



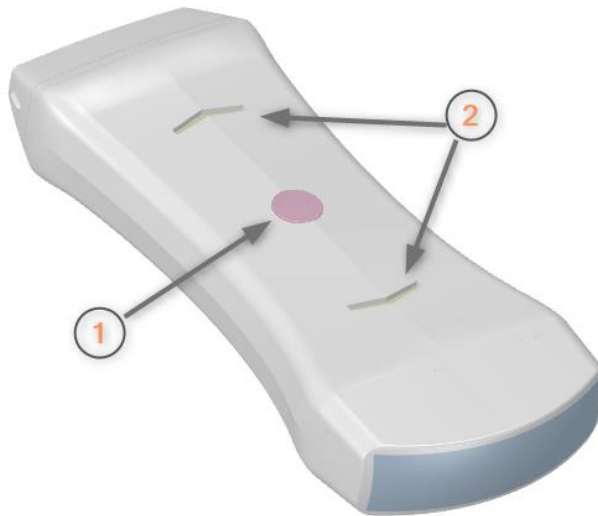
SpectrUs
Wireless Handheld Ultrasound Scanner
Quick Operation Guide

1 Install Software APP

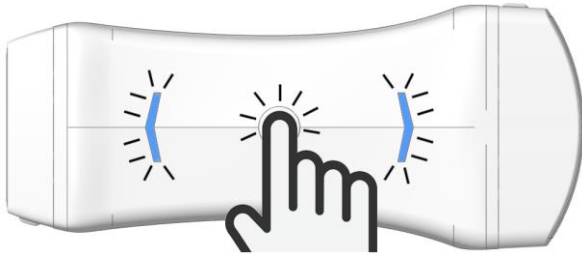
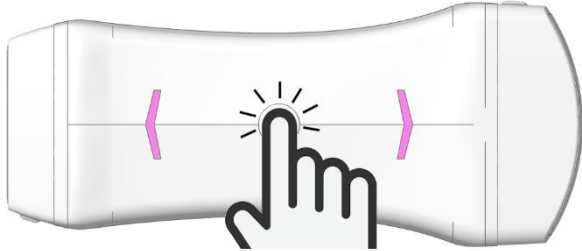
Download and install the “SpectrUs” application.

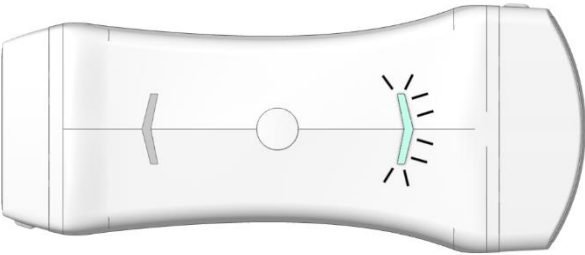


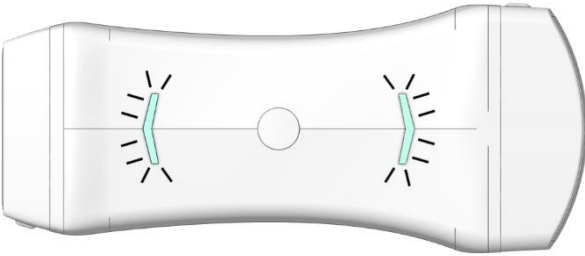
2 Turn On/Off the Probe

Press the On/Off button to turn on the device, and a long time press to turn off. Short press to freeze and press again to unfreeze.



- 1 Button for power on/off & freeze/unfreeze.
- 2 Battery capacity indicator & wireless connection indicator.

Action / State	Indication	Meaning
The device is off. Long press the Power button and wait until white indicators start fading in and out.		The device is on. Blinking blue indicators show that the device is ready to connect.
The device is on. Long press the Power button and wait until the indicators turn pink and then off.		The device is switched off.

