

SeeMore™ USB Probes



We **revolutionize** imaging devices.

SEEMORE™ USER GUIDE

© Copyright Interson Corporation all rights reserved 2009. No part of this manual or software may be reproduced in any form or by any means, electronic or mechanical, including but not limited to, photocopying, recording, or by any information storage and retrieval systems, without the express written consent of Interson.

Windows is a trademark of Microsoft Corporation.

Interson and SeeMore™ Probes are trademarks of Interson Corporation.

Interson Corporation
7026 Koll Center Parkway
Suite 201
Pleasanton CA 94566
Tel: 925.462.4948
800.766.4664
Fax: 925.462.4833
Email: support@interson.com
www.interson.com



SEEMORE™ USER GUIDE

Table of Contents

I.	Introduction.....	2
	A. Package Contents.....	2
	B. Minimum System Requirements.....	2
	C. Warnings, Safety Information.....	2
	D. Care and Handling of Probes.....	3
II.	SeeMore™ Display.....	4
III.	Imaging Window.....	5
IV.	User Interface Window.....	6
	A. Preferences Tab (Pref. Tab).....	7
	B. New Exam Tab.....	9
	C. AutoScan Tab.....	10
	D. Advanced Scan Tab (Adv. Scan).....	12
	E. Measure Tab.....	14
V.	Scanning.....	16
	A. Saving and Viewing Image.....	16
	Appendix I - SeeMore™ Software Installation Guide	18

I. Introduction

Congratulations on your purchase of the Interson USB Ultrasound Imaging Probe, the ultrasound imaging probe that plugs into the USB port of your computer. Please review this user guide before you begin scanning. Contact Interson or your sales representative if you have any questions. Note: There is also an on-line Help guide that explains basic functions that is built into the SeeMore™ user software.

Note: The sale of this item is subject to regulation by the U.S. Food and Drug Administration and state and local regulatory agencies.

A. Package Contents

- 1) USB Ultrasound Imaging Probe
- 2) Probe case
- 3) Sample ultrasound gel
- 4) SeeMore™ Software: SeeMoreSetup.exe (Memory Stick)
- 5) SeeMore™ User Manual (This Printed Copy , Memory Stick)
- 6) SeeMore™ Software License (Memory Stick)
- 7) SeeMore™ Warranty Information (Memory Stick)
- 8) SeeMore™ Software Installation Guide (Printed Copy)
- 9) Warranty Registration Form (Printed Copy)
- 10) Extended Warranty Purchase Form (Printed Copy)
- 11) Ultrasound Gel Order Form (Printed Copy)

B. Minimum System Requirements

- Computer Operating System – Windows XP, Vista, or Mac (running Windows)
- Minimum processor – 1 GHz
- Minimum RAM – 512 MB RAM (recommend 1 GB or more)
- USB 2.0 port
- Minimum display – 1024 X 600 resolution with 32bit color

C. Warnings, Safety Information

Do not plug into the Ultrasound Probes until the Software has been installed. See software installation guide (Appendix I, at the end of this document.)

Do not use in the presence of flammable anesthetics or other flammable materials.

Interson probes use very low acoustic power output, and ultrasound imaging has been found, in many studies, to be safe when used correctly. However, as with all medical procedures, risks and benefits must be weighed. It is important to use the lowest power settings and the shortest scan times possible while attaining the needed clinical information.

D. Care and Handling of Probes

Although Interson probes are very durable, reasonable care must be taken to avoid damaging them. Handle the membrane on the tip of the probe and the cable attachment at the other end of the probe with care. Keep the probe membrane away from sharp objects to avoid damage. Clean and store the probe in its padded case. This will protect the probe and the delicate scanning membrane. Do not put stress on or use the cable to carry the probe, as this may damage the probe and cable. Your probe should give you many years of reliable service if these simple precautions are followed.

To clean the probe between uses, wipe with a soft, non-abrasive cloth using whatever standard cleaning agent you use in your practice. In the case of sterile procedures, a sterile drape and sterile gel should be used.

Do not immerse the probe or use heat or radiation to sterilize it. This will permanently damage the probe and void the warranty.

Draping: For endocavity scanning, a clean/nonsterile drape or condom covering may be used. Ultrasound does not penetrate through air, so you must put scanning gel on the inside of the drape, as well as some couplant (gel or water) between the outer surface of the drape and the region being scanned.

