OLYMPUS

ALOKA ARIETTA 850

Quick Reference Guide

Your Quick Reference Guide for the ALOKA ARIETTA 850 Premium Ultrasound Processor

The information contained in this guide was created to help you better understand your premium ultrasound processor. Information is broken out into eight color-coded sections to make it easy to use.

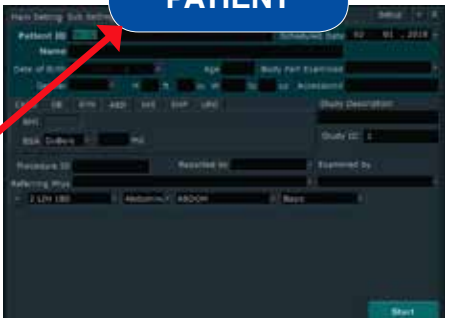
- GETTING STARTED
- DOPPLER
- IMAGE CONTROLS
- IMAGE MANAGEMENT
- MEASUREMENTS
- ADVANCED FEATURES
- ANNOTATIONS
- ERGONOMICS

 Indicates quick resource tip

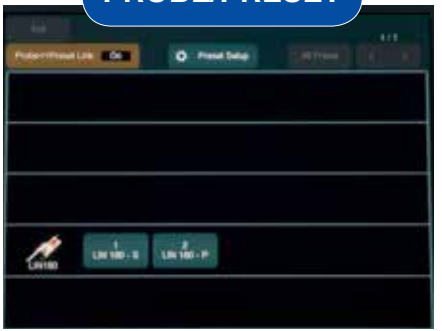
1.
PLUG

2.
POWER

3.
PATIENT



4.
PROBE/PRESET



The 4 Ps

The 4 Ps are the steps to set up the system: (In this order)

1. **PLUG** the scope(s) into the port(s)
2. **POWER** on the system
3. **PATIENT DATA** - Enter the patient ID on the input screen that appears on startup OR select the New Patient button and then enter the data
4. **PROBE/PRESET** - Choose the appropriate preset from the Touch Screen

✔ Note: When changing scopes (within the same patient), freeze first, change scopes, press the Probe/Preset button and choose the appropriate Preset.

✔ Note: If no patient information is desired, click on the X at the top right of the patient data screen.


End Exam
ID
THI
Comment
1 / 3
B
Physio
System
Routine 1
Routine 2
Penetration
Wall
1 / 2
On
eFocusing
7
Graymap (B)
QSS Registration
Bottom Display
Focus Set
Off
Ref Disp (Zoom)
Auto-optimizer Reset
Color Map (B/M)
0deg
Image Rotation
88dB
Dynamic Range (B)
High
Frequency (B)
ALOKA
ARIETTA 850

TOUCH SCREEN

Types of Controls

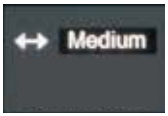
Turns items On/Off

Choose one or the other

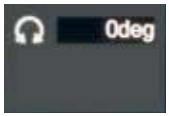
Increases or decreases choices

Takes you to a submenu

Up/Down



Left/Right



Rotate

Rotary knob controls


PW
CF
CW
M
B

CONTROL PANEL

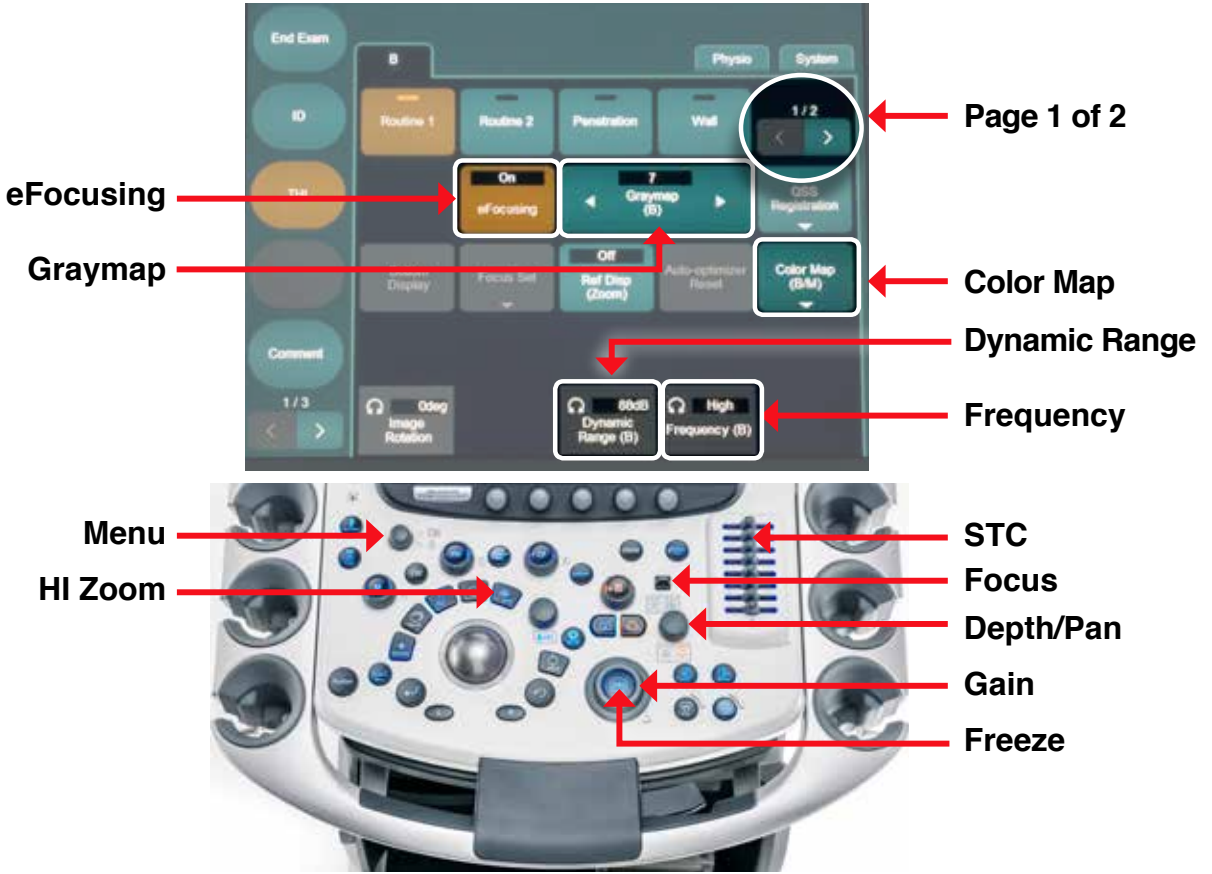
Control Panel Lights (Including Touch Screen)