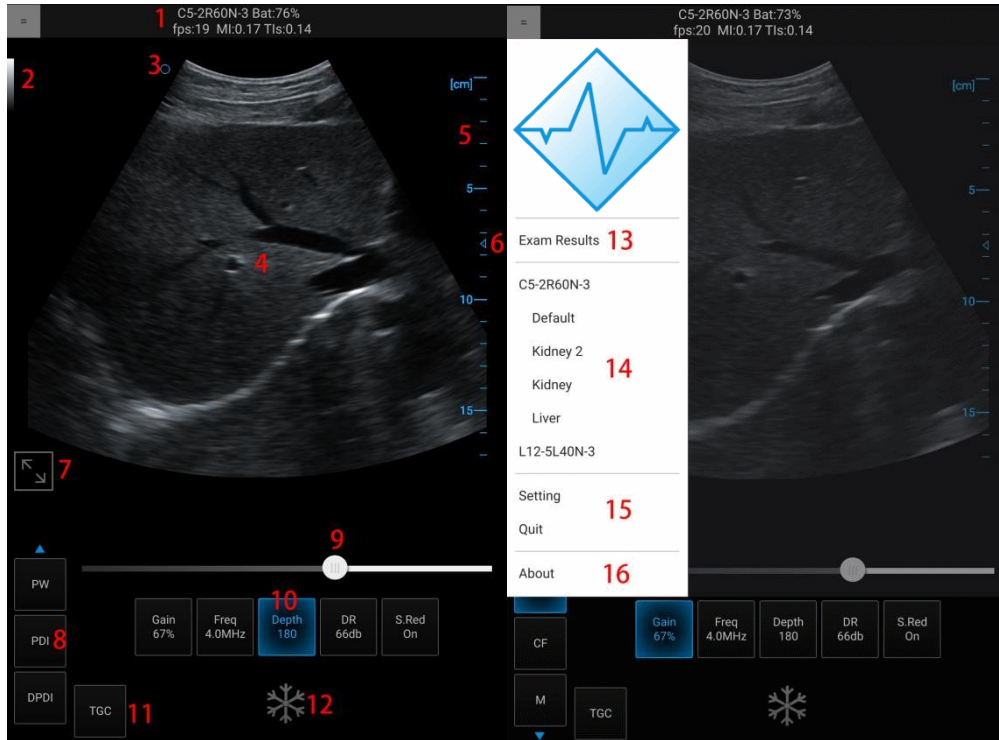
Action / State	Indication	Meaning
The device is on, connected and in scanning mode.		One of the two indicators is blinking with a greenish color indicating the active transducer head. The color can change from white to green to yellow to orange depending on the battery charge state.
Battery charge state.		A color palette visualizing battery charge percentages.
The device is on and scanning. Push the FREEZE button once.		The active head indicator stops blinking. The device is in FREEZE mode.
The device is in the charging case and the charging case is on.		Both indicators are fading in and out. Wireless charging is in progress.

3 Wireless Connection

1. Turn the device on.
2. Ensure that Bluetooth and WiFi connections on your smartphone / tablet are active.
3. Go to WiFi settings and find the SSID with the serial number of your device. The SSID should look like "US_XXXXXXXX", enter the sequence of characters "XXXXXXXX" as the WLAN password.
4. Run "SpectrUs" application, touch "Search Probe", and the list of found devices will be displayed.
5. Select your device in the list of available devices and touch "Connect" button. After the connection is successful, the probe list will save this device for convenience for the next time.

6. Live ultrasound image should be displayed.

4 Interface Introduction



1. Information display column: display currently used probe model, battery, fps(frames per second), and acoustic output parameter(MI & TIs).
2. Gray scale/ color bar: display the grayscale and color bar of the screen.
3. Mark of probe position: display the relation between the ultrasound image and probe.
4. Image and measurement area: display ultrasound image in current mode; measurement area in freeze state.
5. Scale: display the scale of the current ultrasound pattern.
6. Focus: display numbers and position of focus.
7. Full screen: display the current ultrasound image in full screen.
8. Mode: display all operation modes, including B mode, CF mode, M mode, PW mode, PDI mode, DPDI mode, and NE mode (only for linear probe).
9. Slider: adjustable parameter values and movie playback.
10. Parameter adjustment and measurement: adjust the parameters in the corresponding mode in the unfrozen state; measurement, saving image and video, text annotation, and other operations can be performed in the frozen state.
11. TGC mode: adjustable 8-segment TGC value.
12. Freeze/unfreeze: image freeze and unfreeze.
13. Exam Results: display saved images and videos.
14. Preset: display different presets for different probes.
15. Setting and Quit: the setting column includes system settings and user settings. In

the system setting, you can perform operations such as automatic brightness adjustment, self-test, and automatic freezing time selection. To exit the software, click the Quit button.

16. About: display software version, serial number, and firmware version information.

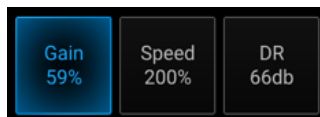
Note: For devices that support OTG functions, OTG must be turned on.