Visit the Interson YouTube channel for helpful, instructional videos:

<http://www.youtube.com/user/IntersonCorp>

II. SeeMore™ Display

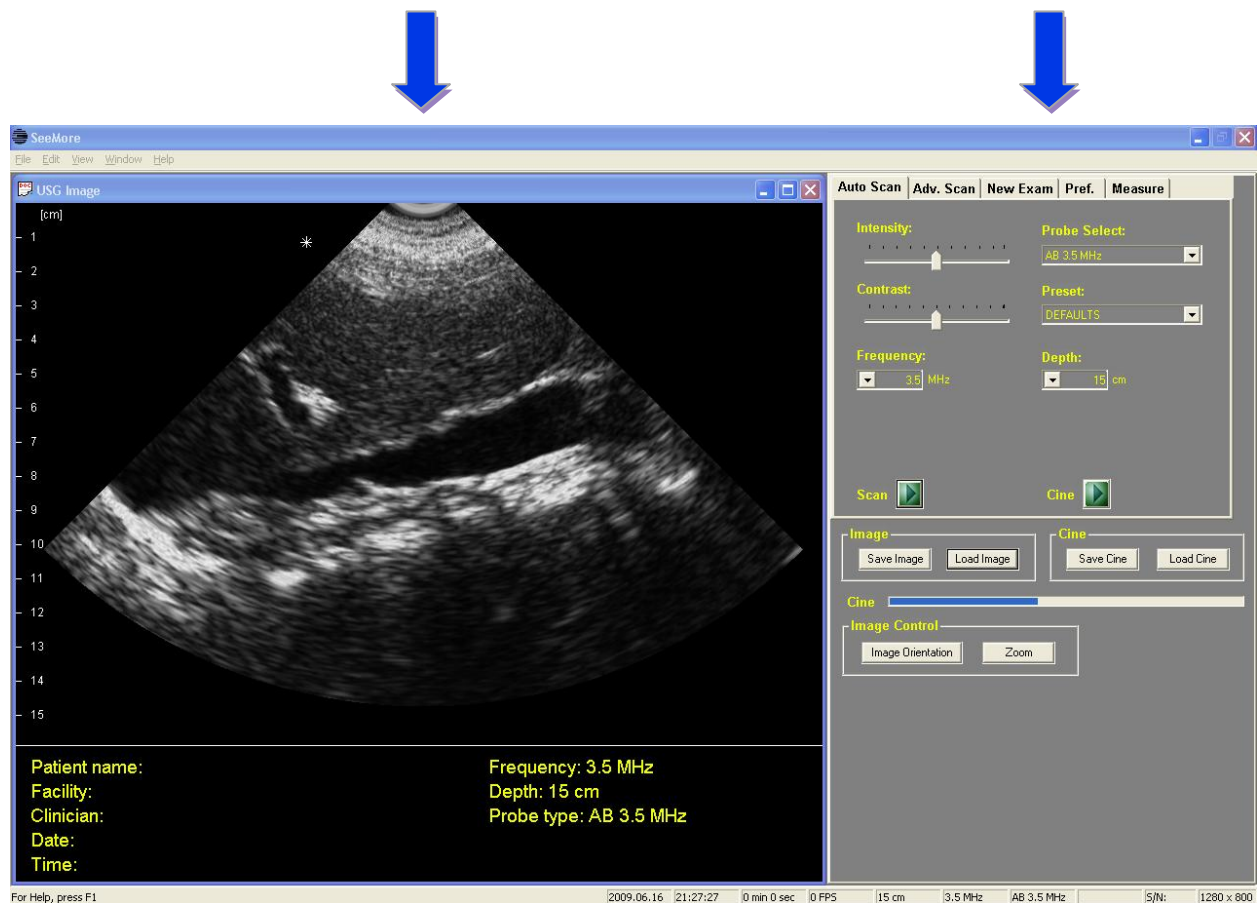
The computer monitor screen is divided into two sections:

On the left side is the **Imaging Window**. This displays the ultrasound scan, and includes other information about the scan.