Orange – In use

Blue – Available for use

Unlit – Not currently available for use

Note: Control Panel lights will change depending on the imaging mode and when switching between frozen and live scanning.


End Exam
ID
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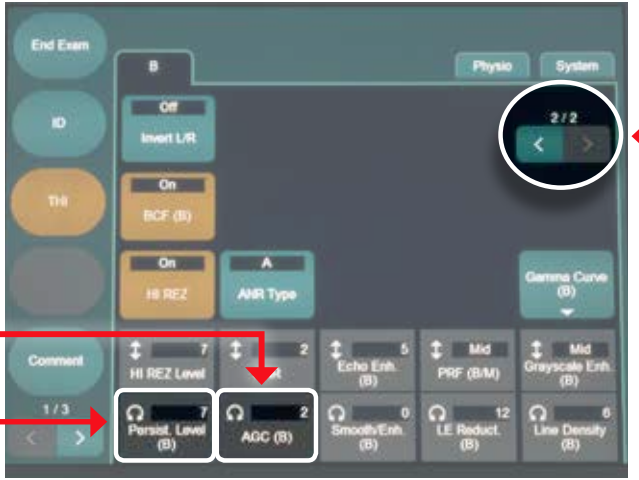
1 / 3
B
Physio
System
Routine 1
Routine 2
Penetration
Wall
1 / 2
On
eFocusing
7
Graymap (B)
Off
Ref Disp (Zoom)
Color Map (B/M)
0deg
Image Rotation
80dB
Dynamic Range (B)
High
Frequency (B)
eFocusing
Graymap
Page 1 of 2
Color Map
Dynamic Range
Frequency
Menu
HI Zoom
STC
Focus
Depth/Pan
Gain
Freeze

BASIC IMAGE CONTROLS

- **PRESET** – Are you using the correct preset? Probe (on bottom left) and Preset (on bottom right) should match on the main monitor.
- **eFOCUSING** – The ultrasound beams are focused with subsequent improvement in image definition throughout the depth of field.
- **COLOR MAP** – Offers different color options to the gray scale that can help differentiate subtle tissue changes.
- **GRAYMAP** – Offers a variety of graymaps.
- **MENU** – Returns Touch Screen to the Main Menu.
- **HI ZOOM** – A higher resolution zoom feature. Press HI Zoom button, use trackball to position over area of interest, and then press HI Zoom a second time.
- **DYNAMIC RANGE** – Increases or decreases the contrast in the gray scale.
- **STC** – Adjusts the gain at varying depths. They should always start in the center.
- **FOCUS** – The small green arrow on the side of the image should be placed across from the area of interest (not active if eFocusing is on).
- **DEPTH** – Adjusts how many centimeters of tissue are displayed on the screen.
- **PAN** – Can be used to reposition the center of the radial scope (press down on the button first).
- **GAIN** – Increases or decreases the image brightness.
- **FREQUENCY** – Should be set higher for the near field and lower for the far field.


End Exam
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Physio
System
ID
Off
Invert L/R
2 / 2
Page 2 of 2
THI
On
BCF (B)
On
HI REZ
A
ANR Type
Gamma Curve (B)
AGC
Comment
HI REZ Level
Echo Enh. (B)
PRF (B/M)
Grayscale Enh. (B)
Persistence Level
1 / 3
Persist. Level (B)
AGC (B)
Smooth/Enh. (B)
LE Reduct. (B)
Line Density (B)


Search
CINE

ADVANCED IMAGE CONTROLS

- **AGC** – Constantly adjusts the brightness level as you move through different tissues.
- **SEARCH/CINE** – (Post Freeze)

  - Use the trackball (left/right) to review images.

