

The Phantom Volume

This is the keyboard for your new SC2000 ultrasound unit:



Let's work to understand the engineering design of the layout before we jump into the didactic knobology. At a glance, you may notice several buttons and knobs – including a full sized Qwerty keyboard – occupying the immediate console. In lieu of a touchscreen, the design respects the user's natural tendency to prefer muscle memory in an environment that may be demanding to your other senses. As in cars with touch panel radios or climate features, the driver must look away from the road ahead of them to access certain features. The knobs and buttons provide tactile feedback to the user to command without distraction.

The general layout is such that the keys/functions used most often are placed closer to the trackball home base. Functions such as ROI position and size, select, color, measure, depth, etc are all placed centrally; nearest the user. Functions used less frequently are relegated to the back or edges of the console. These would include the power button, new patient entry, and the keyboard itself. Repetitive Stress Injury is a very real concern for sonographers. This keyboard was designed with a balance of *ease of use* and *concern for the user's ergonomic positioning* in mind.

Starting at the top left, you will find the *power button*. Once a system is plugged in, this button will flash green indicating the system is ready to turn on. It takes approximately 90 seconds to boot up to live imaging. To power the system down, press the button down one time and confirm the shutdown dialog on-screen. *Note: Do not unplug the system prior to complete shutdown.* The console will go dark and the fan running in the base will no longer be heard at complete shutdown. The full shutdown sequence takes approximately 60 seconds.

Also along the top, you will find the backlight knob (for the LED and control knobs), the volume knob (+/- spectral Doppler sound), and the transducer manual transmit power control.

The Function Row:



ESC	F1 Report – Displays the exam's reported values for review or editing.
F2	Patient Browser – Same function as <i>binoculars</i> icon. Displays exam list on the local drive.
F3	
F4	System Config – Accesses the system setup controls. Acquisition settings, calculation, networking, <i>StaticScan</i> , protocol addition, etc.
F5	Help – Displays the on-board user help manual in PDF form. Searchable document.
F6	Hide Name – Displays or hides patient data from the <i>live</i> screen.
F7	
F8	Size – Augments diagnostic display area size. Four levels. <i>Does not impact frame rates or resolution</i>
F9	Left/Right screen invert
F10	U/D – Up/Down screen invert
F11	
F12	DVR – Displays or Hides on-screen DVR tools
F13	Physio – accesses the physio controls located on the console LED screen. Gain, Speed, Position, Turn on/off ECG, Reso, Aux signals

The Qwerty Keyboard. This is your standard keyboard layout and functionality. There are a few tips to share that may not be outright found out...

- Use the *Backspace* button to quickly delete a segment of a trace on-screen. While it may be a stretch to reach, it works more efficiently than the *undo* function more readily available in the multi-function keys.
- Holding *control* or *shift* keys allow users to multi-select patient exams for export or deletion. Similar to the Windows function, holding *control* while using the arrow to select patient exams will highlight (or deselect) those exams to be batch copied or deleted. Holding the *shift* key while selecting a first and last exam entry will highlight everything between them immediately.
- To annotate, press the spacebar and begin typing.
- The active mouse icon does not capture as part of the patient exam. There is an arrow button to the right of the spacebar. This arrow will be captured on-screen with the image/clip. You can change the length and position of the arrow using the *Next* key (*right kidney key*).
- *Clear Screen* is located to the left of the spacebar.

This next section will start with the user's home base and continue along the keys most frequently used. Mastery of the homebase controls is an absolute *requirement* to become a proficient SC2000 operator.



<p>Select</p>	<ul style="list-style-type: none"> - Enter function - Used to place calipers - Select on-screen options - Double click to review thumbnails - Double click to enter into Volume Review
<p>Next</p>	<ul style="list-style-type: none"> - Initiate eSieMeasure from active modality (2D, MMode, Spectral Doppler, eSieLH TTE only) - Initiate eSieValves, eSieFlow, LVA, RVA, eSiePISA from volume thumbnail - Change color and RES box region of interests Position and Size (steps: Next-Next...) - Toggle TEQ levels on-screen
<p>Priority</p>	<ul style="list-style-type: none"> - Toggles between active modes. Progresses user through prioritized modalities to augment settings. (steps: Priority-Priority-Priority... note on-screen controls and LCD screens change to the active mode advance controls) - Use to alternate between 2D↔Color settings while both are on-screen - Use Priority and the Next button to quickly optimize an image to interrogate a difficult color flow jet. (steps: with 2D/color/Doppler gate on-screen, Priority-Next-trackball-Priority-Next-trackball-Priority...Update) - Use Priority after a perspective zoom to retain current display ratios. Helpful for creating interesting presentation images. (steps: press Zoom knob x1-use multifunction key #2 to toggle both/RP/Volume-rotate Zoom knob to increase/decrease zoom-Priority to switch controls back to imaging. Pressing zoom a second time resets the changes made.)
<p>Update</p>	<ul style="list-style-type: none"> - With a PW or CW gate on-screen, used to directly activate Spectral Doppler. Use instead of pressing PW or CW knob a second time (steps: CW or PW only once to display the interrogation gate on-screen – Update) - Use to update the small 2D image above the Spectral signal for positioning. Press again to re-activate Spectral signal. Repeat as necessary. (from active Doppler strip mode – Update. Update a second time to resume Doppler interrogation) - Use to toggle Color box display between the left and right screens during Dual display. (steps: 2D-Color-Dual-Update-Update-Update.....) - Use to alternate active RES box manipulation between planes in BiPlane+ imaging prior to “4D zoom” (steps: 2D-BiPlane+-RES-[Next for pos/size in “red” azimuthal plane]-Update-[Next for pos/size in “green” elevation plane]-Update [to toggle back to red]-Update [back to green]...-4D)