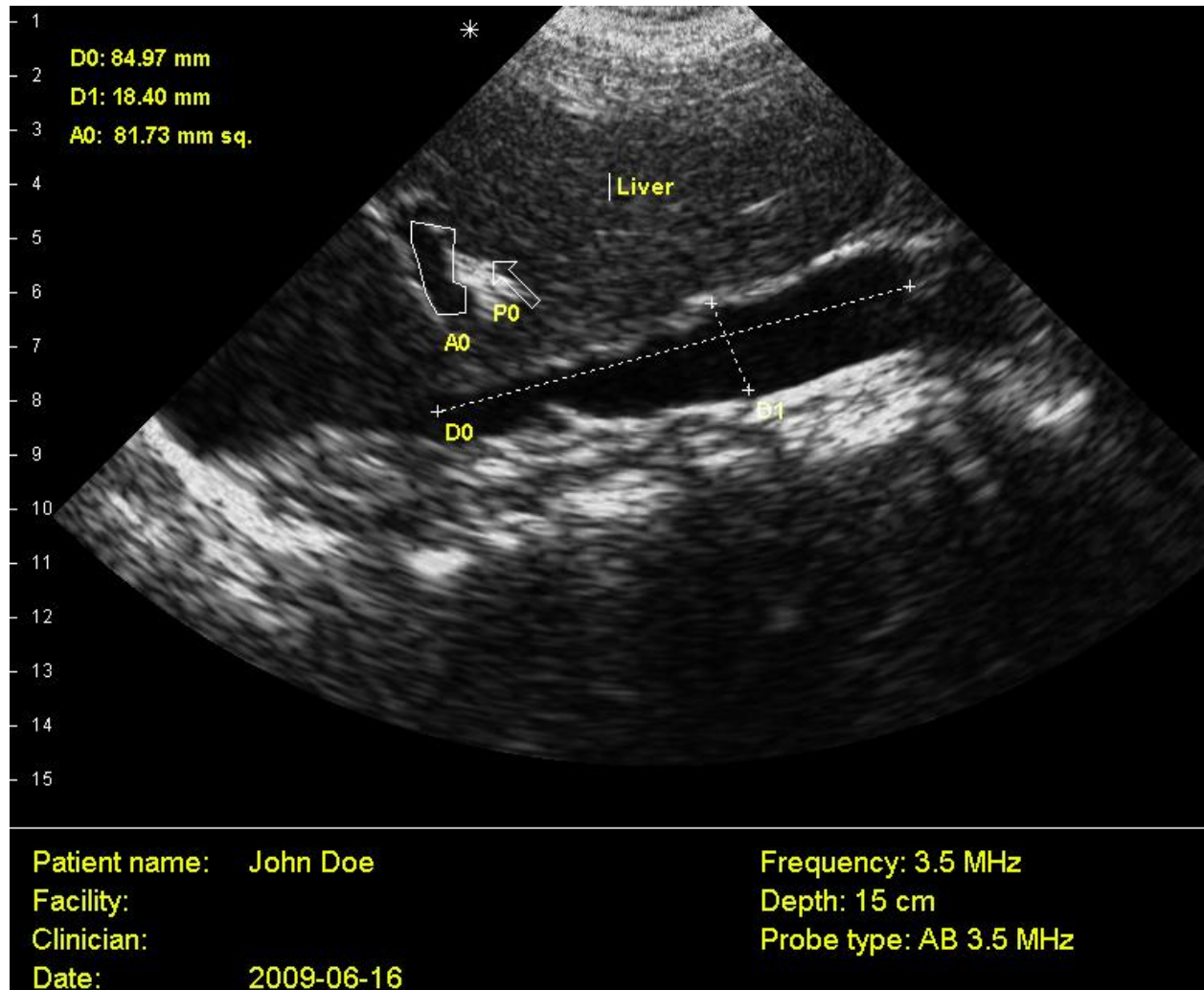
On the right side of the screen is the **User Interface Window**. It contains a number of tabs that allow the user to set preferences and conduct the ultrasound exam (see description and diagrams below).

Imaging Window

User Interface Window



III. Imaging Window



Data

Top: Measurements (Distance, Area)

Bottom: Patient name, Facility, Clinician, Date, Frequency, Depth, Probe type

Annotation/Pointer on image

Image Orientation Marker (Asterisk)

Note the asterisk in the upper left side of the sector/image. This corresponds to the patient's right side, or superior aspect, if the orientation button on the probe is pointed toward the patient's right side or superior/head. This may be flipped left to right using the imaging orientation button.

Grid lines may be displayed on the left side of the image to aid in assessing size and scale of the image viewed. Default is 10 mm increments. May be adjusted within the preferences tab.

IV. User Interface Window

There are five tabs in the User Interface Window:

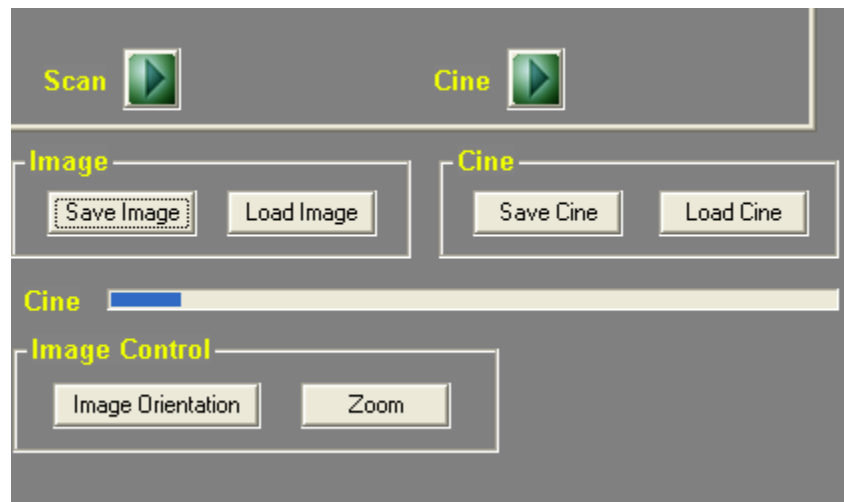
- **Preferences Tab (Pref. Tab)**
- **New Exam Tab**
- **Advanced Scan Tab (Adv. Scan)**
- **AutoScan Tab**
- **Measure Tab**

Each will be discussed in the following sections.