  - Rolling the trackball up quickly will play the loop. The trackball (up/down) now controls the playback speed. Depressing Store while the loop is playing will record a video clip on the HDD.

  - Cine is immediately available upon freezing. If it becomes inactive, press the Search button to reactivate.

- **PERSISTENCE** – Controls how many frames will be overlaid to form each image. A higher number will result in a smoother image.

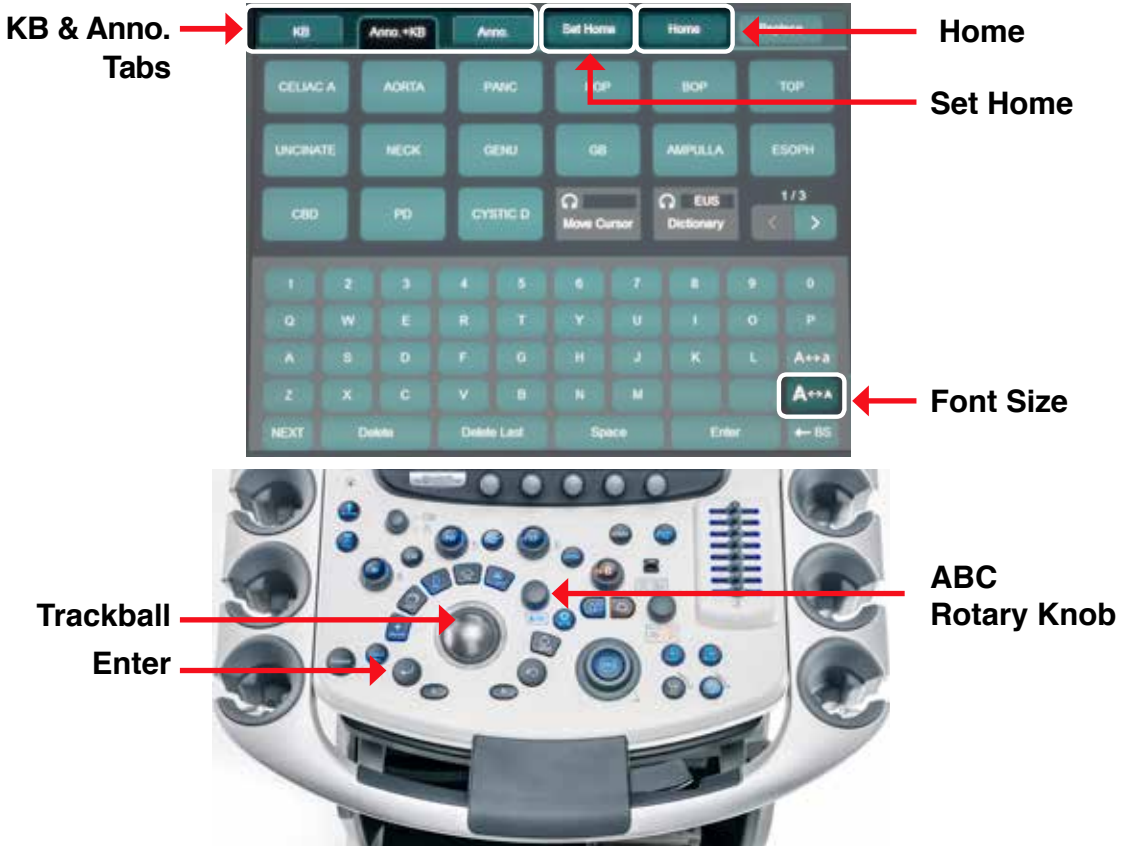
1. Freeze
2. Caliper
3. Trackball
4. Enter

MEASUREMENT STEPS

1. **FREEZE** image 
2. Press **CALIPER** 

3. Place caliper using **TRACKBALL** 
4. Press **ENTER** 
5. Place second caliper using **TRACKBALL** 

For a second measurement, repeat steps 2-5.


KB & Anno. Tabs
KB
Anno.+KB
Anno.
Set Home
Home
Home
Set Home
CELIAC A
AORTA
PANC
BOP
BOP
TOP
UNCINATE
NECK
GENU
GB
AMPULLA
ESOPH
CBD
PD
CYSTIC D
Move Cursor
EUS
Dictionary
1 / 3
NEXT
Delete
Delete Last
Space
Enter
BS
Font Size
Trackball
Enter
ABC
Rotary Knob

ANNOTATION STEPS

1. **FREEZE** image
2. Press the **ABC ROTARY KNOB**
3. Use **TRACKBALL** to move to the desired location
4. Choose the desired annotation from the Touch Screen or enter using the keyboard or virtual keyboard
   - **KB, ANNO.+KB OR ANNO**. can be chosen using the tabs along the top of the Touch Screen
   - An arrow can be placed by using the **ABC ROTARY KNOB** to change the direction of the arrow and then pressing the **ENTER** key
   - **FONT SIZE** can be chosen from the Touch Screen
   - The **HOME** position for the cursor can be set using **SET HOME**

