

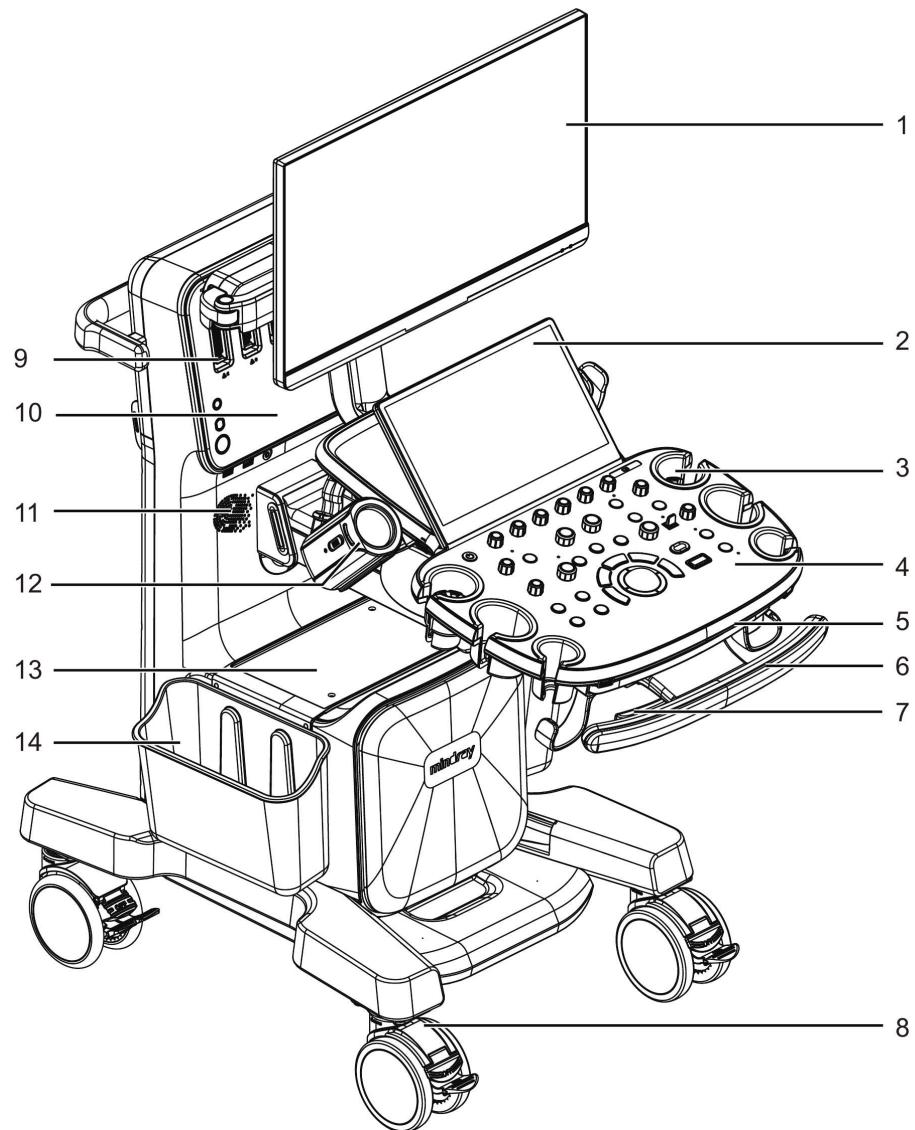
Resona I8W Series/Nuewa I8W Series/ Resona I8 Easi Series

Diagnostic Ultrasound System

Operator's Manual

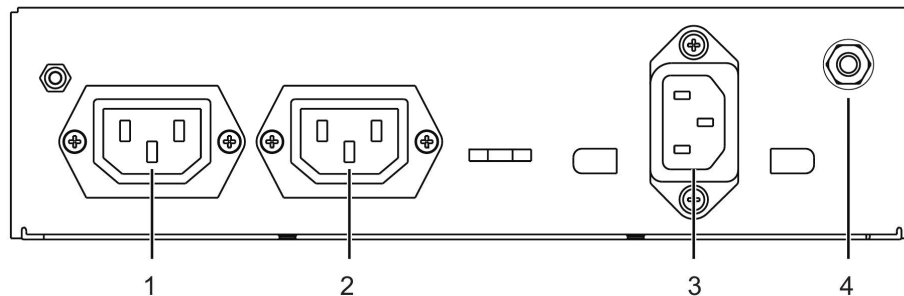
[Basic Volume]