At the bottom of the User Interface Window, available regardless of which tab you select, are the **Save Image**, **Load Image**, **Save Cine**, and **Load Cine** controls. These functions allow users to save current screen image(s) or recall prior exams. Cine play/stop allows user to review saved frames, and save the frozen image.

You will also see a **Zoom** button and an **Image Orientation** button, which will flip the image right to left.

To freeze an image, click on the green Scan arrow in the image box. (Note: you may also freeze an image by clicking on the scan/freeze button on the probe, or by depressing your computer's space bar.) To play cine loop, click on the green arrow. You may review, frame by frame, by using arrow keys. You may then save any of the still images within the loop.



A. Preferences Tab (Pref. Tab)



Select the Preferences tab in the user interface window, and fill out the following:

- 1) Facility (Click within window and type in name. Click on the “Add” button. You may enter as many names as you like). To delete a name, click “Remove.”
- 2) Clinician (Same as above. You may enter as many names as you like)
- 3) Cine Frames
 - a. Choose frames saved (32, 64, 128, or 256). Default is 32 frames. (More frames = longer length, more memory is used)
 - b. Grid lines (options)
Off; 10 mm, 5mm, 2mm scale. (Default is 10 mm scale)

- 4) Image Store
 - a. Location of folder to store images on. Browse to select location and folder. Default is hard drive folder c://Seemoredata/patientdata
- 5) Auto Save
 - a. Save image on button press (freeze)
 - b. Save on space bar press
 - c. Save on either
 - d. Off (default)
- 6) Report Management - Optional (Set up appearance and format of report)
 - a. Word document. Make template with letterhead, headings, etc.

Import/Export Settings

From time to time, updated settings for specific exams will be made available via downloads from the internet. Use this function to import and add these settings to your presets.

You can Import and Export preference settings: DGC, Power, Gain, Depth settings if you wish to share these on multiple computers.