Dual CF

PW Gain & Pulsed Wave

Power Doppler

Flow Gain & Color Flow

eFlow

DOPPLER CONTROLS

Available Doppler modes: Color, Power, eFlow and Pulsed Wave

- **FLOW GAIN** (Color, Power, eFlow)
  - Controlled by the rotary knob surrounding the CF button
- **PULSED WAVE GAIN**
  - Controlled by the rotary knob surrounding the PW button
- **ROI** (Region of Interest) **BOX**
  - Can be moved using the Trackball
  - Can be resized by pressing Enter, then using the Trackball
    - Up/Down controls height
    - Left/Right controls width
  - Press Enter again to reposition
- **DUAL CF**
  - Activated on the Touch Screen
  - Displays simultaneous gray scale images: one with color, one without

Review Screen

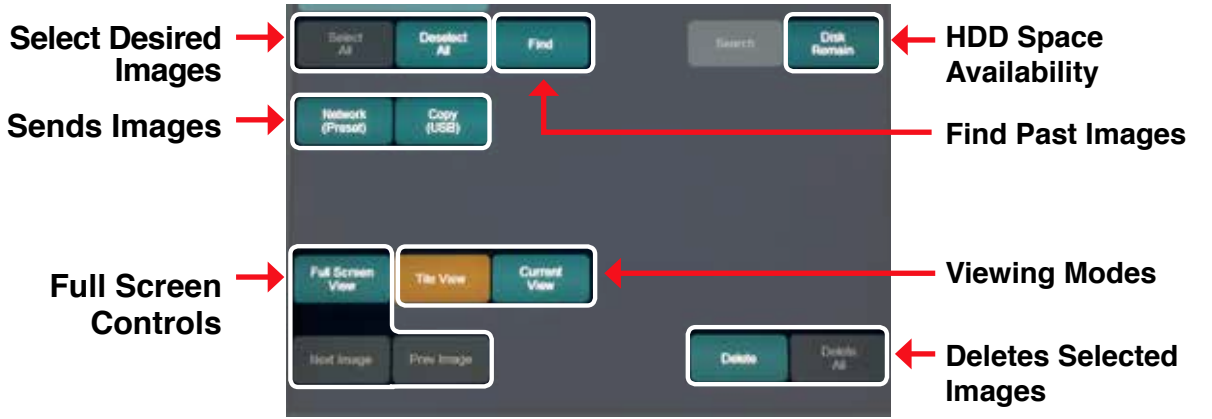
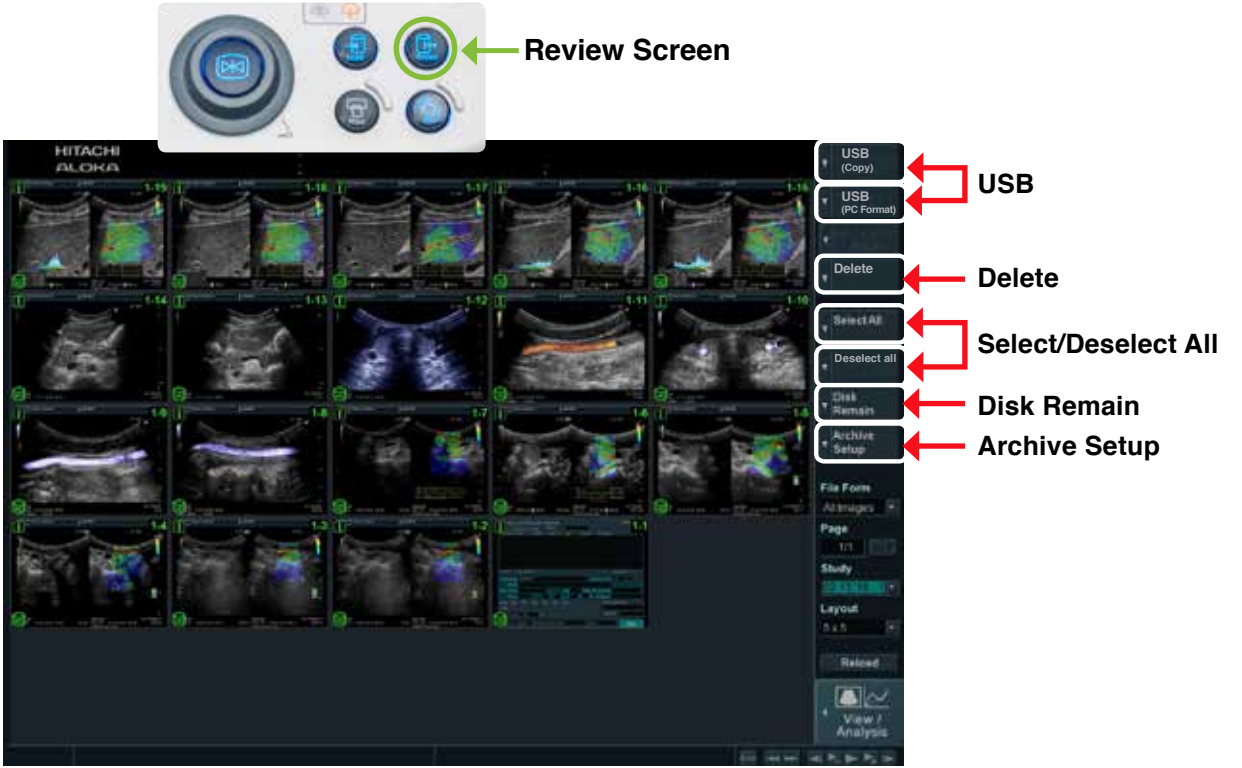


