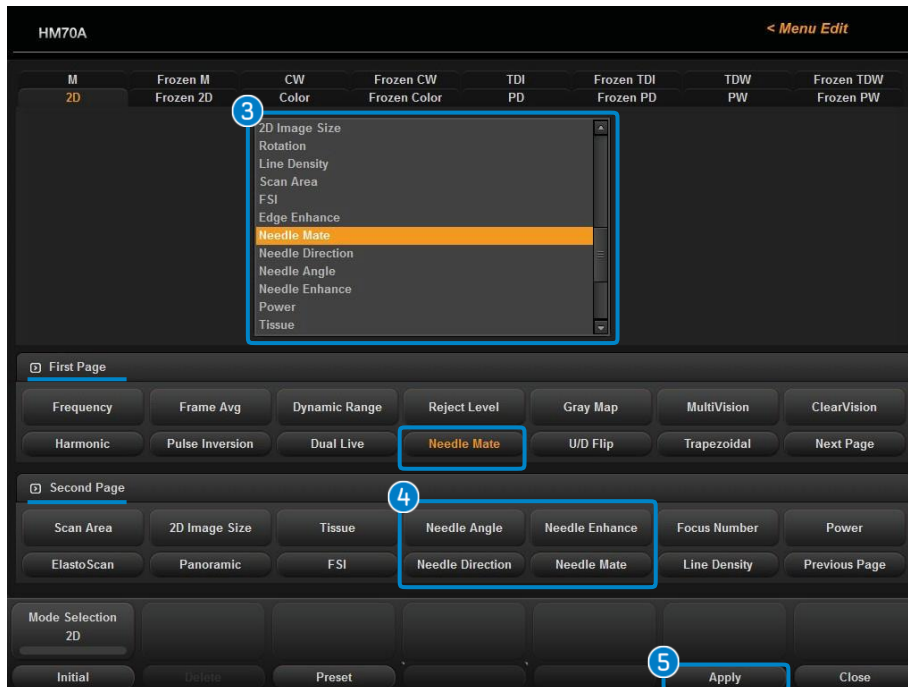
■ Calculation Menu Customize

★ Calculation Menu Type

- Full Menu : Select it when you want to use the default setting.
If it is selected, the menu customization will be disabled.
- Custom Menu : Select it when you want to customize Calc. Tab
(Utility → Measure Setup → General → Calc. Menu → Menu type)



Utility/Soft Menu Edit



1 Utility

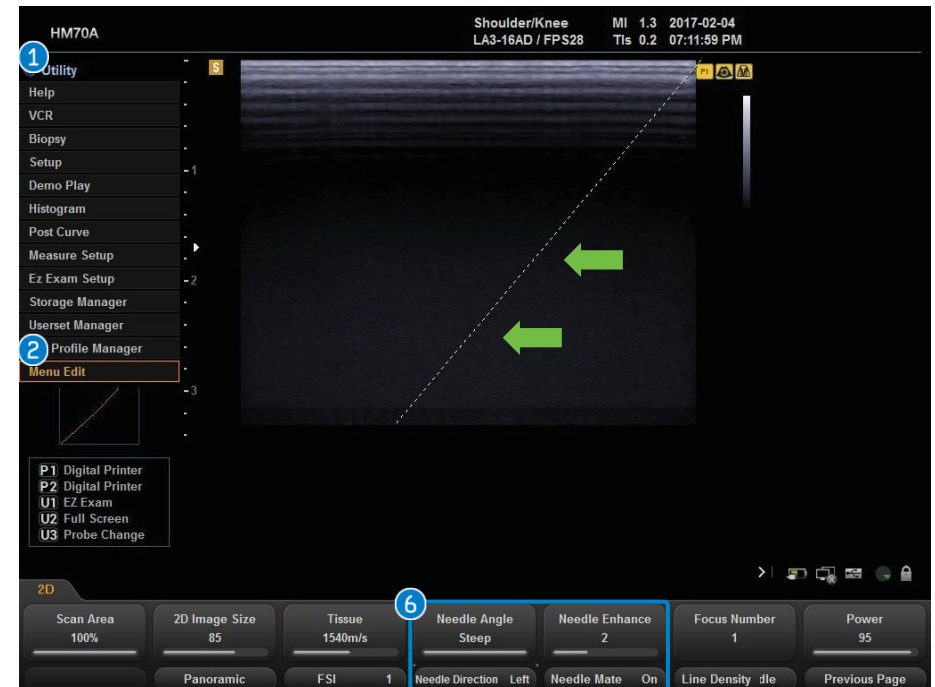
This menu is for the system settings as well as using ECG, biopsy, Menu Edit, etc.
(Enter the [Utility] from the top of the keyboard located on the control panel.)

