Logiq e Knobology Answers

THE BASICS

1. The SET button works like the left click on a computer mouse to choose or activate.
2. This will bring up a cursor (arrow) on the screen.
3. First hit the Patient button to get you into the Patient screen. Next, click on "New Patient" on the left hand side of the screen to clear the fields. Now you can type in a patient ID, followed by any other information you wish. The only field that is absolutely necessary is the Patient ID. It is alphanumeric.
4. New Patient is used if you have never scanned the animal before on this machine, and New Exam is used if you have scanned the animal before…you are adding another exam to an existing file.
5. You can press either the B button or Freeze, or click on EXIT on the left side of the screen. All three options will automatically register the patient and get you into B-scanning mode.
6. Press the Preset key at the bottom left of the keyboard. Select which type of study you are doing from along the top of the preset box, and then click on the preset you would like to use from the bottom line of presets.
7. Auto is Automatic Tissue Optimization. It optimizes the image for the particular tissue that you are scanning, while you have the probe on the animal. It will give more contrast to your image.
8. While in B mode, look at the bottom of the screen. There are 5 columns of 2 choices and corresponding dials on the console below the screen. Frequency is on the bottom left side of the screen. Focus Position is on the bottom right side. To change these parameters, they must be highlighted in light blue. If the one you want is not highlighted, press the center button in the dial to highlight it. Then turn the dial to change it.
9. Press the Comment key (the space bar on the keyboard) and an Annotation menu appears on the left side of the screen. Click on the one you want, the green label appears on the screen. Use the trackball to place it where you want it, then press Set to anchor it. You can click on it to turn it green again if you need to change it. You can also just start typing without pressing Comment.
10. a. Press the Measure button once to do a distance measurement. Place the cursor at the start point with the trackball, press Set. Place the cursor at the end point, press Set. Press

the measure key twice for an area measurement. Put the first cursor and set, then trace around with the trackball and press set.

b. When doing equine tendon lesions, you can trackball to the left of the screen and choose %STENOSIS. Then choose %stenosis area, and the area cursor will come up. Trace around the tendon and press Set. A 2nd cursor will automatically come up. Trace around the lesion and press Set. Subtract the %stenosis calculated from 100 to get the lesion area %.

11. You could split the screen to compare liver & spleen echogenicities, providing you don't change any settings between images. You could do 2D cardiac measurements more easily with diastole on one side and systole on the other.
12. Cine allows you to view approximately the last 9 seconds of scan time. Once you press Freeze, the bottom of the screen gives you Cine Mode options. You can move the trackball to go back and forth frame-by-frame, or highlight Frame-by-Frame on the bottom right of the screen, and use the dial below it to cycle through.
13. To save a still image, press Freeze, then P1. To save a clip, press P1 while live and it saves the previous 3 seconds. These images will be stored as thumbnails at the bottom of your screen. A still image has a yellow 1 in the top corner of the thumbnail, and a clip doesn't.
14. Click on the small thumbnail image on the bottom of the screen.
15. P1 allows you to save a still or clip in "Raw" Dicom. It will also save a thumbnail of the worksheet, patient info screen or whatever is on the screen. P2 prints to a thermal or paper printer if attached. P3 saves a still or clip in Dicom and "Quick Saves" it to a USB drive.. Clips must be saved in Raw Dicom in order to do anatomical m-mode on them (see Q#21).
16. When you have finished doing an exam, press the End Exam key and select Permanent Store. This saves your images to the hard drive.
17. Select the patient you want to review from the Patient Menu. Select Image History at the top left corner of your screen. This will show you all the exams done on this patient. To compare images from different exams, click on the images you wish to compare (a total of 4), then select Review at the top right corner of the screen.

18. A fully charges battery in scan mode will give you about 60 minutes of scan time in B-mode. You will have about 5 hours of battery life in standby mode. To view how much battery power is left, click on the battery or plug icon on the bottom left of the screen.
19. Press the ON/OFF button and hold down for a second. Select Shutdown.