4.1 B Mode



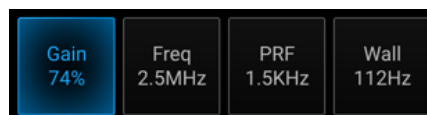
1. Gain: increase or reduce adjust to obtain a brighter or darker B image, and choose the most suitable gain value.
2. Freq (Frequency): adjust the penetration rate of sound waves emitted by the probe.
3. Depth: adjust image display depth.
4. DR (Dynamic Range): adjust the dynamic range to optimize tissue texture for different anatomical structures.
5. S.Red (Speckle Reduction): reduce the speckle of B image and gain a smoother image.

4.2 M Mode



1. Gain: increase or reduce adjust to obtain a brighter or darker M image, and choose the most suitable gain value.
2. Speed: adjust the speed to get more or fewer motion events.
3. DR (Dynamic Range): adjust the dynamic range to optimize tissue texture for different anatomical structures.

4.3 CF Mode (Color Doppler Flow Imaging Mode)

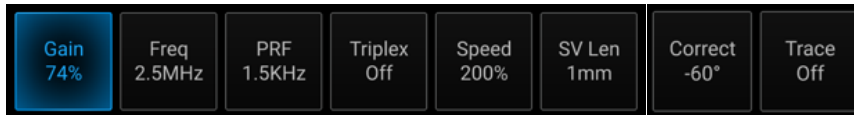


1. Gain: increase or reduce overall echo strength processed in the color blood window to gain an ideal colored image.
2. Freq (Frequency): adjust the CF mode frequency to adapt to the observation needs of tissues under different movement speeds.
3. PRF (Pulse Repetition Frequency): adjust the movement speed of the tissue or blood flow

to make the image clearer and avoid confusion.

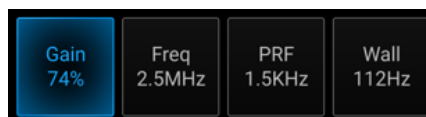
4. Wall (Wall Filtering): adjust wall filtering to remove low-frequency, high-density noise signals.

4.4 PW Mode (Pulsed Wave Doppler Mode)



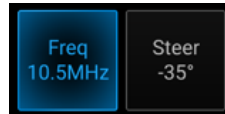
1. Gain: increase or reduce the strength of the spectrum signal to gain an ideal spectrum image.
2. Freq (Frequency): adjust frequency to adapt to the observation demand of tissues at different movement speeds.
3. PRF (Pulse Repetition Frequency): adjust PRF to adapt to the observation demand of tissues at different movement speeds.
4. Triplex: real-time display of B+PW dual mode or B+CF+PW triple mode.
5. Speed: adjust the speed of frequency spectrogram updating to observe more or less frequency spectrogram period on screen.
6. SV Len (Sampling Volume Door Length): it influences the precision of sampling result and Doppler sound output.
7. Correct: estimate blood flow speed with a certain angle direction with the Doppler vector by calculating the angle between the Doppler vector and blood flow to be measured to optimize the precision of blood flow speed.
8. Trace: automatically calculates the maximum, minimum, and average speed on the frequency spectrogram.

4.5 (D)PDI Mode ((Directional)Power Doppler Imaging Mode)



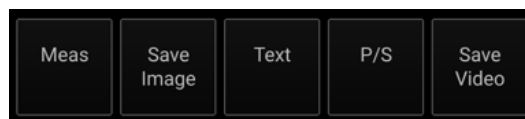
1. Gain: increase or reduce overall echo strength processed in the color blood window to gain an ideal colored image.
2. Freq (Frequency): adjust the PDI/DPDI mode frequency to adapt to the observation needs of tissues under different movement speeds.
3. PRF (Pulse Repetition Frequency): adjust PRF to adapt to the observation demand of tissues at different movement speeds.
4. Wall (Wall Filtering): adjust wall filtering to remove low-frequency, high-density noise signals.