IMAGE STORAGE AND MANAGEMENT

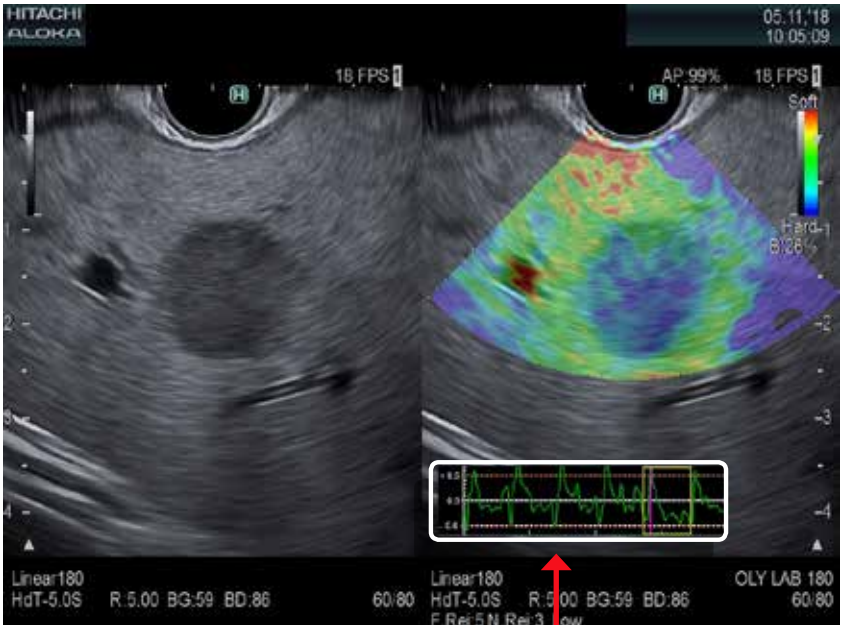
- **STORE**
  - Store images by pressing the Store button
  - Frozen images will be stored as a single frame image
  - Real-time (live) images will be stored as a video clip
    - Start and stop recording with the Store button
  - Single images can be captured anywhere within a Cineloop
  - Video clips can be stored when playing back a Cineloop
- **PRINT**
  - Print images using the Print button
- **PRINT & STORE**
  - Images can be printed and stored simultaneously using the button labeled REC


Review Screen
HITACHI
ALOKA
USB
(Copy)
USB
(PC Format)
USB
Delete
Delete
Select All
Deselect all
Select/Deselect All
Disk
Remain
Disk Remain
Archive
Setup
Archive Setup
File Form
Page
Study
Layout
Reload
View /
Analysis

REVIEWING IMAGES

1. Press the **REVIEW** button to access stored images
2. Current exam's images will be displayed
3. Select/Deselect images as desired
4. Images can be sent to a PACS system or copied to an external media in a variety of formats
   - Single Frame: JPEG, BMP, TFF
   - Video: AVI, MPEG

✓ USB Ports located behind the Touch Screen (use any of the 3)



Elasto

Pressure Bar

(Must choose the appropriate preset. Note: Pressure Bar has fewer options.)

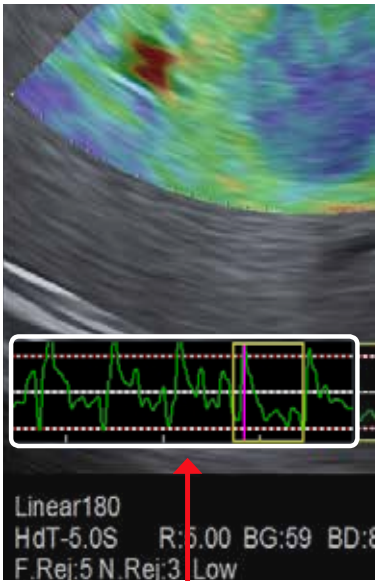
Strain Graph

STEPS TO OBTAIN A GOOD ELASTOGRAPHY IMAGE

1. Obtain a good B mode image (depth and gain) with respiratory variation perpendicular to the ultrasound beam
2. Touch the **ELASTO** button
3. Adjust the ROI position and size using the **ENTER** key and **TRACKBALL**
   - Press **ENTER** to switch between size and location
   - Include normal gastric/duodenal wall
   - Omit fluid-filled structures (i.e. vessels)

✓ When using the Pressure Bar, try to achieve 4, 5 or 6

✓ When using Strain Graph, the goal is to obtain at least one sine wave that does not go above or below the reference line



Strain Graph

Area Reconfig.