CARDIAC FUNCTIONS

20. While in m -mode, highlight Sweep Speed on the bottom of the screen and use the up/ down arrows to change it. If you have a slow heart rate, slow down the sweep speed to give you more beats to choose from. If you have a fast heart rate, speed up the sweep speed to spread out the beats. This makes it easier to measure. If you are working with a frozen image or after-the-fact, bring up the m-mode options at the bottom of the screen by pressing the > or < keys of menu select until M-mode is shown. Now use the sweep speed dial as usual.
21. Anatomical M-mode allows you to make m-mode off the axis of the beam, so you can line up better on the heart.
    a. Select a saved clip in an exam. Press the M-mode key. You will see Scroll/Pos/Angle on the bottom right of you screen. Whatever is highlighted in white is what you will be controlling with your trackball. Scan Area toggles between the three to position you cursor with the trackball.
    b. While scanning in M-mode, choose anatomical (AMM) mode from the bottom left of the screen. Use the scan area button as above.
22. You must be a cardiac preset to bring this up. Press Measure. Choose Cardiac, RV/LV, LV Study from the left side of the screen. Place cursors as appropriate. Press Measure. Choose Cardiac, LA/Ao. Place cursors as appropriate.
23. Scroll image to show diastole. Press Measure. Choose RV/LV, LVd and place cursors as appropriate. Scroll image to show systole (measurements from diastole will disappear). Choose LVs and place cursors as appropriate. Fractional shortening will be calculated.
24. Press CF button above gain dial. Press PDI button above the other mode buttons. It is more sensitive to low velocity flow, but does not show direction.
25. Press the PW button next to the gain dial. To switch from the b-mode image to the Doppler spectral tracing while in the duplex screen, press the Set/B-Pause button.

ARCHIVING IMAGES

26. If you put the CD in while you have the imaging screen up, formatting will take place automatically when archiving. If you need to manually format, press the Utility key; choose Connectivity, then Removable Media. Give the CD a label (alphanumeric, no spaces or symbols). Click Format.
27. Bring the image you want to save up onto the screen. Click on MENU at the bottom right corner of the screen. Choose Save As. Then choose Jpg or Avi from the drop down box "Save as type" at the bottom. Click Save. Still images should be saved as a Jpg. Cine loops should be saved as Avi. Press EJECT (F3) and finalize the CD.
28. From the Patient screen, choose Data Transfer from the top left corner. Click on MPegvue or Export from the list on the left. In the To: drop-down box select CD/DVD or USB. Choose the patient (or multiple patients) then click Transfer below them. The disc will be formatted automatically. When the copying is finished, a red checkmark will show beside the copied case(s). Use EJECT (F3) to eject the CD and choose Finalize & Eject from the dialog box that appears.
29. Highlight the patient in the patient screen. Click Delete from the bottom of the screen.

ADVANCED FUNCTIONS

30. From the Applications screen, click Create New. Type a label for it and click the User space to put it in. Start with the factory application that is closest to what you want and adjust any factors to make the image how you want it. Go back into the applications screen and click Overwrite.
31. Touch anywhere on it to bring up more options for image optimization. Press the up/down arrows to move from option to options. Press the right/left arrows to change the value.
32. Press the Utility key on the keyboard. Click System, then General.
33. Virtual Convex is an option that can be used with a linear probe. It widens the rectangular image to a trapezoid shape.

34. It steers the beam to image the same tissue from different angles and combines that into one image. The effect is to decrease shadowing, artifacts, and create better outlines.
35. With the 3D turned on, press the Left (Split screen) button to start the capture. Scan evenly through the area of interest, and then press the Right button to stop. The 3D capture will come up on the screen with colored boxes around it. Use the hand to click and drag the colored boxes to the desired angle or plane.
36. Harmonics enhances near field detail and far field penetration. It decreases low frequency, high amplitude noise and may be most beneficial in obese, technically difficult patients. It may also help to distinguish isoechoic lesions in shallow depth anatomy.