B. New Exam Tab



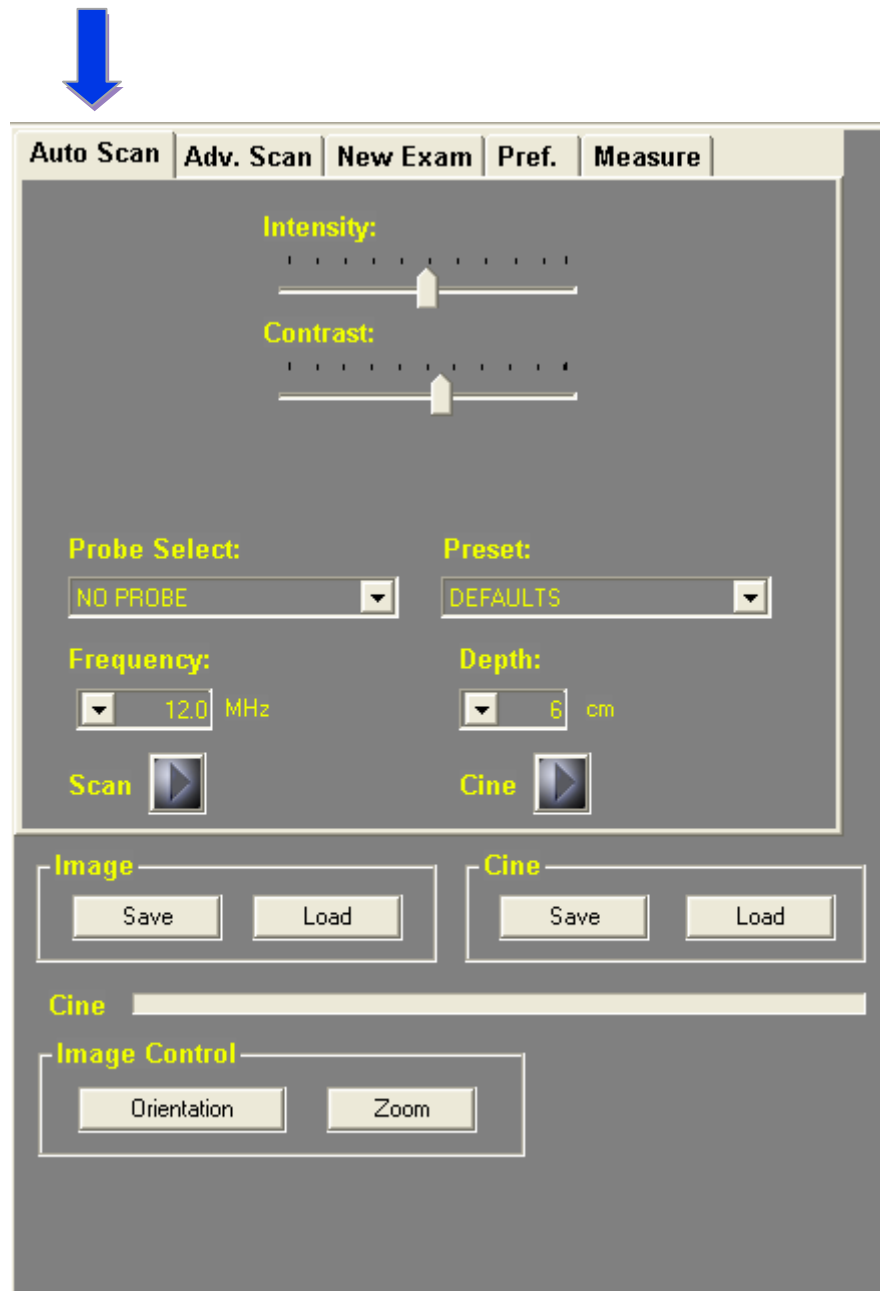
The software interface features a top navigation bar with five tabs: "Auto Scan", "Adv. Scan", "New Exam", "Pref.", and "Measure". The "New Exam" tab is currently selected. Below the tabs is a "Patient Info" section containing several input fields: "Last Name" (filled with "Doe"), "First Name" (filled with "John"), "Birth Date" (filled with "07/15/1952"), "ID #" (filled with "12321"), "Facility" (a pull-down menu), "Clinician" (a pull-down menu), and "Sex" (a pull-down menu filled with "M"). Below these fields is a "Notes" section with a large text area. At the bottom of the "Patient Info" section are two buttons: "Stop Exam" and "Review". Below the "Notes" section are two groups of buttons. The first group, labeled "Image", contains "Save Image" and "Load Image" buttons. The second group, labeled "Cine", contains "Save Cine" and "Load Cine" buttons. Below these groups is a "Cine" progress bar, which is a horizontal bar with a blue segment on the left. At the bottom is an "Image Control" section containing "Image Orientation" and "Zoom" buttons.

Entering Patient Information

Click on the "New Exam" tab. Fill in any of the information on the form, and click on "Start Exam" button to begin scanning. Saved images (cines and reports) will be stored in a folder labeled with the last name of the patient (within the SeeMore™ images folder). User may select the facility and clinician to be displayed from a pull-down list.

You may also perform a study without filling in "New Exam" information. Click on the "New Exam" tab but do not fill in the data. Click on "Start Exam" to begin scanning. Saved images will be stored in a folder labeled with the date of the study.