2.7 Introduction of Each Unit



No.	Item	Description
7.	Control panel adjusting lever	Used for lifting or swiveling the control panel.
8.	Caster	<ul style="list-style-type: none"> 3 full-lock casters: press the “ON” pedal to lock the system, and press the “OFF” pedal to move the system. 1 double-lock caster: press the red pedal to lock the system, press the green pedal to move the system straight, and press the “OFF” pedal to reset the green and red pedals.
9.	Probe port	Sockets connecting transducers and the main unit.
10.	Front I/O panel	Connecting to ECG leads, CW, USB drive, audio input and output etc.
11.	Speaker	Outputs the audio.
12.	Ultrasound gel warmer	Used for heating the ultrasound gel.
13.	Placing table	Used for placing the B/W video printer, storage bin, and wipes box bracket.
14.	Storage bin	Used for temporal storage
15.	Monitor support arm	Supports the LCD display and adjusts the position and angle of the LCD display.
16.	Rear handle	Used for pushing and moving the system.
17.	Wipes box bracket	Used for placing the wipes box.
18.	Cooling vent	Used for cooling the main unit.
19.	Back I/O panel	Interface panel used for inputting and outputting signals.
20.	Power supply panel	Electrical port panel.
21.	Intracavitary probe holder	Used for placing the intracavitary probe.
22.	Hanger	Used for hanging the probe cables.
23.	Control panel support arm	Supports the control panel and adjusts the position of the control panel.

2.7.1 Power Supply Panel



No.	Name	Function
1.	Alternative current auxiliary output 1	Supply power for optional peripheral devices.

- In cine review mode, press <Freeze> on the control panel to return to the acquisition preparation status.

6.12 R-VQS

R-VQS (RF-data based quantification on arterial stiffness) tracks movements of the upper and lower vessel walls and measures vessel diameter, displacement, coefficient of hardness and PWV (dimensionless pulse wave velocity).

Hardness coefficient: Arterial stiffness is changed with the blood pressure changing. The bigger the value the higher the stiffness.

PWV (dimensionless pulse wave velocity) represents the transmit speed of pulse wave. The bigger the stiffness parameter the higher the PWV.

NOTE:

Only linear probe under Carotid exam mode supports this feature.

Perform the following procedure:

1. Select a probe and carotid exam mode. Perform B real-time imaging and search for carotid vessel. Try to place the vessel on the image horizontally.
2. Tap [R-VQS] and use the trackball to locate the ROI box on the target area.

Dotted line of the ROI lies in the middle of the vessel and divides the vessel upper wall and lower wall. Use <Set> key and trackball to change ROI size and position.

Note that ROI should include the upper and lower wall of the vessel.
3. Tap [Start Calc] to start tracking. Upper wall and lower wall are marked by the line in the ROI box.

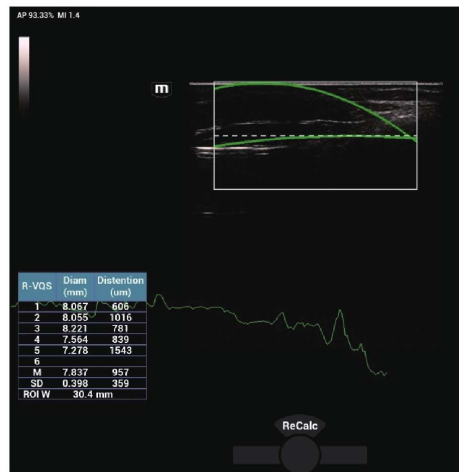
Motion curve of vessel walls display under the image in real time. 6 cardiac cycles are calculated in total with each results display in the result window on the left synchronously.

Where,

$\text{Dist} = [\text{maximum diameter within 1 s}] - [\text{minimum diameter within 1 s}]$

Diam: Vessel diameter refers to maximum diameter within 1 s.

6 R-VQS (RF-data based quantification on arterial stiffness) values (6 cardiac cycles are calculated in total), standard deviation SD and ROI length will be displayed in the result window on the left.



4. Adjust parameters.
 - “Speed”: Adjust refresh speed of vessel wall motion curve.
 - “Position”: Adjust the location of the motion curve upwards and downwards.
 - “Curve Disp(Min)”/“Curve Disp(Max)”: Adjust amplitude of vessel wall motion curve.
5. Tap [Stop Calc] or press <Freeze> to freeze the image and stop updating motion curve and result data.
6. Use the trackball to review the cine file and select desired frame.
 - Tap [Accept Result] to update the result window data to the report.
Save the single-frame and multi-frame image if necessary.
 - Tap [Cancel Result] to recalculate and perform step 3-5 if necessary.
7. Tap [Report] to check report.

Only the last result data will be saved.

If pressure is entered in the patient information page or the report page, Hardness coefficient and PWV result will be displayed on the report.

For details about report operation, refer to “Advanced Volume”.

6.13 Smart B-line

The lung acoustic impedance difference increases with the increase of lung liquids. The ultrasound waves produce strong reverberations in the lung at different depth. After multiple reflections, the comet tail sign is formed, which is perpendicular to the pleura plane. Starting from the pleura line, the comet tail sign moves along with the lung and extends to the far field. The reverberation line perpendicular to the pleura plane is called Smart B-line.

Smart B-line is used to detect the B line of the lung in B mode. It supports B-line detecting in both real-time and freeze modes.

NOTE:

- Smart B-line is only available in Single B imaging mode.
- It supports single-frame and multi-frame image file detection in B mode.