2 Soft Menu Edit

Menu Edit Items can be moved on the first or second pages of the soft menu. (i.e. ElastoScan, Panoramic, Needle Mate, etc.)
If you wish to change, please follow below steps.

- 3 Select the item.
- 4 Select the page and location.
- 5 Apply selection. → Reboot the system.

Needle Mate



6 Needle Mate

Provide more clear presentation of biopsy needle on image.

Needle Direction

Sets the direction of needle entry.
Left ↔ Right

Needle Angle

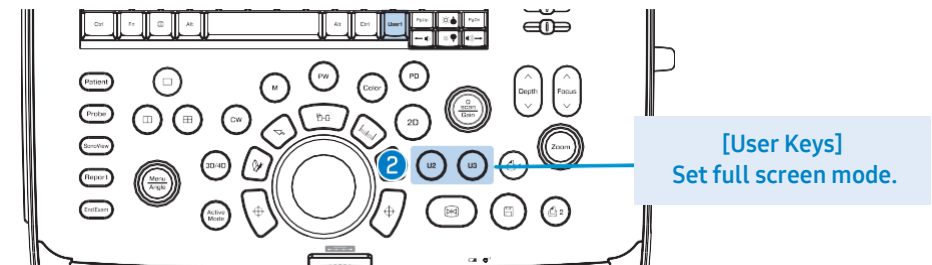
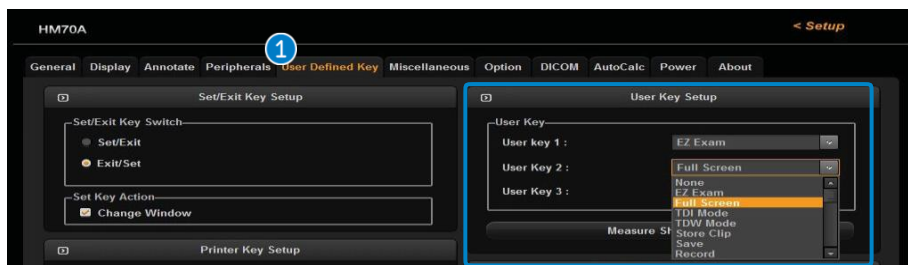
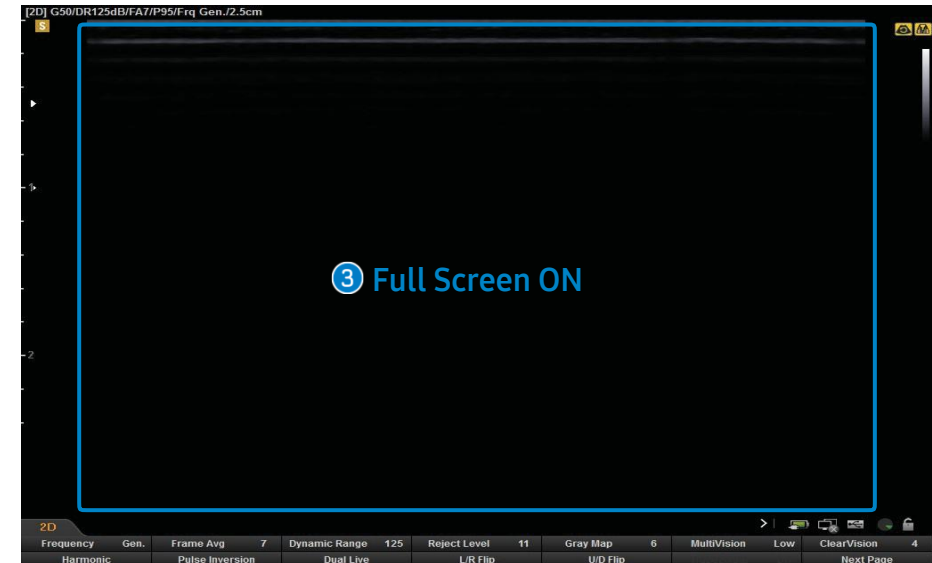
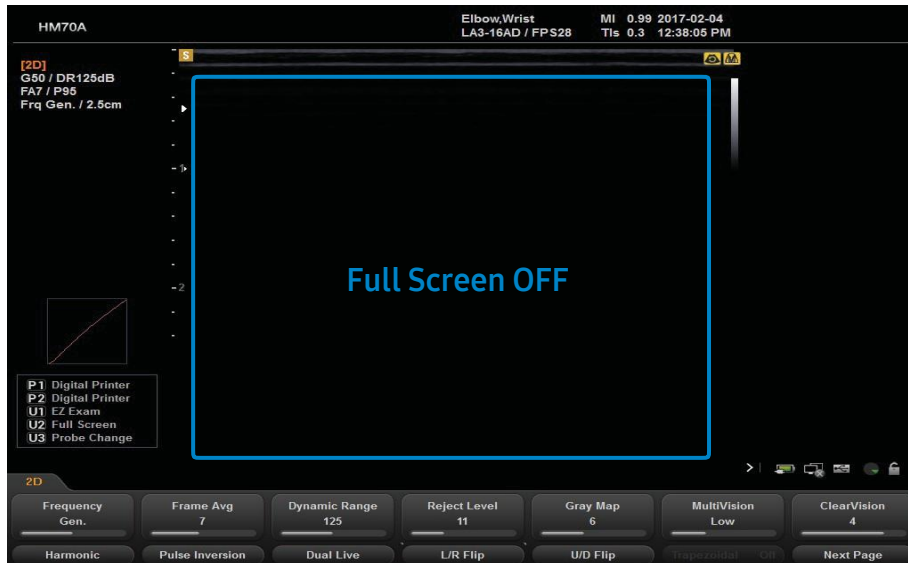
Sets the direction of needle entry.
Left ↔ Right