Frame Average

Select Frame

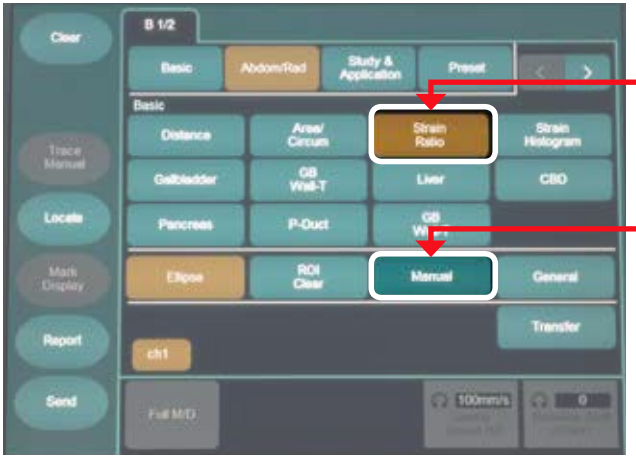
ELASTOGRAPHY TIPS

- **STRAIN GRAPH** – A good elastography image is one filled with the most persistent colors and has a consistent sine wave on the strain graph.
- **AREA RECONFIG** – Allows relocation of the ROI on a frozen image using the trackball.

Tips to select the best elastography image:

- **SELECT FRAME** analyzes the stability of the curve on a strain graph and the amount of sampling data.
  - Press Update or Select Frame (Touch Screen) to see the most stable frames.

- **FRAME AVERAGE** averages frames within the sector box to produce one elastography image. (Removes noise and improves accuracy for measurement.)
  - Move the sector box to the desired area on the strain graph, then press Frame Average to average the selected frames and obtain one image.



Strain Ratio

Auto/Manual

Measurement Menu

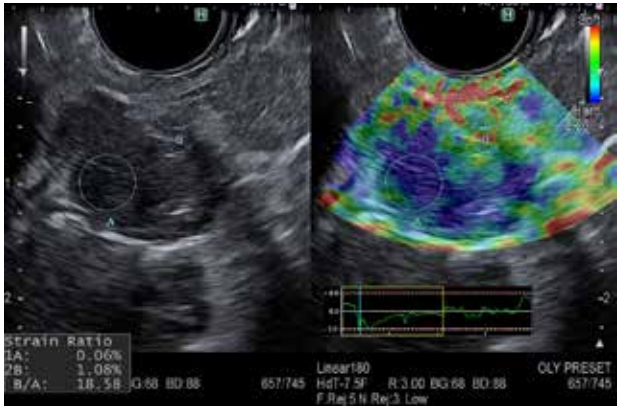
Enter

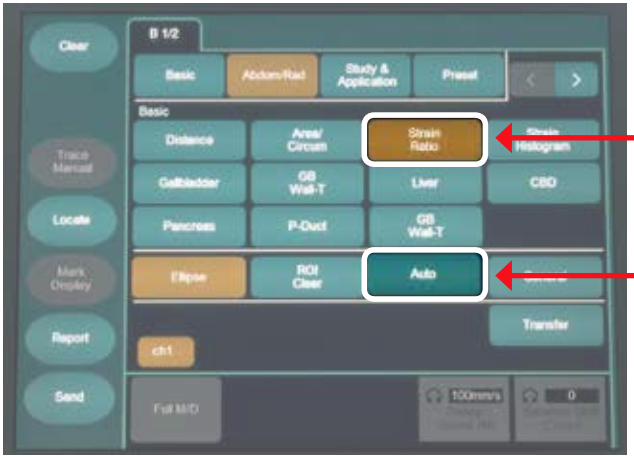
Left

Trackball

STRAIN RATIO MEASUREMENT STEPS

1. Obtain a frozen, optimized elastography image
2. Press the **MEASUREMENT MENU** button
3. Select **STRAIN RATIO** on the Touch Screen
   - Ensure that the ROI setting method is on **MANUAL**
4. Place ROI A on the lesion
   - Set the starting point by pressing **ENTER**
   - Move the **TRACKBALL** to adjust the size
   - Press **ENTER** to set the size and location
5. Place ROI B on normal tissue and repeat steps from ROI A to set the size and location




Clear
B 1/2
Basic
Abdom/Rad
Study & Application
Preset
Basic
Distance
Area/ Circum
Strain Ratio
Strain Histogram
Gallbladder
GB Wall-T
Liver
CBD
Pancreas
P-Duct
GB Wall-T
Ellipse
ROI Clear
Auto
Transfer
ch1
Trace Manual
Locate
Mark Display
Report
Send
Full M/D
100mm/s
Strain Ratio
Auto/Manual