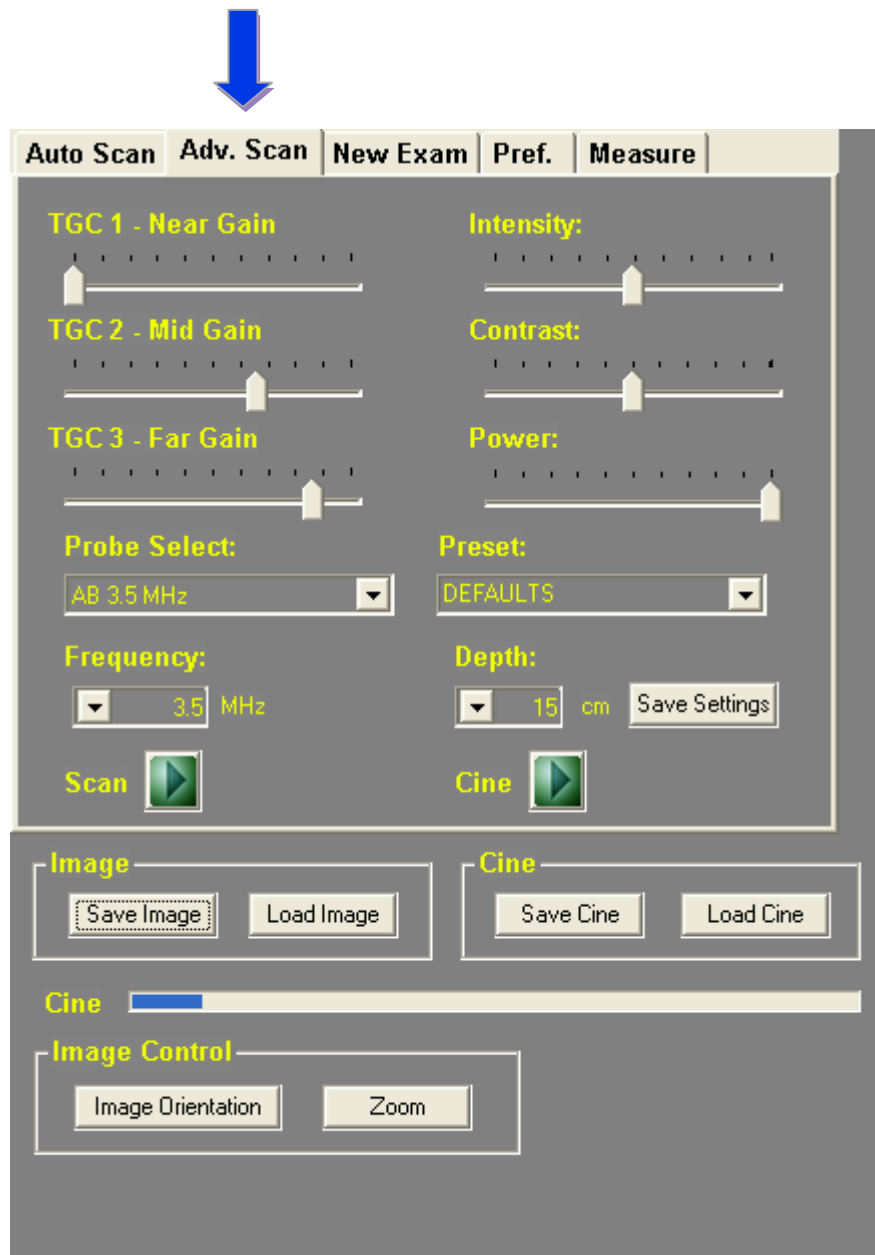
C. AutoScan Tab



AutoScan is the default mode for scanning. The goal is to have the system as easy-to-use as possible, while producing an optimal image without the user having to adjust a lot of controls. The limited control options include: intensity, contrast, depth, and a choice of preset imaging settings. The software auto-detects the type of probe plugged in (i.e. AB, PI, EC, etc), and will default to a preset exam type. This will load gain, DGC, depth, and frequency settings from a look up table. If there are multiple probes plugged in, the user may select a probe from this menu. Most probes have multiple frequencies, and these may be selected from this menu as well. Finally, user defined presets may be selected, rather than default.

The preset includes DGC settings, gain, depth, and contrast. The user may save preferred settings, and give them a unique name associated with a specific probe. (See Advanced tab for saving custom settings)

D. Advanced Scan Tab (Adv. Scan)



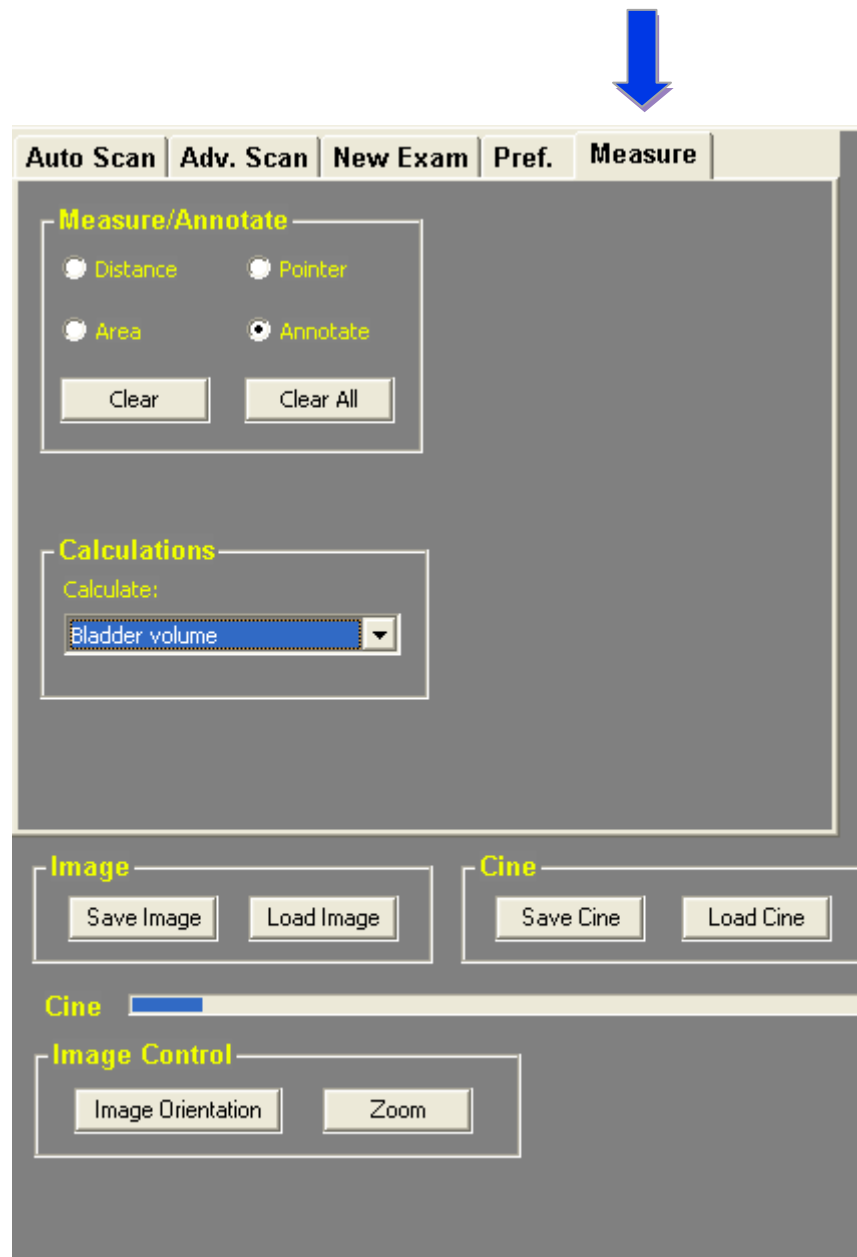
The user may adjust **TGC** (time gain compensation – Near/Mid/Far) and other controls that can optimize the image (but can also degrade it if the user doesn't adjust them correctly). **Intensity** and **Contrast** controls operate in the same manner as within the AutoScan tab. You can adjust the **Power** from low to high. The default is high power and is applicable for most applications.