Needle Enhance

Sets up the thickness and strength of the needle.
(1 Step ~ 4 Step)

Full Screen Mode

- Full screen mode allows to use maximized image area.



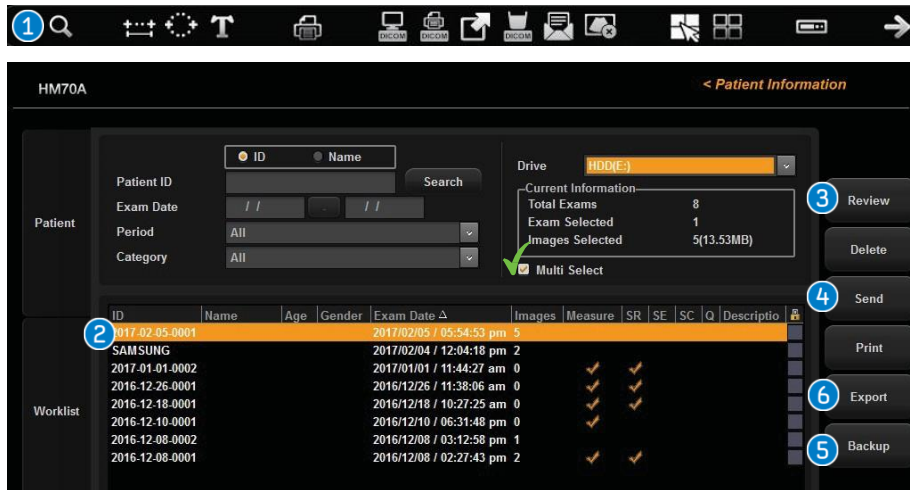
- Maximize image area by clicking user key and customize the user key in the set-up menu.

Full Screen Mode Setting Method

- Match full screen function to user key you would like to use. Go to [Set up] → [User defined Key] → [User key Setup]
- Press the user key on the control panel.
- The image area of the monitor is expanded to full screen. (It is useful for 3D/4D or ultrasound guiding procedures.)

SonoView - Image Management, Export & Back up

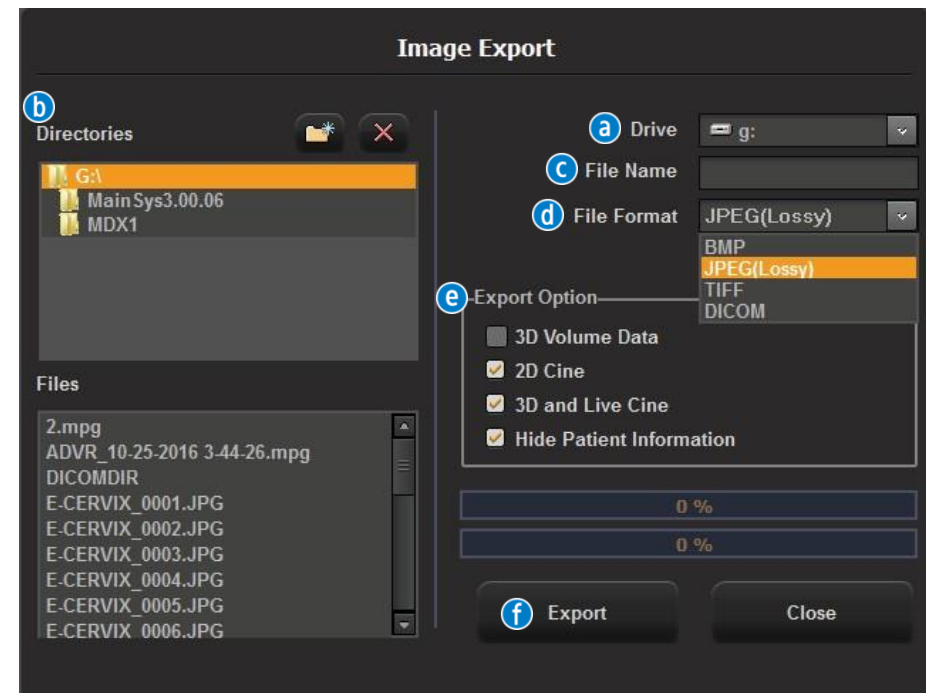
- SonoView is a image management program.
- Select SonoView at the left of the control panel.