Measurement Menu
Enter
Left
Trackball
L
R

STRAIN RATIO MEASUREMENT TIPS

To move an ROI, before setting the ROI

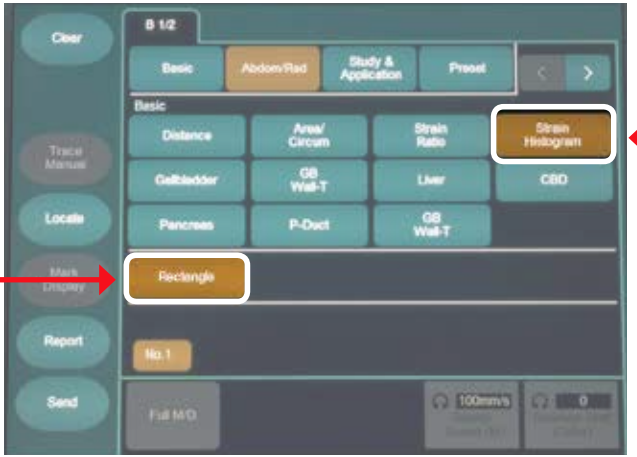
1. Press the **LEFT** button
2. Place cursor in center of the ROI
3. Press the **LEFT** button
4. Move **TRACKBALL** to reposition
5. Move cursor out of ROI
6. Press **ENTER** to set

To resize an ROI, before setting the ROI

1. Press the **LEFT** button
2. Place cursor on small diamond
3. Press the **LEFT** button
4. Resize using **TRACKBALL**
5. Press the **LEFT** button
6. Move cursor out of ROI
7. Press **ENTER** to set

Assist Strain Ratio (ASR) helps chose the ideal ROI placement

1. Obtain a frozen, optimized elastography image
2. Press the **MEASUREMENT MENU** button
3. Select **STRAIN RATIO** on Touch Screen - Ensure ROI setting method is on **AUTO**
4. Move **TRACKBALL** to place the ROI on the lesion
5. Press **ENTER** Key

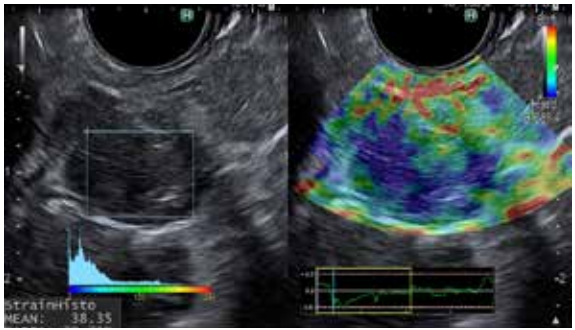

Clear
B 1/2
Basic
Abdom/Rad
Study & Application
Preset
Basic
Distance
Area/ Circum
Strain Ratio
Strain Histogram
Gallbladder
GB Wall-T
Liver
CBD
Pancreas
P-Duct
GB Wall-T
Rectangle
Report
No.1
Send
Full MO
100mm/s
Strain Histogram
Rectangle


Measurement Menu
Enter
Left
Trackball
Undo
L
R

STRAIN HISTOGRAM MEASUREMENT: STEPS & TIPS

STEPS:

1. Obtain a frozen, optimized elastography image
2. Press the **MEASUREMENT MENU** button
3. Select **STRAIN HISTOGRAM** on Touch Screen
4. Place + over area of interest (starting point) and press **ENTER**
5. Use **TRACKBALL** to adjust size of ROI and press **ENTER** to set the ROI



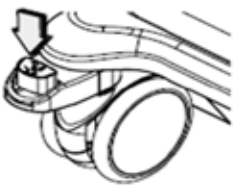
TIPS:

- To perform another strain histogram measurement on the same image, select **RECTANGLE** on the Touch Screen (this will clear the current measurement data)
- To change location of the ROI before setting:
  1. Hit the **LEFT** key
  2. Move with the **TRACKBALL**
  3. Press **ENTER** to set the ROI after reaching desired location
- To change the size of the ROI before setting:
  1. Hit the **UNDO** button
  2. Use **TRACKBALL** to adjust size of ROI and press **ENTER** to set the ROI

LOCK WHEELS & ADJUST CONSOLE HEIGHT

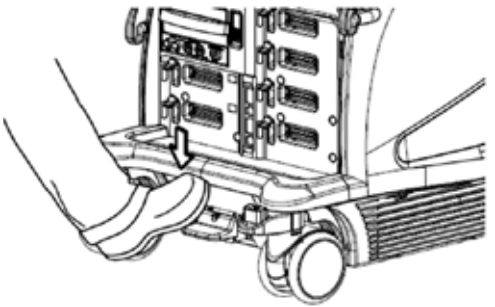
1. Step on the front caster wheels to lock them.
2. Depress the lock pedals for the rear wheels.
   - Green = steer
   - Black = lock
   - Middle = release

Front Caster

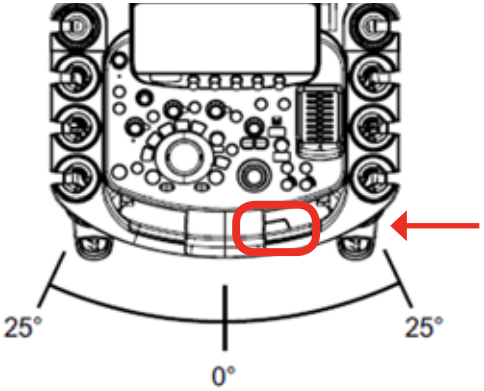


Rear Caster

1. Adjust the height of the control panel by holding the handle with both hands while stepping on the front center pedal.
2. Release the pedal to secure the height of the control panel.