Creating and Saving Custom Probe Settings

While in advanced mode, the user may adjust the DGC, depth, gain and contrast to their liking. In order to save as a preset, place the cursor in the preset window, and type in a new name (i.e. clinician name or a description; Example: DrSmith, Kidney, or AB5.0MHz) and click “Save.”

The DEFAULT setting cannot be modified or deleted. This is the factory default and is defined for every supported probe to give reasonable results for a wide range of applications. Use it as a starting point to find the settings that you prefer and then create new settings with your own, useful names. Then it will be easy for you to recall your preferences each time you start a session.

E. Measure Tab



The Measure Tab allows user to choose between distance and area measurements, as well as adding annotation and arrows to the exam screen.

Distance is the default measurement. Freeze the image. Using the RIGHT mouse button, click on the starting point then drag the cursor to the end point. Release the mouse button. The measurement data is displayed on the main screen as you make the measurement. This distance (in mm's) will be labeled on the image and displayed as D1 on the left of the imaging screen. This may be repeated as many distance measurements as you choose (D1, D2, D3, D4...).

Area – Click on the “Area” button. Freeze the image. Right click the mouse to trace the circumference of the object of interest. The area and circumference will be displayed on the left side of the screen.

Zoom/Magnify Image --Any area of the image window can be zoomed to fill the image window by clicking the left mouse button on the center of the area to be zoomed and then dragging the mouse to enlarge the area to be zoomed. The resulting rectangle will show the extent of the image that will be displayed in the image window.

You can zoom while imaging live or on a static image. You can zoom in farther on an already zoomed image in the same manner of left-clicking on the center of the area to be zoomed and dragging the mouse to the extent of the area to zoom. To return to normal size, click on “Full View” or freeze/unfreeze the image.

Annotation – Right click mouse anywhere on image, and type in annotation.

Pointer - Right click mouse anywhere on image, and release to place arrow.

Clear/Clear All -- Click “clear” button to erase last measurements, annotations, or zoom action. To clear all measurements and annotations, click on the “Clear All” button.

V. Scanning

Plug in probe. Launch software. Click on the **scan/freeze** button on the probe (this is also the orientation button, which you should point toward the patient's right side or superior/head and corresponds to the orientation mark on the screen). Alternately, you may click on the space bar or Scan arrow on the screen to freeze or unfreeze the image.

Image Orientation: The sector is oriented with the probe membrane displayed at the top of the screen. An asterisk/ orientation mark on the left side of the screen corresponds to the button on the probe, which is traditionally pointed to the patient's right side or superior. User may change image orientation (flip left to right) by clicking on the "Image Orientation" button at the bottom of the screen.

Image Controls:

Intensity

The intensity control adjusts the overall intensity, or brightness, of the image.

Contrast

The contrast control adjusts the overall contrast of the image.

The probe controls settings also allow you to select the probe to use, select from the available pulse frequencies and/or depth modes, and to adjust the pulse power. Depending on what probe(s) you have attached to the system, the available selections will vary.

Frequency

Each probe has a center frequency, but since our probes have wide-band transducers, they can be pulsed at higher frequencies to give better resolution (with the trade-off of less penetration).