- 1 Exam Search** Open Exam List to search for the desired exam.
- 2 Select Patient ID in Exam List** (✓ Multi select – You can select multiple exam)
- 3 Review** Reviews the saved images.
- 4 Send** Transfers the saved images to PACS server.
(Select Send → Displayed the DICOM Storage → Select Alias → Transfer)
- 5 Backup** Back up and restore data.
These backup data only can be review on the system.
Select Backup → Confirm 'Yes' → Select Drive

- 6 Export** Converts image to PC compatible format such as BMP, JPEG, TIFF, AVI, MPEG, DICOM..

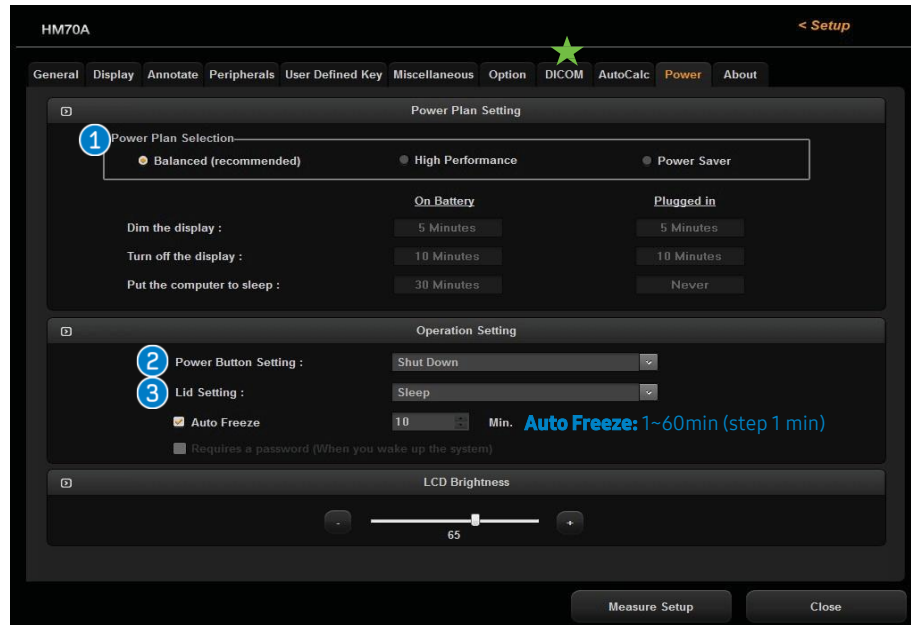
- a** Select Drive (CD-G:, USB-H:)
- b** Directories - Select location to be saved
- c** Enter the File Name
- d** Select File and Video Format (BMP, JPEG, AVI, TIFF, DICOM)
- e** Export Option
Hide Patient Information - To remove patient ID and name
- f** Click "Export"



System Power Function Setting / Wireless Network Setting

■ Power Plan Setting

The setting status of battery mode and plugged in mode, perform the following actions for power reduction. (Setup → Power)



① Power Plan Selection

- Balanced(recommended), High Performance, Power

Dim the display (Monitor Brightness)

Sets the time to darken the monitor brightness.

Turn off the display (Screen saver)

Sets the time to change to screen saver.

Put the computer to sleep (Sleep Mode)

Sets time to change to sleep mode.

■ Operation setting

② Power Button Setting

Action when [Power] is pressed.

Show Selection Dialog

Select [Shut Down] or [Sleep] and [Cancel].

Shut Down

System power off. (booting time about 1min.)

Sleep

Hibernation mode enter.
Used for fast boot.(booting time about 12 sec.)

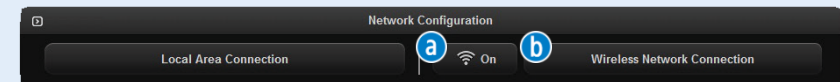
③ Lid Setting

Power setting when folding monitor.

Do Nothing, Shut Down, Sleep

■ Wireless Network Setup

★ Setup → DICOM



a Turn the wireless network function on or off

1. Click the Wifi icon on the screen.

b Connecting to a Wireless Network

1. Click the [Wireless Network Connection] on the screen.
2. Click the [Scan].
3. Select a wireless network to which you can connect.
4. Click the [Connect].

[The Wireless Network Connection settings window is enabled only when the system is connected to a wireless USB adapter.]

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