ROTATING CONTROL PANEL & CLEANING



Grasp the handle while depressing the lever to swivel the control panel up to 25° left or right.

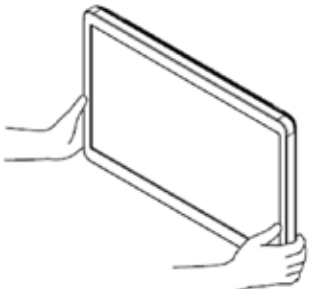
Releasing the lever will lock the panel in place.

Lever

System Cleaning Note:
- Monitor should always be dried with a soft cloth following any moist cleaners.
- Between patients: Freeze, unplug dirty scope, unfreeze with no scope plugged in. The system can now be wiped down. Once the next patient's clean scope is attached, follow the steps to set up for a new patient.

(Specific cleaning instructions are found in the IFU Chapter 5.)

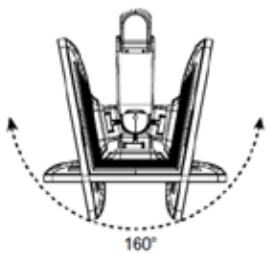
ADJUSTING THE MONITOR POSITION



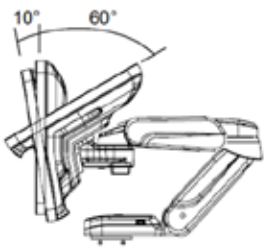
Monitor moveable range

Grasp the frame of the monitor in both hands and move it in a large swinging movement to adjust its height or orientation.

Even when the monitor arm axis is vertical, it is easier to move the monitor if you swing it.

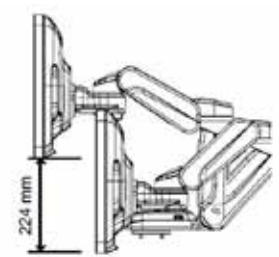


160° in right and left direction

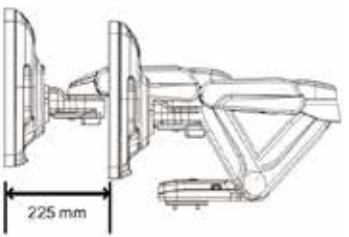


Tilt

10° forward, 60° back



224 mm up and down



225 mm in longitudinal direction

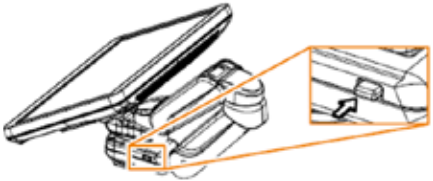
LOCKING THE MONITOR

1. Push the 1st arm to the rear
2. Make the 3rd arm parallel with the base
3. Face the monitor upwards
4. Lower the 2nd arm and insert into lock block
   (The 3rd arm is locked when the arm clicks into position.)
5. Turn the 1st arm to a straight position as seen from the front (The 1st arm is locked when the arm clicks into position.)

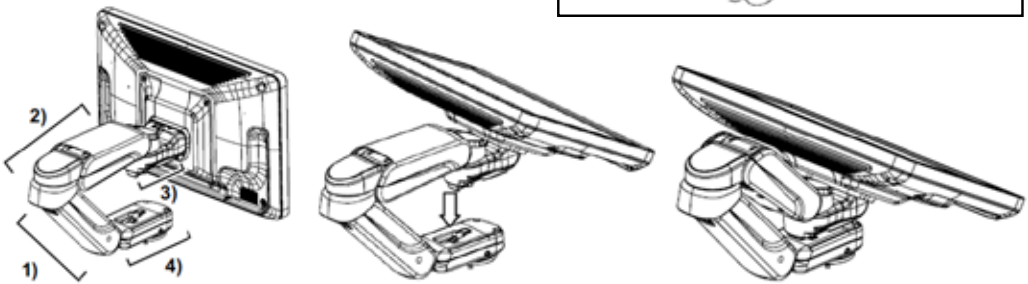
Releasing the Monitor

Hold down the monitor lock release button while raising the arm

Raise the monitor



1) 1st arm
2) 2nd arm
3) 3rd arm
4) Base



TROUBLESHOOTING

- Can't turn it on – Check circuit breaker on back of the system near the floor
- Power is on, but menus/controls aren't working – Use the Probe button to activate the preset
- Image or control issues – Are you on the correct preset?
- Image too bright or too dark – Are the STC slides in the center?

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