Depth

The displayed depth can be changed, and choices vary with the pulse frequency you choose.

A. Saving and Viewing Images

There are two types of exams:

1. **STAT EXAM:** Scanning without first creating a new patient on the "New Exam" tab. Images and cine loops may be saved, and they are all stored in the STAT Images folder. User must name files before saving.

2. **NEW EXAM:** The user first creates a study within the New Exam tab by filling in the form and clicking on “Start Exam.” If a last name is entered, a folder with that name is created within the Patient Data folder, and all images saved during the study are located there. If an exam is created, but no last name entered, a folder with the current date is created, and all images will be located there. User must “Stop Exam” at the conclusion of the study.

A desktop shortcut link displays both the STAT Exams folder and the Patient Data folder. Within these folders, the user may select JPG files for printing, or may send them to an external drive or attach to emails using the Windows “send to” command (right click on image and select “Send To” option).

There are several ways to save images:

- 1) First, freeze the image, and then click on the “**Save Image**” button. It will be stored in a folder as described above. You may later rename the image, or change location of storage when saved manually. Images are stored in both raw data format (back scatter images, file type *.bs as well as jpg (*.jpg). JPG images are compressed and take less storage. They can easily be printed or emailed.
- 2) **Viewing and Managing Raw Data/Backscatter Images:** Click on the “Review Image” button. A high-resolution image will be displayed which may be manipulated (post-processed) to some extent. The image controls for contrast and intensity, as well as measurements and zoom may be used to adjust the image. When the image is saved, a JPG image is atomically created.
- 3) **Viewing and Managing JPG Images:** Minimize the SeeMore application and click on the SeeMore Images shortcut on the desktop to display the STAT Exam and Patient Data folders as described above. These images contain annotations, measurements, and patient information not found on the raw data images. They can be viewed with any standard image viewing software, and are substantially smaller in size than the raw data/backscatter images.
- 4) If preference is set to “**Save on Freeze,**” every time user freezes an image, it will automatically be stored in the default folder. User can chose whether this is triggered by pressing the scan/freeze button on the probe, space bar, or either.
- 5) **Cine Loops:** Each time you start scanning, the **cine buffer** is cleared and will be filled with captured frames from the current scanning session. To save a Cine Loop, click on the “Save Cine” button. The last number of frames of the exam will be stored in the patient’s folder (length can be set in preferences). You can play back the entire buffer, at the rate you captured it, or to manually select frames to display. You may replay the image and stop at any frame, and may save a still image from there. Individual frames may be advanced using the left/right keyboard arrow keys.

Appendix I - SeeMore™ Software Installation Guide

Warning: Do not plug in your USB Ultrasound Probe until the Software has been installed.

Note: Visit our website (www.interson.com) and go to the Download page to assure you have the latest version of SeeMore™ software.

Minimum system Requirements

- Computer Operating System – Windows XP, Vista, or Mac (running Windows)
- Minimum processor – 1 GHz
- Minimum RAM – 512 MB RAM (recommend 1 GB or more)
- USB 2.0 port
- Minimum display - 1280x600 resolution with 32bit color **

** Note: Display resolution and color depth are set through the Display control within the Windows Control Panel. The software will not load unless these settings are correct. At least one USB 2.0 port is required. If in doubt, check these settings before loading software.

Installing the software is a two-step process. Step 1 is software installation. Step 2 is USB probe USB driver installation.

Step 1: Software Installation

1. Plug in the Memory Stick to one of the computer's USB 2.0 ports.
2. The following file will be displayed once you have opened the Removable Disk: "SeeMoreSetup.exe".
3. Copy this file to your "My Documents" folder.
4. Click on the icon "SeeMoreSetup.exe".
5. Follow the on-screen instructions.
6. When installation is complete, click "CLOSE".
7. The software is now installed.
8. Remove the Memory Stick and store it in a safe place.

(Note: warranty information, software license, and other useful information are also included on this Memory Stick.)

Step 2: USB Drivers Installation

After the software has been installed, connect the USB probe to one of the USB 2.0 ports. Windows will display “FOUND NEW HARDWARE” message when the probe is inserted.

This process will occur twice because the hardware being installed requires that Windows finds (2) USB2.0 devices within our product. This is a normal operation. Once this installation process has run twice, the system is ready to use.

Note: With the Windows Operating System, you will get a message asking if you want to “stop installation” or “continue.” Click “Continue Anyway”

When the installation is complete, click on “FINISHED”.

Note: With Windows XP, you must repeat this process for every USB 2.0 port you intend to use. With Windows Vista, you only need to complete the Drivers Installation process once.

You are now ready to scan. Plug in your probe. Double click the new SeeMore icon on your desktop. The software will load and start running on your system.