4.6 NE Mode (Needle Enhance Mode)



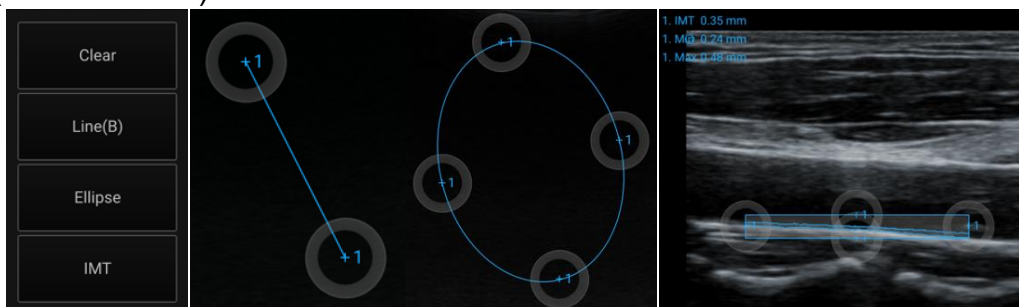
1. Freq (Frequency): adjust the penetration and resolution of the image.
2. Steer: adjust the angle of deflection of sound waves from the probe to obtain a clear image when inserting the probe at different angles.

4.7 Freeze Mode



In freeze mode, users can perform measurement, save image, save video, play/stop and text annotation operations.

1. Meas (Measurement)



2. Users can perform simple line, ellipse, and IMT measurements.
3. Adjust the line length, ellipse size, and IMT by dragging the point (the selected point is highlighted).
4. Clear button to clear all measurement records.
5. Save Image/video: save the image or video, the saved images or videos can be viewed in the inspection results and can be deleted.
6. P/S (Play/Stop): play or stop the current video.
7. Text: text annotations can be made on the current measurement.

5 Maintenance

5.1 Probe Charging

When the battery is insufficient (the indicator light is red), the probe needs charging. Put the probe on the wireless charging board, when charging, the battery capacity indicator light is flashing. If the indicator light is white and no longer blinking, it indicates the battery is charged

fully.

5.2 Cleaning

CAUTIONS >>> >>>

1. The probe cannot be immersed in any conductive liquid, so as not to corrode the probe and sheath.
2. The probe should not be immersed in water beyond the indicated immersion line, and the probe shell must be inspected for cracks to prevent potential damage to the internal components from liquid exposure.
3. Before cleaning the probe, make sure that the probe is not powered.

STEPS >>> >>>

1. After each use of the probe, use a soft cloth dampened with isopropyl alcohol (or an appropriate hospital cleaning agent) to clean the probe.
2. Disconnect the probe from the mobile device.
3. Wipe the probe for one (1) minute and until visibly clean.
4. Change the wipes as necessary and repeat the above step until the probe is visibly clean.
5. Visually inspect the probe in a well-lit area to ensure all surfaces are clean, If the probe is not clean, repeat the cleaning steps above.

5.3 Disinfection

CAUTIONS >>> >>>

1. The liquid chemical disinfectant should be following local regulations.
2. It is forbidden to thermally disinfect the probe under any circumstances. If the temperature exceeds 66°C (150°F), the probe will be damaged.

STEPS >>> >>>

1. After the disinfection time is reached, remove the probe from the disinfectant.
2. Rinse the probe with flowing water, then wipe the probe and dry it with a soft lint-free cloth.
3. Once clean and disinfected, visually inspect the probe for signs of damage or wear.

Disinfectant	Manufacturer	Ingredient	Concentration	Method	Time
Cidex	J&J	Glutaraldehyde	2.4%	Wipe/Soak	<20min
Resert XLHLD	STERIS	Hydrogen Peroxide	2.0%	Wipe/Soak	<8min
Glutaraldehyde	Huankai.Inc	Glutaraldehyde	2.0-2.2%	Wipe/Soak	<20min
T-sprayll	Pharm.Inc	Quaternary Ammonium Salt	/	Spray/Wipe	<10min
T-spray	Pharm.Inc	Quaternary Ammonium Salt	/	Spray/Wipe	<10min

5.4 Waterproof Protection

For probes in the wild and other harsh environments, please pay attention to the probe and intelligent terminal equipment's waterproof protection.

5.5 Storage

When not using the probe, please place the probe in a suitable package to avoid the impact of violent impact on the probe. And to avoid contact with the probe at too high a temperature (suitable storage temperature: 0°C ... 40°C (32°F... 104°F).

6 Revision History

Revision	Date	Changes	Author
A	2025-02-13	Initial release	A.Kovalev
A1	2025-03-05	Added a table of various device state indications. Corrected device connection sequence of steps. Added Fahrenheit temperature readings.	A.Kovalev